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QUARTERLY MEETING OF OHIO CHAPTER

AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

June 19, 1967

Sheraton-Columbus Hotel, Columbus, Ohio

A SIMULATION COMPUTER MODEL FOR INVESTMENT ANALYSIS OF CAPITAL BUDGET, CASH FLOW, INVESTMENT YIELD, AND APPRAISAL OF INCOME PRODUCING REAL ESTATE OR OTHER TANGIBLE PROPERTY

Case #1: Analysis of 8-unit apartment MLS listing as a prospectus and sales aid for the Realtor

Case #2: A proposed 40-unit apartment feasibility analysis and appraisal for the developer-appraiser

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EXPLANATORY NOTES AND DEFINITIONS FOR

INCOME REAL ESTATE INVESTMENT SIMULATION MODEL

A. Until a detailed manual with instructions for operation of the computer is available, the following notes will suggest the capacities and applications of the model for the real estate appraiser, investor, or credit analyst. The two illustrations attached serve to illustrate how the model will adapt to whatever level of information may be available or appropriate to the purposes of the analyst.

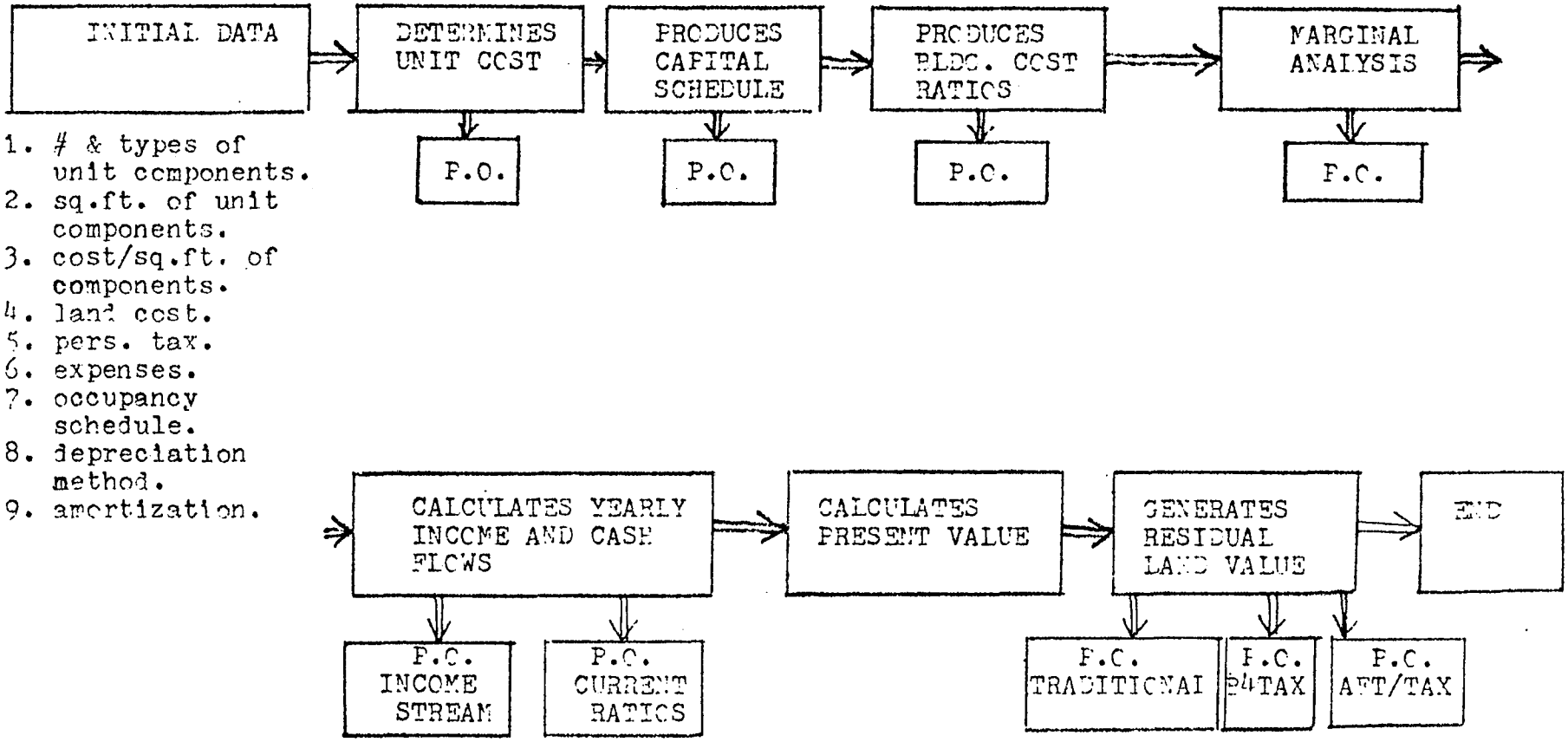
1. In the first situation (the Evans Project) the information was taken from a multiple listing data sheet for an available eight-family building. The broker assumed an offering price, the allocation of this price between land and building, certain cash improvements to complete the existing structure, and operating expenses as reported and adjusted for the forecast period. The appraisal assuming resale in the fifth year would suggest the project offered a reasonable opportunity for an overall rated return of 20 per cent per annum if the offering price were accepted.

2. In the second situation (a forty-unit apartment building) detailed costs of various features were available to the developer-investor-appraiser, and the presentation here suggests how the model will adapt to whatever level of information may be available predicting a 15 per cent return on equity before taxes and 12 per cent after taxes.

B. The information can be handwritten by the appraiser or analyst on the simple forms which follow observing a few rules to identify input cards for the keypuncher, and to maintain consistency of data in regard to time periods. Note that the appraiser writes his own labels as necessary so that the output can be appropriate for characteristics of an apartment house, an office building, parking ramp, or warehouse, to name only a few examples. On the other hand the labels could be as concise as building rentable, non-rentable, land and fixtures.

1. As many as ten rental features expressed in any type of unit and five features which are constant for any run of the computer can be included. The ten variable features can then be combined in different amounts into packages called rental elements, such as efficiency or one-bedroom apartments. Alternative numbers of rental elements can be combined to test the best rental mix for a given project considering, rental rates, operating expenses, occupancy levels, and original cost.

2. In the Evans model, the property is considered as one rental element, consisting of one building, one site, and one unit of special improvements. In the forty-unit example, various types of rental elements are created from specified quantities of living room space, closets, etc. and these are included with constant ratios of public space and units of parking to determine construction costs.


INITIAL DATA
DETERMINES UNIT COST
PRODUCES CAPITAL SCHEDULE
PRODUCES BLDG. COST RATIOS
MARGINAL ANAIYSIS
P.O.
P.C.
P.C.
P.C.
1. # & types of unit components.
2. sq.ft. of unit components.
3. cost/sq.ft. of components.
4. land cost.
5. pers. tax.
6. expenses.
7. occupancy schedule.
8. depreciation method.
9. amortization.
CALCULATES YEARLY INCOME AND CASH FLOWS
CALCULATES PRESENT VALUE
GENERATES RESIDUAL LAND VALUE
END
P.C. INCOME STREAM
P.C. CURRENT RATIOS
P.C. TRADITIONAL
P.C. B4TAX
P.C. AFT/TAX

C. Costs of features and the elements created from these features are direct capital or construction costs. The direct capital costs can be combined with indirect costs to determine the total capital budget. For new construction the indirect costs can include a fixed amount, carrying charges, a per cent of initial rent for rent-up expense, and a per cent of capital costs for professional fees. For existing buildings the indirect costs would consist of closing costs and working capital.

D. Financing of the required capital budget is analyzed in the capital budget schedule where it is possible to assign each project feature to both a depreciation treatment for tax purposes and an amortization schedule for financing purposes.

1. For depreciation purposes the analyst must make an assumption as to the per cent (100 per cent minus per cent salvageable) of the asset which can be depreciated, the useful life of the asset over which this percentage can be recovered, and the depreciation method. The computer will use straight-line unless instructed as to the per cent of straight line depreciation to be taken on the first year after which it calculates depreciation on a declining balance base. Thus depreciation can be accelerated but not on a sum of the digits basis.

2. Financing terms must be assigned to each class of rental feature which is distinguished for depreciation purposes. The analyst must make an assumption for the term of each credit in periods consistent with income periods chosen for cost and rental figures, for the interest rate per period, and for per cent of the capital budget item to be financed (the loan ratio). Provision is made for constant reduction mortgages or direct reduction mortgages.

E. Miscellaneous data can also be put into the program in regard to real estate taxes, stated as a fixed amount for existing buildings or as a ratio of capital costs per period where one is testing alternative building projects. This latter ratio reflects the equalization rate, the tax rate per annum, and an adjustment for the income periods to be calculated. The marginal income tax rate can be a combination of federal and state ratios, weighted by the analyst to reflect an assumption of either corporate or individual ownership rates. In both cases capital gains taxes on taxable resale proceeds is calculated as one-half the marginal tax rate multiplied by the undepreciated balance of original cost subtracted from resale price. It does not make adjustment for depreciation in excess of straight-line depreciation disallowed as a result of sale during the first ten years of the project. The model is intended to be a forecasting tool rather than an accounting device and to fit within the limits of typical banking computer capacity for memory inputs.

F. The appraiser is allowed to depart from the normalized income fiction by provision for period by period adjustments as to increase or decrease of expected rents, operating expenses, real estate taxes, and occupancy. These adjustments assume original inputs to be indexed 100, and the computer would be informed to adjust period calculations by separate index

(F.) numbers for each item, changing at selected points in time.

1. The occupancy factor index allows the appraiser to anticipate the impact on value of rent-up periods in the early stages, declining marketability in the later stages, or relative differences in vacancy rates for different types of rental elements. The present value of periods where there is a cash deficit is subtracted from the present value of positive cash returns. Thus the value derived adjusts for changes in working capital investment by assuming short-term money is as costly as the rate of return expected by the investor.

2. By trending resale value with original cost as index 100, the investor allows the Ellwood approach to valuation to appear in the model. Real depreciation as it affects return of capital (as opposed to tax depreciation mentioned earlier) is built into the model at this point. If there were constant dollars and there were real depreciation at two per cent a year, this index would go 100, 98, 96, ... to the degree that resale value does not rise as quickly as the index based on rent, real depreciation is taking place despite some inflation on original cost in the early years.

G. The computer can be instructed to produce an income statement as a summary of individual period calculations, an aggregate for any number of given periods. If rents, expenses, debt service, etc. is on a monthly basis, the analyst may choose income statements to be printed out for each six month period (as in the forty-unit model) or for each year (as in the Evans model). While most items in the income statement, net worth summary, and ratio analysis are self-explanatory, these definitions should be noted:

1. Current period return is positive cash plus change in net worth divided by net worth for the previous period.

2. Project period return is the moving twelve-period average current return for the project, in order to give a smoother yield curve.

3. Productivity rate is net income before taxes or debt service divided by the total capital budget.

4. Period cash return is the positive cash from the income statement divided by the original cash equity required to put the project together.

H. Finally the computer can be instructed to provide an appraisal valuation of the project on the basis of property residual and land residual approaches to value through capitalized income, following three different theories of income valuation and for as many as seven different cap rates.

1. The first appraisal value takes the traditional view of income before debt service or taxes.

2. The second value takes the present value of income after debt service plus the present value of the residual and the original mortgage balance.

3. Finally the after-tax approach to value takes the present value of net income after income taxes plus the present value of resale proceeds minus the capital gains tax minus outstanding mortgage balance. By looking for similar values in each approach the investor can see equivalent capitalization rates for before and after leverage and taxes.

I. The printed output of the model provides a variety of data for different types of investment purposes. Any single run has information for the lender, the project designer-developer, and the equity investor.

1. The equity investor can review the property residual approach or the land residual approach to discover the rate of return which produces a capital value most nearly equal to the total capital budget or land costs estimated for the project. With information as to yield both before and after taxes he can compare a particular investment with other alternatives either in real estate or securities. By rerunning the model with different trends for those factors affecting income or resale value the investor can determine the degree to which his profit expectations are dependent on inflation or vulnerable to market, labor cost, or interest rate factors. Of course, the income statement will indicate financial risks, cash budgeting requirements, or size of possible tax umbrella inherent in the property - to suggest only a few guideline possibilities.

2. The designer-developer can benefit by the opportunity to test different variations in the mix of rental features and elements as they affect the financial feasibility of the project. Of course the very big question of setting rents for various types of rental elements, of providing accurate construction costs figures, and of estimating operating cost levels is left to the judgment of the developer. The computer simply does the busy work of budgeting and income forcasting so that the prospect of manual accounting work sheets do not cause reluctance in the developer to refine a project by testing a great variety of alternatives. In addition the need to provide accurate data will cause the designer-developer to prepare better focused cost data from his past projects. As cost data is developed in a more meaningful way the marginal capital requirements and income affects of various rental element decisions become revealing guidelines for design balance in the project.

3. For the lender the opportunity to study cash flow during the rental period, under different income tax assumptions, or with alternative packages of credit should provide a more precise measure of the risk elements than a single set of ratios or income statements based on one point in time. And of course, anything which helps the designer and equity investor design a more financially viable project contributes to the quality of the security underlying the credit committment.

J. There are a number of things the computer model does not do which were deliberately omitted.

1. For example, outputs from some of the larger projects will not fit in the column space provided unless one or more digits are omitted from the inputs which might be in terms of rounded dollars, ten dollar units, or thousand dollar units. This was necessitated by the desire to print on a 8 1/2 by 11 format so that computer runs could be included in a standard report form. Moreover it was intended that this type of analysis be available for the smaller investor who would not otherwise have access to computer programs at acceptable cost.

2. No attempt was made to create an optimizing linear program type of model as the number of alternatives open to the small developer in the financial framework of any one project are limited and subject to pre-selection within certain tolerance by the developer. Moreover a mathematical optimum mix of rents, expenses, and the like might not conform to the appropriate marketing mix or engineering constraints of a particular project unless a great amount of additional data were provided. This additional data would discourage the developer from using the program and greatly reduce the number of computer installations available to the user with sufficient capacity for all of the variations.

3. Finally as many outputs as possible were formulated labeled in a general manner so that the model would have application to a broader array of tangible property investment decisions than just real estate.

Case #1
Investment Analysis
Existing 8-Unit Apartment

IBM

GENERAL PURPOSE CARD PUNCHING FORM

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

FEATURE NUMBER		FEATURE NAME	ORIG. COST/ UNIT	C S C	ADD'L FEATURE UNITS CONSTANT	ADD'L FEATURE UNITS PER RENT. ELEM. AREA
1-10		11-20	31-40		41-50	51-60
1.1	0.1	EXIST. BUILDING	65000	1		
1.1	0.2	EXTERIOR IMPROVEMENTS	32000	4		
1.1	0.3	LAND	53000	3		

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

ELEM. NUM.	RENTAL ELEMENT NAME	NUM. OF ELEM.	FEATURE REQUIREMENT PER RENTAL ELEMENT									
			1	2	3	4	5	6	7	8	9	10
12 1	EXIST. PROPERTY		1	1	1	1						

E. No.	RENT/ PRD.	EXPENSES			
		FIXED		VARIABLE	
		PER UNIT	PER UNIT AREA	PER UNIT	PER UNIT AREA
130.1	103.00	1200	—	475	—

Property Taxes		Annual Inc. Tax Rate	Periods of Projection			Bases for Rates of Return -- annual rates (As a percent) Lowest → Highest							Pd. per yr.
$/ PRD.	% Cap. Cost/PRD		Inc. Loss	Inc. Stat	Val Stat.								
17 2050	—	20	5	11	33	6	7	10	12	14	16	20	1
18													

IBM

GENERAL PURPOSE CARD PUNCHING FORM

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

C S C	CAPITAL CLASS NAME	DEPRECIATION % DEPR	DEPRECIATION TERM IN PDS.	DEPRECIATION ACC. METH.	MORTGAGE / FINANCING % MTGE	MORTGAGE / FINANCING TERM IN PDS.	MORTGAGE / FINANCING % INTER. PER PD.	MORTGAGE / FINANCING FIXED $ CONST PAYMT
1.6.1	EXISTI. BUILDING	1.0.0	35	1.5	100	20	6.25	—
1.6.4	EXTERIOR IMPROVEMENTS	1.0.0	15	1.5	—	—	—	—
1.6.3	LAND	—	—	—	—	—	—	—
1.6.5	INITIAL EXPENSES	—	—	—	—	—	—	—

C S C	INITIAL FIXED $ AMT.	EXPENSES % OF RENT	EXPENSES % OF COST	C S C
1.6	3.0.0	—	—	5

IBM

GENERAL PURPOSE CARD PUNCHING FORM

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

END CARD	PERCENT OF BASE RENT	TAX	EXPENSES FIXED	EXPENSES VAR	RE-SALE	PERCENT OF OCCUPANCY BY RENTAL ELEMENT 1	2	3	4	5	6	7	8	9
18	0.1	1.00	1.00	1.00	10.0	1.01	.93							
18	0.2	1.02	1.02	1.02	10.2	1.02	.93							
18	0.3	1.04	1.04	1.04	10.4	1.03	.93							
18	0.4	1.06	1.06	1.06	10.6	1.04	.93							
18	0.5	1.08	1.08	1.08	10.8	1.05	.93							
18	0.6	1.10	1.10	1.10	11.0	1.06	.93							
18	0.7	1.12	1.12	1.12	11.2	1.07	.93							
18	0.8	1.14	1.14	1.14	11.4	1.08	.93							
18	0.9	1.16	1.16	1.16	11.6	1.09	.93							
18	1.0	1.18	1.18	1.18	11.8	1.10	.93							
18	1.1	1.20	1.20	1.20	12.0	1.11	.93							
18	1.2	1.22	1.22	1.22	12.2	1.12	.93							
99														

```
REAL ESTATE CAPITAL STRUCTURE & BUDGET                    PAGE  1
0          EVANS 3/67                                                  19
001        EXIST. BUILDING      650001                                 11
002        EXTERIORIMPROVEMENTS  32004                                 11
003        LAND                  53003                                 11
0 1        EXIST. PROPERTY        1   1   1   1                       12
0 1        EXIST. BUILDING     100 351.5100 20 6.25                   16
0 4        EXTERIORIMPROVEMENTS100  51.5                              16
0 3        LAND                                                       16
0 5        INITIAL EXPENSES                                           16
0     300        5                                                    15
001        10300  1200          475                                   13
0    2050          20  5  1  3    6   8  10  12  14  16  20  1       17
0001100100100100101093                                               18
0002102102102102102093                                               18
0003104104104104103093                                               18
0004106106106106104093                                               18
0005108108108108105093                                               18
0006110110110110106093                                               18
0007112112112112107093                                               18
0008114114114114108093                                               18
0009116116116116109093                                               18
0010118118118118110093                                               18
0011120120120120111093                                               18
0012122122122122112093                                               18
1                                                                    99
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ARD NO,   1, CODE 19
ARD NO,   2, CODE 11
ARD NO,   3, CODE 11
ARD NO,   4, CODE 11
ARD NO,   5, CODE 12
ARD NO,   6, CODE 16
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ARD NO,   8, CODE 16
ARD NO,   9, CODE 16
ARD NO,  10, CODE 15
ARD NO,  11, CODE 13
ARD NO,  12, CODE 17
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ARD NO,  20, CODE 18
ARD NO,  21, CODE 18
ARD NO,  22, CODE 18
ARD NO,  23, CODE 18
ARD NO,  24, CODE 18
ARD NO,  25, CODE 99
```

Case #1

Investment Analysis

Existing 8-Unit Apartment

PROJECT FEATURES - COMPONENTS

CODE	COST PER UNIT	ADDITIONAL UNITS CONST.	ADDITIONAL UNITS PER REA	TOTAL UNITS	TOTAL COST
1 EXIST. BUILDING	65000.000	.000	.000	1.0	65000.0
2 EXTERIORIMPROVEMENTS	3200.000	.000	.000	1.0	3200.0
3 LAND	5300.000	.000	.000	1.0	5300.0
TOTAL DIREGT CAPITAL COST					73500.0

RENTAL ELEMENTS

RENTAL CLASS TYPE 1	NUM.	RENT	FIXED EXPENSES		VARIABLE EXPENSES	
EXIST. PROPERTY	1.	10300.00	1200.00	.00	475.00	.00

	FEATURE - COMPONENT	#UNITS	COST		AREA	
1	EXIST. BUILDING	1.00	65000.00	88.4%	1.00	100.0%
2	EXTERIOR IMPROVEMENTS	1.00	3200.00	4.3%	.00	.0%
3	LAND	1.00	5300.00	7.2%	.00	.0%
	TOTAL		73500.00		1.00	

CAPITAL SCHEDULE

	DEPREOIATION			MORTGAGE / FINANCING				
CODE #-CAP. SCHED.	%BASE	TERM	METH	%BASE	TERM	INTEREST	PAYMENT	TOT.COST
EXIST. BUILDING	100.	35.	1.50	100.	20.	6.25%	5782.54	65000.00
	.	.	.00	.	.	.00%	.00	.00
LAND	.	.	.00	.	.	.00%	.00	5300.00
EXTERIOR IMPROVEMENTS	100.	5.	1.50	.	.	.00%	.00	3200.00
INITIAL EXPENSES	.	.	.00	.	.	.00%	.00	300.00
TOTAL PERIOD DEBT SERVICE							5782.54	
TOTAL CAPITAL BUDGET								73800.00

TOTALS		IMPORTANT RATIOS	
TOT BLDG AREA TBA	1.00	BLDG EFFICIENCY TRA/TBA	100.00%
TOT RENTABLE AREA TRA	1.00	GR PER UNIT AREA GR/TRA	$10300.00
ERROR NO. 857 AT LOCATION	29691		
LAND COST LC	5300.00	BLG COST/UNIT TCB-LC/TBA	$* .00
TOT IMPROV COST TOB-LC	68500.00	DEBT RATIO TM/TCB	88.0%
TOT CAP BUDGET TCB	73800.00	LAND RATIO LC/TCB	7.1%
TOT DEPRECIABLE BASE DB	68200.00		
TOT MORTGAGES TM	65000.00		

MISCELLANEOUS EXPENSE INPUTS

R.E. TAXES .00% OF TOTAL CAPITAL BUDGET PER PERIOD

PLUS $ 2050. FIXED DOLLAR BASE

ANNUAL INCOME TAX RATE- 20.0%

INITIAL EXPENSES- $ 300. FIXED, PLUS .00% OF FIRST PERIOD RENT

PLUS .00% OF DIRECT CAPITAL COST

MARGINAL ANALYSIS BY ELEMENT CLASS

		GR	TRA	TCB	%INC/%COST
TOTAL PROJECT		10300.00	1.00	73800.00	
AS A % OF TOTAL					
EXIST. PROPERTY		100.00%	100.00%	100.00%	100.00%
GROSS INCOME 1		10300.00	RESALE VALUE		74538.00
EFF. GROSS %OCC.OF	93.%0	9579.00	LESS PRIN.BAL.		63279.95
LESS FIX. EXP.	1200.00		NET WORTH		11258.04
LESS VAR. EXP.	475.00				
LESS R.E. TAX	2050.00		CURRENT PD. RETURN		1.28744
NET INCOME		5854.00	PROJECT RETURN		.00000
LESS DEPREC.	3745.71		PRODUCTIVITY RATE		.0785
LESS INTEREST	4082.50		CASH RETURN		.0081
TAXABLE INCOME		-1954.21	EXPENSE RATIO		.361
TAX OFFSET	.00		DEFAULT RATIO		.923
LESS TAXES	.00		DEBT COVER RATIO		1.012
PLUS DEPREC.	3745.71				
LESS PRIN. PMT.	1720.04		CUR. PRIN.PMT/CUR.DEPREC.		.459
CASH INCOME		71.45	TOT. AMOR./TOT. DEPREC.		.459

GROSS INCOME 2		10506.00	RESALE VALUE	75276.00
EFF. GROSS %OCC.OF 93.%¤		9770.58	LESS PRIN.BAL.	61452.40
LESS FIX. EXP.	1224.00		NET WORTH	13823.59
LESS VAR. EXP.	484.50			
LESS R.E. TAX	2091.00		CURRENT PD. RETURN	.31296
NET INCOME		5971.08	PROJECT RETURN	.00000
LESS DEPREC.	3338.32		PRODUCTIVITY RATE	.0793
LESS INTEREST	3954.99		CASH RETURN	.0214
TAXABLE INCOME		-1322.24	EXPENSE RATIO	.361
TAX OFFSET	-1954.21		DEFAULT RATIO	.912
LESS TAXES	.00		DEBT COVER RATIO	1.032
PLUS DEPREC.	3338.32			
LESS PRIN. PMT.	1827.55		CUR. PRIN.PMT/CUR.DEPREC.	.547
CASH INCOME		188.53	TOT. AMOR./TOT. DEPREC.	.500

GROSS INCOME 3		10712.00	RESALE VALUE	76014.00
EFF. GROSS %OCC.OF 93.%¤		9962.16	LESS PRIN.BAL.	59510.63
LESS FIX. EXP.	1248.00		NET WORTH	16503.36
LESS VAR. EXP.	494.00			
LESS R.E. TAX	2132.00		CURRENT PD. RETURN	.33924
NET INCOME		6088.16	PROJECT RETURN	.00000
LESS DEPREC.	3022.45		PRODUCTIVITY RATE	.0800
LESS INTEREST	3840.77		CASH RETURN	.0347
TAXABLE INCOME		-775.07	EXPENSE RATIO	.361
TAX OFFSET	-3276.45		DEFAULT RATIO	.901
LESS TAXES	.00		DEBT COVER RATIO	1.052
PLUS DEPREC.	3022.45			
LESS PRIN. PMT.	1941.77		CUR. PRIN.PMT/CUR.DEPREC.	.642
CASH INCOME		305.61	TOT. AMOR./TOT. DEPREC.	.543

APPRAISAL ANALYSIS OF PROJECT

INITIAL COSTS- TOB 73800.00, LC 5300.00, TIC 68500.00

TN 65000.00, CASH EQUITY REQUIRED 8800.00

VALUE BASED ON INCOME USING THREE DIFFERENT APPROACHES

PRESENT VALUE OF RETURNS, LESS $ 68500.00 TIC, EQUALS RESIDUAL LAND VALUE

	PROPERTY APPRAISAL			LAND APPRAISAL		
%	TRADITIONAL	B/4 TAX	AFT TAX	TRADITIONAL	B/4 TAX	AFT TAX
6.00	79771.43	79348.34	78692.26	11271.43	10848.34	10192.26
8.00	75714.94	78571.30	77951.00	7214.94	10071.30	9451.00
10.00	71941.16	77849.60	77262.52	3441.16	9349.60	8762.52
12.00	68425.58	77178.39	76622.20	-74.41	8678.39	8122.20
14.00	65148.25	76553.32	76025.90	-3353.74	8053.32	7525.90
16.00	62083.41	75970.50	75469.89	-6416.58	7470.50	6969.89
20.00	56537.74	74917.88	74465.68	-11962.26	6417.88	5965.68

GROSS INCOME 4		10918.00	RESALE VALUE	76752.00
EFF. GROSS %OCC.OF	93.%0	10153.74	LESS PRIN.BAL.	57447.49
LESS FIX. EXP.	1272.00		NET WORTH	19304.50
LESS VAR. EXP.	503.50			
LESS R.E. TAX	2173.00		CURRENT PD. RETURN	.36634
NET INCOME		6205.24	PROJECT RETURN	.00000
LESS DEPREC.	2771.98		PRODUCTIVITY RATE	.0808
LESS INTEREST	3719.41		CASH RETURN	.0480
TAXABLE INCOME		-286.13	EXPENSE RATIO	.361
TAX OFFSET	-4051.52		DEFAULT RATIO	.891
LESS TAXES	.00		DEBT COVER RATIO	1.073
PLUS DEPREC.	2771.96			
LESS PRIN. PMT.	2063.13		CUR. PRIN.PMT/CUR.DEPREC.	.744
CASH INCOME		422.69	TOT. AMOR./TOT. DEPREC.	.586

GROSS INCOME 5		11124.00	RESALE VALUE	77490.00
EFF. GROSS %OCC.OF 93.%0		10345.32	LESS PRIN.BAL.	55255.41
LESS FIX. EXP.	1296.00		NET WORTH	22234.58
LESS VAR. EXP.	513.00			
LESS R.E. TAX	2214.00		CURRENT PD. RETURN	.37573
NET INCOME		6322.32	PROJECT RETURN	.00000
LESS DEPREC.	2568.49		PRODUCTIVITY RATE	.0815
LESS INTEREST	3590.46		CASH RETURN	.0427
TAXABLE INCOME		163.36	EXPENSE RATIO	.361
TAX OFFSET	-4337.66		DEFAULT RATIO	.881
LESS TAXES	.00		DEBT COVER RATIO	1.093
PLUS DEPREC.	2568.49			
LESS PRIN. PMT.	2102.07		CUR. PRIN.PMT/CUR.DEPREC.	.853
CASH INCOME		376.41	TOT. AMOR./TOT. DEPREC.	.630

GROSS INCOME 6		11330.00	RESALE VALUE	78228.00
EFF. GROSS %OCC.OF 93.%0		10536.90	LESS PRIN.BAL.	52926.33
LESS FIX. EXP.	1320.00		NET WORTH	25301.66
LESS VAR. EXP.	522.50			
LESS R.E. TAX	2255.00		CURRENT PD. RETURN	.33815
NET INCOME		6439.40	PROJECT RETURN	1.36054
LESS DEPREC.	2237.79		PRODUCTIVITY RATE	.0823
LESS INTEREST	3453.46		CASH RETURN	-.0103
TAXABLE INCOME		748.14	EXPENSE RATIO	.361
TAX OFFSET	-4174.30		DEFAULT RATIO	.872
LESS TAXES	.00		DEBT COVER RATIO	1.113
PLUS DEPREC.	2237.79			
LESS PRIN. PMT.	2329.08		CUR. PRIN.PMT/CUR.DEPREC.	1.040
CASH INCOME		-91.28	TOT. AMOR./TOT. DEPREC.	.682

APPRAISAL ANALYSIS OF PROJECT

INITIAL COSTS- TCB 73800.00, LC 5300.00, TIC 68500.00

TN 65000.00, CASH EQUITY REQUIRED 8800.00

VALUE BASED ON INCOME USING THREE DIFFERENT APPROACHES

PRESENT VALUE OF RETURNS, LESS $ 68500.00 TIC, EQUALS RESIDUAL LAND VALUE

	PROPERTY APPRAISAL			LAND APPRAISAL		
%	TRADITIONAL	B/4 TAX	AFT TAX	TRADITIONAL	B/4 TAX	AFT TAX
6.00	85275.32	84529.68	83173.27	16775.32	16029.68	14673.27
8.00	77591.30	82506.72	81292.15	9091.30	14006.72	12792.15
10.00	70987.18	80727.14	79637.35	2287.18	12227.14	11137.35
12.00	64746.45	79157.92	78178.14	-3753.54	10657.92	9678.14
14.00	59369.91	77770.98	76888.43	-9130.08	9270.98	8388.43
16.00	54572.77	76542.41	75745.97	-13927.22	8042.41	7245.97
20.00	46436.38	74481.54	73829.51	-22063.61	5981.54	5329.51

GROSS INCOME 7		11536.00	RESALE VALUE	78966.00
EFF. GROSS %OCC.OF 93.%#		10728.48	LESS PRIN.BAL.	50451.68
LESS FIX. EXP.	1344.00		NET WORTH	28514.31
LESS VAR. EXP.	532.00			
LESS R.E. TAX	2206.00		CURRENT PD. RETURN	.32726
NET INCOME		6556.48	PROJECT RETURN	1.12560
LESS DEPREC.	2141.89		PRODUCTIVITY RATE	.0830
LESS INTEREST	3307.89		CASH RETURN	-.0378
TAXABLE INCOME		1106.69	EXPENSE RATIO	.361
TAX OFFSET	-2383.45		DEFAULT RATIO	.862
LESS TAXES	.00		DEBT COVER RATIO	1.133
PLUS DEPREC.	2141.89			
LESS PRIN. PMT.	2474.65		CUR. PRIN.PMT/CUR.DEPREC.	1.155
CASH INCOME		-332.76	TOT. AMOR./TOT. DEPREC.	.733

Case #2

Feasibility Analysis and Appraisal

Proposed 40-Unit Apartment

IBM GENERAL PURPOSE CARD PUNCHING FORM

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

FEATURE NUMBER	FEATURE NAME	ORIG. COST/ UNIT	CSC	ADD'L FEATURE UNITS CONSTANT	ADD'L FEATURE UNITS PER RENT. ELEM. AREA
1	LIVING ROOM SF	6.50	1		
2	KITCHIEN SF	15.00	1		
3	BEDROOM 1 SF	6.50	1		
4	BEDROOM 2 SF	6.50	1		
5	FOYER SF	6.00	1		
6	STORAGE SF	10.00	1		
7	FURNITURE EA PC	50.00	6		
8	BASEMENT STORAGE SF	4.50	1		
9	LAND SF	1.50	3		
10	BATHROOM SF	20.00	1		
11	PUBLIC AREA SF	1.00	2		.20
12	OUTSIDE FARMS LF	300.00	4	40	

IBM GENERAL PURPOSE CARD PUNCHING FORM PAGE 2 OF 4

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

CSC	CAPITAL CLASS NAME	DEPRECIATION % DEPR	DEPRECIATION TERM IN PDS.	DEPRECIATION ACC. METH.	MORTGAGE / FINANCING % MTGD	MORTGAGE / FINANCING TERM IN PDS.	MORTGAGE / FINANCING % INTER. PER PD.	MORTGAGE / FINANCING FIXED $ CONST PAYMT
16 1	BUILDING RENTABLE	100	480	2.0	80	300	.5%	
16 2	BUILDING NONRENTABLE	100	480	2.0	80	300	.5%	
16 3	LAND	0			80	300	.5%	
16 4	PARKING	70	120	2.0	80	300	.5%	
16 5	INITIAL EXPENSES	70	480	2.0	80	300	.5%	
16 6	FURNITURE	100	72	2.0	80	60	.6%	

CSC	INITIAL FIXED $ AMT.	EXPENSES % OF RENT COST	CSC
16	2000	50	111 5

IBM GENERAL PURPOSE CARD PUNCHING FORM PAGE 3 OF 4

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

ELEM. NUM.	RENTAL ELEMENT NAME	NUM. OF ELEM.	FEATURE REQUIREMENT PER RENTAL ELEMENT - IN SQ. FT.									
			Liv. Rm. 1	Kit. 2	B.R.1 3	B.R.2 4	Foyer 5	Storage 6	Furn. Pieces 7	Bsemt Stor. 8	Land 9	Bath 10
1	EFFICIENCY APT.	4	200	50				20		45	200	42
2	1 BEDROOM APT.	14	216	108	161		24	30		50	1200	70
3	2 BEDROOM APT.	16	216	108	161	121	30	65		50	1600	60
4	2 BEDROOM FURNISHED	6	216	108	161	121	30	65	12	50	1600	60

E. No.	RENT/ PRD.	EXPENSES			
		FIXED		VARIABLE	
		PER UNIT	PER UNIT AREA	PER UNIT	PER UNIT AREA
1	130.00	1.20	.1025	1.50	.020
2	135.00	1.20	.1025	1.50	.020
3	170.00	1.20	.1025	1.50	.020
4	170.00	1.20	.1025	4.00	.020

	Property Taxes $/ PRD.	Property Taxes % Cap. Cost/PRD	Annual Inc. Tax Rate	Periods of Projection Inc. Loss	Inc. Stat.	Val Stat.	Bases for Rates of Return -- annual rates (As a percent) Lowest ... Highest	Pdc. per yr.
1		.2	3.0	6.0	16	6.0	5.0 6.0 7.0 10.0 12.0 15.0 20.0	12
2								

IBM

GENERAL PURPOSE CARD PUNCHING FORM

JOB

PUNCHING INSTRUCTIONS

WRITTEN AS:

END	PRD	PERCENT OF BASE RENT	TAX	EXPENSES FIXED	VAR	RE-SALE	PERCENT OF OCCUPANCY BY RENTAL ELEMENT 1	2	3	4	5	6	7	8	9
1-10		11-20					21-30			31-40			41-50		
18	003	100	100	100	100	105	010	010	010	010					
18	006	100	100	100	100	105	040	040	040	040					
18	007	100	100	100	100	105	075	075	075	075					
18	012	100	100	100	100	105	070	070	070	070					
18	018	101	101	101	101	101	075	075	075	075					
18	024	102	102	102	102	101	096	096	096	096					
18	048	104	104	104	104	110	096	096	096	096					
18	060	105	105	105	105	112	096	096	096	096					
18	120	110	110	110	110	115	096	096	096	096					
18	180	115	115	115	115	118	096	096	096	096					
18	240	120	120	120	120	120	120	096	096	096					
17															

17 APARTMENT RUN - FURNISHED & UNFURNISHED, 10 6 66 [illegible] 2.0 2/8 DEPN

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REAL ESTATE CAPITAL STRUCTURE & BUDGET                    PAGE  1
OAPARTMENT RUN - FURNISHED & UNFURNISHED  11 8 66  90% L/V  2.0 D/B DEPN      19
0 1      LIVING ROOM          SF  6.501                                       11
0 2      KITCHEN              SF 15.001                                       11
0 3      BEDROOM 1            SF  6.501                                       11
0 4      BEDROOM 2            SF  6.501                                       11
0 5      FOYER                SF  6.001                                       11
0 6      STORAGE              SF 10.001                                       11
0 7      FURNITURE         EA PC 50.006                                       11
0 8      BASEMENT STORAGE     SF  4.501                                       11
0 9      LAND                 SF  1.503                                       11
010      BATHROOM             SF 20.001                                       11
011      PUBLIC AREA          SF  7.002          .20                          11
012      OUTSIDE PARKING   STL300.004    40                                    11
0 1      EFFICIENCY APT          4 300  50              20      25 800  48     12
0 2      1 BEDROOM APT          14 216 108 161      24  50      501200  48     12
0 3      2 BEDROOM APT          16 216 108 161 127  30  65      501600  60     12
0 4      2 BEDROOM FURNISHED     6 216 108 161 127  30  65  12  501600  60     12
0 1      110.00  1.20  .025  1.50  .020                                        13
0 2      135.00  1.70  .025  1.50  .020                                        13
0 3      150.00  2.20  .025  1.50  .020                                        13
0 4      175.00  2.20  .025  4.00  .020                                        13
0    2000 50 11 5                                                            15
0 1      BUILDING RENTABLE   1004802.0 80300  .58                            16
0 2      BUILDING NONRENTABLE1004802.0 80300  .58                            16
0 3      LAND                   0      80300  .58                            16
0 4      PARKING              901202.0 80300  .58                            16
0 5      INITIAL EXPENSES     904802.0 80300  .58                            16
0 6      FURNITURE           100 722.0080 60  .66                            16
0          .2   30 60  6 60  5.2 6.0 7.010.012.015.020.012.                  17
0003100100100100105010010010010                                             18
0006100100100100105040040040040                                             18
0009100100100100105075075075075                                             18
0012100100100100105090090090090                                             18
0018101101101101107095095095095                                             18
0024102102102102107096096096096                                             18
0048104104104104110096096096096                                             18
0060105105105105112096096096096                                             18
0120110110110110115096096096096                                             18
0180115115115115118096096096096                                             18
0240120120120120120096096096096                                             18
0                                                                           99
CARD NO,   1, CODE 19
CARD NO,   2, CODE 11
CARD NO,   3, CODE 11
CARD NO,   4, CODE 11
CARD NO,   5, CODE 11
CARD NO,   6, CODE 11
CARD NO,   7, CODE 11
CARD NO,   8, CODE 11
CARD NO,   9, CODE 11
CARD NO,  10, CODE 11
CARD NO,  11, CODE 11
CARD NO,  12, CODE 11
CARD NO,  13, CODE 11
CARD NO,  14, CODE 12
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Case #2

Feasibility Analysis and Appraisal

Proposed 40-Unit Apartment

CARD NO, 15, CODE 12
CARD NO, 16, CODE 12
CARD NO, 17, CODE 12
CARD NO, 18, CODE 13
CARD NO, 19, CODE 13
CARD NO, 20, CODE 13
CARD NO, 21, CODE 13
CARD NO, 22, CODE 15
CARD NO, 23, CODE 16
CARD NO, 24, CODE 16
CARD NO, 25, CODE 16
CARD NO, 26, CODE 16
CARD NO, 27, CODE 16
CARD NO, 28, CODE 16
CARD NO, 29, CODE 17
CARD NO, 30, CODE 18
CARD NO, 31, CODE 18
CARD NO, 32, CODE 18
CARD NO, 33, CODE 18
CARD NO, 34, CODE 18
CARD NO, 35, CODE 18
CARD NO, 36, CODE 18
CARD NO, 37, CODE 18
CARD NO, 38, CODE 18
CARD NO, 39, CODE 18
CARD NO, 40, CODE 18
CARD NO, 41, CODE 99

PROJECT FEATURES - COMPONENTS

CODE		COST - PER UNIT	ADDITIONAL UNITS CONST.	ADDITIONAL UNITS PER REA	TOTAL UNITS	TOTAL COST
1 LIVING ROOM	SF	6.500	.000	.000	8976.0	58344.0
2 KITCHEN	SF	15.000	.000	.000	4088.0	61320.0
3 BEDROOM 1	SF	6.500	.000	.000	5796.0	37674.0
4 BEDROOM 2	SF	6.500	.000	.000	2794.0	18161.0
5 FOYER	SF	6.000	.000	.000	996.0	5976.0
6 STORAGE	SF	10.000	.000	.000	2210.0	22100.0
7 FURNITURE	EA PC	50.000	.000	.000	72.0	3600.0
8 BASEMENT STORAGE	SF	4.500	.000	.000	1900.0	8550.0
9 LAND	SF	1.500	.000	.000	55200.0	82800.0
10 BATHROOM	SF	20.000	.000	.000	2184.0	43680.0
11 PUBLIC AREA	SF	7.000	.000	.200	5788.8	40521.6
12 OUTSIDE PARKING	STL	300.000	40.000	.000	40.0	12000.0
TOTAL DIRECT CAPITAL COST						394726.6

RENTAL ELEMENTS

RENTAL CLASS TYPE 1	NUM.	RENT	FIXED EXPENSES		VARIABLE EXPENSES	
EFFICIENCY APT	4.	110.00	1.20	.02	1.50	.02
FEATURE - COMPONENT		#UNITS	COST		AREA	
1 LIVING ROOM	SF	300.00	1950.00	37.6%	300.00	67.7%
2 KITCHEN	SF	50.00	750.00	14.4%	50.00	11.2%
6 STORAGE	SF	20.00	200.00	3.8%	20.00	4.5%
8 BASEMENT STORAGE	SF	25.00	112.50	2.1%	25.00	5.6%
9 LAND	SF	800.00	1200.00	23.1%	.00	.0%
10 BATHROOM	SF	48.00	960.00	18.5%	48.00	10.8%
TOTAL			5172.50		443.00	

RENTAL CLASS TYPE 2	NUM.	RENT	FIXED EXPENSES		VARIABLE EXPENSES	
1 BEDROOM APT	14.	135.00	1.70	.02	1.50	.02
FEATURE - COMPONENT		#UNITS	COST		AREA	
1 LIVING ROOM	SF	216.00	1404.00	18.2%	216.00	32.8%
2 KITCHEN	SF	108.00	1620.00	21.0%	108.00	16.4%
3 BEDROOM 1	SF	161.00	1046.50	13.5%	161.00	24.5%
5 FOYER	SF	24.00	144.00	1.8%	24.00	3.6%
6 STORAGE	SF	50.00	500.00	6.4%	50.00	7.6%
8 BASEMENT STORAGE	SF	50.00	225.00	2.9%	50.00	7.6%
9 LAND	SF	1200.00	1800.00	23.3%	.00	.0%
10 BATHROOM	SF	48.00	960.00	12.4%	48.00	7.3%
TOTAL			7699.50		657.00	

RENTAL CLASS TYPE 3	NUM.	RENT	FIXED EXPENSES		VARIABLE EXPENSES	
2 BEDROOM APT	16.	150.00	2.20	.02	1.50	.02
FEATURE - COMPONENT		#UNITS	COST		AREA	
1 LIVING ROOM	SF	216.00	1404.00	14.7%	216.00	26.4%
2 KITCHEN	SF	108.00	1620.00	16.9%	108.00	13.2%
3 BEDROOM 1	SF	161.00	1046.50	10.9%	161.00	19.7%
4 BEDROOM 2	SF	127.00	825.50	8.6%	127.00	15.5%
5 FOYER	SF	30.00	180.00	1.8%	30.00	3.6%
6 STORAGE	SF	65.00	650.00	6.8%	65.00	7.9%
8 BASEMENT STORAGE	SF	50.00	225.00	2.3%	50.00	6.1%
9 LAND	SF	1600.00	2400.00	25.1%	.00	.0%
10 BATHROOM	SF	60.00	1200.00	12.5%	60.00	7.3%
TOTAL			9551.00		817.00	

RENTAL CLASS TYPE 4	NUM.	RENT	FIXED EXPENSES		VARIABLE EXPENSES	
2 BEDROOM FURNISHED	6.	175.00	2.20	.02	4.00	.02
FEATURE - COMPONENT		#UNITS	COST		AREA	
1 LIVING ROOM	SF	216.00	1404.00	13.8%	216.00	26.4%
2 KITCHEN	SF	108.00	1620.00	15.9%	108.00	13.2%
3 BEDROOM 1	SF	161.00	1046.50	10.3%	161.00	19.7%
4 BEDROOM 2	SF	127.00	825.50	8.1%	127.00	15.5%
5 FOYER	SF	30.00	180.00	1.7%	30.00	3.6%
6 STORAGE	SF	65.00	650.00	6.4%	65.00	7.9%
7 FURNITURE	EA PC	12.00	600.00	5.9%	.00	.0%
8 BASEMENT STORAGE	SF	50.00	225.00	2.2%	50.00	6.1%
9 LAND	SF	1600.00	2400.00	23.6%	.00	.0%
10 BATHROOM	SF	60.00	1200.00	11.8%	60.00	7.3%
TOTAL			10151.00		817.00	

CAPITAL SCHEDULE

CODE #-CAP. SCHED.	DEPRECIATION %BASE	TERM	METH	MORTGAGE / FINANCING %BASE	TERM	INTEREST	PAYMENT	TOT.COST
1 BUILDING RENTABLE	100.	480.	2.00	80.	300.	.58%	1441.16	255805.00
2 BUILDING NONRENTABLE	100.	480.	2.00	80.	300.	.58%	228.29	40521.60
3 LAND	.	.	.00	80.	300.	.58%	466.48	82800.00
4 PARKING	90.	120.	2.00	80.	300.	.58%	67.60	12000.00
5 INITIAL EXPENSES	90.	480.	2.00	80.	300.	.58%	272.17	48309.92
6 FURNITURE	100.	72.	2.00	80.	60.	.66%	58.28	3600.00
TOTAL PERIOD DEBT SERVICE							2534.00	
TOTAL CAPITAL BUDGET								443036.52

TOTALS

TOT BLDG AREA	TBA	34732.80	BLDG EFFICIENCY	TRA/TBA	83.33%
TOT RENTABLE AREA	TRA	28944.00	GR PER UNIT AREA	GR/TRA	$ .19
LAND COST	LC	82800.00	BLG COST/UNIT	TCB-LC/TBA	$ 10.37
TOT IMPROV COST	TCB-LC	360236.52	DEBT RATIO	TM/TCB	80.0%
TOT CAP BUDGET	TCB	443036.52	LAND RATIO	LC/TCB	18.6%
TOT DEPRECIABLE BASE	DB	354205.53			
TOT MORTGAGES	TM	354429.22			

IMPORTANT RATIOS

MISCELLANEOUS EXPENSE INPUTS

R.E. TAXES .20% OF TOTAL CAPITAL BUDGET PER PERIOD

PLUS $ .FIXED DOLLAR BASE

ANNUAL INCOME TAX RATE- 30.0%

INITIAL EXPENSES- $ 2000. FIXED, PLUS 50.00% OF FIRST PERIOD RENT

PLUS 11.00% OF DIRECT CAPITAL COST

MARGINAL ANALYSIS BY ELEMENT CLASS

	GR	TRA	TCB	%INC/%COST
TOTAL PROJECT	5780.00	28944.00	443036.52	
AS A % OF TOTAL				
EFFICIENCY APT	7.61%	6.12%	6.06%	125.54%
1 BEDROOM APT	32.69%	31.77%	31.56%	103.59%
2 BEDROOM APT	41.52%	45.16%	44.77%	92.74%
2 BEDROOM FURNISHED	18.16%	16.93%	17.60%	103.20%

GROSS INCOME 6		34680.00	RESALE VALUE	465188.34
EFF. GROSS %OCC.OF 25.%n		8670.00	LESS PRIN.BAL.	351530.99
LESS FIX. EXP.	4803.60		NET WORTH	113657.35
LESS VAR. EXP.	3923.28			
LESS R.E. TAX	5316.43		CURRENT PD. RETURN	-.21582
NET INCOME		-5373.31	PROJECT RETURN	-.16321
LESS DEPREC.	10002.96		PRODUCTIVITY RATE	-.0115
LESS INTEREST	12305.74		CASH RETURN	-.2322
TAXABLE INCOME		-27682.02	EXPENSE RATIO	.404
TAX OFFSET	-23970.65		DEFAULT RATIO	.843
LESS TAXES	.00		DEBT COVER RATIO	-.353
PLUS DEPREC.	10002.96			
LESS PRIN. PMT.	2898.25		CUR. PRIN.PMT/CUR.DEPREC.	.289
CASH INCOME		-20577.31	TOT. AMOR./TOT. DEPREC.	.289

GROSS INCOME 12		34680.00	RESALE VALUE	465188.34
EFF. GROSS %OCC.OF	82.%¤	28611.00	LESS PRIN.BAL.	348529.26
LESS FIX. EXP.	4803.60		NET WORTH	116659.08
LESS VAR. EXP.	3923.28			
LESS R.E. TAX	5316.43		CURRENT PD. RETURN	1.29251
NET INCOME		14567.68	PROJECT RETURN	.01640
LESS DEPREC.	9608.52		PRODUCTIVITY RATE	.0313
LESS INTEREST	12202.22		CASH RETURN	-.0071
TAXABLE INCOME		-7243.07	EXPENSE RATIO	.404
TAX OFFSET	-34184.91		DEFAULT RATIO	.843
LESS TAXES	.00		DEBT COVER RATIO	.958
PLUS DEPREC.	9608.52			
LESS PRIN. PMT.	3001.77		CUR. PRIN.PMT/CUR.DEPREC.	.312
CASH INCOME		-636.31	TOT. AMOR./TOT. DEPREC.	.300

GROSS INCOME 18		35026.80	RESALE VALUE	474049.07
EFF. GROSS %OCC.OF	95.%¤	33275.46	LESS PRIN.BAL.	345420.31
LESS FIX. EXP.	4851.63		NET WORTH	128628.76
LESS VAR. EXP.	3962.51			
LESS R.E. TAX	5369.60		CURRENT PD. RETURN	1.37805
NET INCOME		19091.71	PROJECT RETURN	.05146
LESS DEPREC.	9242.30		PRODUCTIVITY RATE	.0402
LESS INTEREST	12095.00		CASH RETURN	.0436
TAXABLE INCOME		-2245.60	EXPENSE RATIO	.404
TAX OFFSET	-36828.37		DEFAULT RATIO	.839
LESS TAXES	.00		DEBT COVER RATIO	1.255
PLUS DEPREC.	9242.30			
LESS PRIN. PMT.	3108.99		CUR. PRIN.PMT/CUR.DEPREC.	.336
CASH INCOME		3887.71	TOT. AMOR./TOT. DEPREC.	.312

GROSS INCOME 24		35373.60	RESALE VALUE	474049.07
EFF. GROSS %OCC.OF	96.%¤	33958.65	LESS PRIN.BAL.	342200.29
LESS FIX. EXP.	4899.67		NET WORTH	131848.78
LESS VAR. EXP.	4001.74			
LESS R.E. TAX	5422.76		CURRENT PD. RETURN	1.51989
NET INCOME		19634.47	PROJECT RETURN	.05513
LESS DEPREC.	8901.15		PRODUCTIVITY RATE	.0414
LESS INTEREST	11983.94		CASH RETURN	.0500
TAXABLE INCOME		-1250.63	EXPENSE RATIO	.404
TAX OFFSET	-38243.48		DEFAULT RATIO	.834
LESS TAXES	.00		DEBT COVER RATIO	1.291
PLUS DEPREC.	8901.15			
LESS PRIN. PMT.	3220.05		CUR. PRIN.PMT/CUR.DEPREC.	.361
CASH INCOME		4430.47	TOT. AMOR./TOT. DEPREC.	.323

GROSS INCOME 30		36067.20	RESALE VALUE	487340.17
EFF. GROSS %OCC.OF	96.%¤	34624.51	LESS PRIN.BAL.	338865.25
LESS FIX. EXP.	4995.74		NET WORTH	148474.92
LESS VAR. EXP.	4080.21			
LESS R.E. TAX	5529.09		CURRENT PD. RETURN	1.56123
NET INCOME		20019.46	PROJECT RETURN	.05218
LESS DEPREC.	8582.34		PRODUCTIVITY RATE	.0410
LESS INTEREST	11868.92		CASH RETURN	.0543
TAXABLE INCOME		-431.80	EXPENSE RATIO	.404
TAX OFFSET	-38810.58		DEFAULT RATIO	.826
LESS TAXES	.00		DEBT COVER RATIO	1.316
PLUS DEPREC.	8582.34			
LESS PRIN. PMT.	3335.08		CUR. PRIN.PMT/CUR.DEPREC.	.388
CASH INCOME		4815.45	TOT. AMOR./TOT. DEPREC.	.335

GROSS INCOME 36		36067.20	RESALE VALUE	487340.17
EFF. GROSS %OCC.OF	96.%¤	34624.51	LESS PRIN.BAL.	335411.04
LESS FIX. EXP.	4995.74		NET WORTH	151929.13
LESS VAR. EXP.	4080.21			
LESS R.E. TAX	5529.09		CURRENT PD. RETURN	1.74970
NET INCOME		20019.46	PROJECT RETURN	.05177
LESS DEPREC.	8283.51		PRODUCTIVITY RATE	.0410
LESS INTEREST	11749.77		CASH RETURN	.0545
TAXABLE INCOME		-13.82	EXPENSE RATIO	.404
TAX OFFSET	-38893.07		DEFAULT RATIO	.826
LESS TAXES	.00		DEBT COVER RATIO	1.316
PLUS DEPREC.	8283.51			
LESS PRIN. PMT.	3454.22		CUR. PRIN.PMT/CUR.DEPREC.	.417
CASH INCOME		4829.28	TOT. AMOR./TOT. DEPREC.	.348

GROSS INCOME 42		36067.20	RESALE VALUE	487340.17
EFF. GROSS %OCC.OF	96.%¤	34624.51	LESS PRIN.BAL.	331833.46
LESS FIX. EXP.	4995.74		NET WORTH	155506.71
LESS VAR. EXP.	4080.21			
LESS R.E. TAX	5529.09		CURRENT PD. RETURN	1.78482
NET INCOME		20019.46	PROJECT RETURN	.04861
LESS DEPREC.	8002.58		PRODUCTIVITY RATE	.0410
LESS INTEREST	11626.36		CASH RETURN	.0499
TAXABLE INCOME		390.51	EXPENSE RATIO	.404
TAX OFFSET	-38569.09		DEFAULT RATIO	.826
LESS TAXES	.00		DEBT COVER RATIO	1.316
PLUS DEPREC.	8002.58			
LESS PRIN. PMT.	3577.63		CUR. PRIN.PMT/CUR.DEPREC.	.447
CASH INCOME		4424.95	TOT. AMOR./TOT. DEPREC.	.360

GROSS INCOME 48		36067.20	RESALE VALUE	487340.17
EFF. GROSS %OCC.OF	96.%□	34624.51	LESS PRIN.BAL.	328128.05
LESS FIX. EXP.	4995.74		NET WORTH	159212.12
LESS VAR. EXP.	4080.21			
LESS R.E. TAX	5529.09		CURRENT PD. RETURN	1.82148
NET INCOME		20019.46	PROJECT RETURN	.04566
LESS DEPREC.	7737.76		PRODUCTIVITY RATE	.0410
LESS INTEREST	11498.54		CASH RETURN	.0455
TAXABLE INCOME		783.14	EXPENSE RATIO	.404
TAX OFFSET	-37850.64		DEFAULT RATIO	.826
LESS TAXES	.00		DEBT COVER RATIO	1.316
PLUS DEPREC.	7737.76			
LESS PRIN. PMT.	3705.45		CUR. PRIN.PMT/CUR.DEPREC.	.478
CASH INCOME		4032.31	TOT. AMOR./TOT. DEPREC.	.373

GROSS INCOME 54		36414.00	RESALE VALUE	496200.90
EFF. GROSS %OCC.OF	96.%□	34957.44	LESS PRIN.BAL.	324290.23
LESS FIX. EXP.	5043.78		NET WORTH	171910.67
LESS VAR. EXP.	4119.44			
LESS R.E. TAX	5582.25		CURRENT PD. RETURN	1.85973
NET INCOME		20211.95	PROJECT RETURN	.04064
LESS DEPREC.	7487.49		PRODUCTIVITY RATE	.0407
LESS INTEREST	11366.15		CASH RETURN	.0411
TAXABLE INCOME		1358.30	EXPENSE RATIO	.404
TAX OFFSET	-36587.57		DEFAULT RATIO	.822
LESS TAXES	.00		DEBT COVER RATIO	1.329
PLUS DEPREC.	7487.49			
LESS PRIN. PMT.	3837.85		CUR. PRIN.PMT/CUR.DEPREC.	.512
CASH INCOME		3649.64	TOT. AMOR./TOT. DEPREC.	.387

GROSS INCOME 60		36414.00	RESALE VALUE	496200.90
EFF. GROSS %OCC.OF	96.%□	34957.44	LESS PRIN.BAL.	320315.30
LESS FIX. EXP.	5043.78		NET WORTH	175885.60
LESS VAR. EXP.	4119.44			
LESS R.E. TAX	5582.25		CURRENT PD. RETURN	1.99960
NET INCOME		20211.95	PROJECT RETURN	.03823
LESS DEPREC.	7250.40		PRODUCTIVITY RATE	.0407
LESS INTEREST	11229.01		CASH RETURN	.0369
TAXABLE INCOME		1732.54	EXPENSE RATIO	.404
TAX OFFSET	-34916.88		DEFAULT RATIO	.822
LESS TAXES	.00		DEBT COVER RATIO	1.329
PLUS DEPREC.	7250.40			
LESS PRIN. PMT.	3974.98		CUR. PRIN.PMT/CUR.DEPREC.	.548
CASH INCOME		3275.41	TOT. AMOR./TOT. DEPREC.	.400

APPRAISAL ANALYSIS OF PROJECT

INITIAL COSTS- TCB 443036.52, LC 82800.00, TIC 360236.52

TM 354429.22, CASH EQUITY REQUIRED 88607.30

VALUE BASED ON INCOME USING THREE DIFFERENT APPROACHES

PRESENT VALUE OF RETURNS, LESS $ 360236.52 TIC, EQUALS RESIDUAL LAND VALUE

	PROPERTY APPRAISAL			LAND APPRAISAL		
%	TRADITIONAL	B/4 TAX	AFT TAX	TRADITIONAL	B/4 TAX	AFT TAX
5.20	527555.86	501237.59	481409.39	167319.34	141001.07	121172.87
6.00	509333.63	495217.63	476145.65	149097.11	134981.11	115909.13
7.00	487512.68	488017.44	469849.39	127276.16	127780.92	109612.87
10.00	427929.90	468411.17	452701.17	67693.38	108174.65	92464.65
12.00	392648.85	456844.74	442582.15	32412.33	96608.22	82345.63
15.00	345568.13	441470.57	429128.18	-14668.39	81234.05	68891.66
20.00	280346.35	420317.68	410608.56	-79890.17	60081.16	50372.04

GROSS INCOME 66		38148.00	RESALE VALUE		509491.99
EFF. GROSS %OCC.OF	96.%0	36622.08	LESS PRIN.BAL.		316553.86
LESS FIX. EXP.	5283.96		NET WORTH		192938.13
LESS VAR. EXP.	4315.60				
LESS R.E. TAX	5848.08		CURRENT PD. RETURN		2.04312
NET INCOME		21174.43	PROJECT RETURN		.03375
LESS DEPREC.	7025.27		PRODUCTIVITY RATE		.0415
LESS INTEREST	11092.79		CASH RETURN		.0368
TAXABLE INCOME		3056.36	EXPENSE RATIO		.404
TAX OFFSET	-14940.74		DEFAULT RATIO		.794
LESS TAXES	.00		DEBT COVER RATIO		1.425
PLUS DEPREC.	7025.27				
LESS PRIN. PMT.	3761.49		CUR. PRIN.PMT/CUR.DEPREC.		.535
CASH INCOME		3263.77	TOT. AMOR./TOT. DEPREC.		.411

GREAT LAKES APPRAISAL CONFERENCE
Society of Real Estate Appraisers
October 9-11, 1969

"Definitions of and Concepts of Feasibility Analysis"

Professor James A. Graaskamp
University of Wisconsin

I. "Feasibility studies" is a broad descriptive term for reports which are concerned with the likelihood that a particular real estate project will satisfy specific objectives within a context of limiting constraints. It is no more useful than is the generic term theft which includes robbery, burglary, embezzlement, and so on, among its specific variations.

A. Therefore it is necessary to analyze the concept and components of this definition in order to structure the process of performing "feasibility studies" for a client.

B. It will also be important to establish that various feasibility studies represent a significant departure from real estate appraisal. While your professional training as an appraiser is most valuable from the standpoint of data collection, I believe you will find your analytical training relative to appraisal a handicap in regard to comprehensive to feasibility work.

1. The well trained appraiser is trained primarily to observe what is rather than what might be. To find patterns in the past rather than to foresee a drastic new future, to avoid speculation, and to be comparable to precedents already found in the market.

2. An appraisal report is a specialized type of feasibility analysis in which the objective of the buyer are presumed to be typical, average rather than unique, rational and objective rather than subjective.

3. Any type of feasibility report reflects user →

II. For a given project to be determined "feasible" it is necessary for the real estate analyst to determine that there is a reasonable likelihood of satisfying specific client objectives within a network of ~~limiting~~ constraints and given specific and limited resources.

A. "Likelihood" is a judgment call - an intuitive or subjective statement of a probability and is related to the question of risk. Risk is concerned with the possible variation in results relative to expectation. To talk about risk it is necessary to know as many of the variables which can go wrong and the tolerance of the decision maker to absorb the surprise potential. Simply not to know is to be in doubt but it tells you nothing about the nature of the business or the financial risk.

B. The concept of satisfaction - the definition of criteria of acceptable satisfaction levels depends upon the specific objectives to be achieved, measurement of the results, and the constraints which are not to be exceeded. The viewpoint and definition of satisfaction is therefore subjective because the criteria must be generated from the objectives and limitations of a specific plan.

C. Because the definition of feasible will shift with each client, proper feasibility analysis is therefore as much concerned with precise problem stating and formulation as with measurement of the success of the problem solution.

1. Ideally feasibility ~~analysis~~ study and therefore the analyst must provide a total system of objectives, standards of satisfactions and definition of constraints to the degree that the client or the context of the situation does not clearly provide these.

2. Many clients are unable to clearly state their own problem and so the first step is to review with them in a systematic way the elements which may be found to bear on the problem. As will be shown the appraiser most often is asked to do only a portion of the total problem stating-problem solving process but it is important to establish in writing, if only in outline form, the premises and objectives of the client which underlie the balance of the analysis to be provided by the appraiser.

3. In appraisal you always provide a definition of value, highest and best use, theoretical definitions, shaping your procedures, and the statement of limiting conditions. These become so automatic that one loses sight of the fact that these represent a presumption of ~~higher~~ buyer-seller objectives, resources, and limiting constraints within which it is feasible to obtain a certain price in the market. The viewpoint of the appraiser is to compare a given property interest with the concensus of other users as seen in the historical market place. Feasibility analysis, however, generally requires replacement of these standard presumptions with those of a single client with possible subjective and unique user requirements.

III. The basic framework in feasibility anlaysis requires identification of constraints, alternatives, and evaluation of criteria in each of the following subject areas:

A. Objectives of the parties at interest.

1. Strategic objectives
2. Secondary objectives
3. Preferred style of business management

a. Scale of enterprise.
b. Time horizon for a commitment and realization.
c. Essence of role or function of enterprise to be housed.
d. Specific functions of enterprise to be served.
e. Preferred method of static risk control.
f. Preferred method of dynamic risk control.
g. Preferred revenue source and its characteristics.
h. Preferred method of personnel management and motivation.
i. Preferred method of ~~financing~~ income, capital

B. Market trends and ~~limits~~ opportunity areas

1. Aggregate data on population, employment, income, etc.
2. Economic and national policies affecting timing, risk, etc
3. National progeams with specific focus on a community or client.

C. Merchandising targets + alternatives

1. Specific small groups with space needs
2. Characteristics of these space requirements
3. Ability to pay for required space

D. Legal-political constraints + alternatives

1. Regualtory controls on all investors
2. Regulatory controls on site and space development
3. Political attitudes and consequences

E. Physical-technical constraints + alternatives

1. Location requirements
2. Site attributes
3. Improvement attributes
4. Space user requirements

F. Esthetic-ethical constraints + alternatives

1. Community considerations and relationships
2. Space user considerations
3. Prime contractor-subcontractor relationships
4. Client obligations to his own interest and goals

G. Financial constraints + alternatives

1. Financial time-line assumptions
2. Capital budget requirements and resources
3. Operating budgets and resources
4. Profit expectations and yield
5. Measurement of yield and risk

IV. Only after you have identified the full range of considerations which may be involved in feasibility analysis can one begin to understand the proper nomenclature of the various types of reports which are lumped under the general terminology of "feasibility studies".

A. Reports can be classified as follows: (refer to syllabus for article by James Downs)

1. Strategy studies - selection of objectives and measurement criteria.
2. Market trend study - economic base, and related aggregate data analysis.
3. Merchandising studies - consumer surveys, competitive property analysis, marketability evaluations, etc.
4. Legal opinions, model laws and forms, and political strategies.
5. Engineering, land planning, and architectural studies.
6. Compatibility studies.
7. Capital budgets, cash flow forecasts, rate of return analysis, financing plans, etc.

V. At the University we define real estate as artifical space. The first man to roll a rock in front of a cave delineated a natural void from the total space that surrounds him (to achieve some attribute of safety or comfort which he did not find in nature) and thereby created real estate. Whether the delineation of space is a simple pilon at the corner of a field on the Nile or a condominium plat on file with the register of deeds, all of the hardware of real estate is concerned with delineation of space, space which is fixed in reference to some point on the surface of the earth.

A. The essence of real estate is space, and that is the commodity which has value. Since the space must house some activity of those who built it it can be given various attributes in regard to its function.

B. Real estate is the business of manufacturing, financing, merchandising, and managing artifical space. The essence of any business, public or private, is the management of resources, generally cash, through a process which eventually brings back the resource. Cash—raw material—goods and process—inventory-accounts receivable—cash plus surplus is the abstract pattern of the cash cycle.

C. Completion of the cash cycle is the ultimate demonstration of feasibility. Thus before an outlay is made there must be some expectation of how these outlays will be returned. The revenue source to be tapped defines the limits of feasibility. Therefore the primarly concern is determining effective demand and how this is converted to completion of the cash cycle process.

VI. The first step in doing a total feasibiltiy study is to define the essence of the enterprise to be housed in the space to be tested for feasibility. This essence will determine both its appropriate situs factors and its desirable or essential physical characteristics. But most important its economic essence will determine the model of the process by which it converts and attracts cash into the cash cycle. Economic feasibility is economic model building - something you have been doing for years although perhaps not by that name. (I/C = V is an economic model which can be elaborated many different ways).

A. Teaching feasibility analysis is a problem of teaching creative modeling techniques which can be adapted to the great variety of real estate projects which you may be called on to analyze.

B. Teaching modeling as a method of creative thinking about real estate is different than teaching models in the form of check lists for various types of projects.

The requirements of a specific filling station company site are check lists derived from a model of that particular operation. A format of a study of a supermarket may become stereotyped as a model.

What I would like to demonstrate in part this morning and tomorrow morning are ways of thinking in order to better state the clients problems and objectives or to simplify the collection and analysis of information relative to the constraints and alternatives specified for the problem. Model building can operate through:

1. A process of enrichment, i.e. elaboration of vary simple models.
2. Analogy and association with previously developed model.
3. Alternating attention to partial aspects of the total solution.

D. A point to begin analysis can be suggested by a variety of conscious mental tricks which will stimulate and increase the frequency of a breakthrough in your understanding of a particular modeling problem, such as:

Begin

1. Attribute analysis of a known factor, such as the site, or the client business operation, or a consumer with money to spend.

2. Study behavioral pattern of ultimate consumer

3. Search for the implicit assumption of clients premises.
2. Attempt to justify the reverse of the client suggested solution.
4. Search for a method to merchandise the negative factors in the solution to be tested for feasibility.
6. Find a logical reason for eliminating the need for information.
7. Structure with a drawing the process of reducing information to focus on a problem.
8. Gain insight by means of personal, direct, symbolic, or fantasy analogy.

D. E. Each feasibility study has a major element of creativity, of abstracting and conceptualizing, and probing to make the implicit---explicit. Therefore the art of doing a feasibility study has much in common with the architect attempting to serve the needs of a client in the design and construction of a building.

1. The appraiser is generally asked to critically review for feasibility a specific project already defined by the client or he is asked to determine what type of project would best serve the broader objectives of a client. In the first case its like serving as architectural critic or review board while in the second, is serving as the architect himself.

2. Just as the specific requirements of an architectural problem or client program have become too complex for intuitive resolution and design, so to have the subject areas of interest for feasibility analysis become too complex for intuitive judgments about the probability of satisfaction within existing constraints and limitations.

3. The architect must simulate and anticipate the construction process in his choice of a design. Full feasibility analysis requires complete simulation of the entrepreneurial process. to the degree that the client is providing as given various answers to the components of complete feasiblilty analysis, the analyst should provide in the report a statement of these constraints just as he prefaces an appraisal report with definitions of value, market behavior, and a statement of limiting conditions.

4. Just as the architect may move through several sequences in his planning such as schematics, preliminary planning, working drawings and specifications, the feasibility analyst should properly identify the level of his analysis and the specific elements of total feasibility with which he has dealt. If the professions could agree on terminology as to report nomenclature, the client could better understand what to expect in a report and the weight which should be given the results.

Feasibility Notes

I. Financial models as a short cut to feasibility study in 236.

1. Identification of profit centers within non-profit projects
2. The full-up period, discounts and absorption rates by the week - cut-off period and closing dates.
3. Land, processing of Fanny May paper, performance bond vs. letters of credit, standby fees lower than manual, overhead spread, production control and standardized engineering, fill-up period and management fee based on economic rents rather than subsidized rents.
4. Idnetification of constraints by identifying those variables for which there is little local variance and those which have high local variance. For example, real estate taxes vary widely and affect income directly. Construction costs vary some but debt service over 40 years on the original cost varies less, and finance costs do not vary. Fill-up period is a high risk factor depending on degree of control and construction and accuracy of marketing forecast.

II. Strategic objectives vs. tactics

1. Strategic objectives may be to generate more real estate tax as in the parking lot case. Alternative tactics would be to either encourage private ramp, or private air right developemnt, or make room for adjacent rprivate development or use ramp as bait for seed money to incfease desirability of adjacent rpoperty and hence their market value or use air rights for a tax exempt land use to prevent 2 sites from being tax exempt.
2. Strategy may be to acquire tax loss and management ability but to avoid further investment. Tactics could include joint venture, limited partnership, lease and buy-back, turn-key, etc.

III. For next Fridya everyone should have had approved a model structure of their approach to their feasibility study.

IV. Physical-technical constraints in practice get sub-divided into the following factors which might be best recognized as components of feasibility in their own right:

1. Location
2. Site
3. Structural layout and design
4. Spatial relationships of site and structure to environs

Society of Real Estate Appraisers

SUGGESTED READINGS FOR FEASIBILITY ANALYSIS
Professor James A. Graaskamp
University of Wisconsin

Great Lakes Appraisal Conference
October 9-11, 1969, Grand Rapids, Michigan

Market and Merchandising Analysis

BOOKS:

A Systematic Guide to Supermarket Location Analysis. Bernard J. Kane, Jr. New York: Fairchild Publications, Inc., 1966.

A Marketing Plan for Apartment Builders. William R. Smolkin. Barrett Division, Allied Chemical Corporation, 1966.

Guide to Store Location Research. William Applebaum et al., Curt Kornblau editor. Addison-Wesley Publishing Company, 1968.

PERIODICALS:

Appel, James R. "Preparation of the Feasibility Report", Real Estate Appraiser. November 1964, pp. 33-38.

Bowes, W.A. "What is Market Analysis?" The Real Estate Appraiser. July-August 1968, pp. 11-14.

Downs, Anthony. "Characteristics of Various Economic Studies", The Appraisal Journal. July 1966, pp. 329-338.

_____. "Feasibility Study Outline", Industrial Development. April 1961, pp. 73-78.

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Johnson, Philip M. "Rehabilitation Feasibility Studies of Federally-assisted Areas", The Appraisal Journal. April 1966, pp. 183-195.

_____. "Relocation: The Right Way to Pick a New Location", Business Management. April 1968, pp. 41-66.

Rowlson, John F. "Land Utilization and Marketability", The Real Estate Appraiser. May-June 1968, pp. 52-55.

Smith, Arnold R. "Feasibility Study of a Shopping Center", The Real Estate Appraiser. July 1967, pp. 9-15.

General Reading for Feasibility Concepts

Synectics. William J.J. Gordon. New York: Harper & Row, 1961.

The Hidden Dimension. Edward T. Hall. New York: Doubleday & Company, 1966.

The Community Builders Handbook. J. Ross McKeever, editor. Washington D.C.: Urban Land Institute, 1968.

Urban Land Use Planning. F. Stuart Chapin, Jr. 2d ed. Urbana, Ill., University of Illinois Press, 1965.

Handbook on Industrial Development. The American Industrial Development Council, Inc. Executive Offices and Library, 230 Boylston Street Boston, Mass. 02116, June 1969.

The Community Builders. Edward P. Eichler and Marshall Kaplan. Berkeley: University of California Press, 1967.

Notes on the Synthesis of Form. Christopher Alexander. Cambridge: Harvard University Press, 1966.

Projectron: 10-year Housing Market Analysis. W.R. Smolkin and Associates, Inc. International House Building New Orleans, Louisiana 70130 Attn: Suite 505. Barrett Division, Allied Chemical Corporation, 1966.

Gruen Nina and Gruen Claude. "A Behavioral Approach to Determining Optimum Location for the Retail Firm", Land Economics. August 1967, pp. 320-328.

CHATTANOOGA MAI CHAPTER SIMINAR

American Institute of Real Estate Appraisers

October 24 - 25, 1969

"Definitions and Concepts of Feasibility Analysis"

Professor James A. Graaskamp
University of Wisconsin

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      1. The well trained appraiser is trained primarily to observe what is rather than what might be. To find patterns in the past rather than to foresee a drastic new future, to avoid speculation, and to be comparable to precedents already found in the market.

      2. An appraisal report is a specialized type of feasibility analysis in which the objective of the buyer are presumed to be typical, average rather than unique, rational and objective rather than subjective.

      3. Any type of feasibility report reflects user value systems and the market is defined as the ultimate revenue source to be tapped. It is axiomatic that we can build whatever we can finance and we can legitimately finance anything which will tap a source of cash returns --- the ultimate market factor.

II. For a given project to be determined "feasible" it is necessary for the real estate analyst to determine that there is a reasonable likelihood of satisfying specific client objectives within a network of constraints and given specific and limited resources.

A. "Likelihood" is a judgment call --- an intuitive or subjective statement of a probability and is related to the question of risk. Risk is concerned with the possible variation in results relative to expectation. To talk about risk it is necessary to know as many of the variables which can go wrong and the tolerance of the decision maker to absorb the surprise potential. Simply not to know is to be in doubt but it tells you nothing about the nature of the business or the financial risk.

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2. Secondary objectives
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d. Specific functions of enterprise to be served.
e. Preferred method of static risk control.
f. Preferred method of dynamic risk control.
g. Preferred revenue source and its characteristics.
h. Preferred method of personnel management and motivation.
i. Preferred method of leasing capital.

B. Market trends and opportunity areas.

1. Aggregate data on population, employment, income, etc.
2. Economic and national policies affecting timing, risk, etc.
3. National programs with specific focus on a community or client.

C. Merchandising targets and alternatives.

1. Specific small groups with space needs.
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3. Ability to pay for required space.

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2. Space user considerations.
3. Prime contractor-subcontractor relationships.
4. Client obligations to his own interest and goals.

G. Financial constraints and alternatives.

1. Financial time-line assumptions.
2. Capital budget requirements and resources.
3. Operating budgets and resources.
4. Profit expectations.
5. Measurement of yield and risk.

IV. Only after you have identified the full range of considerations which may be involved in feasibility analysis can one begin to understand the proper nomenclature of the various types of reports which are lumped under the general terminology of "feasibility studies".

A. Reports can be classified as follows: (refer to syllabus for article by James Downs).

1. Strategy studies---selection of objectives and measurement criteria.
2. Market trend study---economic base, and related aggregate data analysis.
3. Merchandising studies---consumer surveys, competitive property analysis, marketability evaluations, etc.
4. Legal opinions, model laws and forms, and political strategies.
5. Engineering, land planning, and architectural studies.
6. Compatibility studies.
7. Capital budgets, cash flow forecasts, rate of return analysis, financing plans, etc.

V. At the University we define real estate as artifical space. The first man to roll a rock in front of a cave delineated a natural void from the total space that surrounds him (to achieve some attribute of safety or comfort which he did not find in nature) and thereby created real estate. Whether the delineation of space is a simple pilon at the corner of a field on the Nile or a condominium plat on file with the register of deeds, all of the hardware of real estate is concerned with delineation of space, space which is fixed in reference to some point on the surface of the earth.

A. The essence of real estate is space, and that is the commodity which has value. Since the space must house some activity of those who built it, it can be given various attributes in regard to its function.

B. Real estate is the business of manufacturing, financing, merchandising, and managing artifical space. The essence of any business, public or private, is the management of resources, generally cash, through a process which eventually brings back the resource. Cash---raw material---goods in process---inventory---accounts receivable---cash plus surplus is the abstract pattern of the cash cycle.

C. Completion of the cash cycle is the ultimate demonstration of feasibility. Thus before an outlay is made there must be some expectation of how these outlays will be returned. The revenue source to be tapped defines the limits of feasibility. Today cash receipts may include cost, interest, or rent subsidies both public and private. Therefore the primary concern is determining effective demand and how this is converted to completion of the cash cycle process.

VI. The first step in doing a total feasibility study is to define the essence of the enterprise to be housed in the space to be tested for feasibility. This essence will determine both its appropriate situs factors and its desirable or essential physical characteristics. But most important its economic essence will determine the model of the process by which it converts and attracts cash into the cash cycle. Economic feasibility is economic model building---something you have been doing for years although perhaps not by that name. ($I/C = V$ is an economic model which can be elaborated many different ways).

A. Teaching feasibility analysis is a problem of teaching creative modeling techniques which can be adapted to the great variety of real estate projects which you may be called on to analyze.

1. Teaching modeling as a method of creative thinking about real estate is different than teaching models in the form of check lists for various types of projects.

2. The requirements of a specific filling station company site are check lists derived from a model of that particular operation. A format of a study of a supermarket may become stereotyped as a model.

B. What I would like to demonstrate in part this morning and tomorrow morning are ways of thinking in order to better state the clients problems and objectives or to simplify the collection and analysis of information relative to the constraints and alternatives specified for the problem. Model building can operate through:

1. A process of enrichment, i.e. elaboration of very simple models.
2. Analogy and association with previously developed model.
3. Alternating attention to partial aspects of the total solution.

C. A point to begin analysis can be suggested by a variety of conscious mental tricks which will stimulate and increase the frequency of a breakthrough in your understanding of a particular modeling problem, such as:

1. Begin attribute analysis of a factor such as the site, or the client business operation, or a consumer iwth money to spend.

2. Study behavioral pattern of ultimate consumer.

3. Search for the implicit assumption of clients premises.

4. Attempt to justify the reverse of the client suggested solution.

5. Search for a method to merchandise the negative factors in the solution to be tested for feasibility.

6. Find a logical reason for eliminating the need for information.

7. Gain insight by means of personal, direct, symbolic, or fantasy analogy.

D. Each feasibility study has a major element of creativity, of abstracting and conceptualizing, and of probing to make the implicit---explicit. Therefore the art of doing a feasibility study has much in common with the architect attempting to serve the needs of a client in the design and construction of a building.

1. The appraiser is generally asked to critically review for feasibility a specific project already defined by the client or he is asked to determine what type of project would best serve the broader objectives of a client. In the first case it's like serving as architectural critic or review board where as in the second is serving as the economic architect himself.

2. Just as the specific requirements of an architectural problem or client program have become too complex for intuitive resolution and design, so to have the subject areas of interest for feasibility analysis become too complex for intuitive judgments about the probability of satisfaction within existing constraints and limitations.

3. The architect must simulate and anticipate the construction process in his choice of a design. Full feasibility analysis requires complete simulation of the entrepreneurial process. To the degree that the client is providing as given various answers to the components of complete feasibility analysis, the analyst should provide in the report a statement of these constraints just as he prefaces an appraisal report with definitions of value, market behavior, and a statement of limiting conditions.

4. Just as the architect may move through several sequences in his planning such as schematics, preliminary plans, working drawings and specifications, the feasibility analyst should properly identify the sequence level of his analysis and the specific elements of total feasibility with which he has dealt. If the professions could agree on terminology as to report nomenclature, the client could better understand what to expect in a report and the weight which should be given the results.

Society of Real Estate Appraisers

SUGGESTED READINGS FOR FEASIBILITY ANALYSIS
Professor James A. Graaskamp
University of Wisconsin

Great Lakes Appraisal Conference
October 9-11, 1969, Grand Rapids, Michigan

Market and Merchandising Analysis

BOOKS:

A Systematic Guide to Supermarket Location Analysis. Bernard J. Kane, Jr. New York: Fairchild Publications, Inc., 1966.

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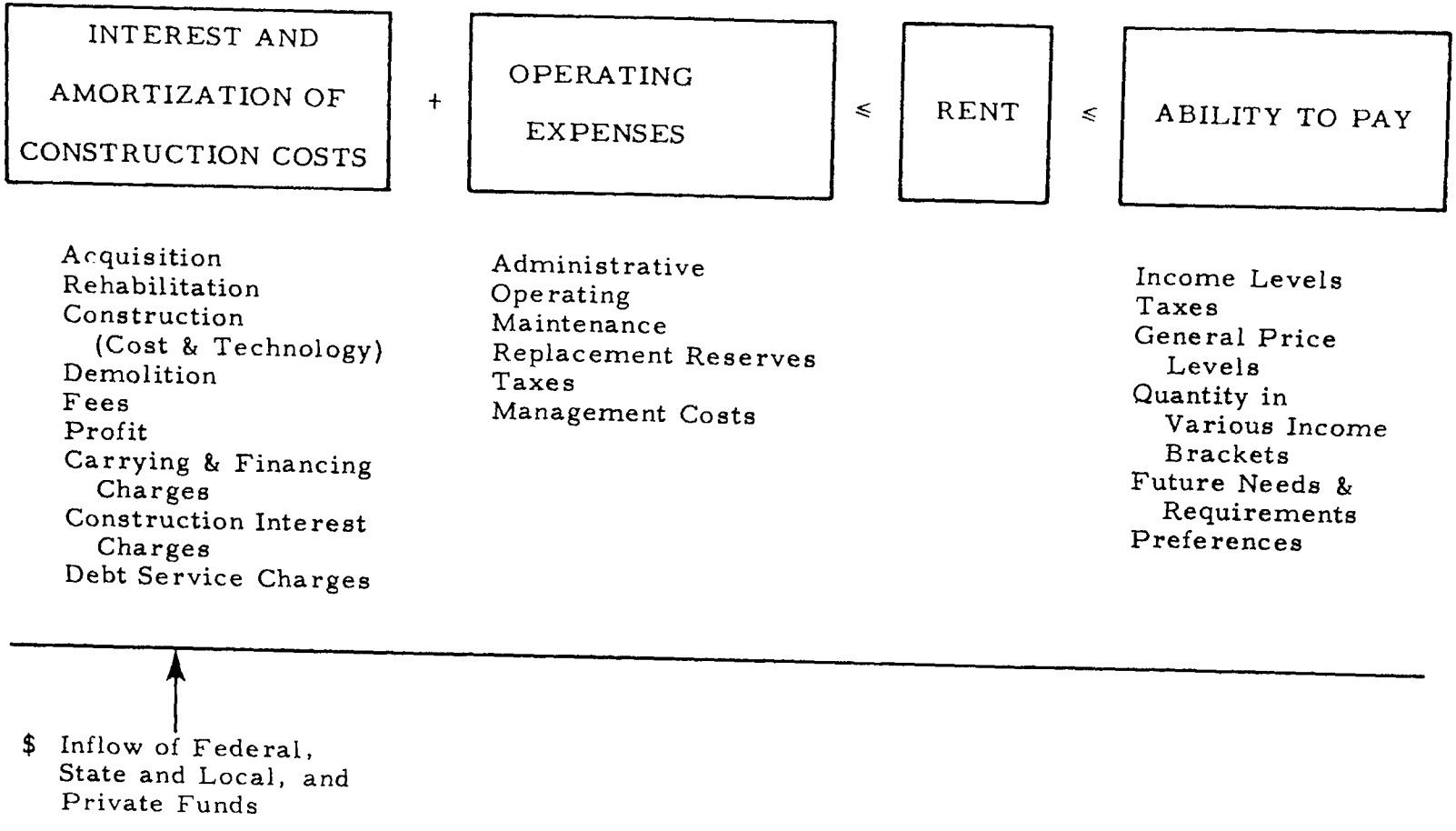
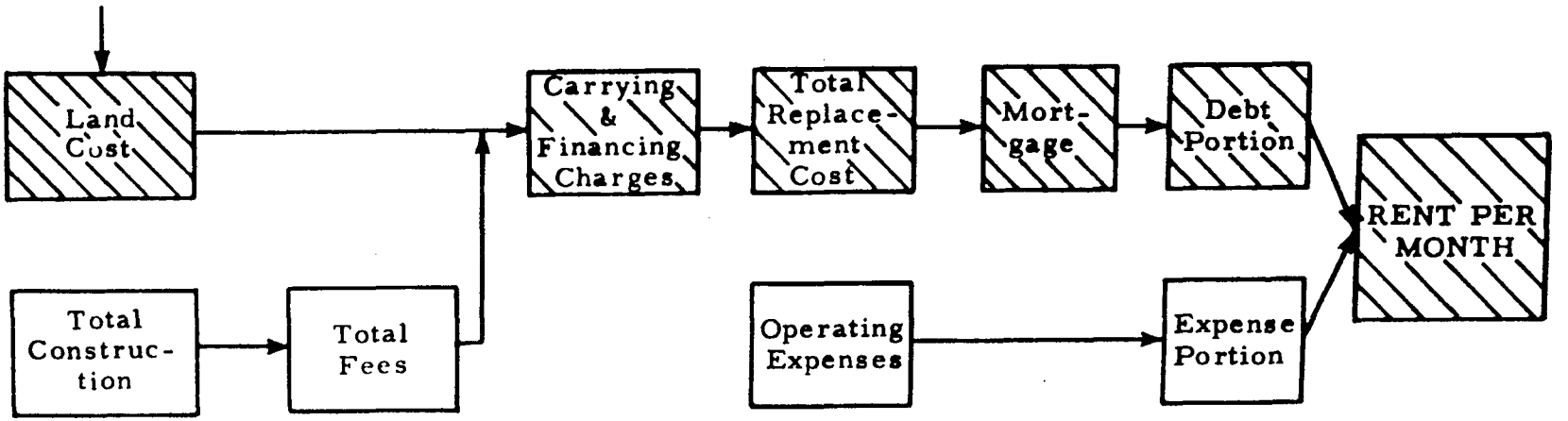


Figure 2. Organizing Principle of Low-Income Housing Model

The Consumption Sector	The Financial Sector		The Production Sector
OCCUPANT	PRIVATE INVESTOR	GOVERNMENT SUBSIDY	TECHNOLOGY
1. Ability to pay rent 2. Requirements demanded of the product	1. Type of investor 2. Rates of return (profit, present value) 3. The supply of units and/or dollars 4. Tax shields, depreciation, and tax bracket 5. Ability for training and organization	1. Type of programs available [221 (d), rent supplement] 2. Quantity of funds 3. Efficiency of funds	1. Land and/or building acquisition. 2. Rehabilitation and/or new constructions 3. Fees, financing and carrying charges 4. Operating costs 5. Standard conditions of the above 6. Forecast the impact of technology on the above and the other three sectors

Figure 3. The Three Sectors in the Housing Study

I. Land Write-Down Subsidy



II. Construction Cost Subsidy

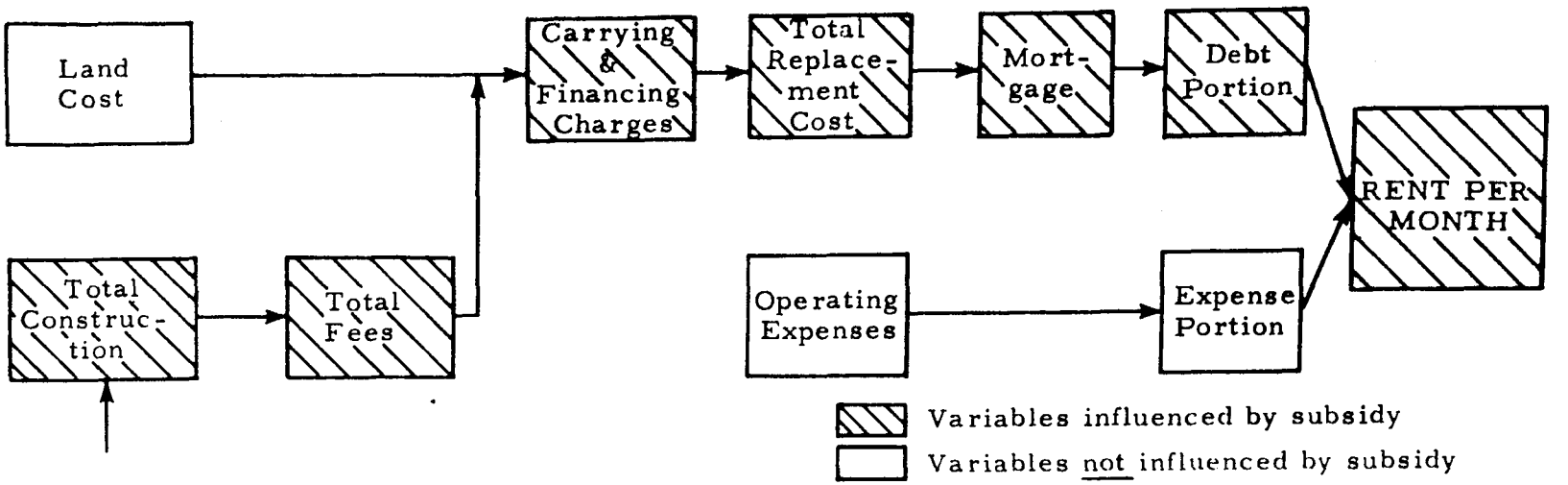
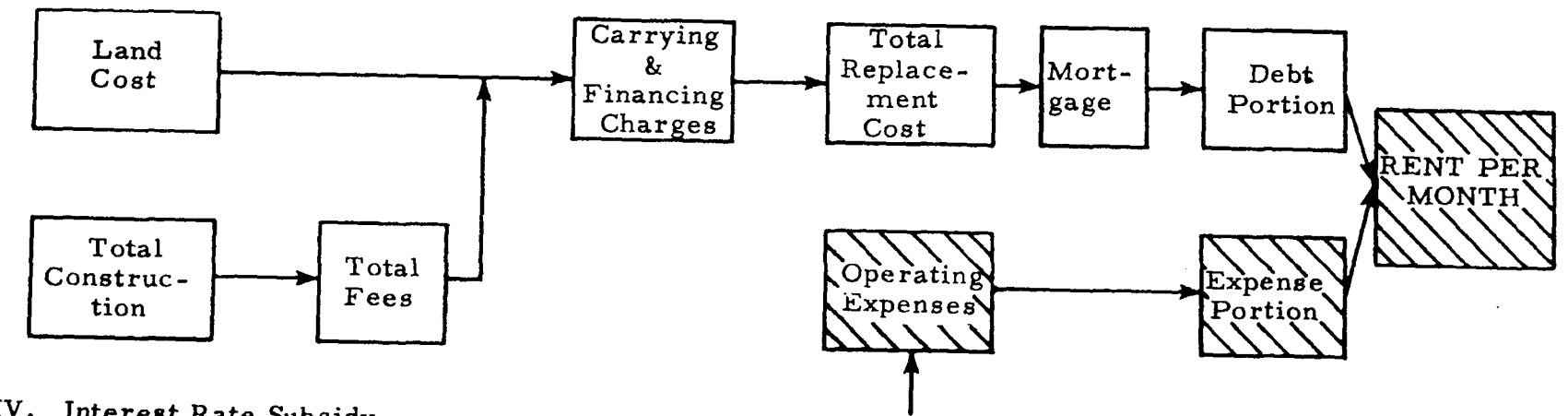


Figure 6. Schematic Representation of Alternate Subsidy Flows

III. Operating Expense Subsidy



IV. Interest Rate Subsidy

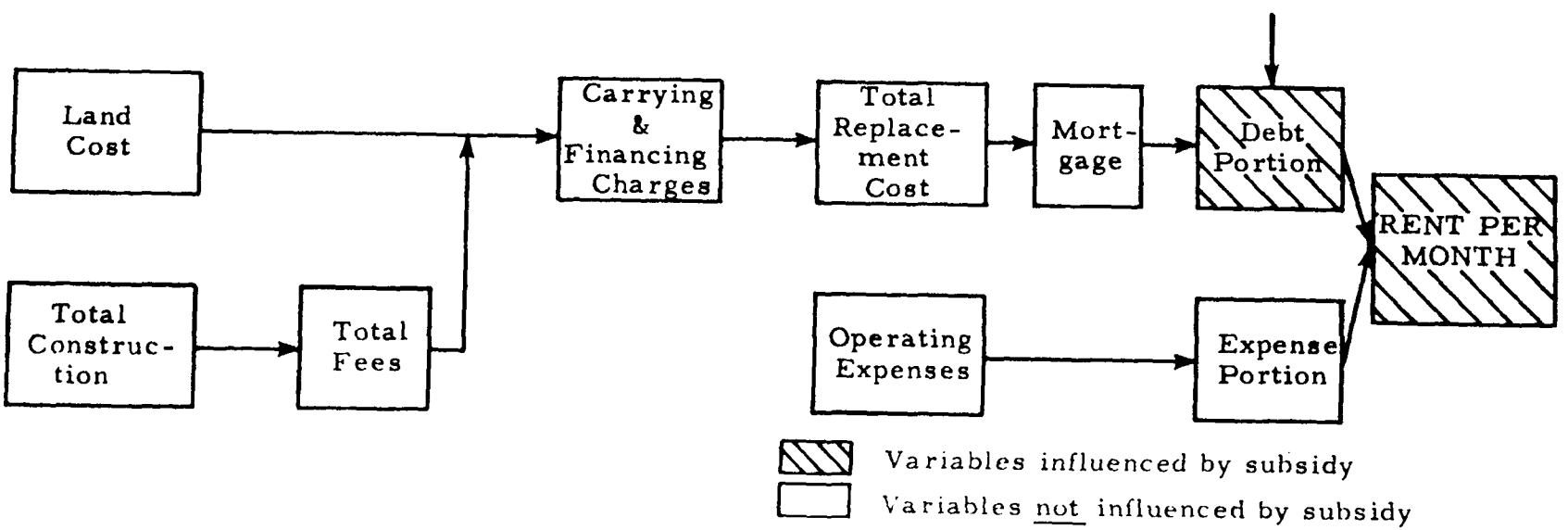


Figure 6. Schematic Representation of Alternate Subsidy Flows (Continued)

CHATTANOOGA MAI CHAPTER SEMINAR

American Institute of Real Estate Appraisers

October 24 - 25, 1969

THE REAL ESTATE APPRAISAL PROCESS AND POTENTIALS OF THE COMPUTER AGE

I. Introductory definitions and program objectives

A. Definition of real estate as space rather than solid

B. Appraisal defined as forcasting economic behavior relative to artificial space.

C. The need for simplifying models of human behavior.

D. Computers make more elaborate models possible.

1. A computer is a mechanical processing of a logical prodedure to manipulate information.

2. The essence of computer application is the selection of the procedure and not of hardware so that hardware is not the subject for discussion.

E. Definition and choice of the logical process for decision-making.

F. The issue of "which process" brings appraisal face-to-face with the need to understand the nature of its traditional procedures and the current evolution in other decision methods.

G. Real estate appraisal or investment counseling is a decision-making function.

1. Appraisal is limited to an objective decision about probable sales price

2. Counseling is more subjective and involved in the purposes for which an appraisal may be sought.

II. The problem of decision-making

A. Origins of patterns of group decision-making and decision-making specialists (the devil theory).

B. Origins and flaws in a system of reason and logic

C. The scientific method and statistical decision-making

D. Real estate appraisal - split origins

E. Computer techniques provide new opportunities to improve the appraisal decision-making model

F. A description of statistical decision-making

G. The problem of probability of alternative outcomes

H. The problem of measuring desirability of alternative outcomes

I. A pictorial representation of the system

J. The final test - the pragmatic rule - "does it work?"

III. Choosing appraisal systems for the computer

A. The income and cost approach as models of reason

B. The market comparison approach - the beginning of the scientific method

C. Modeling and thinking by analogy

D. Three approaches to value - the classic real estate model of Marshall's economic man

E. Three types of model building

1. Physical models

2. Abstract models

3. Symbolic models

F. Advantages of model building

G. Disadvantages and pitfalls of model building

H. Practical problems in using a model

1. Interface between input source and model

2. Interface between output of model and decision-maker

I. Balancing model-making and data-collecting - an evolutionary process

J. Criteria for evaluation and classification of models

K. Types of computer models to be evaluated and laboratory session

1. A teaching model for University students
2. A teaching model for real estate professionals
3. An alternative service for real estate professionals
4. An architectural model for refinements of highest and best use
5. A statistical model for rate of return probability analysis
6. A regression model of single-family market transactions
7. A market comparison model using adjustment factors generated from regression analysis
8. A tax assessment market value system for Orange County, Calif.

IV. Basic Concepts of Statistical Regression Models

A. Some Basic Concepts

1. The functional statement
2. Estimating equation
3. Residual
4. Average, standard error

B. Components of Regression Analysis

1. The linear case - one independent variable

a. Graphic example

1. Estimating equation
2. Standard error
3. Coefficient of Correlation

b. Some problems

1. Outliers
2. Non-linear relations
3. Relevant zone

2. Many Independent Variables

a. Selection of independent variables

1. Types of variables
2. Coding of variables

CHATTANOOGA MAI CHAPTER SEMINAR

American Institute of Real Estate Appraisers

October 24 - 25, 1969

I. Introductory definitions and objectives

A. Real estate is defined as artificially differentiated space with a locus on the surface of our planet. A field marker on the Nile or a condominium high-rise plat are improvements, all of which are designed to dilinneate space. Voids rather than physical improvements are the essence of real estate.

B. Appraisal is concerned with predicting economic behavior relative to space in a given locus.

C. Human behavior is so varied we simplify the process by assuming behavior will follow certain models.

D. Computers make possible more elaborate models and the problem in applying computers to real estate is choosing behavior models that predict economic behavior.

1. Discussion of computer applications to appraisal and real estate investment analysis should not be a description of hardware, or programming, or fancy investment concepts.

2. A computer is a mechanical processing of a procedure for logical organization and manipulation of information- an extention of an orderly process developed by someone to accomplish a specific objective.

E. What is necessary is to identify and define the process which the computer is to follow and to define the problem area which justifies the time and expense of bringing the computer to bear on the problem area.

F. Assuming we use the computer to expand our decision-making processes in real estate we first need a description of a rational decision process and the definition of the problem area for real estate analysis. Given a system and a problem we will review a series of presently operational techniques starting with the Ellwood system as an economic model of presumed buyer behavior and moving to several statistical economic behavior models which are on the time horizon of real estate appraisal.

G. Real estate appraisal or investment counseling is a decision-making function.
1. Appraisal is limited to an objective decision about probable sales price
2. Counseling is more subjective and involved in the purposes for which an appraisal may be sought.

H. Computers are forcing real estate appraisers to consider methods of making decisions more sophistocated than traditional appraisal methods. Therefore, discussion about computer applications must begin with discussion about methods of making decisions.

b. Estimating equation

1. General form

2. Specific example

C. Some problems

1. Marginal utility of independent variables

2. Problem sale

3. Regression assumptions

V. Critical Review of Regression Applications to Appraisal (Lab session)

A. The Bayside Regression Model for Estimating Single-Family Home Market Price

B. The Bayside Market Comparison with Regression Coefficients as Adjustments

C. Estimated Sales Price in the Orange County Model by Robert Gustafson

VI. Critical Review of Cash-Flow Heuristic and Statistical Models (Lab session)

A. University of Wisconsin teaching model

B. Investment Compraisal teaching model

C. Rate of return analysis by Econometrics

D. A capital budgeting design model

E. The Harvard Group Risk Model

SEMINAR ON INCOME PROPERTY ANALYSIS AND COMPUTER TECHNIQUES

Sponsored jointly by the Hartford, Connecticut Chapters of:

The American Institute of Real Estate Appraisers

The Society of Real Estate Appraisers

Monday, Sept. 14, 1970
Valle Steak House

Presented by

James A. Graaskamp, Ph.D., C.R.E.
Associate Professor of Real Estate
University of Wisconsin
Madison, Wisconsin

COMPUTER TECHNIQUES TO AID CASH FORECASTING AND AFTER-TAX REAL ESTATE INVESTMENT ANALYSIS

Introduction

It is widely held that the investment value of any income-producing capital asset is the present value of the net income to be generated. This has been generally true since the days of Alfred Marshall and Irving Fisher.[1]

Frederick Babcock went so far as to maintain that there was only one method of valuing real estate, the discounting of building returns extended to perpetuity with capitalization rates determined in the market.[2] The basic concept of Income/Capitalization Rate equals Value has become a truism for income property appraisal, but the appropriate application of this concept is a matter of considerable debate when forecasting sale price.[3]

The purpose of this article is to suggest how an available computer service can actually apply the theory of the income approach to value to modern real estate investment counseling and appraisal assignments. Because the system relies on a combination of market rents, historical costs, and a present value discounting of returns, it is also possible to comment on the controversial need to use and correlate three approaches to value.

Redirection of income theory

Over the years the definition of Income has evolved from a simple average annual net income over the full useful life of the investment to a mixed return of periodic incomes and singular reversions, and

most recently, to a further division of returns between vested mortgage interests and equity interests.[4] Concurrently, Capitalization Rate has evolved from a simple straight line concept to elaborate composite, Hoskold, Inwood, or Ellwood configurations. Each refinement has attempted to provide a more realistic allocation of proceeds among cash dividends, mortgage payments, and capital recapture.[5]

In these refinements concern with methodology gradually obscured original present value theory. One school of thought, with its roots in Babcock, seeks an "overall market rate" by analyzing market sales of properties producing known net incomes. However, a cap rate determined by the ratio of income to sale price is nothing more than the reciprocal of a price/earnings ratio, such as used in the stock market. A "market rate" of .085 means a price/earnings ratio of 12, a more accurate representation of market price comparisons than is possible with its cousin, the gross rent multiplier. Insurance companies and banks frequently determine loan value basis as some multiple of a normalized or average net income expectation. For smaller income properties the market may well operate on net income multipliers.[6] A multiplier is a market comparison approach and not specifically a present value factor, however.

Another approach to cap rate, such as the Ellwood method present value annuity, would construct a factor as a function of loan ratio, interest rate, mortgage term, equity yield, and depreciation. A single composite discount rate requires that Income in the present value equation be constant at an average figure. Any leveling or averaging of income to achieve conformity with the single variable truism I/C = V does

violence to the proposition that present dollars are worth more than future dollars and avoids the need to place returns to investor in specific time periods. All of the scholarly concern with the Capitalization Rate misses the point that the income received by the investor is uneven and erratic in amount and of differing investment quality due to varying degrees of penetration in income taxes on these receipts. Nonetheless, the income schedule, not the capitalization rate, is the root of all value.

Therefore, the basic proposition of this essay is that, if the income approach to value is to be salvaged as an appraisal tool, then attention must be redirected to the problems of:

1. Redefinition of the income returns to the investor.
2. Placement of returns in specific periods of time.
3. Accounting for each type of return to reflect exposure to income tax confiscation.
4. Reliance on simple, compound-interest, reversion discounts only rather than all-encompassing fictional annuity factors.
5. Redirection of appraisal methodology to reflect investor logic and motivation.

Redefinition of income returns

It must be recognized by now that the productivity of any real estate investment is not only shared between mortgage and equity interests but is also distributed among local governments via real estate taxes and the national government in the form of income taxes. Therefore, if it is acceptable to value returns to equity after debt service, it should be

acceptable to value returns to equity after partnership shares have been taken by local and federal government. The stream of returns, measurable in money terms, received by the beneficiary of certain vested rights in income-producing real estate must therefore be the after-tax spendable cash which he enjoys attributable to the real estate. The investment value of the equity is the present value of after-tax spendable cash from the point in time when the initial commitment of funds is made to the time that the equity commitment is withdrawn through sale, abandonment, or reorganization of the legal entity of ownership. The after-tax cash received in each period is discounted back to the point of initial investment as a simple Inwood reversion, and the series of reversions is then totaled to measure the present value of equity returns. The total investment value of the private vested interests (as contrasted to the public vested interest in real estate and income taxes) is then the present value of the after-tax cash benefits to equity and the present value of payments to the mortgage interests.

After-tax spendable cash in real estate may come to the investor over time from four sources in varying amounts:

1. Positive cash flows remaining from normal operational revenues over successive periods of time.
2. Positive net worth received as proceeds on sale of the property after debt and capital gain tax claims have been paid at a single point in time.
3. Surplus proceeds not subject to tax derived from refinancing

of an existing mortgage balance with a larger loan balance at infrequent points in time.

4. Spendable cash salvaged from other income subject to income taxation unless shielded by tax losses generated from real estate ownership over successive periods of time.

Positive cash flows from operations and spendable cash salvaged from other income each period must be scheduled for the anticipated time sequence. Proceeds from sale or a refinancing must be given assumed but specific calendar dates. In addition cash flow from operations or other income must be permitted to vary in each period of time because, at the very least, interest and depreciation deductions to determine taxable income will vary and over the long run most revenue and expense factors will shift in amount for a variety of reasons.

Month by month determinations of after-tax cash flows is a tedious and repetitious task well suited to the abilities of electronic data processing machines. Indeed, the accurate and extensive accounting required of this method may be a major factor in explaining the willingness of practicing appraisers to accept normalized income for appraisal purposes while paying their own CPA to calculate after-tax cash flow for the appraisers' own real estate investments.

It is recognized that determination of spendable after-tax cash involves assumptions which can be unique to a single investor or characteristic of a class of investors. If these assumptions must always be unique to one taxpayer, then any valuation of after-tax income is appropriate to investment counsel but not to appraisal. But, if certain

assumptions can be modified to reflect probable group behavior, then after-tax benefits are not only benefits to the user but marketable benefit streams appropriate to appraisal consideration. Consequently this study will first describe a valuation model for the investor and then suggest the extension of the method to appraisal.

General structure of an investment model

Investment models for the computer can be designed to produce alternative results of given actions with measures of the chance of varying degrees of success and failure,[8] a single result with a stated probable standard error, or a single result which is simply the mechanical and mathematical result of one set of numerical assumptions.[9] The investment model described in this paper is one of the latter types, a "heuristic model" say the decision theory people, for it runs through a single set of inputs and stops without searching for an optimal solution. Since the combination of alternative inputs is infinite, it is presumed that the analyst has narrowed his choices to a limited set of practical alternatives on the basis of his own judgment and experience. The product of the model is an extension of decisions already made by the investor or appraiser or modified as a result of previous runs on the computer. It lacks the glamour of an optimizing model or decision-making model, but it is doubtful that the art of real estate investment can either be made conclusively mechanistic or would be accepted as such by practitioners if it were. Any model builder must anticipate the resentment any computer system generates among real estate practitioners, and this model deliberately avoids infringing on matters of "judgment."

Reference to the simplified flow chart of inputs and outputs in Figure 1 will suggest the type of input information which presumes an extensive market and cost study by the investor or appraiser prior to bringing all these factors to bear in the valuation process. The gross annual rent roll, current operating expenses and real estate taxes, and the type and terms of financing all require full knowledge of the market if the data provided are to be realistic and are to justify sophisticated analysis. Depreciation assumptions, income tax decisions, and choice of discount rates require explicit choices by the investor or professional analyst. Time index adjustments of each input factor to anticipate changing market, cost, and money factors in future years require an understanding of the dynamics of real estate appropriate to the professional ideals of realtor, appraiser, or counselor. Once the analyst has made these assumptions and communicated these to the machine, the computer simply does the tedious arithmetic to produce the annual summaries of operations computed monthly as outlined in the box of Figure 1 designated "cash flow data printouts." The teaching model which follows is one of a family of alternative programs which each follow the general format of cash flow analysis but vary the degree of detail in the initial inputs to focus application to the objectives of the architect, the land planner, the tax assessor, the lender, or the appraiser.

It is important to distinguish between a model which provides financial profiles with investment valuations and an appraisal model intended to forecast purchase price in the market. The investment model must presume at the start a purchase price which is then allocated to different capital

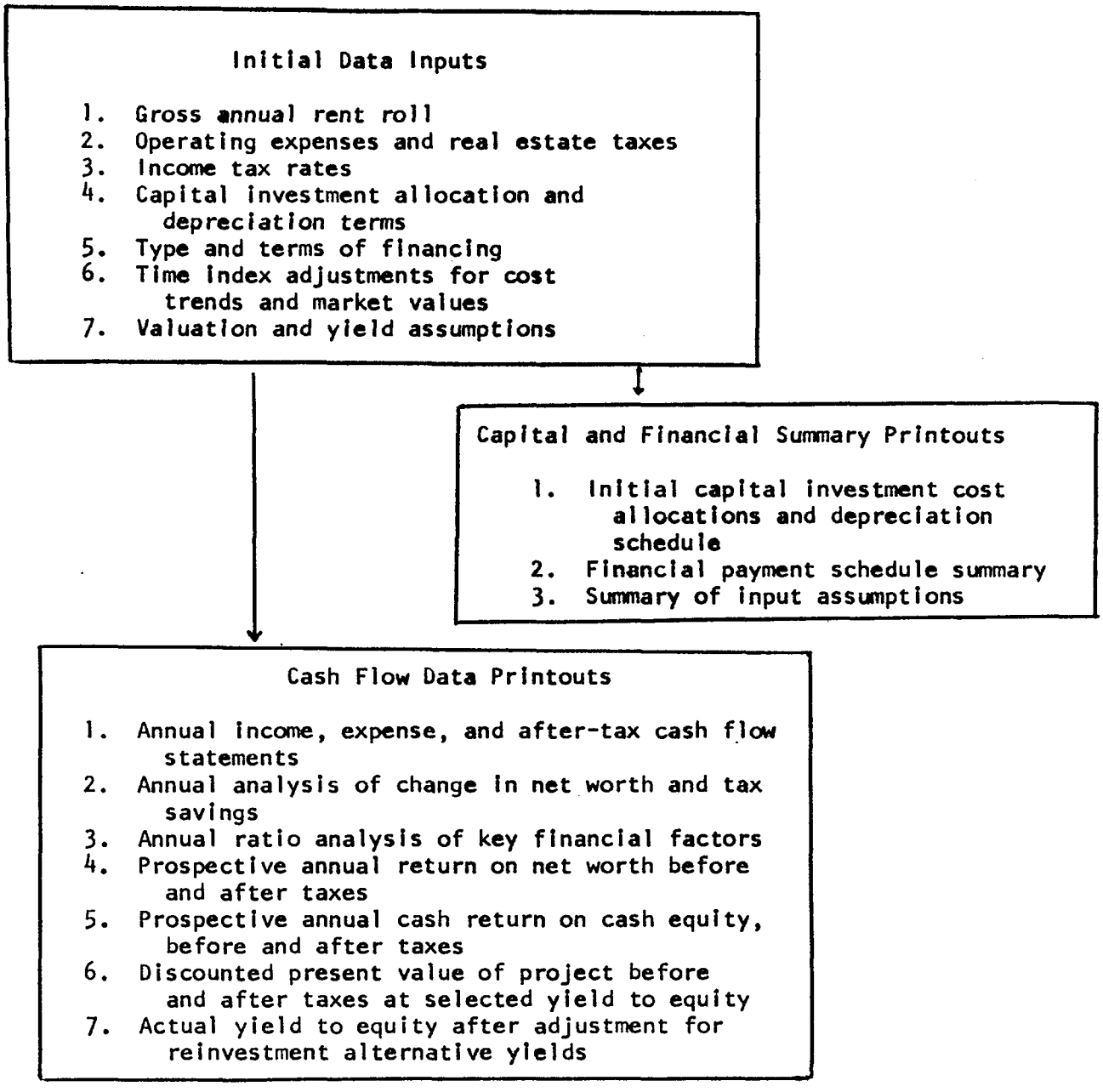


FIGURE 1: Simplified Flow Chart of Cash-Flow Investment Simulation Model

classes for depreciation calculations for purposes of measuring taxable income. Cash returns could be valued by an array of capitalization rates to permit equivalent comparisons of mortgage-equity and after-tax investment valuation results. However, the appraisal is attempting to forecast a price, not assuming one from the start. Moreover, the appraisal must presume group behavior patterns if it is to infer a price the sub-group may typically pay. If there is group behavior, there should be only one discount rate or, more realistically, a narrow range of capitalization bracketed by two related discount rates. Therefore, for an appraisal model there must be further processing of original acquisition cost allocations to bring after-tax cash flows as discounted by the market expectation of return into balance with the forecasted purchase price. An investment model is not an appraisal technique for estimating probable selling price until it can be proven that a certain group of buyers has a certain pattern of analysis of cash flows or that these buyers rely on the results of the specific investment models in question. Thus the presentation which follows must be thought of as an investment model until the modifications necessary to reflect market behavior have been introduced or buyers in the market generally follow the output of an investment model.

To illustrate both the theory of spendable after-tax cash-flow as the basic tool of real estate finance and the application of computer techniques to simplify analysis, the forms and outputs of the University of Wisconsin Mini-Model for rental properties are used in Illustrations 1 and 2 or a computer terminal which asks for the required information in a dialogue with the analyst. The sample data

Illustration #1

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1970

Card Type 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
GRAASKAMP	77	520-1	.1800	.3000	6	4

Card Type 2

Project Description	Extraordinary Expenses	Staging Multiplier	Staging Year
24 UNIT APT - CASE 1	7625		

Card Type 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000		00	00
BUILDING	177500	1.0000		03	35
PARKING	7500	0.5000		03	10
FURNISHINGS	13200	1.0000		01	07
TRANSACTION COST	1800	1.0000		03	35
7 TH YR REFURBISHING	10000	1.0000		01	07

CHECK CARD 1 COL. 61

Card Type 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775		01	05	20	03
SELLERS 2ND MORTG.	15000		.0850		01	05	10	03
REFINANCED FIRST	190000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900		08	10		

CHECK CARD 1 COL. 64

Illustration #2

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1970

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capital Loan Interest Rate
.0500	.0700

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD 1 COLS. 61 and 64?

is based on the investment case of a 24-unit Apartment Building described in Appendix A. The output is found in Illustrations 3 and 4. A more elaborate cash-flow simulation model for land development is provided in Appendix B to suggest how capabilities of a model can be expanded to include fancy timetables for development, detailed capital budget assumptions, and a great variety of financing packages. These models and many variations are available commercially and are in use by a variety of real estate analysts today including major sources of mortgage money.

General Explanation of Inputs

Most of the information in regard to the 24-unit Apartment Building is clearly transcribed from the data in Appendix A to the input forms of Illustrations 1 and 2. Note that each is described in English so that the output form is identified in a fashion custom tailored to the property to be analyzed. A general description of what can or cannot be done with these input forms is always attached to the input form or available by inquiry on the computer terminal, and these instructions are found in Figures 2 and 3. However, several items need additional explanation:

Card type 1 - provides for student identification by name and number should there by two "John Smith's" in a class while the course and section number is for internal administration purposes. Of relevance to the real estate question is the decision by the investor that he wishes to receive a minimum of 18% per annum compounded on the Inwood basis and his determination that he will be an average or marginal income tax level of 30%. The last two items in columns 61 and 64 simply inform the computer how many cards to read for Card types 3 and 4 which are the only multiple cards in the program.

FIGURE 2:

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1970
Instructions For Use of the Coding Form

GENERAL

1. Cards were designed to require no change in field spacing stops set on the keypunching machine so that large batches of input forms may be done at once and so that a student may keypunch single cards to alter one or more assumptions for a second or third run. All decimal points and dashes must be punched where indicated on the coding form.
2. One character or number for each blank. Decimal points and dashes may not be altered or written over.
3. All dollar amounts must be coded in the rightmost portion of the allowed space - do not include dollar signs. Decimal figures must be corrected to the left relative to pre-printed decimal point.
4. For numerical inputs blank spaces will be read as a zero (0); for alphabetical inputs, blank spaces will provide white space on the output.

CARD 1

1. Last two digits of social security number required to differentiate between those with the same name.
2. Course and section number required for internal school accounting.
3. The equity discount rate is the yield rate at which the investor wishes to determine the present value of the project, discounting all cash returns to the beginning of the first period.
4. The income tax rate is the marginal rate assumed by the investor.
5. "# cards #3" indicates the number of component description cards (1-6) in column 61. "# cards #4" indicates the number of mortgage cards (1-4) in column 64. Failure to code these properly will terminate processing of your data and you will receive no output.

CARD 2

1. Project description can be an address, firm name, or description of project and run such as "24 Unit Apart. - 90% loan".
2. Extraordinary expenses can be used to deduct for high vacancies in first year, to eliminate excess rents in the first year, to recognize commissions for leasing space, to permit higher operating costs during a "shake down" year, etc.
3. The staging multiplier permits an optional increase in gross rent, expenses, and real estate taxes due to an increase in rentable area provided for in the Component Description and Mortgage Description cards Starting Year column. Indicate year increase is to take effect in column marked "Staging Year" (1-9) DO NOT STAGE IN TENTH YEAR! Both year and multiplier must be coded but if staging option is not used leave both coding spaces blank.

CARD 3

1. Component description might be land, structure, and furnishings and you would repeat these categories if you wished to build a second stage.
2. % depreciable is 100% minus % of salvage.
3. Depreciation method code:

   0 = no depreciation
   1 = sum of the digits
   2 = straight line depreciation
   3 = 125% declining balance
   4 = 150% declining balance
   5 = 200% declining balance

FIGURE 3:

4. Starting year is always a 1 for the original investment components and the staging year for any additions or replacement of such short-lived items as furniture.
5. Useful life is number of years over which component will be depreciated (0-99).

CARD 4

1. Mortgage description may include any type of financial instrument. For example, a land lease could be defined as a site worth $300,000, monthly payment would be 1/12 of annual rent and interest rate would be the annual rent divided by the indicated value of the land.
2. Monthly payment will be computed if not indicated.
3. Interest rates are constant annual rates. 8.5% interest = .0850.
4. Bonus interest should be stated as a percent of gross rents which must be paid to the lender. Bonus interest paid only if cash flow is positive.
5. Starting and Ending years are the first and last years payments are to be made.
6. If mortgage term is longer than ten years or is not refinanced, place a 10 in the column "Ending Year".
7. Indicate full amortization term in years of mortgage in column "Term".
8. You must indicate which new mortgage will replace a specific old mortgage. Otherwise if a loan matures during a projection period, final balance will appear in cash flow statement as "Principal Payment" and if it exceeds available cash, there will be an automatic working capital loan.
9. If loan for staging is less than cost of capital component for that stage required, cash is charged to working capital loan.

CARD 5

1. Expenses do not include real estate taxes. Expenses may include only cash outlay items or may include reserves for replacement and redecorating. In the first case you may wish to include several incremental cost component outlays for remodeling and refurnishing as an alternative to regular maintenance and reserve allocation.
2. All growth rates are constant annual rates. 5% growth rate = .05
   -5% growth rate = -.05
   Patterns of growth rates should be consistent; if rents are constant and expenses are expected to increase, project value rate of growth should probably decline.

CARD 6

1. Real estate taxes are for the first year. In Madison the average annual growth in real estate taxes is exceeding 6% and an average increase of 5% a year is the typical minimum rate of tax increase in cities throughout Wisconsin.
2. Project value rate of growth is a constant annual rate.

CARD 7

1. The vacancy rate is the percent of rent lost due to vacancy and turnover. For example, if an apartment has 10 units it has 120 monthly rental units. If 6 units turn over and are vacant 1 month the vacancy rate is 6/120 or 5%.
2. The working capital loan interest rate is either the 90 day note rate at the bank or the equity discount rate reflecting the yield required on short-term advances of equity money.

Card type 2 - provides not only a title for the output but several special features as well. The item "extraordinary expenses" permits recognition of first-year variations in rent levels, vacancy rates or expenses which may characterize a project. In this case the facts indicated that there would be additional expenditures of $2,100 in the first year and that there would be additional vacancies of 12% during the refurbishing and releasing of apartments during the first year. These adjustments combined mean that net cash income in the first year will be $7,625 less than what might otherwise be expected. This device is therefore a method of modifying the simple linear time indexes for rents, expenses and taxes which are offered on card types 5 and 6. The staging multiplier and the staging year were not used in this case but permit the student one expansion of his project. For example the project might be doubled in size in the third year and the staging multiplier would multiply rents and expenses and real estate taxes by a multiplier of two. The simplification permits the student to phase capital investment to anticipate absorption rates of space but leads to some oversimplification of variable cost relationships which may exist with scale.

Card type 3 - itemizes 6 classes of assets according to their depreciation group or starting year. It is more than adequate for a single investment but it should be expanded for elaborate staging. The arbitrary limit was to control key-punching and computer time expenses for the department.

Card type 4 - The method of mortgage payment can be stated as a fixed dollar amount, as a level amortized mortgage if the number of months in the term of the mortgage is known, or as an annual constant rate a percentage of the mortgage amount converted to a monthly payment. To permit periodic refinancing, it is possible to start and stop mortgage obligation in any given month. For example, a first mortgage may be acquired at the time of purchase and a second mortgage then defined which begins 6 months later, with both mortgage balances replaced by a new first mortgage in the sixth year. With this device it is possible to test the impact of alternative financial loans on investment value and equity yield or to measure the influence on investment value of a loan closed to repayment for 10 years instead of 5 during an inflationary period. The bonus interest provision allows the investor to measure the true cost of his financing over time relative to mortgage

balance, to cash-flow, and to after-tax investment value. Because the repayment method is not tied directly to the mortgage due date, it is possible to finance with notes such as a 10-year mortgage, amortized on a 25-year basis, and ballooned for the balance at the end of 10 years. Payment of a mature mortgage balance is made directly from after-tax cash, and proceeds from new loans also go to the same account. Therefore, if the refinancing provides additional cash to the investor, it is recognized as a return, while deficit cash is first covered by operational income and then by an automatic working capital loan, a feature to be discussed when describing Card type 7. Since value can be created by the form and pattern of financing available to the investor and since mortgage credit is becoming so elastic in its terms and costs, complete flexibility is needed for sophisticated investment planning. The computations by the computer eliminate the need for the investor using any complex set of tables for a single result, while at the same time they reveal to the investor the exact cash-flow implications of the finance plan for each year under study.

Card type 5 - begins with the so-called normalized gross rent and operating expenses (excluding real estate taxes). When calculating after-tax spendable cash, it is obvious that taxable income must change, even when the net income before tax and debt service is a constant dollar amount. However, it is likely that over the life of any particular investment this net income figure will also tend to shift as the elements which constitute revenue and expenses alter over time. Therefore, a time schedule or index of change permits the analyst to make explicit assumptions in regard to the future in order to test the sensitivity of his yield expectations to changes in the time-line of developments in rents or occupancy, real estate taxes and expenses, or resale price of his investment. One might test three sets of assumptions in regard to the future by holding the elements of net income constant in one case, inflating costs and prices in a second case, or perhaps inflating costs and deflating rents and resale to have a picture of the slope of downside risk as a third alternative.

Card type 6 - Project value growth rate is a resale price index which provides an opportunity to produce true depreciation, defined as the difference between original outlays and net recapture on resale. Inflation should be understated to reflect commissions and other claims on reasle models permit alternative adjustments for resale costs or the curve of property value change. Time indexes are a simple way of

probing the investment significance of trends and future events. It is too early to find much acceptance of probability and risk models of real estate investment among those who make the market. Much real estate investment is made in anticipation of inflation, and this index model would provide an opportunity to measure just how inflation should affect purchase price limits currently. Gross rents must rise faster than taxes and expenses if resale price is to rise without a change in market discount factors. The reasonable expectations of profits due to inflationary price rise when converted to indexes in this section may not justify a contemplated purchase price when yield is actually measured for this set of assumptions. The use of an explicit cash-flow model, even though the indexes are only "guesstimates," may underscore the character of excessive asking prices. It is still true in real estate that most profits are made with a good buy rather than a lucky sale.

Card type 7 - Requires only a statement of vacancy rate and the interest cost of short term money required to cover operating deficits or refinancing shortages. The 9% rate in this case indicates the investor expects to use bank money, for if he used his own cash it would be necessary to indicate a minimum of 18% just as he required on his original investment. These interest costs are added to working capital loan balcnace due and are not subtracted at tax deductible interest rates by the model.

General Explanation of Outputs

The teaching model provides two pages of output, Illustration #3 which summarizes assumptions and financing repayment schedule, and Illustration #4 which provides four types of information, a 10 year cash-flow forecast, a 10 year net worth analysis, a 10 year ratio analysis, and the present value of the project as a total of the present value of each investment interest discounted at the appropriate rate. In short, each source of spendable dollars for the investor is identified, given a dollar payment and scheduled for the fiscal year in which the outlay or receipt would occur. Present value concepts of money at work are meaningless without a reasonable effort to establish or assume the

Illustration #3

ANALYSIS OF
24 UNIT APT - CASE 1

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	4	$	177500.
PARKING	.50	1	10.	4	$	7500.
FURNISHINGS	1.00	1	7.	1	$	13200.
TRANSACTION COST	1.00	1	35.	4	$	1800.
7 TH YR REFURBIS	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.
CASH EQUITY REQUIRED					$	45000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200		
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200		
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500		
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100		
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900		
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.		

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11546.	10661.	9803.	8969.	8157.	7365.	6591.	8335.	7708.	7096.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7845.	1325.	2876.	4439.	6019.	3215.	4543.	2519.	3845.	5198.
PLUS DEPRECIATION	11546.	10661.	9803.	8969.	8157.	7365.	6591.	8335.	7708.	7096.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	6565.	6785.	5206.	5427.	5647.
LESS TAXES	.	397.	863.	1331.	1805.	964.	1362.	755.	1153.	1559.
CASH FROM OPERATIONS	-1213.	6271.	6063.	5852.	5635.	5600.	5422.	4450.	4273.	4088.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4949.	6063.	5852.	5635.	29546.	5422.	4450.	4273.	4088.
TAX SAVINGS ON OTHER INCOME	2353.	.	.	.	.	.	.	.	.	.
* * *

the time-line of financial events related to the project.

NET INCOME in Illustration #4 represents the traditional method of real estate productivity although it is "not normalized" for the projection period. This net income must be adjusted for deductible DEPRECIATION AND INTEREST to determine TAXABLE INCOME, and if taxable income is negative there can be TAX SAVINGS ON OTHER INCOME. Net income less interest and principal payments determines CASH THROWOFF before income taxes and if cash throwoff is negative it is necessary to replenish cash with a short-term WORKING CAPITAL LOAN. The term "cash throwoff" represents a pre-tax but after debt service item and is standard terminology in the new income property manual published by the Society of Real Estate Appraisers. The estimated INCOME TAXES are then subtracted to determine cash from operations which must first be applied to working capital loan balances due before dropping through to SPENDABLE CASH AFTER TAXES. Spendable cash after taxes includes surplus proceeds for refinancing and measures the yearly cash dividend to the investor, the income stream which so many theorists have generalized. It is highly unlikely that the curve of this cash flow would permit any averaging (ie, normalizing) for valuation purposes since an annual forecast already represents an average of monthly receipts. At current interest rates and required equity yields a difference of one month means a difference of 1% per annum or more.

In addition to cash dividends there is the potential benefit of equity enhancement due to appreciation in the market value of the property or repayment of loans in excess of market value decline so the investor is concerned with the changing position of the net worth of the property. Cash realized on resale would be net worth less capital

gains taxes and deferred income taxes on excess depreciation and these computations are made as a preliminary to valuation of all cash returns to the investor assuming ownership for a given period of years and then resale at the market value for the year specified as the resale date. Computation of the capital gain and taxes on sale is explained in Figures 4 and 5.

Analytical Ratios

To measure risk for the mortgage investor and the equity investor two ratios are provided. For the lender the DEFAULT RATIO indicates the cash breakeven point as a % of gross rent as defined in Fig. 4. The lender views this as the variation in the income stream which would affect repayment of the loan according to the terms. The equity investor has a more static view of risk for he is concerned with rapid recovery of his original cash investment. In Illustration 4 the apartment case indicates that considering all AFTER-TAX CASH RECEIVED AS A RATIO OF INITIAL CASH EQUITY, the equity investor has no cash risk after 5 1/2 years have passed while the lender after the refinancing still faces an exposure of $185,983. Risk stated in terms of loss of the original investment is therefore much higher for the lender than for the equity investor, a fact which runs counter to the traditional viewpoint but which explains the economic logic of higher mortgage yields and equity participation.

BONUS INTEREST paid is converted to an interest cost by dividing the payments by the average loan balance outstanding during each fiscal year. A bonus interest stated as 4% of gross rent appears far more injurious to the equity position than restatement as % or loan balance

FIGURE 4:

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1970
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\frac{\text{Spendable cash + tax savings on other income + (change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash Return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial Investment less Initial Mortgage Debt}}$$

(This is adjusted for staged projects)

4) Cash Return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings on other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R. E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

FIGURE 5:

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional staged investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present value of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

on standard as in year 6 of Illustration 4 where the effective additional interest cost was 1.22%.

The universal interest in participations in future increases in gross rent, cash throwoff or net worth demands that the mortgage lender make the spendable cash-flow forecast advocated a necessity. Otherwise any lender estimate of yield is simply crapshooting finance. More sophisticated computer programs are available to compute yield from any alternative combination of participation loan formulas. The ratio of cash throwoff returns to original cash equity or spendable cash and tax savings as a ratio of original cash equity is a method by which many investors analyze their returns. For example, the drop of after-tax cash below before tax cash indicates a sell point in the 7th year of the investment which is confirmed by valuation analysis below.

Valuation of Cash Returns to the Investor

The real estate fraternity is accustomed to discounting future returns by the Inwood Tables and the mortgage equity approach continues this tradition. The teaching model therefore uses Inwood despite the fact that it is misleading and fallacious when applied to equity positions or loans from non-financial institutions. For the 24-unit Apartment Case the investment value of the entire project has been computed by determining the sum of the present values of the initial interests in the project. Reference to Figure 5 will show that the computation involves the original mortgage balances which represent the present value to the lender of debt service payments plus the present value of cash throwoff for before tax value or the present value of spendable cash after taxes plus tax savings on other income discounted

at the minimum acceptable equity return rate, in this case 18%. The sum of these present values must equal or exceed the total initial investment in the project to justify the project from a rate of return viewpoint. Thus in Illustration #4, on the bottom line, purchase and sale at the end of the first year or at the end of the second year at the market value indicated for these years would not justify the total initial investment. It would be necessary to buy and hold until the third year or preferably until the 7th year to maximize yield and to achieve 18% compounded after taxes.

It is recognized that the assumptions of Inwood discounting do not hold true in most real estate situations. Inwood assumes immediate reinvestment of cash received from interest and recapture of principal at the same rate. Most equity investors make discrete investments from time to time using short term investments in the interim. Secondly, alternative investments to real estate in terms of liquidity, security, management, or portfolio diversification may have priority at the tiem of reinvestment. Then, again, the relative attractiveness of a real estate property will vary from year to year as the yields of alternative investments or tax laws change. Therefore it is much more realistic to assume reinvestment of future receipts or postponed equity commitments at an average rate of return for the portfolio investor or a specific rate of return for short term funds. The computer would discount to the present future commitments for capital outlays of a staged investment and compound to the end of the forecast period the receipts as they became available for reinvestment. It would then search for the discount factor which makes the present value of future

outlays equivalent to the future value of expected returns. A demonstration of this technique appears on the last page of Appendix B, the land development model. On the last two lines on that page note that Inwood discounting at 25% indicates the project is feasible while the real return on investment never exceeds 18%. Model building for investment valuation of real estate is hampered by traditional real estate discounting methods which are appropriate to large portfolio, instant reinvestment mortgage lending but not appropriate to equity investors in real estate.

An Investment Model as an Appraisal Technique

Professor R. U. Ratcliff[10] has strongly stated the case that in the majority of assignments, the task of the appraiser is to forecast the probable sales price of a specific property. This objective is the premise of discussion regarding conversion of investment models to an appraisal method to forecast the central tendency of price negotiations for a specific property. The concept of market action implies group behavior, knowledgeable buyers and sellers with alternative courses of action open to each, striking a bargain only when their respective self-interests will agree to buy and sell, Professor Ratcliff has stated: "There are only two devices open to the appraiser for predictive purposes -- statistical inference and simulation."[11] Market comparison as an approach to value is a rough form of statistical inference and more recently much has been written on statistical regression analysis of sales prices of residential properties. Simulation is a twenty-five cent word for describing what an appraiser does to predict value, most specifically when using the income approach. However, present income approach methods are challenged because they do not accurately simulate

how sophisticated investors value income streams. Spendable after-tax cash flow analysis is far more representative of at least real estate investment counseling techniques and therefore a more precise simulation approach to value.

The spendable cash simulation approach is only an investment valuation model when the inputs for time index dynamics and tax computations characterize a specific investor. However, Professor William Kinnard has underscored[12] the fact that when the appraiser has made a determination on highest and best use, he has also implied the probable group of buyers who would make such use of the property. In that case an appraiser, knowledgeable in regard to the decision-making logic and probable financial and tax pattern of the group of investors inferred by a statement on highest and best use, can produce an investment value from simulation that is the most probable sales price for the investment opportunity in question. A computer cash flow model only relieves the appraiser of clerical and computational responsibility while permitting him to stress his professional understanding of economic and investment research and analysis.

Within the implications of the above proposition, there are four means by which the investment model may become an appraisal model:

1. Widespread use of spendable cash models by investors in different parts of the country would mean that the model does simulate and direct investor behavior.
2. Research of the pattern of investor assumptions and expectations in different areas of the country would produce aggregate averages similar in concept to the data provided by

nationwide standardized accounting systems for industries like the motel-hotel business. Careful study of sales prices on properties thus analyzed for the perspective buyer might suggest the statistical dispersion of price around value. In addition, appraisers would have incentive to analyze investor group patterns in their areas to establish parameters for the dynamic assumptions of a cash flow model.

3. Eventual agreement on a cash flow model format will one day permit widespread use of a risk model in which revenues, expenses financing, and resale estimates can be stated in ranges. The computer would then determine the distribution of alternative results and the probability of given yields being achieved at alternative purchase prices. The price which had the highest probability of achieving a yield acceptable to investors might be defined as the most probable sales price of the property.

By whatever means spendable cash computer models influence investor behavior and appraisal simulation to predict sales price, with time it should be possible to relate the variation in sales prices to values simulated in the bargaining process. The range of prices relative to values as a result of better investment simulation today will permit introduction of statistical inference methods tomorrow. Spendable cash flow models indirectly advance both the concepts of Babcock in the thirties and Ratcliff in the sixties.

A Final Thought

As a final thought on the use of computer simulation models, one could argue that it may lead to resolution of a basic dilemma in appraisal theory for income properties. If rental income power is a measure

of market demand, and if historical costs are necessary to measure capital and operating tax deductible budget items, and if financial and yield patterns represent price to income relationships in investor markets--might it be that an after-tax spendable cash income approach represents a synthesis of the three approaches to value. Such a synthesis would eliminate the necessity of the more awkward process of correlation. In any even model input and output material permits the appraiser and the mortgage banker to demonstrate a professional understanding of real estate investment dynamics appropriate to the modern trend toward participation loans and hybrid financing which stive to trade-off the 4 sources of cash between different types of investor objectives. The model suggests that the stylized ritual of the present income approach can be modified so that Income (I) and Capitalization Rate (C) can be factual data rather than abstract fictional concepts.

Notes

[1]Arthur M. Weimer, "History of Value Theory for the Appraiser," The Appraisal Journal, October, 1960, pp. 469-83.

[2]Frederick M. Babcock, Evaluation of Real Estate (New York: McGraw-Hill, 1932).

[3]Richard U. Ratcliff, "Capitalized Income Is Not Market Value," The Appraisal Journal, January, 1968, pp. 33-42.

[4]James E. Gibbons, "Mortgage-Equity Capitalization: Ellwood Method," The Appraisal Journal, April, 1966, pp. 196-203.

[5]Paul F. Wendt, "Ellwood, Inwood, and the Internal Rate of Return," The Appraisal Journal, October, 1967, pp. 561-601.

[6]Ratcliff, p. 36.

[7]Spendable cash is recognized by investment counselors but not appraisers. Consider James M. McMichael, Real Estate Investment Analysis and Programming (Los Angeles: California Real Estate Association, 1965).

[8]The Harvard Group, Inc. "A Risk Model for Real Estate Investment Analysis," (A mimeographed business prospectus traced to the Harvard School of Business but authors are unknown).

[9]For other discussions of real estate investment models, see: Richard U. Ratcliff (ed.), Colloquium on Computer Application in Real Estate Investment Analysis, (Faculty of Commerce and Business Administration, University of British Columbia, 1968).

[10]Richard U. Ratcliff, Modern Real Estate Valuation (Madison, Wisconsin: Democratic Press, 1965).

[11]Ibid., p. 56.

[12]William N. Kinnard, Jr., "New Thinking in Appraisal Theory," The Real Estate Appraiser, August, 1968.

Appendix A

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #1

ANALYSIS FOR PUCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 150% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

		No depreciation allowed		
land	$40,000			
parking	7,500	50%	10 years	150%
furnishings	13,200	100%	7 years	sum of the digits
building	177,500	100%	35 years	150%
transaction costs	1,800	100%	35 years	150%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$
$$\$46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #1

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the normal operating expenses of the first year.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggest that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1,000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000 20 year 7 3/4%
	5 year balloon
Private loan	15,000 10 year 8 1/2% $1000 discount
	5 year balloon

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8% interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

APARTMENT CASE STUDY #1

15. In the seventh year it is anticipated that additional refurbishing would be required in addition to ordinary annual replacement expenses. $10,000 is budgeted as additional refurbishing component to start for the eighth year and it is expected that appliance dealer terms will be at 9% interest and 18% constant, that is $150 a month.

16. With time, rents, expenses, real estate taxes, and resale value of the property could be expected to shift due to age of the property and inflation.

    a. Rents are determined to increase at a rate of 2% per year of first year rents thus indiating a relative loss of growth as the property ages.

    b. Operating expenses excluding real estate taxes have also generally increased in the community at a rate of 2% per year relative to first year costs.

    c. Real estate taxes, however, have increased at a rate of at least 5% per year for the last five years in the community and no relief is immediately in sight.

    d. Extraordinary expenses in the first year will include $2100 of deferred maintenance which can be deducted as an expense rather than capitalized. In addition rents are over-stated pending completion of remodeling in the first year and a return to normal vacancy of 5% of gross. The difference between an expected vacancy of 17% and 5% is 12% of gross or $5525. To adjust net income accordingly extraordinary expenses are therefore the sum of $2100 + $5525 or $7625.

17. A conservative expectation for resale price of this apartment building which will be 15 years old at the end of the ten-year forecast is $275,00 or about 115% of the original investment in the property. However, the cost of sale for brokers fees, etc. would be at least 5% so that the investor might receive net liquidating sale proceeds of about 110% of the original investment. Thus the growth rate in liquidating sale proceeds is assumed to be about 1% a year. For example at the end of the second year it is assumed tht the investor could sell at 106% but considering a 5% transaction cost he would realize a net market value of 101% of his original investment. It should be pointed out that while such a factor for inflation seems modest, in a highly leveraged position the impact of a optimistic resale price on equity yield can be very misleading in the early years. (Caveat: If the building is a good investment under conservative assumptions it is a better investment if more capital gains ard income are realized than anticipated. It is less risky to make money with sound buys than with dreams of good sales.)

Appendix B

A COMPUTER MODEL FOR THE FINANCIAL ANALYSIS OF LAND DEVELOPMENT

For financial planning of a land development project timing is one of the critical factors. The land development model recognizes this important factor and analyzes the land development process as to the timing of improvements and their cost outlays and the timing of unit sales and sales revenue. Financial planning must combine four flows of cash:

1. Expenditures made on improvements either (a.) general to the project or (b.) those specific to an individual sales unit.
2. Operating outlays for real estate taxes, carrying costs of both raw land and sales inventories, and administrative costs.
3. Financing flows of cash in the form of loan funds received and the payment of both principal and interest on all debt incurred.
4. Revenue from cash sales and downpayments on land contracts plus future principal and interest owed net of commissions and closing costs.

The four flows and the year of their receipt or outlay can mean the difference between financial success or failure in land development. The model offers a comprehensive forecast of these flows of cash for a ten year period.

Additional features of the model include a comprehensive annual accounting of land usage by acres covering the assembly of different type sales units, dedications of streets, parks, and school sites and the remaining undedicated raw land that must be carried for an additional year. Capital costs and sales unit data may be inputed in rough form (such as improvements of $3000 per lot) for preliminary analysis or can be comprehensive in detail for individual improvement items (such as cost per lineal foot of sewer, per foot of street, etc.,) covering all details of the land plan.

The outputs are of five types:

1. Summary of inputs--all important inputs are listed on the first three pages so that they can be easily checked for accuracy or changed for future runs under altered assumptions.

2. Land usages--mentioned above.

3. Financing proposals--basic forms of financing are built into the model including conventional mortgages, land contracts with principal paid by release clauses, and construction loans with principal received with capital expenditures and principal payments in the form of release payments. Realizing the multitude of financing possibilities along with joint ventures this section of the program is very well documented and can be easily modified to cover all financing plans.

4. Individual sales unit analysis--for each of the sales units a one page summary is given, showing inputs and the cash effect the one unit type has upon the development process for each of the ten years. It is at this point that profit potential for the proposed sales units can be checked varying prices, costs, and absorption rates as well as terms of financing made available to customers. Analysis of each unit type proposed is essential if profits are to be optimized. This section treats each land use type available for sale as a profit center.

5. General summary and rate of return analysis--the aggregate results are shown on the final page of output. Combining each profit center into aggregate cash flows, this is a summary of all receipts and expenditures as well as tax implications of the plan for each year. In addition a present value figure of the equity portion of the project is calculated at an inputed capitalization rate. An internal rate of return is also calculated using the individual portfolio rate of return for comparison between this venture and his overall return or for comparison between differing assumptions.

The Land Development Model was created on the University of Wisconsin, School of Business IBM-1410 computer under the direction of Professor James A. Graaskamp. The program can be easily adapted to most computers that have a standard fortran or basic language compilor. The documented card deck, program listing, input forms, instructions and further explanations are presently being marketed both for in house use and on a time sharing basis, price to be negotiated. Consulting in the use of the program as well as programming assistance is available on a per diem basis if needed.

For further information write to:

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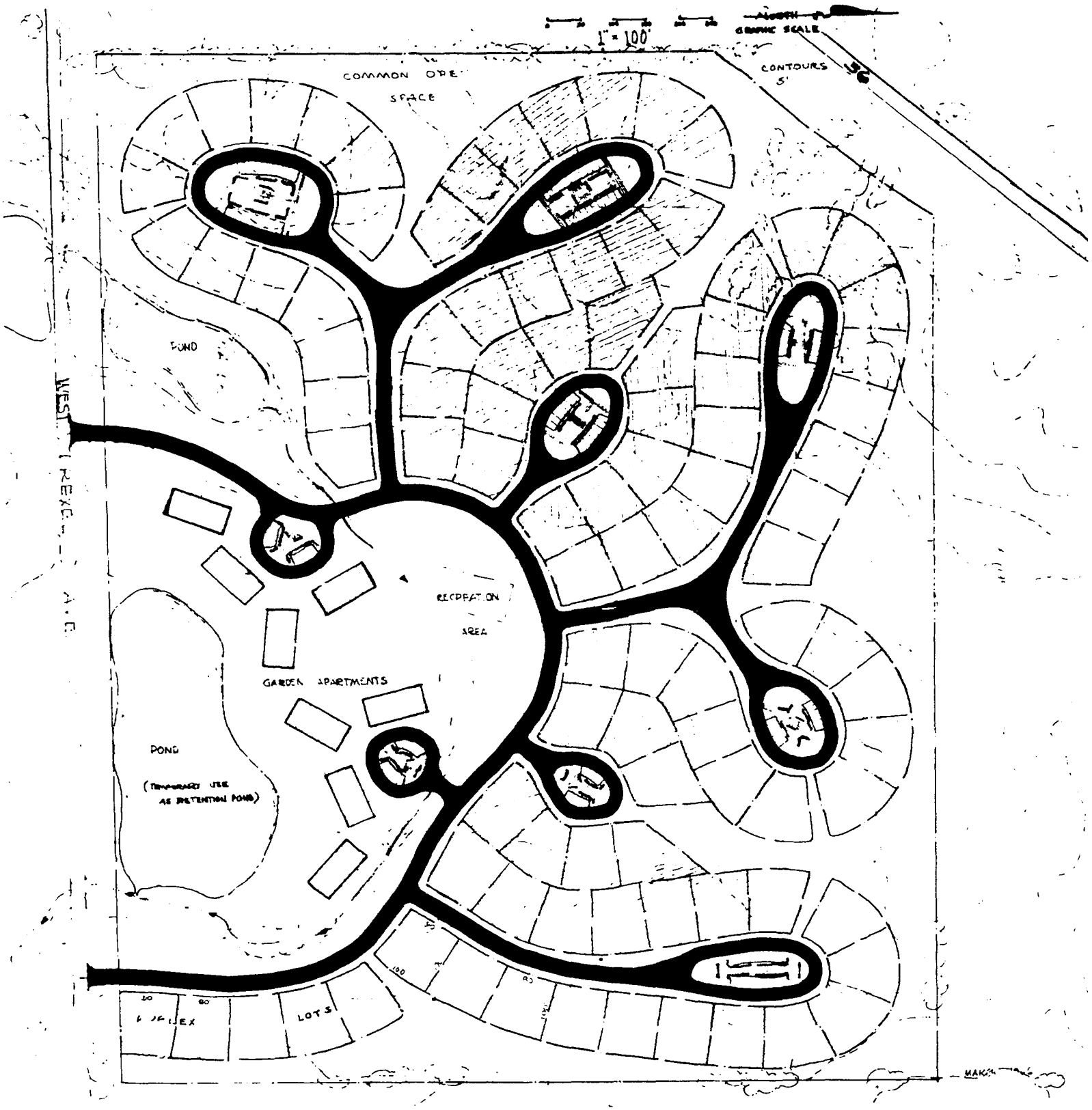


DATA:

165 FAMILY UNITS

91 SINGLE FAMILY LOTS
5 DUPLEX LOTS
8 EIGHT FAMILY GARDEN APARTMENTS

TOTAL LAND AREA PER FAMILY - 10,000 SQ.FT.

TYPICAL LOT SIZE - 80 FT. AVERAGE WIDTH

*8,000 SQ.FT TYPICAL LOT AREA

SUMMARY OF INPUTS

CAPITAL COST COMPONENTS

NAME	PRICE PER UNIT	LAND COVERED	TYPE
SITE GRADING	27.00	.00	0
SANITARY SEWERS	12.00	.00	0
SANITARY LATERAL	100.00	.00	0
SEWAGE PLANT	30000.00	1.00	1
DETENTION POND	10000.00	1.00	1
LAGOON	4000.00	2.00	1
DEEP WELL + PUMP	30000.00	.00	0
WATER MAINS	11.00	.00	0
WATER LATERALS	100.00	.00	0
STORM SEWERS	9675.00	.00	0
ROAD GRADING	1.00	.00	0
CURB + GUTTER	21500.00	.00	0
COLLECTOR STREET	8.00	70.00	2
COURT STUB ST.	7.00	60.00	2
COURT LOOP ST.	5.50	50.00	2
STREET TREES	20.00	.00	0
SIDEWALKS	2.50	5.00	2
COURT LANDSCAPE	.20	1.00	2
RECREATION AREA	2000.00	1.50	1
OPEN SPACE	.03	1.00	2
STREET LIGHTING	1.50	.00	0
ENGINEERING COST	37000.00	.00	0

TYPE CODES
0=NO LAND COVERED
1=LAND COVERED IN ACRES
2=LAND COVERED IN SQUARE FEET

ANNUAL PERCENTAGE INDEXES

YEAR	LAND	R.E. TAXES	CAPITAL COSTS	CASH
1	100.	100.	100.	999.
2	102.	103.	101.	999.
3	104.	106.	102.	100.
4	106.	109.	103.	70.
5	108.	112.	104.	70.
6	110.	115.	105.	.
7	112.	118.	106.	.
8	114.	121.	107.	.
9	116.	124.	108.	.
10	118.	127.	109.	.

MARGINAL TAX RATE	.3500	CARRYING COST PER RAW ACRE OF LAND	25.00
WORKING CAPITAL INTEREST RATE	.1200	EQUITY RATE OF RETURN--USED IN PRESENT VALUE CALCULATIONS	25.00
REAL ESTATE TAX EQUALIZATION RATE	50.00	PORTFOLIO RATE OF RETURN--OR OPPORTUNITY COST	15.00
REAL ESTATE TAXES PER THOUSAND OF VALUE	42.06	FIXED ADMINISTRATIVE + GENERAL EXPENSES PER YEAR	7200.
PRORATION FORMULA 0/0 TO LAND AREA	50.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF SALES VALUE	.00
PRORATION FORMULA 0/0 TO SALES VALUE	50.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF CAPITAL EXPENDITURES	.00

COSTS OF GENERAL IMPROVEMENTS	1	2	3	4	5	6	7	8	9	10
SANITARY SEWERS	7692.	7647.	.	.	.	.	.	.	.	.
SEWAGE PLANT	18000.	12120.	.	.	.	.	.	.	.	.
DETENTION POND	.	10100.	.	.	.	.	.	.	.	.
LAGOON	.	4040.	.	.	.	.	.	.	.	.
DEEP WELL + PUMP	18000.	12120.	.	.	.	.	.	.	.	.
WATER MAINS	9878.	9987.	.	.	.	.	.	.	.	.
STORM SEWERS	2902.	3908.	2960.	.	.	.	.	.	.	.
ROAD GRADING	1000.	883.	.	.	.	.	.	.	.	.
CURB + GUTTER	8600.	8686.	4386.	.	.	.	.	.	.	.
COLLECTOR STREET	7000.	8080.	.	.	.	.	.	.	.	.
STREET TREES	2000.	1010.	1020.	.	.	.	.	.	.	.
COURT LANDSCAPE	6400.	4040.	4080.	.	.	.	.	.	.	.
RECREATION AREA	.	2020.	.	.	.	.	.	.	.	.
OPEN SPACE	2100.	1818.	1836.	.	.	.	.	.	.	.
STREET LIGHTING	1537.	1515.	.	.	.	.	.	.	.	.
ENGINEERING COST	22200.	14948.	.	.	.	.	.	.	.	.
TOTAL	107310.	102924.	14282.	.	.	.	.	.	.	.

ACRES DEDICATED	1	2	3	4	5	6	7	8	9	10
GENERAL USE										
SEWAGE PLANT	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00
DETENTION POND	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00
LAGOON	.00	.00	2.00	.00	.00	.00	.00	.00	.00	.00
COLLECTOR STREET	.00	1.40	1.60	.00	.00	.00	.00	.00	.00	.00
COURT LANDSCAPE	.00	.73	.45	.45	.00	.00	.00	.00	.00	.00
RECREATION AREA	.00	1.50	.00	.00	.00	.00	.00	.00	.00	.00
OPEN SPACE	.00	1.60	1.37	1.37	.00	.00	.00	.00	.00	.00
SPECIFIC USE										
COURT STUB ST.	.13	.26	.52	.79	.52	.15	.00	.00	.00	.00
COURT LOOP ST.	.16	.61	1.09	1.42	.66	.19	.00	.00	.00	.00
SIDEWALKS	.05	.16	.30	.41	.22	.06	.00	.00	.00	.00
TOTAL	.35	8.29	7.37	4.46	1.41	.42	.00	.00	.00	.00

INITIAL RAW LAND AVAILABLE--	44.35 ACRES
LAND FOR SINGLE FAM. LOT	16.75
LAND FOR DUPLEX LOTS	1.00
LAND FOR MULTI-FAMILY LOT	4.00
LAND DEDICATED	22.32
LAND LEFT FOR OPEN SPACE	.27

PURCHASE BASIS OF RAW LAND FOR DEVELOPER	115200.	
DEBT OUTSTANDING ON RAW LAND AT START OF DEVELOPMENT	100000.	
BOOK EQUITY IN RAW LAND AT START OF DEVELOPMENT	15200.	
RESALE VALUE OF RAW LAND NET OF TRANSFER COSTS	115200.	
RESALE EQUITY IN RAW LAND	15200.	
INITIAL EQUITY CASH IN DEVELOPMENT ENTITY	35000.	
TOTAL EQUITY IN DEVELOPMENT ENTITY	50200.	
CASH EXPENSES OF ORGANIZATION	20625.	AMORTIZED FOR 5 YEARS--RECOGNIZED IN TAXABLE INCOME
NET CASH FOR DEVELOPMENT	14375.	INCLUDED IN YEAR 1 NET CASH AFTER TAXES

FINANCING FOR LAND DEVELOPMENT

LAND CONTRACT AMOUNT-- 100000. INTEREST RATE--,.0600 MONTHLY PAYMENT-- .RELEASE PAYMENT-- 1000.

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL PAID	3000.	9000.	18000.	27000.	22000.	17500.	3500.	.	.	.
INTEREST	6000.	5820.	5280.	4200.	2580.	1260.	210.	.	.	.
BALANCE	97000.	88000.	70000.	43000.	21000.	3500.	.	.	.	.

NOTE AMOUNT-- 360000. INTEREST RATE--,.0975 MONTHLY PAYMENT-- 7612. RELEASE PAYMENT-- .

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL PAID	58831.	64829.	71440.	78725.	86195.	.	.	.	.	.
INTEREST	32516.	26518.	19907.	12623.	4595.	.	.	.	.	.
BALANCE	301176.	236351.	164916.	86195.	.	.	.	.	.	.

SINGLE FAM. LOT

SUMMARY OF INPUTS

LOT SIZE--SQUARE FEET	8000.
LOT SIZE--ACRES	.18
PERCENT SOLD FOR CASH EACH YEAR	60.00
O/O DOWN REQUIRED ON LAND CONTRACT SALES	20.00
INTEREST RATE ON LAND CONTRACT SALES	.09
TERM IN YEARS ON LAND CONTRACT SALES	2.00
CARRYING COST PER UNIT OF SALES INVENTORY	25.00
SALES COMMISSIONS O/O OF SALES PRICE	6.00
CLOSING COSTS PER UNIT	100.00
CAPITAL COST PER UNIT	1501.25

YEAR	SALES PRICE	NO. UNITS SOLD
1	9000.	5.
2	9450.	10.
3	9900.	20.
4	10080.	30.
5	10260.	20.
6	10440.	6.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	7.	9.	1.	7.	6.	.	.	.	.
PRODUCTION STARTS	12.	12.	12.	36.	19.	.	.	.	.	.
PRODUCTION COMPLETIONS	12.	12.	12.	36.	19.	.	.	.	.	.
SALES IN UNITS	5.	10.	20.	30.	20.	6.	.	.	.	.
UNITS SOLD FOR CASH	3.	6.	12.	18.	12.	4.	.	.	.	.
PRICE PER UNIT	9000.	9450.	9900.	10080.	10260.	10440.	.	.	.	.
REVENUE FROM CASH SALES	27000.	56700.	118800.	181440.	123120.	41760.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	2.	4.	8.	12.	8.	2.	.	.	.	.
DOWN PAYMENT RECEIVED	3600.	7560.	15840.	24192.	16416.	4176.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	14400.	30240.	63360.	96768.	65664.	16704.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	2700.	5670.	11880.	18144.	12312.	3758.	.	.	.	.
CLOSING COSTS	300.	600.	1400.	2200.	2000.	1600.	800.	200.	.	.
NET CASH GENERATED FROM SALES	27600.	57990.	121360.	185288.	125224.	40577.	-800.	-200.	-.	-.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	1296.	3369.	7063.	11560.	10264.	4458.	751.	.	.
PRINCIPAL	.	7200.	22320.	46800.	80064.	81216.	41184.	8352.	.	.
PERIOD END ACCOUNTS RECEIVABLE	14400.	37440.	78480.	128448.	114048.	49536.	8352.	.	.	.
REAL ESTATE TAXES ON INVENTORY	662.	1589.	1040.	847.	1402.	658.	.	.	.	.
CARRYING COST OF INVENTORY	87.	200.	125.	100.	162.	75.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	18015.	18195.	18375.	55666.	29664.	.	.	.	.	.
TOTAL CASH REVENUE	8835.	46501.	127509.	182538.	185620.	131324.	44842.	8903.	-.	-.

DUPLEX LOTS

SUMMARY OF INPUTS

LOT SIZE--SQUARE FEET	8000.
LOT SIZE--ACRES	.18
PERCENT SOLD FOR CASH EACH YEAR	.00
O/O DOWN REQUIRED ON LAND CONTRACT SALES	25.00
INTFREST RATE ON LAND CONTRACT SALES	.09
TERM IN YEARS ON LAND CONTRACT SALES	2.00
CARRYING COST PER UNIT OF SALES INVENTORY	20.00
SALES COMMISSIONS O/O OF SALES PRICE	6.00
CLOSING COSTS PER UNIT	280.00
CAPITAL COST PER UNIT	2107.00

YEAR	SALES PRICE	NO. UNITS SOLD
1	12500.	1.
2	13000.	2.
3	13500.	2.
4	.	.
5	.	.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	4.	2.	.	.	.	.	.	.	.
PRODUCTION STARTS	5.	.	.	.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	5.	.	.	.	.	.	.	.	.	.
SALES IN UNITS	1.	2.	2.	.	.	.	.	.	.	.
UNITS SOLD FOR CASH	.	.	.	.	.	.	.	.	.	.
PRICE PER UNIT	12500.	13000.	13500.	.	.	.	.	.	.	.
REVENUE FROM CASH SALES	.	.	.	.	.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	1.	2.	2.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	3125.	6500.	6750.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	9375.	19500.	20250.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	750.	1560.	1620.	.	.	.	.	.	.	.
CLOSING COSTS	.	.	280.	560.	560.	.	.	.	.	.
NET CASH GENERATED FROM SALES	2375.	4940.	4850.	-560.	-560.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	843.	2176.	2700.	911.	.	.	.	.	.
PRINCIPAL	.	4687.	14437.	19875.	10125.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	9375.	24187.	30000.	10125.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	525.	820.	283.	.	.	.	.	.	.	.
CARRYING COST OF INVENTORY	40.	60.	20.	.	.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	10535.	.	.	.	.	.	.	.	.	.
TOTAL CASH REVENUE	-8725.	9591.	21160.	22015.	10476.	.	.	.	.	.

MULTI-FAMILY LOT

SUMMARY OF INPUTS

LOT SIZE--SQUARE FEET	21780.
LOT SIZE--ACRES	.50
PERCENT SOLD FOR CASH EACH YEAR	80.00
O/O DOWN REQUIRED ON LAND CONTRACT SALES	25.00
INTEREST RATE ON LAND CONTRACT SALES	.09
TERM IN YEARS ON LAND CONTRACT SALES	3.00
CARRYING COST PER UNIT OF SALES INVENTORY	40.00
SALES COMMISSIONS O/O OF SALES PRICE	6.00
CLOSING COSTS PER UNIT	480.00
CAPITAL COST PER UNIT	4301.50

YEAR	SALES PRICE	NO. UNITS SOLD
1	.	.
2	22000.	2.
3	23100.	3.
4	24200.	3.
5	.	.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	2.	3.	.	.	.	.	.	.
PRODUCTION STARTS	4.	4.	.	.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	4.	4.	.	.	.	.	.	.	.
SALES IN UNITS	.	2.	3.	3.	.	.	.	.	.	.
UNITS SOLD FOR CASH	.	2.	2.	2.	.	.	.	.	.	.
PRICE PER UNIT	.	22000.	23100.	24200.	.	.	.	.	.	.
REVENUE FROM CASH SALES	.	44000.	46200.	48400.	.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	1.	1.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	5775.	6050.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	17325.	18150.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	2640.	4158.	4356.	.	.	.	.	.	.
CLOSING COSTS	.	960.	960.	960.	.	480.	480.	.	.	.
NET CASH GENERATED FROM SALES	.	40400.	46857.	49134.	.	-480.	-480.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	1559.	2673.	1608.	544.	.	.	.
PRINCIPAL	.	.	.	5775.	11825.	11825.	6050.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	17325.	29700.	17875.	6050.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	462.	1214.	763.	.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	40.	100.	60.	.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	17206.	17378.	.	.	.	.	.	.	.	.
TOTAL CASH REVENUE	-17206.	22519.	45542.	55644.	14498.	12953.	6114.	.	.	.

AGGREGATE RESULTS

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
REVENUE FROM CASH SALES	27000.	100700.	165000.	229840.	123120.	41760.	.	.	.	.
DOWNPAYMENT RECEIVED	6725.	14060.	28365.	30242.	16416.	4176.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	23775.	49740.	100935.	114918.	65664.	16704.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	3450.	9870.	17658.	22500.	12312.	3758.	.	.	.	.
CLOSING COSTS	300.	1560.	2640.	3720.	2560.	2080.	1280.	200.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	2139.	5546.	11322.	15144.	11873.	5002.	751.	.	.
PRINCIPAL	.	11887.	36757.	72450.	102014.	93041.	47234.	8352.	.	.
PERIOD END ACCOUNTS RECEIVABLE	23775.	61627.	125805.	168273.	131923.	55586.	8352.	.	.	.
CASH FROM OPERATIONS	29975.	113078.	204278.	294990.	211534.	121265.	40951.	7400.	.	.
LESS CASH OUTLAYS										
CARRYING COSTS--RAW LAND	554.	.	.	.	.	.	.	.	.	.
CARRYING COSTS--INVENTORY	127.	300.	245.	160.	162.	75.	.	.	.	.
REAL ESTATE TAX--RAW LAND	1211.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES--INVENTORY	1188.	2872.	2539.	1611.	1402.	658.	.	.	.	.
MANAGEMENT + ADMIN. COSTS	.	.	.	.	.	.	.	.	.	.
NEW ALLOCATED CAPITAL OUTLAYS	45756.	35573.	18375.	55666.	29664.	.	.	.	.	.
NEW GENERAL CAPITAL OUTLAYS	107310.	102924.	14282.	.	.	.	.	.	.	.
NET CASH REVENUE	-126172.	-28591.	168837.	237553.	180306.	120532.	40951.	7400.	-.	-.
PROJECT DEBT STRUCTURE										
TOTAL INITIAL BALANCE 460000.										
BALANCE END OF YEAR	398176.	324351.	234916.	129195.	21000.	3500.	.	.	.	.
TOTAL PRINCIPAL PAYMENTS	61831.	73829.	89440.	105725.	108195.	17500.	3500.	.	.	.
TOTAL INTEREST PAID ON PROJ.	38516.	32338.	25187.	16823.	7175.	1260.	210.	.	.	.
INTEREST ADDED TO LOAN BAL.	.	.	.	.	.	.	.	.	.	.
NET CASH FROM DEBT INCURRED	360000.	.	.	.	.	.	.	.	.	.
CASH AVAILABLE BEFORE TAXES	133481.	-134758.	54209.	115005.	64935.	101772.	37241.	7400.	-.	-.
CAPITAL COST OF IMPROVEMENTS										
PRORATED TO UNITS SOLD	5631.	20669.	39286.	54138.	36620.	19962.	7090.	1484.	.	.
GENERAL CAPITAL COST										
PRORATED TO UNITS SOLD	3223.	22069.	47024.	67809.	47254.	25959.	9207.	1960.	.	.
LAND COST PRORATED TO UNITS SOLD	3460.	12373.	24036.	33664.	23339.	12812.	4544.	967.	.	.
TAXABLE INCOME FROM OPERATIONS	-28061.	18331.	61836.	116660.	91456.	60538.	19899.	2987.	.	-.
ESTIMATED INCOME TAXES	.	6415.	21642.	40831.	32009.	21188.	6964.	1045.	.	.
TAX SAVINGS ON OTHER INCOME	9821.	.	.	.	.	.	.	.	.	.
NET CASH AFTER TAXES	147856.	-141173.	32566.	74174.	32926.	80584.	30276.	6354.	-.	-.
REINVESTED EARNINGS	.	147856.	6683.	39249.	35000.	35000.	.	.	.	.
WORKING CAPITAL LOAN BALANCE	.	.	.	.	.	.	.	.	.	.
CASH AFTER TAXES FOR DIVIDENDS OR REINVESTMENT	147856.	6683.	39249.	113423.	67926.	115584.	30276.	6354.	.	.
DIVIDENDS PAID	.	.	.	78423.	32926.	115584.	30276.	6354.	.	.
NET AFTER TAX + DEBT REPAYMENT ON BULK SALES	-250698.	-54650.	38374.	106566.	137446.	54140.	9092.	10.	10.	9.
P.V. AT 25.0/0 OF EQUITY RETURNS	-74417.	-22841.	47601.	97965.	107276.	95260.	89324.	88485.	88485.	88484.
INTERNAL RATE OF RETURN	-11.12	9.62	16.64	19.16	19.04	18.24	17.65	17.30	17.04	16.84

misc. address

THE COMPUTER AND THE APPRAISER
Outline of
A Lecture Presentation

35th Annual Convention
Society of Real Estate Appraisers

Monday, May 4, 1970

I. Decision-making methods and real estate analysis

A. Real Estate appraisal or investment counseling is a decision-making function.

1. Appraisal is limited to forecasting probable sales price under specified conditions.
2. Counseling is subjectively involved in measuring subjective values of a course of action for a specified client.
3. Analysis for arriving at a decision is the essence of both functions and has been explicitly recognized in the development of a program designation for everyone as Senior Real Estate Analyst.

B. Decision-making behavior has obviously undergone significant evolution.

1. Origins of group decision-making and decision specialists are found in devil theories of cause and effect.
2. Origins of systems of logic and reason presumed causes to predict effects.
3. Origins of scientific method and statistical decision-making required identification of causes with observed effects.

C. Real estate appraisal methods have split origins in the procedure for value decision-making.

1. The cost approach and the income approach at best are decision models of reason and logic - the premise of Marshall's economic man.
2. The cost approach becomes devil theory when observed results of a market sale are presumed to be caused by depreciation to the cost to replace.

D. The market comparison approach to value has its roots in the scientific method of observing individual events to induce a conclusion with which to deduce a forecast of sale price for the subject property.

E. To require correlation and synthesis of the three approaches to value is to create a model of real estate decision-making based on Marshall's economic man.

1. Simplifying models are essential to make forecasting of human behavior possible.
2. Model-making is limited by information available and the ability of the forecaster to manipulate the information reliably.

3. The scientific method is concerned with developing models which reflect observed behavior.

F. Computer techniques provide opportunity to improve professional appraisal decision-making models.

1. A computer is a mechanical device for processing information according to a logical procedure.
2. The essential question for any computer application is the selection of the logical prodedure to be followed.
3. The choice of procedure can then be fit to the capacity of available men and hardware.
4. It is the choice of procedure which brings the appraiser face-to-face with the need to understand the nature of his traditional procedures and the current evolution in methods of applying the scientific method to the decision process.

II. A description of scientific method, statistical decisions, and contemporary model building

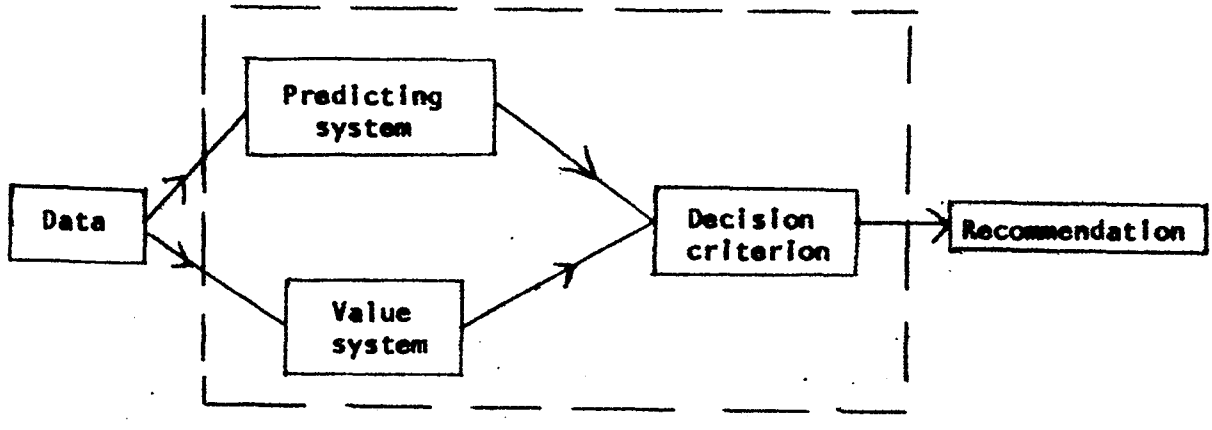
A. A description of statistical decision-making fits everyday choices.

B. Facts must be organized to identify possible alternative outcomes of decision.

C. The problem of measuring probability of alternative outcomes confuses application.

D. Problem of measuring desirability of alternative outcomes is easier.

E. A pictorial representation of the system



F. The final test of any model is "Does it work?"

G. Model-making is related to creative thinking by analogy.

1. Personal analogy
2. Direct analogy
3. Symbolic analogy
4. Fantasy analogy

H. Three types of scientific model building are common in real estate analysis.

1. Physical models
2. Abstract models
3. Symbolic models

I. Advantages of model building for the real estate analyst.

1. Model provides a preliminary reference for analysis.
2. A model brings into focus the problems of abstraction, to choose
3. factors relevant to problems under consideration.
3. Failure of a model to predict reveals flaws in data or logic.
4. Modeling in symbolic language permits use of mathematical tools.
5. Models often provide the cheapest way to make a prediction as well as the quickest. The gross-rent multiplier technique is an appraisal model.

J. Disadvantages and dangers of model building for the real estate analyst.

1. The danger of abstraction is gross oversimplification and loss of critical data.
2. The problem of relating the model to the complexity of the real world.
3. Infatuation with the model as a product of the intellect rather that as a practical tool.[1]

III. Practical problems control design of a model procedure for appraisal analysis

A. Interface between input data and model requirements is a basic constraint.

B. Interface between output of model and the decision-maker limits techniques.

C. Interface between model procedures and court and government procedures limits rapid adaptation.

D. Balancing model-making with data collecting is an evolutionary process.

E. Interfacing available models with accepted appraisal procedures is necessary for professional acceptance.

F. A variety of models based on scientific observation are already available which suggest there are more than three approaches to value.

THE ROLE OF THE COMPUTER

IN

CASH FLOW ANALYSIS

presented at

SREA

International Appraisal Conference

San Francisco, California

August 7-8, 1972

MODERATOR: Dan Swango, SRA
Tucson, Arizona

SPEAKERS:

Dr. James Graaskamp, ~~SRA~~ SRPA
Madison, Wisconsin

Ronald S. Graybeal, Ph.D.
San Francisco, California

Joe Marks
Burlingame, California

Bernard F. Burger
Los Angeles, California

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February 18, 1972

Value of Arbitrary Cash Flows

Program Name: RATES

Given a schedule of outlays and receipts this program will calculate the period covered by these receipts the starting and ending date of the schedule which was associated with the values entered. The total outlays, the total receipts and the internal rate of return. After requesting a cost of capital rate the program will calculate the net present value of the outlays and receipts at that cost of capital and an adjusted rate of return based on the cost of capital rate. The adjusted internal rate of return is calculated by: (1) taking all outlays and discounting them to their present value at the cost of capital rate, (2) taking all receipts and calculating their future value at the cost of capital rate at the end of the scheduled period. The adjusted internal rate of return is then calculate to be that rate which will compound the present value of all outlays to equal the future value of all receipts.

The entries required are:

ENTER OUTLAYS

ENTER RECIEPTS

Optional entry formats 1) MM,DD,YY,AMT
2) MM,DD,YY,NUM,MINTV,AMT
3) MM,DD,YY,NUM,MINTV,AMT1,AMT2,AMT3,---,AMTN

Entry formats provide for specifying either one or more cash flows at stated dates. The format codes above signify the following:

MM	Enter the number of the month
DD	Enter the date of the month
YY	Enter the last two digits of the year
NUM	Enter the number of consecutive payments
MINTV	Enter the interval between these consecutive payments in months
AMT	The amount of the single or periodic payment.

Options two and three provide for scheduling multiple payments which occur periodically (not necessarily monthly) in an abbreviated format. If all periodic payments are equal format 2 may be used. If periodic payments occur at regular intervals but are unequal in amount format 3 is used. The amounts are stated explicitly separated by commas. In format 3, if fewer amounts are stated than NUM calls for, the last amount will be repeated to complete the list (format 2 is merely a special case of format 3). In the above description payments may be understood to apply to either outlays or reciepts. The program will then proceed to ask for a cost of capital rate which may be specified either as a decimal fraction or as a percentage. If a value larger than 1 (as percentage) is entered it will be divided by 100 in order to obtain the equivalent decimal fraction.

February 18, 1972

Rates Sample Problem

A lender offers a real estate trust loan of $100,000 with a 2% discount for closing charges. The payment schedule calls for 5 annual payments of interest only at 9%. The borrower however, elects to prepay the original loan balance (before the discount) with a 5% penalty at the end of the 3rd year.

1. What is the effective earned interest rate for the lender?
2. The lender's alternatives investments usually offer him the return of 8%. What is the present value of this investment at 8% and what is the net rate of this investment of 8%.
3. Compare this to a similar loan where half of the balance is paid off with a 5% penalty after 3 years. The remaining payments covering interest only run for two additional years whereupon the remaining half of the balance if paid off. What are the effective and net rates of return?

- Solution -

The sample output on the following page shows that the first alternative provides for the lender an effective yield (internal rate) 11.33%. Considering an 8% cost of capital the net return which then accounts for the reinvestment of funds recovered from the loan is then 11.06%. The present value of this set of outlays and receipts is in excess of $8,000.

Under the second alternative the investor finds that his effective rate has been reduced to 10.2% and his net rate has been reduced to slightly more than 9.5%. This reduction is due primarily to the reduction of the prepayment penalty.

```
OLD RATES
READY
RUN


RATES        17:35CST     02/17/72

NUMBER OF COMPOUNDING PERIODS PER YEAR? 1
FORMAT FOR NUMERIC ENTRIES IS:
MO,DA,YR,NUM,MINTV,AMT1,AMT2, ... AMTN
  OR
MO,DA,YR,AMT




ENTER OUTLAYS
? 1,1,71,98000
?
ENTER RECEIPTS
? 12,31,71,3,12,9000
? 12,31,73,105000
?
PERIOD OF 2 YEARS, 11 MONTHS, 30 DAYS
FROM 1  1  71 TO 12  30  73
TOTAL OUTLAYS 98000
TOTAL RECEIPTS 132000
INTERNAL RATE IS 11.3264
ENTER COST OF CAP RATE? .08
NET PRESENT VALUE AT  8.00% IS 8569.038
ADJUSTED RATE IS 11.06%
ENTER COST OF CAP RATE?




ENTER OUTLAYS
? 1,1,71,98000
?
ENTER RECEIPTS
? 12,31,71,3,12,9000
? 12,31,73,52500
? 12,31,74,2,12,4500
? 12,31,75,50000
?
PERIOD OF 4 YEARS, 11 MONTHS, 30 DAYS
FROM 1  1  71 TO 12  30  75
TOTAL OUTLAYS 98000
TOTAL RECEIPTS 138500
INTERNAL RATE IS 10.2469
ENTER COST OF CAP RATE? .08
NET PRESENT VALUE AT  8.00% IS 7291.991
ADJUSTED RATE IS  9.96%
ENTER COST OF CAP RATE?   (BREAK)0

USED      .85 UNITS
```

Prob 9.1 Q

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	No depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$
$$\$ \overline{46,080}$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

EDUCARE p.o. box 631 / madison, wisconsin 53701

INCOME PROPERTY ANALYSIS

EDUCARE has made available a versatile computer program which can be used to provide a thorough and accurate financial analysis of any income producing property.

This program is useful to:

Appraisers	Mortgage Companies
Real Estate Brokers	Savings & Loans Companies
Real Estate Developers	Banks
Estate Planners	Investors
Property Managers	Accounting Firms
Financial Advisors	Market Research Firms

The EDUCARE AIP Income Property Analysis program has easy-to-use options which allow the customer to select the information that he needs for a specific purpose. These options are:

1) CASH FLOW ANALYSIS
Projections of fixed or variable incomes, expenses, cash flows and returns on equity.

2) LOAN SUMMARY
Annual loan status analysis. Provides Beginning Balance, Principal and Interest amounts paid and annual payment amounts for various loan types. Allows you to begin the Loan Summary at any time in the loan life.

3) DEPRECIATION SUMMARY
Annual depreciation analysis. Provides the Straight Line Depreciation amount, accelerated depreciation amount and the excess depreciation amount for each depreciable item for each year.

4) LOAN AMORTIZATION SCHEDULE
Amortization schedules. Provides Loan Balance, Principal and Interest payments for any payment frequency that you desire. Any type of loan may be amortized, including FHA insured, interest-only, etc.

5) CASH FLOW AND FINANCIAL ANALYSIS
Provides an abbreviated version of option 1 and also provides an annual equity position and tax analysis. The tax analysis assumes a sale at the end of each year and computes the tax on capital gains and ordinary income.

The EDUCARE AIP Income Property Analysis offers the following advantages:

* The printout is easily readable and designed for customer or management presentations without having to retype in a more convenient format.

* The 1969 Tax Reform Act changes are accurately computed. The program does not average or take other shortcuts which can result in sizeable inaccuracies in the tax computations.

* The customer has a choice as to the type of information he receives. You pay only for what you need.

* The printout generally follows NIREB Form B for the presentation of information.

* The Users Manual is designed for the customer's convenience. It does not assume that you are already a time-sharing specialist.

* Custom modifications can be made easily and inexpensively.

The AIP Income Property Analysis program "AIP" contains a number of subprograms that can be used to analyze a particular income property. An explanation of each option is contained in Section III of this User Manual. The user must prepare and store a data file before executing option 1 or option 5.

The AIP Income Property Analysis program is executed on General Electric Time-Sharing Service through the use of the following user commands (underlined) and computer responses.

```
ØLD AIP
READY
RUN
```

The following responses will occur:

```
AIP          14:13 A      01/08/71


THE AIP INCØME PRØPERTY ANALYSIS IS THE PROPERTY OF
```

EDUCARE
University of Wisconsin
School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

```
CHØØSE ØNE ØF THE FØLLØWING ØPTIONS:
  1 = CASH FLØW ANALYSIS
  2 = LØAN SUMMARIES
  3 = DEPRECIATION SUMMARIES
  4 = MØNTHLY LØAN AMØRTIZATION
  5 = CASH FLØW & FINANCIAL ANALYSIS
  ENTER 1, 2, 3, 4, ØR 5  ?
```

The option that is chosen will determine the subsequent conversational questions. These questions and the detailed instructions for each option are explained in section III.2 through section III 6.

Options 1 and 5 in the Income Property Analysis program are supplied information from a common data file prepared before program execution and from the terminal in conversational mode at the time of execution. The data file contains basic data concerning:

1) project timing
2) project parameters
3) revenue information
4) expense information
5) loan information
6) depreciation information

The conversational questions control several options and control the form and the amount of the output.

The data file preparation generally follows two patterns. Some data is entered item-by-item corresponding to the single value required. For example, the NUMBER OF LOANS for the project might be entered as 2. The other data, which is time-oriented, may be entered for up to 15 years. Examples of this type of data are GROSS INCOME and REAL ESTATE TAXES.

All data items are input as follows: 1) the line number, 2) a blank, and 3) the data items separated by commas. If more than one input line is necessary to complete the input for the variable, a comma must be used at the end of the data line to indicate that the data is continued to the next data file line. The last value input for each annual data item is automatically duplicated in each of the following years.

All data file line numbers on FORM CF-2 that are not enclosed in parenthesis, eg. 200, are lines that must be used in the analysis. Line numbers enclosed in parenthesis, eg. (201), may be used on continued input data lines or for optional input data items.

The annual data can be entered in dollars, as a percentage of another amount or as zero. All annual values less than or equal to 100 are considered as percentages. These percentages may be positive or negative or may be zero. Thus, 16.5 is 16.5% and -4 is -4%. If a percentage is entered for the first year value of a variable, the standard rule will be that the first year value is that respective percent of GROSS INCOME. Percentage values entered in the other years are considered as a standard rule to be a percentage increase or decrease over the previous year's dollar value. To reduce a value in a year to zero, a -100% deflation of the previous year's value must be used, followed by a 0% inflation percentage.

Provision is made on Form CF-2 for entry of up to 12 years of data for many items. If you desire more than 12 years input for any of these items, simply place a comma after the 12th data item and continue entry on a new line using the next sequential line number.

Several examples of input lines and their meanings:

#1 GROSS INCOME ($, % or 0)
200 250000,5,270000,4
First year: $250,000, Second year: a 5% increase to $262,500
Third year: $270,000, Fourth and Ensuing years: 4% compounded increases.

200 250000,4,0
First year: $250,000, Second year: a 4% increase to $260,000
Third year and Ensuing years: no increases ($260,000)

200 100000,110000,-100,0
First year: $100,000 Second year: $110,000
Third year: 100% reduction to $0 Fourth and Ensuing years: $0

All annual type data is entered on an annual basis even when a project begins in a month other than January. Any inflation percentage in the second year will inflate the entire annual amount. The first year data is then linearly pro-rated in the first year for the printout.

Important reminders:

A. Line numbers without ( ) must contain at least one data item.

B. Data file line numbers must be used, followed by a blank and then followed by the data.

C. The last annual data value is duplicated to the end of the analysis.

D. A comma at the end of a data line indicates that the data is continued onto the next data file line.

E. Titles must be provided when a value other than zero is input in any year for items 4, 7, 15, 16, 17, 18, 19, and 20.

F. All years are input such as 1971, not '71'.

G. All months are input with serial numbers such as 3, not MARCH.

It is suggested that the INPUT DATA WORKSHEET, FORM CF-2 be used as a master to produce a different worksheet for each analysis.

The data file can be used for either option 1 or option 5 of the program. Certain input lines that refer only to option 1 are marked in an appropriate manner but values must still be input on the data file line.

DATA FILE LINE NO.

100 Project Title (45 Characters Max):

The project title will be printed out under CASH FLOW ANALYSIS or CASH FLOW AND FINANCIAL ANALYSIS on each page. To center a title with X characters, Y spaces should be typed in front of the title where Y-(44-X)/2. Spaces, Commas, etc. count as characters.

110 Discount Rate, Tax Bracket:

The discount rate is the percentage to be used to reduce future income back to present worth in option 1. If this present value concept is not desired or if Option 5 is to be used, enter a value of zero. If the Discount Rate is zero, the PRESENT VALUE GSI and PRESENT VALUE NSI printed lines will not appear in Option 1.

The tax bracket for the life of the project is input as a %. In Option 1 the printing of TAXABLE INCOME, NET SPENDABLE INCOME and the TAX SAVINGS % item of the RETURNS IN EQUITY can be suppressed by entering <u>any</u> negative number as the tax bracket.

120 Begin Mo., Begin Yr., #Yrs. in Analysis:

The first month and year of the project should be input in numeric form. March, 1970 is input as 3,1970. The analysis computation and the number of years in the printout will key on '#Yrs. in Analysis'. The maximum number of years of analysis is 15.

130 Cash-in-at-purchase:

The equity into the project in dollars at the beginning of the project will be used in the various return on equity calculations. If there is any Pre-Paid Interest in the <u>first</u> year of the analysis, a conversational option is given to consider pre-paid interest as 1) equity (in which case it is added to cash-in-at-purchase), or 2) debt service.

FOR OPTION 1 ONLY

If there is cash-in-at-purchase or prepaid interest that is to be considered as equity, another conversational option is given whether or not to print the RETURNS ON EQUITY Calculations. If the RETURNS are to be printed still another conversational option is offered. The Return percentages may be computed from either cash-in-at-purchase or cash-in-at-purchase plus cumulative equity buildup. If there is no equity in the first year, the RETURNS will not be printed.

ANNUAL DATA INPUT

Variable factors (either $, %, or 0) are used to manipulate values in the different analysis years. The standard guideline is that percentage factors will develop dollar values 1) in the first year as a percentage of Gross Income, and 2) for a projected year by inflating or deflating the previous year's value by the percentage factor. The last factor entered for an item will be automatically extended to the end of the analysis for that item. The user should refer to Section III.1.3 for general information about inputing annual data.

Any income or expense item can be eliminated from the output in Option 1 by entering a zero for the first value and by entering no other values on that data line. In Option 5, only the total of all the annual expenses will be output.

Income items affected by vacancy-#1 thru #4

200 #1-Gross Income ($, %, or 0):
(201) Gross Income can be input as a % of market value in the beginning of the initial year of the analysis by entering the percentage value. Note-gross income and market value may not both be zero in the initial year of the analysis. If market value is zero, gross income can not be a percentage.

210 #2-Parking Income ($, %, or 0):
(211) Follows standard guidelines set for annual data.

220 #3-Miscellaneous Income ($, %, or 0):
(221) Follows standard guidelines set for annual data.

230 #4-Optionally Titled Income ($, %, or 0):
(231) Follows standard guidelines set for annual data. If any element
(235) of this item is non-zero, a user-supplied title must be entered on line 235.

240 #5-Vacancy ($, %, or 0):
(241) Vacancy factors entered as percent are considered as a percent of the sum of the four income classes affected by vacancy (e.g. #1 Gross Income, #2 Parking Income, #3 Miscellaneous Income, and #4 Optionally Titled Income.).

Income items NOT affected by vacancy-#6 thru #7

250 #6-Miscellaneous Income ($, %, or 0):
(251) Follows standard guidelines set for annual data.

260 #7-Optionally Titled Income ($, %, or 0):
(261) Follows standard guidelines set for annual data.
(265) If any element of this item is non-zero, a user-supplied title must be entered on line 265.

Expense Items-#8 thru #20

270 #8-Utilities ($, %, or 0):
(271) Follows standard guidelines set for annual data.

280 #9-Insurance ($, %, or 0):
(281) Follows standard guidelines set for annual data.

290 #10-Real Estate Taxes ($, %, or 0):
(291) Follows standard guidelines set for annual data.

300 #11-Leasing Commissions ($, %, or 0):
(301) Follows standard guidelines set for annual data.

310 #12-Payroll and Taxes ($, %, or 0):
(311) Follows standard guidelines set for annual data.

320 #13-Management Fees ($, %, or 0):
(321) Any percentage will be taken as a percentage of the Gross Adjusted Income for that year.

330 #14-Maintenance Costs ($, %, or 0):
(331) Follows standard guidelines set for annual data.

340 #15-Optionally Titled Expense ($, %, or 0):
(341) Follows standard guidelines set for annual data.
(345) If any element of this item is non-zero, a user-supplied title must be entered on line 345.

350 #16-Optionally Titled Expense ($, %, or 0):
(351) Follows standard guidelines set for annual data.
(355) If any element of this item is non-zero, a user-supplied title must be entered on line 355.

360 #17-Optionally Titled Expense ($, %, or 0):
(361) Follows standard guidelines set for annual data.
(365) If any element of this item is non-zero, a user-supplied title must be entered on line 365.

370 #18-Optionally Titled Expense ($, %, or 0):
(371) Follows standard guidelines set for annual data.
(375) If any element of this item is non-zero, a user-supplied title must be entered on line 375.

380 #19-Optionally Titled Expense ($, %, or 0):
(381) Follows standard guidelines set for annual data.
(385) If any element of this item is non-zero, a user-supplied title must be entered on line 385.

390 #20-Optionally Titled Expense ($, %, or 0):
(391) Any percentage will be taken as a percentage of the Gross
(395) Adjusted Income for that year. If any element of this item is non-zero, a user-supplied title must be entered on line 395.

400 Beginning of Year Market Values ($, %, or 0):
(401) The Market Value may be entered in one of two ways-
1) A dollar amount must be entered as the beginning of the analysis market value, followed by any combination of dollars and/or percentages. The dollar values are used as absolute values for those years and the percentages act as inflation/deflation factors of the previous year. A factor in the second year will inflate/deflate the entire first year value.
2) A dollar amount must be entered as the beginning of the analysis market value. If it is desired to compute all other market values from the Capitalization Rate and Net Operating Income for the previous year, a zero for the second year value should be entered.
The last value entered is automatically extended to the end of the analysis.
NOTE: A year end Market Value is equal to the next year beginning Market Value. Therefore there will always be one more Market Value required than there are years of analysis.

410 Capitalization Rates (%):
(411) The capitalization rates may be entered in one of two ways-
1) Positive capitalization rates for the first and succeeding years may be entered. These rates divided into Net Operating Income will determine year-end market values. The last value entered is automatically extended to the end of the analysis.
2) A zero is entered if capitalization rates are not to be used in determining year-end Market Value.

420 Participation-in-Gross ($, %, or 0):

(421) Dollar amounts or percentages can be entered for each year. Any percentage will be taken as a percentage of Gross Adjusted Income.

430 Replacement Reserve ($,%, or 0):

(431) Follows standard guidelines set for annual data. Note that the reserves for replacements are not considered expense items and are not tax deductible. If reserves are to be tax deductible, enter a zero on this line and input reserves as an optionally titled expense item.

450 Percentage Basis (Code or Sq. footage):

OPTION 1 ONLY

At output time, all income and expense items and related totals print out as both dollar amounts and as a percent of the variable amount or as dollars per square foot per year. If the user desires a percentage of an income amount (printed as a %), he must enter a code to determine that percentage basis.

CODE	BASE ITEM
1	Gross Income
2	Gross Effective Income
3	Gross Adjusted Income.

If the user desires dollars per sq. ft. (printed as $/SF), the sq. footage to be used as the basis must be entered. For option 5, enter any one of the codes since the values are not used.

LOAN INFORMATION

500 Number of Loans (Up to 6):

Enter the number of loans in the analysis during the analysis period. Up to 6 loans may be used. The information in lines 510-513 applies to each loan and must be provided for each loan. It is permitted to have zero (0) loans outstanding.

(510) Type, Month Started, Year Started:

A type "1" loan is a constant payment loan. A type "2" loan is a constant principal payment loan. The serial number for the month (e.g. January-1) should be used for the month in which the loan started. The year 1971 is input as 1971.

(511) Loan Balance ($, %), Interest Rate, Payment per period:

The loan balance may be set as a percent of the market value in the year the loan begins by entering the percent less than 100. Otherwise, enter the dollar loan balance on the date on line 510. Interest Rate is the annual interest rate of the loan, e.g. 7.75. Payment is the dollar payment per period during the amortization periods. If the exact payment is unknown, the payment will be computed by entering zero for the payment.

(512) Term, Periods per Year, Months Interest Only, Months Prepaid Interest:
Term is the length of the loan in years including the period of interest only. A 9 month loan should be input as .75 years. The number of payments per year can be any number from 1 to 12. A "2" indicates a semi-annual amortization. The months of interest only must be stated in whole months. The number of months of prepaid interest can be any number of months less than the life of the loan.

(513) Pay off Loan #'s:
If this loan pays off the balance of other loans, enter the loan numbers. The first loan input is loan #1, etc. If none are paid off, enter 0,0,0. If loan #2 pays off loan #1, the amortization of loan #1 will end without the principal balance being paid, i.e. the loan will be refinanced.

DEPRECIATION INFORMATION
The instructions for lines 610-612 apply to each depreciable item.

600 Number of Depreciable Items (Up to 10):
The number of depreciable classes may be 0 through 10.

(610) Month acquired, Year acquired:
The month and the year that the depreciable class or item was purchased is input here. The serial number for month should be used. If the item or class of items was purchased earlier than five years prior to the analysis, use the depreciated basis at the project start date and make line 610 the project start date.

(611) Value, Life (Years):
The amount of the depreciable item can be dollars or a % of the market value in the year the item or class is purchased. Any amount less than 100 is considered to be a percent of market value. The life of the item or class is input in years.

(612) Method, Salvage Value:
The depreciation method to be used is input by using the code: 1) Straight line, 2) Sum-of-years-digits, or 125-200) 125%-200% declining. If the method selected is accelerated, the program will automatically switch to the straight line method in the appropriate year to capture 100% of the depreciable basis. The salvage value of the item is input in dollars.

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INPUT DATA WORKSHEET
INCOME PROPERTY ANALYSIS

DATA FILE
LINE NO.

100 Project Title (45 Char. Max.) (11) NORTH TOWN APARTMENTS
110 Discount Rate (% or 0), Tax Bracket (%) 0, 50
120 Begin Mo., Begin Yr., # Yrs. in Analysis 1, 1970, 6
130 Cash-in-at-Purchase ($ or 0) 500000

INCOME ITEMS AFFECTED BY VACANCY-#1 thru #4
#1 Gross Income ($, %, or 0):
200 280000, 4, , , , ,
(201) , , , , , ,
#2 Parking Income ($, %, or 0):
210 1000, , , , , ,
(211) , , , , , ,
#3 Miscellaneous Income ($, %, or 0):
220 0, , , , , ,
(221) , , , , , ,
#4 Optionally Titled Income ($, %, or 0):
230 15000, 4, , , , ,
(231) , , , , , ,
(235) FURNITURE Title for #4 (18 Char. Max)
#5 Vacancy ($, %, or 0):
240 8, , , , , ,
(241) , , , , , ,

INCOME ITEMS NOT AFFECTED BY VACANCY-#6 thru #7
#6 Miscellaneous Income ($, %, or 0)
250 2000, , , , , ,
(251) , , , , , ,
#7 Optionally Titled Income ($, %, or 0):
260 0, , , , , ,
(261) , , , , , ,
(265) Title for #7 (18 Char. Max.)

EXPENSE ITEMS
#8 Utilities ($, %, or 0):
270 25000, 3, , , , ,
(271) , , , , , ,
#9 Insurance ($, %, or 0):
280 2050, 4, , , , ,
(281) , , , , , ,
#10 Real Estate Taxes ($, %, or 0):
290 22500, 6, , , , ,
(291) , , , , , ,

#11 Leasing Commissions ($, %, or 0):

300 0, , , , , ,
(301) , , , , ,

#12 Payroll and Taxes ($, %, or 0):

310 10500, 4, , , , ,
(311) , , , , ,

#13 Management Fees ($, 0, or % of Gross Adj):

320 3, , , , , ,
(321) , , , , ,

#14 Maintenance Costs ($, %, or 0):

330 5000, 6, , , , ,
(331) , , , , ,

#15 Optionally Titled Expense ($, %, or 0):

340 2050, 10, , , , ,
(341) , , , , ,
(345) TRASH COLLECTION Title for #15 (18 Char. Max.)

#16 Optionally Titled Expense ($, %, or 0):

350 3000, 4, , , , ,
(351) , , , , ,
(355) ADVERTISING Title for #16 (18 Char. Max.)

#17 Optionally Titled Expense ($, %, or 0):

360 0, , , , , ,
(361) , , , , ,
(365) Title for #17 (18 Char. Max.)

#18 Optionally Titled Expense ($, %, or 0):

370 0, , , , , ,
(371) , , , , ,
(375) Title for #18 (18 Char. Max.)

#19 Optionally Titled Expense ($, %, or 0):

380 0, , , , , ,
(381) , , , , ,
(385) Title for #19 (18 Char. Max.)

#20 Optionally Titled Expense ($, 0, or % of Gross Adj):

390 0, , , , , ,
(391) , , , , ,
(395) Title for #20 (18 Char. Max.)

Beginning of the year Market Values ($, %, or 0):

400 1800000, 2, , , , ,
(401) , , , , , ,
(402) , , ,

Capitalization Rates (%)

410 0, , , , , ,
(411) , , , , ,

Participation-in-Gross ($, 0, or % of Gross Adjusted Income)

420 3, , , , , ,
(421) , , , , , ,

Replacement Reserve ($, %, or 0)

430 16000, 3, , , , ,
(431) , , , , , ,

450 95000 Percentage Basis (Code or Sq. Ft.)

LOAN INFORMATION

500 1 Number of Loans (Up to 6)

FIRST LOAN:

(510) 1, 1, 1970 Type, Month Start, Year Start

Loan Bal($or%), Int. Rate(%), Payment/Period($or0)

(511) 1300000, 7.5, 0

Term, Pds/Yr., Mos. Int. Only, Mos. Prepaid Int.

(512) 25, 12, 0, 0

(513) 0, 0, 0 Pay off Loan #'s (0,0,0 if none)

SECOND LOAN		THIRD LOAN	
(520)	, ,	(530)	, ,
(521)	, ,	(531)	, ,
(522)	, , ,	(532)	, , ,
(523)	, ,	(533)	, ,

For more than 3 loans, complete a supplemental input data form.

DEPRECIATION INFORMATION

Methods: 1-St. line, 2-Sum-of-Years, 125-200 accelerated.

600 3 Number of Depreciable Classes (Up to 10):

FIRST DEPRECIABLE ITEM:

(610) 1, 1970 Month Acquired, Year Acquired
(611) 1600000, 30 Value, Life (Years)
(612) 1, 0 Method, Salvage Value

SECOND ITEM			THIRD ITEM		
(620)	1	1970	(630)	1	1970
(621)	150000	10	(631)	225000	5
(622)	125	0	(632)	1	0

For more than 3 items, complete a supplemental input data form.

RUN TIME QUESTIONS

APT1	File Name	1970	Start Printing
	Prepaid Int./Eq.		Project Classification
Yes	Print Returns		Cost Basis
3	Returns Basis		Type Owner
Yes	Tax Shelter		

CASH FLOW ANALYSIS
INCOME PROPERTY ANALYSIS

This cash flow option in the Income Property Analysis program allows the user to develop a detailed revenue and expense analysis of an income property over a period of up through 15 years. The analysis may include tax computations based upon one tax bracket. The analysis can be begun in any month of the year.

Up to 6 income classes can be used, four affected by a vacancy percentage and two unaffected by vacancy. These incomes can be held constant, be increased or decreased by varying percentages and/or dollars, or can be any combination of percentages or dollars. Two income titles can be named by the user. Up to 13 expense classes can be used, 6 of which can be titled by the user. Any income or expense class that is not used will not be printed out.

The cash flow analysis will handle up to 6 loans and up to 10 depreciable classes. The analysis will compute participation-in-gross, management fees and one optionally titled expense as a percentage of the gross adjusted income.

The present value concept can be used for discounting the future gross spendable incomes and net spendable incomes back to present value at any discount rate at the user's option. If this option is not desired, no output references will be made to discounted values.

The market values can be input and modified each year or can be computed from the Capitalization Rate and Net Operating Income.

If an initial equity is defined for the program, the % returns on equity for Gross Spendable, Principal Payments, and Tax Savings can be computed and printed. The returns can be computed on 1) initial equity, 2) initial equity plus equity buildup through principal payments, or 3) the above, plus market value appreciation.

Each revenue and expense item is first expressed in dollars for the period and can also be expressed as dollars per square foot or as a percent of one of three gross income amounts.

A multitude of user options make this program applicable to almost any type of income property. Modifications to this cash flow analysis to suit unusual situations can be requested directly from Land Value Dynamics, Inc.

WHAT IS THE NAME ØF THE DATA FILE (6 CHAR MAX) ?

The user must enter the name of the data file previously prepared and stored. Demonstration files named "APT1", "APT2", and "BLDG1" are available.

Q-1 IS PREPAID INTEREST TØ BE CØNSIDERED AS:
1 = EQUITY, ØR
2 = DEBT SERVICE
ENTER 1 ØR 2 ?

This question is asked only if the user has indicated prepaid interest for a loan in the first year of the analysis. If the user chooses to consider this prepaid interest as equity, it will be added to CASH-IN-AT-PURCHASE to form the INITIAL EQUITY. Prepaid interest in any other years will be treated as debt service. Choosing the second option will cause all prepaid interest to be treated as debt service.

Q-2 DØ YØU DESIRE TØ PRINT THE "RETURNS ØN EQUITY" PERCENTAGES?
YES ØR NØ ?

This question is asked only if there was a positive CASH-IN-AT-PURCHASE entered on line 130 in the data file, or if there is prepaid interest that is to be treated as equity. These returns are percentages of return on GROSS SPENDABLE, LOAN REDUCTION, TAX SAVINGS, AND a total.

Q-3 ARE THE "RETURNS ØN EQUITY" PERCENTAGES TØ BE CØMPUTED FRØM:
1 = INITIAL EQUITY
2 = INITIAL EQUITY PLUS CUM. PRIN. PAYMENTS
3 = ABØVE PLUS MKT. VALUE APPRECIATIØN
ENTER 1, 2, ØR 3 ?

This question is asked only if there was a positive answer to Q-2. INITIAL EQUITY is considered to be CASH-IN-AT-PURCHASE from line 130 in the data file plus any prepaid interest that is to be treated as equity. (See Q-1) The RETURNS ON EQUITY can be computed from the most appropriate definition of equity as defined by the user.

Q-4 IF THE PRØJECT INDICATES A TAX SHELTER, IS IT TØ BE CØNSIDERED AS SPENDABLE INCØME? (YES ØR NØ) ?

An answer of YES will cause any negative income tax to be used to increase the Gross Spendable Income. An answer of NO will cause the Net Spendable Income to be the same as the Gross Spendable Income.

Q-5 WITH WHICH ANALYSIS YEAR IS PRINTING TØ START? (EX. 1971) ?

The user may choose to start printing the Cash Flow Analysis at any year during the analysis period. This answer has no effect on the calculations.

Q-6 WIDE CARRIAGE? (YES ØR NØ) ?

If the user is operating a wide carriage terminal, this option will allow an extra 2 years of analysis to be printed on each page.

Q-7 DØ YØU WISH TØ LIST THE DATA? (YES ØR NØ) ?

An answer of YES will cause the program to list the complete data storage area. (see the sample in Section III.2.3) This listing allows the user to inspect the values of the variables that were input from the data file for which the program computed the dollar values and/or extended the values. (see Section III.1.3) For example, if GROSS INCOME is input as 100000,10 for a 5 year analysis, the listing would yield:

#1 100000,110000,121000,133100,146410

This listing option allows the user to verify his input data as it is stored in the program.

Q-8 A RØYALTY CHARGE WILL BE MADE DURING EXECUTIØN ØF THIS PRØGRAM. NØ RØYALTY CHARGE WILL BE MADE IF THE EXECUTIØN IS STØPPED NØW. ENTER GØ ØR STØP ? GØ

Any command other than GØ will cause the program to halt. If an error in the data file is discovered in the previous step, the program can be halted to correct the file. No royalty charge that will be paid to Land Value Dynamics, Inc. will be incurred unless the user specifically states that the output phase is to be entered. Output will begin immediately after GØ is entered.

SAMPLE DATA FILE LISTING

APT1

```
100              NØRTH TØWN APARTMENTS
110 0,50
120 1,1970,6
130 500000
200 280000,4
210 1000
220 0
230 15000,4
235 FURNITURE
240 8
250 2000
260 0
270 25000,3
280 2050,4
290 22500,6
300 0
310 10500,4
320 3
330 5000,6
340 2050,10
345 TRASH CØLLECTIØN
350 3000,4
355 ADVERTISING
360 0
370 0
380 0
390 0
400 1800000,2
410 0
420 3
430 16000,3
450 95000
500 1
510 1,1,1970
511 1300000,7.5,0
512 25,12,0,0
513 0,0,0
600 3
610 1,1970
611 1600000,30
612 1,0
620 1,1970
621 150000,10
622 125,0
630 1,1970
631 225000,5
632 1,0
```

No discounting to present value, 50% Tax Bracket

Gross Income increased 4% per year

Parking Income remains constant

8% vacancy each year

4% increase in Advertising

Market Value Appreciates 2% per year

Cap rates not used in determining Market Value

3% Participation-in-Gross Adjusted Income

Reserves increased at 3%

95,000 Sq. Ft. in Apartment complex

loan information: 7½%, monthly for 25 yrs, $1,300,000 starting Jan. 1, 1970

Depreciation Information

```
MARK II   A-600   14:11 PST   08 JAN 71
USER NØ.--AEA49???,
[redacted]
PRØJECT ID--TRUN1
SYSTEM--FIV
NEW ØR ØLD--ØLD AIP
READY
RUN

AIP          14:13 A      01/08/71

THE  AIP INCØME PRØPERTY ANALYSIS IS THE PROPERTY OF
```

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```
CHØØSE ØNE ØF THE FØLLØWING ØPTIØNS:
  1 = CASH FLØW ANALYSIS
  2 = LØAN SUMMARIES
  3 = DEPRECIATIØN SUMMARIES
  4 = MØNTHLY LØAN AMØRTIZATIØN
  5 = CASH FLØW & FINANCIAL ANALYSIS
  ENTER 1, 2, 3, 4, ØR 5  ? 1

WHAT IS THE NAME ØF THE DATA FILE (6 CHAR MAX) ? APT1

DØ YØU DESIRE TØ PRINT THE "RETURNS ØN EQUITY" PERCENTAGES?
YES ØR NØ ? YES

ARE THE "RETURNS ØN EQUITY" PERCENTAGES TØ BE COMPUTED FRØM:
  1 = INITIAL EQUITY
  2 = INITIAL EQUITY PLUS CUM. PRIN. PAYMENTS
  3 = ABØVE PLUS MKT. VALUE APPRECIATIØN
  ENTER 1, 2, ØR 3  ? 3

IF THE PRØJECT INDICATES A TAX SHELTER, IS IT TØ BE CØNSIDERED AS
SPENDABLE INCØME? (YES ØR NØ)  ? YES

WITH WHICH ANALYSIS YEAR IS PRINTING TØ START? (EX. 1971)  ? 1970

WIDE CARRIAGE? (YES ØR NØ)  ? NØ

DØ YØU WISH TØ LIST THE DATA? (YES ØR NØ)  ? YES
```

```
TITLE                    NØRTH TØWN APARTMENTS
DISCØUNT RATE, TAX BRACKET        0. , 50.0
BEGIN MØ, BEGIN YR, # YRS         1,1970, 6
CASH-IN                      500000.00
#  1            280000,    291200,    302848,    314962,    327560,    340663,
#  2              1000,      1000,      1000,      1000,      1000,      1000,
#  3                 0,         0,         0,         0,         0,         0,
#  4             15000,     15600,     16224,     16873,     17548,     18250,
ØPT TITLE      FURNITURE
#  5             23680,     24624,     25606,     26627,     27689,     28793,
#  6              2000,      2000,      2000,      2000,      2000,      2000,
#  7                 0,         0,         0,         0,         0,         0,
#  8             25000,     25750,     26522,     27318,     28138,     28982,
#  9              2050,      2132,      2217,      2306,      2398,      2494,
# 10             22500,     23850,     25281,     26798,     28406,     30110,
# 11                 0,         0,         0,         0,         0,         0,
# 12             10500,     10920,     11357,     11811,     12284,     12775,
# 13              8230,      8555,      8894,      9246,      9613,      9994,
# 14              5000,      5300,      5618,      5955,      6312,      6691,
# 15              2050,      2255,      2480,      2729,      3001,      3302,
ØPT TITLE      TRASH CØLLECTIØN
# 16              3000,      3120,      3245,      3375,      3510,      3650,
ØPT TITLE      ADVERTISING
# 17                 0,         0,         0,         0,         0,         0,
# 18                 0,         0,         0,         0,         0,         0,
# 19                 0,         0,         0,         0,         0,         0,
# 20                 0,         0,         0,         0,         0,         0,
MKT VALUE      1800000,         2,         2,         2,         2,         2,
                    2,
CAP RATE          0. ,       0. ,       0. ,       0. ,       0. ,       0. ,
PARTICIPAT'N       8230,      8555,      8894,      9246,      9613,      9994,
REPL RESERVE      16000,     16480,     16974,     17484,     18008,     18548,
PCT BASIS             95000

LØAN INFØRMATIØN
# LØANS      1
TYPE, MØ START, YR START        1,     1, 1970,
BAL,RATE,PAY/PD          1300000.00, 7.500,          0.
TERM, PD/YR, MØS INT, MØS PRE-PD     25.00,  12,    0,      0
P-B-N       0, 0, 0,

DEPRECIATIØN INFØRMATIØN
# CLASSES    3

MØ ACQ, YR ACQ             1, 1970,
AMT,LIFE          1600000.00,30.000
METH,SALVAGE             1,         0.

MØ ACQ, YR ACQ             1, 1970,
AMT,LIFE           150000.00,10.000
METH,SALVAGE           125,         0.

MØ ACQ, YR ACQ             1, 1970,
AMT,LIFE           225000.00, 5.000
METH,SALVAGE             1,         0.

A RØYALTY CHARGE WILL BE MADE DURING EXECUTIØN ØF THIS PRØGRAM.
NØ RØYALTY CHARGE WILL BE MADE IF THE EXECUTIØN IS STØPPED NØW.
ENTER GØ ØR STØP ? GØ
```

CASH FLØW ANALYSIS

NØRTH TØWN APARTMENTS

	1970		1971		1972	
	AMØUNT	$/SF	AMØUNT	$/SF	AMØUNT	$/SF
GRØSS INCØME	280000.	2.95	291200.	3.07	302848.	3.19
PARKING INCØME	1000.	0.01	1000.	0.01	1000.	0.01
FURNITURE	15000.	0.16	15600.	0.16	16224.	0.17
LESS VACANCY	23680.	0.25	24624.	0.26	25606.	0.27
GRØSS EFF INCØME	272320.	2.87	283176.	2.98	294466.	3.10
MISC INCØME	2000.	0.02	2000.	0.02	2000.	0.02
GRØSS ADJ INCØME	274320.	2.89	285176.	3.00	296466.	3.12
ØPERATING EXPENSES						
UTILITIES	25000.	0.26	25750.	0.27	26523.	0.28
INSURANCE	2050.	0.02	2132.	0.02	2217.	0.02
REAL ESTATE TAXES	22500.	0.24	23850.	0.25	25281.	0.27
PAYRØLL & TAXES	10500.	0.11	10920.	0.11	11357.	0.12
MANAGEMENT FEES	8230.	0.09	8555.	0.09	8894.	0.09
MAINTENANCE CØSTS	5000.	0.05	5300.	0.06	5618.	0.06
TRASH CØLLECTIØN	2050.	0.02	2255.	0.02	2481.	0.03
ADVERTISING	3000.	0.03	3120.	0.03	3245.	0.03
TØTAL EXPENSES	78330.	0.82	81882.	0.86	85615.	0.90
NET INVEST INC	195990.		203294.		210851.	
REPLACE RESERVE	16000.		16480.		16974.	
NET ØPERATING INC	179990.		186814.		193877.	
CAP RATE MKT VAL %	9.8		10.0		10.1	
LESS PRINCIPAL PD	18407.		19836.		21376.	
LESS INTEREST PD	96876.		95447.		93907.	
TØTAL DEBT SERVICE	115283.		115283.		115283.	
PART IN GRØSS	8230.		8555.		8894.	
GRØSS SPEND INC	56478.		62976.		69700.	
PLUS PRIN PAY	18407.		19836.		21376.	
GRØSS EQ INC	90885.		99292.		108050.	
LESS DEPREC	117083.		114740.		112689.	
TAXABLE INCØME	-26198.		-15448.		-4638.	
TAXES	-13099.		-7724.		-2319.	
NET SPEND INC	69577.		70700.		72020.	
CUM EQUITY BUILDUP	54407.		110963.		169793.	
MARKET VALUE	1836000.		1872720.		1910174.	
RETURNS ØN EQUITY						
GRØSS SPENDABLE	11.3 %		11.4 %		11.4 %	
LØAN REDUCTIØN	3.7 %		3.6 %		3.5 %	
TAX SAVINGS	2.6 %		1.4 %		0.4 %	
TØTAL RETURN	17.6 %		16.3 %		15.3 %	

CASH FLØW ANALYSIS

NØRTH TØWN APARTMENTS

	1973		1974		1975	
	AMØUNT	$/SF	AMØUNT	$/SF	AMØUNT	$/SF
GRØSS INCØME	314962.	3.32	327560.	3.45	340663.	3.59
PARKING INCØME	1000.	0.01	1000.	0.01	1000.	0.01
FURNITURE	16873.	0.18	17548.	0.18	18250.	0.19
LESS VACANCY	26627.	0.28	27689.	0.29	28793.	0.30
GRØSS EFF INCØME	306208.	3.22	318420.	3.35	331120.	3.49
MISC INCØME	2000.	0.02	2000.	0.02	2000.	0.02
GRØSS ADJ INCØME	308208.	3.24	320420.	3.37	333120.	3.51
ØPERATING EXPENSES						
UTILITIES	27318.	0.29	28138.	0.30	28982.	0.31
INSURANCE	2306.	0.02	2398.	0.03	2494.	0.03
REAL ESTATE TAXES	26798.	0.28	28406.	0.30	30110.	0.32
PAYRØLL & TAXES	11811.	0.12	12284.	0.13	12775.	0.13
MANAGEMENT FEES	9246.	0.10	9613.	0.10	9994.	0.11
MAINTENANCE CØSTS	5955.	0.06	6312.	0.07	6691.	0.07
TRASH CØLLECTIØN	2729.	0.03	3001.	0.03	3302.	0.03
ADVERTISING	3375.	0.04	3510.	0.04	3650.	0.04
TØTAL EXPENSES	89538.	0.94	93661.	0.99	97997.	1.03
NET INVEST INC	218671.		226758.		235122.	
REPLACE RESERVE	17484.		18008.		18548.	
NET ØPERATING INC	201187.		208750.		216574.	
CAP RATE MKT VAL %	10.3		10.5		10.7	
LESS PRINCIPAL PD	23035.		24823.		26751.	
LESS INTEREST PD	92247.		90459.		88532.	
TØTAL DEBT SERVICE	115283.		115283.		115283.	
PART IN GRØSS	9246.		9613.		9994.	
GRØSS SPEND INC	76658.		83855.		91298.	
PLUS PRIN PAY	23035.		24823.		26751.	
GRØSS EQ INC	117177.		126687.		136597.	
LESS DEPREC	112689.		112689.		67689.	
TAXABLE INCØME	4488.		13998.		68908.	
TAXES	2244.		6999.		34454.	
NET SPEND INC	74414.		76856.		56844.	
CUM EQUITY BUILDUP	231031.		294823.		361320.	
MARKET VALUE	1948378.		1987345.		2027092.	
RETURNS ØN EQUITY						
GRØSS SPENDABLE	11.4 %		11.5 %		11.5 %	
LØAN REDUCTIØN	3.4 %		3.4 %		3.4 %	
TAX SAVINGS	-0.3 %		-1.0 %		-4.3 %	
TØTAL RETURN	14.5 %		13.9 %		10.5 %	

MKTCOMP WORKSHEET

COMPARABLE/SUBJECT FILE

			1	2	3	4	5	6	7	8	9	10	11	12
			PRICE											
100		110												
120		130												
140		150												
160		170												
180		190												
200		210												
220		230												
240		250												
260		270												
280		290												
300		310												
320		330												
340		350												
360		370												
380		390												
400		410												
420		430												
440		450												

M K T C O M P WORKSHEET

FACTOR FILE

LINE	NAME	TYPE	RATE
100	P R I C E	0	1
110			
120			
130			
140			
150			
160			
170			
180			
190			
200			
210			
220			
230			
240			

NAME

NAME OF FACTOR, E.G. PRICE
DATE SOLD, SQFT.
NAME SHOULD BE LESS THAN
10 CHARACTERS.

TYPE

0 - USED FOR PRICE ONLY

1 - ADJUSTMENT MADE ON THE BASIS OF:
RATE X (SUBJ - COMP)

2 - ADJUSTMENT MADE ON THE BASIS OF:
PRICE X RATE X (SUBJ-COMP)

RATE

FOR TYPE 1
$ PER UNIT OF DIFFERENCE
IN THE FACTORS

FOR TYPE 2
FRACTION OF PRICE OF COMP.
PER UNIT OF DIFFERENCE
IN THE FACTORS

M K T C O M P

Market Comparison Program

The market comparison approach to real estate evaluation permits the appraiser to combine his insight, experience, and judgment with a mathematical technique in order to arrive at market value from a set of comparable sales. The purpose of MKTCOMP is to implement this mathematical procedure without placing any constraints upon the manner in which the appraiser wishes to express his judgment.

The MKTCOMP user must prepare three separate data files. The factor file allows the user to express the basis for his market comparison. The comparable file is the data base from which the value of the subject is derived and subject file provides for the description of one or more subject properties. The formats of each of these three files are described using examples.

The factor file, in this case named FAC, has the following structure

```
FAC                02/15/72          20:15CST


100 PRICE, 0, 1
110 SALE DATE, 2, .04
120 LOCATION, 1, 500
130 ADJ. AGE, 2, -.02
140 CONST QUAL, 2, .03
150 CURB APPL, 2, .05
160 LOT SQFT, 1, .50
170 BLDG SQFT, 1, 11
180 #PK STALLS, 1, 1200
190 MISC., 1, 1
```

Each factor or item on which the adjustments for the comparables are to be made appears in this file as a separate line. Each of these lines contains three entries. The first entry is the name of the factor, the second is a type code which is either a one or two. The third entry specifies the rate at which adjustments on the market comparison method are to be made. The first factor in the file is always price and its type code is unique and always zero. The third entry for the price line is always one. The remaining lines are devised by the user to describe the factors which form the basis for comparison. The user may select up to twenty-five different factors.

Following the name of each factor is a type code. Type code 1 designates factors for which the adjustment to be made is specified in number of dollars. In the example, each additional parking stall is assumed to be worth an additional $1,200 and each additional square foot of building is assumed to be worth $11.00. Type two factors are those which are based

on a fraction of the sales price. In the example adjusted age provides for adjustments on the basis of the age of the property where each additional year of age is associated with a 2% decline in price. This rate, .02, is the proportion measured in relation to price of the comparable being considered. Similarly each increment in construction quality is associated with a 3% increase in value. In this case the factor, construction quality, is subjectively determined and assigned to each comparable by the user. The last entry in the file, MISC, allows the user to specify arbitrary adjustments for unique factors associated with particular comparables. The format of this entry is consistent with all previous entries in that a type code of one indicates a direct adjustment (one not dependent upon the price of a comparable) and it is made at the rate of $1.00 per unit described in the comparable file. The order of the factors in the factor file must correspond to the order of the factors described in the comparable and subject files.

The comparable file describes the "data base" which is being used in order to obtain a valuation for the subject properties being processed. A sample file called COMP is illustrated below:

```
COMP            02/15/72        20:15CST


100 111 1ST ST
110 31000, 71.00, 3, 5, 5, 3, 11160, 1500, 2, 0
120 222 2ND ST
130 24000, 71.25, 3, 8, 1, 4, 15000, 1150, 0, 0
140 333 3RD ST
150 26000, 71.75, 4, 6, 3, 2, 10060, 1200, 1, 0
160 444 4TH ST
170 35000, 72.00, 5, 3, 4, 3,  8800, 1800, 2, -750
180 555 5TH ST
190 29000, 71.50, 3, 8, 3, 3, 17640, 1300, 1, 0
200 666 6TH ST
210 26000, 71.00, 2, 5, 3, 2, 14380, 1300, 1, 0
220 777 7TH ST
230 23000, 69.50, 4, 5, 2, 2, 14480, 1100, 0, 0
240 888 8TH ST
250 32000, 70.75, 2, 2, 4, 4, 10340, 1600, 0, 0
260 999 9TH ST
270 26000, 71.75, 4, 6, 2, 3, 20820, 1300, 1, 0
```

This file contains nine fictitious comparables and each comparable contains data items which correspond in order with those described in the factor file. The first entry for each comparable must be an identifier. This can be any series of alphabetic and numeric characters. Since the comma character is used as punctuation, a comma is not permitted as part of the identifier unless that identifier is also enclosed in "(the upper case of the digit 2). The numeric variables describing the comparable follow the identifier. The first of the numeric variables must be price; subsequent variables are values for the factors named in the factor file. In the

sample shown above, the second factor is sale date measured by years. (A quantity 71.75 is associated with September of 1971.) The fourth comparable shows -750 as the entry for miscellaneous. This deduction of $750.00 in value from this property was one determined by the user as being associated with some factor not specifically described in the factor file. For the sake of this example, we shall assume that it was associated with a wet basement at 444 4th Street and this unique characteristic is typical of the general purpose use of the miscellaneous factor.

It is not necessary that the identifier and numeric data appear on separate lines. They may appear on one line provided that the identifier is followed by a comma. The user will probably find that it is far easier to check the validity of his data after it is prepared if some relatively uniform format is followed for the entire comparable file. Any departure from the required sequence of values, in this case one identifier followed by ten numeric entries, will produce file reading problems.

The third file required is subject file. A sample subject file is shown below:

```
SUBJ -          02/15/72        20:17CST
/

100 1234 E. MAIN ST
110 00000, 72.50, 4, 6, 3, 4, 10000, 1350, 1, 0
```

The format of this file is identical to the format of the comparable file. The subject file must contain an identifier, a price entry and sufficient additional variables to complete the list specified in the factor file. In this case ten numeric entries follow the identifier. Since the price is almost never known for subjects which are being analyzed using the market comparison method it will normally be entered as zero. It may NOT be omitted.

Multiple subjects may be processed by including them in sequence in the same subject file. They must each conform to the required format and each will be processed in turn using the market comparison program. Sample output is shown on the following pages. In running the program the user is required to enter the names for the factor, comparable and subject files.

The second entry required of the user is the selection of report items. These are as follows:

1 - a list of the factors by name only

2 - a list of the comparable identifiers

3 - a detailed presentation of the adjustments made for each comparable

4 - a summary report showing the average and standard deviation of the price before and after adjustment together with the averages and standard deviations of the adjustments made for each of the factors.

5 - a list of each of the numeric items read from the comparable file. This list will be printed following the associated comparable identifier.

Output report items one, two, and five are included primarily to assist in detecting file construction errors for the factor and comparable files. File errors such as the omission of any entry, or the inclusion of an extra comma, will cause the program to fail. Unless additional information is provided the user is only told of the file which was being read at the time of failure. Report items one, two, and five show the results of the file reading operation as it progresses. Each item is printed after it has been successfully obtained from the file and any failure that occurs can be assumed to follow the most recent item printed. Report item four is printed whether it is selected or not.

Most of the output produced by this program should be reasonably self explanatory with the following exceptions; report section three which shows the individual adjustments made on each comparable will include the adjusted price for each comparable and also an item designated "T-RATIO" for this price. The T-RATIO designation is a statistical term and is used reluctantly and only because the real extate profession has no more familiar equivalent. The quantity measures the departure of each indivual prive from the average price in "normalized" terms. The magnitude of the value shown designates the number of standard deviations that the price shown is above (or below if it is negative) the adjusted average price for all the comparables. This measure is also used to eliminate certain comparables on the basis that they part too far from the standard established by the entire set of comparables.

Each comparable which has a T-RATIO larger than two (positive or negative) has an adjusted price which is greater than two standard deviations away from the main. After showing the average adjusted price and its standard deviation the program eliminates comparables with prices too far (T-RATIO>2) from the average and recalculates the average and standard deviation. The range between highest and lowest comparable for this reduced set of comparables is also printed.

The sample shown here is of course synthetic. It was created specifically to illustrate computations. The user may find that his adjustment process, when applied against real data, does not show the very desirable reduction of variation around the adjusted price created within this sample data set. The degree to which standard deviation of the r price is reduced by the adjustment process is a measure of the effectiveness of the market comparison method.

INSTRUCTIONS FOR USE OF EDUCARE MINI MOD
A Basic Real Estate Investment Model
February 1972

GENERAL INSTRUCTIONS

1. Mini Mod is designed to operate from an input file created by tape feed although the file can be teletyped directly by simply providing the line number and the required inputs as organized in the Mini Mod Work Sheet.

   MINI MOD IS INTENDED PRIMARILY AS A LOW COST TEACHING MODEL TO DEMONSTRATE PRINCIPLES OF CASH SIMULATION AND DOES NOT OFFER THE FLEXIBILITY, ACCOUNTING ACCURACY, OR SOPHISTICATED VARIATIONS WHICH MAY CHARACTERIZE COMMERCIAL SERVICES AVAILABLE ON GE TIME SHARING FOR REAL ESTATE ANALYSTS.

2. After standard log-in procedure, as illustrated below, type in NEW YOUR FILE NAME.

3. When terminal responds READY, push carriage return and type TAPE.

4. When terminal responds READY again, feed in tape file created according instructions on the following pages. When tape procedure is completed, remember to type SAVE (for reference on use of tape, see instructions titled "Paper Tape").

5. When the terminal types back READY, you now have <u>two</u> options; you may proceed directly to running OLD MINI MOD or you may first check the new file for errors by running a sub-routine called OLD MEDIT.

   A. For further instructions on MEDIT, see next page.
   B. If you choose to use OLD MINI MOD directly, type it in and when terminal responds READY, type RUN. The terminal will then ask for YOUR FILE NAME.

INSTRUCTIONS FOR USE OF EDUCARE MINI MOD
2-1-1972

EXPLANATION OF DATA FILE WORK SHEET

1. To prepare case information before typing an input file for the tape, it is useful to follow the Mini Mod Work Sheet to assemble the basic financial assumptions. Once the file has been created in the computer, there is an opportunity after each run to change an assumption by calling out the file and changing any selected line of input. Note that to change one variable, it will be necessary to retype the line number and all variables in that line, as the computer will replace the entire statement in the old file.

2. The Work Sheet has been cut into small pieces below for explanation of each line of input and demonstration of where it may appear in the output of Mini Mod. Once the file has been created the user has the option of choosing any four years cash flow output from 1 to 40 years and of selecting from 1 to 7 different sections of analysis. These options are chosen after file is created as part of Old Mini Mod procedure and will therefore be treated after the explanation of file data. The user may Xerox copies of Mini-Mod input forms from the master copy provided with these instructions.

3. Output titles and project descriptions:

Project Description (Limit 28 characters)

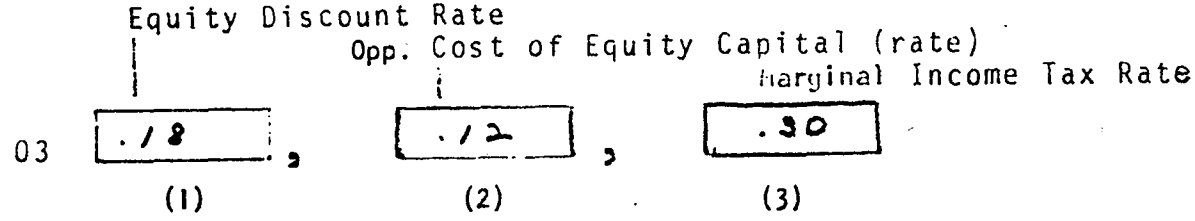
01 TEST-MOD-24-UNIT-APT-CASE-01

Name of User, date, etc. (Limit 28 characters)

02 GREG-BRUHN-EDUCARE-JULY 13-71

Project Description can be an address, firm name, or building name or description of variable tested for a specific project such as "24-unit apartment - one loan." The label is automatically preceded on the output by the title words INVESTMENT ANALYSIS OF as this is programmed into the model. In the same way the name of the user, his account name and/or date are always preceded by a blank line containing the word FOR. An example of the title lines output is:

P R O F O R M A
INVESTMENT ANALYSIS OF
TEST-MOD-24-UNIT-APT-CASE-01
FOR
GREG-BRUHN-EDUCARE-JULY13-71

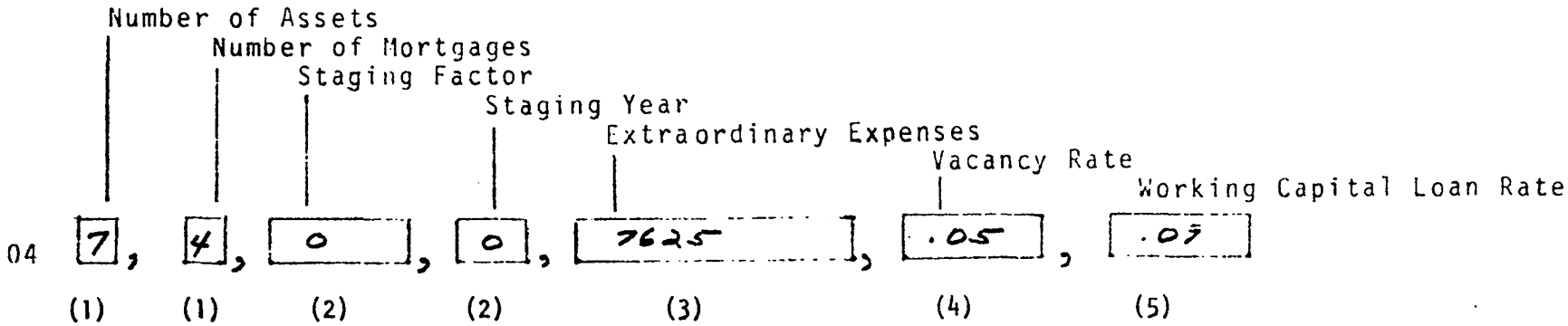


ENTER ALL RATES AND PERCENTAGES WITH A DECIMAL POINT!

1. The Equity Discount Rate is the yield (the Ellwood Y) rate at which the investor wishes to determine the present value of the equity returns, discounting all cash returns to the beginning of the first period. The rate is applied to determine two values - the net present value of before tax returns and of all after tax returns.

2. The cost of capital factor is the opportunity cost or reinvestment yield on cash recovered. Simple discounting for present value as represented by Equity Discount Rate does not assume reinvestment. The cost of capital permits a separate reinvestment assumption and produces an internal rate of return analysis. If opportunity cost is equal to equity rate, yield is a simple internal rate of return on the same basis as Inwood.

3. The Income Tax Rate is the marginal rate assumed by the investor.



1. Number of Assets and the Number of Mortgages must agree with the number of each given a name and inputted on the subsequent pages of the input form.

2. The Staging Factor permits an optional increase in gross rent, expenses, and real estate taxes due to an increase in rentable area provided for in the Component Description and Mortgage Description cards Starting Year column. Indicate year increase is to take effect in column marked "Staging Year" (1-9) DO NOT STAGE AFTER YEAR NINE! Both year and multiplier must be coded but if staging option is used leave both coding spaces blank. Staging factor can produce misleading results as it is a linear increase which does not recognize fixed costs may fall when spread over a larger number of rental units.

3. Extraordinary Expenses can be used to deduct for high vacancies in first year, to eliminate excess rents in the first year, to recognize commissions for leasing space, to permit higher operating costs during a "shake down" year, etc. A negative extraordinary expense can recognize hidden profit centers in the first year such as contractors profit or profits taken on land but these profits will be taxed as ordinary income.

4. The Vacancy Rate is the percent of rent lost due to vacancy and turnover. For example, if an apartment has 10 units it has 120 monthly rental units. If 6 units turn over and are vacant one month the vacancy rate is 6/120 or 5%.

5. The Working Capital Loan Rate is either the 90 day note rate at the bank or the equity discount rate reflecting the yield required on short-term advances of equity money.

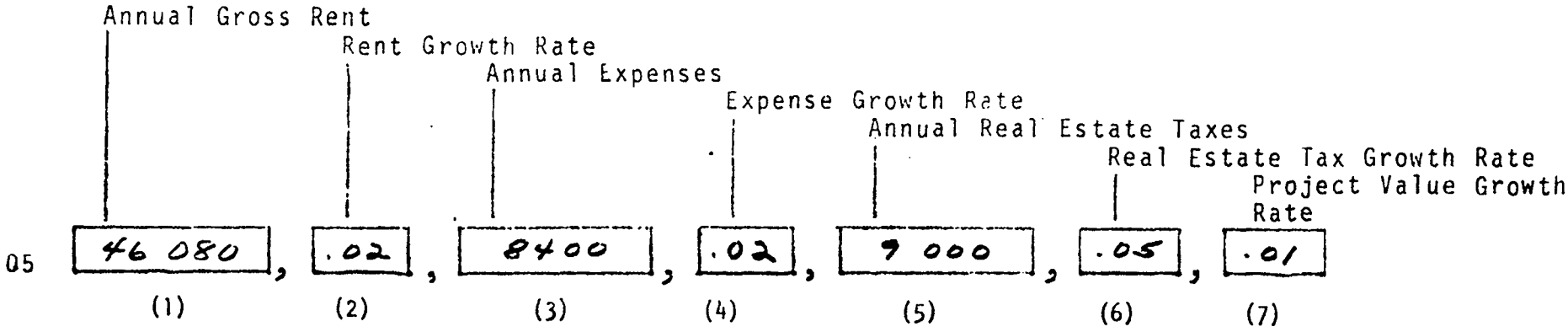
Assets such as land and building, etc. must be defined on two separate Work Sheets due to the length of a line of input and the limitations of a standard teletype. For example the label in line 06 should match the financial information in line 07 on Work Sheet. It is important to match the labels (28 characters of asset description) with the dollar amounts and tax information on the second part of the Work Sheet. REMEMBER THE NUMBER OF ASSETS DESCRIBED (1-8) MUST AGREE WITH THE FIRST ENTRY ON LINE 04.

Asset Cost is the original basis for depreciation for the new owner. The total assets listed represent all capital outlays scheduled for the investment so it is important to indicate the year in which the outlay has been completed and thereby qualifies as a depreciable asset. The difference between the total assets in year 1 and total amount of mortgages at the beginning of year 1 represents cash equity required at the beginning of year 1.

If an additional investment is made without provision for adequate additional financing, equity cash is assumed to increase. All other cash shortages are covered by automatic working capital loans. Refinancing surpluses are treated as after tax spendable cash and original cash equity is unchanged in yield calculations.

It is possible that purchase price may exceed depreciable basis. For example...if the owner is acquiring stock of a corporation which has depreciated its assets for several years prior to the new owner, asset cost should be the undepreciated balance and "useful life" will be the remaining useful life of the asset. The difference between depreciated value and purchase price should be indicated as an additional asset called "good will" which is 0% depreciable, just like land. The value of land which has been leased for the project should also be included as an asset so that it may appear as part of the mortgage components without creating finance ratios greater than 100%.

	Asset Description	
06	LAND	Asset 1
08	BUILDING	Asset 2
10	PARKING	Asset 3
12	FURNISHINGS	Asset 4
14	ELEVATOR	Asset 5
16	TRANSACTION COST	Asset 6
18	7TH YR REFURBISHING	Asset 7



1. Annual Gross Rent is the base rent for the project after first year modifications and leasing (if any) are complete. Since this base rent may overstate rents for first year, the dollar value of overstatement should be included as part of extraordinary expenses in line 04.

2. Rent Growth Rate is a simple linear adjustment as a percent of the base gross rent above. It continues to increase rents for the entire forecast period. At present Mini-Mod does not permit trend to be modified once it is set.

3. Annual Expenses do not include real estate taxes. Expenses may include only cash outlay items or may include reserves for replacement and redecorating. In the first case you may with to include several incremental cost component outlays for remodeling and refurnishing as capital components (Asset) which start in some year other than year 1 as an alternative to regular maintenance and reserve allocation.

4. Expense Growth Rate, like the adjustment to gross rent, is linear and constant for full term of projection. Patterns of growth rates should be consistent; if rents are constant and expenses are expected to increase, project value rate of growth should probably decline.

5. Annual Real Estate Taxes are for the 1st year ownership or the base of an escalator clause,i.e., the point above which tenants pay the increase. In that case real estate growth rate would be 0.

6. Real Estate Tax Growth Rate reflects dollar tax increase average over several years to reflect both changes in the local mill rate and the pattern of updating assessments. In Madison the average annual growth in real estate taxes is exceeding 6% and an average increase of 5% a year is the typical minimum rate of tax increase in cities throughout Wisconsin.

7. Project Value Growth Rate is a constant annual rate. It reflects net change in sale value but since model does not show sales transaction costs, growth rate should be conservative and assumed net of selling costs.

TAX INFORMATION ABOUT ASSETS (1-8)

1. Percent Assets Depreciable is limited by internal guidelines and choice of depreciation method. Depreciation methods which are straight line, or sum of the digits, or otherwise finite all require allowance for some salvage value. Declining balance methods never quite reach 0 and therefore may be based on 100% of asset cost. Nevertheless, consult IRS code for proper treatment.

2. Depreciation Method is indicated by the code indicated below which appears on each Work Sheet. At present Mini-Mod does not convert automatically to straight line at the optimal point as do commercial models and depreciation methods cannot be changed for any one run.

Depreciation Method Codes

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

3

3. First Year Asset Is Used assumes asset is eligible for full 12 month depreciation as Mini-Mod assumes all capital outlays occur on the first of the year and all income and expenses flow through the books on the last day of the year. Only debt service is computed monthly and aggregated for annual total of interest and principal. 4. Useful Life is the IRS definition.

	Asset Cost	Percent Asset is Depreciable (1)	Depreciation Method (2)	1st Year Asset is Used (3)	Useful Life (4)	
07	40 000	0	0	1	0	Asset 1
09	165 300	1.00	3	1	35	Asset 2
11	7 200	.50	3	1	10	Asset 3
13	13 200	1.00	1	1	7	Asset 4
15	12 500	.80	3	1	12	Asset 5
17	1 800	1.00	3	1	35	Asset 6
19	10000	1.00	1	8	7	Asset 7

PROJECT MORTGAGE INPUTS

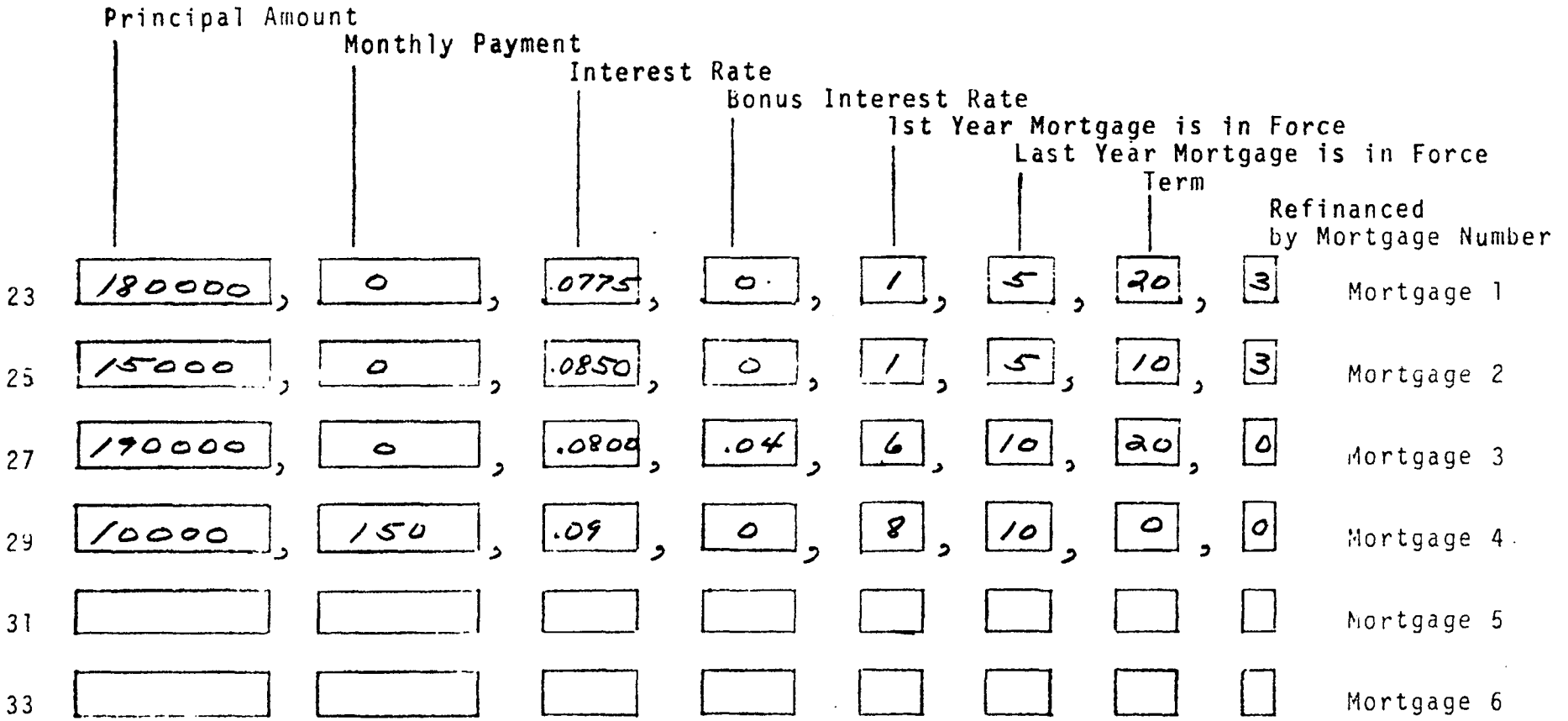
1. Financing details of a real estate project, like assets, must be defined on two separate Work Sheets. For example, the label in line 22 should match the financial information in line 23 of the Work Sheet. REMEMBER THE NUMBER OF MORTGAGES DESCRIBED (1-6) MUST AGREE WITH THE SECOND ENTRY ON LINE 04.

2. Mortgage description items should include all means of financing the project except equity cash and may start at any time an asset is added, a loan is refinanced, or a project is staged. All loans are repaid on the last day of the year and new loans begin on the last day of the previous year in order to "wash out" cash flows on a refinancing.

3. There is capacity for six financing devices which may be described by the nature of the document (land contract, land lease, chattel, etc.), or by name of lendor, or any other title with not more than twenty eight characters, including spaces between words.

Mortgage Description (Limit - 28 characters)

22	FIRST ASSUMED MTG	Mortgage 1
24	SELLERS 2ND MTG	Mortgage 2
26	REFINANCED FIRST	Mortgage 3
28	REFURBISH CHATTEL	Mortgage 4
30		Mortgage 5
32		Mortgage 6



The number of mortages described must agree with the second entry on line 4 page 1.

MORTGAGE FINANCE DETAIL SHEET (see example next page)

1. Principal Amount is the balance due on mortgages assumed, the original balance of a new mortgage, of the capital contribution of a leased asset. The latter might be the market value of a site ($100,000.00), the monthly payment $500.00, and the interest rate 6% so that nothing would ever be paid on principal.

2. Monthly Payment (1/12 annual debt service constant) is an optional input required where term of the mortgage (COL.7) is not known. By indicating a $1 monthly payment the program will treat the loan as a note and only interest will be paid annually (no principal payments).

3. Interest Rates are nominal constant annual decimal rates. 8.5% interest=.0850. Program assumes all financing is on a monthly basis. Points paid for financing should be handled as an extra expense with an asset specified for financing costs having no depreciation to correctly compute required cash equity and deductible expense in first year.

4. Bonus Interest should be stated as a percent of effective gross rents which must be paid to the lender. Bonus interest paid only if cash throw-off remains greater than zero and is included as an interest expense output item.

5. First Year Mortgage Is-In-Force and Last Year Mortgage Is-In-Force assume payments are made beginning with the first month of the year and ending with the last month of the year the loan is in force. If mortgage will exceed maximum forty year projection capacity, place a 40 for last year mortgage is in force.

6. Indicate full mortgage amortization term in years if there is no entry for "MONTHLY PAYMENT". Notice a balloon mortgage is possible by holding the last year mortgage is in force to the maturity date of the balloon while the "term" mathematically controls the rate of amortization.

7. When refinancing is to occur, indicate which new mortgage will replace a previous specific old mortgage. Otherwise if a loan matures during a projection period, final balance will apear in cash flow statement as "Principal Payment" and if it exceeds available cash, there will be an automatic working capital loan. If loan for staging is less than cost of capital asset component for that stage required, cash is changed to the equity cash account.

MEDIT PROGRAM MANUAL

This program is designed to detect some fo the errors commonly made in creating the numeric lines for "minimod" data files.

If your file contains no errors, the printout of the program will appear as below:

```
MEDIT      14:24CST   , 02/17/72

TYPE THE MINIMOD DATA FILE NAME? TEST2


CHECKING NUMERIC LINES:

L  3

L  4

L  5

L  7

L  23


CHECKING COMPLETED, DO YOU WISH TO RUN MINIMOD, Y OR N?? N
PROGRAM COMPLETED.


,USED   2.20 UNITS
```

Note: Data file "Test2" contains only one asset and one mortgage therefore only lines 7 & 23 are shown.

If your file contains one or more errors, the printout will specify the line number and all errors found within it.

The program checks for two classes of errors, first; those which would always result in a failure of the minimod program and second; those which might result in a failure and will probably result in incorrect analyses. If no errors of the first type are found, the message "checking numeric line:" will be printed followed by the successive line numbers as each is checked for the second class of errors.

The following section is a listing of the errors in the order the program detects them.

PROGRAM MESSAGES & DIAGNOSTIC PROCEDURES

Message — **Explanation**

"Type the minimod data file name?"

This is the initial message received when running "minimod". Reply by typing your file name followed by a carriage return.

"Alpha in Num field"

An alphabetic character was found in a field which was to be numeric. This program will however allow signs, punctuation, and the letter "E" which has a special use in some cases.

Example:03.15, .15, .15

In this example the second number contains an "l" where a "1" was intended.

Carefully examine the specified data line for alphabetic characters. Correct and replace. If none can be found, recreate the line taking particular care to enter "zero's" not "O's". An error that cannot be detected visually as the same character is printed for each.

"Blank-comma at Ch. #"

This error results from following a number with a blank space and then a comma.

Example: 03 .15,.15 , .15

Carefully examine the line, locate the error, recreate the line, and replace it in your data file.

"Edit Program Terminated -- Correct Errors & Rerun"

This message printed when either or both of the above error conditions exist in any line.

"Checking Numeric Line:"

This message is received after checking for the first type of error is completed. No action is required.

"Range Exceeded - Var No #"

The probable range for that variable, in that line, as defined in the program, has been exceeded. In most cases these ranges are not mandatory and your program will run as created. (See a list of the ranges in the next section.)

"Integer Expected - Var No #"

A decimal number has been detected where a whole number is required.

Examine the data line, locate the error, recreate the line, and replace it in your data file.

"Checking completed, do you wish to run minimod, Y or N?? N"

"Program completed"

Medit program terminated - minimod not run.

"Enter the input file name? Your file name Y"

Medit program terminated - minimod running.

RANGES OF VALUES
Value Number

Line No.	1	2	3	4	5	6	7	8
3	>-1.0 <+1.0	>-1.0 <+1.0	>0 <+1.0	- -	- -	- -	- -	- -
4	>0 <+9	0 <+7	0 <+41	0 <+41	- -	0 <=+1.0	0 <+1.0	- -
5	- -	>-1.0 <+1.0	- -	>-1.0 <+1.0	- -	>-1.0 <+1.0	>-1.0 <+1.0	- -
Asset Lines	-	>=0 <=+1.0	>=0 <+6	>=1 <=40	>=1 <=40			
Mortgage Lines	-	>=0 -	>=0 <=+1.0	>=0 <=1.0	>=0 <=+40	>=0 <=+40	>0 -	>=0 <=+6

> Greater than
< Less than
= Equal to
> = Greater than or equal to
< = Less than or equal to
< > Not equal to

```
OLD MINIMOD
READY
RUN

MINIMOD      16:03CST     02/23/72

ENTER INPUT FILE NAME?TDATA

ENTER 4 YEARS-SEPARATED BY COMMAS?1,2,5,10

ENTER "1"OR"0" FOR EACH OF 7 OUTPUT SECTIONS
"1"=PRINT,"0"=NO PRINT?1,1,1,1,1,1,1
```

P R O F O R M A
INVESTMENT ANALYSIS OF
TEST-MOD-24-UNIT-APT-CASE-01
FOR
GREG-BRUHN-EDUCARE-JULY13-71

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
EQUITY DISCOUNT RATE	0.1800	EXTRAORDINARY EXPENSES	$ 7625.
STAGING YR(0),FACTOR	0.	COST OF EQUITY CAPITAL	.1800
INITIAL COST	$ 250000.	INITIAL EQUITY REQUIRED	$ 45000.

MORTGAGE AMORTIZATION SCHEDULE FOR ---FIRST-ASSUMED-MORTGAGE---
MORTGAGE AMOUNT 180000.
INTEREST RATE 0.0775
MONTHLY PAYMENT 1478.

YR	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	13813.	3920.	176080.	0.
2	13498.	4235.	171846.	0.
3	13158.	4575.	167271.	0.
4	12790.	4942.	162329.	0.
5	12393.	5339.	156990.	0.

MORTGAGE AMORTIZATION SCHEDULE FOR ----SELLER-FIND-MORTGAGE----
MORTGAGE AMOUNT 15000.
INTEREST RATE 0.0850
MONTHLY PAYMENT 186.

YR	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	1237.	995.	14005.	0.
2	1149.	1083.	12922.	0.
3	1053.	1179.	11744.	0.
4	949.	1283.	10461.	0.
5	836.	1396.	9065.	0.

MORTGAGE AMORTIZATION SCHEDULE FOR ------REFINANCED-FIRST------
MORTGAGE AMOUNT 190000.
INTEREST RATE 0.0800
MONTHLY PAYMENT 1589.

YR	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
6	15055.	4016.	185984.	2028.
7	14722.	4349.	181635.	2064.
8	14361.	4710.	176924.	2101.
9	13970.	5101.	171823.	2138.
10	13546.	171823.	0.	2175.

MORTGAGE AMORTIZATION SCHEDULE FOR ------REFURBISH-CHATTEL-----
MORTGAGE AMOUNT 10000.
INTEREST RATE 0.0900
MONTHLY PAYMENT 150.

YR	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
8	862.	938.	9062.	0.
9	774.	1026.	8036.	0.
10	678.	8036.	0.	0.

DEPRECIATION SCHEDULE FOR ------------LAND------------
INITIAL COST 40000.
DEPRECIABLE COST 0.
DEPRECIATION METHOD 0
USEFUL LIFE 0

DEPRECIATION SCHEDULE FOR ----------BUILDING----------
INITIAL COST 177500.
DEPRECIABLE COST 177500.
DEPRECIATION METHOD 5
USEFUL LIFE 35

YR	DEPR TAKEN	UNDEPR BALANCE
1	10143.	167357.
2	9563.	157794.
3	9017.	148777.
4	8502.	140276.
5	8016.	132260.
6	7558.	124702.
7	7126.	117576.
8	6719.	110858.
9	6335.	104523.
10	5973.	98550.
11	5631.	92919.
12	5310.	87609.
13	5006.	82603.
14	4720.	77883.
15	4450.	73432.
16	4196.	69236.
17	3956.	65280.
18	3730.	61549.
19	3517.	58032.
20	3316.	54716.
21	3127.	51590.
22	2948.	48642.
23	2780.	45862.
24	2621.	43241.
25	2471.	40770.
26	2330.	38441.
27	2197.	36244.
28	2071.	34173.
29	1953.	32220.
30	1841.	30379.
31	1736.	28643.
32	1637.	27006.
33	1543.	25463.
34	1455.	24008.
35	1372.	22636.

DEPRECIATION SCHEDULE FOR ----------PARKING----------
INITIAL COST 7500.
DEPRECIABLE COST 3750.
DEPRECIATION METHOD 3
USEFUL LIFE 10

YR	DEPR TAKEN	UNDEPR BALANCE
1	938.	6563.
2	820.	5742.
3	718.	5024.
4	628.	4396.
5	550.	3847.
6	97.	0.

DEPRECIATION SCHEDULE FOR --------FURNISHINGS---------
INITIAL COST 13200.
DEPRECIABLE COST 13200.
DEPRECIATION METHOD 1
USEFUL LIFE 7

YR	DEPR TAKEN	UNDEPR BALANCE
1	3300.	9900.
2	2829.	7071.
3	2357.	4714.
4	1886.	2829.
5	1414.	1414.
6	943.	471.
7	471.	0.

DEPRECIATION SCHEDULE FOR ------TRANSACTION-COST------
INITIAL COST 1800.
DEPRECIABLE COST 1800.
DEPRECIATION METHOD 4
USEFUL LIFE 35

YR	DEPR TAKEN	UNDEPR BALANCE
1	77.	1723.
2	74.	1649.
3	71.	1578.
4	68.	1511.
5	65.	1446.
6	62.	1384.
7	59.	1325.
8	57.	1268.
9	54.	1214.
10	52.	1162.
11	50.	1112.
12	48.	1064.
13	46.	1019.
14	44.	975.
15	42.	933.
16	40.	893.
17	38.	855.
18	37.	818.
19	35.	783.
20	34.	750.
21	32.	717.
22	31.	687.
23	29.	657.
24	28.	629.
25	27.	602.
26	26.	576.
27	25.	552.
28	24.	528.
29	23.	505.
30	22.	484.
31	21.	463.
32	20.	443.
33	19.	424.
34	18.	406.
35	17.	389.

DEPRECIATION SCHEDULE FOR ----7TH-YEAR-REFURBISHING---

INITIAL COST	10000.
DEPRECIABLE COST	10000.
DEPRECIATION METHOD	2
USEFUL LIFE	7

YR	DEPR TAKEN	UNDEPR BALANCE
8	1429.	8571.
9	1429.	7143.
10	1429.	5714.
11	1429.	4286.
12	1429.	2857.
13	1429.	1429.
14	1429.	0.

CASH FLOW ANALYSIS

	1	2	5	10
GROSS RENT	46080.	47002.	49766.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2488.	2719.
EFFECTIVE GROSS INCOME	43776.	44652.	47278.	51656.
LESS REAL ESTATE TAXES	9000.	9450.	10800.	13050.
LESS EXPENSES	16025.	8568.	9072.	9912.
NET INCOME	18751.	26634.	27406.	28694.
LESS DEPRECIATION	14458.	13286.	10044.	7453.
LESS INTEREST	15050.	14647.	13229.	14224.
TAXABLE INCOME	-10756.	-1299.	4133.	7016.
PLUS DEPRECIATION	14458.	13286.	10044.	7453.
LESS PRINCIPAL PAYMENTS	4915.	5317.	6735.	179859.
CASH THROW-OFF	-1213.	6669.	7442.	-165389.
LESS TAXES	0.	0.	1240.	2105.
CASH FROM OPERATIONS	-1213.	6669.	6202.	-167494.
WORKING CAPITAL LOAN(CUM BAL)	1213.	0.	0.	167494.
SPENDABLE CASH AFTER TAXES	0.	5347.	6202.	0.
TAX SAVINGS ON OTHER INCOME	3227.	390.	0.	0.

	1	2	5	10
MARKET VALUE	240000.	242400.	249600.	271600.
BALANCE OF LOANS	191299.	184768.	166055.	167494.
NET WORTH OF PROPERTY	48701.	57632.	83545.	104106.
CAPITAL GAIN	7384.	17167.	46518.	99479.
CAPITAL GAINS TAX	1108.	2575.	6978.	14922.
INCOME TAX ON EXCESS DEPR	2122.	3893.	7235.	6884.

	1	2	5	10
PERCENT EQUITY PAYBACK AFT TAX	0.0717	0.1992	0.6316	1.4563
NET INCOME-MARKET VALUE RATIO	0.0781	0.1099	0.1098	0.1056
RETURN ON NET WORTH BEF TAXES	0.0553	0.3203	0.2228	-1.6860
RETURN ON NET WORTH AFT TAXES	0.0822	0.2513	0.2093	0.1956
CASH RETURN/CASH EQUITY BEF TAX	-0.0270	0.1482	0.1654	-3.3078
CASH RETURN/CASH EQUITY AFT TAX	0.0717	0.1275	0.1378	0.
DEFAULT RATIO	0.9763	0.8339	0.8005	3.9917
LENDER BONUS INTEREST RATE	0.	0.	0.	0.

	1	2	5	10
PRES VAL OF PROJ BEF TAXES	236272.	241180.	247483.	254557.
PRES VAL OF PROJ AFT TAXES	236270.	238600.	242339.	247793.
RETURN ON EQUITY AT .1800 0/0	0.0822	0.1615	0.1920	0.1871

A Seminar at the Trade Winds Central Motel
Sponsored by SRA Chapter of Oklahoma City, Oklahoma
Saturday, September 9, 1972

PREMISE: A REAL ESTATE PROJECT IS AN ENTERPRISE AND THEREFORE A MANAGEMENT SYSTEM

SOURCE: Management Dynamics: The New Synthesis by John A. Beckett. McGraw Hill's Series in Management, 1971. New York.

I. Traditional Management Functions

A. The traditional functions of management imply a sequence of:

Planning
Organizing
Directing
Controlling

B. An American oil company has expanded the functions of management to be:

Environmental appraisal
Objectives development
Strategic planning
Demand forecasting
Logistics planning--Utilization
Logistics planning--Development and operations scheduling
Operations control

C. A similar but longer list of functions has been proposed by Marvin Bower, a well known management consultant:

Setting objectives
Planning strategy
Establishing goals
Developing a company philosophy
Establishing policies
Planning the organizational structure
Providing personnel
Establishing procedures
Providing facilities
Providing capital
Setting standards
Establishing management programs and operating plans
Providing control information
Activating people

II. A Systems Approach to Management Analysis

A. A revised list that does include some flavor of systems can be prepared. The elemental functions involved in man-made organizational undertakings might be listed like this:

Goal-setting
Forming policies
Searching for opportunities which are consistent with policies
Selecting opportunities which are consistent with policies
Designing systems for capturing selected opportunities
Installing systems for capturing selected opportunities
Operating the systems that have been installed
Maintaining and continuously perfecting the operating systems

B. This list captures some of the flavor of systems thinking in that:

It contains the word systems in several places
It includes some of the feeling for the flow of events
It defines somewhat more clearly the idea of the interrelationships of activities
It expresses the presence of standards (in the form of policies) at one point
It even hints at the presence of feedback

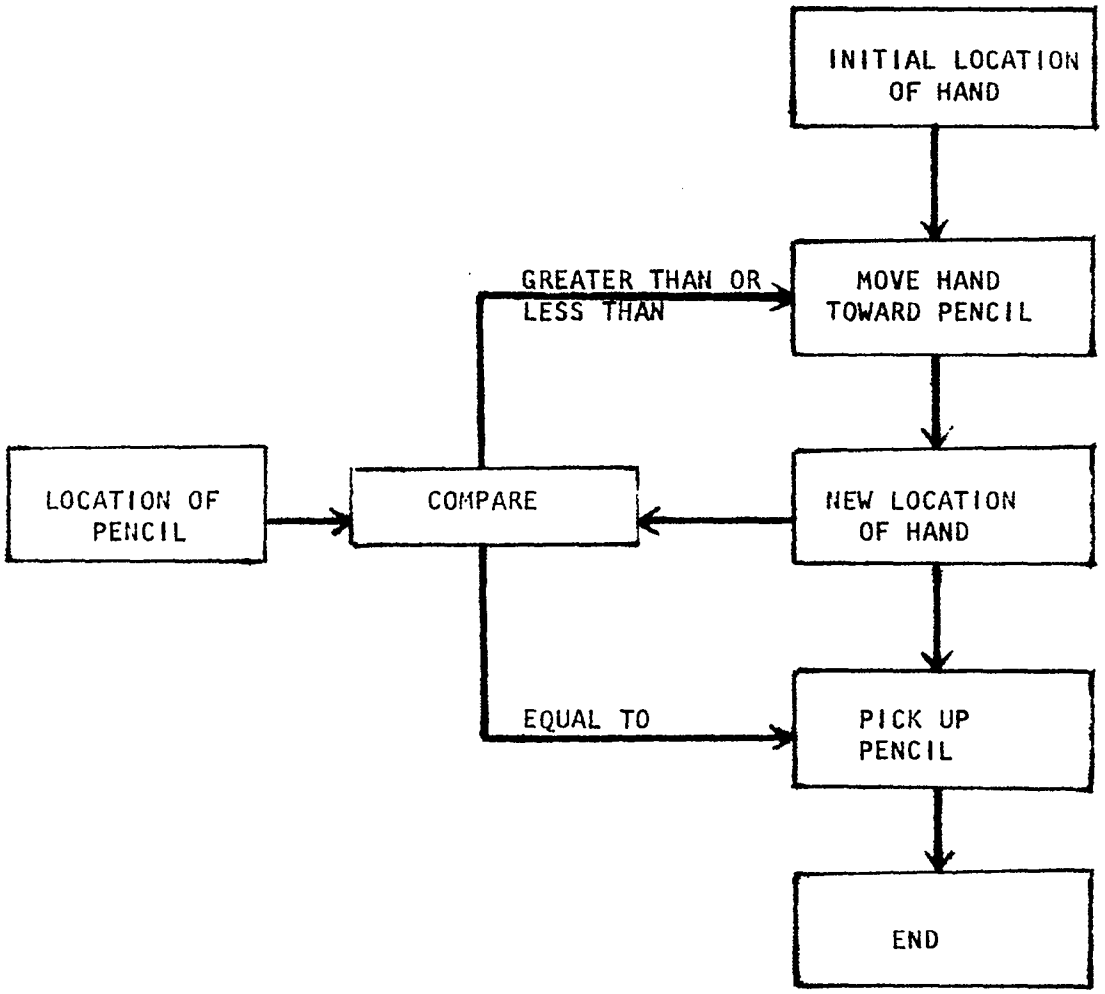
C. A careful look at these systems models will disclose that all systems have both structure and process that can be identified, if not completely isolated; they are comprised of:

Conditions in certain locations or with respect to certain factors at a given time. For example, the present position of the hand - its location at a given moment; the number of new cars on hand at a certain point in time. In systems parlance, these conditions are called levels, reservoirs, or states.

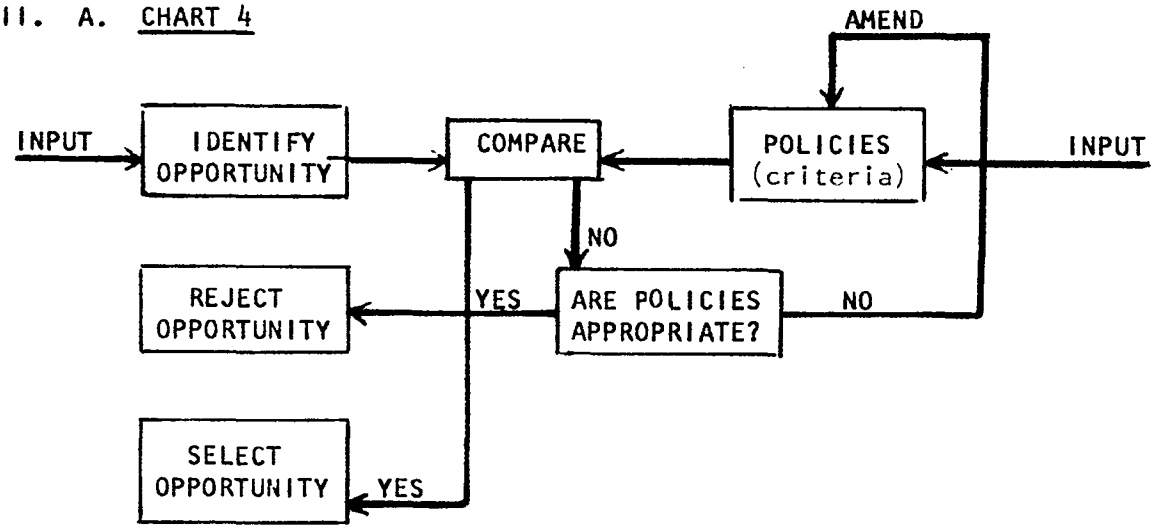
Action that occurs in moving the contents of one reservoir to another. For example, the movement of the hand from one position to another, the passage of light from the sun to the leaf, and the transfer of chlorophyl from the leaf to the tree. These are called flow rates.

Choices from among the alternatives available within the system. For example, a decision to continue to move the hand in the direction of the pencil, or a decision by the President of the United States to direct more federal government effort toward solution of problems in metropolitan areas, and less toward exploration of outer space. These are called decisions.

Lines of Communication that carry messages about states and flow rates and the actions that adjust their relationships to achieve some objective (or conform to some standard). For example eye-optic nerve-cerebellum connections that inform the motor centers of the brain of the present position of the hand with respect to the pencil and transfer information back to the nerve-muscle connections to bring the hand closer to the pencil. These are called information channels.


INITIAL LOCATION OF HAND
MOVE HAND TOWARD PENCIL
GREATER THAN OR LESS THAN
NEW LOCATION OF HAND
COMPARE
LOCATION OF PENCIL
EQUAL TO
PICK UP PENCIL
END

III. A. CHART 4



B. This whole process is more complex than a simple flow chart representation can depict, but the essence of the process can be discerned from such characterization as that shown in Chart 4; it is the beginning of a systems description of the management process.

This amended model, general though it is, recognizes the inputs to the system from other exogenous systems; characterizes the (circumscribed) whole as an integrated system; points out levels of states (policies, standards) within the system; identifies action points (decisions) within the system;

documents the interrelationships between actions and information storage points;
traces the flow of information
from outside the system
within the system
depicts the process as dynamic.

This model, supported by the explanations, is helpful in providing a basis for assessing the validity of common presumptions; it should provide fair warning that policy-making/opportunity-selecting cannot be adequately understood by simply viewing it as "a process that man performs through the act of decision-making."

C. Information plays the critical role in the process. To construct acceptable operating systems or models one must draw on information sources both inside and outside the decision making organization---a real estate enterprise.

Outside: Information about alternative kinds of operating systems that can be constructed to supplement

Inside: Existing knowledge and skills relating to the construction of operating systems;

Inside: Inside information about existing standards for constructing operating systems, which in turn, are the product of information flows that come in part from within the organization,

to reflect its requirements, and in part from sources outside the organization.

D. As the movement of the system depends upon the external and internal inputs, the configuration and the behavior of a given system represent a negotiated consensus between two general sources of power--- "the power of the environment to dictate the form and the behavior of the organization, on the one hand, and the power of the organization to decide for itself what its conformation and behavior will be, on the other. To be mindful of the inevitable presence of both forces is to be able to penetrate the meaning of organization purpose--- in every system, every organization."---John A. Beckett.

E. Compare this to the definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--- James A. Graaskamp

IV. There are so many variables in real estate, it can be systematic only in part and otherwise is a matter of intuitive art and improvisation. To borrow the language of the architect:

A. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.

B. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context.

C. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.

D. In the language of Beckett the need to define context and to test form requires one:

1. to seek to identify the innumerable internal forces whose interplay among themselves and interaction with external forces may influence the formation of purpose; (business objectives and constraints)

2. to seek to identify the innumerable external forces which may influence the conformation and the behavior of the system organization with which the system designer is concerned; (market, merchandise, legal, and political context)

3. to comprehend the pattern within which all systems are combined: (physical plan and financial synthesis)

4. to seek to measure the effects that will result from the interaction and the interplay of such internal and external forces under given conditions; (forecast model)

A GUIDE TO REAL ESTATE INVESTMENT ANALYSIS

Palm Beach Chapter No. 200, SREA
January 6, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. A Review of Real Estate Appraisal Financial Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Income Property

V. Working through a Basic Problem for Land Development Analysis

LUNCHEON: 12:00 noon

AFTERNOON SESSION: 1:00 P.M.

I. What Is Yield?

II. What Is Risk Analysis?

III. Fair Market Value or Investment Value?

IV. Financial Analysis for a Mortgage Loan Application

COFFEE BREAK: 2:30 P.M.

V. Analysis of a Limited Partnership Prospectus

VI. Recent Innovations in Financial Analysis

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

Prepared for Real Estate Investment Seminar
Palm Beach, Florida

By Professor James A. Graaskamp

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted aferage Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

		Net Cash Proceeds Per Year	
Investment	Initial Cost	Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PVO) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.

Present Worth of OUTLAYS			Future Worth of INCOMES
1960	1964	1965	1969
$ 300,000			
	$2,000,000		($3,221,020)
($ 620,921.32		$1,000,000	
			$ 400,000
$ 920,921.32			$3,621,020

$$\text{Adjusted Rate} = \left(\frac{3,621,020.00}{920,921.32}\right)^{1/9} \times 100\% - 100\% = 16.431\%$$

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

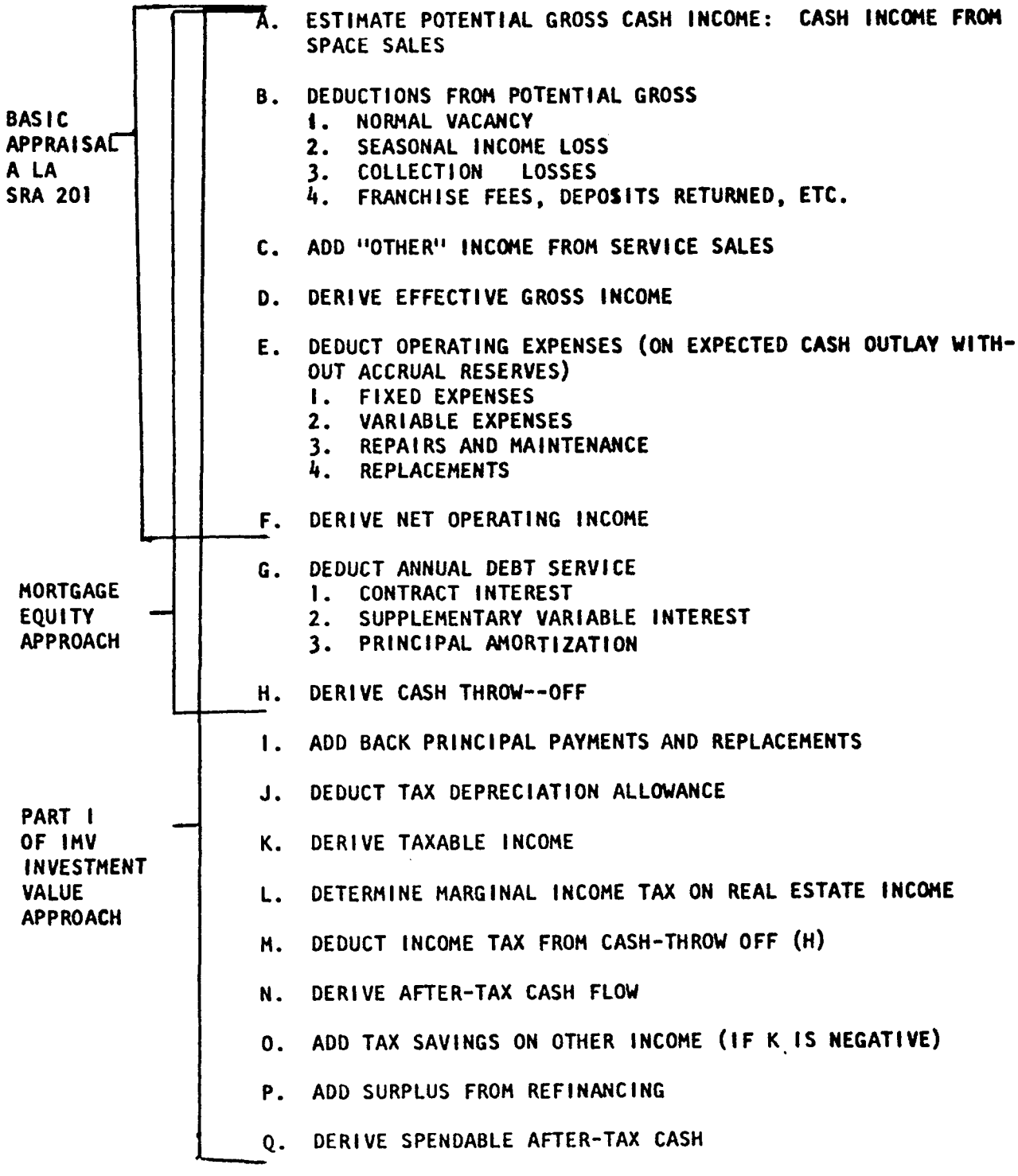
IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR



PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

V. A SAMPLE CASE

Valuation of a Real Estate Investment Involving Net Rental Variations, Leverage Accelerated Depreciation, Investor Tax Considerations and Price Appreciation

The following real estate investment analysis focuses on a property where the factors of increasing net rentals, leverage, accelerated depreciation, investor tax considerations, and price appreciation all have an important bearing on the property's total investment value. The property analysis incorporates the following assumptions:

(a) First year gross annual income of $140,000 increases by 3% per year for 10 years.

(b) Vacancy allowance is assumed to be 5% of gross income.

(c) Real estate taxes are $10,000 for the first year and increase at a rate of 2% per year.

(d) Expenses are $60,000 for the first year and increase at a rate of 3% per year.

(e) The total cost of the project is $950,000. Improvements are valued at $700,000. Land is valued at $250,000.

(f) Mortgage debt of $600,000 is available. This debt is to be amortized at 8% with annual payments of $54,000.

(g) The improvements will be depreciated through the use of the double declining balance method; the economic life of the improvements is 40 years.

(h) The project value is expected to grow at 3% per year.

(i) The investor's marginal income is taxed at 50%.

(j) An after-tax return on equity investment of 12% is sought.

(k) Capital gains on the sale of the property are taxed at 25%.

Schedule I
Present Value of Spendable Cash After Taxes
And Tax Savings On Other Income

	1	2	3	4	5
Gross Rent	140,000	144,200	148,400	152,600	156,800
Less Vacancy Allowance	7,000	7,210	7,420	7,630	7,840
Effective Gross Income	133,000	136,990	140,980	144,970	148,960
Less Real Estate Taxes	10,000	10,200	10,400	10,600	10,800
Less Expenses	60,000	61,800	63,600	65,400	67,200
Net Income	63,000	64,990	66,980	68,970	70,960
Less Depreciation	35,000	33,250	31,588	30,008	28,508
Less Interest	48,000	47,520	47,002	46,442	45,837
Taxable Income	-20,000	-15,780	-11,610	- 7,480	- 3,385
Plus Depreciation	35,000	33,250	31,588	30,008	28,508
Less Principal Payments	6,000	6,480	6,998	7,558	8,163
Cash Throw-off	9,000	10,990	12,980	14,970	16,960
Less Taxes	-	-	-	-	-
Cash From Operations	9,000	10,990	12,980	14,970	16,960
Working Capital Loan (Cum Bal)	-	-	-	-	-
Spendable Cash After Taxes	9,000	10,990	12,980	14,970	16,960
Tax Savings on Other Income	10,000	7,890	5,805	3,740	1,693
Spendable Cash After Taxes Plus Tax Savings on Other Income	19,000	18,880	18,785	18,710	18,653
P. V. Factor @ 12%	.8929	.7972	.7118	.6355	.5674
Present Value of Spendable Cash After Taxes plus Tax Savings on other Income	16,965	15,051	13,371	11,890	10,584

Depreciation, Mortgage Interest, Mortgage Principal, and Market Value Data

Depreciation										
	700000	665000	631750	600162	570154	541646	514564	488836	464418	441197
	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
	35000	33250	31588	30008	28508	27082	25728	24418	23221	22059
Mortgage										
	600000	594000	587520	580522	572964	564801	555985	546464	563181	525075
	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Interest	48000	47520	47002	46442	45837	45184	44479	43717	42894	42006
Principal	6000	6480	6998	7558	8163	8816	9521	10283	11106	11994
Total	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000
Market Value										
	950000	978500	1007000	1035500	1064000	1092500	1121000	1149500	1178000	1206500

6	7	8	9	10
161,000	165,200	169,400	173,600	177,800
8,050	8,260	8,470	8,680	8,890
152,950	156,940	160,930	164,920	168,910
11,000	11,200	11,400	11,600	11,800
69,000	70,800	72,600	74,400	76,200
72,950	74,940	76,930	78,920	81,910
27,082	25,728	24,418	23,221	22,059
45,184	44,479	43,717	42,894	42,006
684	4,733	8,795	12,805	16,845
27,082	25,728	24,418	23,221	22,059
8,816	9,521	10,283	11,106	11,994
18,950	20,940	22,930	24,920	26,910
342	2,366	4,398	6,403	8,423
18,608	18,574	18,544	18,517	18,488
-	-	-	-	-
18,608	18,574	18,544	18,517	18,488
18,608	18,574	18,544	18,517	18,488
.5066	.4523	.4039	.3606	.3220
9,427	8,401	7,490	6,677	5,953

Schedule II
Total Investment Value of
A Real Estate Project

Total Present Value of Spendable Cash After Taxes plus Tax Savings on Other Income at 12% (Schedule I)				$105,809
Present Value of Net Proceeds From Sale of Property				
Total Sales Price			$1,206,500	
Less:				
Taxes on Sale of Property				
Capital Gains Tax	$113,168			
Income Tax	42,345	$155,513		
Unpaid Mortgage Balance		513,081	668,594	
			537,906	
Present Value Factor (12%)			.3220	173,206
Total Present Value of Equity Investment				$279,015
Original Mortgage Balance				$600,000
Total Project Value				$879,015

Example of Computing Taxes
on Sale of Property

Assumptions:

(a) Property held 10 years (120) months
(b) Basis equal to $669,138 (original basis equal to $950,000)
(c) Sales price equal to $1,206,500
(d) Depreciation taken on improvements of $700,000 equal to $280,862
(e) Had depreciation been taken on a straight line basis, depreciation would have been equal to $175,000
(f) Taxpayer is in the 50% bracket

Procedure for Determination of Tax:

Total Gain Subject to Tax: $537362	
Portion Subject to Capital Gains Tax:	
Increase in property value	$256,500
Amount which would have been taken through straight line depreciation	$175,000
Allowable accelerated depreciation (280,862-175,000) x .20	$ 21,172
	$452,672
Portion Subject to Ordinary Income Tax:	
Non-allowable Accelerated Depreciation (280,862-175,000) x .80	84,690
	$537,362
Capital Gains Tax ($452,672 x .25)	$113,168
Income Tax ($84,690 x .50)	42,345
Total Taxes on Sale	$155,513

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST
LAND	.00	1	.	0	$ 40000.
BUILDING	1.00	1	35.	3	$ 165300.
ELEVATOR	.80	1	9.	3	$ 12500.
FURNISHINGS	1.00	1	7.	5	$ 13200.
PARKING	.50	1	10.	3	$ 7200.
TRANSACTION COST	1.00	1	35.	3	$ 1800.
7TH YR REFURBISH	1.00	8	7.	1	$ 10000.
TOTAL INITIAL INVESTMENT					$ 240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -

$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum^{N} \left[(\text{Spendable Cash Aft Taxes} + \text{Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1} \right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

ILLUSTRATIVE LAND VALUE ANALYSIS FOR SALE HOUSING UNITS

DETACHED HOMES @ 3.0 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

	Average Unit[1/] 1,600 s.f.
I. Estimated Development Costs	
A. Construction and Site Costs @$14.00/s.f. 2/	$22,400
B. Non-Construction and Site Costs @ 5% of Construction	1,120
Subtotal	$23,520
C. Promotion-Sales (@ 6% of Sale Price)	2,460
D. Developer's Profit Allowance (@15% of Sale Price)	6,150
E. Total Cost, Excluding Land	$32,130
II. Sale Price, Supportable Ground Value	
A. Sale Price	$41,000
B. Less Total Cost	32,130
C. Supportable Ground Value per unit	$ 8,870
D. Supportable Ground Value as a percent of Sales Price	22%
E. Average Density (D.U.'s/acre)	3.0
F. Supportable Ground Value per acre	$26,610

1/ Average unit excluding basement and garage.

2/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

3/ Real Estate taxes during construction and construction financing.

ILLUSTRATIVE LAND VALUE ANALYSIS FOR RENTAL HOUSING UNITS

GARDEN APARTMENTS @ 15 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

1. Estimated Improvement Cost		
A.	Construction @ $13 per square foot[1] @ 1,000 s.f.	$14,300
B.	Non-construction @ 5% of construction cost [2]	700
C.	Landscaping and Site Work	500
D.	Total Improvement Cost	$15,500
2. Net Income from Operations		
A.	Gross Income (@ $240/month or 24¢/s.f.)	$ 2,880
B.	Less 5% Vacancy and Collection Allowance	144
C.	Plus Other Income @ $3/month	36
D.	Gross Effective Income	$ 2,772
E.	Less Operating Expenses and Real Estate Tax (@ 37% of gross)	$ 1,025
F.	Net Operating Income	$ 1,747
3. Financing		
A.	Economic Value at 9.5% Capitalization Rate	$18,390
B.	Mortgage at 75% of Economic Value	13,792
C.	Debt Service at 9.5% Constant (i.e., 25 years at 8.25% Interest)	$ 1,310
4. Net Cash Flow		
A.	Net Operating Income	$ 1,747
B.	Less Debt Service	1,310
C.	Net Cash Flow	$ 437
5. Residual Values		
A.	Equity @ 15% ROE	$ 2,914
B.	Mortgage	13,792
C.	Total Supportable Costs	$16,706
D.	Improvement Cost	15,500
E.	Residual Value of Land	$ 1,206
F.	Average Density (D.U.'s/acre)	15.0
G.	Residual Value per acre	$18,090

[1] Gross living area; excludes unfinished bas

[1] Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

[2] Real Estate taxes during construction and construction financing.

BUILDING & OPERATIONS CASHFLOW

GRAASKAMP ISLAND

THOUSANDS OF 1972 $

L/C		1973	1974	1975	1976	1977	TOTAL
A. DEVELOPMENT ACTIVITIES							
SOURCES OF FUNDS							
1 SINGLE FAMILY	SALES	....	2533	5002	5152	5168	17856
2 MULTI-FAMILY	RENTAL	....	256	323	424	421	1425
3 TOTAL		....	2790	5325	5576	5589	19282
APPLICATIONS OF FUNDS							
LAND							
4 SINGLE FAMILY		548	1082	1114	1118	....	3863
5 MULTI-FAMILY		231	291	382	379	....	1285
6 SUBTOTAL		779	1373	1497	1497	....	5148
CONSTRUCTION							
7 SINGLE FAMILY		1411	2704	2704	2634	....	9455
8 MULTI-FAMILY		1395	1705	2170	2092	....	7362
9 SUBTOTAL		2806	4409	4874	4726	....	16817
OPERATIONS & SALES							
10 S-F SALES COMMISSION		....	152	300	309	310	1071
11 M-F OPERATING EXPENSES		....	95	119	156	155	527
12 SUBTOTAL		....	247	419	466	465	1598
13 TOTAL APPLICATIONS		3586	6030	6791	6690	465	23565
NET CASH FLOW FROM DEV. ACT.							
14 ANNUAL		-3586	-3240	-1466	-1114	5123	-4283
15 CUMULATIVE		-3586	-6826	-8292	-9406	-4283	....
B. CAPITAL ACTIVITIES							
SOURCES OF FUNDS							
16 MORTGAGE PROCEEDS		....	1278	1608	2109	2094	7090
17 LIQUIDATION		....	....	....	....	11629	11629
18 SUBTOTAL		....	1278	1608	2109	13723	18719
APPLICATIONS OF FUNDS							
19 MORTGAGE INTEREST		....	108	243	417	585	1354
20 PRINCIPAL REPAYMENTS		....	26	61	110	6891	7090
21 DEBT SERVICE		....	135	305	527	7477	8445
22 NCF FROM CAPITAL ACTIVITIES		....	1143	1303	1581	6246	10274
C. PROJECT NET CASH FLOW							
23 ANNUAL		-3586	-2097	-162	466	11369	5991
24 CUMULATIVE		-3586	-5683	-5845	-5378	5991	....

LINE 23 (COL 1 - 5) INTERNAL RATE-OF-RETURN IS 21.845%

LINE 23 (COL 1 - 5) NET PRESENT VALUE IS 1275.29 AT 15.00%

3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment,
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

C. Suggestions for the appraiser looking for a standard on which to base valuation judgments:

1. Relate to purpose of appraisal and significance of hard dollar and soft dollars to the viewpoint to be served
2. Ellwood method
3. EDUCARE standard models for the investor/buyer
4. Standard assumptions to be promulgated by SEC
5. The appraisal customer's ideal preferences

II. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

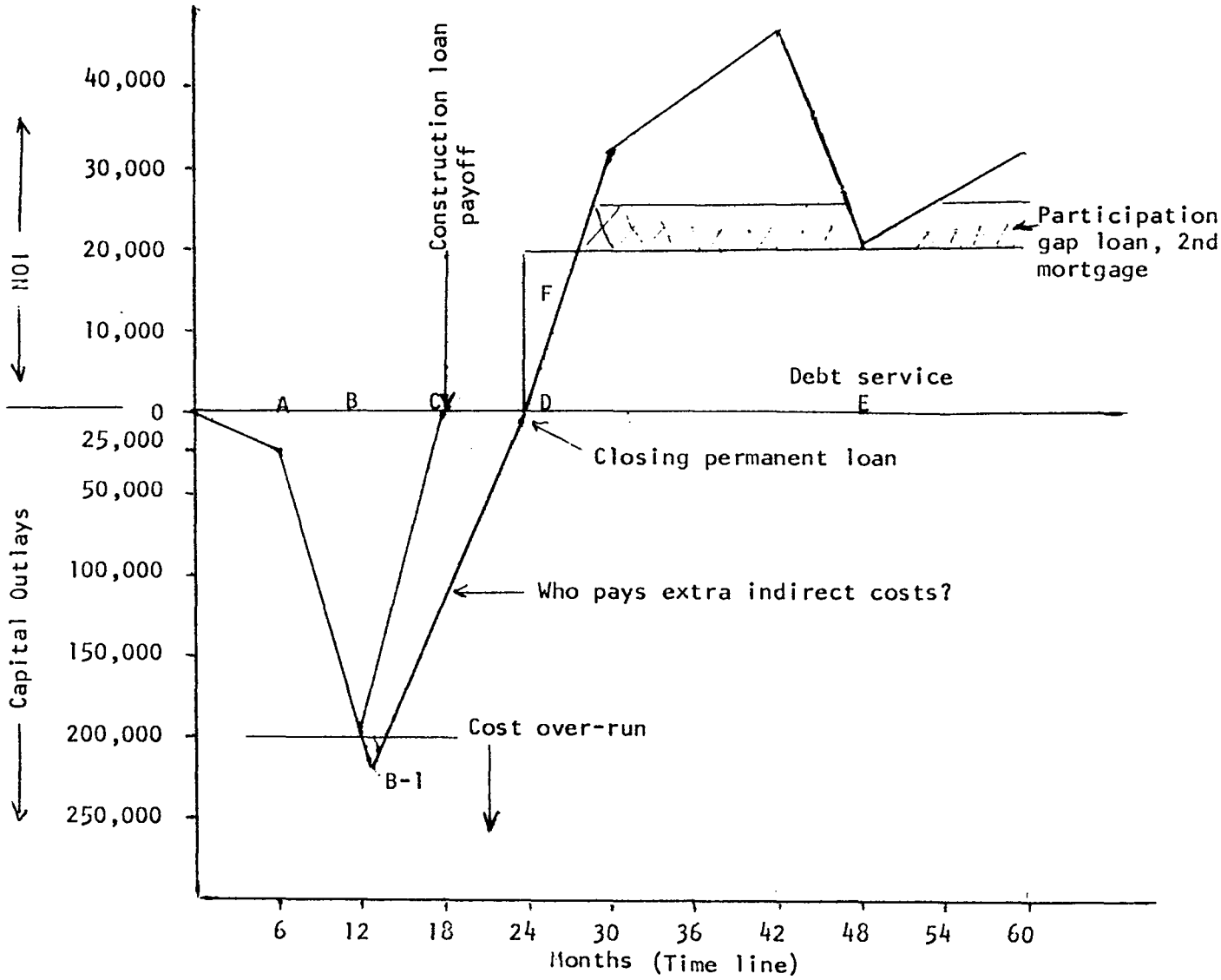
1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate uncertainty (research or confirm)
2. Reduce frequency or severity of loss contingencies (incentive contracts)
3. Combine risks to increase predictability (reserves for expenses or pool investments)

4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (gap financing)

F. A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

Outline to
Guide to Real Estate Investment Analysis

AFTERNOON SESSION

I. Any measure of yield requires careful definition of what is an annual profit and what will be included in resale proceeds and an explicit assumption about the opportunity cost of money or the reinvestment rate.

A. Refer to definitions on page of Case problem #2.

B. Refer to alternative definitions of annual profits and sales proceeds as found in limited partnership agreements by Stephen Roulac.

"Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation,
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket.
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	No depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$
$$\$ \ 46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capital Loan Interest Rate
.0500	.0900

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD I COLS. 61 and 64?

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\text{Spendable cash + tax savings on other income +} \frac{\text{(Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
MORTGAGE BANKERS SCH	[redacted]	- [redacted]	.1800	.3000	[redacted]	[redacted]

Card 2

Project Description	Extraordinary Expenses	Cost of Equity Capital	Staging Multiplier	Staging Year
24 UNIT APT - CASE 2	7625	.1200	.	[redacted]

Card 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000	.	00	20
BUILDING	165300	1.0000	.	03	35
PARKING	7200	0.5000	.	03	10
FURNISHINGS	13200	1.0000	.	01	07
ELEVATOR	12500	0.8000	.	03	12
TRANSACTION COST	1800	1.0000	.	03	35
7TH YR REFURBISHING	10000	1.0000		01	07

Card 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775	.	01	05	20	03
SELLERS 2ND MORTG.	15000		.0850	.	01	05	10	05
REFINANCED FIRST	190000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900	.	08	10		

GRAASKAMP ISLAND CASE

A fertile Tropical Paradise has just been discovered of the coast of Milwaukee. The product of tumultuous upheavals and faulting along the earth plates, the new island has a year-round climate comparable to Tahiti.

First on the scene and to lay claim to this island paradise was the renowned international explorer, Chief Graaskamp and crew. After a quick reconaissance Graaskamp has decided to drop anchor and examine the opportunities for development and operation of sales and rental apartments.

The Chief is thoroughly experienced in land development in the frosty North, but tropical development is virgin territory. Preliminary cash flow analysis for building and operations indicate that an equity investment of $5.8 million will be required, but no investors are interested.

Milwaukee radio reported that new rumblings were heard in the vicinity of the new island.

Is Graaskamp Island sinking, or can it be saved?

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7876.	1948.	3832.	5495.	7007.	4015.	5068.	3064.	4375.	6071.
PLUS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	584.	1149.	1648.	2102.	1204.	1520.	919.	1312.	1821.
CASH FROM OPERATIONS	-1213.	6084.	5777.	5535.	5339.	29306.	5265.	14287.	4114.	3826.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4762.	5777.	5535.	5339.	29306.	5265.	4287.	4114.	3826.
TAX SAVINGS ON OTHER INCOME	2363.	.	.	.	.	.	.	.	.	.
* * *

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:
- → 1–Produces IMV for a given after tax equity yield rate
- 2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:
- 1–Constant net income value for each year
- → 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME. [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:
- 1–Corporation (Operating losses applied to other investments)
- 2–Corporation (Operating losses carried back/carried over)
- 3–Corporation (Taxable income offset by losses from other investments)
- 4–Corporation (Set-up solely for this investment)
- → 5–Non-corporation (Operating losses applied to other investments)
- 6–Non-corporation (Operating losses carried back/carried over)
- 7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:
- 1–No recapture
- 2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- → 3–All other residential rentals (After 100 months-declines 1% per month)
- 4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:
- 1–% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)
- 3–Reversionary $ amount(Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4– Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

McCloud B. Hodges, Jr., 6819 Elm St., McLean, Va. (15 Nov. 1972)

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

BEFORE TAX IMV(11.00%) $ 3919359
AFTER TAX IMV(8.50%) $ 3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES, JR
6819 ELM ST. MCLEAN, VA. 22101 14:49EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 3980860
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
1. 9.000% 28 YRS 0 MONS $ 3267000

EQUITY CASH: $ 713860

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE $ 3530000

LESS: MORTGAGE BAL. 2847849
SALES COMMISSION 70600

CASH REVERSION BEFORE TAXES $ 611551

LESS: CAPITAL GAINS TAX(STD.) 256985
TAX ON RECAPTURED DEPR. 29904
TAX PREFERENCE TAX 12354

CASH REVERSION AFTER TAXES $ 312308

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

V. Analysis of a Limited Partnership Prospectus

A. From the investor viewpoint there are five basic areas of consideration in the selection of limited partnership investment.

1. Strategic choice of property type
2. Attributes of specific property or property pool
3. The marketing method utilized to sell security
4. The use of incentive clauses for control of the general partner
5. The financial projection

B. The strategy in picking a property is to decide where on the time line you wish to commit because of the profit centers in which you wish to participate.

1. The profit centers
2. Position on the time line as a risk control device
3. Staging of capital outlay
4. Priority of claim on cash proceeds and tax shelters
5. Measures of yield

C. Attributes of specific property

1. A limited partnership share is a second mortgage revenue bond
2. Does it lower break-even point for high risk development venture?
3. Does it accelerate payback for the general or limited partner?
4. Does it retail sizzle for the cow carcass bought wholesale?

D. The marketing method utilized to sell security

1. Direct selling in the traditional real estate manner - high cost per unit sold for packager and high cost for investor because of brokers front end load.
2. The seminar approach - loss of credibility, loss of efficiency and now questions of legality.
3. Channeling through securities brokers (efficiency of mutual shares marketing but dependency on uninformed licensed security salesmen).
4. Marketing compensation consists of front-end loads, management fees, or praticipation in the event - % of asset or of money raised?

E. The use of incentive clauses for control of the general partner

1. Disenchantment clauses for replacement of general partner or property manager or both are critical.
2. Dissolution clauses for sale or refinancing must be watched carefully where general partner has participation.
3. Variance in projections must be controlled:

    a. Provision for cost guarantees
    b. Provision for earn-outs against absorption period
    c. Provision for loans and terms from general partner or assessment and penalties for limited partners for liquidity gaps

d. A guarantee against negative cash flows
e. Protection against construction of competitive units on adjacent property with 36 month option or right of first refusal.

4. Incentive clauses to make self interest of general partner the same as limited partner.

a. Management fee subject to downward adjustment each year if certain expenses have increased at a greater rate than gross income.
b. Bonus management fees for occupancy in excess of a stated level, say 94% or absorption rate in excess of some stated schedule.
c. Controls on GP access to certain profit centers such as leasing equipment to partnership, insurance premiums, or similar spinoffs contingent on meeting certain cash payouts to limited partners on a cumulative basis.

F. The financial projection

1. Should be tested for capacity to survive the surprise potential with variables which include payback ratio and cash breakeven point given definitions of returns to general partner. Be careful to define base for GP participation according to prospectus rather than according to sound financial principals.

G. Basic readings and periodicals with which the investment counselor should be familiar:

1. Real Estate Syndication Digest 1972, Principles and Applications, by Stephen E. Roulac, published by Real Estate Syndication Digest, San Francisco, California
2. The Real Estate Trusts: America's Newest Billionaires, by Kenneth Campbell, published by Audit Investment Research, Inc. 230 Park Avenue, New York
3. Real Estate Review quarterly magazine, 89 Beach Street, Boston, Mass.
4. Principles of Real Estate Syndication, Samuel K. Freshman, published by Parker & Son, 6500 Flotilla Street, Los Angeles, California 90040
5. The Mortgage & Real Estate Executives Report by Warren, Gorham & Lamont, Inc., 89 Brach Street, Boston, Mass. 02111
6. "Caveat Emptor in Real Estate Equities" by Samuel L. Hayes & Leonard M. Harlan, Harvard Business Review, March-April 1972
or
The Real Estate Appraiser, Summer 1972

VI. Recent innovations in financial analysis

A. Cash flow models discussed today process one set of numbers at a time to test a project for sensitivity to a change in assumption. It is possible, however, to build a model to permit introduction of certain variables as a range of numbers rather than a single point assumption.

1. Operational real estate investment probability or risk density models have been built in various parts of the country, including

   a. Professor Steve Pyhrr at University of Texas
   b. A graduate student group at the Harvard School of Business

2. Real estate portfolio risk models are also under development to apply "covariants investment theory" which is used for the securities market by various institutions

   a. Professor Pellatt of the University of Manitoba
   b. Wells Fargo Bank
   c. Various oil company investment departments

B. The impact of EDUCARE and the computer terminal

C. The availability of competing national services for cash flow analysis

D. The encroachment of sophisticated professionals in money management and capital budgeting on appraisal business

1. Professional accountants and engineering firms
2. Bank trust department advisory services
3. Increasing state and federal regulation and auditing of real estate investment performance on standards related to corporate security investment

A GUIDE TO REAL ESTATE INVESTMENT ANALYSIS

Joint Meeting of SRA and AIREA Chapters, Charlotte, N.C.
Wednesday, April 18, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. A Review of Real Estate Appraisal Financial Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Income Property

V. Working through a Basic Problem for Land Development Analysis

LUNCHEON: 12:00 noon

AFTERNOON SESSION: 1:00 P.M.

I. What Is Yield?

II. What Is Risk Analysis?

III. Fair Market Value or Investment Value?

IV. Financial Analysis for a Mortgage Loan Application

COFFEE BREAK: 2:30 P.M.

V. Analysis of a Limited Partnership Prospectus

VI. Recent Innovations in Financial Analysis

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

Joint Meeting of SRA and AIREA Chapters, Charlotte, N.C.
Wednesday, April 18, 1973

By Professor James A. Graaskamp

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

		Net Cash Proceeds Per Year	
Investment	Initial Cost	Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PV0) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

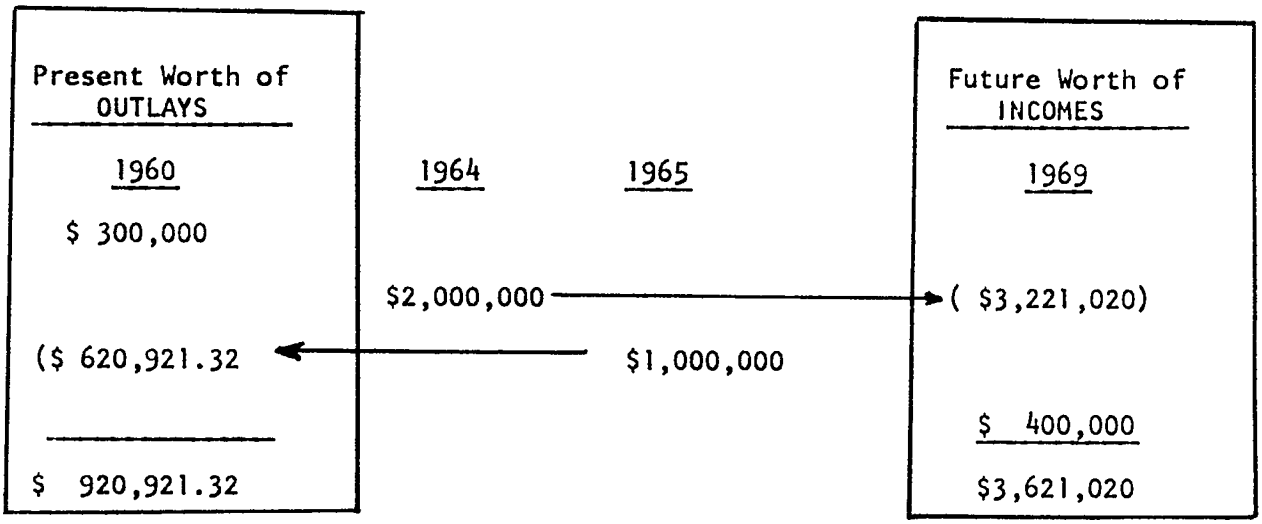
3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.



$$920,921.32\ (1 + i)^9 = 3,621,020.00 = 16.43\%$$

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

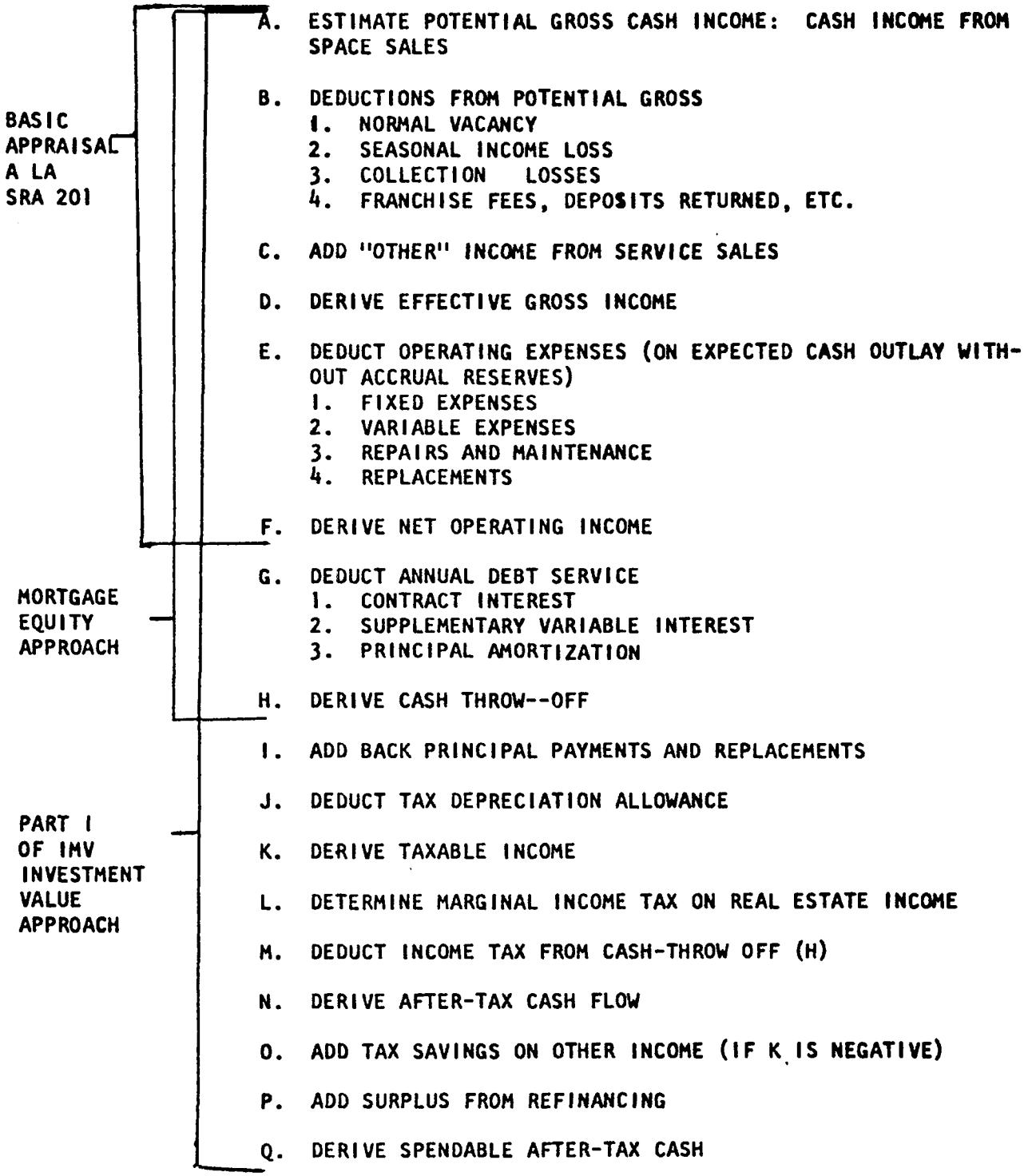
IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR



PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

V. A SAMPLE CASE

Valuation of a Real Estate Investment Involving Net Rental Variations, Leverage Accelerated Depreciation, Investor Tax Considerations and Price Appreciation

The following real estate investment analysis focuses on a property where the factors of increasing net rentals, leverage, accelerated depreciation, investor tax considerations, and price appreciation all have an important bearing on the property's total investment value. The property analysis incorporates the following assumptions:

(a) First year gross annual income of $140,000 increases by 3% per year for 10 years.

(b) Vacancy allowance is assumed to be 5% of gross income.

(c) Real estate taxes are $10,000 for the first year and increase at a rate of 2% per year.

(d) Expenses are $60,000 for the first year and increase at a rate of 3% per year.

(e) The total cost of the project is $950,000. Improvements are valued at $700,000. Land is valued at $250,000.

(f) Mortgage debt of $600,000 is available. This debt is to be amortized at 8% with annual payments of $54,000.

(g) The improvements will be depreciated through the use of the double declining balance method; the economic life of the improvements is 40 years.

(h) The project value is expected to grow at 3% per year.

(i) The investor's marginal income is taxed at 50%.

(j) An after-tax return on equity investment of 12% is sought.

(k) Capital gains on the sale of the property are taxed at 25%.

Schedule I
Present Value of Spendable Cash After Taxes
And Tax Savings On Other Income

	1	2	3	4	5
Gross Rent	140,000	144,200	148,400	152,600	156,800
Less Vacancy Allowance	7,000	7,210	7,420	7,630	7,840
Effective Gross Income	133,000	136,990	140,980	144,970	148,960
Less Real Estate Taxes	10,000	10,200	10,400	10,600	10,800
Less Expenses	60,000	61,800	63,600	65,400	67,200
Net Income	63,000	64,990	66,980	68,970	70,960
Less Depreciation	35,000	33,250	31,588	30,008	28,508
Less Interest	48,000	47,520	47,002	46,442	45,837
Taxable Income	-20,000	-15,780	-11,610	- 7,480	- 3,385
Plus Depreciation	35,000	33,250	31,588	30,008	28,508
Less Principal Payments	6,000	6,480	6,998	7,558	8,163
Cash Throw-off	9,000	10,990	12,980	14,970	16,960
Less Taxes	-	-	-	-	-
Cash From Operations	9,000	10,990	12,980	14,970	16,960
Working Capital Loan (Cum Bal)	-	-	-	-	-
Spendable Cash After Taxes	9,000	10,990	12,980	14,970	16,960
Tax Savings on Other Income	10,000	7,890	5,805	3,740	1,693
Spendable Cash After Taxes Plus Tax Savings on Other Income	19,000	18,880	18,785	18,710	18,653
P. V. Factor @ 12%	.8929	.7972	.7118	.6355	.5674
Present Value of Spendable Cash After Taxes plus Tax Savings on other Income	16,965	15,051	13,371	11,890	10,584

6	7	8	9	10
161,000	165,200	169,400	173,600	177,800
8,050	8,260	8,470	8,680	8,890
152,950	156,940	160,930	164,920	168,910
11,000	11,200	11,400	11,600	11,800
69,000	70,800	72,600	74,400	76,200
72,950	74,940	76,930	78,920	81,910
27,082	25,728	24,418	23,221	22,059
45,184	44,479	43,717	42,894	42,006
684	4,733	8,795	12,805	16,845
27,082	25,728	24,418	23,221	22,059
8,816	9,521	10,283	11,106	11,994
18,950	20,940	22,930	24,920	26,910
342	2,366	4,398	6,403	8,423
18,608	18,574	18,544	18,517	18,488
-	-	-	-	-
18,608	18,574	18,544	18,517	18,488
18,608	18,574	18,544	18,517	18,488
.5066	.4523	.4039	.3606	.3220
9,427	8,401	7,490	6,677	5,953

Depreciation, Mortgage Interest, Mortgage Principal, and Market Value Data

Depreciation										
	700000	665000	631750	600162	570154	541646	514564	488836	464418	441197
	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
	35000	33250	31588	30008	28508	27082	25728	24418	23221	22059
Mortgage										
	600000	594000	587520	580522	572964	564801	555985	546464	563181	525075
	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Interest	48000	47520	47002	46442	45837	45184	44479	43717	42894	42006
Principal	6000	6480	6998	7558	8163	8816	9521	10283	11106	11994
Total	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000
Market Value										
	950000	978500	1007000	1035500	1064000	1092500	1121000	1149500	1178000	1206500

Schedule II
Total Investment Value of
A Real Estate Project

Total Present Value of Spendable Cash After Taxes plus Tax Savings on Other Income at 12% (Schedule I)				$105,809
Present Value of Net Proceeds From Sale of Property				
Total Sales Price			$1,206,500	
Less:				
Taxes on Sale of Property				
Capital Gains Tax	$113,168			
Income Tax	42,345	$155,513		
Unpaid Mortgage Balance		513,081	668,594	
			537,906	
Present Value Factor (12%)			.3220	173,206
Total Present Value of Equity Investment				$279,015
Original Mortgage Balance				$600,000
Total Project Value				$879,015

Example of Computing Taxes
on Sale of Property

Assumptions:

(a) Property held 10 years (120) months
(b) Basis equal to $669,138 (original basis equal to $950,000)
(c) Sales price equal to $1,206,500
(d) Depreciation taken on improvements of $700,000 equal to $280,862
(e) Had depreciation been taken on a straight line basis, depreciation would have been equal to $175,000
(f) Taxpayer is in the 50% bracket

Procedure for Determination of Tax:

Total Gain Subject to Tax: $537362	
Portion Subject to Capital Gains Tax:	
Increase in property value	$256,500
Amount which would have been taken through straight line depreciation	$175,000
Allowable accelerated depreciation (280,862-175,000) x .20	$ 21,172
	$452,672
Portion Subject to Ordinary Income Tax:	
Non-allowable Accelerated Depreciation (280,862-175,000) x .80	84,690
	$537,362
Capital Gains Tax ($452,672 x .25)	$113,168
Income Tax ($84,690 x .50)	42,345
Total Taxes on Sale	$155,513

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	No depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$

$$\$ \ 46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
MORTGAGE BANKERS SCH	[redacted]	-	.1800	.3000	[redacted]	[redacted]

Card 2

Project Description	Extraordinary Expenses	Cost of Equity Capital	Staging Multiplier	Staging Year
24 UNIT APT - CASE 2	7625	.1200	.	

Card 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000	.	00	1 00
BUILDING	165300	1.0000	.	03	1 35
PARKING	7200	0.5000	.	03	1 10
FURNISHINGS	15200	1.0000	.	07	1 07
ELEVATOR	12500	0.8000	.	03	1 12
TRANSACTION COST	1800	1.0000	.	03	1 35
7TH YR REFURBISHING	10000	1.0000		01	8 07

Card 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775	.	01	05	20	03
SELLERS 2ND MORTG.	15000		.0850	.	01	05	10	05
REFINANCED FIRST	190000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900	.	08	10		

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\frac{\text{Spendable cash + tax savings on other income + (Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capital Loan Interest Rate
.0500	.0900

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD 1 COLS. 61 and 64?

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST
LAND	.00	1	.	0	$ 40000.
BUILDING	1.00	1	35.	3	$ 165300.
ELEVATOR	.80	1	9.	3	$ 12500.
FURNISHINGS	1.00	1	7.	5	$ 13200.
PARKING	.50	1	10.	3	$ 7200.
TRANSACTION COST	1.00	1	35.	3	$ 1800.
7TH YR REFURBISH	1.00	8	7.	1	$ 10000.
TOTAL INITIAL INVESTMENT					$ 240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.
STAGING YR(01),FACTOR	.00	COST OF EQUITY CAPITAL	.1200

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -

$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum_{}^{N} \left[(\text{Spendable Cash Aft Taxes + Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1} \right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7876.	1948.	3832.	5495.	7007.	4015.	5068.	3064.	4375.	6071.
PLUS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	584.	1149.	1648.	2102.	1204.	1520.	919.	1312.	1821.
CASH FROM OPERATIONS	-1213.	6084.	5777.	5535.	5339.	29306.	5265.	14287.	4114.	3826.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4762.	5777.	5535.	5339.	29306.	5265.	4287.	4114.	3826.
TAX SAVINGS ON OTHER INCOME	2363.	.	.	.	.	.	.	.	.	.
* * *

GRAASKAMP ISLAND CASE

A fertile Tropical Paradise has just been discovered of the coast of Milwaukee. The product of tumultuous upheavals and faulting along the earth plates, the new island has a year-round climate comparable to Tahiti.

First on the scene and to lay claim to this island paradise was the renowned international explorer, Chief Graaskamp and crew. After a quick reconaissance Graaskamp has decided to drop anchor and examine the opportunities for development and operation of sales and rental apartments.

The Chief is thoroughly experienced in land development in the frosty North, but tropical development is virgin territory. Preliminary cash flow analysis for building and operations indicate that an equity investment of $5.8 million will be required, but no investors are interested.

Milwaukee radio reported that new rumblings were heard in the vicinity of the new island.

Is Graaskamp Island sinking, or can it be saved?

ILLUSTRATIVE LAND VALUE ANALYSIS FOR SALE HOUSING UNITS

DETACHED HOMES @ 3.0 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

	Average Unit[1/] 1,600 s.f.
I. Estimated Development Costs	
A. Construction and Site Costs @$14.00/s.f. 2/	$22,400
B. Non-Construction and Site Costs @ 5% of Construction	1,120
Subtotal	$23,520
C. Promotion-Sales (@ 6% of Sale Price)	2,460
D. Developer's Profit Allowance (@15% of Sale Price)	6,150
E. Total Cost, Excluding Land	$32,130
II. Sale Price, Supportable Ground Value	
A. Sale Price	$41,000
B. Less Total Cost	32,130
C. Supportable Ground Value per unit	$ 8,870
D. Supportable Ground Value as a percent of Sales Price	22%
E. Average Density (D.U.'s/acre)	3.0
F. Supportable Ground Value per acre	$26,610

1/ Average unit excluding basement and garage.

2/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

3/ Real Estate taxes during construction and construction financing.

ILLUSTRATIVE LAND VALUE ANALYSIS FOR RENTAL HOUSING UNITS

GARDEN APARTMENTS @ 15 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

1.	**Estimated Improvement Cost**	
	A. Construction @ $13 per square foot[1/] @ 1,000 s.f.	$14,300
	B. Non-construction @ 5% of construction cost 2/	700
	C. Landscaping and Site Work	500
	D. Total Improvement Cost	$15,500
2.	**Net Income from Operations**	
	A. Gross Income (@ $240/month or 24¢/s.f.)	$ 2,880
	B. Less 5% Vacancy and Collection Allowance	144
	C. Plus Other Income @ $3/month	36
	D. Gross Effective Income	$ 2,772
	E. Less Operating Expenses and Real Estate Tax (@ 37% of gross)	$ 1,025
	F. Net Operating Income	$ 1,747
3.	**Financing**	
	A. Economic Value at 9.5% Capitalization Rate	$18,390
	B. Mortgage at 75% of Economic Value	13,792
	C. Debt Service at 9.5% Constant (i.e., 25 years at 8.25% Interest)	$ 1,310
4.	**Net Cash Flow**	
	A. Net Operating Income	$ 1,747
	B. Less Debt Service	1,310
	C. Net Cash Flow	$ 437
5.	**Residual Values**	
	A. Equity @ 15% ROE	$ 2,914
	B. Mortgage	13,792
	C. Total Supportable Costs	$16,706
	D. Improvement Cost	15,500
	E. Residual Value of Land	$ 1,206
	F. Average Density (D.U.'s/acre)	15.0
	G. Residual Value per acre	$18,090

1/ Gross living area; excludes unfinished bas

1/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

2/ Real Estate taxes during construction and construction financing.

BUILDING & OPERATIONS CASHFLOW

GRAASKAMP ISLAND

THOUSANDS OF 1972 $

L/C		1973	1974	1975	1976	1977	TOTAL
A. DEVELOPMENT ACTIVITIES							
SOURCES OF FUNDS							
1 SINGLE FAMILY	SALES	....	2533	5002	5152	5168	17856
2 MULTI-FAMILY	RENTAL	....	256	323	424	421	1425
3 TOTAL		....	2790	5325	5576	5589	19282
APPLICATIONS OF FUNDS							
LAND							
4 SINGLE FAMILY		548	1082	1114	1118	....	3863
5 MULTI-FAMILY		231	291	382	379	....	1285
6 SUBTOTAL		779	1373	1497	1497	....	5148
CONSTRUCTION							
7 SINGLE FAMILY		1411	2704	2704	2634	....	9455
8 MULTI-FAMILY		1395	1705	2170	2092	....	7362
9 SUBTOTAL		2806	4409	4874	4726	....	16817
OPERATIONS & SALES							
10 S-F SALES COMMISSION		....	152	300	309	310	1071
11 M-F OPERATING EXPENSES		....	95	119	156	155	527
12 SUBTOTAL		....	247	419	466	465	1598
13 TOTAL APPLICATIONS		3586	6030	6791	6690	465	23565
NET CASH FLOW FROM DEV. ACT.							
14 ANNUAL		-3586	-3240	-1466	-1114	5123	-4283
15 CUMULATIVE		-3586	-6826	-8292	-9406	-4283	....
B. CAPITAL ACTIVITIES							
SOURCES OF FUNDS							
16 MORTGAGE PROCEEDS		....	1278	1608	2109	2094	7090
17 LIQUIDATION		....	....	....	....	11629	11629
18 SUBTOTAL		....	1278	1608	2109	13723	18719
APPLICATIONS OF FUNDS							
19 MORTGAGE INTEREST		....	108	243	417	585	1354
20 PRINCIPAL REPAYMENTS		....	26	61	110	6891	7090
21 DEBT SERVICE		....	135	305	527	7477	8445
22 NCF FROM CAPITAL ACTIVITIES		....	1143	1303	1581	6246	10274
C. PROJECT NET CASH FLOW							
23 ANNUAL		-3586	-2097	-162	466	11369	5991
24 CUMULATIVE		-3586	-5683	-5845	-5378	5991	....

LINE 23 (COL 1 - 5) INTERNAL RATE-OF-RETURN IS 21.845%

LINE 23 (COL 1 - 5) NET PRESENT VALUE IS 1275.29 AT 15.00%

Outline to
Guide to Real Estate Investment Analysis

AFTERNOON SESSION

I. Any measure of yield requires careful definition of what is an annual profit and what will be included in resale proceeds and an explicit assumption about the opportunity cost of money or the reinvestment rate.

A. Refer to definitions on page of Case problem #2.

B. Refer to alternative definitions of annual profits and sales proceeds as found in limited partnership agreements by Stephen Roulac.

"Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation,
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket.
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,

3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment,
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

C. Suggestions for the appraiser looking for a standard on which to base valuation judgments:

1. Relate to purpose of appraisal and significance of hard dollar and soft dollars to the viewpoint to be served
2. Ellwood method
3. EDUCARE standard models for the investor/buyer
4. Standard assumptions to be promulgated by SEC
5. The appraisal customer's ideal preferences

II. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

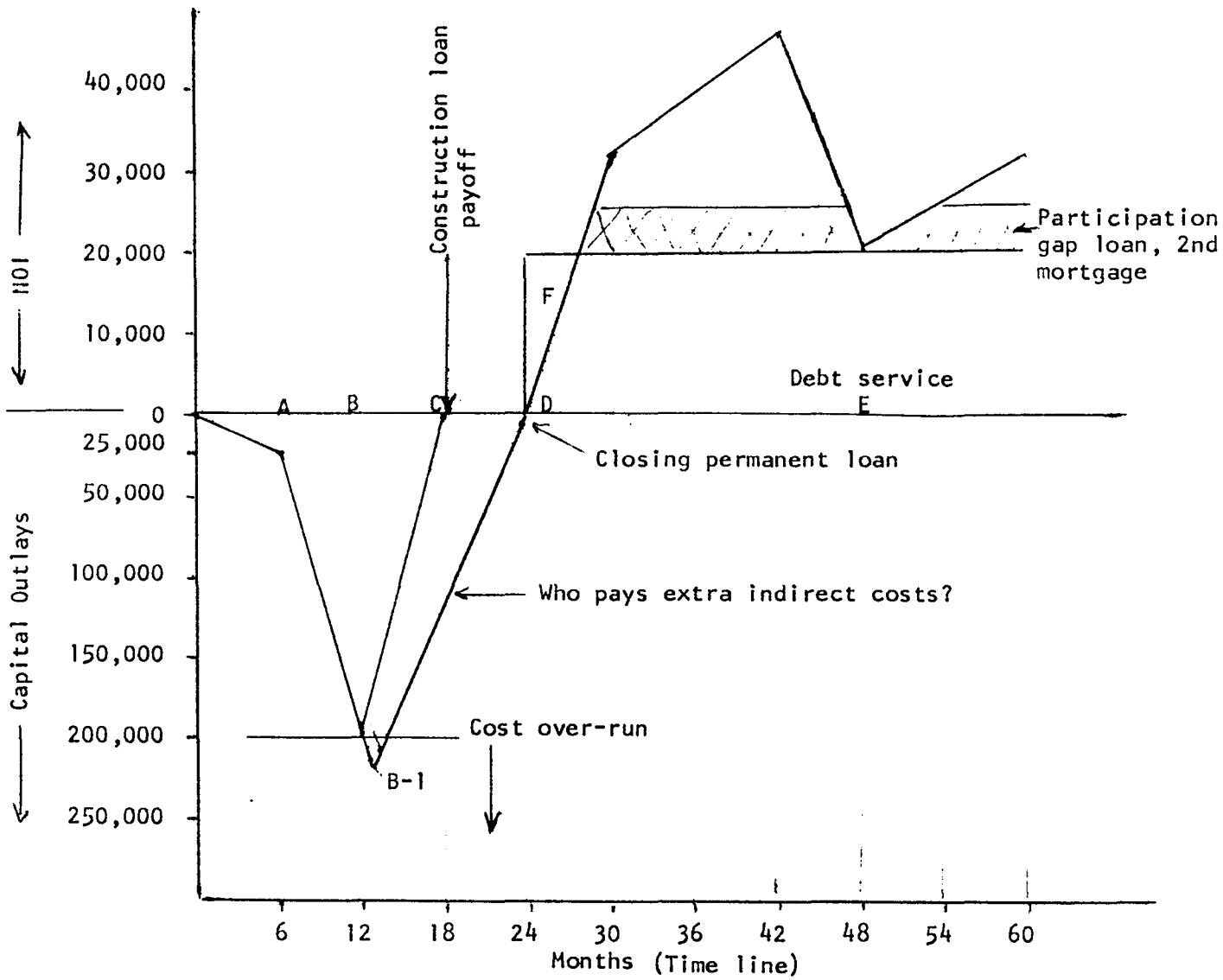
1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate uncertainty (research or confirm)
2. Reduce frequency or severity of loss contingencies (incentive contracts)
3. Combine risks to increase predictability (reserves for expenses or pool investments)

4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (gap financing)

F. A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

2nd Edition

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

McCloud B. Hodges, Jr., 6819 Elm St., McLean, Va. (15 Nov. 1972)

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:
- → 1–Produces IMV for a given after tax equity yield rate
- 2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:
- 1–Constant net income value for each year
- → 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:
- 1–Corporation (Operating losses applied to other investments)
- 2–Corporation (Operating losses carried back/carried over)
- 3–Corporation (Taxable income offset by losses from other investments)
- 4–Corporation (Set-up solely for this investment)
- → 5–Non-corporation (Operating losses applied to other investments)
- 6–Non-corporation (Operating losses carried back/carried over)
- 7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:
- 1–No recapture
- 2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- → 3–All other residential rentals (After 100 months-declines 1% per month)
- 4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:
- 1–% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)
- 3–Reversionary $ amount(Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

NUMBER OF ASSETS (0 to 6) | LAND VALUE (0 if ASSET CODE 3 is not used)

110 | 3 | 0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

NUMBER OF MORTGAGES (0 to 6)

117 | 2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

BEFORE TAX IMV(11.00%) $ 3919359
AFTER TAX IMV(8.50%) $ 3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES, JR
6819 ELM ST. MCLEAN, VA. 22101 14:49EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 3980860
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
1. 9.000% 28 YRS 0 MONS $ 3267000

EQUITY CASH: $ 713860

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE $ 3530000

LESS: MORTGAGE BAL. 2847849
SALES COMMISSION 70600

CASH REVERSION BEFORE TAXES $ 611551

LESS: CAPITAL GAINS TAX(STD.) 256985
TAX ON RECAPTURED DEPR. 29904
TAX PREFERENCE TAX 12354

CASH REVERSION AFTER TAXES $ 312308

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

V. Analysis of a Limited Partnership Prospectus

A. From the investor viewpoint there are five basic areas of consideration in the selection of limited partnership investment.

1. Strategic choice of property type
2. Attributes of specific property or property pool
3. The marketing method utilized to sell security
4. The use of incentive clauses for control of the general partner
5. The financial projection

B. The strategy in picking a property is to decide where on the time line you wish to commit because of the profit centers in which you wish to participate.

1. The profit centers
2. Position on the time line as a risk control device
3. Staging of capital outlay
4. Priority of claim on cash proceeds and tax shelters
5. Measures of yield

C. Attributes of specific property

1. A limited partnership share is a second mortgage revenue bond
2. Does it lower break-even point for high risk development venture?
3. Does it accelerate payback for the general or limited partner?
4. Does it retail sizzle for the cow carcass bought wholesale?

D. The marketing method utilized to sell security

1. Direct selling in the traditional real estate manner - high cost per unit sold for packager and high cost for investor because of brokers front end load.
2. The seminar approach - loss of credibility, loss of efficiency and now questions of legality.
3. Channeling through securities brokers (efficiency of mutual shares marketing but dependency on uninformed licensed security salesmen).
4. Marketing compensation consists of front-end loads, management fees, or praticipation in the event - % of asset or of money raised?

E. The use of incentive clauses for control of the general partner

1. Disenchantment clauses for replacement of general partner or property manager or both are critical.
2. Dissolution clauses for sale or refinancing must be watched carefully where general partner has participation.
3. Variance in projections must be controlled:

    a. Provision for cost guarantees
    b. Provision for earn-outs against absorption period
    c. Provision for loans and terms from general partner or assessment and penalties for limited partners for liquidity gaps

d. A guarantee against negative cash flows
e. Protection against construction of competitive units on adjacent property with 36 month option or right of first refusal.

4. Incentive clauses to make self interest of general partner the same as limited partner.

a. Management fee subject to downward adjustment each year if certain expenses have increased at a greater rate than gross income.
b. Bonus management fees for occupancy in excess of a stated level, say 94% or absorption rate in excess of some stated schedule.
c. Controls on GP access to certain profit centers such as leasing equipment to partnership, insurance premiums, or similar spinoffs contingent on meeting certain cash payouts to limited partners on a cumulative basis.

F. The financial projection

1. Should be tested for capacity to survive the surprise potential with variables which include payback ratio and cash breakeven point given definitions of returns to general partner. Be careful to define base for GP participation according to prospectus rather than according to sound financial principals.

G. Basic readings and periodicals with which the investment counselor should be familiar:

1. Real Estate Syndication Digest 1972, Principles and Applications, by Stephen E. Roulac, published by Real Estate Syndication Digest, San Francisco, California
2. The Real Estate Trusts: America's Newest Billionaires, by Kenneth Campbell, published by Audit Investment Research, Inc. 230 Park Avenue, New York
3. Real Estate Review quarterly magazine, 89 Beach Street, Boston, Mass.
4. Principles of Real Estate Syndication, Samuel K. Freshman, published by Parker & Son, 6500 Flotilla Street, Los Angeles, California 90040
5. The Mortgage & Real Estate Executives Report by Warren, Gorham & Lamont, Inc., 89 Brach Street, Boston, Mass. 02111
6. "Caveat Emptor in Real Estate Equities" by Samuel L. Hayes & Leonard M. Harlan, Harvard Business Review, March-April 1972
   or
   The Real Estate Appraiser, Summer 1972
7. Real Estate Securities & Syndication

VI. Recent innovations in financial analysis

A. Cash flow models discussed today process one set of numbers at a time to test a project for sensitivity to a change in assumption. It is possible, however, to build a model to permit introduction of certain variables as a range of numbers rather than a single point assumption.

1. Operational real estate investment probability or risk density models have been built in various parts of the country, including

   a. Professor Steve Pyhrr at University of Texas
   b. A graduate student group at the Harvard School of Business

2. Real estate portfolio risk models are also under development to apply "covariants investment theory" which is used for the securities market by various institutions

   a. Professor Pellatt of the University of Manitoba
   b. Wells Fargo Bank
   c. Various oil company investment departments

B. The impact of EDUCARE and the computer terminal

C. The availability of competing national services for cash flow analysis

D. The encroachment of sophisticated professionals in money management and capital budgeting on appraisal business

1. Professional accountants and engineering firms
2. Bank trust department advisory services
3. Increasing state and federal regulation and auditing of real estate investment performance on standards related to corporate security investment

Guide to Real Estate Investment Analysis
Tampa, Florida
by Professor James A. Graaskamp
January 10, 1974

AFTERNOON SESSION

I. Any measure of yield requires careful definition of what is an annual profit and what will be included in resale proceeds and an explicit assumption about the opportunity cost of money or the reinvestment rate.

A. Refer to definitions on page of Case problem #2.

B. Refer to alternative definitions of annual profits and sales proceeds as found in limited partnership agreements by Stephen Roulac.

"Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation,
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket.
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,

3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment,
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

C. Suggestions for the appraiser looking for a standard on which to base valuation judgments:

1. Relate to purpose of appraisal and significance of hard dollar and soft dollars to the viewpoint to be served
2. Ellwood method
3. EDUCARE standard models for the investor/buyer
4. Standard assumptions to be promulgated by SEC
5. The appraisal customer's ideal preferences

II. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements:

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

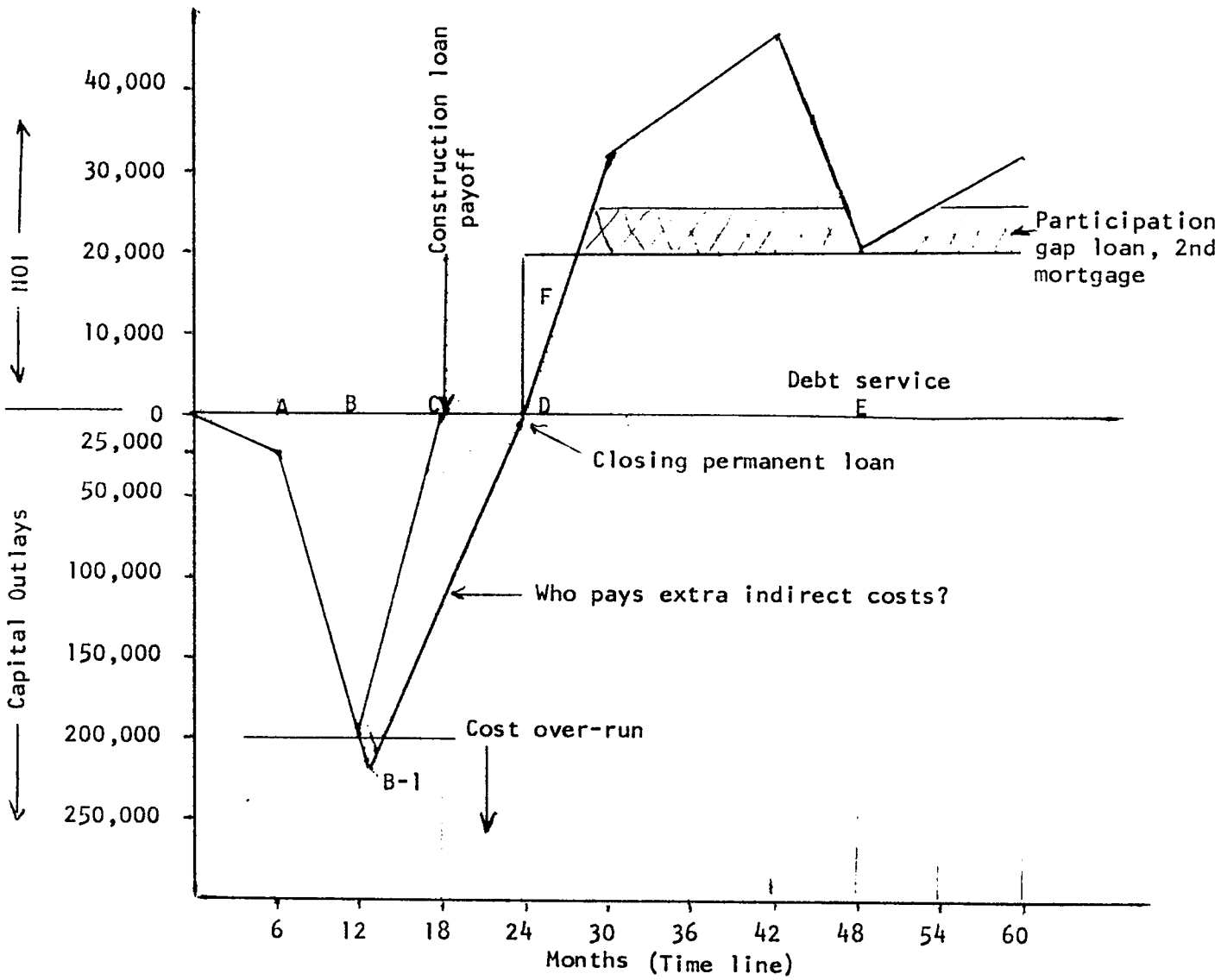
1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate uncertainty (research or confirm)
2. Reduce frequency or severity of loss contingencies (incentive contracts)
3. Combine risks to increase predictability (reserves for expenses or pool investments)

4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (gap financing)

F. A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

III. Risk Analysis applied to a Mortgage Loan Application

A. Motivation to repay is primarily cash dividends

1. The pleasure, pain, bail-out principle
2. Identify profit centers for borrower or packager on timeline
3. Determine if major profit centers occur before or after closing of loan
4. Determine duration of cash dividends relative to duration of loan
5. Resources of borrower to cover capital outlay overrun
6. Cushion in cash-flow variance indicated by default ratio, expense ratios, and after-tax spendable cash
7. Management incentives created by ancillary contracts such as limited partnerships, earn-out land contracts, and profit sharing formulas

B. Bail-out--alternative use for property

1. Pain of equity loss in foreclosure is fictitious--consider payback ratio--thus, poor motivation
2. A better incentive "pain" technique would be a national black list for borrowers in default on mortgages to financial institutions maintained by federal regulatory authorities.
3. Threat of foreclosure implies lender has alternative use for property.
   a. Rents restructured to lender's cost to acquire
   b. Conversion of property
   c. Consideration of payback to be realized by drastic surgery such as charitable donation, demolition, financial reorganization, or joint venture resale to reshape management incentives.

IV. Risk Analysis applied to a Limited Partnership Prospectus

A. From the investor viewpoint there are five basic areas of consideration in the selection of limited partnership investment.

1. Strategic choice of property type
2. Attributes of specific property or property pool
3. The marketing method utilized to sell security
4. The use of incentive clauses for control of the general partner
5. The financial projection

B. Strategy is concerned with matching the risk to the profit center and thus the investment to the appropriate point on the timeline. For example:

1. The political risk of securing an approved development plan and the monopoly profit that results
2. The manufacturing profit of building
3. The profit of creating a captive market for services
4. The time horizon for build-out, payback, or yes-no decisions

C. A limited partnership share is a second mortgage revenue bond. Is its use appropriate to the financial attributes of specific property types?

1. Does it lower breakeven point for high risk development venture?
2. Does it accelerate payback for the general or limited partner?
3. Does it retail sizzle for the cow carcass bought wholesale?
4. Is liquidity of shares entirely dependent on liquidity of property?

D. The marketing method utilized to sell security

1. Direct selling in the traditional real estate manner--high cost per unit sold for packager and high cost for investor because of brokers front end load.
2. The seminar approach--loss of credibility, loss of efficiency and now questions of legality.
3. Channeling through securities brokers (efficiency of mutual shares marketing but dependency on uninformed licensed security salesmen).
4. Marketing compensation consists of front-end loads, management fees, or participation in the event--% of asset or of money raised?

E. The use of incentive clauses for control of the general partner

1. Disenchantment clauses for replacement of general partner or property manager or both are critical.
2. Dissolution clauses for sale or refinancing must be watched carefully where general partner has participation.
3. Variance in projections must be controlled:

   a. Provision for cost guarantees
   b. Provision for earn-outs against absorption period
   c. Provision for loans and terms from general partner or assessment and penalties for limited partners for liquidity gaps
   d. A guarantee against negative cash flows
   e. Protection against construction of competitive units on adjacent property with 36 month option or right of first refusal.

4. Incentive clauses to make self interest of general partner the same as limited partner.

   a. Management fee subject to downward adjustment each year if certain expenses have increased at a greater rate than gross income.
   b. Bonus management fees for occupancy in excess of a stated level, say 94% or absorption rate in excess of some stated schedule.
   c. Controls on GP access to certain profit centers such as leasing equipment to partnership, insurance premiums, or similar spinoffs contingent on meeting certain cash payouts to limited partners on a cumulative basis.

Reading References:

1. "Caveat Emptor in Real Estate Equities" by Samuel L. Hayes & Leonard M. Harlan, Harvard Business Review, March-April 1972; OR The Real Estate Appraiser, Summer 1972
2. Real Estate Securities and Syndication by Stephen E. Roulac, published by National Association of Real Estate Boards, Chicago, Ill.
3. Real Estate Venture Analysis, by Stephen Roulac, Published by Practising Law Institute, 1133 Avenue of the Americas, New York, N.Y. 10036
4. Real Estate Review quarterly magazine, 89 Beach Street, Boston, Mass.

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2nd Edition

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:
- → 1–Produces IMV for a given after tax equity yield rate
- 2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:
- 1–Constant net income value for each year
- → 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:
- 1–Corporation (Operating losses applied to other investments)
- 2–Corporation (Operating losses carried back/carried over)
- 3–Corporation (Taxable income offset by losses from other investments)
- 4–Corporation (Set-up solely for this investment)
- → 5–Non-corporation (Operating losses applied to other investments)
- 6–Non-corporation (Operating losses carried back/carried over)
- 7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:
- 1–No recapture
- 2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- → 3–All other residential rentals (After 100 months-declines 1% per month)
- 4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:
- 1–% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)
- 3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

```
BEFORE TAX IMV(11.00%) $  3919359
AFTER TAX IMV( 8.50%) $  3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1


INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST.   MCLEAN, VA. 22101     14:49EST 11/15/72

**************************************************
INVESTMENT MARKET VALUE:

       AFTER TAX YIELD OF    8.50%:        $ 3980860
**************************************************
               DETAIL FOR AFTER TAX IMV

FINANCING:

        MORTGAGES:
             1.    9.000%  28 YRS  0 MONS  $  3267000

        EQUITY CASH:                        $   713860


RESALE OF INVESTMENT IN 10 YEARS:

        ESTIMATED RESALE PRICE              $  3530000

          LESS: MORTGAGE BAL.                  2847849
                SALES COMMISSION                 70600

        CASH REVERSION BEFORE TAXES         $   611551

          LESS: CAPITAL GAINS TAX(STD.)        256985
                TAX ON RECAPTURED DEPR.         29904
                TAX PREFERENCE TAX              12354

        CASH REVERSION AFTER TAXES          $   312308
```

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

A Computer Terminal Teaching Model by EDUCARE

```
CREATE DEMO,,

READY          (1)



RUN LDM

LDM            20:33CDT

INPUT FILE, MODEL NAME? LDM1,DEMO
                                  (2)

ACRES ACQUIRED? 20
                  (3)

$/ACRE? 1500
            (4)

RATIO: LOAN $/ACRE $ ? .95
                          (5)

UNITS/ACRE? 2.5
              (6)

UNITS DEVELOPED? 15,15,20
                          (7)

DEV $/UNIT? 3500
              (8)

RATIO: LOAN $/DEV $? .90
                        (9)

UNITS SOLD? 10,15,15,8,2
                        (10)

SALES $/UNIT SOLD? 8000
                        (11)

LOAN INT RATE FOR LAND? .10
   FOR DEVELOPMENT? .10
                        (12)

RATIO: LAND LOAN REPMT/SALES $? .25
                                   (13)

RATIO: DEV LOAN REPMT/SALES $? .50
                                   (14)

EFF. R.E. TAX RATE? .024 (15)
```

```
PROJECT TITLE? DEMONSTRATION CASE

# OF CHAR PER COL? 10
# OF COLUMNS? 5                    (16)
ENTER COLUMN HEADINGS FOR:
 COL # 1 ? 1974
 COL # 2 ? 1975
 COL # 3 ? 1976                    (17)
 COL # 4 ? 1977
 COL # 5 ? 1978

USED     1.43 UNITS


RUN FAL***

FAL          20:38CDT

MODEL NAME?DEMO                    (18)

COMMAND?PRINT REPORTS 1 2
                                   (19)
```

DATA SUMMARY

	1974	1975	1976	1977	1978
$/ACRE	1,500	1,500	1,500	1,500	1,500
R.E. TAX RATE	.024	.024	.024	.024	.024
LOAN $/ACRE $	.950	.950	.950	.950	.950
DEV $/UNIT	3,500	3,500	3,500	3,500	3,500
LOAN $/DEV $	.900	.900	.900	.900	.900
$/UNIT SOLD	8,000	8,000	8,000	8,000	8,000
LOAN RPMT RATE					
LAND	.250	.250	.250	.250	.250
DEV	.500	.500	.500	.500	.500
LAND LOAN					
AMT	28,500	-	-	-	-
BAL	8,500	-	-	-	-
DEV LOAN					
AMT	47,250	47,250	63,000	-	-
BAL	7,250	-	3,000	-	-
EQUITY					
LAND	1,500	-	-	-	-
DEV	5,250	5,250	7,000	-	-

LAND DEVELOPMENT CASH FLOW
DEMONSTRATION CASE

	1974	1975	1976	1977	1978
ACRES ACQUIRED	20.0	-	-	-	-
ACRES AVAILABLE	14.0	8.0	-	-	-
UNITS DEV.	15	15	20	-	-
UNITS SOLD	10	15	15	8	2
UNSOLD UNITS	5	5	10	2	-
RECEIPTS					
SALES	80,000	120,000	120,000	64,000	16,000
INV. EQ.	1,500	-	-	-	-
LAND LOAN	28,500	-	-	-	-
DEV. LOAN	47,250	47,250	63,000	-	-
TOTAL	157,250	167,250	183,000	64,000	16,000
DISBURSEMENTS					
LAND					
COST	30,000	-	-	-	-
LOAN PRIN	20,000	8,500	-	-	-
LOAN INT	2,850	850	-	-	-
TAXES	504	288	-	-	-
DEVELOPMENT					
COST	52,500	52,500	70,000	-	-
LOAN PRIN	40,000	54,500	60,000	3,000	-
LOAN INT	4,725	5,450	6,300	300	-
TAXES ON					
UNSOLD UNITS	960	960	1,920	384	-
TOTAL	151,539	123,048	138,220	3,684	-
NET FLOW	-5,711	-44,202	-44,780	-60,316	-16,000

COMMAND?STOP (20)

PROGRAM STOP AT 2290

USED 4.34 UNITS
RUN COST

COST 20:45CDT

ACCRUED CHARGES SINCE SIGNIN
$ 2.73 COMPUTER
$ 1.72 CONNECT (21)
$ 1.12 CHARACTERS
$ 5.57 TOTAL(95.26)

USED .11 UNITS
BYE
0008.30 CRU 0000.25 TCH 0004.63 KC

OFF AT 20:45CDT 10/19/73

```
DEMO        20:38CDT

10 DATA
15 491 20
20 330 1500 *
25 380 .95 *
30 302 2.5 *
35 493 15 15 20
40 390 3500 *
42 400 .90 *
45 494 10 15 15 8 2
55 420 8000 *
60 303 .10 .10
65 422 .25 *
70 424 .50 *
75 340 .024 *
100 OPTIONS
110 USE LDM1$$
120 WIDTH 71
130 REPEATT
140 REPEATH
200 TITLE
210 330 490 1 25 1
220 "DATA SUMMARY"
230 TITLE
240 491 640 1 25 1
250 "LAND DEVELOPMENT CASH FLOW"
255 "DEMONSTRATION CASE"
260 COLUMNS
271 10 "1974"
272 10 "1975"
273 10 "1976"
274 10 "1977"
275 10 "1978"
300 ROWS
302 "UNITS/ACRE"
303 "INT RATES"
330 "$/ACRE"
340 D3 "R.E. TAX RATE"
380 D3 "LOAN $/ACRE $"
390 "DEV $/UNIT"
400 D3 "LOAN $/DEV $"
420 "$/UNIT SOLD"
422 D3 "LOAN RPMT RATE" " LAND"
424 D3 " DEV"
440 "LAND LOAN" " AMT"
450 " BAL"
460 "DEV LOAN" " AMT"
470 " BAL"
480 "EQUITY" " LAND"
490 " DEV"
491 D1 "ACRES ACQUIRED"
492 D1 "ACRES AVAILABLE"
493 "UNITS DEV."
494 "UNITS SOLD"
495 "UNSOLD UNITS"
500 "
```

(Listing is incomplete)

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at Grand Rapids, Michigan
University of Michigan Extension Service
and
Grand Rapids Chapter of the Society of Real Estate Appraisers
Wednesday, May 23, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Elements of Financial Feasibility

COFFEE BREAK - 10:30

IV. The Concept of Risk

V. Determining Objectives and Criteria of the Client

VI. Structuring Market Data Analysis With Models

LUNCHEON - 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants

II. Developing a Customer Profile With a Consumer Survey

III. Pre-Architectural Programming

COFFEE BREAK - 2:30

IV. Structuring the Financial Analysis

V. Modeling Cash Flow Simulation for Rental Properties

VI. Evolution of Concepts for Measuring Rate of Return

VII. Risk Evaluation

FEASIBILITY ANALYSIS SEMINAR OUTLINE

May 23, 1973
Grand Rapids, Michigan

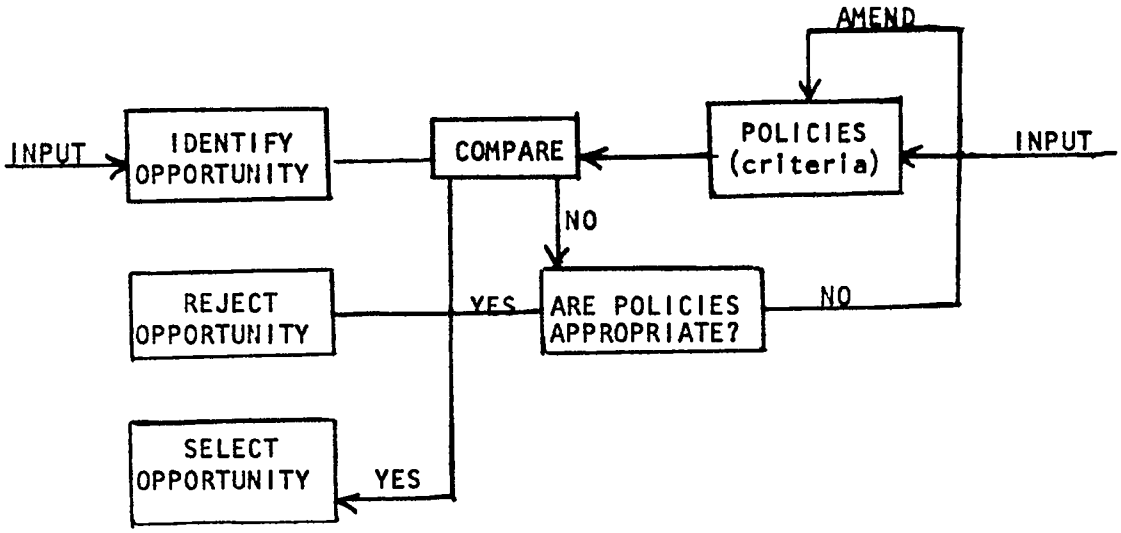
I. Real Estate as an Enterprise and the Management Process

A. Traditional Sequence of Management Function:

1. Planning
2. Organizing
3. Directing
4. Controlling

B. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunities
7. Operating the systems that have been installed
8. Maintaining and continuously perfecting the operating systems



C. This list suggests a flow of events, the presence of standards or policies for go or no-go decisions, and hints at the presence of feedback as part of a dynamic systems process.

1. Feasibility analysis will be concerned primarily with the first five functions
2. Many enterprises are cash cycle enterprises

D. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so similar
3. The nature of real estate as an economic good - space over time and money over time
4. A real estate project as an assembly of sub-systems

E. In the language of systems the basic elements are:

1. Existing conditions - a specific location or quantity referred to as levels, reservoirs or states.
2. Action is a change from one level or state to another and is measured by flow rates.
3. Choices reflect alternative flow rates which can be controlled or selected and changing the flow rate is a decision.
4. Information channels carry messages about states and flow rates which lead to decisions to modify to achieve some objective or criterion.
5. Feasibility analysts are typically involved in identifying and measuring flow rates and their probable patterns in light of some decision.

F. There are three types of information which affect the decision:

1. Outside information about alternatives which is generally available to inquiry or can be generated by inference from observed behavior.
2. Inside information which is the product of information flows internally generated from the experience of the organization and internal values and objectives.
3. Intuitive information which relates to the perceptions, skills, and bias of the decision maker.
4. Appraisal tends to ignore the latter two while feasibility analysis generally begins with the latter two.

G. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on the one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

1. Put in another way, that of the designer, one must judge the success of a work of art by matching its form to its context.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context.

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See Illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

$$P \times R \times T \times D \div PR \times MS = \text{Rooms per Average Weekend Day}$$

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

202A Breese Terrace, Madison, Wisconsin 53705 608 238-6873

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

November 10, 1971

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

   No ↓

   Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

   No ↓

   Yes → County _____ State _____
   Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

   Yes ↓

   No → What is your main reason? _____
   _____
   If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only <u>one</u> in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify)	_____	

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

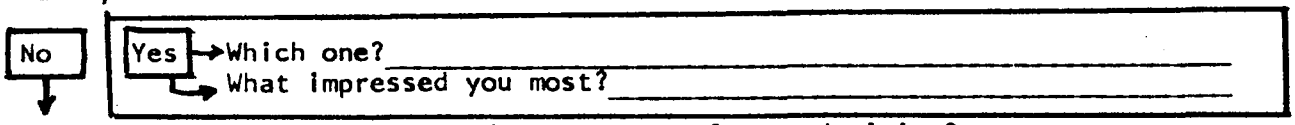
6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

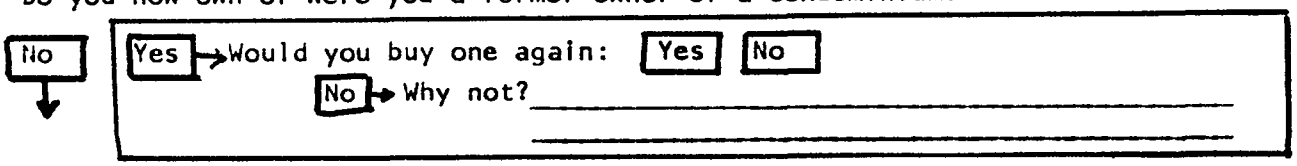
7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?



9. Do you now own or were you a former owner of a condominium?



10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar
Grand Rapids, Michigan
May 23, 1973

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____

Age of head of household_____
Occupation_____
Hometown _____

Children: Under 6_____
6-12 _____
13-17 _____
18 & over_____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCTING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

PART I OF IMV INVESTMENT VALUE APPROACH

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	15497.	15236.	15812.	15411.	14972.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	5403.	6742.	4637.	5880.	7149.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	3593.	3891.	5152.	5590.	6065.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	21582.	8793.	17213.	7434.	7655.
LESS TAXES	.	434.	911.	1390.	1870.	1620.	2022.	1391.	1764.	2144.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	19961.	6770.	15822.	5670.	5510.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	19961.	6770.	5822.	5670.	5510.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200		
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200		
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500		
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100		
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900		
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.		
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200		

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	70000.	70000.	70000.	70000.	70000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 170000.
MONTHLY PAYMENT $ 1421. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	3593.	3891.	4214.	4564.	4943.
INTEREST	.	.	.	.	.	13470.	13171.	12848.	12499.	12120.
BALANCE	.	.	.	.	.	166406.	162515.	158300.	153736.	148792.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

A GUIDE TO FEASIBILITY ANALYSIS

A seminar at Los Angeles, California
AIREA Chapter 5, Los Angeles, California
Friday, June 8, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Elements of Financial Feasibility

COFFEE BREAK: 10:30 A.M.

IV. The Concept of Risk

V. Determining Objectives and Criteria of the Client

VI. Structuring Market Data Analysis with Models

LUNCHEON: 12:00 noon

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation

II. Identification of Prospective Buyers or Tenants

III. Developing a Customer Profile with a Consumer Survey

IV. Planning and Executing a Consumer Survey

COFFEE BREAK: 2:30 P.M.

V. The Regulatory Context

VI. Presentation of Recommendations--Pre-Architectural Programming

FEASIBILITY ANALYSIS SEMINAR OUTLINE

June 8, 1973
Los Angeles, California

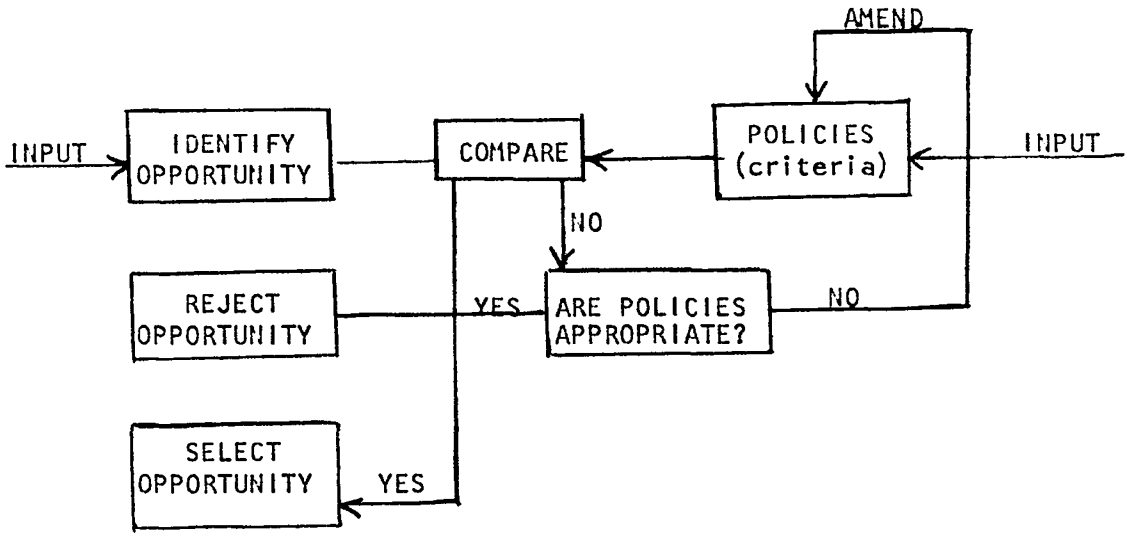
I. Real Estate as an Enterprise and the Management Process

A. Traditional Sequence of Management Function:

1. Planning
2. Organizing
3. Directing
4. Controlling

B. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunities
7. Operating the systems that have been installed
8. Maintaining and continuously perfecting the operating systems



C. This list suggests a flow of events, the presence of standards or policies for go or no-go decisions, and hints at the presence of feedback as part of a dynamic systems process.

1. Feasibility analysis will be concerned primarily with the first five functions
2. Many enterprises are cash cycle enterprises

D. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so similar
3. The nature of real estate as an economic good - space over time and money over time
4. A real estate project as an assembly of sub-systems

E. In the language of systems the basic elements are:

1. Existing conditions - a specific location or quantity referred to as levels, reservoirs or states.
2. Action is a change from one level or state to another and is measured by flow rates.
3. Choices reflect alternative flow rates which can be controlled or selected and changing the flow rate is a decision.
4. Information channels carry messages about states and flow rates which lead to decisions to modify to achieve some objective or criterion.
5. Feasibility analysts are typically involved in identifying and measuring flow rates and their probable patterns in light of some decision.

F. There are three types of information which affect the decision:

1. Outside information about alternatives which is generally available to inquiry or can be generated by inference from observed behavior.
2. Inside information which is the product of information flows internally generated from the experience of the organization and internal values and objectives.
3. Intuitive information which relates to the perceptions, skills, and bias of the decision maker.
4. Appraisal tends to ignore the latter two while feasibility analysis generally begins with the latter two.

G. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on the one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

1. Put in another way, that of the designer, one must judge the success of a work of art by matching its form to its context.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context.

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS--AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro-markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units--who signs the check--the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. Identification of the Prospective Buyers or Tenants

A. The rate of market absorption is the single most important assumption in projecting the revenue stream of a project. Since real estate consists of micro-markets of demand and most secondary data is aggregate data, it follows you must identify a customer or prospect by name and source in order to count him, find out what he wants, and inform him about the product.

B. Devices for generating a prospect list:

1. Application of the reverse directory to the addresses of comparable projects.
2. Application of reverse directory to appropriate neighborhoods, census tracts, etc.
3. Identification of a common link through a church group, club membership, magazine subscription, etc.
4. Customer spotting by license number, boat registration, camper registration, etc.
5. Identification from guest registry books, charge accounts names, tax records, zip codes, etc.

C. Objectives of prospect identification and contact

1. Scaling the market with a body count
2. Classifying the body count by major distinctions as to location or product type
3. Identification of customer segments unsatisfied with present alternatives
4. Identification of opportunities--gaps in competitive alternatives

D. Survey of competitive projects

1. Definition of the competitive standard
2. Possible discovery of a competitive differential

E. Questioning the consumer prospect to test or discover a competitive differential

F. A consumer profile will provide a definition of product and price which has some monopoly characteristics in order to control unexpected variance in price and absorption rate. It is this objective which is the significance of the real estate chant of location, location, and location. Location can be manufactured through proper merchandising research.

III. Developing a Customer Profile with a Consumer Survey

A. The consumer survey is directed at confirming questions of who, how many, where, what attributes, and how much will they pay.

B. Typically, you will rely on direct mail, phone call, or interview techniques.

C. Surveys can provide different types of information depending on the budget and the design of the survey:

1. Statistical profile of age, location, family size, etc.
2. Strength of preferences in terms of what they feel strongly about, for or against or what they're disinterested in.
3. Trade-off questions in terms of space vs. features, privacy vs. economy or whatever.

D. Appraisers are qualified to do the first type of survey but should generally rely on consumer research sociologists for the others. Feasibility is a team sport.

1. The initial cycle of micro-demand analysis is less detailed than questions related to final project design factors.
2. Look only for serious misfits between proposals and preferences and eventually part of the results of the survey will be in the judgements of the analyst or random comments by the respondent.

E. First format the table that is desired in the report and the role of the table in arriving at conclusions.

F. Secondly, decide how you are going to compute the desired table and its results from the survey--by hand, through statistical methods, or through computerized tabulation and cross-tabulation. Designing these mechanics then leads to selection of the critical question and the form in which the answer will be provided.

1. Be careful to correctly title the mock-up of your table and its columns.
2. Write down the survey questionaire recording and processing technique. There is always a difference between imagining the process and actually doing it.

G. Third, consider whether you want statistical information, general preferences, or precise trade-off measures:

1. To select a survey technique
2. Estimate the skill level required in execution

3. Estimate a budget
4. Estimate the time necessary to complete the survey

H. The customer profile should provide the analyst and his client with the following:

1. A prospect list
2. Statistical micro-markets among the prospects
3. Major motivations which lead to rent or buy decisions
4. Major misfits or irritants in their present alternatives
5. An approximate measure of the potential number of prospects
6. A reasonable range of alternative capture rates given alternative product features

IV. Planning and Executing a Consumer Survey

A. Review of Landmark questionaire

B. Drafting and testing questions (refer to enclosure number 14, "How's That Again?")

C. Listings vs. cross-tabs

1. Data processing techniques for card punched data
2. Successive subsets of cross-tabs to refine an answer
3. Presentation of open end responses in appendix with question and list of answers

COFFEE BREAK: 2:30 P.M.

V. The Regulatory Context

A. Like purchasing insurance, there are several ways to systematically unravel the problem of exposure to loss relative to regulation of real estate, including regulation on the actors, a check list of available laws, or economic classification of real estate elements.

B. Real estate is a triangle relationship of self-interest of the producer, the consumer and the public interest. The planner serves as marital counselor in this triangle and his bias will reflect the political power structure of his particular constituency.

C. Another way of viewing it today is by the elements of viable real estate with:

1. Land is a public utility and finite resource where decisions are irreversible.
2. Money is a trusteeship and a capital market commodity which is mobile and reversible.
3. Activities housed are temporary social decisions which are volatile.

D. The check list approach should be subdivided among the following:

1. Legal constraints on use of site
2. Legal constraints on the anticipated consumer for space
3. Legal constraints on owner-borrower
4. Legal constraints on creditor-lender

2024 Breese Terrace, Madison, Wisconsin 53705 608 238-6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	
Spring	1	2	3	4	5	6+	
Summer	1	2	3	4	5	6+	
Fall	1	2	3	4	5	6+	

2. Do you presently own a summer home or cabin site?

No

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes

No → What is your main reason? _____
_____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only <u>one</u> in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No

Yes → Which one? _____
→ What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____

Age of head of household_____
Occupation_____
Hometown _____

Children: Under 6_____
6-12 _____
13-17 _____
18 & over_____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

5. Ethical constraints to those affected but outside the decision process

VI. Presentation of Recommendations

A. The decision process first requires identification of alternative courses of action from a mess of information together with an estimate of consequences for each alternative.

B. The decision process also requires recognition of value judgements, conversion of values to explicit objectives, and definition of criteria and relative weights of these criteria.

1. Attribute listings
2. Point systems selections
3. Financial ratios
4. Management policy "screens"

C. Application of criteria to alternatives to select single course of action.

D. Statement of limiting conditions

1. The viewpoint which he represents
2. The critical objectives of the viewpoint represented
3. The elements of the feasibility process provided by others
4. The elements of the feasibility analysis to be researched by the analyst.
5. Explicit assumptions specified by client
6. Explicit release of responsibility for certain segments of a complete feasibility (ie. such as environmental impact or political variables)
7. Risks of economic forecasting
8. Risk of reliability of data provided

E. The investor or decision maker in real estate is operating under conditions of uncertainty and therefore "buys" a set of assumptions rather than a bundle of rights. Many of those assumptions eventually are reduced to dollars over time and that is the subject of tomorrows seminar.

A GUIDE TO REAL ESTATE INVESTMENT ANALYSIS

AIREA Chapter 5, Los Angeles, California
Saturday, June 9, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. A Review of Real Estate Appraisal Financial Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Income Property

LUNCHEON: 12:00 noon

AFTERNOON SESSION: 1:00 P.M.

I. What Is Yield?

II. What Is Risk Analysis?

III. Risk Analysis applied to a Mortgage Loan Application

COFFEE BREAK: 2:30 P.M.

IV. Risk Analysis applied to a Limited Partnership Prospectus

V. Fair Market Value or Investment Value?

VI. Working through a Basic Problem for Land Development Analysis

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

By Professor James A. Graaskamp

	Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1.	Instant investment	Instant investment	Discontinuous series of outlays
2.	Productivity limited to net income from parcel before debt and income tax	Productivity limited to parcel after debt but before income tax	Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3.	Continuous income function	Continuous income function	Discontinuous series of tax classified receipts
4.	Recapture from income	Recapture from income & resale	Payback of equity from spendable cash and debt from net revenue & resale.
5.	Projected for full useful life of improvements	Projected for normal turnover period 5-10 years of typical investor	Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6.	Arbitrary discount factor	Weighted average Inwood discounting	Selected present value discounting based on characteristics of investor and property revenue pattern

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

		Net Cash Proceeds Per Year	
Investment	Initial Cost	Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PVO) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

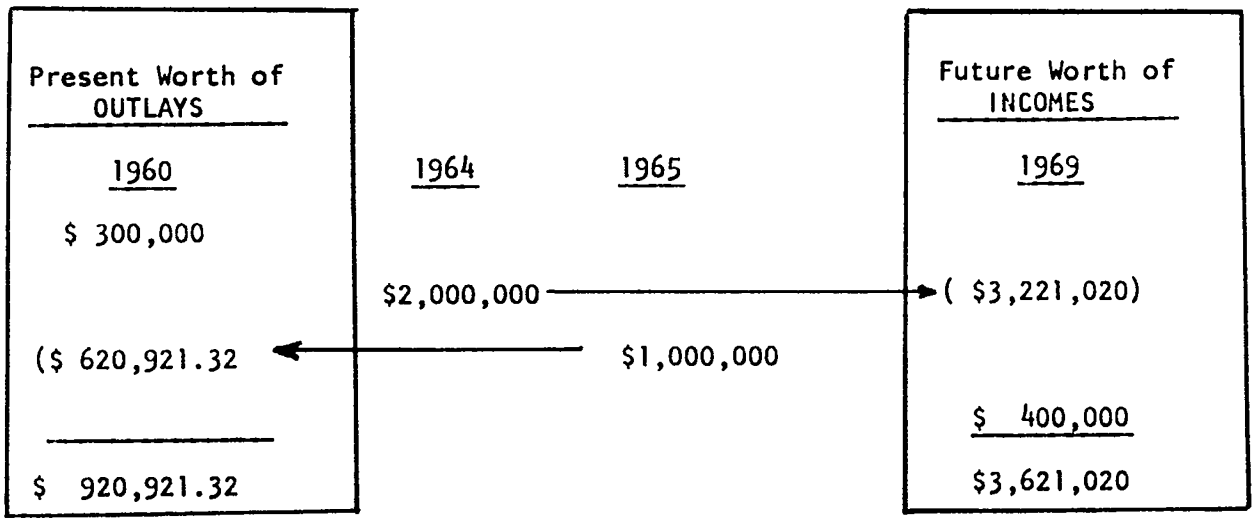
3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.



$920,921.32 (1 + i)^{9} = 3,621,020.00 = 16.43%

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

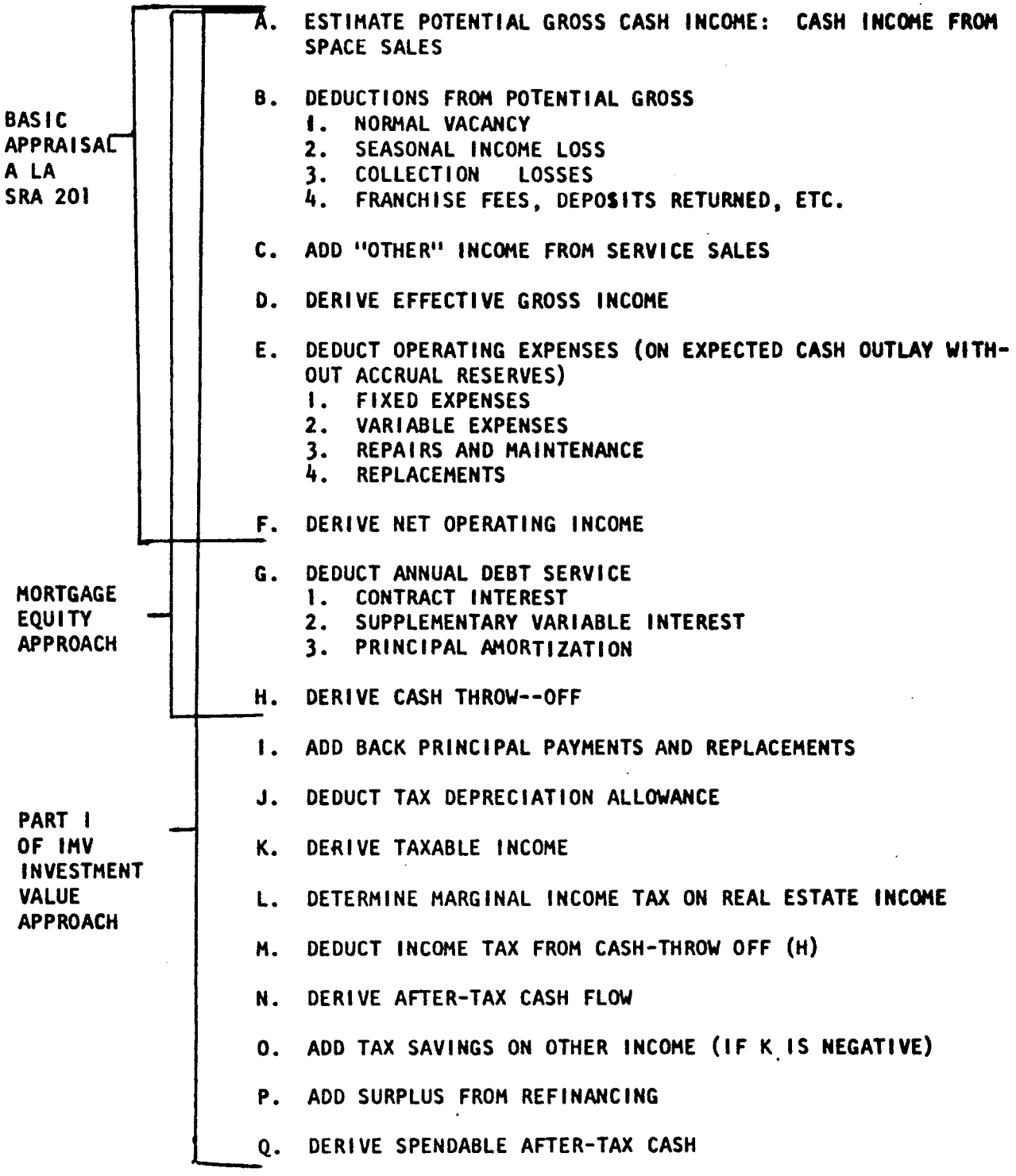
IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR



PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

V. A SAMPLE CASE

Valuation of a Real Estate Investment Involving Net Rental Variations, Leverage Accelerated Depreciation, Investor Tax Considerations and Price Appreciation

The following real estate investment analysis focuses on a property where the factors of increasing net rentals, leverage, accelerated depreciation, investor tax considerations, and price appreciation all have an important bearing on the property's total investment value. The property analysis incorporates the following assumptions:

(a) First year gross annual income of $140,000 increases by 3% per year for 10 years.

(b) Vacancy allowance is assumed to be 5% of gross income.

(c) Real estate taxes are $10,000 for the first year and increase at a rate of 2% per year.

(d) Expenses are $60,000 for the first year and increase at a rate of 3% per year.

(e) The total cost of the project is $950,000. Improvements are valued at $700,000. Land is valued at $250,000.

(f) Mortgage debt of $600,000 is available. This debt is to be amortized at 8% with annual payments of $54,000.

(g) The improvements will be depreciated through the use of the double declining balance method; the economic life of the improvements is 40 years.

(h) The project value is expected to grow at 3% per year.

(i) The investor's marginal income is taxed at 50%.

(j) An after-tax return on equity investment of 12% is sought.

(k) Capital gains on the sale of the property are taxed at 25%.

Schedule I
Present Value of Spendable Cash After Taxes
And Tax Savings On Other Income

	1	2	3	4	5
Gross Rent	140,000	144,200	148,400	152,600	156,800
Less Vacancy Allowance	7,000	7,210	7,420	7,630	7,840
Effective Gross Income	133,000	136,990	140,980	144,970	148,960
Less Real Estate Taxes	10,000	10,200	10,400	10,600	10,800
Less Expenses	60,000	61,800	63,600	65,400	67,200
Net Income	63,000	64,990	66,980	68,970	70,960
Less Depreciation	35,000	33,250	31,588	30,008	28,508
Less Interest	48,000	47,520	47,002	46,442	45,837
Taxable Income	-20,000	-15,780	-11,610	- 7,480	- 3,385
Plus Depreciation	35,000	33,250	31,588	30,008	28,508
Less Principal Payments	6,000	6,480	6,998	7,558	8,163
Cash Throw-off	9,000	10,990	12,980	14,970	16,960
Less Taxes	-	-	-	-	-
Cash From Operations	9,000	10,990	12,980	14,970	16,960
Working Capital Loan (Cum Bal)	-	-	-	-	-
Spendable Cash After Taxes	9,000	10,990	12,980	14,970	16,960
Tax Savings on Other Income	10,000	7,890	5,805	3,740	1,693
Spendable Cash After Taxes Plus Tax Savings on Other Income	19,000	18,880	18,785	18,710	18,653
P. V. Factor @ 12%	.8929	.7972	.7118	.6355	.5674
Present Value of Spendable Cash After Taxes plus Tax Savings on other Income	16,965	15,051	13,371	11,890	10,584

6	7	8	9	10
161,000	165,200	169,400	173,600	177,800
8,050	8,260	8,470	8,680	8,890
152,950	156,940	160,930	164,920	168,910
11,000	11,200	11,400	11,600	11,800
69,000	70,800	72,600	74,400	76,200
72,950	74,940	76,930	78,920	81,910
27,082	25,728	24,418	23,221	22,059
45,184	44,479	43,717	42,894	42,006
684	4,733	8,795	12,805	16,845
27,082	25,728	24,418	23,221	22,059
8,816	9,521	10,283	11,106	11,994
18,950	20,940	22,930	24,920	26,910
342	2,366	4,398	6,403	8,423
18,608	18,574	18,544	18,517	18,488
-	-	-	-	-
18,608	18,574	18,544	18,517	18,488
18,608	18,574	18,544	18,517	18,488
.5066	.4523	.4039	.3606	.3220
9,427	8,401	7,490	6,677	5,953

Depreciation, Mortgage Interest, Mortgage Principal, and Market Value Data

Depreciation										
	700000	665000	631750	600162	570154	541646	514564	488836	464418	441197
	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
	35000	33250	31588	30008	28508	27082	25728	24418	23221	22059
Mortgage										
	600000	594000	587520	580522	572964	564801	555985	546464	563181	523075
	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Interest	48000	47520	47002	46442	45837	45184	44479	43717	42894	42006
Principal	6000	6480	6998	7558	8163	8816	9521	10283	11106	11994
Total	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000
Market Value										
	950000	978500	1007000	1035500	1064000	1092500	1121000	1149500	1178000	1206500

Schedule II
Total Investment Value of
A Real Estate Project

Total Present Value of Spendable Cash After Taxes plus Tax Savings on Other Income at 12% (Schedule I)				$105,809
Present Value of Net Proceeds From Sale of Property				
Total Sales Price			$1,206,500	
Less:				
Taxes on Sale of Property				
Capital Gains Tax	$113,168			
Income Tax	42,345	$155,513		
Unpaid Mortgage Balance		513,081	668,594	
			537,906	
Present Value Factor (12%)			.3220	173,206
Total Present Value of Equity Investment				$279,015
Original Mortgage Balance				$600,000
Total Project Value				$879,015

Example of Computing Taxes on Sale of Property

Assumptions:

(a) Property held 10 years (120) months
(b) Basis equal to $669,138 (original basis equal to $950,000)
(c) Sales price equal to $1,206,500
(d) Depreciation taken on improvements of $700,000 equal to $280,862
(e) Had depreciation been taken on a straight line basis, depreciation would have been equal to $175,000
(f) Taxpayer is in the 50% bracket

Procedure for Determination of Tax:

Total Gain Subject to Tax: $537362	
Portion Subject to Capital Gains Tax:	
Increase in property value	$256,500
Amount which would have been taken through straight line depreciation	$175,000
Allowable accelerated depreciation (280,862-175,000) x .20	$ 21,172
	$452,672
Portion Subject to Ordinary Income Tax:	
Non-allowable Accelerated Depreciation (280,862-175,000) x .80	84,690
	$537,362
Capital Gains Tax ($452,672 x .25)	$113,168
Income Tax ($84,690 x .50)	42,345
Total Taxes on Sale	$155,513

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	No depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$

$$\$ \ 46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
MORTGAGE BANKERS SCH	[redacted]	- [redacted]	.1800	.3000	[redacted]	4

Card 2

Project Description	Extraordinary Expenses	Cost of Equity Capital	Staging Multiplier	Staging Year
24 UNIT APT - CASE 2	7625	.1200	.	

Card 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000	.	00	00
BUILDING	165300	1.0000	.	03	35
PARKING	7200	0.5000	.	03	10
FURNISHINGS	13200	1.0000	.	07	07
ELEVATOR	12500	0.8000	.	03	12
TRANSACTION COST	1800	1.0000	.	03	35
7TH YR REFURBISHING	10000	1.0000		01	07

Card 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775	.	01	05	20	03
SELLERS 2ND MORTG.	15000		.0850	.	01	05	10	05
REFINANCED FIRST	170000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900	.	08	10		

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\text{Spendable cash + tax savings on other income +} \frac{\text{(Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capita Loan Interest Rate
.0500	.0900

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD 1 COLS. 61 and 64?

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200	
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200	
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500	
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100	
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	70000.	70000.	70000.	70000.	70000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 170000.
MONTHLY PAYMENT $ 1421. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	3593.	3891.	4214.	4564.	4943.
INTEREST	.	.	.	.	.	13470.	13171.	12848.	12499.	12120.
BALANCE	.	.	.	.	.	166406.	162515.	158300.	153736.	148792.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -
$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum^{N} \left[(\text{Spendable Cash Aft Taxes} + \text{Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1}\right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	15497.	15236.	15812.	15411.	14972.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	5403.	6742.	4637.	5880.	7149.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	3593.	3891.	5152.	5590.	6065.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	21582.	8793.	17213.	7434.	7655.
LESS TAXES	.	434.	911.	1390.	1870.	1620.	2022.	1391.	1764.	2144.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	19961.	6770.	15822.	5670.	5510.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	19961.	6770.	5822.	5670.	5510.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

Outline to
Guide to Real Estate Investment Analysis

AFTERNOON SESSION

1. Any measure of yield requires careful definition of what is an annual profit and what will be included in resale proceeds and an explicit assumption about the opportunity cost of money or the reinvestment rate.

   A. Refer to definitions on page of Case problem #2.

   B. Refer to alternative definitions of annual profits and sales proceeds as found in limited partnership agreements by Stephen Roulac.

"Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation,
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket.
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,

3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment,
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

C. Suggestions for the appraiser looking for a standard on which to base valuation judgments:

1. Relate to purpose of appraisal and significance of hard dollar and soft dollars to the viewpoint to be served
2. Ellwood method
3. EDUCARE standard models for the investor/buyer
4. Standard assumptions to be promulgated by SEC
5. The appraisal customer's ideal preferences

II. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

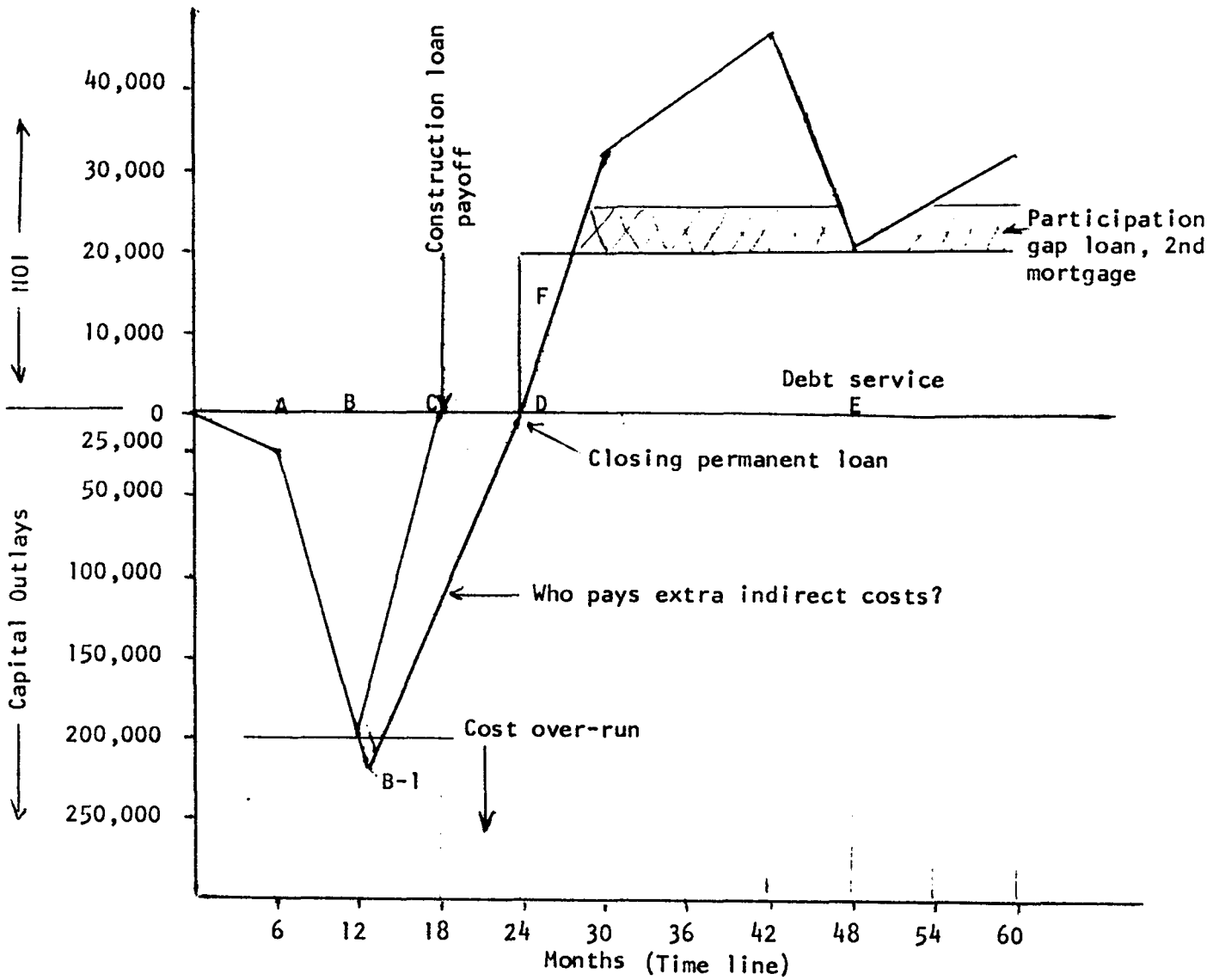
1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate uncertainty (research or confirm)
2. Reduce frequency or severity of loss contingencies (incentive contracts)
3. Combine risks to increase predictability (reserves for expenses or pool investments)

4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (gap financing)

F. A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

III. Risk Analysis applied to a Mortgage Loan Application

A. Motivation to repay is primarily cash dividends

1. The pleasure, pain, bail-out principle
2. Identify profit centers for borrower or packager on timeline
3. Determine if major profit centers occur before or after closing of loan
4. Determine duration of cash dividends relative to duration of loan
5. Resources of borrower to cover capital outlay overrun
6. Cushion in cash-flow variance indicated by default ratio, expense ratios, and after-tax spendable cash
7. Management incentives created by ancillary contracts such as limited partnerships, earn-out land contracts, and profit sharing formulas

B. Bail-out--alternative use for property

1. Pain of equity loss in foreclosure is fictitious--consider payback ratio--thus, poor motivation
2. A better incentive "pain" technique would be a national black list for borrowers in default on mortgages to financial institutions maintained by federal regulatory authorities.
3. Threat of foreclosure implies lender has alternative use for property.
   a. Rents restructured to lender's cost to acquire
   b. Conversion of property
   c. Consideration of payback to be realized by drastic surgery such as charitable donation, demolition, financial reorganization, or joint venture resale to reshape management incentives.

IV. Risk Analysis applied to a Limited Partnership Prospectus

A. From the investor viewpoint there are five basic areas of consideration in the selection of limited partnership investment.

1. Strategic choice of property type
2. Attributes of specific property or property pool
3. The marketing method utilized to sell security
4. The use of incentive clauses for control of the general partner
5. The financial projection

B. Strategy is concerned with matching the risk to the profit center and thus the investment to the appropriate point on the timeline. For example:

1. The political risk of securing an approved development plan and the monopoly profit that results
2. The manufacturing profit of building
3. The profit of creating a captive market for services
4. The time horizon for build-out, payback, or yes-no decisions

C. A limited partnership share is a second mortgage revenue bond. Is its use appropriate to the financial attributes of specific property types?

1. Does it lower breakeven point for high risk development venture?
2. Does it accelerate payback for the general or limited partner?
3. Does it retail sizzle for the cow carcass bought wholesale?
4. Is liquidity of shares entirely dependent on liquidity of property?

D. The marketing method utilized to sell security

1. Direct selling in the traditional real estate manner--high cost per unit sold for packager and high cost for investor because of brokers front end load.
2. The seminar approach--loss of credibility, loss of efficiency and now questions of legality.
3. Channeling through securities brokers (efficiency of mutual shares marketing but dependency on uninformed licensed security salesmen).
4. Marketing compensation consists of front-end loads, management fees, or participation in the event--% of asset or of money raised?

E. The use of incentive clauses for control of the general partner

1. Disenchantment clauses for replacement of general partner or property manager or both are critical.
2. Dissolution clauses for sale or refinancing must be watched carefully where general partner has participation.
3. Variance in projections must be controlled:

    a. Provision for cost guarantees
    b. Provision for earn-outs against absorption period
    c. Provision for loans and terms from general partner or assessment and penalties for limited partners for liquidity gaps
    d. A guarantee against negative cash flows
    e. Protection against construction of competitive units on adjacent property with 36 month option or right of first refusal.

4. Incentive clauses to make self interest of general partner the same as limited partner.

    a. Management fee subject to downward adjustment each year if certain expenses have increased at a greater rate than gross income.
    b. Bonus management fees for occupancy in excess of a stated level, say 94% or absorption rate in excess of some stated schedule.
    c. Controls on GP access to certain profit centers such as leasing equipment to partnership, insurance premiums, or similar spinoffs contingent on meeting certain cash payouts to limited partners on a cumulative basis.

Reading References:

1. "Caveat Emptor in Real Estate Equities" by Samuel L. Hayes & Leonard M. Harlan, Harvard Business Review, March-April 1972; OR The Real Estate Appraiser, Summer 1972
2. Real Estate Securities and Syndication by Stephen E. Roulac, published by National Association of Real Estate Boards, Chicago, Ill.
3. Real Estate Venture Analysis, by Stephen Roulac, Published by Practising Law Institute, 1133 Avenue of the Americas, New York, N.Y. 10036
4. Real Estate Review quarterly magazine, 89 Beach Street, Boston, Mass.

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2nd Edition

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

McCloud B. Hodges, Jr., 6819 Elm St., McLean, Va. (15 Nov. 1972)

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:
- → 1–Produces IMV for a given after tax equity yield rate
- 2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:
- 1–Constant net income value for each year
- → 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:
- 1–Corporation (Operating losses applied to other investments)
- 2–Corporation (Operating losses carried back/carried over)
- 3–Corporation (Taxable income offset by losses from other investments)
- 4–Corporation (Set-up solely for this investment)
- → 5–Non-corporation (Operating losses applied to other investments)
- 6–Non-corporation (Operating losses carried back/carried over)
- 7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:
- 1–No recapture
- 2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- → 3–All other residential rentals (After 100 months-declines 1% per month)
- 4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:
- 1–% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)
- 3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

NUMBER OF ASSETS (0 to 6) | LAND VALUE (0 if ASSET CODE 3 is not used)

110 3 , 0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

NUMBER OF MORTGAGES (0 to 6)

117 2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

BEFORE TAX IMV(11.00%) $ 3919359
AFTER TAX IMV(8.50%) $ 3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES, JR
6819 ELM ST. MCLEAN, VA. 22101 14:49EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 3980860
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
1. 9.000% 28 YRS 0 MONS $ 3267000

EQUITY CASH: $ 713860

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE $ 3530000

LESS: MORTGAGE BAL. 2847849
SALES COMMISSION 70600

CASH REVERSION BEFORE TAXES $ 611551

LESS: CAPITAL GAINS TAX(STD.) 256985
TAX ON RECAPTURED DEPR. 29904
TAX PREFERENCE TAX 12354

CASH REVERSION AFTER TAXES $ 312308

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

CASH-FLOW ANALYSIS 10

10.1 FINANCIAL IMPLICATIONS OF DESIGN & MARKET CONSTRAINTS

Real estate decisions for both public and private projects ultimately involve issues relative to the wise management of money over time. Unlike investment in bonds and stock, real estate seldom provides any fixed points in advance relative to total investment required, timing of returns, or standardized formats facilitating comparison or statistical forecasting. In the design stages of a project financial analysis and comparison of alternatives must depend on extensive and detailed assumptions in dollars but these assumptions and the conclusions are highly volatile numbers.

Measurable returns to the investor are generally confined to cash returns. The ultimate feasibility of a project depends on successful management of cash flows to maintain solvency, stability and hopefully a profit surplus appropriate to risk and capital employed. Cash may be generated from rents, sales, financing gambits, or income tax ploys. The sequence of these returns must be matched to the sequence of outlays to measure both business risk and financial risk. Business risk is concerned with the ability to repay financial obligations with interest on schedule. Profit is measured in dollars and yield, as a function of money at work over time. Thus financial management, risk analysis, and comparative profitability all require some minimum set of assumptions in the following areas:

10.2 A time line or calendar of events related to financial assumptions.

10.3 A product mix and revenue sequence.

10.4 A capital budget outlay schedule.
10.5 An operating cost and outlay sequence.
10.6 A financing plan with specific credit terms and contributions.
10.7 Summary sequence of cash outlay and surplus expectations.
10.8 Measurement standards of risk and yield.
10.9 Identification of possible indirect benefits and profit centers.

To simulate the financial consequences of any set of land development assumptions, the University of Wisconsin School of Business and Robert Gibson[1] had developed a cash flow model which combined a variety of features borrowed from capital cost estimating models, critical path network analysis, and investment evaluation models. While all its features and mathematics are too detailed to develop in this case, one set of financial inputs and output are provided as a demonstration of the technique. Many runs of the model were made and further planning would require continual financial revisions to specify the range of alternative outcomes the developer might expect.

Financial inputs can be no more specific than the design detail available at any stage of analysis and yet the quantitative nature of finance and electronic computation may lead to exaggerated

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[1] The computer program used in this study is available to developers from Robert Gibson, 130 Fairview Street, Walworth, Wisconsin, 53189.

credibility inherent in pseudo-accurate detail. With this explicit warning the reader can match some of the brief explanations and assumptions which follow to the computer outputs which form the last half of this chapter.

10.2 A. THE TIME LINE OR CALENDAR OF EVENTS

Development is a process over time and each set of time dimensioned variables have been noted on the computer runs with an (A) . Computer runs are numbered pages 1 to 8

Page 1

To reflect inflation influences on raw land, real estate taxes and capital costs; all assumptions of these items are adjusted annually. Construction costs per feature are expected to rise 5 percent a year. Real estate taxes have been rising in the county at 2 percent a year and there would be an initial increase of 20 percent upon sale of the land from the parent corporation to the developing company. Raw land value was inflated at 1 percent a year net of sales commissions to provide a basis for estimating real estate tax assessed value and liquidating value of the development firm at the end of any specific year. The "Cash Column" is in units of one thousand dollars and states no cash is available for profit distribution unless surplus exceeds $90,000 on the first year, a control to permit internal financing from profits.

Page 2

The capital scheduling of general improvements such as road construction for the clubhouse is indicated by year. The release of title and therefore real estate tax responsibility and carrying charges for land not specifically allocated to lots is also indicated by year under the title "acres dedicated."

Page 3

Timing of borrowing, interest payments, and principal payments on a construction credit line are recorded under first mortgage transaction.

Pages 4 - 7

For each type of sales product a sales price must be set by year together with the estimated number of units which might be sold. Note that no sales are expected for the first year which is reserved for design and construction. Other time line assumptions which do not appear on the output but are required on the input form, include the lead time necessary to produce a lot, the inventory to be maintained in excess of sales and carrying charges on finished inventories. This particular set of assumptions requires six years to build and to complete.

10.3 B. A PRODUCT MIX AND REVENUE SEQUENCE

The revenue cycle begins with the nature of merchandise for sale. For a planned unit development a portion of the product is in the nature of community facilities which may be not directly costed to individual sales units. However, a large portion of land and improvement costs, as well as overhead, can be allocated to specific types of salable products such as home sites or a class of condominium apartments. These specific sales price and allocated capital costs are summarized below and appear on pages 4 to 7 and are noted with (B).

Page 2

Provided a summary statement of land use allocations with approximately 858 acres improved and lotted. Left as wilderness acres in common ownership were 2,442 acres, marred with only trails and picnic areas, etc., which means a ratio of developed acres and wilderness acres of 1:2.8 or about 27 percent. There are a total of 1,460 dwelling units or sites which is a ratio of only one DU for each 2.2 acres of land!

Page 4

One-half acre lots (approximately 100 x 200) with water, electricity and group septic services	900 units

1. Initial sales price	$8,000
2. Absorption rate 180 units per year	
3. Specific allocated improvement costs:	
a. 100 feet of half road	350
b. electrical service	200
c. water line	250
d. cluster septic share	500
e. recreation equipment allowance	25
f. pedestrian trail at rear of lot	50
g. contingencies	200
h. financing charge*	425
Total capital cost per unit	$2,000/lot
4. Gross profit per unit	6,000

Page 5

One-acre lots (approximately 150 x 290) without water and septic.	400 units
1. Initial sales price	$5,500
2. Absorption rate 100 units per year	
3. Specific allocated improvement costs:	

*Allowance for discount on sale of 8 percent land contract for cash. Marked with * in following references also.

a. 150 feet of half road	525
b. electrical service	200
c. recreation equipment allowance	25
d. pedestrian trail at rear of lot	75
e. contingencies	200
f. financing charge*	325
Total capital cost per unit	$1,350/lot
4. Gross profit per unit	$4,150

Page 6

Studio deluxe condominium (550 square feet living space) — 80 units

1. Initial sales price with land	$17,900
2. Absorption rate 20 units per year	
3. Specific allocated improvement costs:	
a. road share plus 2 parking stalls	350
b. electrical service	200
c. recreation equipment allowance	25
d. cluster septic share	500
e. water line	250
f. structure @ $15/sf	8,250
g. financing charge*	1,000
h. contingencies	200
Total capital cost per unit	$10,775/unit
4. Gross profit per unit	$ 7,125

Two-bedroom condominium (750 square feet living space)	80 units
1. Initial sales price with land	$22,500
2. Absorption rate 20 units per year	
3. Specific allocated improvement costs:	
a. road share plus 2 parking stalls	350
b. electrical service	200
c. recreational equipment allowance	25
d. cluster septic share	500
e. water line	250
f. structure @ $15/sf	11,250
g. financing charge*	1,000
h. contingencies	200
Total capital cost per unit	$13,775/unit
4. Gross profit per unit	$ 8,725
Total number of salable units of 3,300 acres:	1,460

10.4 C. A CAPITAL BUDGET OUTLAY SCHEDULE

The basic elements of the capital budget and cost estimating models are a catalog of construction costs, an inventory of land

used and available, and some initial inputs of land and capital These items are identified on the computer run with Ⓒ .

Page 1

The catalog of costs for capital budgeting may be placed in the computer at any level of detail, in lumps such as the clubhouse budget of $100,000 or in modules such as "one running foot of 40 foot wide trail area" occupying 40 square feet of land and costing $1 per running foot. The input forms make it possible to assemble a capital budget for any improvement by specifying quantities of required items in the catalog. These quantities of input are converted by the computer to the cost of general improvement which appear on page 2 or the total cost of allocated capital improvement which appear for each product on pages 4 -7.

Page 3

The initial capital resources provided by the parent corporation to its development subsidiary can be summarized as consisting of a total equity in development of $540,000 allocated among $330,000 for 3,300 acres at $100 per acre, $95,000 for purchase of key parcels owned by others, and $115,000 in cash. The price of $100 per acre provides more than a $200,000 capital gain to the parent corporation which is not included in profit calculations by the computer. This information also provides the basis for estimating income taxes for the development corporation during the life of the project.

10.5 D. AN OPERATING COST AND OUTLAY SEQUENCE

Operating costs and allowances can be fixed or can be variable as a function of both construction in process and the level of sales activity. These basic assumptions are itemized below and identified where they appear on the computer outputs with (D) . Since they appear virtually throughout the computer output they are not all identified by page.

1. Organizational legal fees $5,000.
2. Fixed management cost of $75,000 per year, plus
3. Professional fees and construction administration at 10 percent of construction cost in place, plus
4. Sales administration and advertising at 15 percent of sales, plus
5. Sales commission of 15 percent of sales unit cost.
6. Credit line for construction of improvements provided at 12 percent.
7. Working capital loans from parent corporation at 15 percent per annum.
8. On page it should be noted that a basis for computing both real estate taxes and income tax is provided. The proration formula refers to the need of allocating investment in general improvement to unit sales or dollar sales or some combination of both. In this case general costs were prorated according to sales value of the unit to equalize the gross profit spread and to avoid distortion if higher profit items tended to sell earlier or later during the development. Once other items in the financial plan were firmly established, the computer model would permit testing of alternative sales or financial strategies.

10.6 F. A FINANCING PLAN OF SPECIFIC CREDIT TERMS & EQUITY CONTRIBUTIONS

The financing specifications for this particular demonstration were greatly simplified by the credit rating of the client. While the computer model is designed to provide elaborate combinations of various land development financing terms available today, only a very basic two stage financing program was required. All capital improvements were paid for from a basic credit line which did not exceed $2,000,000 at any time during the project life and which would be closed out during the fifth year. Operating expenses were met out of initial cash capital with a 12 percent opportunity cost and 20 percent yield target, retained earnings, or short term working capital loans available from the parent corporation at 1.25 percent per month.

It was assumed that all sales were cash sales as any consumer credit contracts would be instantly sold to a bank. Fifty percent of all sales were expected to be credit sales and the average discount of $700 per credit sale sold to the bank was distributed to all sales as a $350 component of closing costs on lots with correspondingly higher discounts for condominium mortgages in their closing costs.

10.7 F. SUMMARY SEQUENCE OF CASH OUTLAY SURPLUS EXPECTATIONS &

With all of the various subcomponents of the development process taking place at once, it is useful to assemble and aggregate these outlays and receipts over time.

This summary page includes distributions over the six-year development plan and in total with a percentage analysis. Most items are self-explanatory and therefore discussion will focus on the key line Net Cash After Taxes.

Cash flows are essentially negative until the fifth year because the financing utilizes advances in the form of loans from the parent corporation. With repayment of all debt, cash surpluses available for dividends appear in the fifth and sixth years. The present value by simple discounting of these returns of 20 percent suggests an investment value well in excess of the $540,000 initially required. The internal rate of return, however, when the cost of capital is recognized at 12 percent, is slightly lower at 19.1 percent.

Thus at the preliminary stage of design the project indicates that it can probably provide the targeted rate of return for funds employed but the financial analysis recommends that the design process now refine:

1. The timing of capital expenditure to reduce financing and interest costs.
2. The assumptions of management and general administration costs (excluding sales costs) which are high.
3. The sales price or cost estimates for allocated capital outlay which at 30 percent of sales may be high.

4. The quantity and timing of unit sales which would most certainly not be equal per year as assumed but rather which would peak during the third and fourth years.
5. Assumptions regarding sales to finished inventory ratios and the absence of any sales during the first year when many developers are able to secure deposits on future deliveries.

10.8 G. MEASUREMENT OF STANDARDS OF RISK AND YIELDS

The traditional financial ratios and discounting of future returns or the application of industry rules of thumb would be best applied after plans and financial assumptions were more firmly set by the feedback process of testing and researching the inputs from the designers, the merchandisers, and the financial consultants. This project is marginal with a rate of return of 19 percent until plans can be detailed to assure greater accuracy of capital costs and rate of sale.

10.9 H. IDENTICATION OF POSSIBLE INDIRECT BENEFITS & PROFIT CENTERS

These runs of the computer did not include this but could be expanded to measure profit from business centers beyond those strictly tied to land development. These would include:

1.	Possible mobile home franchising, estimated sales of 400 units x $600 commission/unit =	$240,000 gross profit
2.	Possible project management contract with ownership association, 1,460 property owners at $30 each per year = (Assume assessments at $100/year)	$43,650 net fees
3.	Sale of 3,300 acres x $100/acre = or a $195,000 profit of a $40/acre basis.	
4.	Interest on working capital loans to subsidiary at 1.25 percent/month or 15 percent/year.	
5.	If K-C finances Kimberlands' land contracts, assume 50 percent of total sales on 5-year land contracts x 80 percent loan ratio x allowance for 10 percent discount + 8 percent per year on-going interest.	

SUMMARY OF INPUTS

CAPITAL COST COMPONENTS (C)

NAME	PRICE PER UNIT	LAND COVERED	TYPE
10FT 1/2 SURF RD	4.00	20.00	2
SECOND REC BLD	35000.00	1.00	1
ELECT TO SITE	200.00	.00	0
CLUB HOUSE	100000.00	25.00	1
I-D POOL	75000.00	1.00	1
AREA SWM POOL	15000.00	1000.00	2
AREA UTIL BLDG	9000.00	1000.00	2
ENTRANCES + SGNS	30000.00	80000.00	2
1RF OF 40FTW TRL	1.00	40.00	2
STABLE	10000.00	4.00	1
SKEET + RIF RANG	5000.00	1.00	1
DOCKS + LANDINGS	10000.00	.50	1
REC EQUIP	25.00	.00	0
MGR HOUSE	20000.00	.50	1
.1 CLUSTERSEPTIC	500.00	.00	0
WATER WELL	2100.00	.00	0
MAINT FACILITIES	10000.00	2.00	1
RES BLDG CUST SF	15.00	.00	0
WILDNERNESS LAND	100.00	2120.00	1
AREA 1 DREDGING	18000.00	.00	0
AREA 2 DREDGING	30000.00	.00	0
CONTINGENCIES	200.00	.00	0
HIKING TRAIL	2000.00	15740.00	2
WATER LINE	250.00	1.00	0

TYPE CODES
0=NO LAND COVERED
1=LAND COVERED IN ACRES
2=LAND COVERED IN SQUARE FEET

ANNUAL PERCENTAGE INDEXES (A)

YEAR	LAND	R.E. TAXES	CAPITAL COSTS	CASH
1	100.	100.	100.	90.
2	101.	120.	105.	80.
3	102.	123.	110.	70.
4	103.	124.	115.	60.
5	104.	126.	120.	.
6	105.	128.	125.	.
7	106.	130.	130.	.
8	107.	132.	135.	.
9	108.	134.	140.	.
10	109.	136.	145.	.

.5AC LOTS W/UTIL

SUMMARY OF INPUTS

		(B)
LOT SIZE--SQUARE FEET	21780.	
LOT SIZE--ACRES	.50	
PERCENT SOLD FOR CASH EACH YEAR	100.00	
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00	
INTEREST RATE ON LAND CONTRACT SALES	.00	
TERM IN YEARS ON LAND CONTRACT SALES	.00	
CARRYING COST PER UNIT OF SALES INVENTORY	100.00	(D)
SALES COMMISSIONS O/O OF SALES PRICE	15.00	
CLOSING COSTS PER UNIT	425.00	
CAPITAL COST PER UNIT	1625.00	

YEAR	SALES PRICE (A)	NO. UNITS SOLD
1	8000.	.
2	8000.	180.
3	8400.	180.
4	8400.	180.
5	8800.	180.
6	8800.	180.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY (B)	.	.	45.	45.	45.	45.	.	.	.	.
PRODUCTION STARTS	225.	180.	180.	180.	135.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	225.	180.	180.	180.	135.	.	.	.	.
SALES IN UNITS	.	180.	180.	180.	180.	180.	.	.	.	.
UNITS SOLD FOR CASH	.	180.	180.	180.	180.	180.	.	.	.	.
PRICE PER UNIT	8000.	8000.	8400.	8400.	8800.	8800.	.	.	.	.
REVENUE FROM CASH SALES	.	1440000.	1512000.	1512000.	1584000.	1584000.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	216000.	226800.	226800.	237600.	237600.	.	.	.	.
CLOSING COSTS	.	76500.	76500.	76500.	76500.	76500.	.	.	.	.
NET CASH GENERATED FROM SALES	-.	1147500.	1208700.	1208700.	1269900.	1269900.	-.	-.	-.	-.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	5346.	11226.	11226.	11761.	5880.	.	.	.	.
CARRYING COST OF INVENTORY	.	2250.	4500.	4500.	4500.	2250.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS (C)	365625.	307125.	321750.	336375.	263250.	.	.	.	.	.
TOTAL CASH REVENUE	-365625.	832784.	871224.	856604.	990390.	1261770.	.	.	.	.

(C)

PURCHASE BASIS OF RAW LAND FOR DEVELOPER	425000.	
DEBT OUTSTANDING ON RAW LAND AT START OF DEVELOPMENT	.	
BOOK EQUITY IN RAW LAND AT START OF DEVELOPMENT	425000.	
RESALE VALUE OF RAW LAND NET OF TRANSFER COSTS	425000.	
RESALE EQUITY IN RAW LAND	425000.	
INITIAL EQUITY CASH IN DEVELOPMENT ENTITY	115000.	
TOTAL EQUITY IN DEVELOPMENT ENTITY	540000.	
CASH EXPENSES OF ORGANIZATION	5000.	AMORTIZED FOR 5 YEARS--RECOGNIZED IN TAXABLE INCOME
NET CASH FOR DEVELOPMENT	110000.	INCLUDED IN YEAR 1 NET CASH AFTER TAXES

FINANCING FOR LAND DEVELOPMENT (E)

1ST MORTGAGE AMOUNT-- 3000000. INTEREST RATE--.1200 MONTHLY PAYMENT-- .RELEASE PAYMENT-- 8000.

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL PAID	.	1504000.	1504000.	1504000.	526990.	.	.	.	.	.
INTEREST	105000.	180728.	127644.	67741.	15824.	.	.	.	.	.
PRINCIPAL RECEIVED	1750010.	1016120.	1107150.	902460.	263250.	.	.	.	.	.
BALANCE	1750010.	1262130.	865280.	263740.	.	.	.	.	.	.

MARGINAL TAX RATE	.4800	CARRYING COST PER RAW ACRE OF LAND	1.00
WORKING CAPITAL INTEREST RATE	.1500	EQUITY RATE OF RETURN--USED IN PRESENT VALUE CALCULATIONS	20.00
REAL ESTATE TAX EQUALIZATION RATE	33.00	PORTFOLIO RATE OF RETURN--OR OPPORTUNITY COST	12.00
REAL ESTATE TAXES PER THOUSAND OF VALUE	90.00	FIXED ADMINISTRATIVE + GENERAL EXPENSES PER YEAR	75000.
PRORATION FORMULA 0/0 TO LAND AREA	.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF SALES VALUE	15.00
PRORATION FORMULA 0/0 TO SALES VALUE	100.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF CAPITAL EXPENDITURES	10.00

(D)

COSTS OF GENERAL IMPROVEMENTS (A)

	1	2	3	4	5	6	7	8	9	10
10FT 1/2 SURF RD	280000.	73500.	77000.	80500.	.	.	.	.	.	.
SECOND REC BLD	.	.	38500.	.	.	.	.	.	.	.
CLUB HOUSE	100000.	.	.	.	.	.	.	.	.	.
I-O POOL	75000.	.	.	.	.	.	.	.	.	.
AREA SWM POOL	30000.	.	.	.	.	.	.	.	.	.
AREA UTIL BLDG	18000.	.	.	.	.	.	.	.	.	.
ENTRANCES + SGNS	30000.	.	.	.	.	.	.	.	.	.
1RF OF 40FTW TRL	42240.	44352.	.	.	.	.	.	.	.	.
STABLE	10000.	.	.	.	.	.	.	.	.	.
SKEET + RIF RANG	5000.	.	.	.	.	.	.	.	.	.
DOCKS + LANDINGS	20000.	.	.	.	.	.	.	.	.	.
MGR HOUSE	20000.	.	.	.	.	.	.	.	.	.
WATER WELL	6300.	.	.	.	.	.	.	.	.	.
MAINT FACILITIES	10000.	.	.	.	.	.	.	.	.	.
WILDNERNESS LAND	100.	.	.	.	.	.	.	.	.	.
AREA 1 DREDGING	18000.	.	.	.	.	.	.	.	.	.
AREA 2 DREDGING	.	.	33000.	.	.	.	.	.	.	.
HIKING TRAIL	16000.	.	17600.	.	.	.	.	.	.	.
TOTAL	680640.	117852.	166100.	80500.	.	.	.	.	.	.

ACRES DEDICATED (A)

	1	2	3	4	5	6	7	8	9	10
GENERAL USE										
10FT 1/2 SURF RD	32.13	8.03	8.03	8.03	.00	.00	.00	.00	.00	.00
SECOND REC BLD	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00
CLUB HOUSE	25.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
I-O POOL	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AREA SWM POOL	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
AREA UTIL BLDG	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
ENTRANCES + SGNS	1.83	.00	.00	.00	.00	.00	.00	.00	.00	.00
1RF OF 40FTW TRL	38.78	38.78	.00	.00	.00	.00	.00	.00	.00	.00
STABLE	4.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
SKEET + RIF RANG	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DOCKS + LANDINGS	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MGR HOUSE	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAINT FACILITIES	2.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WILDNERNESS LAND	2120.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HIKING TRAIL	2.89	.00	2.89	.00	.00	.00	.00	.00	.00	.00
SPECIFIC USE										
10FT 1/2 SURF RD	.00	16.98	16.98	16.98	16.98	8.26	.00	.00	.00	.00
1RF OF 40FTW TRL	.00	15.15	15.15	15.15	15.15	8.26	.00	.00	.00	.00
TOTAL	2230.24	78.96	44.06	40.17	32.13	16.52	.00	.00	.00	.00

(B)

INITIAL RAW LAND AVAILABLE--	3300.00 ACRES
LAND FOR .5AC LOTS W/UTIL	450.00
LAND FOR 1AC LOT W/O UTIL	400.00
LAND FOR STUDIO CONDO LUX	4.00
LAND FOR [illegible]BR CONDOMINIUM	4.00
LAND DE[illegible]TED	2442.08
LAND LEFT FOR OPEN SPACE	-.10

1AC LOT W/O UTIL

SUMMARY OF INPUTS

(B)

LOT SIZE--SQUARE FEET	43560.
LOT SIZE--ACRES	1.00
PERCENT SOLD FOR CASH EACH YEAR	100.00
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00
INTEREST RATE ON LAND CONTRACT SALES	.00
TERM IN YEARS ON LAND CONTRACT SALES	.00
CARRYING COST PER UNIT OF SALES INVENTORY	100.00
SALES COMMISSIONS O/O OF SALES PRICE	15.00
CLOSING COSTS PER UNIT	325.00
CAPITAL COST PER UNIT	1100.00

(D)

(A)

YEAR	SALES PRICE	NO. UNITS SOLD
1	5500.	.
2	5500.	100.
3	5775.	100.
4	6050.	100.
5	6050.	100.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.

(B)

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	25.	25.	25.	.	.	.	.	.
PRODUCTION STARTS	125.	100.	100.	75.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	125.	100.	100.	75.	.	.	.	.	.
SALES IN UNITS	.	100.	100.	100.	100.	.	.	.	.	.
UNITS SOLD FOR CASH	.	100.	100.	100.	100.	.	.	.	.	.
PRICE PER UNIT	5500.	5500.	5775.	6050.	6050.	.	.	.	.	.
REVENUE FROM CASH SALES	.	550000.	577500.	605000.	605000.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	82500.	86625.	90750.	90750.	.	.	.	.	.
CLOSING COSTS	.	32500.	32500.	32500.	32500.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	435000.	458375.	481750.	481750.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	2041.	4287.	4492.	2246.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	1250.	2500.	2500.	1250.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	137500.	115500.	121000.	94875.	.	.	.	.	.	.
TOTAL CASH REVENUE	-137500.	316209.	330588.	379883.	478254.	.	.	.	.	.

STUDIO CONDO LUX

SUMMARY OF INPUTS

	(B)		YEAR	SALES PRICE (A)	NO. UNITS SOLD
LOT SIZE--SQUARE FEET	550.		1	17900.	.
LOT SIZE--ACRES	.01		2	17900.	20.
PERCENT SOLD FOR CASH EACH YEAR	100.00		3	18795.	20.
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00		4	19690.	20.
INTEREST RATE ON LAND CONTRACT SALES	.00		5	20585.	20.
TERM IN YEARS ON LAND CONTRACT SALES	.00		6	.	.
CARRYING COST PER UNIT OF SALES INVENTORY	300.00 (D)		7	.	.
SALES COMMISSIONS O/O OF SALES PRICE	15.00		8	.	.
CLOSING COSTS PER UNIT	1000.00		9	.	.
CAPITAL COST PER UNIT	9825.00		10	.	.

DEVELOPMENT PERIOD (B)	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	5.	5.	5.	.	.	.	.	.
PRODUCTION STARTS	25.	20.	20.	15.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	25.	20.	20.	15.	.	.	.	.	.
SALES IN UNITS	.	20.	20.	20.	20.	.	.	.	.	.
UNITS SOLD FOR CASH	.	20.	20.	20.	20.	.	.	.	.	.
PRICE PER UNIT	17900.	17900.	18795.	19690.	20585.	.	.	.	.	.
REVENUE FROM CASH SALES	.	358000.	375900.	393800.	411700.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	53700.	56385.	59070.	61755.	.	.	.	.	.
CLOSING COSTS	.	20000.	20000.	20000.	20000.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	284300.	299515.	314730.	329945.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	1329.	2791.	2923.	1528.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	750.	1500.	1500.	750.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	245625.	206325.	216150.	169480.	.	.	.	.	.	.
TOTAL CASH REVENUE	-245625.	75896.	79074.	140827.	327667.	.	.	.	.	.

2 BR CONDOMINIUM

SUMMARY OF INPUTS

	(B)		(A)
		YEAR	SALES PRICE	NO. UNITS SOLD
LOT SIZE--SQUARE FEET	750.	1	22500.	.
LOT SIZE--ACRES	.01	2	22500.	20.
PERCENT SOLD FOR CASH EACH YEAR	100.00	3	23625.	20.
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00	4	24750.	20.
INTEREST RATE ON LAND CONTRACT SALES	.00	5	25875.	20.
TERM IN YEARS ON LAND CONTRACT SALES	.00	6	.	.
CARRYING COST PER UNIT OF SALES INVENTORY	300.00	7	.	.
SALES COMMISSIONS O/O OF SALES PRICE	15.00 (D)	8	.	.
CLOSING COSTS PER UNIT	1000.00	9	.	.
CAPITAL COST PER UNIT	12825.00	10	.	.

DEVELOPMENT PERIOD (B)	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	5.	5.	5.	.	.	.	.	.
PRODUCTION STARTS	25.	20.	20.	15.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	25.	20.	20.	15.	.	.	.	.	.
SALES IN UNITS	.	20.	20.	20.	20.	.	.	.	.	.
UNITS SOLD FOR CASH	.	20.	20.	20.	20.	.	.	.	.	.
PRICE PER UNIT	22500.	22500.	23625.	24750.	25875.	.	.	.	.	.
REVENUE FROM CASH SALES	.	450000.	472500.	495000.	517500.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	67500.	70875.	74250.	77625.	.	.	.	.	.
CLOSING COSTS	.	20000.	20000.	20000.	20000.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	362500.	381625.	400750.	419875.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	1670.	3508.	3675.	1921.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	750.	1500.	1500.	750.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	320625.	269325.	282150.	221230.	.	.	.	.	.	.
TOTAL CASH REVENUE	-320625.	90754.	94466.	174345.	417204.	.	.	.	.	.

LAND DEVELOPMENT CASH FLOW ANALYSIS FOR--WATER RESOURCES UNIT STUDY

AGGREGATE RESULTS

DEVELOPMENT PERIOD	1	2	3	4	5	6	Total	% of sales
REVENUE FROM CASH SALES	.	2798000.	2937900.	3005800.	3118200.	1584000.	13,443,900	100%
DOWNPAYMENT RECEIVED	.	.	.	.	.	.		
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.		
SALES COSTS								
COMMISSIONS PAID	.	419700.	440685.	450870.	467730.	237600.	2,016,585	15
CLOSING COSTS	.	149000.	149000.	149000.	149000.	76500.	672,500	05
RUNOFF OF LAND CONTRACT SALES								
INTEREST	.	.	.	.	.	.		
PRINCIPAL	.	.	.	.	.	.		
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.		
CASH FROM OPERATIONS	.	2229300.	2348220.	2405930.	2501470.	1269900.	10,754,820	80
LESS CASH OUTLAYS								
CARRYING COSTS--RAW LAND	1650.	.	.	.	.	.	1,650	00
CARRYING COSTS--INVENTORY	.	5000.	10000.	10000.	7250.	2250.	34,500	00
REAL ESTATE TAX--RAW LAND	6311.	.	.	.	.	.	6,311	00
REAL ESTATE TAXES--INVENTORY	.	10387.	21813.	22317.	17456.	5880.	77,853	01
MANAGEMENT + ADMIN. COSTS	175001.	521312.	551400.	541116.	494055.	237600.	2,520,484	19
NEW ALLOCATED CAPITAL OUTLAYS	1069370.	898275.	941050.	821960.	263250.	.	3,993,905	30
NEW GENERAL CAPITAL OUTLAYS	680640.	117852.	166100.	80500.	.	.	1,045,092	08
NET CASH REVENUE	-1932970.	676488.	657860.	930050.	1719470.	1024170.	3,075,068	23
PROJECT DEBT STRUCTURE								
TOTAL INITIAL BALANCE	.							
BALANCE END OF YEAR	1750010.	1262130.	865280.	263740.	.	.		
TOTAL PRINCIPAL PAYMENTS	.	1504000.	1504000.	1504000.	526990.	.	5,038,990	37
TOTAL INTEREST PAID ON PROJ.	105000.	207422.	181013.	133550.	81556.	.	708,541	05
INTEREST ADDED TO LOAN BAL.	.	.	.	.	.	.		
NET CASH FROM DEBT INCURRED	1750010.	1016120.	1107150.	902460.	263250.	.	5,038,990	37
CASH AVAILABLE BEFORE TAXES	-287960.	-18820.	80000.	194960.	1374180.	1024170.	2,366,530	18
CAPITAL COST OF IMPROVEMENTS								
PRORATED TO UNITS SOLD	.	898275.	930354.	941050.	983825.	351000.	4,104,504	31
GENERAL CAPITAL COST								
PRORATED TO UNITS SOLD	.	166181.	220327.	256809.	266412.	135336.	1,045,065	08
LAND COST PRORATED TO UNITS SOLD	.	88452.	92875.	95021.	98574.	50074.	424,996	03
TAXABLE INCOME FROM OPERATIONS	-288960.	331288.	339445.	405089.	551364.	487760.	2,114,946	16
ESTIMATED INCOME TAXES	.	159018.	162933.	194442.	264654.	234124.	1,015,171	08
TAX SAVINGS ON OTHER INCOME	138700.	.	.	.	.	.		
NET CASH AFTER TAXES	-177960.	-177838.	-82933.	518.	1109530.	790050.	1,900,098	14
REINVESTED EARNINGS	.	.	.	.	.	.		
WORKING CAPITAL LOAN BALANCE	177960.	355798.	438731.	438213.	.	.		
CASH AFTER TAXES FOR DIVIDENDS OR REINVESTMENT	.	.	.	.	671320.	790050.	1,461,370	11
DIVIDENDS PAID	.	.	.	.	671320.	790050.	1,461,370	11
NET AFTER TAX + DEBT REPAYMENT ON BULK SALES	-1247330.	-754872.	-484430.	-47947.	226103.	30.		
P.V. AT 20.0/0 OF EQUITY RETURNS	-923860.	-408630.	-164762.	92461.	476237.	649967.		

INTERNAL [redacted]E OF RETURN 19.1%

REAL ESTATE FINANCIAL RISK MANAGEMENT

Princess Kaiulani Hotel
Wednesday Afternoon Session
June 13, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

I. Real estate investment decisions may often finally depend on a question of the expected rate of return and the risk incurred in pursuing that investment return. There is a natural tendency in appraisal to consider the net income figure and the over-all investment as fixed numbers--as conditions of certainty.

A. An investment in a bond can be defined as to when it begins in time, when it is sold, when coupons are collectable and total costs and total receipts under alternative outcomes. Thus, yield is easily computed and risk depends on whether you can rely on the promisor.

B. Real estate financial analysis seldom enjoys such a rigid set of financial specifications and therefore seldom enjoys reasonable conditions of certainty.

C. To talk about risk and compare it between investments implies some explicit measures rather than simply subjective doubt--expressed by a shrug of the shoulders.

D. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and historical balance sheet and P & L statements.

1. Variance sometimes is a binary--yes-no question. You will or you won't receive zoning approval.
2. Variance sometimes is the possible range around an average or a median--a distribution of alternative costs or revenue possibilities.

E. For ease of analysis there are two kinds of risks:

1. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.
2. Static risks are those which can only cause a loss due to surprise upset of a plan.

F. Risk evaluation or comparison grows out of the function of risk management for an enterprise. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

G. The process of risk management involves systematic and continuous:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

II. The risk management process is both a philosophy of inquiry or analysis and a systematic management process which is attempting to answer "WHAT IF ...?" questions, to anticipate surprise and to provide for a response or adjustment in advance of the contingency.

A. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as

1. Review of balance sheet accounts
2. Review of profit and loss statement accounts
3. Review of business organization or function chart
4. Review of elements of financial feasibility analysis

B. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

1. Very frequent and minor become expense accounts
2. Less frequent but predictable and major become reserves or budget allowances.
3. Infrequent, uncertain but very severe become issues of risk management.
4. A 50/50 probability is the most uncertain outcome.

C. The alternative methods of avoiding loss which everyone subconsciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and lease-back, options, contingent sales)

D. Selection of a risk management method depends on whether you are talking about a dynamic or static risk and the trade practices of a particular industry or business type.

1. A lease is a risk management contract.
2. A pool plan syndication is risk management through combination.
3. Some selections can be mathematical or statistical and others must be entrepreneurial.

E. Real estate operations and management can become very complex risk management systems and the problem for the decision maker is to monitor the current progress of all the little details necessary for the execution of a risk management plan.

1. Some of these details are financial and that is primarily what we are talking about today. I am suggesting the theory of management and Bob is suggesting how data processing devices are beginning to make it possible to apply these theories in practice.
2. We hope that the theory will have immediate practical application as you see relationships to your personal real estate problems but we also hope you will begin to see the trend of management theory as it begins to utilize the computer for better risk management.

3. It should be noted that the principles are appropriate to any enterprise and not just real estate. Real estate education has been too quick to be inbred, to regard its problems as unique, rather than to relate to the evolution of management science in general.
4. Management theory in the abstract simply represents a careful structuring of the common sense which you have successfully applied to your own business.

III. Real estate financial analysis involves the conversion of a product of space over time to flows of money over time from a real estate enterprise which involves both large amounts of capital and large amounts of managerial services.

A. In forecasting the finance elements there is an infinite number of details so one must over simplify by means of modeling and then determine the key assumptions which need to be made.

B. The purchase of any property and investment real estate in particular is the result of the decision maker "buying" a set of assumptions. A set of assumptions implies conditions of uncertainty--the possibility of variance--hence, risk.

C. To model anything, say a financial model for the computer, certain questions should be emphasized:

1. What is the problem or question which needs to be solved?
2. What data is available which might be relevant?
3. What theory or logical framework best organizes the data to focus on the question?
4. What is the cost/benefit ratio of the model outputs?
5. What is the best way to communicate the recommendation with credibility?
6. What are the limitations of the model assumptions?

D. Basic elements of a real estate financial model which in turn identify the exposure for risk analysis might be as follows:

1. Definition of desired profit centers
2. Definition of a timeline over which events will still take place
3. Assumptions on the capital budget and sequence of source and application of funds
   a. Direct construction or purchase cost
   b. Indirect and capitalized carrying cost
4. Assumptions on operating budget and sequence of source and application
   a. Pattern of sales revenues
   b. Pattern of sales and operating expenses
5. Financing plan holding power
   a. Credit amounts and terms
   b. Equity amounts and terms
   c. Holding power
6. Profits classified as to type and tax
   a. Cash from operations
   b. Cash from capital gains
   c. Cash surplus from financing
   d. Cash from tax savings on other income

e. Cash from reduction or shift of fixed outlays
f. Indirect non-cash benefits

7. Selected measures of profitability
   a. Definition of investment
   b. Definition of profit
8. Selected measures of risk
   a. Payback periods
   b. Capacity for variance
   c. Variance control

IV. Control of time line risks in financial projections can be handled in a variety of ways or models which may or may not serve the client's purposes.

A. The classic appraisal assumes a project has moved on the time line to completion and normal operation as of the date of the appraisal. This may be appropriate to the permanent loan position.

B. Management policy and strategy decisions may be concerned with which phases of the real estate continuum they should participate in. (Refer to Diagram A).

C. Financial analysis may be concerned with rate of return analysis which involves timing of outlays, timing of receipts and elapsed time of investment and reinvestment exposure. (See Diagrams marked as Exhibits 52, 54, 55 and 56).

D. Thus, risks inherent in time can be avoided, shifted, or controlled internally through feedback systems on the status of a project.

V. There are so many variables in real estate investment which will have some variance beyond the ability of management to control that the permutations and combinations of alternative results become impossible to predict. Thus, statistics may be useful to forecast both the probable variance and to analyze a sample of alternative returns possible from a given investment.

A. Last year we spent a day analyzing after tax cash-flow as is outlined in the flow chart in Figure 1, prepared by Professor Stephen Pyhrr. Such a model is heuristic or deterministic. One set of inputs based on experience leading to a single answer.

B. However, Figure 4 suggests an alternative kind of model which permits assumptions to be made which can have a certain range of variation around an average or median.

C. The computer makes the computation relatively efficiently and provides the accounting systems which can help measure variance experienced over time.

D. It is then possible to compare alternative projects as to their probability of yield and their relative liquidity in terms of payback and resale value. (Refer to model of Decision Process).

E. Refer to input and output of Pyhrr Apartment House Investment model. (Professor Stephen Pyhrr of the University of Texas School of Business).

DIAGRAM A

PROPERTY DEVELOPMENT ON TIME LINE FOR COMPARISON OF YIELD
TO VARIABLES WITHIN CONTROL OF DEVELOPER

Progressive Development Functions	Profitability as % of Sales	Cumulative Investment	Turn-over Time	Profits as IRR% of $'s Invested	Profit Derived from Internal or External Factors
Raw Land Control (LC)	500%	small	5 yrs.	25%	external
LC + Change of Use Master Plan (MP)	600%		4 yrs.	45 %	
LC + MP + Political Approvals (PA)	1000%		3 yrs.	60%	
LC + MP + PA + Financial Packaging (FP)	1100%		2 1/2 yrs.	70 %	
LC + MP + PA + FP + Land Improvements (LI)	1125%		2 yrs.	75%	
LC + MP + PA + FP + LI + Building Improvements (BI)	1145%		1 yr.	78%	
LC + MP + PA + FP + LI + BI + Property Management	1150%		1 mon.	79%	internal

EXHIBIT 52

CASH BUDGET #1 ADJUSTED FOR LEVERAGE OF $3,000,000 CREDIT LINE AT ADD-ON RATE OF 8 PERCENT

	(1) Gross Outlay	(2) Credit Line Applied	(3) Net Equity Cash Outlay		(4) Gross Receipts	(5) Reduction on Loan	(6) Default Ratio	(7) Net Cash Receipt to Equity Before Tax	(8) Net Equity Cash
6/31/73	$2,277,000	$2,000,000	$277,000	12/31/74	$1,055,000	$900,000	85%	$155,000	($224,000)
6/31/74	602,000	500,000	102,000	12/31/75	938,000	900,000	96	38,000	(187,000)
6/31/75	301,000	300,000	1,000	12/31/76	1,891,000	900,000	48	991,000	712,000
6/31/76	292,000	200,000	92,000	12/31/78	880,000	600,000	68	280,000	2,266,000
	$3,472,000	$3,000,000	$472,000		$6,938,000	$4,200,000	61%	$2,738,000	

Diagram B

```
ENTER OUTLAYS
? 6,31,73,277000
? 6,31,74,102000
? 6,31,75,1000
? 6,31,76,92000

ENTER RECEIPTS
? 12,31,74,155000
? 12,31,75,38000
? 12,31,76,991000
? 12,31,77,1274000
? 12,31,78,280000

PERIOD OF 5 YEARS, 6 MONTHS, 1 DAYS
FROM 6  30  73  TO  12  30  78
TOTAL OUTLAYS  472000
TOTAL RECEIPTS 2738000
INTERNAL RATE IS 71.6089
ENTER COST OF CAP RATE?  .10
NET PRESENT VALUE AT 10.00% IS *1429955.016
ADJUSTED RATE IS 43.12%
```

EXHIBIT 54

CASH BUDGET #1 WITH A $3,000,000 CREDIT LINE TESTED
BY A DELAY OF 1 YEAR FOR INITIAL CONSTRUCTION AND A 2 YEAR STRETCH-OUT OF SALES

	Gross Outlay	Credit Line Applied	Net Equity Cash Outlay		Gross Receipts	Reduction on Loan	Default Ratio	Net Cash Receipt to Equity Before Tax	Net Equity Cash
6/31/73	$1,200,000	$1,000,000	$200,000 (320,000)*						
6/31/74	1,077,000	1,000,000	77,000 (185,000)*						
6/31/75	602,000	500,000	102,000 (162,000)*	12/31/75	$1,055,000	$900,000	85%	$155,000	($224,000)
6/31/76	301,000	250,000	51,000 (81,000)*	12/31/76	938,000	900,000	96%	38,000	($237,000)
6/31/77	292,000	250,000	42,000 (71,000)*	12/31/77	1,891,000	900,000	48%	991,000	712,000
	3,472,000	$3,000,000	472,000	12/31/78	1,100,000	900,000	82%	200,000	912,000
				12/31/79	1,074,000	600,000	56%	474,000	1,386,000
				12/31/80	880,000	------	--	880,000	2,266,000
					$6,938,000	4,200,000	61%	$2,738,000	

* With 10 percent over-run in cost

EXHIBIT 55

CASH BUDGET #1 WITH A FULL YEAR DELAY IN CONSTRUCTION
AND AN ADDITIONAL ONE YEAR DELAY TO COMPLETE SALES

```
ENTER OUTLAYS
? 6,31,73,300000
? 6,31,74,77000
? 6,31,75,102000
? 6,31,76,51000
? 6,31,77,42000

ENTER RECEIPTS
? 12,31,75,155000
? 12,31,76,38000
? 12,31,77,991000
? 12,31,78,200000
? 12,31,79,474000
? 12,31,80,880000

PERIOD OF 7 YEARS, 6 MONTHS, 1 DAYS
FROM 6  30  73  TO  12  30  80
TOTAL OUTLAYS 472000
TOTAL RECEIPTS 2738000
INTERNAL RATE IS 50.3113
ENTER COST OF CAP RATE? .10
NET PRESENT VALUE AT 10.00% IS *1177502.641
ADJUSTED RATE IS 31.41%
```

EXHIBIT 56

CASH BUDGET #1 WITH A 10 PERCENT OVER-RUN FOR GROSS OUTLAYS
COVERED BY EQUITY FUNDS PLUS DELAYS IDENTIFIED IN EXHIBIT 54

```
ENTER OUTLAYS
? 6,2-31,73,320000
? 6,31,74,185000
? 6,31,75,162000
? 6,31,76,81000
? 6,31,77,71000

ENTER RECEIPTS
? 12,31,75,155000
? 12,31,76,38000
? 12,31,77,991000
? 12,31,78,200000
? 12,31,79,474000
? 12,31,80,880000

PERIOD OF 7 YEARS, 6 MONTHS , 1 DAYS
FROM 6  30  73  TO  12  30  80
TOTAL OUTLAYS 819000
TOTAL RECEIPTS 2738000
INTERNAL RATE IS 31.7604
ENTER COST OF CAP RATE? .10
NET PRESENT VALUE AT 10.00% IS *867387.219
ADJUSTED RATE IS 22.09%
```

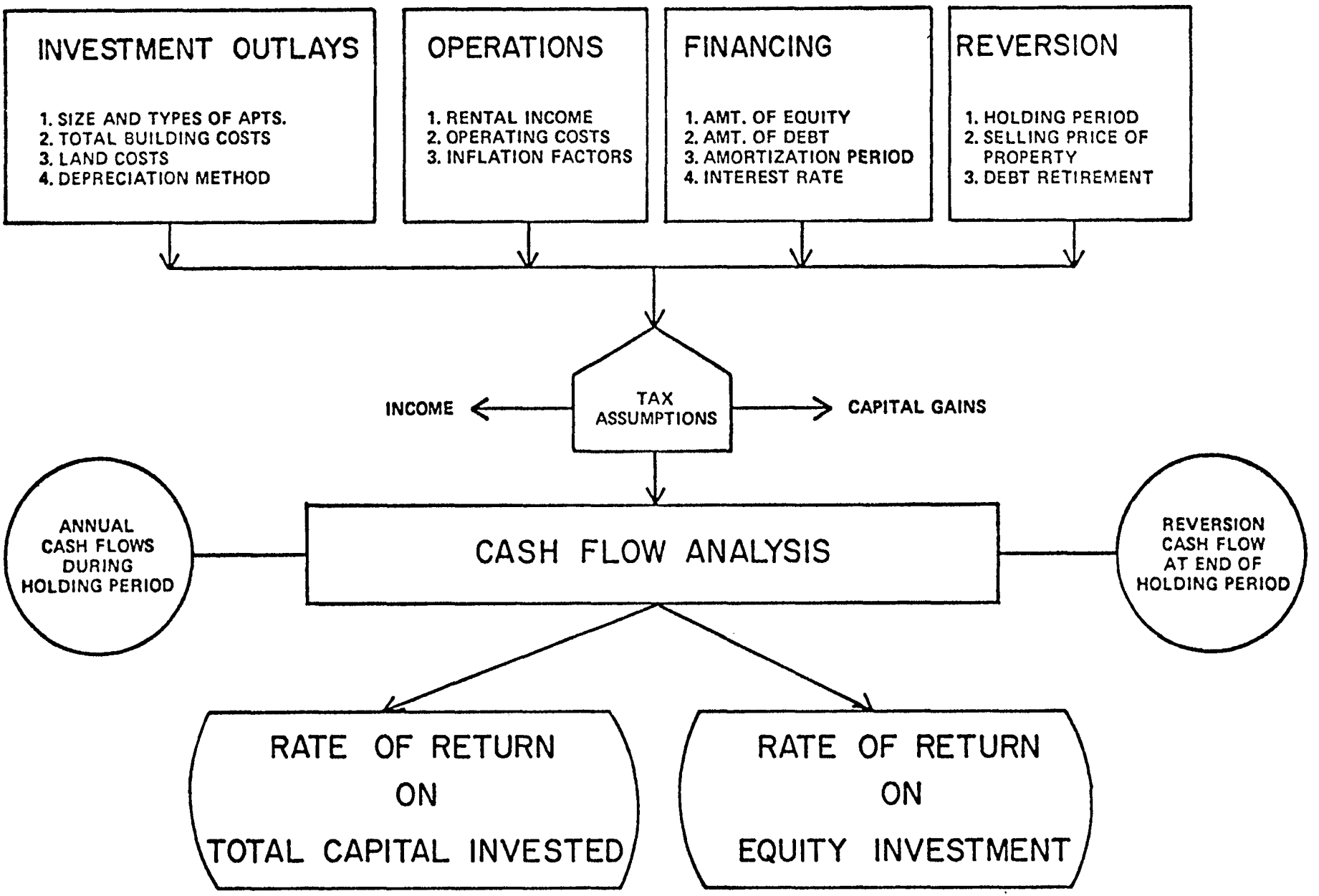


Figure 1. Project Analysis: Deterministic Rate of Return Model

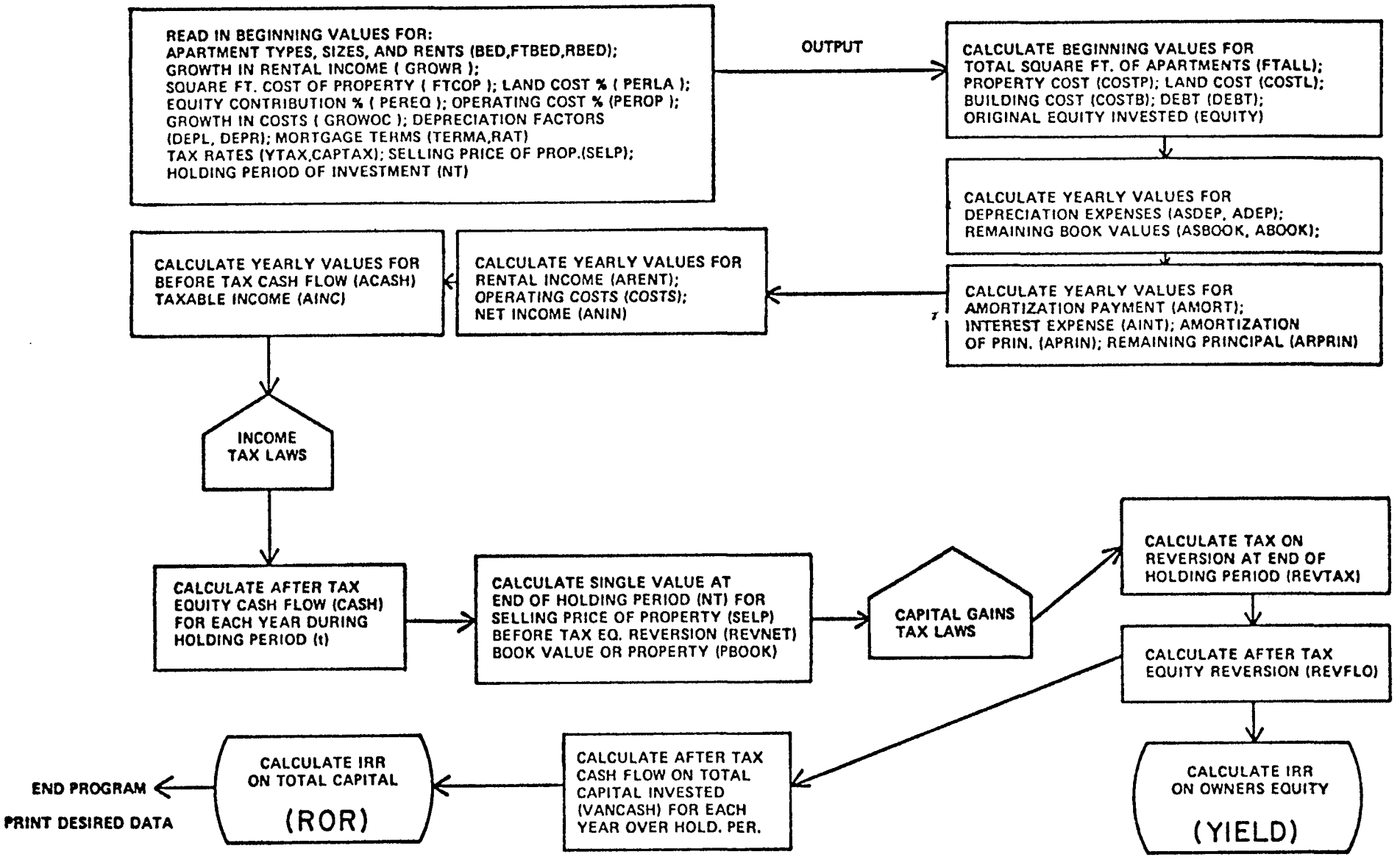


Figure 2. Flow Chart: Deterministic Rate of Return Model

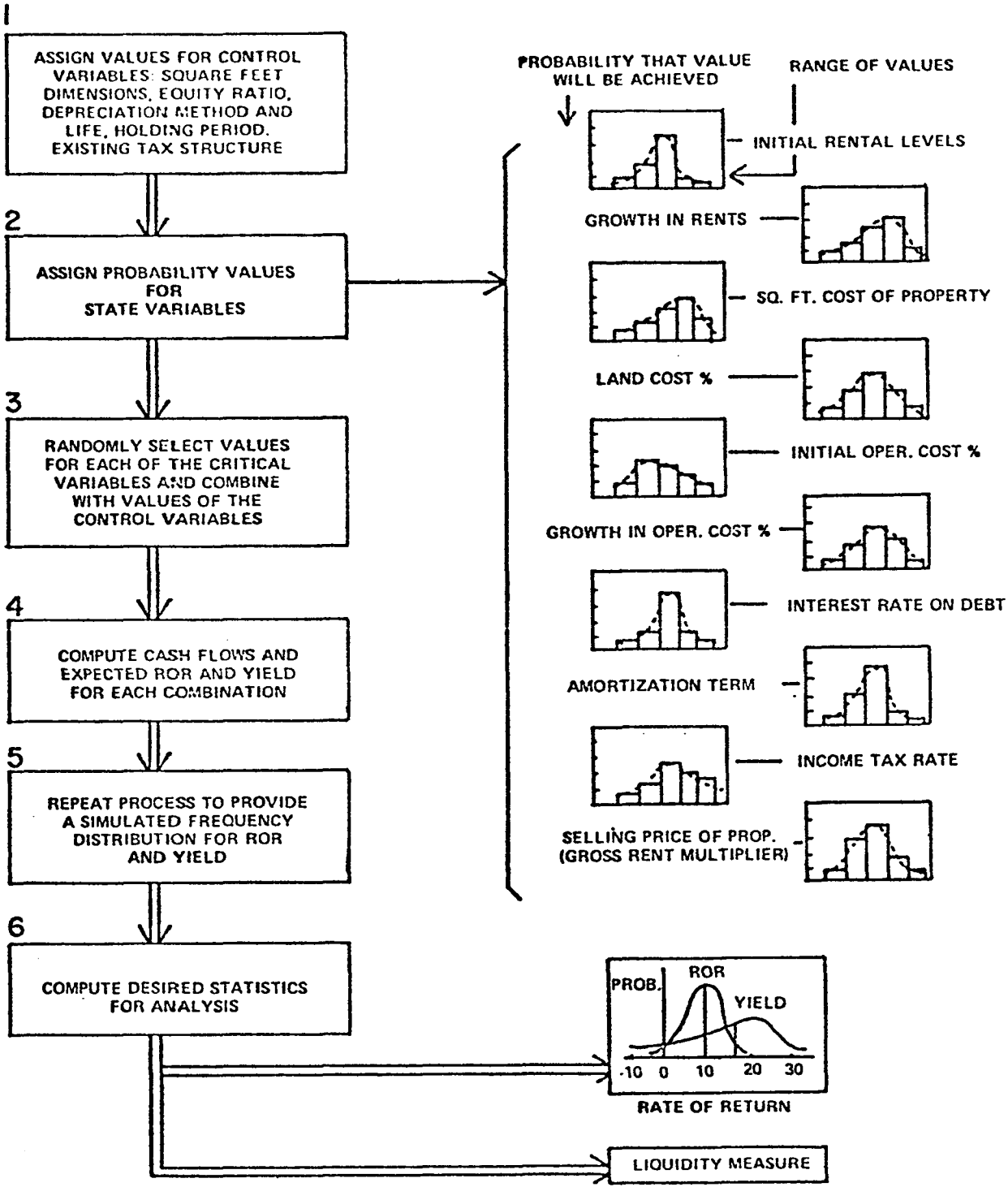


Figure 7. Project Analysis: Probabilistic Rate of Return Model

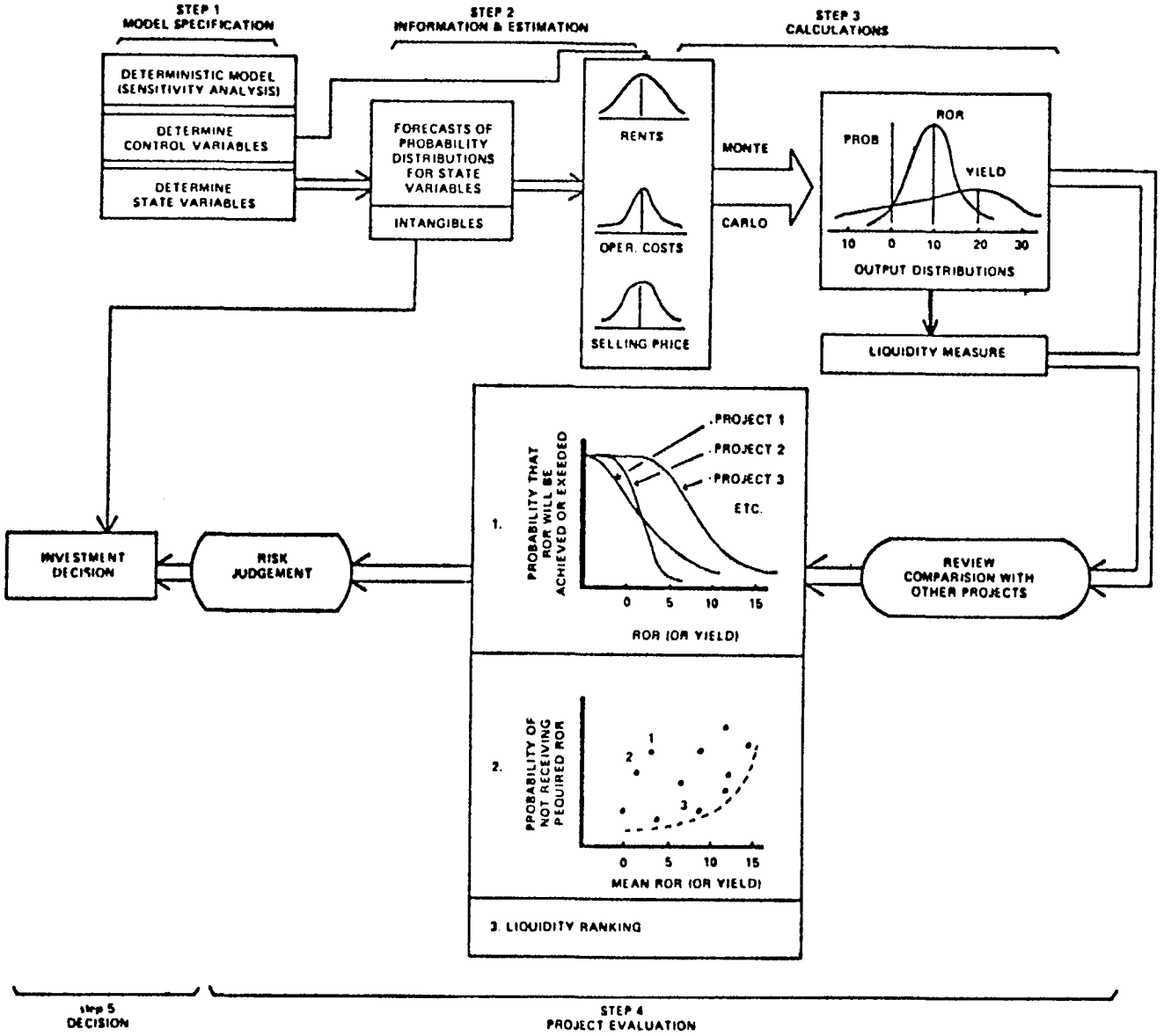


Figure 6. A Model of the Investment Decision Process

SECTION I — INPUT DATA

INPUT DATA SPECIFIED:

CONTROL VARIABLES - THESE VARIABLES ARE SPECIFIED AS SINGLE POINT ESTIMATES IN THE MODEL.

UNCERTAIN VARIABLES - THESE VARIAVLES ARE SPECIFIED AS PROBABILITY DISTRIBUTIONS BY INPUTING THE MINIMUM VALUE, THE MAXIMUM VALUE, THE NUMBER OF INTERVALS DESIRED, AND THE FREQUENCY DISTRIBUTION

	CONTROL VARIABLES	UNCERTAIN VARIABLES RANGE			PERCENT REQUESTED
1. TOTAL NUMBER OF UNITS	23.0000				
2. AVERAGE SQUARE FOOTAGE PER UNIT	1000.0000				
3. AVERAGE MONTHLY RENTAL PER UNIT		250.0000	TO	253.0000 --	5.00
		253.0000	TO	256.0000 --	5.00
		256.0000	TO	259.0000 --	15.00
		259.0000	TO	262.0000 --	50.00
		262.0000	TO	265.0000 --	25.00
4. GROWTH RATE IN RENTAL INCOME OVER HOLDING PERIOD		.0001	TO	.0101 --	10.00
		.0101	TO	.0201 --	15.00
		.0201	TO	.0300 --	50.00
		.0300	TO	.0400 --	15.00
		.0400	TO	.0500 --	10.00
5. SQUARE FOOT COST OF PROPERTY		18.0000	TO	18.6000 --	10.00
		18.6000	TO	19.2000 --	20.00
		19.2000	TO	19.8000 --	40.00
		19.8000	TO	20.4000 --	20.00
		20.4000	TO	21.0000 --	10.00
6. LAND COST AS A PER CENT OF TOTAL PROTERTY COST		.1000	TO	.1100 --	5.00
		.1100	TO	.1200 --	20.00
		.1200	TO	.1300 --	40.00
		.1300	TO	.1400 --	25.00
		.1400	TO	.1500 --	10.00
7. EQUITY CONTRIBUTION AS A PERCENT OF TOTAL PROPERITY COST		.1000	TO	.1200 --	5.00
		.1200	TO	.1400 --	25.00
		.1400	TO	.1600 --	45.00
		.1600	TO	.1800 --	20.00
		.1800	TO	.2000 --	5.00
8. OPERATING COST AS A PERCENT OF TOTAL RENTAL INCOME		.3800	TO	.4000 --	1.00
		.4000	TO	.4200 --	24.00
		.4200	TO	.4400 --	50.00
		.4400	TO	.4600 --	24.00
		.4600	TO	.4800 --	1.00
9. GROWTH RATE IN OPERATING COSTS		.0010	TO	.0068 --	10.00
		.0068	TO	.0126 --	15.00
		.0126	TO	.0184 --	30.00
		.0184	TO	.0242 --	30.00
		.0242	TO	.0300 --	15.00
10. DEPRECIABLE LIFE OF BUILDING	40.0000				
11. DEPRECIATION RATE (METHOD)	1.0000				
12. AMORTIZATION TERM OF LOAN		18.0000	TO	19.0000 --	20.00
		19.0000	TO	20.0000 --	20.00
		20.0000	TO	21.0000 --	20.00
		21.0000	TO	22.0000 --	20.00
		22.0000	TO	23.0000 --	20.00
13. INTEREST RATE OF LOAN		.0550	TO	.0570 --	10.00
		.0570	TO	.0590 --	20.00
		.0590	TO	.0610 --	40.00
		.0610	TO	.0630 --	20.00
		.0630	TO	.0650 --	10.00
14. INCOME TAX RATE	.5000				
15. CAPITAL GAINS TAX RATE	.2500				
16. GROSS RENT MULTIPLIER		5.0000	TO	5.6000 --	10.00
		5.6000	TO	6.2000 --	10.00
		6.2000	TO	6.8000 --	15.00
		6.8000	TO	7.4000 --	50.00
		7.4000	TO	8.0000 --	15.00
17. HOLDING PERIOD OF THE INVESTMENT	10				
18. MINIMUM RATE OF RETURN REQUIRED ON OWNER S EQUITY	.1500				
19. MINIMUM RATE OF RETURN REQUIRED ON TOTAL CAPITAL	.0700				

SECTION II SAMPLE SIMULATION RUN 1

INPUT DATA

1. TOTAL NUMBER OF UNITS..... 23.0000
2. AVERAGE SQUARE FOOTAGE PER UNIT..... 1000.0000
3. AVERAGE MONTHLY RENTAL PER UNIT..... 251.0177
4. GROWTH RATE IN RENTAL INCOME OVER HOLDING PERIOD..... .0200
5. SQUARE FOOT COST OF PROPERTY..... 20.7176
6. LAND COST AS A PER CENT OF TOTAL PROTERTY COST..... .1089
7. EQUITY CONTRIBUTION AS A PERCENT OF TOTAL PROPERTY COST. .1811
8. OPERATING COST AS A PERCENT OF TOTAL RENTAL INCOME..... .4676
9. GROWTH RATE IN OPERATING COSTS..... 0.0000
10. DEPRECIABLE LIFE OF BUILDING..... 40.0000
11. DEPRECIATION RATE (METHOD)..... 1.0000
12. AMORTIZATION TERM OF LOAN..... 20.1938
13. INTEREST RATE OF LOAN..... .0649
14. INCOME TAX RATE..... .5000
15. CAPITAL GAINS TAX RATE..... .2500
16. GROSS RENT MULTIPLIER..... 6.5496
17. HOLDING PERIOD OF THE INVESTMENT..... 10

OUTPUT DATA

1. TOTAL SQUARE FEET OF ALL APARTMENTS = 23000.00
2. TOTAL PROPERTY COST = 476505.56
3. LAND COST = 51891.65
4. BUILDING COST = 424613.91
5. DEBT BORROWED TO FINANCE PROPERTY = 390222.37
6. ORIGINAL EQUITY INVESTED IN PROPERTY = 86283.19
7. DEPRECIATION EXPENSES OVER THE HOLDING PERIOD OF THE INVESTMENT AND REMAINING BOOK VALUE OF BUILDING AT END OF YEAR.

YEAR	DEPRECIATION	REMAINING BOOK BALANCE
1	10615.35	413998.56
2	10615.35	403383.22
3	10615.35	392767.87
4	10615.35	382152.52
5	10615.35	371537.17
6	10615.35	360921.83
7	10615.35	350306.48
8	10615.35	339691.13
9	10615.35	329075.78
10	10615.35	318460.43

8. SCHEDULE OF ANNUAL AMORTIZATION PAYMENTS AND THE BREAKDOWN BETWEEN INTEREST AND PRINCIPAL

YEAR	AMORTIZATION PAYMENT	INTEREST EXPENSE	AMORTIZATION OF PRINCIPLE	REMAINING PRINCIPLE
1	35204.71	25307.65	9897.06	380325.31
2	35204.71	24665.78	10538.93	369786.38
3	35204.71	23982.29	11222.43	358563.95
4	35204.71	23254.46	11950.25	346613.70
5	35204.71	22479.44	12725.28	333888.42
6	35204.71	21654.15	13550.57	320337.86
7	35204.71	20775.33	14429.38	305908.47
8	35204.71	19839.52	15365.19	290543.28

9. SCHEDULE OF ANNUAL RENTS, CASH FLOWS, EXPENSES AND INCOME

YEAR	A TOTAL ANNUAL RENTAL INCOME	B ANNUAL OPERATING COSTS	C NET INCOME BEFORE TAX AND AMORTIZATION PAY	D INTEREST EXPENSE	E DEPRECIATION EXPENSE	F TAXABLE INCOME (C-D-E)	G EQUITY CASH FLOW BEFORE TAX	H AFTER TAX EQUITY CASH FLOW (G-TAX RATE * F)	I AFTER TAX CASH FLOW TO TOTAL CAPITAL
1	69280.89	32398.61	36882.28	25307.65	10615.35	959.28	1677.57	1197.93	23748.81
2	70666.08	33046.38	37619.70	24665.78	10615.35	2338.57	2414.99	1245.70	24117.52
3	72078.97	33707.11	38371.86	23982.29	10615.35	3774.23	3167.15	1280.04	24493.61
4	73520.11	34381.04	39139.06	23254.46	10615.35	5269.25	3934.35	1299.72	24877.21
5	74990.06	35068.45	39921.60	22479.44	10615.35	6826.82	4716.89	1303.48	25268.48
6	76489.40	35769.60	40719.79	21654.15	10615.35	8450.30	5515.08	1289.93	25667.57
7	78018.72	36484.78	41533.94	20775.33	10615.35	10143.26	6329.22	1257.59	26074.64
8	79578.61	37214.25	42364.36	19839.52	10615.35	11909.49	7159.65	1204.90	26489.85
9	81169.69	37958.31	43211.39	18843.02	10615.35	13753.02	8006.68	1130.17	26913.37
10	82792.59	38717.24	44075.35	17781.89	10615.35	15678.11	8870.64	1031.58	27345.35

10. CALCULATION OF AFTER TAX EQUITY REVERSION

SQUARE FOOT COST OF THE PROPERTY

20.7176	18.9444	19.5528	19.1047	18.3816	20.2273	19.1547	20.7957	18.6358	20.1452
19.6872	18.8974	18.3550	18.2886	18.6981	20.2570	19.0795	18.7152	20.1231	19.4651
20.4470	18.1686	19.1273	20.1897	19.9047	19.3032	18.0325	18.2576	19.3792	19.8375
18.6466	20.4622	18.1742	18.7935	18.4398	20.8034	20.0002	19.7448	19.9272	20.4924
18.3431	20.7007	18.4620	19.9458	19.0019	19.5641	20.5436	20.7437	19.7383	20.8594
19.2745	19.5919	19.9803	19.7884	18.6543	20.2994	18.9912	19.0694	19.0541	19.1652
19.0121	18.6663	19.7044	19.3158	20.0154	19.5058	18.6043	20.2637	19.2697	19.7643
20.2063	19.2587	20.2083	19.9201	19.7693	19.5491	19.4849	19.3940	20.3906	20.4645
19.9150	20.1970	19.7270	19.4056	19.7499	19.7049	19.5074	19.6491	19.5588	19.1045
19.2198	19.4129	19.2518	19.6507	19.6472	19.5772	19.2097	19.2438	19.4866	19.4262

MEAN..... 19.50542

STANDARD DEVIATION..... .68048

RANGE..... 2.82692

DISTRIBUTION OF VALUES USED

RANGE		SIMULATED PERCENT	PERCENT REQUESTED
18.0000 TO	18.6000	10.00	10.00
18.6000 TO	19.2000	21.00	20.00
19.2000 TO	19.8000	38.00	40.00
19.8000 TO	20.4000	20.00	20.00
20.4000 TO	21.0000	11.00	10.00

SECTION IV — SIMULATION RESULTS

MEANS, STANDARD DEVIATIONS AND RANGES OF OUTPUT VARIABLES FOR 10 YEARS

	YEAR 1	2	3	4	5	6	7	8	9	10
ARENT										
MEAN	71785.36	73554.73	75376.92	77253.67	79186.80	81178.17	83229.71	85343.43	87521.40	89765.77
ST DEV	890.90	1170.77	1839.41	2652.93	3544.52	4496.03	5502.03	6561.28	7674.31	8842.50
RANGE	4073.14	5975.75	9512.29	13222.96	17116.11	21200.48	25485.21	29979.89	34694.56	39639.77
LOW	69063.53	70253.82	70362.51	70471.37	70580.40	70689.60	70798.96	70908.50	71018.20	71128.07
HIGH	73136.67	76229.57	79874.80	83694.33	87696.51	91890.07	96284.17	100888.38	105712.76	110767.85
COSTS										
MEAN	30818.64	31576.31	32356.56	33160.11	33987.75	34840.27	35718.48	36623.25	37555.46	38516.02
ST DEV	1317.73	1342.44	1456.97	1653.74	1918.08	2236.15	2597.87	2996.67	3428.58	3891.30
RANGE	7065.33	7569.10	8240.80	8947.00	9689.21	11018.97	12441.58	14122.12	16100.90	18178.48
LOW	26331.71	26951.87	27586.63	28236.34	28901.35	29032.08	29125.22	29218.65	29312.39	29406.43
HIGH	33397.04	34520.97	35827.43	37183.34	38590.57	40051.05	41566.80	43340.77	45413.29	47584.91
ANIN										
MEAN	40966.72	41978.41	43020.36	44093.56	45199.05	46337.90	47511.23	48720.18	49965.94	51249.76
ST DEV	1241.75	1398.26	1690.98	2079.56	2535.36	3042.35	3592.14	4180.51	4805.47	5466.34
RANGE	6896.70	7417.17	8575.59	9945.23	11735.92	13901.26	16172.18	18553.52	21050.33	23667.90
LOW	36882.28	37619.70	38371.86	39139.06	39582.47	39752.92	39924.11	40096.03	40268.69	40442.09
HIGH	43778.98	45036.87	46947.45	49084.29	51318.40	53654.18	56096.29	58649.55	61319.02	64109.99
ACASH										
MEAN	8120.03	9131.72	10173.67	11246.87	12352.36	13491.21	14664.54	15873.49	17119.25	18403.06
ST DEV	2488.94	2521.29	2646.61	2864.85	3169.05	3549.22	3995.64	4500.33	5057.44	5662.95
RANGE	12898.35	14006.92	15180.61	16422.59	17736.16	19124.77	20592.04	22872.94	25293.66	27821.71
LOW	1677.57	2414.99	3167.15	3934.35	4716.89	5515.08	6329.22	6428.45	6490.83	6553.32
HIGH	14575.91	16421.90	18347.76	20356.94	22453.05	24639.85	26921.27	29301.39	31784.49	34375.02
AINC										
MEAN	8328.66	9939.90	11617.38	13364.25	15183.84	17079.66	19055.39	21114.92	23262.33	25501.93
ST DEV	2047.23	2062.55	2195.33	2441.53	2785.88	3211.09	3703.10	4252.03	4851.54	5497.80
RANGE	12722.05	13664.89	14658.20	15703.99	16804.29	17961.20	19176.88	20453.54	21793.44	23359.10
LOW	959.28	2338.57	3774.23	5269.25	6826.82	8450.30	10143.26	11909.49	13753.02	15517.90
HIGH	13681.33	16003.46	18432.43	20973.24	23631.11	26411.50	29320.14	32363.03	35546.46	38877.00
CASH										
MEAN	3955.70	4161.77	4364.98	4564.75	4760.44	4951.38	5136.84	5316.03	5488.09	5652.10
ST DEV	1673.70	1721.18	1803.93	1922.12	2074.60	2259.41	2474.36	2717.40	2986.82	3281.33
RANGE	7243.34	7663.17	8545.60	9477.43	10461.13	11499.31	12717.28	14034.65	15413.63	16857.08
LOW	635.62	757.00	585.94	392.89	176.37	-65.21	-456.08	-914.78	-1402.37	-1920.56
HIGH	7878.96	8420.17	9131.54	9870.32	10637.50	11434.10	12261.20	13119.87	14011.26	14936.52
VCASH										
MEAN	25382.23	25888.08	26409.05	26945.65	27498.39	28067.82	28654.48	29258.96	29881.84	30523.75
ST DEV	614.89	700.92	852.90	1050.70	1280.72	1535.50	1811.18	2105.84	2418.58	2749.14
RANGE	3079.87	3608.29	4254.12	5143.09	6218.96	7351.63	8539.14	9784.62	11088.16	12452.41
LOW	23748.81	24117.52	24493.61	24673.06	24714.23	24749.46	24783.01	24814.15	24845.35	24876.59
HIGH	26828.69	27725.82	28747.73	29816.15	30933.20	32101.09	33322.14	34598.77	35933.51	37329.00
COV										
MEAN	1.25	1.28	1.31	1.34	1.37	1.41	1.44	1.48	1.52	1.56
ST DEV	.05	.06	.07	.08	.09	.11	.13	.14	.16	.18
RANGE	.47	.52	.56	.61	.67	.72	.78	.84	.91	1.00
LOW	1.05	1.07	1.09	1.11	1.13	1.16	1.18	1.20	1.22	1.23
HIGH	1.52	1.58	1.65	1.72	1.80	1.88	1.96	2.04	2.13	2.22

SUMMARY STATISTICS OVER 10 YEARS

ARENT	
MEAN	80419.60
ST DEV	4317.47
RANGE	41704.32
LOW	69063.53
HIGH	110767.85
COSTS	
MEAN	34515.28
ST DEV	2283.95
RANGE	21253.19
LOW	26331.71
HIGH	47584.91
ANIN	
MEAN	45904.31
ST DEV	3003.27
RANGE	27227.71
LOW	36882.28
HIGH	64109.99
ACASH	
MEAN	13057.62
ST DEV	3645.63
RANGE	32697.46
LOW	1677.57
HIGH	34375.02
AINC	
MEAN	16444.83
ST DEV	3304.81
RANGE	37917.72
LOW	959.28
HIGH	38877.00
CASH	
MEAN	4835.21
ST DEV	2291.48
RANGE	16857.08
LOW	-1920.56
HIGH	14936.52
VCASH	
MEAN	27851.02
ST DEV	1512.04
RANGE	13580.18
LOW	23748.81
HIGH	37329.00
COV	
MEAN	1.40
ST DEV	.11
RANGE	1.18
LOW	1.05
HIGH	2.22

Note These Definitions: (Simulation Results)

ARENT = Total Annual Rental Income

COSTS = Annual Operating Cost

ANIN = Net Income Before Tax and Amortization

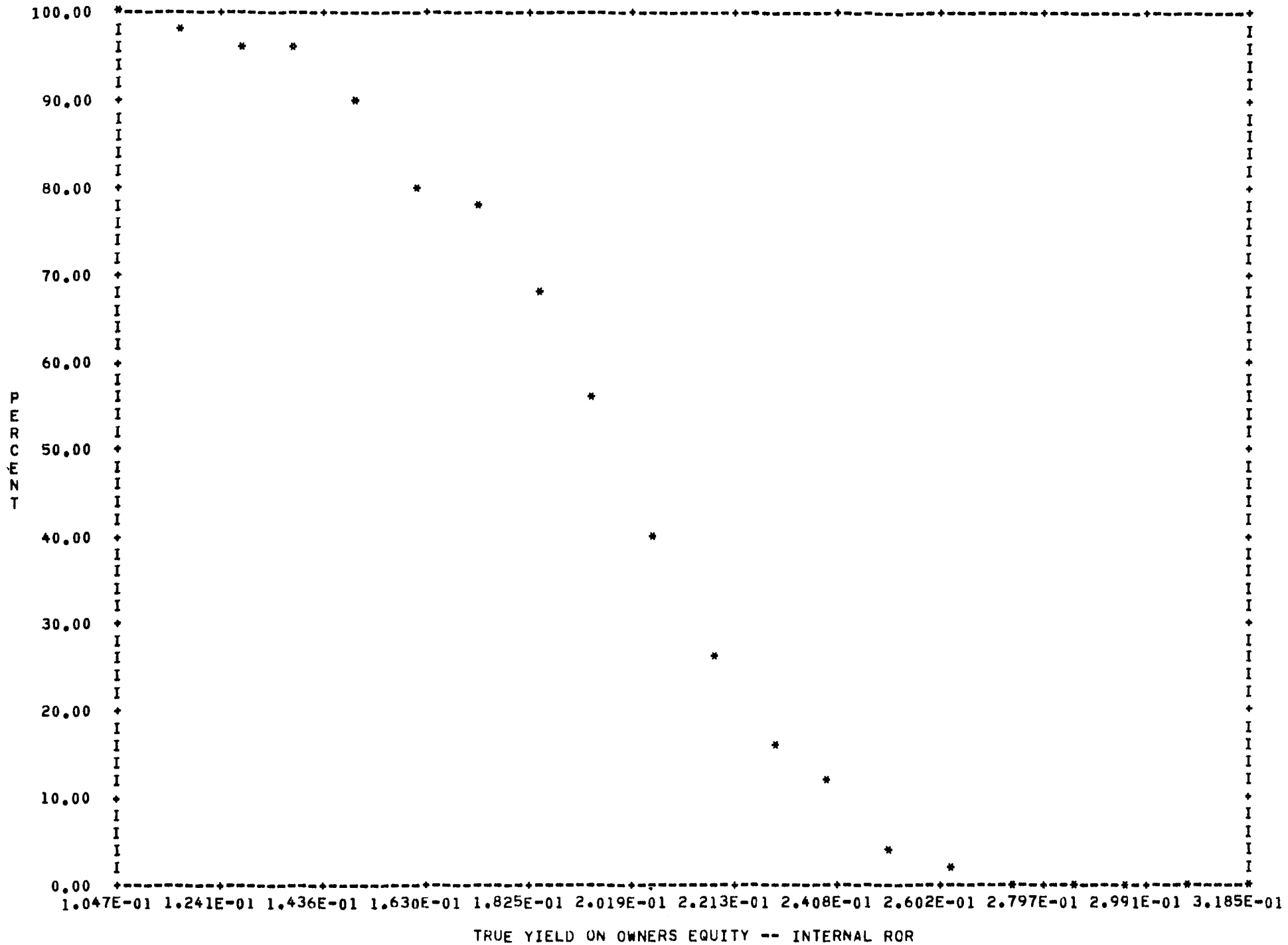
ACASH = Equity Cash Flow Before Tax

AINC = Taxable Income

CASH = After Tax Equity Cash Flow

VCASH = After Tax Cash Flow to Total Capital (= after tax equity cost flow, assuming 100% equity)

COV = Coverage Ratio



PROBABILITY OF ROR BEING LESS THAN .150 IS 10.000 PERCENT

REAL ESTATE APPRAISAL LEGAL FUTURE SHOCK
Princess Kaiulani Hotel
Thursday Morning Session
June 14, 1973

I. While the computer in data processing in matters of real estate are generally thought to be appropriate only to quantatitive analysis such as cash flow studies and supply and demand analysis, EDP is also very useful in the legal elements of real estate. This morning I will pose the implications of the data explosion as it affects the law and economics of real estate. This afternoon Bob Knitter will explore the computer as an instrument of the law.

A. A key assumption of appraisal doctrine and real estate literature is the concept of highest and best use.

B. The highest and best use of a site is that reasonable and probable use which is most likely to produce the highest present worth, or will support the highest present value, at the site - as of the date of the appraisal. This use is usually associated with the highest net return or net benefits to the owner over a stipulated period of time. In estimating highest and best use, the appraiser goes through essentially four stages of analysis, as indicated in earlier sessions:

1. Possible Use. To what uses is it physically possible to put the site in question?
2. Permissible Use (Legal). What uses are permitted by zoning and deed restrictions on the site in question?
3. Feasible Use. Which possible and permissible uses will produce any net return to the owner of the site?
4. Highest and Best Use. Among the feasible uses, which use will produce the highest net return or the highest present worth?

C. Despite the language the appraiser is actually talking about the most profitable use of the private interest which is quite a different thing than "best use" in terms of the public interest in the total mosaic of land uses which results. Indeed the appraiser should purge his materials of the arrogant presumption that he is the judge of "highest and best use."

D. The origins of the concept are a good example of the implications of the future shock caused by our accelerating evolution of society and its implications for the premises by which we make decisions.

1. Medieval cities and villages of the Polynesian cultures maintain a very long term similarity in pattern and appearance.
2. This continuity is a result of a static population count, a relatively static techology, and a cultural concensus as to how things ought to be.

E. The industrial revolution and the migration to the new world meant that none of these controls were operative as the population soared, as technilogy made incomprehensive changes, and a mobile population and democratic government made any lasting cultural concensus difficult to achieve.

F. As a result the primary criteria was that those who could pay the most had first right to use the property or in later years, to bully the zoning administrators.

G. The legal institutions the case law, and administrative law of the land represent the closest thing we have to a concensus and the ability of the law to provide the evidence necessary for enforcement and reform determines the extent to which the concensus can be reimposed on a real estate industry conditioned by the earlier era of economic laissez faire.

H. Real estate involves a complex interfacing between land as a resource, money as a commercial commodity, and people whose activities are housed by the real estate. Commercial law about money evolved first where we now have a reasonable concensus. Currently we are attempting to reimpose a social concensus on the use of land as a finite natural resource. Consumer law is emerging to control the abuse of people affected by real estate who become more and more interdependent on system safeguards rather than individual responsibility.

II. There are three parties to a land use decision, the producer or developer, the consumer, and the collective public interest. The planner is simply an arbitrator between these vested interests.

A. The interest in lands can be subdivided between public claims and prerogatives, private claims and prerogatives, and a large area of undefined common claims and prerogatives.

B. The public reserves first claim on productivity via the real estate tax, veto power on the prerogatives of use via police powers, and the right to reacquire whatever private interest there may be through eminent domain.

C. Electronic data processing provides better means of measuring productivity and thus collecting the tax, it provides low cost means of enforcement of sophisticated police powers, and finally it provides a means for identifying and administering the private rights themselves.

D. Much what of passes for private rights is actually common property and the difference is the legal ability to defend or provide evidence of control or establish cause and effect.

1. The earliet building codes related building technique to the tendency of cities to burn down, thus requiring certain types of construction, wide street for fire breaks and so on.

2. Today there is more understanding of real estate as a terrarium which affects health, behavior and the rate of exhaustion of finite resources.
3. Combined with aerial photography EDP can identify the farmers field too rich in fertilizer, the source of a certain pollutant in the river or siltation in a lake, or the geology or micro climates of specific tract of land. Suddenly the public has the data sources necessary to extend police powers to the consequences of land use beyond the borders of a specific site. With this extension much of the undefinable which the public thinks are private rights but which were common rights becomes public right with the public able to defend and control its interest.

E. Such an innovation vastly reduces the concept of equity. Indeed the only operational definition of equity may be the degree to which the "owner" can "divert" or avoid expenditures related to a specific piece of ground.

F. Now the strategy of real estate development is changing as a result of these trends. A real estate enterprise has more expenditures than it does net income and yet the expenditures for the enterprise are revenues to those who provide the necessary services, supplies, or even the construction itself. Mortgage banking companies do industrial parks to capture industrial mortgages and lease-backs and lumber companies own land development companies and home builders who need their lumber.

1. In this environment, how do you define or measure net benefits or returns to the owner without identifying the most probable owner or buyer?
2. How do you define most feasible use in terms of net income in the classic sense?
3. Given environmental regulations which lie beyond basic zoning, how does the appraiser identify the uses physically possible.

G. The appraiser traditionally has avoided other areas of expertise such as title, survey, engineering, or whatever, by statements of limiting conditions. Still, it is the appraisers function to measure the economic significance of a site with certain attributes in the marketplace. If he adds any more limiting conditions, of what value is his product? We submit that the appraiser will become the economic interpreter of data from a team of professionals or he will become extinct or remain in the mechanical function of property inspector.

H. There are two forces leading to one or the other result. The ability of the professional society to assimulate accelerating technology can elevate the profession to a commanding position as the economic interpreter of the facts and data supplied by others. The counterforce leading to demotion to property inspector lies in the area of professional liability for malpractice.

1. The rate of assimulation of technology is dropping drastically. The first typewriter was patented in 1714 but 150 years elapsed before typewriters became available. It took a century to introduce the technique of canning food. For electrical appliances introduced before 1920 it took 34 years to reach peak production but the span was only 8 years for the television set and 3 years for the solid state pocket calculator.

2. New machines not only compel change of other machines, they suggest novel solutions to social, philosophical, commercial or personal problems by altering the way a man thinks and the speed with which he can look at the work.

3. There was a time when a doctor used penicillen at risk of committing malpractice; today his failure to use the proper antibiotic may well be grounds for malpractice.

III. As society reimposes control on land as a public utility, on fractional real estate ownership as a security, and real estate hardward and services as a consumer product, there will be increasing reliance on appraisal as a device to provide for full disclosure of facts about the property as well as the measurement of damages. The role of the appraiser, therefore, begins to parallel some of the functions of accounting.

A. The principal function of an independent auditor in our capitalist, free enterprise society is the examining and reporting on financial statements, attesting as to their fairness, and presenting financial positions and results of operations. Accounting firms do many other things, but . . . the principal reason for the auditor's existence . . . where securities are bought and sold and large loans are made to corporations is the attest function (quoted from Wyman G. Patten, "The Audit," Accountants' Liability, ed. by Jim McCord and published by the Practicing Law Institute, 1969). Many of the following comments reflect a seminar conducted by P.L.I.

B. An auditor does not bear prime responsibility for financial statements as management is in control, activates transactions, and is charged with safeguarding enterprise assets. The accountant's knowledge is limited to what he learns from examination for which he must exercise skill and due care in making his audit and in providing a written report. Since the auditor may be doing a sampling procedure, he is not responsible for sweeping up every fraud and irregularity, but his sampling method should detect some systematic mismanagement scheme.

C. For the accountant to be liable, he must have failed to meet some standard of performance, but that is negligence and not criminal wrongdoing.

D. There is a famous statement from Cooley on Torts, "Every man who offers his service to another and is employed, assumes the duty to exercise in the employment such skill as he possesses with reasonable care and diligence. In all these employments where a

peculiar skill is prerequisite, if one offers his service, he is understood as holding himself out to the public as possessing the degree of skill commonly possessed by others in the same employment. And if his pretensions are unfounded, he commits a species of fraud upon every man who employs him in reliance on his public profession. But no man, whether skilled or unskilled, undertakes that the task he assumes shall be performed successfully and without fault or error. He undertakes for good faith and integrity, but not for infallibility and he is liable to his employer for negligence, bad faith or dishonesty, but not for losses consequent upon pure errors of judgment." (There is also the possibility of liability to third parties, but in accounting liability is generally only to a specific party who had the audit performed for a specific purpose.)

E. It should be kept in mind that negligence is conduct which does not measure up to a standard and it is not a state of mind. It may be wholly inadvertent conduct and moral fault is irrelevant. Sometimes non-lawyers misunderstand this and I think accountants have, to some extent, misunderstood the charge of negligence as involving deliberate wrongdoing. But that is not really involved in the charge of legal negligence. As a society becomes more economically complex, more sophisticated, legal protection will be needed and demanded against risks of economic harm. The legal response will be to evolve higher standards of care to which professional conduct must conform. A higher and higher standard of care evolves as the needs of society demand a more rigorous protection against risks of harm. This will happen in the area of the mechanical aspects of the audit, and it will require (and I understand that the accounting profession has consistently done this) that the profession raise its own sights higher and develop more sophisticated investigative techniques to deal with more complicated situations (quoted from Wyman G. Patten, op. cit.).

F. Turning next to auditors' liability to third parties, the general proposition is easily stated--where there is common law deceit or its equivalent, gross negligence or recklessness, liability extends to those whose reliance may be foreseen. Where there is deliberate falsity or a reckless opinion by an expert who knows he has no basis for it or a grievous blunder which the law calls gross negligence, this invites proximate cause rule which results in very broad liability and that is what had been done by the courts.

Specifically, where auditors are concerned, if there is direct participation in fraud, aiding and abetting, recklessness or gross negligence, anyone whose reliance upon the false statement is foreseeable may recover despite the absence of privity and despite the absence of any involvement by the auditor in a commercial transaction with that person.

G. To the relief of accountants and perhaps appraisers, there was a case in 1931 (Ultramares) in which the court expressed concern over the enormous potential liability which could come from a rule imposing liability for mere negligence to third parties whose reliance might simply be reasonably foreseeable. Since

a broad rule might destroy the accounting profession, there was no social utility in a rule which would destroy the profession to compensate the injured. So the court held that for liability to be imposed in favor of third persons, the transaction which the plaintiff claims harmed him must be the end and aim of the audit, and only then would negligence in that audit be a breach of any legal duty to the plaintiff. More recently, courts have stated the vulnerability of accounting to destruction in 1931 has no meaning today. If it is true, the accounting profession has matured economically, protection of society (consumers and investors) would be enhanced by a broad rule of liability which would stimulate the profession to develop improved and better techniques.

H. In section 552 of the recent new edition of Restatement of Torts Second there is a new formula for negligence of any profession, which goes as follows: "One who in the course of his profession supplies negligently false information for the guidance of others is liable to persons for whose benefit and guidance he intends to supply the information, or to persons to whom he knows the recipient intends to supply the information. Liability is imposed if there is reliance on the false representations in a transaction which the auditor intends the information to influence; that is, a specific transaction wherein his intention is that the information will have an influence or one in which he knows that the recipient, the client company, so intends."

I. How does this all apply to the appraiser? He could make a good argument based on reputation and the general level of performance that he is not a profession; he is a property inspector who performs certain computations on the basis of his observations. If on the other hand, he is a profession, then his position is analogous to that of the CPA, when as an appraiser:

   1. He attests as to the value of property for a security issue (particularly when his certified appraisal conclusion is printed prominently in a prospectus);
   2. He attests to value as the basis for a large corporation making a mortgage loan;
   3. He attests to value of a home to be purchased by a low income, unsophisticated buyer aided under some preferential mortgage loan program or another.

J. In a period of increasing accessibility to information and dissemination of more sophisticated techniques of analysis, professional standards must be rising relative to methods for determining value. Indeed, the detail on points that need to be covered in valuation may suggest an automatic file and checklist system for formatting appraisal reports much like that suggested for divorce and bankruptcy proceedings in the system to be demonstrated by Bob Knitter. Such a system could:

   1. Create the file of information required.
   2. Remind the analyst of missing information.

3. Structure an interview with the client or field man.
4. Assimilate data from master files.
5. Produce both a typed report and a master tape from which copies could be reproduced as necessary.

FEASIBILITY ANALYSIS SEMINAR OUTLINE

February 16, 1973
Cincinnati, Ohio

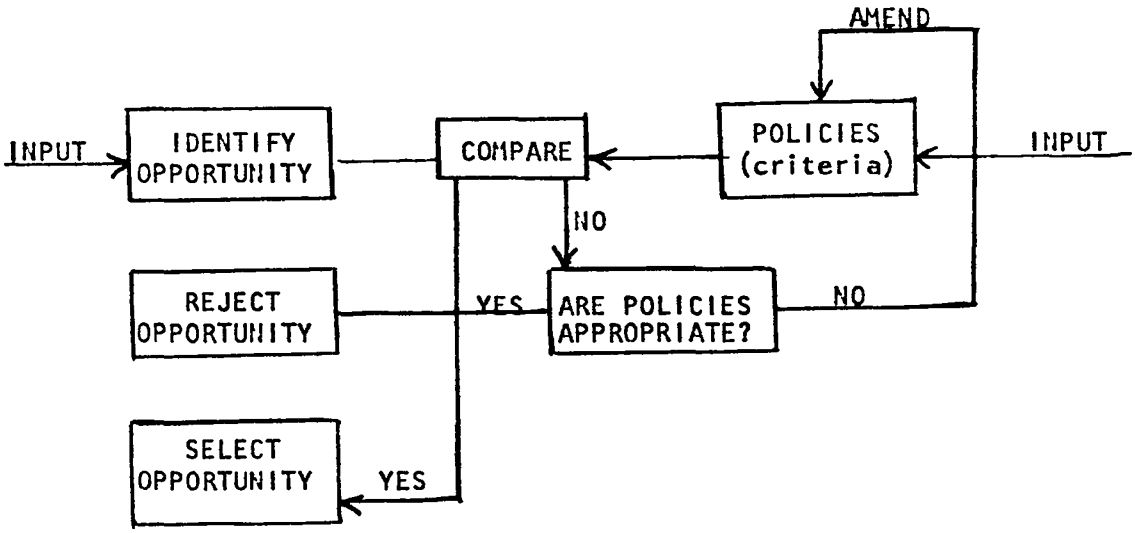
I. Real Estate as an Enterprise and the Management Process

A. Traditional Sequence of Management Function:

1. Planning
2. Organizing
3. Directing
4. Controlling

B. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunities
7. Operating the systems that have been installed
8. Maintaining and continuously perfecting the operating systems



C. This list suggests a flow of events, the presence of standards or policies for go or no-go decisions, and hints at the presence of feedback as part of a dynamic systems process.

1. Feasibility analysis will be concerned primarily with the first five functions
2. Many enterprises are cash cycle enterprises

D. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so similar
3. The nature of real estate as an economic good - space over time and money over time
4. A real estate project as an assembly of sub-systems

E. In the language of systems the basic elements are:

1. Existing conditions - a specific location or quantity referred to as levels, reservoirs or states.
2. Action is a change from one level or state to another and is measured by flow rates.
3. Choices reflect alternative flow rates which can be controlled or selected and changing the flow rate is a decision.
4. Information channels carry messages about states and flow rates which lead to decisions to modify to achieve some objective or criterion.
5. Feasibility analysts are typically involved in identifying and measuring flow rates and their probable patterns in light of some decision.

F. There are three types of information which affect the decision:

1. Outside information about alternatives which is generally available to inquiry or can be generated by inference from observed behavior.
2. Inside information which is the product of information flows internally generated from the experience of the organization and internal values and objectives.
3. Intuitive information which relates to the perceptions, skills, and bias of the decision maker.
4. Appraisal tends to ignore the latter two while feasibility analysis generally begins with the latter two.

G. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on the one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

1. Put in another way, that of the designer, one must judge the success of a work of art by matching its form to its context.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context.

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

202A Breese Terrace, Madison, Wisconsin 53705 608 238 6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No ↓

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

No ↓

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes ↓

No → What is your main reason? _____
_____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only <u>one</u> in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No ↓

Yes → Which one? _____
Yes → What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No ↓

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____
_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

[ ] Family seasonal
[ ] Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar
Saint Paul, Minnesota
March 17, 1973

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

May 1, 1971

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SUGGESTED OUTLINE OF CASH ANALYSIS FOR LAND DEVELOPMENT PROJECT

DEVELOPMENT PERIOD	1	2	3
PRODUCTION STARTS			
PRODUCTION COMPLETIONS			
1. BEGINNING INVENTORY			
2. SALES IN UNITS			
UNITS SOLD FOR CASH			
PRICE PER UNIT			
REVENUE FROM CASH SALES			
UNITS SOLD ON LAND CONTRACTS			
DOWN PAYMENT RECEIVED			
ACCOUNTS RECEIVABLE ADDED			
3. SALES COSTS			
COMMISSIONS PAID			
CLOSING COSTS			
4. RUNOFF OF LAND CONTRACT SALES			
INTEREST			
PRINCIPAL			
PERIOD END ACCOUNTS RECEIVABLE			
5. NET CASH GENERATED FROM SALES			
6. OPERATING COSTS			
CARRYING COSTS--RAW LAND			
CARRYING COSTS--INVENTORY			
REAL ESTATE TAX--RAW LAND			
REAL ESTATE TAX--INVENTORY			
MANAGEMENT + ADMINIST. COSTS			
7. NEW ALLOCATED CAPITAL OUTLAYS			
8. NEW GENERAL CAPITAL OUTLAYS			
9. PROJECT DEBT STRUCTURE			
TOTAL INITIAL CASH			
DEBT BALANCE END OF PERIOD			
TOTAL PRINCIPAL PAYMENTS			
TOTAL INTEREST PAID ON PROJ.			
INTEREST ADDED TO LOAN BAL.			
10. NET CASH FROM DEBT INCURRED			
11. CASH AVAILABLE BEFORE TAXES			

ANALYSIS OF
22-UNIT APARTMENT AT 2116 UNIVERSITY AVENUE
(University of Wisconsin Teaching Model)

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	43410.	44712.	46014.	47316.	48619.	49921.	51223.	52526.	53828.	55130.
LESS VACANCY ALLOWANCE	1302.	1341.	1380.	1419.	1458.	1497.	1536.	1575.	1614.	1653.
EFFECTIVE GROSS INCOME	42107.	43370.	44634.	45897.	47160.	48423.	49687.	50950.	52213.	53476.
LESS REAL ESTATE TAXES	9700.	10282.	10864.	11446.	12028.	12610.	13192.	13774.	14356.	14938.
LESS EXPENSES	8770.	9033.	9296.	9559.	9822.	10085.	10348.	10611.	10874.	11137.
NET INCOME	23637.	24055.	24473.	24892.	25310.	25728.	26146.	26564.	26982.	27400.
LESS DEPRECIATION	10175.	9957.	9745.	9541.	9343.	5951.	5765.	5585.	5410.	5241.
LESS INTEREST	19231.	18988.	18724.	18436.	18122.	17781.	17410.	17005.	16566.	16087.
TAXABLE INCOME	-5769.	-4890.	-3996.	-3085.	-2155.	1995.	2971.	3973.	5006.	6072.
PLUS DEPRECIATION	10175.	9957.	9745.	9541.	9343.	5951.	5765.	5585.	5410.	5241.
LESS PRINCIPAL PAYMENTS	2750.	2993.	3258.	3546.	3860.	4201.	4572.	4976.	5416.	5895.
CASH THROW-OFF	1654.	2073.	2491.	2909.	3327.	3745.	4163.	4581.	4999.	5418.
LESS TAXES	.	.	.	.	.	997.	1485.	1986.	2503.	3036.
CASH FROM OPERATIONS	1654.	2073.	2491.	2909.	3327.	2747.	2678.	2595.	2496.	2382.
WORKING CAPITAL LOAN(CUM BALANCE)	.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	1654.	2073.	2491.	2909.	3327.	2747.	2678.	2595.	2496.	2382.
TAX SAVINGS ON OTHER INCOME	2884.	2445.	1998.	1542.	1077.	.	.	.	.	.
MARKET VALUE	290000.	295800.	301600.	307400.	313200.	319000.	324800.	330600.	336400.	342200.
BALANCE OF LOANS	224749.	221755.	218496.	214950.	211090.	206888.	202316.	197339.	191922.	186027.
NET WORTH OF PROPERTY	65250.	74044.	83103.	92449.	102109.	112111.	122483.	133260.	144477.	156172.
CAPITAL GAIN	8780.	23360.	37940.	52520.	67100.	81680.	96260.	110840.	125150.	139305.
CAPITAL GAINS TAX	2195.	5840.	9485.	13130.	16775.	20420.	24065.	27710.	31287.	34826.
INCOME TAX ON EXCESS DEPRECIATION	697.	1286.	1768.	2149.	2431.	1016.	.	.	.	.
PERCENT INITIAL EQUITY PAYBACK AFTER TAX	.0726	.1449	.2167	.2879	.3584	.4024	.4452	.4868	.5267	.5648
NET INCOME-MARKET VALUE RATIO	.0815	.0813	.0811	.0809	.0808	.0806	.0805	.0803	.0802	.0800
RETURN ON NET WORTH BEFORE TAXES	.0704	.1665	.1559	.1474	.1404	.1346	.1296	.1253	.1216	.1184
RETURN ON NET WORTH AFTER TAXES	.0703	.1455	.1407	.1360	.1313	.1268	.1149	.0988	.0960	.0931
CASH RETURN ON ORIG CASH EQUITY BEF TAX	.0264	.0331	.0398	.0465	.0532	.0599	.0666	.0733	.0799	.0866
CASH RETURN ON ORIG CASH EQUITY AFT TAX	.0726	.0722	.0718	.0712	.0704	.0439	.0428	.0415	.0399	.0381
DEFAULT RATIO	.9318	.9236	.9158	.9085	.9015	.8949	.8887	.8827	.8771	.8717
LENDER BONUS INTEREST RATE	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
PRESENT VALUE OF PROJECT BEFORE TAXES	285678.	286495.	286785.	286666.	286229.	285550.	284693.	283707.	282635.	281508.
PRESENT VALUE OF PROJECT AFTER TAXES	285672.	285463.	285057.	284483.	283768.	282940.	281745.	280098.	278479.	276887.
EQUITY RATE W/ COST OF CAPITAL AT .080	.0703	.1051	.1144	.1174	.1181	.1176	.1160	.1132	.1107	.1085

5.24-1 64

ANALYSIS OF
22-UNIT APARTMENT AT 2116 UNIVERSITY AVENUE
(University of Wisconsin Teaching Model)

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.30	1	.	0	$	56800.
BLDG	1.00	1	40.	3	$	223200.
PERSONAL	1.00	1	5.	2	$	16000.
TOTAL INITIAL INVESTMENT					$	290000.

GROSS RENT	$ 43410.	RATE OF GROWTH OF GROSS RENT	.0300	
EXPENSES	$ 8770.	RATE OF GROWTH OF EXPENSES	.0300	
R E TAXES	$ 9700.	RATE OF GROWTH OF R E TAXES	.0600	
INCOME TAX RATE	.5000	RATE OF GROWTH OF PROJECT VALUE	.0200	
VACANCY RATE	.0300	WORKING CAPITAL LOAN RATE	.1500	
EQUITY DISCOUNT RATE	.1500	EXTRAORDINARY EXPENSES	$.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.0800	

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	62500.	62500.	62500.	62500.	62500.	62500.	62500.	62500.	62500.	62500.

FINANCING PLAN

MORTGAGE 2 $ 227500.
MONTHLY PAYMENT $ 1831. INTEREST RATE .0850 STARTS 1 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	2750.	2993.	3258.	3546.	3860.	4201.	4572.	4976.	5416.	5895.
INTEREST	19231.	18988.	18724.	18436.	18122.	17781.	17410.	17005.	16566.	16087.
BALANCE	224749.	221755.	218496.	214950.	211090.	206888.	202316.	197339.	191922.	186027.

A GUIDE TO REAL ESTATE INVESTMENT ANALYSIS

Joint Meeting of SRA and AIREA Chapters, Charlotte, N.C.
Wednesday, April 18, 1973

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. A Review of Real Estate Appraisal Financial Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Income Property

V. Working through a Basic Problem for Land Development Analysis

LUNCHEON: 12:00 noon

AFTERNOON SESSION: 1:00 P.M.

I. What Is Yield?

II. What Is Risk Analysis?

III. Fair Market Value or Investment Value?

IV. Financial Analysis for a Mortgage Loan Application

COFFEE BREAK: 2:30 P.M.

V. Analysis of a Limited Partnership Prospectus

VI. Recent Innovations in Financial Analysis

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

Joint Meeting of SRA and AIREA Chapters, Charlotte, N.C.
Wednesday, April 18, 1973

By Professor James A. Graaskamp

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

		Net Cash Proceeds Per Year	
Investment	Initial Cost	Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		.25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PV0) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

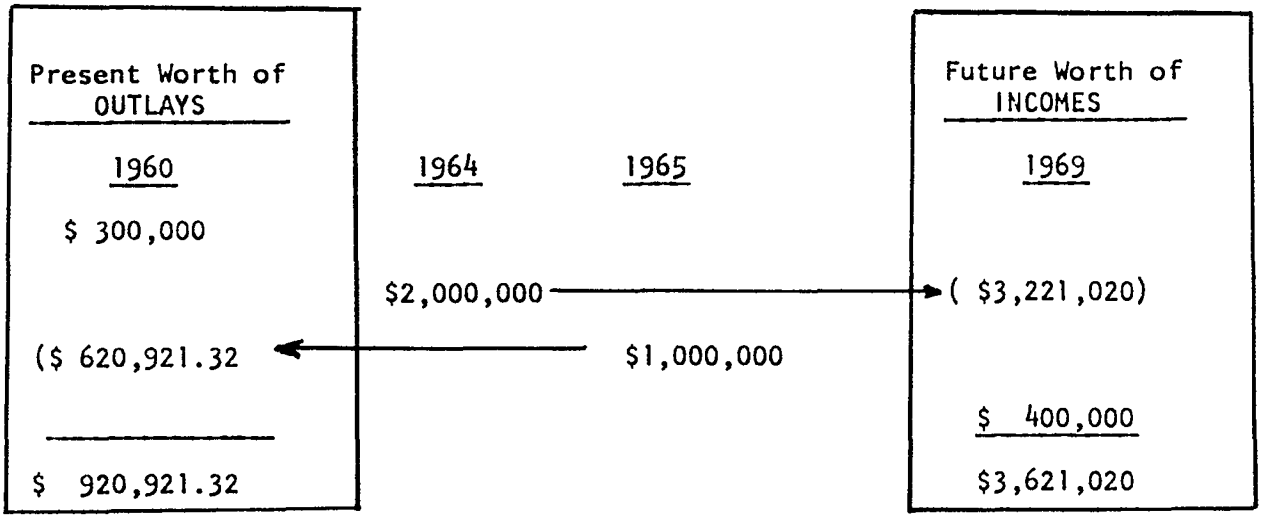
3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.



$$920,921.32\ (1 + i)^9 = 3,621,020.00 = 16.43\%$$

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

May 1, 1971

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

V. A SAMPLE CASE

Valuation of a Real Estate Investment Involving Net Rental Variations, Leverage Accelerated Depreciation, Investor Tax Considerations and Price Appreciation

The following real estate investment analysis focuses on a property where the factors of increasing net rentals, leverage, accelerated depreciation, investor tax considerations, and price appreciation all have an important bearing on the property's total investment value. The property analysis incorporates the following assumptions:

(a) First year gross annual income of $140,000 increases by 3% per year for 10 years.

(b) Vacancy allowance is assumed to be 5% of gross income.

(c) Real estate taxes are $10,000 for the first year and increase at a rate of 2% per year.

(d) Expenses are $60,000 for the first year and increase at a rate of 3% per year.

(e) The total cost of the project is $950,000. Improvements are valued at $700,000. Land is valued at $250,000.

(f) Mortgage debt of $600,000 is available. This debt is to be amortized at 8% with annual payments of $54,000.

(g) The improvements will be depreciated through the use of the double declining balance method; the economic life of the improvements is 40 years.

(h) The project value is expected to grow at 3% per year.

(i) The investor's marginal income is taxed at 50%.

(j) An after-tax return on equity investment of 12% is sought.

(k) Capital gains on the sale of the property are taxed at 25%.

Schedule I
Present Value of Spendable Cash After Taxes
And Tax Savings On Other Income

	1	2	3	4	5
Gross Rent	140,000	144,200	148,400	152,600	156,800
Less Vacancy Allowance	7,000	7,210	7,420	7,630	7,840
Effective Gross Income	133,000	136,990	140,980	144,970	148,960
Less Real Estate Taxes	10,000	10,200	10,400	10,600	10,800
Less Expenses	60,000	61,800	63,600	65,400	67,200
Net Income	63,000	64,990	66,980	68,970	70,960
Less Depreciation	35,000	33,250	31,588	30,008	28,508
Less Interest	48,000	47,520	47,002	46,442	45,837
Taxable Income	-20,000	-15,780	-11,610	- 7,480	- 3,385
Plus Depreciation	35,000	33,250	31,588	30,008	28,508
Less Principal Payments	6,000	6,480	6,998	7,558	8,163
Cash Throw-off	9,000	10,990	12,980	14,970	16,960
Less Taxes	-	-	-	-	-
Cash From Operations	9,000	10,990	12,980	14,970	16,960
Working Capital Loan (Cum Bal)	-	-	-	-	-
Spendable Cash After Taxes	9,000	10,990	12,980	14,970	16,960
Tax Savings on Other Income	10,000	7,890	5,805	3,740	1,693
Spendable Cash After Taxes Plus Tax Savings on Other Income	19,000	18,880	18,785	18,710	18,653
P. V. Factor @ 12%	.8929	.7972	.7118	.6355	.5674
Present Value of Spendable Cash After Taxes plus Tax Savings on other Income	16,965	15,051	13,371	11,890	10,584

6	7	8	9	10
161,000	165,200	169,400	173,600	177,800
8,050	8,260	8,470	8,680	8,890
152,950	156,940	160,930	164,920	168,910
11,000	11,200	11,400	11,600	11,800
69,000	70,800	72,600	74,400	76,200
72,950	74,940	76,930	78,920	81,910
27,082	25,728	24,418	23,221	22,059
45,184	44,479	43,717	42,894	42,006
684	4,733	8,795	12,805	16,845
27,082	25,728	24,418	23,221	22,059
8,816	9,521	10,283	11,106	11,994
18,950	20,940	22,930	24,920	26,910
342	2,366	4,398	6,403	8,423
18,608	18,574	18,544	18,517	18,488
-	-	-	-	-
18,608	18,574	18,544	18,517	18,488
18,608	18,574	18,544	18,517	18,488
.5066	.4523	.4039	.3606	.3220
9,427	8,401	7,490	6,677	5,953

Depreciation, Mortgage Interest, Mortgage Principal, and Market Value Data

Depreciation	700000	665000	631750	600162	570154	541646	514564	488836	464418	441197
	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
	35000	33250	31588	30008	28508	27082	25728	24418	23221	22059
Mortgage	600000	594000	587520	580522	572964	564801	555985	546464	563181	525075
	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Interest	48000	47520	47002	46442	45837	45184	44479	43717	42894	42006
Principal	6000	6480	6998	7558	8163	8816	9521	10283	11106	11994
Total	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000
Market Value	950000	978500	1007000	1035500	1064000	1092500	1121000	1149500	1178000	1206500

Schedule II
Total Investment Value of
A Real Estate Project

Total Present Value of Spendable Cash After Taxes plus Tax Savings on Other Income at 12% (Schedule I)				$105,809
Present Value of Net Proceeds From Sale of Property				
Total Sales Price			$1,206,500	
Less:				
Taxes on Sale of Property				
Capital Gains Tax	$113,168			
Income Tax	42,345	$155,513		
Unpaid Mortgage Balance		513,081	668,594	
			537,906	
Present Value Factor (12%)			.3220	173,206
Total Present Value of Equity Investment				$279,015
Original Mortgage Balance				$600,000
Total Project Value				$879,015

Example of Computing Taxes
on Sale of Property

Assumptions:

(a) Property held 10 years (120) months
(b) Basis equal to $669,138 (original basis equal to $950,000)
(c) Sales price equal to $1,206,500
(d) Depreciation taken on improvements of $700,000 equal to $280,862
(e) Had depreciation been taken on a straight line basis, depreciation would have been equal to $175,000
(f) Taxpayer is in the 50% bracket

Procedure for Determination of Tax:

Total Gain Subject to Tax: $537362	
Portion Subject to Capital Gains Tax:	
Increase in property value	$256,500
Amount which would have been taken through straight line depreciation	$175,000
Allowable accelerated depreciation (280,862-175,000) x .20	$ 21,172
	$452,672
Portion Subject to Ordinary Income Tax:	
Non-allowable Accelerated Depreciation (280,862-175,000) x .80	84,690
	$537,362
Capital Gains Tax ($452,672 x .25)	$113,168
Income Tax ($84,690 x .50)	42,345
Total Taxes on Sale	$155,513

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	No depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$
$$\$ \ 46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
MORTGAGE BANKERS SCH	[redacted]	-	.1800	.3000	[redacted]	7 4

Card 2

Project Description	Extraordinary Expenses	Cost of Equity Capital	Staging Multiplier	Staging Year
24 UNIT APT - CASE 2	7625	.1200	.	

Card 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000	.	00	1 20
BUILDING	165300	1.0000	.	03	1 35
PARKING	7200	0.5000	.	03	1 10
FURNISHINGS	13200	1.0000	.	01	1 07
ELEVATOR	12500	0.8000	.	03	1 12
TRANSACTION COST	1800	1.0000	.	03	1 35
7TH YR REFURBISHING	10000	1.0000		01	8 07

Card 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775	.	01	05	20	03
SELLERS 2ND MORTG.	15000		.0850	.	01	05	10	05
REFINANCED FIRST	190000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900	.	08	10		

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capital Loan Interest Rate
.0500	.0900

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD 1 COLS. 61 and 64?

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\text{Spendable cash + tax savings on other income +} \frac{\text{(Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -

$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum^{N} \left[(\text{Spendable Cash Aft Taxes + Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1} \right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST
LAND	.00	1	.	0	$ 40000.
BUILDING	1.00	1	35.	3	$ 165300.
ELEVATOR	.80	1	9.	3	$ 12500.
FURNISHINGS	1.00	1	7.	5	$ 13200.
PARKING	.50	1	10.	3	$ 7200.
TRANSACTION COST	1.00	1	35.	3	$ 1800.
7TH YR REFURBISH	1.00	8	7.	1	$ 10000.
TOTAL INITIAL INVESTMENT					$ 240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7876.	1948.	3832.	5495.	7007.	4015.	5068.	3064.	4375.	6071.
PLUS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	584.	1149.	1648.	2102.	1204.	1520.	919.	1312.	1821.
CASH FROM OPERATIONS	-1213.	6084.	5777.	5535.	5339.	29306.	5265.	14287.	4114.	3826.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4762.	5777.	5535.	5339.	29306.	5265.	4287.	4114.	3826.
TAX SAVINGS ON OTHER INCOME	2363.	.	.	.	.	.	.	.	.	.
* * *

GRAASKAMP ISLAND CASE

A fertile Tropical Paradise has just been discovered of the coast of Milwaukee. The product of tumultuous upheavals and faulting along the earth plates, the new island has a year-round climate comparable to Tahiti.

First on the scene and to lay claim to this island paradise was the renowned international explorer, Chief Graaskamp and crew. After a quick reconaissance Graaskamp has decided to drop anchor and examine the opportunities for development and operation of sales and rental apartments.

The Chief is thoroughly experienced in land development in the frosty North, but tropical development is virgin territory. Preliminary cash flow analysis for building and operations indicate that an equity investment of $5.8 million will be required, but no investors are interested.

Milwaukee radio reported that new rumblings were heard in the vicinity of the new island.

Is Graaskamp Island sinking, or can it be saved?

ILLUSTRATIVE LAND VALUE ANALYSIS FOR SALE HOUSING UNITS

DETACHED HOMES @ 3.0 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

	Average Unit[1] 1,600 s.f.
I. Estimated Development Costs	
A. Construction and Site Costs @$14.00/s.f. [2]	$22,400
B. Non-Construction and Site Costs @ 5% of Construction	1,120
Subtotal	$23,520
C. Promotion-Sales (@ 6% of Sale Price)	2,460
D. Developer's Profit Allowance (@15% of Sale Price)	6,150
E. Total Cost, Excluding Land	$32,130
II. Sale Price, Supportable Ground Value	
A. Sale Price	$41,000
B. Less Total Cost	32,130
C. Supportable Ground Value per unit	$ 8,870
D. Supportable Ground Value as a percent of Sales Price	22%
E. Average Density (D.U.'s/acre)	3.0
F. Supportable Ground Value per acre	$26,610

1/ Average unit excluding basement and garage.

2/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

3/ Real Estate taxes during construction and construction financing.

ILLUSTRATIVE LAND VALUE ANALYSIS FOR RENTAL HOUSING UNITS

GARDEN APARTMENTS @ 15 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

1. Estimated Improvement Cost		
A.	Construction @ $13 per square foot[1/] @ 1,000 s.f.	$14,300
B.	Non-construction @ 5% of construction cost [2/]	700
C.	Landscaping and Site Work	500
D.	Total Improvement Cost	$15,500
2. Net Income from Operations		
A.	Gross Income (@ $240/month or 24¢/s.f.)	$ 2,880
B.	Less 5% Vacancy and Collection Allowance	144
C.	Plus Other Income @ $3/month	36
D.	Gross Effective Income	$ 2,772
E.	Less Operating Expenses and Real Estate Tax (@ 37% of gross)	$ 1,025
F.	Net Operating Income	$ 1,747
3. Financing		
A.	Economic Value at 9.5% Capitalization Rate	$18,390
B.	Mortgage at 75% of Economic Value	13,792
C.	Debt Service at 9.5% Constant (i.e., 25 years at 8.25% Interest)	$ 1,310
4. Net Cash Flow		
A.	Net Operating Income	$ 1,747
B.	Less Debt Service	1,310
C.	Net Cash Flow	$ 437
5. Residual Values		
A.	Equity @ 15% ROE	$ 2,914
B.	Mortgage	13,792
C.	Total Supportable Costs	$16,706
D.	Improvement Cost	15,500
E.	Residual Value of Land	$ 1,206
F.	Average Density (D.U.'s/acre)	15.0
G.	Residual Value per acre	$18,090

1/ Gross living area; excludes unfinished bas

1/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

2/ Real Estate taxes during construction and construction financing.

BUILDING & OPERATIONS CASHFLOW

GRAASKAMP ISLAND

THOUSANDS OF 1972 $

L/C		1973	1974	1975	1976	1977	TOTAL
A.	DEVELOPMENT ACTIVITIES						
	SOURCES OF FUNDS						
1	SINGLE FAMILY SALES	....	2533	5002	5152	5169	17856
2	MULTI-FAMILY RENTAL	....	256	323	424	421	1425
3	TOTAL	....	2790	5325	5576	5589	19282
	APPLICATIONS OF FUNDS						
	LAND						
4	SINGLE FAMILY	548	1082	1114	1118	....	3863
5	MULTI-FAMILY	231	291	382	379	....	1285
6	SUBTOTAL	779	1373	1497	1497	....	5148
	CONSTRUCTION						
7	SINGLE FAMILY	1411	2704	2704	2634	....	9455
8	MULTI-FAMILY	1395	1705	2170	2092	....	7362
9	SUBTOTAL	2806	4409	4874	4726	....	16817
	OPERATIONS & SALES						
10	S-F SALES COMMISSION	....	152	300	309	310	1071
11	M-F OPERATING EXPENSES	....	95	119	156	155	527
12	SUBTOTAL	....	247	419	466	465	1598
13	TOTAL APPLICATIONS	3586	6030	6791	6690	465	23565
	NET CASH FLOW FROM DEV. ACT.						
14	ANNUAL	-3586	-3240	-1466	-1114	5123	-4283
15	CUMULATIVE	-3586	-6826	-8292	-9406	-4283	....
B.	CAPITAL ACTIVITIES						
	SOURCES OF FUNDS						
16	MORTGAGE PROCEEDS	....	1278	1608	2109	2094	7090
17	LIQUIDATION	....	....	....	....	11629	11629
18	SUBTOTAL	....	1278	1608	2109	13723	18719
	APPLICATIONS OF FUNDS						
19	MORTGAGE INTEREST	....	108	243	417	585	1354
20	PRINCIPAL REPAYMENTS	....	26	61	110	6891	7090
21	DEBT SERVICE	....	135	305	527	7477	8445
22	NCF FROM CAPITAL ACTIVITIES	....	1143	1303	1581	6246	10274
C.	PROJECT NET CASH FLOW						
23	ANNUAL	-3586	-2097	-162	466	11369	5991
24	CUMULATIVE	-3586	-5683	-5845	-5378	5991	....

LINE 23 (COL 1 - 5) INTERNAL RATE-OF-RETURN IS 21.845%

LINE 23 (COL 1 - 5) NET PRESENT VALUE IS 1275.29 AT 15.00%

Outline to
Guide to Real Estate Investment Analysis

AFTERNOON SESSION

I. Any measure of yield requires careful definition of what is an annual profit and what will be included in resale proceeds and an explicit assumption about the opportunity cost of money or the reinvestment rate.

A. Refer to definitions on page of Case problem #2.

B. Refer to alternative definitions of annual profits and sales proceeds as found in limited partnership agreements by Stephen Roulac.

"Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation,
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt,
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket.
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,

3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment,
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

C. Suggestions for the appraiser looking for a standard on which to base valuation judgments:

1. Relate to purpose of appraisal and significance of hard dollar and soft dollars to the viewpoint to be served
2. Ellwood method
3. EDUCARE standard models for the investor/buyer
4. Standard assumptions to be promulgated by SEC
5. The appraisal customer's ideal preferences

II. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

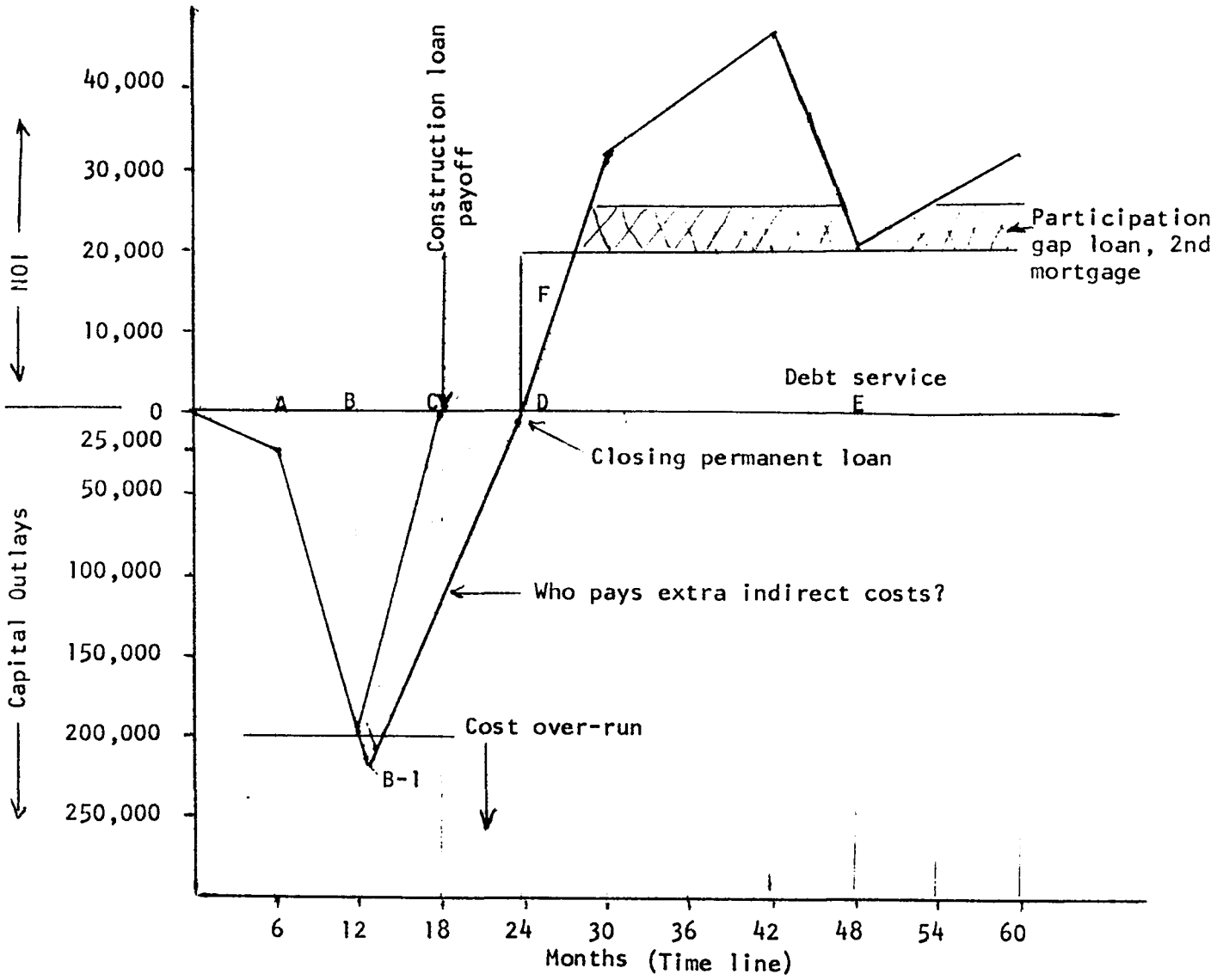
1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate uncertainty (research or confirm)
2. Reduce frequency or severity of loss contingencies (incentive contracts)
3. Combine risks to increase predictability (reserves for expenses or pool investments)

4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (gap financing)

F. A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

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2nd Edition

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

McCloud B. Hodges, Jr., 6819 Elm St., McLean, Va. (15 Nov. 1972)

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:
- → 1–Produces IMV for a given after tax equity yield rate
- 2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:
- 1–Constant net income value for each year
- → 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:
- 1–Corporation (Operating losses applied to other investments)
- 2–Corporation (Operating losses carried back/carried over)
- 3–Corporation (Taxable income offset by losses from other investments)
- 4–Corporation (Set-up solely for this investment)
- → 5–Non-corporation (Operating losses applied to other investments)
- 6–Non-corporation (Operating losses carried back/carried over)
- 7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:
- 1–No recapture
- 2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)
- → 3–All other residential rentals (After 100 months-declines 1% per month)
- 4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:
- 1–% of IMV (Enter the % in the APP/DEP AT RESALE column)
- 2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)
- 3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

BEFORE TAX IMV(11.00%) $ 3919359
AFTER TAX IMV(8.50%) $ 3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES, JR
6819 ELM ST. MCLEAN, VA. 22101 14:49EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 3980860
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
1. 9.000% 28 YRS 0 MONS $ 3267000

EQUITY CASH: $ 713860

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE $ 3530000

LESS: MORTGAGE BAL. 2847849
SALES COMMISSION 70600

CASH REVERSION BEFORE TAXES $ 611551

LESS: CAPITAL GAINS TAX(STD.) 256985
TAX ON RECAPTURED DEPR. 29904
TAX PREFERENCE TAX 12354

CASH REVERSION AFTER TAXES $ 312308

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

V. Analysis of a Limited Partnership Prospectus

A. From the investor viewpoint there are five basic areas of consideration in the selection of limited partnership investment.

1. Strategic choice of property type
2. Attributes of specific property or property pool
3. The marketing method utilized to sell security
4. The use of incentive clauses for control of the general partner
5. The financial projection

B. The strategy in picking a property is to decide where on the time line you wish to commit because of the profit centers in which you wish to participate.

1. The profit centers
2. Position on the time line as a risk control device
3. Staging of capital outlay
4. Priority of claim on cash proceeds and tax shelters
5. Measures of yield

C. Attributes of specific property

1. A limited partnership share is a second mortgage revenue bond
2. Does it lower break-even point for high risk development venture?
3. Does it accelerate payback for the general or limited partner?
4. Does it retail sizzle for the cow carcass bought wholesale?

D. The marketing method utilized to sell security

1. Direct selling in the traditional real estate manner - high cost per unit sold for packager and high cost for investor because of brokers front end load.
2. The seminar approach - loss of credibility, loss of efficiency and now questions of legality.
3. Channeling through securities brokers (efficiency of mutual shares marketing but dependency on uninformed licensed security salesmen).
4. Marketing compensation consists of front-end loads, management fees, or praticipation in the event - % of asset or of money raised?

E. The use of incentive clauses for control of the general partner

1. Disenchantment clauses for replacement of general partner or property manager or both are critical.
2. Dissolution clauses for sale or refinancing must be watched carefully where general partner has participation.
3. Variance in projections must be controlled:

    a. Provision for cost guarantees
    b. Provision for earn-outs against absorption period
    c. Provision for loans and terms from general partner or assessment and penalties for limited partners for liquidity gaps

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at the University of Florida Student Union
Jointly Sponsored by
Central Florida Chapter of American Society of Appraisers
University of Florida College of Business Administration
Gainesville, Florida
Wednesday, January 9, 1974

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

A. Real Estate as an Enterprise and the Management Process

B. Elements of a Total Feasibility Analysis

C. Elements of Financial Feasibility

COFFEE BREAK - 10:30

D. The Concept of Risk

E. Determining Strategic Alternatives of Real Estate

F. Objectives and Criteria of the Client

G. Structuring Market Data Analysis with Models

LUNCHEON - 12:00

AFTERNOON SESSION: 1:00 P.M.

A. Market Segmentation and Identification of Prospective Buyers or Tenants

B. Developing a Customer Profile

C. Planning and Executing a Consumer Survey

D. Specification of a Product Mix and Price Range

COFFEE BREAK - 2:30

E. Structuring the Financial Analysis

F. Modeling Cash Flow Simulation for Rental Properties

G. Evolution of Concepts for Measuring Rate of Return

H. Risk Evaluation

I. Pre-Architectural Programming

FEASIBILITY ANALYSIS SEMINAR OUTLINE

January 9, 1973
Gainesville, Florida

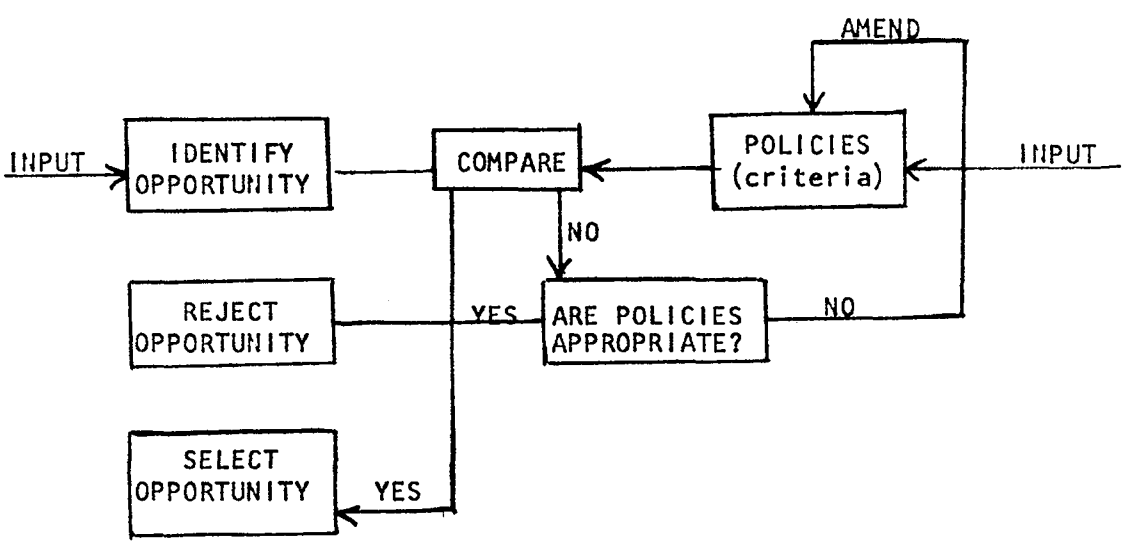
I. Real Estate as an Enterprise and the Management Process

A. Traditional Sequence of Management Function:

1. Planning
2. Organizing
3. Directing
4. Controlling

B. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunities
7. Operating the systems that have been installed
8. Maintaining and continuously perfecting the operating systems



C. This list suggests a flow of events, the presence of standards or policies for go or no-go decisions, and hints at the presence of feedback as part of a dynamic systems process.

1. Feasibility analysis will be concerned primarily with the first five functions
2. Many enterprises are cash cycle enterprises

D. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so similar
3. The nature of real estate as an economic good - space over time and money over time
4. A real estate project as an assembly of sub-systems

E. In the language of systems the basic elements are:

1. Existing conditions - a specific location or quantity referred to as levels, reservoirs or states.
2. Action is a change from one level or state to another and is measured by flow rates.
3. Choices reflect alternative flow rates which can be controlled or selected and changing the flow rate is a decision.
4. Information channels carry messages about states and flow rates which lead to decisions to modify to achieve some objective or criterion.
5. Feasibility analysts are typically involved in identifying and measuring flow rates and their probable patterns in light of some decision.

F. There are three types of information which affect the decision:

1. Outside information about alternatives which is generally available to inquiry or can be generated by inference from observed behavior.
2. Inside information which is the product of information flows internally generated from the experience of the organization and internal values and objectives.
3. Intuitive information which relates to the perceptions, skills, and bias of the decision maker.
4. Appraisal tends to ignore the latter two while feasibility analysis generally begins with the latter two.

G. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on the one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

1. Put in another way, that of the designer, one must judge the success of a work of art by matching its form to its context.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and objectives of the context.

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:
   1. Conservation of existing enterprise assets despite surprise events
   2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:
   1. Identification of significant exposures to loss
   2. Estimation of potential loss frequence and severity
   3. Identification of alternative methods to avoid loss
   4. Selection of a risk management method
   5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:
   1. Eliminate risk exposure
   2. Reduce frequency or severity of accident
   3. Combine risks to increase predictability (reserves for expenses)
   4. Shift risk by contract (subcontracts or escape clauses)
   5. Shift risk by combination by contract (insurance)
   6. Limit maximum loss (corporate shell or limited partnership)
   7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:
   1. A site or product in search of a user
   2. A specific consumer in search of a site and a product
   3. A specific client in search of an opportunity in real estate

B. To oversimplify there are five phases of real estate investment or development which require significantly different investment strategic and expertise.
   1. Purchase and sale of unimproved property
   2. Purchase and sale of unimproved property packaged with master plan and public approval
   3. Purchase and sale of improved lots and building sites
   4. Sale of totally improved investment properties to investors/public agencies/ultimate users
   5. Purchase for long term management of investment income properties

C. Each development role requires definition of acceptable input of or combinations of:
   1. Entrepreneurial imagination versus management precision
   2. Forecasting of external events versus internal controls of a process
   3. Equity-debt cash/profit margins/vulnerability to timing
   4. Degree of control of sonsumer, producer, or public inputs

D. Real estate equity - the degree to which one controls disbursements of a captive customer for services
   1. Growing public concensus that land is an inexhaustible resource and therefore a public utility
   2. Improvements to land affect social organizations as well as priorities for resource conservation
   3. Money, not real estate, is the private resource in the real estate process
   4. During the 70's the public will develop regulatory mechanics to control use, internalize development costs while minimizing windfalls and wipeouts of private money assets.

E. To define client constraints and objectives, interviews should reveal:

STRATEGIC FORMAT OF DEVELOPER ROLE AND FUNCTION

	LAND CONTROL	SALE OF UNIMPROVED PROPERTY	SALE OF UNIMPROVED PROPERTY WITH SOME DEVELOPMENT PLANS & APPROVALS	SALE OF IMPROVED LOTS OR BUILDING PADS TO BUILDER/ DEVELOPER OR FINAL USER	SALE OF VARIOUS BUILDING IMPROVEMENT TO INVESTORS/ PUBLIC HOUSING AUTHORITIES/ FINAL USERS
DEVELOPMENT ROLE ASSUMED	LAND SPECULATION hold or "land bank" interesting property	"PACKAGING" conceptualize development plan or land use — acquire broader public approvals such as zoning — arrange financing or structure deal.	LAND DEVELOPER undertake and complete land development phase — install roads, utilities, common improvements, survey and subdivide for sale.	BUILDING DEVELOPER undertake and complete various building improvements — offer and consummate sales.	
MAJOR OBJECTIVE	capture "spread" between raw land purchase cost and wholesale price created by "mass" market trends.	increase spread or value by bringing an important trend to focus on a specific site or into focus as a potential project. Shift buyer's perception through description, analysis, various "enabling" factors	increase spread or value by virtue of completing improvements that further shift buyer's perception of utility and make sites available for construction.	create construction and sales profit through completion of building improvements that further shift buyer's perception of utility/value and make buildings available for occupancy/ownership	
KEY DETERMINANTS OF ECONOMIC SUCCESS	1) ability to accurately forecast a trend 2) ability to select and control attractive land	1) ability to complete a convincing study of economic feasibility. 2) ability to obtain key public action in timely fashion 3) ability to perform at "conceptual selling"	1) ability to efficiently complete various improvements 2) ability to efficiently (and tastefully) market improved building sites. 3) ability to carry financing cost	1) ability to efficiently complete various building improvements 2) ability to efficiently market 3) ability to carry debt.	or
THOSE ELEMENTS OF THE COST/PRICE RELATIONSHIP OVER WHICH THE DEVELOPER HAS SOME CONTROL (major tasks to be completed or costs to be incurred — specific problems of estimating, analysis, evaluation)	1) land price 2) carrying costs 3) legal expense 4) maximum loss	5) feasibility determination: • site or physical determinants • regulatory or political factors • market determinants • "reappraisal" or investment valuation (what's the deal worth if we do it vs. what's the deal worth if we get out now? 6. obtain basic public approvals (zoning) 7) arrangement of financing (takeout) 8) marketing costs	9) obtain specific public approvals 10) negotiate and secure various contracts within budget 11) stage/manage/control development on time, within budget + quality standards 12) arrange interim financing — land development loan 13) stage/manage/control the marketing of improved lots or building sites 14) obtain sales approval, registration etc.	15) obtain construction permits + approvals 16) negotiate and secure various contracts within budget. 17) stage/manage/control construction effort on time, within budget + quality standards 18) arrange interim + long term financing (construction loan and mortgage) 19. stage/manage/control the marketing of various building improvements 20. obtain sales approval, registration, etc.	

	LAND CONTROL	SALE OF UNIMPROVED PROPERTY	SALE OF UNIMPROVED PROPERTY WITH SOME DEVELOPMENT PLANS + APPROVALS	SALE OF IMPROVED LOTS OR BUILDING PADS TO BUILDER / DEVELOPER OR FINAL USER	SALE OF VARIOUS BUILDING IMPROVEMENTS TO INVESTORS / PUBLIC HOUSING AUTHORITIES / FINAL USERS
ELEMENTS OF RISK INCURRED (or places where "slippage" may occur)	1) various factors or events never materialize in a way that makes the property an attractive candidate for development 2) complete lack of analysis, planning, or other preparation for development means that property is never perceived as attractive or ready for development	1) costs of undertaking and completing above-listed analyses, estimates (esp. if feasibility study produces unattractive outcome and development is dropped) 2) development cost shifts 3) shifts in market situation (new market or competitive standard, general economic conditions) 4) regulatory standards change 5) cost or availability of financing shifts 6) reliability of various estimates + analyses 7) lose control of land or development situation 8) public approvals denied, delayed, or conditioned	1) delay in obtaining public approvals, attachment of conditions to approval, high costs of soliciting approval, or denial. 2) delay in completion of improvements 3) cost over-run on improvements 4) poor quality of finished improvements or related adverse side effects (eg, class action suits) 5) failure to carefully estimate TOTAL cost of improvements (installation, operation/maintenance, assurances) 6) lagging market performances • slowed pace of sales • lower price of units offered • higher cost of sales	1) delay in obtaining permits 2) delay in completion of improvements 3) cost over-run on improvements 4) poor quality of finished improvements or related adverse effects (eg. call-backs, class actions) 5) lagging market performance • slowed pace of sales • lower price of units offered • higher cost of sales	
GENERALIZATIONS	entrepreneurial-intensive roles		time necessary to capture profit is diminishing (holding period shortens) and this affects capital turnover? How about "entry fee" or amount of capital needed, however? Ratio of value-added to costs is diminishing as the composite cost base builds up? more complexity, more internal variables to control; management burden requirements? increasing "image" or credibility exposure — what are the consequences of taking on a deal and failing — a lingering risk even if you escape with the dollars	management-intensive roles incremental cost vs profit centers	

PROPERTY MANAGER

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation
3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

F. Establish viewpoint of the party making a decision of the basis of the report

1. Lender
2. Investor
3. Judge, jury, or committee
4. Etc.

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Unit of market demand
2. Models explain what you are going to do
3. Models explain relationships and key assumptions
4. Models permit client to test his own assumptions for a range of alternative outcomes

B. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How elll the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

$$P \times R \times T \times D - PR \times MS = \text{Rooms per Average Weekend Day}$$

Where: P = Total population for counties in the overnight trade area
R = Skier participation rate on the average winter Sunday
T = For all skiers the average number of overnight skiing trips
D = Average length (days) of overnight skiing trips
MS = Market Share (%) of weekend skiers that the motel can capture
PR = Number of people staying in each room of motel

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip	
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day			

FEASIBILITY ANALYSIS--AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro-markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units--who signs the check--the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. Identification of the Prospective Buyers or Tenants

A. The rate of market absorption is the single most important assumption in projecting the revenue stream of a project. Since real estate consists of micro-markets of demand and most secondary data is aggregate data, it follows you must identify a customer or prospect by name and source in order to count him, find out what he wants, and inform him about the product.

B. Devices for generating a prospect list:

1. Application of the reverse directory to the addresses of comparable projects.
2. Application of reverse directory to appropriate neighborhoods, census tracts, etc.
3. Identification of a common link through a church group, club membership, magazine subscription, etc.
4. Customer spotting by license number, boat registration, camper registration, etc.
5. Identification from guest registry books, charge accounts names, tax records, zip codes, etc.

C. Objectives of prospect identification and contact

1. Scaling the market with a body count
2. Classifying the body count by major distinctions as to location or product type
3. Identification of customer segments unsatisfied with present alternatives
4. Identification of opportunities--gaps in competitive alternatives

D. Survey of competitive projects

1. Definition of the competitive standard
2. Possible discovery of a competitive differential

E. Questioning the consumer prospect to test or discover a competitive differential

F. A consumer profile will provide a definition of product and price which has some monopoly characteristics in order to control unexpected variance in price and absorption rate. It is this objective which is the significance of the real estate chant of location, location, and location. Location can be manufactured through proper merchandising research.

III. Developing a Customer Profile with a Consumer Survey

A. The consumer survey is directed at confirming questions of who, how many, where, what attributes, and how much will they pay.

B. Typically, you will rely on direct mail, phone call, or interview techniques.

C. Surveys can provide different types of information depending on the budget and the design of the survey:

1. Statistical profile of age, location, family size, etc.
2. Strength of preferences in terms of what they feel strongly about, for or against or what they're disinterested in.
3. Trade-off questions in terms of space vs. features, privacy vs. economy or whatever.

D. Appraisers are qualified to do the first type of survey but should generally rely on consumer research sociologists for the others. Feasibility is a team sport.

1. The initial cycle of micro-demand analysis is less detailed than questions related to final project design factors.
2. Look only for serious misfits between proposals and preferences and eventually part of the results of the survey will be in the judgements of the analyst or random comments by the respondent.

E. First format the table that is desired in the report and the role of the table in arriving at conclusions.

F. Secondly, decide how you are going to compute the desired table and its results from the survey--by hand, through statistical methods, or through computerized tabulation and cross-tabulation. Designing these mechanics then leads to selection of the critical question and the form in which the answer will be provided.

1. Be careful to correctly title the mock-up of your table and its columns.
2. Write down the survey questionaire recording and processing technique. There is always a difference between imagining the process and actually doing it.

G. Third, consider whether you want statistical information, general preferences, or precise trade-off measures:

1. To select a survey technique
2. Estimate the skill level required in execution

3. Estimate a budget
4. Estimate the time necessary to complete the survey

H. Drafting and testing questions (refer to'How's That Again?")

1. Technical or vernacular terminology
2. Controlled vs. open end responses
3. Data processing or coding problems
4. Mail vs. telephone style

I. Review of Landmark recreational condominium questionnaire (refer to attached questionnaire)

J. Presentation of findings

1. Segmentation of subsets of frequency distributions. For example, How would you rate the following Wisconsin vacation areas as locations for a second home? Please number your top three choices in order of your preference.

		Ave.				Ave.	
a.	Lake Geneva	1.19	2	e.	Telemark	1.6	1
b.	Green Lake	.24	5	f.	Door County	.69	3
c.	Lake Winnebago	.17	6	g.	Spring Green	.12	7
d.	Lake Minocqua-Tomahawk	.56	4	h.	Other_____		_

(3 points for first, two for second, one for third, 0 for rest)

2. Presentation of subsets of cross tabulation to identify possible relationships
3. Computation of ratios or factors required for larger marketing model
4. Identification of critical misfits between questionnaire results and project or site attributes
5. Open end responses in Appendix with each question followed by a list of quoted answers selected for relevance

K. The customer profile should provide the analyst and his client with the following:

1. A prospect list
2. Statistical micro-markets among the prospects
3. Major motivations which lead to rent or buy decisions
4. Major misfits or irritants in their present alternatives
5. An approximate measure of the potential number of prospects
6. A reasonable range of alternative capture rates given alternative product features

202A Breese Terrace, Madison, Wisconsin 53705 608 238-6873

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

November 10, 1971

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

No

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes

No → What is your main reason? _____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only <u>one</u> in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify)	_____	

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No

Yes → Which one? _____
What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

IV. Structuring the financial analysis

A. Good real estate occurs where each of the three elements of the real estate process, the producer, the consumer, and the public all achieve solvency in their cash flows.

1. Impact zoning - House & Home, August 1972 and September 1973
2. Ramapo Ordinence

B. The real estate business is the process of converting space-time assumptions about the product into money-time flows for the business.

1. Conversions are based on combinations of empirical data and estimates.
2. Investment in real estate is purchase of a set of assumptions.
3. Risk is the variance which could occur between assumptions and realizations.
4. Analysis is the testing of assumptions and consequences for alternative outcomes and their probabilities.

C. Financial models change depending on viewpoint and purpose. (see chart "Comparison of Critical Valuation Assumptions for Three Present Value Viewpoints in Real Estate").

V. Cash flow models may have an infinite variety of features and formats for the same reasons that marketing models may differ as discussed previously.

A. A very basic teaching model for analysis of a real estate investment would require:

1. A time line for all financial events
2. Schedule of outlays
3. Schedule of receipts
4. A relationship of outlays and receipts called a rate of return
5. Some measures of risk (tolerance for variance in outlays, receipts, or schedule)

B. A structure for estimating cash flows for rental property (see chart) simply elaborates on definitions and accounting allocations of outlays and receipts.

C. A general format for cash flow analysis of land development (see chart)

D. Review of cash flow from basic computer model of a 24 unit remodeled apartment building investment (see computer output)

E. Measuring the rate of return requires definition of owner's investment position and owner's definition of desired benefits. (see chart defining financial ratios)

1. Original cash equity, unrecovered cash equity, or liquidating equity
2. Relative weight placed on after-tax cash, tax saving to other income, equity build-up, appreciation over original cost.
3. Maximizing dollars or maximizing rate of return with given risk dimension
4. The re-investment assumption

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar
University of Florida
by Professor James A. Graaskamp
January 9, 1974

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted aferage Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

F. The evolution in yield analysis reflects assumptions and sophistication in defining "stream of benefits".

1. Broker's yield
2. Inwood discounting
3. The internal rate of return
4. Modified internal rate of return
5. Portfolio rate of return
6. Frequency distribution of rates of return

G. Risk evaluation and opportunities for control

1. Equity payback period
2. Default ratio or cash break-even point
3. Sensitivity point for cost over-run or under-absorption
4. Required market segment as percent of total market opportunity
5. Opportunity to shift financial risks by contract
6. Opportunity to control variance due to management by incentive compensation
7. Matching of profit centers to risks accepted or shifted

VI. Pre-architectural programing

A. The backdoor approach to feasibility is to define the product mix, the rents, the expenses, desired after-tax cash flow, and break-even point in order to define cash available for debt service, amount to be borrowed and therefore the total maximum budget.

B. Feasibility analysis is an interplay between the non-financial elements of feasibility and the cash flow consequences of that set of assumptions.

C. The development of density models for financial analysis

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST
LAND	.00	1	,	0	$ 40000.
BUILDING	1.00	1	35.	3	$ 165300.
ELEVATOR	.80	1	9.	3	$ 12500.
FURNISHINGS	1.00	1	7.	5	$ 13200.
PARKING	.50	1	10.	3	$ 7200.
TRANSACTION COST	1.00	1	35.	3	$ 1800.
7TH YR REFURBISH	1.00	8	7.	1	$ 10000.
TOTAL INITIAL INVESTMENT					$ 240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200	
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200	
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500	
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100	
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7876.	1948.	3832.	5495.	7007.	4015.	5068.	3064.	4375.	6071.
PLUS DEPRECIATION	11578.	10038.	8847.	7913.	7169.	6565.	6067.	7790.	7178.	6223.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	584.	1149.	1648.	2102.	1204.	1520.	919.	1312.	1821.
CASH FROM OPERATIONS	-1213.	6084.	5777.	5535.	5339.	29306.	5265.	14287.	4114.	3826.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4762.	5777.	5535.	5339.	29306.	5265.	4287.	4114.	3826.
TAX SAVINGS ON OTHER INCOME	2363.	.	.	.	.	.	.	.	.	.
* * *

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\frac{\text{Spendable cash + tax savings on other income + (Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -

$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum^{N} \left[(\text{Spendable Cash Aft Taxes} + \text{Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1} \right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

A GUIDE TO REAL ESTATE INVESTMENT FINANCIAL ANALYSIS

Florida West Coast Chapter 89 - Society of Real Estate Appraisers
Holiday Airport Inn
Tampa, Florida
January 10, 1974

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. Evolution of Real Estate Appraisal Income Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Income Property

V. Computer Analysis of an Income Property

LUNCHEON: 12:00 Noon

AFTERNOON SESSION: 1:00 P.M.

I. What Is Yield?

II. What Is Risk Analysis?

III. Risk Analysis Applied to a Mortgage Loan Application

COFFEE BREAK: 2:30 P.M.

IV. Risk Analysis Applied to a Limited Partnership Prospectu

V. Fair Market Value or Investment Value?

VI. Working through a Basic Problem for Land Development Analysis

VII. Computer Analysis of a Recreational Land Development

Counterpoint: "There is nothing so disastrous as a rational investment policy in an irrational world."
John Maynard Keynes

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

Joint Meeting of SRA and AIREA Chapters, Charlotte, N.C.
Wednesday, April 18, 1973

By Professor James A. Graaskamp

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

Investment	Initial Cost	Net Cash Proceeds Per Year	
		Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † Investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PV0) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

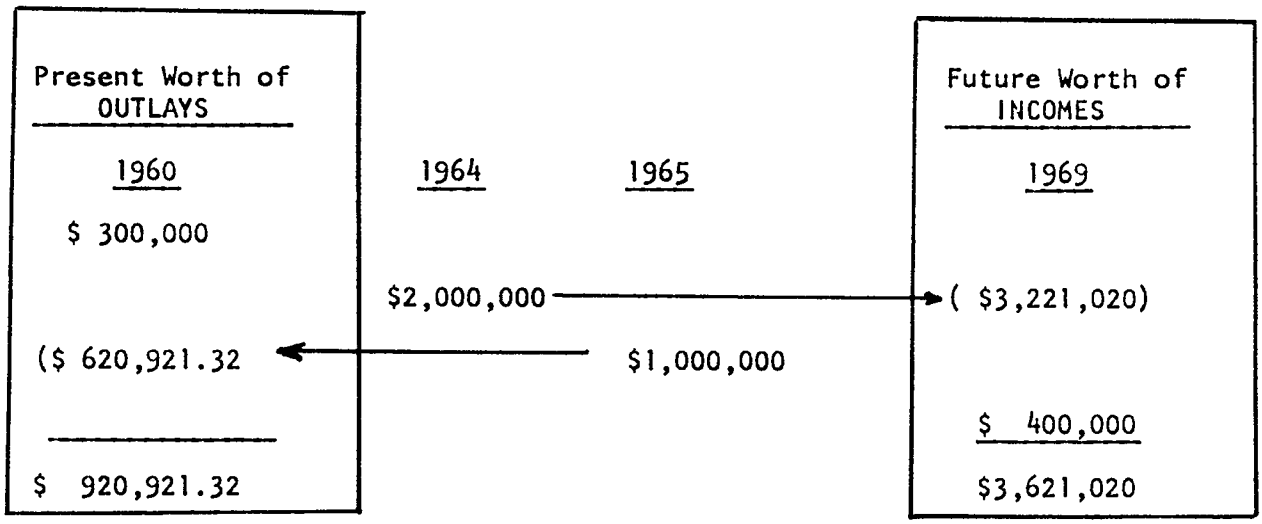
3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.



$920,921.32 (1 + i)^{10} = 3,621,020.00 = 16.43%

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

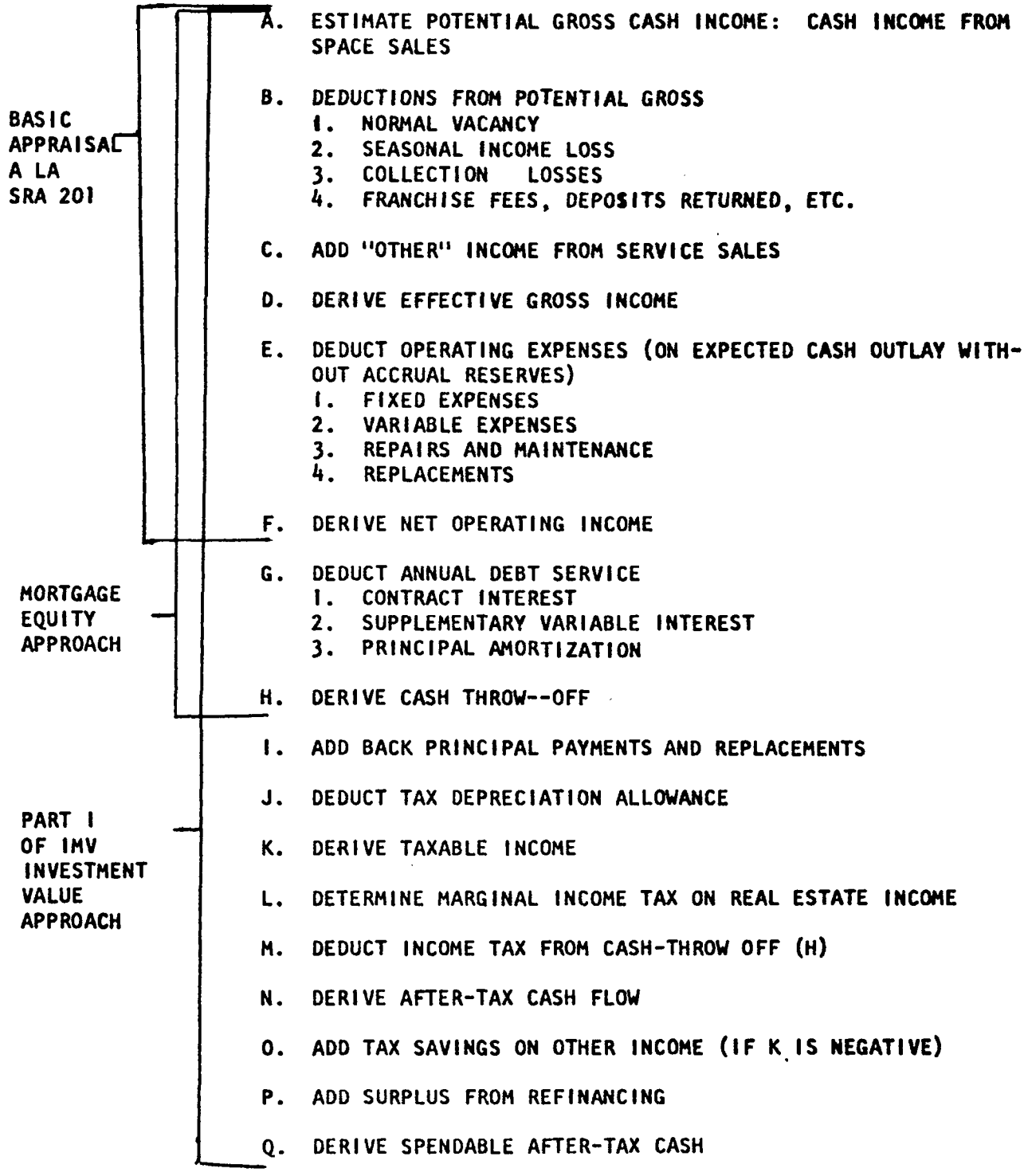
IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR



PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

May 1, 1971

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

A Sample Case

Valuation of a Real Estate Investment Involving Net Rental Variations, Leverage Accelerated Depreciation, Investor Tax Considerations and Price Appreciation

The following real estate investment analysis focuses on a property where the factors of increasing net rentals, leverage, accelerated depreciation, investor tax considerations, and price appreciation all have an important bearing on the property's total investment value. The property analysis incorporates the following assumptions:

(a) First year gross annual income of $140,000 increases by 3% per year for 10 years.

(b) Vacancy allowance is assumed to be 5% of gross income.

(c) Real estate taxes are $10,000 for the first year and increase at a rate of 2% per year.

(d) Expenses are $60,000 for the first year and increase at a rate of 3% per year.

(e) The total cost of the project is $950,000. Improvements are valued at $700,000. Land is valued at $250,000.

(f) Mortgage debt of $600,000 is available. This debt is to be amortized at 8% with annual payments of $54,000.

(g) The improvements will be depreciated through the use of the double declining balance method; the economic life of the improvements is 40 years.

(h) The project value is expected to grow at 3% per year.

(i) The investor's marginal income is taxed at 50%.

(j) An after-tax return on equity investment of 12% is sought.

(k) Capital gains on the sale of the property are taxed at 25%.

Schedule I
Present Value of Spendable Cash After Taxes
And Tax Savings On Other Income

	1	2	3	4	5
Gross Rent	140,000	144,200	148,400	152,600	156,800
Less Vacancy Allowance	7,000	7,210	7,420	7,630	7,840
Effective Gross Income	133,000	136,990	140,980	144,970	148,960
Less Real Estate Taxes	10,000	10,200	10,400	10,600	10,800
Less Expenses	60,000	61,800	63,600	65,400	67,200
Net Income	63,000	64,990	66,980	68,970	70,960
Less Depreciation	35,000	33,250	31,588	30,008	28,508
Less Interest	48,000	47,520	47,002	46,442	45,837
Taxable Income	-20,000	-15,780	-11,610	- 7,480	- 3,385
Plus Depreciation	35,000	33,250	31,588	30,008	28,508
Less Principal Payments	6,000	6,480	6,998	7,558	8,163
Cash Throw-off	9,000	10,990	12,980	14,970	16,960
Less Taxes	-	-	-	-	-
Cash From Operations	9,000	10,990	12,980	14,970	16,960
Working Capital Loan (Cum Bal)	-	-	-	-	-
Spendable Cash After Taxes	9,000	10,990	12,980	14,970	16,960
Tax Savings on Other Income	10,000	7,890	5,805	3,740	1,693
Spendable Cash After Taxes Plus Tax Savings on Other Income	19,000	18,880	18,785	18,710	18,653
P. V. Factor @ 12%	.8929	.7972	.7118	.6355	.5674
Present Value of Spendable Cash After Taxes plus Tax Savings on other Income	16,965	15,051	13,371	11,890	10,584

6	7	8	9	10
161,000	165,200	169,400	173,600	177,800
8,050	8,260	8,470	8,680	8,890
152,950	156,940	160,930	164,920	168,910
11,000	11,200	11,400	11,600	11,800
69,000	70,800	72,600	74,400	76,200
72,950	74,940	76,930	78,920	81,910
27,082	25,728	24,418	23,221	22,059
45,184	44,479	43,717	42,894	42,006
684	4,733	8,795	12,805	16,845
27,082	25,728	24,418	23,221	22,059
8,816	9,521	10,283	11,106	11,994
18,950	20,940	22,930	24,920	26,910
342	2,366	4,398	6,403	8,423
18,608	18,574	18,544	18,517	18,488
-	-	-	-	-
18,608	18,574	18,544	18,517	18,488
18,608	18,574	18,544	18,517	18,488
.5066	.4523	.4039	.3606	.3220
9,427	8,401	7,490	6,677	5,953

Depreciation, Mortgage Interest, Mortgage Principal, and Market Value Data

Depreciation	700000	665000	631750	600162	570154	541646	514564	488836	464418	441197
	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
	35000	33250	31588	30008	28508	27082	25728	24418	23221	22059
Mortgage	600000	594000	587520	580522	572964	564801	555985	546464	563181	525075
	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
Interest	48000	47520	47002	46442	45837	45184	44479	43717	42894	42006
Principal	6000	6480	6998	7558	8163	8816	9521	10283	11106	11994
Total	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000
Market Value	950000	978500	1007000	1035500	1064000	1092500	1121000	1149500	1178000	1206500

Schedule II
Total Investment Value of
A Real Estate Project

Total Present Value of Spendable Cash After Taxes plus Tax Savings on Other Income at 12% (Schedule I)				$105,809
Present Value of Net Proceeds From Sale of Property				
Total Sales Price			$1,206,500	
Less:				
Taxes on Sale of Property				
Capital Gains Tax	$113,168			
Income Tax	42,345	$155,513		
Unpaid Mortgage Balance		513,081	668,594	
			537,906	
Present Value Factor (12%)			.3220	173,206
Total Present Value of Equity Investment				$279,015
Original Mortgage Balance				$600,000
Total Project Value				$879,015

Example of Computing Taxes on Sale of Property

Assumptions:

(a) Property held 10 years (120) months
(b) Basis equal to $669,138 (original basis equal to $950,000)
(c) Sales price equal to $1,206,500
(d) Depreciation taken on improvements of $700,000 equal to $280,862
(e) Had depreciation been taken on a straight line basis, depreciation would have been equal to $175,000
(f) Taxpayer is in the 50% bracket

Procedure for Determination of Tax:

Total Gain Subject to Tax: $537362	
Portion Subject to Capital Gains Tax:	
Increase in property value	$256,500
Amount which would have been taken through straight line depreciation	$175,000
Allowable accelerated depreciation (280,862-175,000) x .20	$ 21,172
	$452,672
Portion Subject to Ordinary Income Tax:	
Non-allowable Accelerated Depreciation (280,862-175,000) x .80	84,690
	$537,362
Capital Gains Tax ($452,672 x .25)	$113,168
Income Tax ($84,690 x .50)	42,345
Total Taxes on Sale	$155,513

UNIVERSITY OF WISCONSIN
Real Estate Investment Teaching Model
Demonstration Case Study #2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24 unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has twelve two-bedroom apartments that each rent furnished for $140 per month and twelve one-bedroom apartments that rent each for $125 per month. The building is five years old, unfurnished, in need of maintenance and available as is for about $225,000.

2. The building is well located and vacant land in the area is selling for about $1700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.

3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit or a total investment of $13,200 by the prospective buyer.

4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore only entitled to a maximum of 125% declining balance except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$40,000	no depreciation allowed		
Parking	7,200	50%	10 yrs.	125%
Elevator	12,500	90%	12 yrs.	125%
Building	165,300	100%	35 yrs.	125%
Furnishings	13,200	100%	7 yrs.	sum of digits
Transaction costs	1,800	100%	35 yrs.	125%

5. After completion of repairs and refurbishing it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms $150 per month. The gross rent roll of the building would then be:

$$\$170 \times 12 \times 12 = 24,480$$

$$\$150 \times 12 \times 12 = \underline{21,600}$$
$$\$\ 46,080$$

6. During the first year of changeover in ownership, refurbishing and re-leasing you estimate that each unit will be vacant about two months, that is about one-sixth of the time, (i.e. a vacancy of 17%) so that your average occupancy will

APARTMENT CASE STUDY #2

be 83% of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5%, or an occupancy of 95%. Thus first year extra expenses include an additional 12% of future gross for rental losses.

7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.

8. The property has been poorly maintained and will require additional expenditures of $2100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the extra operating expenses of the first year washing it out as a tax deductible expense.

9. The buyer is considering this property because his accountant suggested that with his 30% tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.

10. The investor feels that while the normal ratio of market value to income in his community ranges between 8% and 11%, proper financing should raise the pre-tax yield on his cash equity to at least 18%. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18% to 22% on his investment annually on an after-tax basis. His opportunity cost is 12% as that is his common stock return including capital gains.

11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in ten years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st Mortgage	180,000	20 year 5 year balloon	7 3/4%
Private loan	15,000	10 year 5 year balloon	8 1/2% $1000 discount

12. While the seller will pay for title insurance, a survey, and related items the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in #11 equal transaction costs of $1800 which increase original cash required and must be amortized over life of structure.

13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9% per annum and repaid out of positive cash flows when available.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card 1

Student's Name	Last 2 Digits of Social Security #	Course & Section #'s	Equity Discount Rate	Income Tax Rate	# Cards #3	# Cards #4
MORTGAGE BANKERS SCH	[redacted]	- [redacted]	.1800	.3000	[redacted]	[redacted]

Card 2

Project Description	Extraordinary Expenses	Cost of Equity Capital	Staging Multiplier	Staging Year
24 UNIT APT - CASE 2	7625	.1200	.	

Card 3

Component Description	Original Cost	Percent Depreciable	Depreciation Method	Starting Year	Useful Life
LAND	40000	0.0000	.	00	20
BUILDING	165300	1.0000	.	03	35
PARKING	7200	0.5000	.	03	10
FURNISHINGS	13200	1.0000	.	01	07
ELEVATOR	12500	0.8000	.	03	12
TRANSACTION COST	1800	1.0000	.	03	35
7TH YR REFURBISHING	10000	1.0000		01	07

Card 4

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Bonus Interest Rate	Start	End	Term	Refinanced By Mortgage #
FIRST ASSUMED MORTG.	180000		.0775	.	01	05	20	03
SELLERS 2ND MORTG.	15000		.0850	.	01	05	10	05
REFINANCED FIRST	190000		.0800	0.0400	06	10	20	
REFURBISH CHATTEL	10000	150	.0900	.	08	10		

22.

APARTMENT CASE STUDY #2

14. The financial plan is to maintain a highly leveraged position and therefore payoff the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20 year term at 8$ interest. The age of the building at that time would require granting a bonus interest feature equal to 4% of gross rent as of the beginning of sixth year when the loan begins.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

February, 1971

Card Type 5

Gross Rent	Expenses	Rental Growth Rate	Expense Growth Rate
46080	8400	.0200	.0200

Card Type 6

R E Taxes	R E Tax Growth Rate	Project Value Rate of Growth
9000	.0500	.0100

Card Type 7

Vacancy Rate	Working Capital Loan Interest Rate
.0500	.0900

To code Depreciation Method, use the following code no's.

0 = no depreciation
1 = sum of the digits
2 = straight line depreciation
3 = 125% declining balance
4 = 150% declining balance
5 = 200% declining balance

HAVE YOU CHECKED CARD 1 COLS. 61 and 64?

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS
Real Estate Investment Teaching Model
February, 1971
Basic Definitions of Model Outputs

1) Current period return on Net Worth before taxes =

$$\frac{\text{Cash Throw-off + Change in Net Worth}}{\text{Net Worth at End of Previous Year}}$$

2) Current period return on net worth after taxes =

$$\text{Spendable cash + tax savings on other income +} \frac{\text{(Change in net worth - change in cap. gains tax)}}{\text{Net worth at the end of previous year less capital gains tax of previous year}}$$

3) Cash return on original cash equity before taxes =

$$\frac{\text{Cash throw-off}}{\text{Total initial investment less initial mortgage debt}}$$

(This is adjusted for staged projects)

4) Cash return on original equity cash after taxes =
(This is adjusted for staged projects)

$$\frac{\text{Spendable Cash after taxes + Tax savings on other income}}{\text{Total initial investment cost less initial mtge. debt}}$$

5) Net income - market value ratio

$$\frac{\text{Net Income}}{\text{Market Value for the same period}}$$

6) After tax cash recovered - cash equity ratio (payback) =

$$\frac{\text{Accumulated spendable cash after taxes + accumulated tax savings other income}}{\text{Cash equity required}}$$

7) Default ratio =

$$\frac{\text{Operating Exp. + R.E. Taxes + Prin. \& Interest on Mtge. + Working Cap. Loan Prin. Repayment}}{\text{Gross Income}}$$

8) Lender Bonus Interest Rate =

$$\frac{\text{\% of effective gross (not to exceed cash throw-off for period)}}{\text{Balance due on loan at beginning of period}}$$

9) Resale Market Value at End of Year

Total Initial Investment Cost + Additional Staged Investment X Index for Year

10) Net worth of property =

Market value less balance of loans less working capital loans

11) A. Sales proceeds subject to capital gains tax =

Market value - (Total Capital Investment - Straight-line depreciation - Allowed excess depreciation)

B. Sales proceeds subject to income tax =

Cumulative depreciation taken - Straight-line depreciation - Allowed excess depreciation

C. Taxes on sale = (A X 1/2 Income Tax rate*) + (B X Income Tax Rate)
* Not to exceed 25%

12) Present value of project before taxes =

Original mortgage balance + PV of received stream of cash throw-off + PV of net worth if sold at end of year indicated by column number.

13) Present value of project after taxes =

Original mortgage balance + present balue of received stream of spendable cash after taxes + PV of received tax savings on other income + PV of (net worth less capital gains tax) if sold at end of year indicated by column number.

14) Cash Equity Required = $\sum$ \$ components utilized -

$\sum$ face value of mortgages in force

15) For each year N (net worth - cap gains tax) +

$$X = \int\int \sum^{N} \left[(\text{Spendable Cash Aft Taxes + Tax Savings}) * (1. + \text{Cost of Equity Cap})^{N-1} \right]$$

Y = (LOG (X) - LOG (Original Investment)/N

Equity Rate = Exp (Y) - 1.

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST
LAND	.00	1	.	0	$ 40000.
BUILDING	1.00	1	35.	3	$ 165300.
ELEVATOR	.80	1	9.	3	$ 12500.
FURNISHINGS	1.00	1	7.	5	$ 13200.
PARKING	.50	1	10.	3	$ 7200.
TRANSACTION COST	1.00	1	35.	3	$ 1800.
7TH YR REFURBISH	1.00	8	7.	1	$ 10000.
TOTAL INITIAL INVESTMENT					$ 240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200	
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200	
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500	
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100	
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200		
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200		
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500		
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100		
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900		
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.		
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200		

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	70000.	70000.	70000.	70000.	70000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG. $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 170000.
MONTHLY PAYMENT $ 1421. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	3593.	3891.	4214.	4564.	4943.
INTEREST	.	.	.	.	.	13470.	13171.	12848.	12499.	12120.
BALANCE	.	.	.	.	.	166406.	162515.	158300.	153736.	148792.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	15497.	15236.	15812.	15411.	14972.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	5403.	6742.	4637.	5880.	7149.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	3593.	3891.	5152.	5590.	6065.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	21582.	8793.	17213.	7434.	7655.
LESS TAXES	.	434.	911.	1390.	1870.	1620.	2022.	1391.	1764.	2144.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	19961.	6770.	15822.	5670.	5510.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	19961.	6770.	5822.	5670.	5510.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

16.

CASH-FLOW ANALYSIS 10

10.1 FINANCIAL IMPLICATIONS OF DESIGN & MARKET CONSTRAINTS

Real estate decisions for both public and private projects ultimately involve issues relative to the wise management of money over time. Unlike investment in bonds and stock, real estate seldom provides any fixed points in advance relative to total investment required, timing of returns, or standardized formats facilitating comparison or statistical forecasting. In the design stages of a project financial analysis and comparison of alternatives must depend on extensive and detailed assumptions in dollars but these assumptions and the conclusions are highly volatile numbers.

Measurable returns to the investor are generally confined to cash returns. The ultimate feasibility of a project depends on successful management of cash flows to maintain solvency, stability and hopefully a profit surplus appropriate to risk and capital employed. Cash may be generated from rents, sales, financing gambits, or income tax ploys. The sequence of these returns must be matched to the sequence of outlays to measure both business risk and financial risk. Business risk is concerned with the ability to repay financial obligations with interest on schedule. Profit is measured in dollars and yield, as a function of money at work over time. Thus financial management, risk analysis, and comparative profitability all require some minimum set of assumptions in the following areas:

10.2 A time line or calendar of events related to financial assumptions.

10.3 A product mix and revenue sequence.

10.4 A capital budget outlay schedule.
10.5 An operating cost and outlay sequence.
10.6 A financing plan with specific credit terms and contributions.
10.7 Summary sequence of cash outlay and surplus expectations.
10.8 Measurement standards of risk and yield.
10.9 Identification of possible indirect benefits and profit centers.

To simulate the financial consequences of any set of land development assumptions, the University of Wisconsin School of Business and Robert Gibson[1] had developed a cash flow model which combined a variety of features borrowed from capital cost estimating models, critical path network analysis, and investment evaluation models. While all its features and mathematics are too detailed to develop in this case, one set of financial inputs and output are provided as a demonstration of the technique. Many runs of the model were made and further planning would require continual financial revisions to specify the range of alternative outcomes the developer might expect.

Financial inputs can be no more specific than the design detail available at any stage of analysis and yet the quantitative nature of finance and electronic computation may lead to exaggerated

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[1] The computer program used in this study is available to developers from Robert Gibson, 130 Fairview Street, Walworth, Wisconsin, 53189.

credibility inherent in pseudo-accurate detail. With this explicit warning the reader can match some of the brief explanations and assumptions which follow to the computer outputs which form the last half of this chapter.

10.2 A. THE TIME LINE OR CALENDAR OF EVENTS

Development is a process over time and each set of time dimensioned variables have been noted on the computer runs with an (A) . Computer runs are numbered pages 1 to 8

Page 1

To reflect inflation influences on raw land, real estate taxes and capital costs; all assumptions of these items are adjusted annually. Construction costs per feature are expected to rise 5 percent a year. Real estate taxes have been rising in the county at 2 percent a year and there would be an initial increase of 20 percent upon sale of the land from the parent corporation to the developing company. Raw land value was inflated at 1 percent a year net of sales commissions to provide a basis for estimating real estate tax assessed value and liquidating value of the development firm at the end of any specific year. The "Cash Column" is in units of one thousand dollars and states no cash is available for profit distribution unless surplus exceeds $90,000 on the first year, a control to permit internal financing from profits.

Page 2

The capital scheduling of general improvements such as road construction for the clubhouse is indicated by year. The release of title and therefore real estate tax responsibility and carrying charges for land not specifically allocated to lots is also indicated by year under the title "acres dedicated."

Page 3

Timing of borrowing, interest payments, and principal payments on a construction credit line are recorded under first mortgage transaction.

Pages 4 - 7

For each type of sales product a sales price must be set by year together with the estimated number of units which might be sold. Note that no sales are expected for the first year which is reserved for design and construction. Other time line assumptions which do not appear on the output but are required on the input form, include the lead time necessary to produce a lot, the inventory to be maintained in excess of sales and carrying charges on finished inventories. This particular set of assumptions requires six years to build and to complete.

10.3 B. A PRODUCT MIX AND REVENUE SEQUENCE

The revenue cycle begins with the nature of merchandise for sale. For a planned unit development a portion of the product is in the nature of community facilities which may be not directly costed to individual sales units. However, a large portion of land and improvement costs, as well as overhead, can be allocated to specific types of salable products such as home sites or a class of condominium apartments. These specific sales price and allocated capital costs are summarized below and appear on pages 4 to 7 and are noted with (B).

Page 2

Provided a summary statement of land use allocations with approximately 858 acres improved and lotted. Left as wilderness acres in common ownership were 2,442 acres, marred with only trails and picnic areas, etc., which means a ratio of developed acres and wilderness acres of 1:2.8 or about 27 percent. There are a total of 1,460 dwelling units or sites which is a ratio of only one DU for each 2.2 acres of land!

Page 4

One-half acre lots (approximately 100 x 200) with water, electricity and group septic services	900 units

1. Initial sales price	$8,000
2. Absorption rate 180 units per year	
3. Specific allocated improvement costs:	
a. 100 feet of half road	350
b. electrical service	200
c. water line	250
d. cluster septic share	500
e. recreation equipment allowance	25
f. pedestrian trail at rear of lot	50
g. contingencies	200
h. financing charge*	425
Total capital cost per unit	$2,000/lot
4. Gross profit per unit	6,000

Page 5

One-acre lots (approximately 150 x 290) without water and septic.	400 units
1. Initial sales price	$5,500
2. Absorption rate 100 units per year	
3. Specific allocated improvement costs:	

*Allowance for discount on sale of 8 percent land contract for cash. Marked with * in following references also.

a. 150 feet of half road	525
b. electrical service	200
c. recreation equipment allowance	25
d. pedestrian trail at rear of lot	75
e. contingencies	200
f. financing charge*	325
Total capital cost per unit	$1,350/lot
4. Gross profit per unit	$4,150

Page 6

Studio deluxe condominium (550 square feet living space) — 80 units

1. Initial sales price with land	$17,900
2. Absorption rate 20 units per year	
3. Specific allocated improvement costs:	
a. road share plus 2 parking stalls	350
b. electrical service	200
c. recreation equipment allowance	25
d. cluster septic share	500
e. water line	250
f. structure @ $15/sf	8,250
g. financing charge*	1,000
h. contingencies	200
Total capital cost per unit	$10,775/unit
4. Gross profit per unit	$ 7,125

Two-bedroom condominium (750 square feet living space)	80 units
1. Initial sales price with land	$22,500
2. Absorption rate 20 units per year	
3. Specific allocated improvement costs:	
a. road share plus 2 parking stalls	350
b. electrical service	200
c. recreational equipment allowance	25
d. cluster septic share	500
e. water line	250
f. structure @ $15/sf	11,250
g. financing charge*	1,000
h. contingencies	200
Total capital cost per unit	$13,775/unit
4. Gross profit per unit	$ 8,725
Total number of salable units of 3,300 acres:	1,460

10.4 C. A CAPITAL BUDGET OUTLAY SCHEDULE

The basic elements of the capital budget and cost estimating models are a catalog of construction costs, an inventory of land

used and available, and some initial inputs of land and capital These items are identified on the computer run with Ⓒ .

Page 1

The catalog of costs for capital budgeting may be placed in the computer at any level of detail, in lumps such as the clubhouse budget of $100,000 or in modules such as "one running foot of 40 foot wide trail area" occupying 40 square feet of land and costing $1 per running foot. The input forms make it possible to assemble a capital budget for any improvement by specifying quantities of required items in the catalog. These quantities of input are converted by the computer to the cost of general improvement which appear on page 2 or the total cost of allocated capital improvement which appear for each product on pages 4-7.

Page 3

The initial capital resources provided by the parent corporation to its development subsidiary can be summarized as consisting of a total equity in development of $540,000 allocated among $330,000 for 3,300 acres at $100 per acre, $95,000 for purchase of key parcels owned by others, and $115,000 in cash. The price of $100 per acre provides more than a $200,000 capital gain to the parent corporation which is not included in profit calculations by the computer. This information also provides the basis for estimating income taxes for the development corporation during the life of the project.

10.5 D. AN OPERATING COST AND OUTLAY SEQUENCE

Operating costs and allowances can be fixed or can be variable as a function of both construction in process and the level of sales activity. These basic assumptions are itemized below and identified where they appear on the computer outputs with (D) . Since they appear virtually throughout the computer output they are not all identified by page.

1. Organizational legal fees $5,000.
2. Fixed management cost of $75,000 per year, plus
3. Professional fees and construction administration at 10 percent of construction cost in place, plus
4. Sales administration and advertising at 15 percent of sales, plus
5. Sales commission of 15 percent of sales unit cost.
6. Credit line for construction of improvements provided at 12 percent.
7. Working capital loans from parent corporation at 15 percent per annum.
8. On page it should be noted that a basis for computing both real estate taxes and income tax is provided. The proration formula refers to the need of allocating investment in general improvement to unit sales or dollar sales or some combination of both. In this case general costs were prorated according to sales value of the unit to equalize the gross profit spread and to avoid distortion if higher profit items tended to sell earlier or later during the development. Once other items in the financial plan were firmly established, the computer model would permit testing of alternative sales or financial strategies.

25.

10.6 E. A FINANCING PLAN OF SPECIFIC CREDIT TERMS & EQUITY CONTRIBUTIONS

The financing specifications for this particular demonstration were greatly simplified by the credit rating of the client. While the computer model is designed to provide elaborate combinations of various land development financing terms available today, only a very basic two stage financing program was required. All capital improvements were paid for from a basic credit line which did not exceed $2,000,000 at any time during the project life and which would be closed out during the fifth year. Operating expenses were met out of initial cash capital with a 12 percent opportunity cost and 20 percent yield target, retained earnings, or short term working capital loans available from the parent corporation at 1.25 percent per month.

It was assumed that all sales were cash sales as any consumer credit contracts would be instantly sold to a bank. Fifty percent of all sales were expected to be credit sales and the average discount of $700 per credit sale sold to the bank was distributed to all sales as a $350 component of closing costs on lots with correspondingly higher discounts for condominium mortgages in their closing costs.

10.7 F. SUMMARY SEQUENCE OF CASH OUTLAY & SURPLUS EXPECTATIONS

With all of the various subcomponents of the development process taking place at once, it is useful to assemble and aggregate these outlays and receipts over time.

This summary page includes distributions over the six-year development plan and in total with a percentage analysis. Most items are self-explanatory and therefore discussion will focus on the key line Net Cash After Taxes.

Cash flows are essentially negative until the fifth year because the financing utilizes advances in the form of loans from the parent corporation. With repayment of all debt, cash surpluses available for dividends appear in the fifth and sixth years. The present value by simple discounting of these returns of 20 percent suggests an investment value well in excess of the $540,000 initially required. The internal rate of return, however, when the cost of capital is recognized at 12 percent, is slightly lower at 19.1 percent.

Thus at the preliminary stage of design the project indicates that it can probably provide the targeted rate of return for funds employed but the financial analysis recommends that the design process now refine:

1. The timing of capital expenditure to reduce financing and interest costs.
2. The assumptions of management and general administration costs (excluding sales costs) which are high.
3. The sales price or cost estimates for allocated capital outlay which at 30 percent of sales may be high.

4. The quantity and timing of unit sales which would most certainly not be equal per year as assumed but rather which would peak during the third and fourth years.
5. Assumptions regarding sales to finished inventory ratios and the absence of any sales during the first year when many developers are able to secure deposits on future deliveries.

10.8 G. MEASUREMENT OF STANDARDS OF RISK AND YIELDS

The traditional financial ratios and discounting of future returns or the application of industry rules of thumb would be best applied after plans and financial assumptions were more firmly set by the feedback process of testing and researching the inputs from the designers, the merchandisers, and the financial consultants. This project is marginal with a rate of return of 19 percent until plans can be detailed to assure greater accuracy of capital costs and rate of sale.

10.9 H. IDENTICATION OF POSSIBLE INDIRECT BENEFITS & PROFIT CENTERS

These runs of the computer did not include this but could be expanded to measure profit from business centers beyond those strictly tied to land development. These would include:

1.	Possible mobile home franchising, estimated sales of 400 units x $600 commission/unit =	$240,000 gross profit
2.	Possible project management contract with ownership association, 1,460 property owners at $30 each per year = (Assume assessments at $100/year)	$43,650 net fees
3.	Sale of 3,300 acres x $100/acre = or a $195,000 profit of a $40/acre basis.	
4.	Interest on working capital loans to subsidiary at 1.25 percent/month or 15 percent/year.	
5.	If K-C finances Kimberlands' land contracts, assume 50 percent of total sales on 5-year land contracts x 80 percent loan ratio x allowance for 10 percent discount + 8 percent per year on-going interest.	

29.

SUMMARY OF INPUTS

CAPITAL COST COMPONENTS (C)

NAME	PRICE PER UNIT	LAND COVERED	TYPE
10FT 1/2 SURF RD	4.00	20.00	2
SECOND REC BLD	35000.00	1.00	1
ELECT TO SITE	200.00	.00	0
CLUB HOUSE	100000.00	25.00	1
I-O POOL	75000.00	1.00	1
AREA SWM POOL	15000.00	1000.00	2
AREA UTIL BLDG	9000.00	1000.00	2
ENTRANCES + SGNS	30000.00	80000.00	2
1RF OF 40FTW TRL	1.00	40.00	2
STABLE	10000.00	4.00	1
SKEET + RIF RANG	5000.00	1.00	1
DOCKS + LANDINGS	10000.00	.50	1
REC EQUIP	25.00	.00	0
MGR HOUSE	20000.00	.50	1
.1 CLUSTERSEPTIC	500.00	.00	0
WATER WELL	2100.00	.00	0
MAINT FACILITIES	10000.00	2.00	1
RES BLDG COST SF	15.00	.00	0
WILDNERNESS LAND	100.00	2120.00	1
AREA 1 DREDGING	18000.00	.00	0
AREA 2 DREDGING	30000.00	.00	0
CONTINGENCIES	200.00	.00	0
HIKING TRAIL	2000.00	15740.00	2
WATER LINE	250.00	1.00	0

TYPE CODES
0=NO LAND COVERED
1=LAND COVERED IN ACRES
2=LAND COVERED IN SQUARE FEET

ANNUAL PERCENTAGE INDEXES (A)

YEAR	LAND	R.E. TAXES	CAPITAL COSTS	CASH
1	100.	100.	100.	90.
2	101.	120.	105.	80.
3	102.	123.	110.	70.
4	103.	124.	115.	60.
5	104.	126.	120.	.
6	105.	128.	125.	.
7	106.	130.	130.	.
8	107.	132.	135.	.
9	108.	134.	140.	.
10	109.	136.	145.	.

		(D)	
MARGINAL TAX RATE	.4800	CARRYING COST PER RAW ACRE OF LAND	1.00
WORKING CAPITAL INTEREST RATE	.1500	EQUITY RATE OF RETURN--USED IN PRESENT VALUE CALCULATIONS	20.00
REAL ESTATE TAX EQUALIZATION RATE	33.00	PORTFOLIO RATE OF RETURN--OR OPPORTUNITY COST	12.00
REAL ESTATE TAXES PER THOUSAND OF VALUE	90.00	FIXED ADMINISTRATIVE + GENERAL EXPENSES PER YEAR	75000.
PRORATION FORMULA 0/0 TO LAND AREA	.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF SALES VALUE	15.00
PRORATION FORMULA 0/0 TO SALES VALUE	100.00	ADMIN. + GENERAL EXPENSES AS A 0/0 OF CAPITAL EXPENDITURES	10.00

COSTS OF GENERAL IMPROVEMENTS (A)	1	2	3	4	5	6	7	8	9	10
10FT 1/2 SURF RD	280000.	73500.	77000.	80500.	.	.	.	.	.	.
SECOND REC BLD	.	.	38500.	.	.	.	.	.	.	.
CLUB HOUSE	100000.	.	.	.	.	.	.	.	.	.
I-O POOL	75000.	.	.	.	.	.	.	.	.	.
AREA SWM POOL	30000.	.	.	.	.	.	.	.	.	.
AREA UTIL BLDG	18000.	.	.	.	.	.	.	.	.	.
ENTRANCES + SGNS	30000.	.	.	.	.	.	.	.	.	.
1RF OF 40FTW TRL	42240.	44352.	.	.	.	.	.	.	.	.
STABLE	10000.	.	.	.	.	.	.	.	.	.
SKEET + RIF RANG	5000.	.	.	.	.	.	.	.	.	.
DOCKS + LANDINGS	20000.	.	.	.	.	.	.	.	.	.
MGR HOUSE	20000.	.	.	.	.	.	.	.	.	.
WATER WELL	6300.	.	.	.	.	.	.	.	.	.
MAINT FACILITIES	10000.	.	.	.	.	.	.	.	.	.
WILDNERNESS LAND	100.	.	.	.	.	.	.	.	.	.
AREA 1 DREDGING	18000.	.	.	.	.	.	.	.	.	.
AREA 2 DREDGING	.	.	33000.	.	.	.	.	.	.	.
HIKING TRAIL	16000.	.	17600.	.	.	.	.	.	.	.
TOTAL	680640.	117852.	166100.	80500.	.	.	.	.	.	.

ACRES DEDICATED (A)	1	2	3	4	5	6	7	8	9	10
GENERAL USE										
10FT 1/2 SURF RD	32.13	8.03	8.03	8.03	.00	.00	.00	.00	.00	.00
SECOND REC BLD	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00
CLUB HOUSE	25.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
I-O POOL	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AREA SWM POOL	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
AREA UTIL BLDG	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
ENTRANCES + SGNS	1.83	.00	.00	.00	.00	.00	.00	.00	.00	.00
1RF OF 40FTW TRL	38.78	38.78	.00	.00	.00	.00	.00	.00	.00	.00
STABLE	4.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
SKEET + RIF RANG	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DOCKS + LANDINGS	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MGR HOUSE	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAINT FACILITIES	2.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WILDNERNESS LAND	2120.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HIKING TRAIL	2.89	.00	2.89	.00	.00	.00	.00	.00	.00	.00
SPECIFIC USE										
10FT 1/2 SURF RD	.00	16.98	16.98	16.98	16.98	8.26	.00	.00	.00	.00
1RF OF 40FTW TRL	.00	15.15	15.15	15.15	15.15	8.26	.00	.00	.00	.00
TOTAL	2230.24	78.96	44.06	40.17	32.13	16.52	.00	.00	.00	.00

(B)

INITIAL RAW LAND AVAILABLE--	3300.00 ACRES
LAND FOR .5AC LOTS W/UTIL	450.00
LAND FOR 1AC LOT W/O UTIL	400.00
LAND FOR STUDIO CONDO LUX	4.00
LAND FOR 2 BR CONDOMINIUM	4.00
LAND DEDICATED	2442.08
LAND LEFT FOR OPEN SPACE	-.10

PURCHASE BASIS OF RAW LAND FOR DEVELOPER	425000.	(C)
DEBT OUTSTANDING ON RAW LAND AT START OF DEVELOPMENT	.	
BOOK EQUITY IN RAW LAND AT START OF DEVELOPMENT	425000.	
RESALE VALUE OF RAW LAND NET OF TRANSFER COSTS	425000.	
RESALE EQUITY IN RAW LAND	425000.	
INITIAL EQUITY CASH IN DEVELOPMENT ENTITY	115000.	
TOTAL EQUITY IN DEVELOPMENT ENTITY	540000.	
CASH EXPENSES OF ORGANIZATION	5000.	AMORTIZED FOR 5 YEARS--RECOGNIZED IN TAXABLE INCOME
NET CASH FOR DEVELOPMENT	110000.	INCLUDED IN YEAR 1 NET CASH AFTER TAXES

FINANCING FOR LAND DEVELOPMENT (E)

1ST MORTGAGE AMOUNT-- 3000000. INTEREST RATE--,.1200 MONTHLY PAYMENT-- .RELEASE PAYMENT-- 8000.

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL PAID	.	1504000.	1504000.	1504000.	526990.	.	.	.	.	.
INTEREST	105000.	180728.	127644.	67741.	15824.	.	.	.	.	.
PRINCIPAL RECEIVED	1750010.	1016120.	1107150.	902460.	263250.	.	.	.	.	.
BALANCE	1750010.	1262130.	865280.	263740.	.	.	.	.	.	.

.5AC LOTS W/UTIL

SUMMARY OF INPUTS

(B)		(D)
LOT SIZE--SQUARE FEET	21780.	
LOT SIZE--ACRES	.50	
PERCENT SOLD FOR CASH EACH YEAR	100.00	
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00	
INTEREST RATE ON LAND CONTRACT SALES	.00	
TERM IN YEARS ON LAND CONTRACT SALES	.00	
CARRYING COST PER UNIT OF SALES INVENTORY	100.00	
SALES COMMISSIONS O/O OF SALES PRICE	15.00	
CLOSING COSTS PER UNIT	425.00	
CAPITAL COST PER UNIT	1625.00	

YEAR	SALES PRICE (A)	NO. UNITS SOLD
1	8000.	.
2	8000.	180.
3	8400.	180.
4	8400.	180.
5	8800.	180.
6	8800.	180.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY (B)	.	.	45.	45.	45.	45.	.	.	.	.
PRODUCTION STARTS	225.	180.	180.	180.	135.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	225.	180.	180.	180.	135.	.	.	.	.
SALES IN UNITS	.	180.	180.	180.	180.	180.	.	.	.	.
UNITS SOLD FOR CASH	.	180.	180.	180.	180.	180.	.	.	.	.
PRICE PER UNIT	8000.	8000.	8400.	8400.	8800.	8800.	.	.	.	.
REVENUE FROM CASH SALES	.	1440000.	1512000.	1512000.	1584000.	1584000.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	216000.	226800.	226800.	237600.	237600.	.	.	.	.
CLOSING COSTS	.	76500.	76500.	76500.	76500.	76500.	.	.	.	.
NET CASH GENERATED FROM SALES	-.	1147500.	1208700.	1208700.	1269900.	1269900.	-.	-.	-.	-.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	5346.	11226.	11226.	11761.	5880.	.	.	.	.
CARRYING COST OF INVENTORY	.	2250.	4500.	4500.	4500.	2250.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS (C)	365625.	307125.	321750.	336375.	263250.	.	.	.	.	.
TOTAL CASH REVENUE	-365625.	832784.	871224.	856604.	990340.	1261770.	.	.	.	.

1AC LOT W/O UTIL

SUMMARY OF INPUTS

	(B)		YEAR	SALES PRICE (A)	NO. UNITS SOLD
LOT SIZE--SQUARE FEET	43560.		1	5500.	.
LOT SIZE--ACRES	1.00		2	5500.	100.
PERCENT SOLD FOR CASH EACH YEAR	100.00		3	5775.	100.
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00		4	6050.	100.
INTEREST RATE ON LAND CONTRACT SALES	.00		5	6050.	100.
TERM IN YEARS ON LAND CONTRACT SALES	.00		6	.	.
CARRYING COST PER UNIT OF SALES INVENTORY	100.00	(D)	7	.	.
SALES COMMISSIONS O/O OF SALES PRICE	15.00		8	.	.
CLOSING COSTS PER UNIT	325.00		9	.	.
CAPITAL COST PER UNIT	1100.00		10	.	.

DEVELOPMENT PERIOD (B)	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	25.	25.	25.	.	.	.	.	.
PRODUCTION STARTS	125.	100.	100.	75.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	125.	100.	100.	75.	.	.	.	.	.
SALES IN UNITS	.	100.	100.	100.	100.	.	.	.	.	.
UNITS SOLD FOR CASH	.	100.	100.	100.	100.	.	.	.	.	.
PRICE PER UNIT	5500.	5500.	5775.	6050.	6050.	.	.	.	.	.
REVENUE FROM CASH SALES	.	550000.	577500.	605000.	605000.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	82500.	86625.	90750.	90750.	.	.	.	.	.
CLOSING COSTS	.	32500.	32500.	32500.	32500.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	435000.	458375.	481750.	481750.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	2041.	4287.	4492.	2246.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	1250.	2500.	2500.	1250.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	137500.	115500.	121000.	94875.	.	.	.	.	.	.
TOTAL CASH REVENUE	-137500.	316209.	330588.	379883.	478254.	.	.	.	.	.

STUDIO CONDO LUX

SUMMARY OF INPUTS

(B)	
LOT SIZE--SQUARE FEET	550.
LOT SIZE--ACRES	.01
PERCENT SOLD FOR CASH EACH YEAR	100.00
0/0 DOWN REQUIRED ON LAND CONTRACT SALES	.00
INTEREST RATE ON LAND CONTRACT SALES	.00
TERM IN YEARS ON LAND CONTRACT SALES	.00
CARRYING COST PER UNIT OF SALES INVENTORY	300.00
SALES COMMISSIONS 0/0 OF SALES PRICE	15.00
CLOSING COSTS PER UNIT	1000.00
CAPITAL COST PER UNIT	9825.00

YEAR	SALES PRICE (A)	NO. UNITS SOLD
1	17900.	.
2	17900.	20.
3	18795.	20.
4	19690.	20.
5	20585.	20.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.

DEVELOPMENT PERIOD (B)	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	5.	5.	5.	.	.	.	.	.
PRODUCTION STARTS	25.	20.	20.	15.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	25.	20.	20.	15.	.	.	.	.	.
SALES IN UNITS	.	20.	20.	20.	20.	.	.	.	.	.
UNITS SOLD FOR CASH	.	20.	20.	20.	20.	.	.	.	.	.
PRICE PER UNIT	17900.	17900.	18795.	19690.	20585.	.	.	.	.	.
REVENUE FROM CASH SALES	.	358000.	375900.	393800.	411700.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	53700.	56385.	59070.	61755.	.	.	.	.	.
CLOSING COSTS	.	20000.	20000.	20000.	20000.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	284300.	299515.	314730.	329945.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	1329.	2791.	2923.	1528.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	750.	1500.	1500.	750.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	245625.	206325.	216150.	169480.	.	.	.	.	.	.
TOTAL CASH REVENUE	-245625.	75896.	79074.	140827.	327667.	.	.	.	.	.

2 BR CONDOMINIUM

SUMMARY OF INPUTS

(B)

LOT SIZE--SQUARE FEET	750.
LOT SIZE--ACRES	.01
PERCENT SOLD FOR CASH EACH YEAR	100.00
O/O DOWN REQUIRED ON LAND CONTRACT SALES	.00
INTEREST RATE ON LAND CONTRACT SALES	.00
TERM IN YEARS ON LAND CONTRACT SALES	.00
CARRYING COST PER UNIT OF SALES INVENTORY	300.00
SALES COMMISSIONS O/O OF SALES PRICE	15.00
CLOSING COSTS PER UNIT	1000.00
CAPITAL COST PER UNIT	12825.00

(D)

(A)

YEAR	SALES PRICE	NO. UNITS SOLD
1	22500.	.
2	22500.	20.
3	23625.	20.
4	24750.	20.
5	25875.	20.
6	.	.
7	.	.
8	.	.
9	.	.
10	.	.

(B)

DEVELOPMENT PERIOD	1	2	3	4	5	6	7	8	9	10
BEGINNING INVENTORY	.	.	5.	5.	5.	.	.	.	.	.
PRODUCTION STARTS	25.	20.	20.	15.	.	.	.	.	.	.
PRODUCTION COMPLETIONS	.	25.	20.	20.	15.	.	.	.	.	.
SALES IN UNITS	.	20.	20.	20.	20.	.	.	.	.	.
UNITS SOLD FOR CASH	.	20.	20.	20.	20.	.	.	.	.	.
PRICE PER UNIT	22500.	22500.	23625.	24750.	25875.	.	.	.	.	.
REVENUE FROM CASH SALES	.	450000.	472500.	495000.	517500.	.	.	.	.	.
UNITS SOLD ON LAND CONTRACTS	.	.	.	.	.	.	.	.	.	.
DOWN PAYMENT RECEIVED	.	.	.	.	.	.	.	.	.	.
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.	.	.	.	.
SALES COSTS										
COMMISSIONS PAID	.	67500.	70875.	74250.	77625.	.	.	.	.	.
CLOSING COSTS	.	20000.	20000.	20000.	20000.	.	.	.	.	.
NET CASH GENERATED FROM SALES	.	362500.	381625.	400750.	419875.	.	.	.	.	.
RUNOFF OF LAND CONTRACT SALES										
INTEREST	.	.	.	.	.	.	.	.	.	.
PRINCIPAL	.	.	.	.	.	.	.	.	.	.
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.	.	.	.	.
REAL ESTATE TAXES ON INVENTORY	.	1670.	3508.	3675.	1921.	.	.	.	.	.
CARRYING COST OF INVENTORY	.	750.	1500.	1500.	750.	.	.	.	.	.
CAPITAL COST OF IMPROVEMENTS	320625.	269325.	282150.	221230.	.	.	.	.	.	.
TOTAL CASH REVENUE	-320625.	90754.	94466.	174345.	417204.	.	.	.	.	.

AGGREGATE RESULTS

DEVELOPMENT PERIOD	1	2	3	4	5	6	Total	% of sales
REVENUE FROM CASH SALES	.	2798000.	2937900.	3005800.	3118200.	1584000.	13,443,900	100%
DOWNPAYMENT RECEIVED	.	.	.	.	.	.		
ACCOUNTS RECEIVABLE ADDED	.	.	.	.	.	.		
SALES COSTS								
COMMISSIONS PAID	.	419700.	440685.	450870.	467730.	237600.	2,016,585	15
CLOSING COSTS	.	149000.	149000.	149000.	149000.	76500.	672,500	05
RUNOFF OF LAND CONTRACT SALES								
INTEREST	.	.	.	.	.	.		
PRINCIPAL	.	.	.	.	.	.		
PERIOD END ACCOUNTS RECEIVABLE	.	.	.	.	.	.		
CASH FROM OPERATIONS	.	2229300.	2348220.	2405930.	2501470.	1269900.	10,754,820	80
LESS CASH OUTLAYS								
CARRYING COSTS--RAW LAND	1650.	.	.	.	.	.	1,650	00
CARRYING COSTS--INVENTORY	.	5000.	10000.	10000.	7250.	2250.	34,500	00
REAL ESTATE TAX--RAW LAND	6311.	.	.	.	.	.	6,311	00
REAL ESTATE TAXES--INVENTORY	.	10387.	21813.	22317.	17456.	5880.	77,853	01
MANAGEMENT + ADMIN. COSTS	175001.	521312.	551400.	541116.	494055.	237600.	2,520,484	19
NEW ALLOCATED CAPITAL OUTLAYS	1069370.	898275.	941050.	821960.	263250.	.	3,993,905	30
NEW GENERAL CAPITAL OUTLAYS	680640.	117852.	166100.	80500.	.	.	1,045,092	08
NET CASH REVENUE	-1932970.	676488.	657860.	930050.	1719470.	1024170.	3,075,068	23
PROJECT DEBT STRUCTURE								
TOTAL INITIAL BALANCE	.							
BALANCE END OF YEAR	1750010.	1262130.	865280.	263740.	.	.		
TOTAL PRINCIPAL PAYMENTS	.	1504000.	1504000.	1504000.	526990.	.	5,038,990	37
TOTAL INTEREST PAID ON PROJ.	105000.	207422.	181013.	133550.	81556.	.	708,541	05
INTEREST ADDED TO LOAN BAL.	.	.	.	.	.	.		
NET CASH FROM DEBT INCURRED	1750010.	1016120.	1107150.	902460.	263250.	.	5,038,990	37
CASH AVAILABLE BEFORE TAXES	-287960.	-18820.	80000.	194960.	1374180.	1024170.	2,366,530	18
CAPITAL COST OF IMPROVEMENTS								
PRORATED TO UNITS SOLD	.	898275.	930354.	941050.	983825.	351000.	4,104,504	31
GENERAL CAPITAL COST								
PRORATED TO UNITS SOLD	.	166181.	220327.	256809.	266412.	135336.	1,045,065	08
LAND COST PRORATED TO UNITS SOLD	.	88452.	92875.	95021.	98574.	50074.	424,996	03
TAXABLE INCOME FROM OPERATIONS	-288960.	331288.	339445.	405089.	551364.	487760.	2,114,946	16
ESTIMATED INCOME TAXES	.	159018.	162933.	194442.	264654.	234124.	1,015,171	08
TAX SAVINGS ON OTHER INCOME	138700.	.	.	.	.	.		
NET CASH AFTER TAXES	-177960.	-177838.	-82933.	518.	1109530.	790050.	1,900,098	14
REINVESTED EARNINGS	.	.	.	.	.	.		
WORKING CAPITAL LOAN BALANCE	177960.	355798.	438731.	438213.	.	.		
CASH AFTER TAXES FOR DIVIDENDS OR REINVESTMENT	.	.	.	.	671320.	790050.	1,461,370	11
DIVIDENDS PAID	.	.	.	.	671320.	790050.	1,461,370	11
NET AFTER TAX + DEBT REPAYMENT ON BULK SALES	-1247330.	-754872.	-484430.	-47947.	226103.	30.		
P.V. AT 20.0/0 OF EQUITY RETURNS	-923860.	-408630.	-164762.	92461.	476237.	649967.		
INTERNAL RATE OF RETURN						19.1%		

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at Marriot Motor Hotel
Joint AIREA-SREA Seminar
Philadelphia, Pennsylvania
Thursday, April 11, 1974

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Elements of Financial Feasibility

COFFEE BREAK: 10:30

IV. The Concept of Risk

V. Determining Objectives and Criteria of the Client

VI. Structuring Market Data Analysis with Models

LUNCHEON: 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants

II. Developing a Customer Profile with a Consumer Survey

III. Pre-Architectural Programming

COFFEE BREAK: 2:30

IV. Structuring the Financial Analysis

V. Modeling Cash Flow Simulation for Rental Properties

VI. Evolution of Concepts for Measuring Rate of Return

VII. Risk Evaluation

FEASIBILITY ANALYSIS SEMINAR OUTLINE

I. Concepts and definitions basic to real estate enterprise

A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

2. The business of real estate is the process of converting space-time to money-time.

3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

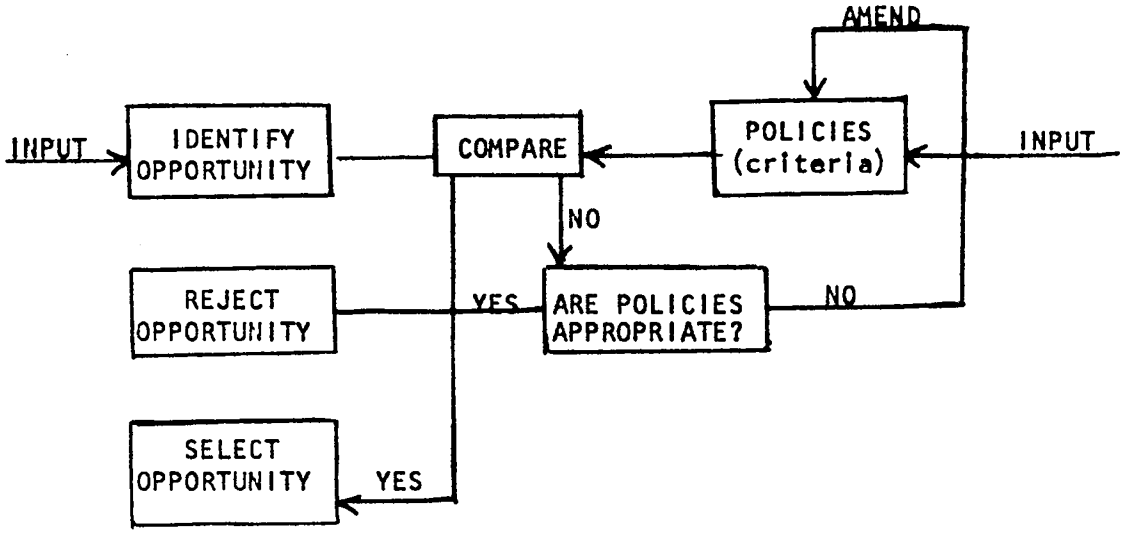
C. Traditional sequence of management function:

1. Planning
2. Organizing
3. Directing
4. Controlling

D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing <u>systems</u> for capturing selected opportunities
6. Installing <u>systems</u> for capturing selected opportunites
7. operating the <u>systems</u> that have been installed
8. Maintaining and continously perfecting the operating <u>systems</u>

E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical -aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the eash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and ob jectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

202A Breese Terrace, Madison, Wisconsin 53705 - 608 238-6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No ↓

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

No ↓

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes ↓

No → What is your main reason? _____
_____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No → 9.

Yes → Which one? _____
Yes → What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No

Yes → Would you buy one again: Yes No
No → Why not? _____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar
Saint Paul, Minnesota
March 17, 1973

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITH-OUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

PART I OF IMV INVESTMENT VALUE APPROACH

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SUGGESTED OUTLINE OF CASH ANALYSIS FOR LAND DEVELOPMENT PROJECT

DEVELOPMENT PERIOD	1	2	3
PRODUCTION STARTS			
PRODUCTION COMPLETIONS			
1. BEGINNING INVENTORY			
2. SALES IN UNITS			
UNITS SOLD FOR CASH			
PRICE PER UNIT			
REVENUE FROM CASH SALES			
UNITS SOLD ON LAND CONTRACTS			
DOWN PAYMENT RECEIVED			
ACCOUNTS RECEIVABLE ADDED			
3. SALES COSTS			
COMMISSIONS PAID			
CLOSING COSTS			
4. RUNOFF OF LAND CONTRACT SALES			
INTEREST			
PRINCIPAL			
PERIOD END ACCOUNTS RECEIVABLE			
5. NET CASH GENERATED FROM SALES			
6. OPERATING COSTS			
CARRYING COSTS--RAW LAND			
CARRYING COSTS--INVENTORY			
REAL ESTATE TAX--RAW LAND			
REAL ESTATE TAX--INVENTORY			
MANAGEMENT + ADMINIST. COSTS			
7. NEW ALLOCATED CAPITAL OUTLAYS			
8. NEW GENERAL CAPITAL OUTLAYS			
9. PROJECT DEBT STRUCTURE			
TOTAL INITIAL CASH			
DEBT BALANCE END OF PERIOD			
TOTAL PRINCIPAL PAYMENTS			
TOTAL INTEREST PAID ON PROJ.			
INTEREST ADDED TO LOAN BAL.			
10. NET CASH FROM DEBT INCURRED			
11. CASH AVAILABLE BEFORE TAXES			

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at Holiday Inn
Sponsored by Society of Real Estate Appraisers
Greater Detroit Chapter #13
Washtenaw County Chapter #167
Farmington, Michigan
Monday, April 15, 1974

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Elements of Financial Feasibility

COFFEE BREAK: 10:30

IV. The Concept of Risk

V. Determining Objectives and Criteria of the Client

VI. Structuring Market Date Analysis with Models

LUNCHEON: 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants

II. Developing a Customer Profile with a Consumer Survey

III. Pre-Architectural Programming

COFFEE BREAK: 2:30

IV. Structuring and Modeling Cash Flows for Rental Properties

V. Modeling Cash Flows for Land Development

VI. Modeling Cash Flows and other Measures of Economic Impact on a Community

VII. Risk Evaluation

FEASIBILITY ANALYSIS SEMINAR OUTLINE

I. Concepts and definitions basic to real estate enterprise

A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

2. The business of real estate is the process of converting space-time to money-time.

3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

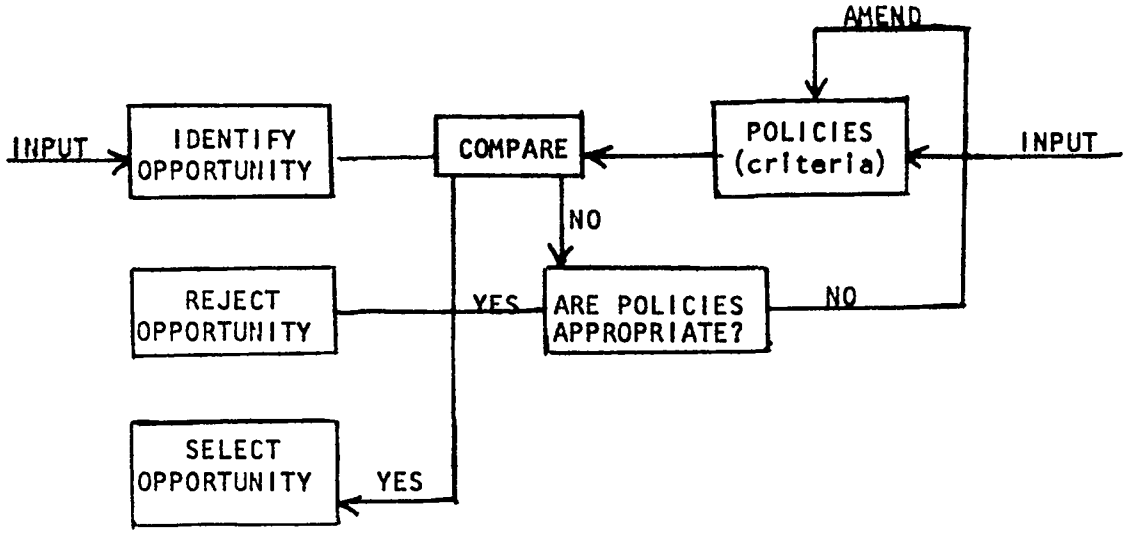
C. Traditional sequence of management function:

1. Planning
2. Organizing
3. Directing
4. Controlling

D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunites
7. operating the systems that have been installed
8. Maintaining and continously perfecting the operating systems

E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical -aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the oash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and ob jectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

$$P \times R \times T \times D \div PR \times MS = \text{Rooms per Average Weekend Day}$$

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

202A Breese Terrace, Madison, Wisconsin 53705 · 608 238-6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No ↓

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

No ↓

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes ↓

No → What is your main reason? _____
_____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify)		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No ↓

Yes → Which one? _____
Yes → What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No ↓

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

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( ) Three bedrooms, or/
( ) Four bedrooms, or/
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( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
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( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

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( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

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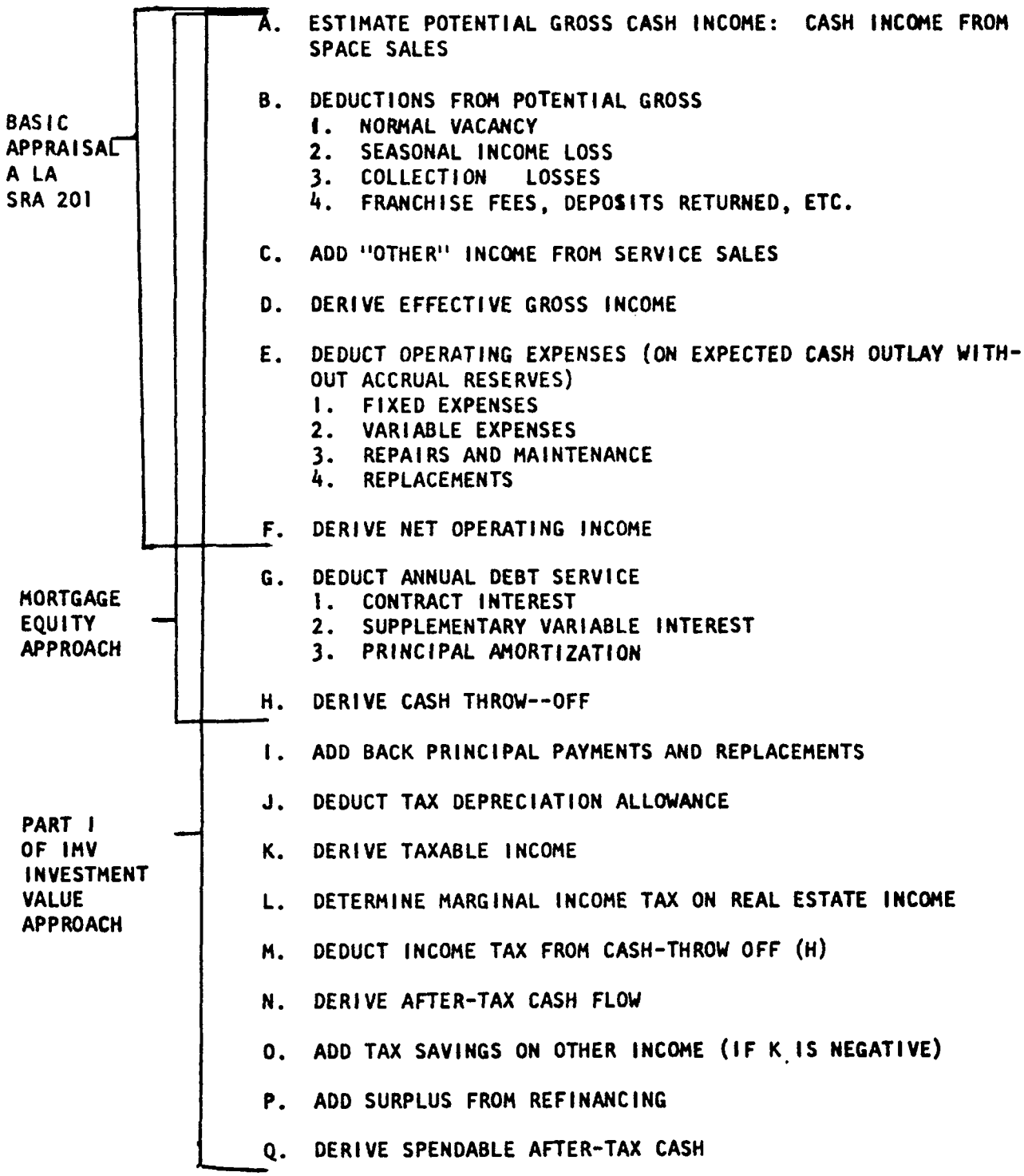
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR



PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

May 1, 1971

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SUGGESTED OUTLINE OF CASH ANALYSIS FOR LAND DEVELOPMENT PROJECT

DEVELOPMENT PERIOD	1	2	3
PRODUCTION STARTS			
PRODUCTION COMPLETIONS			
1. BEGINNING INVENTORY			
2. SALES IN UNITS			
UNITS SOLD FOR CASH			
PRICE PER UNIT			
REVENUE FROM CASH SALES			
UNITS SOLD ON LAND CONTRACTS			
DOWN PAYMENT RECEIVED			
ACCOUNTS RECEIVABLE ADDED			
3. SALES COSTS			
COMMISSIONS PAID			
CLOSING COSTS			
4. RUNOFF OF LAND CONTRACT SALES			
INTEREST			
PRINCIPAL			
PERIOD END ACCOUNTS RECEIVABLE			
5. NET CASH GENERATED FROM SALES			
6. OPERATING COSTS			
CARRYING COSTS--RAW LAND			
CARRYING COSTS--INVENTORY			
REAL ESTATE TAX--RAW LAND			
REAL ESTATE TAX--INVENTORY			
MANAGEMENT + ADMINIST. COSTS			
7. NEW ALLOCATED CAPITAL OUTLAYS			
8. NEW GENERAL CAPITAL OUTLAYS			
9. PROJECT DEBT STRUCTURE			
TOTAL INITIAL CASH			
DEBT BALANCE END OF PERIOD			
TOTAL PRINCIPAL PAYMENTS			
TOTAL INTEREST PAID ON PROJ.			
INTEREST ADDED TO LOAN BAL.			
10. NET CASH FROM DEBT INCURRED			
11. CASH AVAILABLE BEFORE TAXES			

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
MARKET VALUE	242400.	244800.	247200.	249600.	252000.	254400.	256800.	269200.	271600.	274000.
BALANCE OF LOANS	191298.	184767.	179014.	172789.	166054.	185983.	181634.	185985.	179858.	173211.
NET WORTH OF PROPERTY	51101.	60032.	68185.	76810.	85945.	68416.	75165.	83214.	91741.	100788.
CAPITAL GAIN	10253.	20506.	30759.	41013.	51266.	61519.	71773.	83455.	95329.	106757.
CAPITAL GAINS TAX	1537.	3075.	4613.	6151.	7689.	9227.	10765.	12518.	14299.	16013.
INCOME TAX ON EXCESS DEPRECIATION	1084.	1890.	2426.	2702.	2729.	2401.	1828.	1362.	663.	.
PERCENT INITIAL EQUITY PAYBACK AFTER TAX	.0517	.1609	.2946	.4233	.5471	1.0797	1.1843	1.2696	1.3517	1.4303
NET INCOME-MARKET VALUE RATIO	.0773	.1087	.1087	.1087	.1087	.1087	.1087	.1046	.1046	.1047
RETURN ON NET WORTH BEFORE TAXES	.1086	.3052	.2511	.2318	.2158	.1510	.1978	.3093	.1676	.1601
RETURN ON NET WORTH AFTER TAXES	.1290	.2372	.2196	.2061	.1933	.1406	.1939	.1762	.1665	.1553
CASH RETURN ON ORIG CASH EQUITY BEF TAX	-.0269	.1482	.1539	.1596	.1653	.6102	.1357	.3041	.1085	.1129
CASH RETURN ON ORIG CASH EQUITY AFT TAX	.0517	.1091	.1336	.1287	.1237	.5873	.1045	.0853	.0820	.0786
DEFAULT RATIO	.9763	.8339	.8054	.8029	.8004	.8204	.8185	.8508	.8484	.8461
LENDER BONUS INTEREST RATE	.0000	.0000	.0000	.0000	.0000	.0122	.0110	.0115	.0114	.0120
PRESENT VALUE OF PROJECT BEFORE TAXES	238306.	242903.	245505.	247329.	248531.	247609.	247992.	255579.	255349.	255001.
PRESENT VALUE OF PROJECT AFTER TAXES	238058.	240050.	241378.	242202.	242600.	241500.	241748.	246686.	246477.	246115.

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
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VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

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CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

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SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

See previous lecture "A Guide to Feasibility Analysis" for contents of this lecture

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at the Ramada Inn
Sponsored by Society of Real Estate Appraisers
Broward County Chapter 204
Fort Lauderdale, Florida
Friday, May 31, 1974

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Elements of Financial Feasibility

COFFEE BREAK: 10:30

IV. The Concept of Risk

V. Determining Objectives and Criteria of the Client

VI. Structuring Market Date Analysis with Models

LUNCHEON: 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants

II. Developing a Customer Profile with a Consumer Survey

III. Pre-Architectural Programming

COFFEE BREAK: 2:30

IV. Structuring and Modeling Cash Flows for Rental Properties

V. Modeling Cash Flows for Land Development

VI. Modeling Cash Flows and other Measures of Economic Impact on a Community

VII. Risk Evaluation

ADVANCED APPRAISAL PRACTICE SEMINAR
Sponsored by Society of Real Estate Appraisers - Chapter #89
The Airport Holiday Inn, Tampa, Florida
Monday, June 10, 1974

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION

8:00 - 9:00 Registration

9:00 - 10:30 Basic Appraisal Premises Under Review

A. The Concept of Fair Market Value
B. The Concept of Highest and Best Use
C. The Concept of Point Rather than Range Estimating
D. An Alternative - Most Probable Sales Price

10:30-10:45 COFFEE BREAK

10:45-12:00 The New Discipline of Most Profitable Use Studies

A. The Basic Limitations: Suitability, Capacity, Compatibility and Economic Impact
B. The Explosion in Data Services
   1. Census Data
   2. Aerial Mapping Data
   3. Planning District Data
C. Appraisal Function: Interpretation of Economic Consequences of Suitability, Capacity, and Compatibility
D. Evaluation of Land as a Development Residual (a demonstration)

12:00-1:00 LUNCH

1:00-2:30 Two Demonstrations of Most Probable Price Appraisal

A. Market Comparison Appraisal of Single Family Homes Weighted for Buyer Preference (a demonstration)
B. Market Comparison Appraisal of Vacant Land Using Linear Regression

2:30-2:45 REFRESHMENT BREAK

2:45-4:30 Appraisal Assumptions and New Government Regulations on Land Use and Structures

A. The Mortgage Loan Ratio
B. FHA Environmental Impact Criteria for Suitability
C. The Federal Flood Disaster Protection Act
D. The Office of Interstate Land Sales Regulation
E. The Securities and Exchange Commission and Market Value

ADVANCED APPRAISAL PRACTICE SEMINAR
Sponsored by Society of Real Estate Appraisers - Chapter #89
The Airport Holiday Inn, Tampa, Florida
Monday - June 10, 1974

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

I. The fundamental premise on which this seminar is built is that the United States is in a decade of transition from a viewpoint of land as a commodity to a belief that land is a public utility, or perhaps ultimately an exhaustable public resource which must be rationed among competitive uses, primarily by non-price methods.

A. The Rockefeller Land Use Commission noted a growing public concenus that land use was central to both environmental balance and social equity and therefore subject to public control first and private development second.

B. In Wisconsin the State Supreme Court in Just vs. Marinette ruled that the owner of a lake lot has no right to develop land which in its natural state is a marsh served an important function as a filter and wild life edge for the general area. The family had enjoyed camping on the tract many years prior to applying for a permit to build a cottage and the judge ruled that it served adequately as recreational property without a cottage. Said State Supreme Court Chief Justice Hallows, "The changing of wetlands and swamps to the damage of the general public by upsetting the natural environment and the natural relationship is not a reasonable use of the land which is protected from plice regulation. . .
. . . nothing this court has said or held in prior cases indicates that destroying the natural character of a swamp or a wetland so as to make that location available for human habitation is a reasonable use of that land when the new use, although of a more economical value to the owner, causes a harm to the general public.
. . . While loss of value is to be considered in determining whether a restriction is a constructive taking, value based upon changing character of the land at the expense of harm to public rights is not an essential factor or controlling.
The Land belongs to the people. . .a little of it to those dead. . . some to those living. . . but most of it belongs to those yet to be born. . ." 56 Wis 2d 7

C. Here in Tampa-St. Petersburg and in Florida, each day is spawning a new land use control law or court case which clarifies or voids existing regulations with the result that it is virtually impossible to predict the immediate future uses of most vacant sites or tracts. Nevertheless appraisal is primarily concerned with the future productivity of a property and the expectations of buyers and sellers in the market place.

D. The law has always defined private property as those rights which are not exercised by the public which has:
   1. First claim on productivity - the real estate tax
   2. First prerogatives on determining use - the police power
   3. Recovery of retrenched private prerogative - eminent domain

E. There is no real clear law today as to when the exercise of a police power clearly represents the taking of a private right.
   1. How does the appraiser define the rights to be appraised and at what point can his limiting conditions relative to public regulation invalidate the utility value of his appraisal?
   2. As a professional what obligation does he have to his client to point out local land use regulation trends which may adversely affect the property to be valued?
   3. At what point must comparables be screened for their vunerability to public control, down zoning, or suitabilities.

F. Urban land economics is moving toward significant re-definition with immediate and long-term implications for real estate appraisal format and techniques.

G. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

H. Each of the three decision makers represents an enterprise. An enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.
   1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.
   2. The business of real estate is the process of converting space-time to money-time.
   3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

I. The essence of Real Estate is potential for cubage to house an activity - an idea whose time has come. Planners and lawyers throughout the country are talking about transferable development rights as a means for:
   1. Compensation of owners of landmarks or open space for loss of development potential.
   2. Leveling of windfalls and wipeouts created by density planning
   3. Re-allocation of real estate taxes among land owners
   4. Re-allocation of economic benefits of development between and among governments within a region. See: Space Adrift by John J. Costonis, University of Illinois Press, 1974 and "Transfer of Development Rights: A New Concept in Land Use Management" by B. Budd Chavooshian and Thomas Norman, Esq., University of Florida Land Use Center, Gainesville, Florida.

J. Today we are going to start slow on some basic appraisal problems but it is important to remember that at a time of accelerating innovation relative to decisions about land, totally new concepts are being introduced which appraisal conepts must accomodate.

II. The appraisal framework is a decision model which must consider so many variables that the model will only lead to a firm, single-number conclusion if a large number of implicit assumptions about behavior are accepted.

A. Assuming you can define the property and the property rights to be appraised, an appraisal begins with a statement of purpose, to wit: "The purpose of this appraisal is to determine fair market value."
   1. Note the appraiser has re-defined the problem to answer his own question rather than to contribute to the criteria with which somebody else may make a decision. Only in court cases and real estate tax law can we find more explicit instructions as to the benchmarks to be provided by appraisal.
   2. Purpose is a critical issue - is it your function to predict most probable sales price even if the market depends on dummies and doctors?
   3. If clients were educated, could purpose be more explicit such as liquidating value of a property presently incomplete or subject to marketing obselence for loan collateral?

B. Definition of Market Value. Society of Real Estate Appraisers: "The price which a property will bring in a competitive market under all conditions requisite to a fair sale, which would result from negotiations between a buyer and a seller, each acting prudently, with knowledge, and without undue stimulus." (SREA, Real Estate Appraisal Principles and Terminology [Chicago, The Author, 1960]. p. 85).
   1. Competitive market conditions
   2. An informed buyer and seller
   3. No undue pressure on either party
   4. "Rational" or prudent economic behavior by both buyer and seller
   5. A reasonable turnover period
   6. Payment consistent with the standards of behavior of the market
   7. Market Value looks at the transaction from the point of view of the buyer

C. The increasing detail of public control means "windfall or wipeout" for the owner of real estate. Properties pre-dating and non-conforming to certain regulations enjoy a monopoly value while vacant lands may no longer have acceptable development uses. To identify highest and best use for a subject property the appraiser must range through a process of the thought process of a <u>rational and informed</u> decision maker - the viewpoint of the buyer:
   1. Legal use
   2. Physically possible uses (static attributes of size, shape, soils, water table etc.)
   3. Appropriate use (in terms of dynamic attributes of linkages, utilities, access etc.)
   4. Financially justified use

D. Of the remaining alternatives which are legally permissable, physically possible, suitably located, and profitable, the best or most profitable use is that one which is expected to generate the highest rate of net return over a given forecast period as of the date of the appraisal.

E. There are two readings which should be basic to the appraiser expecting to testify on highest and best use:
   1. "Highest and Best Use," William Crouch, The Appraisal Journal, April 1966, pp. 166-176.
   2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April 1972, pp. 165-174.

F. Professor Wendt makes the case very well that the opinion of highest and best use must consider so many variables that the conclusions must vary just as judgements and analytical skill must vary.

G. Eventually appraisal analysis to determine market value within these rigidly defined concepts arrives at a single number or "point" value. Since all of the implied conditions rarely are true in an imperfect market or during the period of rapid public and market changes of policy and preference, value is seldom priced.
   1. To hedge the appraisal conclusion with a variety of limiting conditions at a time when the variables for consideration are increasing, is to produce a value conclusion that is almost fictious.
   2. Since the concept of limiting conditions must be used sparingly less the appraiser support consitency rather than accuracy, better methods must be found to introduce some tolerance for the conditions of uncertainty which surround the appraisal estimate.

III. To provide better services for customers and a stronger theoretical base for your conclusions, it would be useful to change the outline of the appraisal along the following lines. These ideas are gently and diplomatically introduced in your basic 201 text - INCOME PROPERTY VALUATION by William Kinnard and can be used legitimately by the appraiser.

A. The function of the appraisal report should be defined to better reflect the client's purposes in seeking an appraisal.
   1. For the courts and the assessor, the statement of function leads to the definition of value as the traditional market value.
   2. A report for a would-be buyer or lender leads to the definition of value as investment market value.
   3. For most other cases the appraiser would seek to determine the most probable selling price.

B. Investment market value is a term coined by Mack Hodges for the present value of future income receipts, considering a specific set of assumptions about the after-tax cash flow of property and requires some general description of the investment standards and tax status of buyers interested in a specific type of property, specifically income-investment property.

C. The broader concept, which still depends on careful identification of the property buyer, is most probable selling price (Vp). It provides a point conclusion as the central tendency (mode, mean, or median) around which sale prices are likely to occur. In addition, it

generally supplies the range within which the majority of alternative prices will occur, similar to but not necessarily a statistical standard error concept.

1. The appraisal report begins with a description of the legal rights and then the physical property to be sold.
2. From this it determines the most probable use.
3. The most probable use leads to a prediction of the most probable buyer-type but it need not be a whole class of buyers. It could be the owner next door or a particular fast-food franchise, or a particular investor in the area with a strong preference for the property type involved. It may not be necessary to explore all alternative uses or even presume that the buyer is fully informed. Dummies may make up the market.
4. Identification of the most probable user should lead to a selection of comparables of simulation of how the investor makes his decision.

D. Most probable selling price is derivative of Professor Ratcliff's work and his terminology that has come into considerable acceptance in doing appraisal work for buyers and sellers. Not only is it acceptable, but it eliminates the need of a whole host of flat assertions or greatly detailed limiting conditions. It leads to a greatly improved appraisal outline.

E. Following the coffee break we wish to explore the discipline of most probable and profitable use analysis of land in keeping with our original objective to suggest appraisal methods consistent with changing public control of land use. This afternoon we will explore implications for appraisal of inference about the behavior of most probable buyers.

IV. Suggested Outline for Appraisal Report Leading to Estimate of Most Probable Selling Price

A. Statement of purpose of appraisal for the client

B. Statement of appraisal method or value definition appropriate to client

C. Definition and description of the legal interest to be appraised

D. Productivity analysis of subject property
   1. Physical (static) site attributes
   2. Locational (dynamic) site attributes
   3. Physical attributes and condition of improvements
   4. Current uses and tenancies
   5. Legal-political constraints on use
   6. Possible market or merchandising opportunities or alternatives

E. Determination of most probable use

F. Description of most probable buyer
   1. Possibility for inference of buyer behavior
   2. Possibility for simulation of buyer behavior (any appraisal method is legitimate if it forecasts probable price).

G. Analysis of historical comparables to predict most probable range of offering prices.

H. Analysis of inferential simulation of buyer calculus to determine range of offering prices.

I. Description of external economic conditions or other factors affecting buyer behavior.
   1. Local market conditions
   2. Real estate finance terms available
   3. Investor morale and self confidence
   4. Other relevant external influences

J. Analytical application of external conditions to prices determined from historical inference or investment simulation.

K. Conclusion indicating probable price and range of alternative outcomes as of a given forecast date.

L. Certification of objectivity

M. Statement of limiting conditions
   1. Forecasting under conditions of uncertainty about the future
   2. Contributions or responsibilities to other professionals
   3. Instructions or assumptions provided by the client

V. The basic elements to vacant land profitability analysis have to do with the definition of those old elements of highest and best use, legal, possible, appropriate, and economic recast into the jargon of the 1970's - SUITABILITY, CAPACITY, COMPATIBILITY, and ECONOMIC IMPACT.

A. Louie Carter has a song about things that seem the same but are really not - like a place with birds and bees and grass and trees which to some is just a vacant lot. There is no such thing today as raw land (exception: Bong) or a vacant lot.

B. There has been a revolution in the supply of information about sites. This in turn has drastically altered the ability of the public to police land use within the concept of due process of law and within an acceptable cost benefit ratio.
   1. The appraiser must have an adequate map of the static attributes or physical facts of the site to determine suitability for use and begin to measure capacity.
   2. A basic list of data types and cheap sources of information is provided in Exhibit A and C.
   3. The appraiser will soon discover that land appraisal assignments may often require the skills of a professional land planner to organize and present all the free data in a comprehensible form.
   4. Keep in mind the appraisal function is to interpret the economic (sales price) consequences of suitability, capacity, and compatability.

C. Space technology will have more immediate impact on the use of the surface of this earth than it will have for a long time on the surface of the moon. Space research and military intelligence have developed some incredible new information gathering devices in the form of aerial surveillance.
   1. High and low survey photography coordinated with 1/4 1/4 section markers and planning departments can now overlay building permits and other data tied to tax code numbers. (Example DU counts and growth potential for shopping center or bank site).

EXHIBIT "A"

INTRODUCTION

This data list is not to be viewed as a final or all inclusive list of needed environmental factors but rather a general framework through which we can work with the County's representatives in identifying the necessary factors needed to assist them in their decision making.

SUGGESTED ENVIRONMENTAL FACTORS AND POSSIBLE DATA SOURCES

A. PHYSICAL CHARACTERISTICS

1. EARTH

*a. Mineral resource [Geological studies/U.S.G.S.]
*b. Construction material [Geological studies/U.S.G.S.]
*c. Landform [Geological studies/U.S.G.S.]
*d. Unique physical features [Geological studies/U.S.G.S.]
*e. Soil [Form 1972 Soil Survey]
1. Depth to bedrock
2. Depth to seasonal high water table
3. Unified class
4. AASHO class
5. Liquid limit
6. Plastic limit
7. Permeability
8. Available water capacity
9. Reaction-ph.
10. Salinity
11. Shrink-swell
13. Suitability-topsoil
14. Suitability-sand and gravel
15. Suitability-road fill
16. Hydrologic soil group
17. Suitability-road location
18. Water retention-embankment

19. Water retention-reservoir area
20. Agricultural drainage
21. Irrigation
22. Limitation-septic tank
23. Agricultural capability unit

f. Topography
*1. % slope-average predominant type [U.S.G.S.]
*2. Centroid elevation [U.S.G.S.]
*3. Orientation [U.S.G.S.]

2. WATER

*a. Surface
*1. Lakes or pond [U.S.G.S./Infra Red Photo]
*2. Rivers [U.S.G.S./Infra Red Photo]
*3. Stream [U.S.G.S./Infra Red Photo]
*4. Intermittent stream [U.S.G.S.]

b. Underground
*1. Ground water levels at wells [Hydrologic data]
*2. Recharge areas [Geological studies]

3. PROCESSES
*a. Floods
1. 10 year [Infra Red or Color Photo]
2. 25 year [Infra Red or Color Photo]
3. 50 year [Infra Red or Color Photo]
4. 100 year [Infra Red or Color Photo]

*b. Stability
Slides and slumps [Geological studies/Soil Map/Photo]

*c. Stress-strain
Earthquake [Geological studies/Photo's]

*d. Air movements [Climatological Data]

B. BIOLOGICAL CONDITIONS

1. FLORA
*a. Dominant type [Infra Red Photo]
1. Trees
2. Shrubs
3. Grass
4. Crops
5. Swamp
*b. Endangered species [State/County Studies]

1. Tree
2. Shrub
3. Grass
4. Other

2. Fauna
*Endangered species [State/County Studies]

C. CULTURAL FACTORS

*1. LAND USE- Dominant type [Infra Red Photo's]

a. Wilderness
b. Wetland
c. Forest
d. Grazing
e. Agriculture
f. Residential
g. Commercial
h. Industrial
i. Mining and quarrying/wells

*2. RECREATION [State/County/Infra Red Photo]

a. Hunting
b. Fishing
c. Boating
d. Swimming
e. Camping and hiking
f. Picnicking
g. Golfing
h. Tennis
i. Other

*3. AESTHETICS AND HUMAN INTEREST [State Studies/Infra Red Photo]

a. Scenic views and vistas
b. Wilderness qualities
c. Landscape design
e. Unique physical features
f. Parks and reserves
g. Monuments
*h. Rare and unique species or ecos./stems [State/Infra Red Photo]
*i. Historical or archaeological sites and objects [State Studies/Infra Red Photo]

4. CULTURAL STATUS
*a. Cultural patterns (life Style) [State/ Photo's]

*b.	Population density	[Photo's]

5. MAN-MADE FACILITIES

*a.	Transportation network	[U.S.G.S./Photo's]
*b.	Utility network	[County/Photo's]
*c.	Waste disposal	[County/Photo's]

6. POLITICAL BOUNDARIES

*a.	Zoning	[County]
*b.	Special assessment districts	[County]
*c.	Sewage district	[County]
*d.	City boundaries	[County]
*e.	School district High, Junior, Elementary	[County]

Exhibit B

INTRODUCTION

Appraisers and real estate counselors are expected to consider a great array of information when reviewing land in its present and projected uses. In attempting to respond to these reviews or assistments these persons must begin to search out and exploit to the fullest all sources of accurate and relevant information.

A variety of government agencies are expanding the number of free and low cost sources of information. This information is available to the citizen, providing he knows how and from where to request the information.

The following list of sources is organized by agency and type of information or data index available from each agency.

I. The United States Geological Survey

Address: Map Information Office
U.S. Geological Survey
Washington, D.C. 20242

Phone: 202/343-2446

A. Topographic Map

A topographic map is a graphic representation of selected manmade and natural features. It is a record in convenient readable form of the physical characteristics of the terrain as determined by precise engineering surveys and measurements. The distinguishing characteristic of a topographic map is that through the use of a contour symbol it portrays the shape and elevation of the landscape. To understand the contour symbol, think of it as an imaginary line on the ground which takes any shape necessary to maintain a constant elevation above sea level.

The colors in which symbols are printed indicate the general classes of map features they represent. Symbols for water features are printed in blue; manmade objects (roads, railroads, buildings, transmission lines, and many others) are shown in black; and green is used to distinguish wooded areas from clearings. The contours which portray the shape and elevation of the land surface are printed in brown.

On recent maps, solid red is used to represent or emphasize certain cultural features, such as the more important roads, fence lines, and the boundary lines of townships, ranges, sections, and land growth in states subdivided by public land surveys.

A booklet describing topographic maps and symbols is available free upon request from the Map Information Office of the U.S. Geological Survey.

B. Status Index Maps

Maps showing the status of various phases of mapping and areas covered by aerial photography in the United States are available free on request. There are three types of status index maps all printed at the same scale. Scale, 1:5,000,000 (1 inch = about 80 miles); Size, 27 x 41 inches.

1. Topographic Mapping--Status and Progress of Operations (7-1/2 and 15 minute series).

   Shows the status of topographic mapping and progress of operations in the United States by the Geological Survey and other federal agencies. General appraisal of the adequacy of these maps is indicated by color patterns. Published semi-annually.

2. Status of Aerial Photography.

   Shows the areas that have been photographed and agencies holding the film. Aerial photographic coverage is shown only if reproductions are available for purchase.

3. Status of Aerial Mosaics.

   Shows areas in the United States for which mosaics or photomaps have been prepared from aerial photographs, scale of negatives, dates of photography, and sources from which copies may be obtained.

C. State Index Maps

Shows published topographic maps in each state, Puerto Rico, and the Virgin Islands. Available free on request

from U.S. Geological Survey, Washington, D.C. 20242, or Federal Center, Denver, Colorado 80225. These indexes contain lists of special maps, addresses of local map reference libraries, local map dealers, and federal map distribution centers. An order blank and detailed instructions for ordering maps are also supplied with each index.

D. Geological Survey Photography

Probably one of the greatest sources of exploitable information is the aerial photograph. Advances in the development of new films and cameras has brought to the decision-maker a totally new dimension in area analysis. Available today is not only the customary black and white photography taken from 5,500 to 24,000 feet above the ground, but also color and color infrared photographs, many taken from an elevation as high as 65,000 feet above the ground.

1. Aerial Photographic Reproductions

The Map Information Office, U.S. Geological Survey, maintains records of aerial photographic coverage of the United States and outlying areas, based on reports from federal and state agencies and commercial companies. From these records, the Map Information Office furnishes data to prospective purchasers on the available photography and the agency or firm holding the aerial film.

Geological Survey vertical aerial photography is obtained primarily for topographic and geologic mapping. Reproductions from this photography are usually satisfactory for general use. Because reproductions are not stocked, but are custom processed for each order, they cannot be returned for credit or refund.

2. Print Sizes

Contact prints are the same size as aerial negatives, approximately 9 x 9 inches. Prints are available with stereoscopic overlap or without such overlap (pictorial coverage). Photographs with stereoscopic overlap, when viewed with a stereoscope, will permit the observer to obtain a mental impression of the three dimensional shape of the

landscape. Stereoscopic coverage requires about twice as many prints as pictorial photography. Orders for photographs or requests for information should specify which type is needed.

Enlargements to an exact ratio or to a specific scale are available. If ratio factors are not furnished by the purchaser, enlargements will be processed to ratios derived from lens focal lengths and flight heights specified in the photographic contract or reported by the contractor.

Prints are processed only from whole negatives; prints of selected parts of negatives are not available.

Index: A complete index listing type of photography, scale, date, direction flight was flown, and lens focal length is available from any of the regional headquarters. Where large areas are involved, photo indexes are essential for selecting prints and should be requested.

3. Photography Orders

Because many types of reproductions are available, requests should state the purpose for which the photographs are desired and define the specific area of interest by means of a detailed description, sketch, or latitude and longitude position. The size of photographs and type of coverage (pictorial or stereoscopic) should also be specified.

a. Requests for reproductions or information from the following states should be sent to: Atlantic Region Engineer, U.S. Geological Survey, 1109 N. Highland St., Arlington, Va. 22210.

Alabama, Connecticut, Delaware, Florida, Georgia, Indiana, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Vermont, West Virginia, Puerto Rico, Virgin Islands, U.S.

b. Requests for reproductions or information from the following states should be sent to: Central Region Engineer, U.S. Geological Survey, Box 133, Rolla, Mo. 65401.

Arkansas, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Oklahoma, Nebraska, North Dakota, South Dakota, Wisconsin.

c. Requests for reproductions or information from the following states should be sent to: Rocky Mountain Region Engineer, U.S. Geological Survey, Building 25, Federal Center, Denver, Colorado 80225.

Alaska, Colorado, Montana, New Mexico, Texas, Wyoming.

d. Requests for reproductions or information from the following states should be sent to: Pacific Region Engineer, U.S. Geological Survey, 345 Middlefield Road, Menlo Park, California 94025.

Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington.

Shipment by parcel post or railway express is prepaid. Extra charges for shipment by air express or airmail and special delivery are paid by the purchaser.

Check, money order, or draft payable to the U.S. Geological Survey must accompany the order. Refund will be made for any part of the order that is not filled.

II. ERTS

On Sunday, July 23, 1972, the Earth Resources Technology Satellite (ERTS-A) was launched into orbit. It is a butterfly shaped observatory flying in a 570 mile circular orbit which is nearly polar. From this vantage point, its imaging systems provide useful information concerning agriculture and forest resources, mineral and land resources, water resources, marine resources, land use and environmental quality, and ecology.

ERTS circles the earth every 103 minutes or 14 times per day. The pass is from north to south at an angle of 80° retrograde to the equator. Each pass covers a region 115 miles wide, however there is some overlap between the proceeding and succeeding passes. After 18 days or about 252 passes the satellite returns to the same position. In other words ERTS covers the entire globe every 18 days.

The ERTS-A spacecraft carries two types of imaging sensors: the Return Beam Vidicon (RBV) cameras and the Multi-Spectral Scanner (MSS).

The Return Beam Vidicon cameras are television cameras mounted side by side in the spacecraft and bore-sighted to simultaneously photograph the earth beneath the spacecraft in each of three spectral regions: .475 to .575 micrometers (blue-green, Band 1); .580 to .680 micrometers (red, Band 2); and .690 to .830 micrometers (near infrared, Band 3). These cameras do not contain film but rather their images are stored on photosensitive surfaces within each vidicon camera which in turn is scanned by an internal electron beam to produce a video picture. This process requires 11 seconds to read out and transmit all three pictures. The RBV cameras will repeat the cycle each 25 seconds producing overlapping pictures of the ground scene below with 10% overlap.

The Multi-Spectral Scanner Subsystem (MSS) covers the same area as the RBV system in four wavelength bands: .5 to .6 micrometers (green, Band 1); .6 to .7 micrometers (red, Band 2); .7 to .8 (near infrared, Band 3); and .8 to 1.1 (near infrared, Band 4).

The Multi-Spectral Scanner and Return Beam Vidicon cameras on ERTS-A take pictures in specific wavelength bands for very particular reasons.

1. Green, Band 1, .5 to .6 micrometers.

   This band appears green to the naked eye. Water is quite transparent in this band which consequently tends to enhance features contained within water such as sediment. Unfortunately, light scattering in the atmosphere makes "seeing" in this band difficult at times.

2. Red, Band 2, .6 to .7 micrometers.

This band appears red to the eye. Unlike the green band, the red easily penetrates the atmosphere. This is good for land use mapping where regional population patterns need to be observed against the vegetation patterns. The red band shows good contrast between natural surface cover such as vegetation which absorbs most of this energy against manmade structures which strongly reflect this energy. Many manmade structures appear very bright against dark appearance of vegetation. Bare soil is often highly reflective in this band, so that deserts are best seen in this band.

3. Infrared, Bands 3 and 4, .7 to 1.1 micrometers.

This is invisible to the human eye. Water appears black in the infrared because water almost totally absorbs the radiant energy in these wavelengths. A significant characteristic about the infrared bands is that vegetation appears bright and water appears dark. As a comparison, vegetation is as bright in the infrared as snow is in the visible region.

The average green leaf reflects about 20% of green light and absorbs the other 80%. It absorbs approximately 95% of red light due to absorption by chlorophyll and is frequently called the chlorophyll absorption band. It reflects approximately 80% of the infrared light and transmits the other 20%. The brightness of vegetation in this band depends upon several things. First, the type of vegetation, i.e., big leaves will be brighter than small ones. Hardwood trees (deciduous) show up brighter than pine (evergreen). Because of leaf thickness, tobacco shows up brighter than wheat. Second, in the infrared, crop brightness depends upon plant health. Healthy crops, in the infrared will be much brighter than diseased vegetation.

A. <u>How ERTS Imagery May Be Obtained</u>

ERTS imagery may be obtained at cost from several sources: EROS (Earth Resources Observation Systems), NOAA (National Oceanographic and Atmospheric Administration, and The Department of Agriculture.

1. The EROS Data Center

The EROS Data Center in Sioux Falls, South Dakota, is operated for the Earth Resources Observation Systems Program of the Department of the Interior by the Topographic Division of the Geological Survey to provide access to Earth Resources Technology Satellite (ERTS) imagery, USGS aerial photography, and NASA aircraft data for the general public, domestic government agencies at all levels, foreign government agencies at all levels, and foreign government. Facilities are available for data storage, retrieval, reproduction, and dissemination, and for user assistance and training.

a. ERTS Imagery

ERTS imagery, originally processed at the Goddard Space Flight Center, NASA Data Processing Facility (NDPF), is a significant part of the Data Center imagery file. Each scene, covering 10,000 square nautical miles, is imaged seven times from ERTS-A. The raw data is either system corrected images (bulk processed) and provided to the Data Center in the form of 70 mm film, or scene corrected images (precision processed) and provided on 240 mm film at a scale of 1:1,000,000. The Data Center has a catalog of the ERTS imagery and a 16 mm browse film including only one RBV image and one MSS image per scene for rapid evaluation of coverage and cloud cover.

Copies of the system corrected individual images are available at contact scale, 1:3,369,000 approximately 2-1/2 x 2-1/2 inches or enlarged by a factor of 3.369 to 1:1,000,000 scale, approximately 9 x 9 inches including marginal data. Color composites, derived by processing the three RBV or three of the four MSS images together are available only at a scale of 1: 1,000,000 of those frames prepared by NDPF.

Copies of scene corrected (precision) images may be obtained only at scales of 1:1,000,000 or larger. These images have been rectified at the NDPF to orthographic photographs and have been overprinted with the UTM grid.

Both individual and color composites are available at 1:1,000,000 scale, approximately 9 x 9 inches including marginal data. Only about 5% of the ERTS images available in the Data Center will have been precision processed.

b. NASA Aircraft Imagery and Photography

Imagery and photography obtained by NASA, as part of its aircraft program in support of the development of Earth Resources Surveys by aircraft and spacecraft, are processed at the Manned Spacecraft Center, Houston, Texas, and at the Ames Research Center, Moffett Field, California. The data was acquired for specific purposes and to varied specifications as to time, aerial coverage, and sensors, and is primarily of test sites within the continental United States. Supplementary to the NASA aircraft program data, are the earth-oriented photographs from the Apollo and Gemini manned spacecraft missions. A catalog of all this NASA imagery and photography, and browse films, is also at the Data Center.

Copies of these images and photographs may be purchased at contact scales, enlargements, or reductions, in color or black and white, on film or on paper, in rolls or cut. Provided with each image order are annotations on a computer printout that provide: date, local time, geographic coordinates, print scale, flying height, film, filter, sensor, originating agency, project, roll and frame, and order number in an understandable code.

c. USGS Aerial Photography

Aerial photographs taken by the U.S. Geological Survey primarily for purposes of topographic and geologic mapping are available from the Data Center. The vast majority are black and white vertical photographs at a scale of approximately 1:24,000, but they range in scale from 1:12,000 to 1:66,000. In addition, photography flown in support of various projects of the Bureaus of Reclamation and Land Management is routinely provided to the U.S. Geological Survey for indexing and general distribution.

These photographs are at various scales reflecting the specifications of the particular project.

Photographs obtained prior to 1941 are held by The National Archives and Record Service. This material is available on request but not within the normal one week reproduction time.

d. How to Place an Order

To obtain data from the EROS Data Center you may:

Telephone from: 7:00 a.m. to 7:00 p.m., Central Time
605/339-2270 (Commercial)
605/336-2381 (Federal Telephone System Users)

Visit from: 7:45 a.m. to 4:30 p.m., Central Time
EROS Data Center
10th and Dakota Avenue
Sioux Falls, South Dakota

Write at any time:

EROS Data Center
Data Management Center
Sioux Falls, South Dakota 57198

If you should need assistance EROS personel will help you identify the data best suited to your needs, but you must be prepared to tell them:

1. Limits of the geographic area of interest,

2. What you want to use the data for, and

3. How you want to use the data.

e. Browse Films

Copies of ERTS imagery, aircraft program imagery and photography, and USGS photography produced on 16 mm film are available for purchase. These films are not intended for basic research.

They are designed to provide prepurchase evaluation of such things as: aerial coverage, cloud cover, and sensor angle. Most of the browse films have two indexes to locate scenes at high speeds: Kodamatic Indexer Code Lines and Image Control; NASA aircraft program imagery and photography browse films have only Image Control. The film is supplied on an open reel and each film is designed so that it can be cut and mounted by the user for microfiche presentation. Browse films for ERTS data are updated every 18 days and are available on a subscription basis. Updating of the other browse films is irregular and films must be purchased individually.

Browse file locations have been established by the Department of the Interior at:

EROS Data Center
U.S. Geological Survey
10th and Dakota Avenue
Sious Falls, South Dakota 57198
Phone: 605/339-2270

Map Information Office
U.S. Geological Survey
Room B-310, GSA Building
18th and F Streets, NW
Washington, D.C. 20242
Phone: 202/343-2611

CARETS Information Center
U.S. Geological Survey
Room 837, 1717 H Street, NW
Washington, D.C. 20242
Phone: 202/343-5985

Water Resources Division
U.S. Geological Survey
Room 343, Post Office and
Court House Building
Albany, New York 12201
Phone: 518/472-3107

U.S. Geological Survey
5th Floor, 80 Broad Street
Boston, Massachusetts 02110
Phone: 617/223-7202

EROS Program Assist. Office
Room B-210, Building 1100
U.S. Geological Survey
Mississippi Test Facility
Bay St. Louis, Miss. 39520
Phone: 601/688-3541

Regional Topographic Engineer
U.S. Geological Survey
Room 2404, Building 25
Denver Federal Center
Denver, Colorado 80225
Phone: 303/234-2351

Water Resources Division
U.S. Geological Survey
Room 5107, Federal Building
230 North 1st Avenue
Phoenix, Arizona 85025
Phone: 602/261-3188

Public Inquiries Office
U.S. Geological Survey
Room 7638, Federal Building
300 N. Los Angeles Street
Los Angeles, California 90012
Phone: 213/688-2850

Public Inquiries Office
U.S. Geological Survey
Room 678, U.S. Court House Bldg.
West 920 Riverside Avenue
Spokane, Washington 92201
Phone: 509/456-2524

Public Inquiries Office
U.S. Geological Survey
108 Skyline Building
508 2nd Avenue
Anchorage, Alaska 99501
Phone: 907/277-0577

Regional Topographic Engineer
U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025
Phone: 415/323-8111

Inter American Geodetic Survey
Headquarters Building
Fort Clayton, Canal Zone
Phone: 117-1201
Panama Routine 833-227

Topographic Division
U.S. Geological Survey
961 Pine Street
Rolla, Missouri 65401
Phone: 314/364-3680

State Topographic Engineer
Florida Dept. of Transportation
State Topographic Office
Lafayette Building
Koger Office Center
Tallahassee, Florida 32304
Phone: 904/599-6212

Director
Portland Service Center
U.S. Bur. of Land Management
710 N.E. Holladay
Portland, Oregon 97208
Phone: 503/234-4100

EROS Program Library
U.S. Geological Survey
Room 827, 1717 H Street, NW
Washington, D.C. 20244
Phone: 202/343-7500

Chief, Maps and Surveys Branch
Tennessee Valley Authority
200 Haney Building
311 Broad Street
Chattanooga, Tennessee 37401
Phone: 615/755-2133

Dr. Everett A. Wingert
University of Hawaii
Department of Geography
Physical Science Building
Room 313-C
Honolulu, Hawaii 96822
Phone: 944-8463

EROS Coordinator
Office of the Governor
Pago Pago, American Samoa
Phone: 32203

EROS Coordinator
Trust Territory of the Pacific Islands
Office of the High Commissioner
Saipan, Mariana Islands 96950
Phone: 202/343-2141 or 2176

Dr. Frank J. Janza
Sacramento State University
Dept. of Electrical Engineering
6000 Jay Street
Sacramento, California 95819
Phone: AC-916/454-6545

Dr. Douglas Smith
University of Guam
EROS/P.I.E.R. Program
Section of the Pacific Room
P.O. Box EK
Agana, Guam 96910
Phone: 749-2921, Ext. 363

2. National Ocenaographic and Atmospheric Administration

The Department of Commerce, National Oceanographic and Atmospheric Administration (NOAA) has an Earth Resources Data Center at Suitland, Maryland. This center will furnish data gathered by ERTS to users in the oceanographic, hydrologic, and atmospheric sciences as well as to the general public.

To aid in selecting the data desired, NOAA has established public browse files at 22 locations around the nation. They are located in:

Hillcrest Heights, Md.

Rockville, Md.

Silver Spring, Md.

Washington, D.C.

Miami, Fla.

Norfolk, Va.

Garden City, N.Y.

Woods Hole, Mass.

Asheville, N.C.

Detroit, Mich.

Kansas City, Mo.

Fort Worth, Tex.

Salt Lake City, Ut.

Anchorage, Alaska

Honolulu, Hawaii

Norman, Okla.

Boulder, Colo.

LaJolla, Calif.

Tibaron, Calif.

Seattle, Wash.

Madison, Wisc.

College Station, Tex.

Reproductions may be ordered from the National Climate Center, NOAA Environmental Data Service, Federal Building, Asheville, N.C. 28801.

3. Department of Agriculture

The Department of Agriculture also sells ERTS imagery dealing with agriculture. Photos may be obtained from the Western Aerial Photo Laboratory, Agricultural Stabilization and Conservation Service, USDA, 2505 Parley's Way, Salt Lake City, Utah 84109.

It is now possible to order ERTS Standard Catalogs from the Superintendent of Documents. Private individuals should direct requests to the NASA Publications Desk, at the main GPO bookstore, 710 North Capital Street, Washington, D.C. 20402, Telephone: 202/783-3238.

III. U.S. Department of Agriculture - Soil Conservation Service

The U.S. Department of Agriculture, in cooperation with state agricultural experiment stations and other federal and state agencies, has been making soil surveys and publishing them since 1899. These surveys are designed to furnish soil maps and interpretations needed in guiding decisions about soil selection, use, and management.

Since these soil surveys are a basic scientific inventory, they can provide valuable information needed for land use planning, highway location and design, park and open space planning, subdivision layout and designs, planning and design of sewage disposal facilities, zoning and other land use controls, as well as for agricultural and forest land use planning and management.

Soil surveys published since 1957 contain many different kinds of interpretations for each of the different soils mapped in the area. The kind of interpretations included in these recent surveys vary with the needs of the area, but the following interpretations are in most of them: estimated yields of the common agricultural crops under defined levels of management, land-capability interpretations, soil-woodland interpretations, range land interpretations, engineering uses of soils, interpretations for community planning, suitability of the soil for drainage and irrigation, and suitability of the soil for recreation and wildlife.

Most of the soil surveys published since 1957 contain soil maps printed on a photomosaic base. The usual scale is 1:20,000 or 1:15,840 depending upon the needs of the area.

A soil survey published by the U.S. Department of Agriculture that is still in print may be obtained in one of the following ways:

1. Land users in the area surveyed and professional workers who have use for the survey can obtain a free copy from the local office of the Soil Conservation Service, from their county agent, or from their congressman. Those outside the area surveyed who have

use for the survey can obtain a free copy from the Information Division, Soil Conservation Service, Washington, D.C. 20250.

2. For a time after publication, copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

3. Many libraries keep published soil surveys on file for reference. Also soil conservation district offices and county agricultural extension offices have copies of local soil surveys that may be used for reference.

A list of all published soil surveys may be obtained by writing the Information Division, Soil Conservation Service, Washington, D.C. 20250.

Requests for information pertaining specifically to soil conservation service photography should be addressed to: Director, Cartography Division, Soil Conservation Service, USDA Federal Center Building, Hyattsville, Maryland 20781.

IV. Additional Federal Agency Photography

Besides the Geological Survey and Soil Conservation Service, several other federal agencies regularly make extensive use of aerial photography. These include the Agricultural Stabilization and Conservation Service and the U.S. Forest Service.

Requests for information pertaining to Agricultural Stabilization and Conservation Service Photography should be addressed to a regional laboratory.

Orders for photographs of the following states should be addressed to: Western Aerial Photography Laboratory, Compliance and Appeals Division, ASCS-USDA, 2505 Parley's Way, Salt Lake City, Utah 84109 (Tel. 801/524-5856).

Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Kansas, Louisiana, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, Texas, Utah, Washington, Wyoming.

Orders for photographs of the following states should be addressed to: Eastern Aerial Photography Laboratory, Compliance and Appeals Division, ASCS-USDA, 45 South French Broad Avenue, Asheville, North Carolina 28801 (Tel. 704/254-0961, Ext. 610).

Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin.

Requests for information pertaining to U.S. Forest Service Photography should be addressed to: Division of Engineering, Forest Services, USDA, Washington, D.C. 20250.

V. Conclusion

The interpretation of aerial photographs and soil surveys represents a tool for efficient, economical, and highly detailed landscape evaluation. It is hoped that the use of these new and ever expanding data sources will assist in providing socially acceptable decisions concerning the land development and valuation process.

The sources of information outlined in the paper do not begin to represent all the available information, either by agency or within agency. These information sources do represent an initial contact point from which other information concerning a particular area or problem can be identified if needed.

EROS Data Center Photographic Products Price List -- November 1972

Contact prints, enlargements and transformed prints are unmounted and untrimmed. The reproduction will be printed on standard paper stock unless the order specified other materials.

PRODUCT	PRICE	
Black and white paper prints	1 to 25	Over 25*
Contact prints:		
70 mm	$ 1.25	$ 1.00
5 in x 5 in	1.50	1.00
9 in x 9 in	1.75	1.25
10 in x 12 in*	2.50	2.50
20 in x 24 in**	3.00	3.00
Enlargements:***		
20 in x 20 in	3.50	3.00
30 in x 30 in	4.50	3.50
40 in x 40 in	9.00	8.00
Black and white film transparency		
Contact prints:		
16 mm (100 ft. roll)	15.00	15.00
35 mm (100 ft. roll)	20.00	20.00
70 mm	2.50	2.50
5 in x 5 in	2.75	2.75
10 in x 10 in	3.00	3.00
Color paper print		
Contact prints:		
70 mm	4.00	2.50
10 in x 10 in	7.00	3.00
Enlargements:***		
20 in x 20 in	12.00	9.00
30 in x 30 in	17.00	13.00
40 in x 40 in	25.00	20.00
Color film transparency		
Contact prints:		
16 mm (100 ft. roll)	20.00	20.00
35 mm (100 ft. roll)	25.00	25.00
70 mm	4.00	2.50
10 in x 10 in	7.00	4.00
Enlargements:***		
20 in x 20 in	15.00	8.00
30 in x 30 in	19.00	15.00
40 in x 40 in	27.00	22.00

	1 to 25	Over 25*
Transformed prints from either convergent or transverse low-oblique photographs	$ 3.50	$ 3.00

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* Quantity prices apply only to those prints ordered in excess of 25 of the same size, i.e., 26 contact prints cost: 25 at $1.75 each--$43.75 plus 1 at $1.25 - $45.00.

** Photo indexes.

*** For an intermediate-size enlargement, use the price listed for the next larger size.

The EROS Data Center is located at 10th and Dakota Avenue, Sioux Falls, South Dakota 57198, Telephone: 605/339-2270.

REFERENCES

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2. Bartelli, Linda, ed., Soil Surveys and Land Use Planning, Soil Science Society of America, Madison, Wisconsin, 1966.

3. Geological Survey Circular 645, "A Procedure for Evaluating Environmental Impact", U.S. Geological Survey, Washington, D.C., 1971.

4. Gruen, Gruen and Associates, The Impacts of Growth, California Better Housing Foundation, Inc., Berkely, California, 1972.

5. Guidelines for the Preparation and Evaluation of Environmental Impact Reports, State of California Office of the Secretary for Resources, Sacramento, California, 1973.

6. Kiefer, Ralph W., "Terrain Analysis for Metropolitan Fringe Area Planning", Journal of the Urban Planning and Development Division, ASCE, Vol. 93, No. UP4, Paper 5649, 1967.

7. Kiefer, R. W. and M. L. Robbins, "Computer-Based Land Use Suitability Maps", Paper presented to 1972 Annual and National Environmental Engineering Meeting, Houston, Texas, October, 1972.

8. List of Published Soil Surveys, U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C., January, 1972.

9. Lueder, Donald R., Aerial Photographic Interpretation, McGraw-Hill, New York, 1959.

10. Lynch, Kevin, Site Planning, The M.I.T. Press, Cambridge, Massachusetts, 1962.

11. McHarg, Ian L., Design With Nature, Natural History Press, Garden City, New York, 1969.

12. Miller, Allen H. and Bernard J. Niemann, An Interstate Corridor Selective Process, Environmental Awareness Center--Department of Landscape Architecture, University of Wisconsin, Madison, Wisconsin, 1972.

13. Scherz, James and Alan Stevens, An Introduction Photography and Remote Sensing, Department of Civil and Environmental Engineering, University of Wisconsin, Madison, Wisconsin, 1969.

14. "Topographic Maps", U.S. Geological Survey, Washington, D.C.

Exhibit C

Cost Effective Data Collection Sources

Data Requirement	Data Sources							
	High Altitude Aerial Photography	Low Altitude Aerial Photography	Field Investigations	Special Purpose Maps	Topographic Maps	Government Publications	Non-government Publications	Local Experts
I. Topography	2				1			
II. Soils								
Class	2			1				
Permeability						1		2
Depth of Bedrock						1		2
I. Vegetation								
Association Level	1			2				
Community Level	1			2				
Species Level			1					2
IV. Land Use								
Urbanized Area	1			2				
Commercial Land	1					2	2	
Commercial Type			1	1				
V. Agriculture								
Cultivated Land	1			2		2		
Crop Class	1		2					
Crop Type		2	1	1				

1 Primary Source
2 Secondary Source

Exhibit D

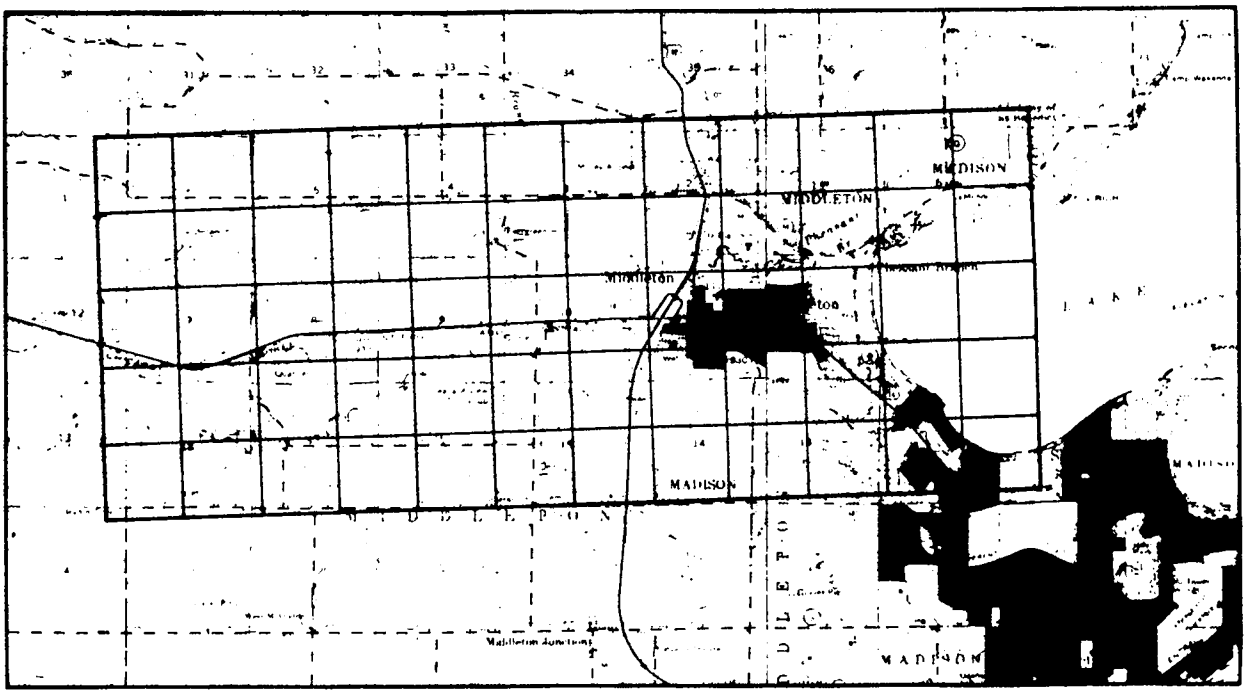

FIG. 1 - U.S.G.S. TOPOGRAPHIC MAP WITH 1 km^2 GRID

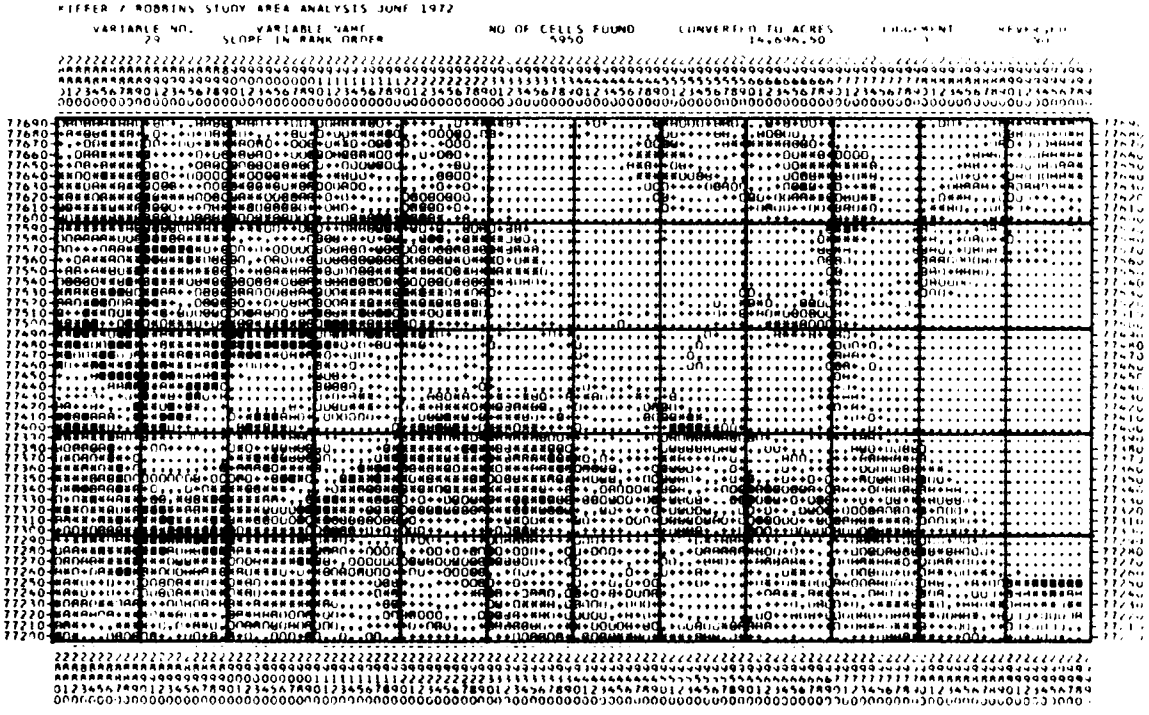

FIG. 2 - COMPUTER PRINTOUT OF TOPOGRAPHIC SLOPE WITH 1 km^2 GRID

Exhibit D

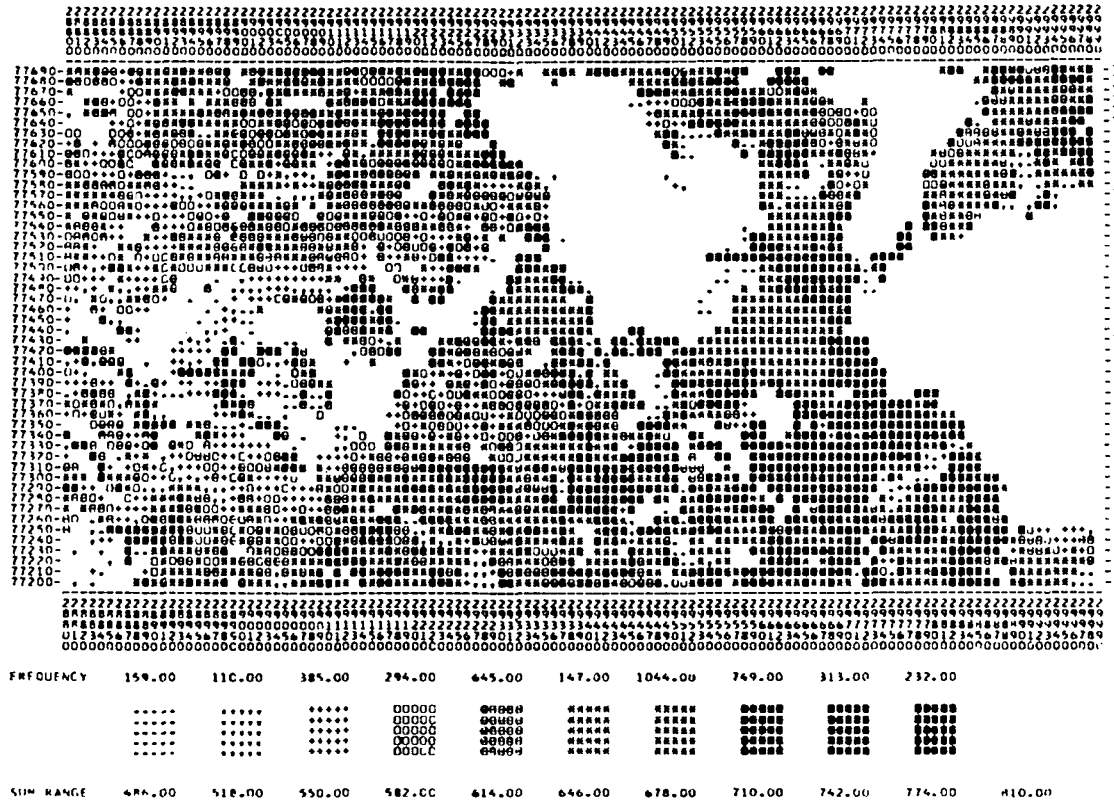

FIG. 21 - RESIDENTIAL LAND USE SUITABILITY WITH 1401 LEAST FAVORABLE CELLS DROPPED (4078 CELLS SHOWN)

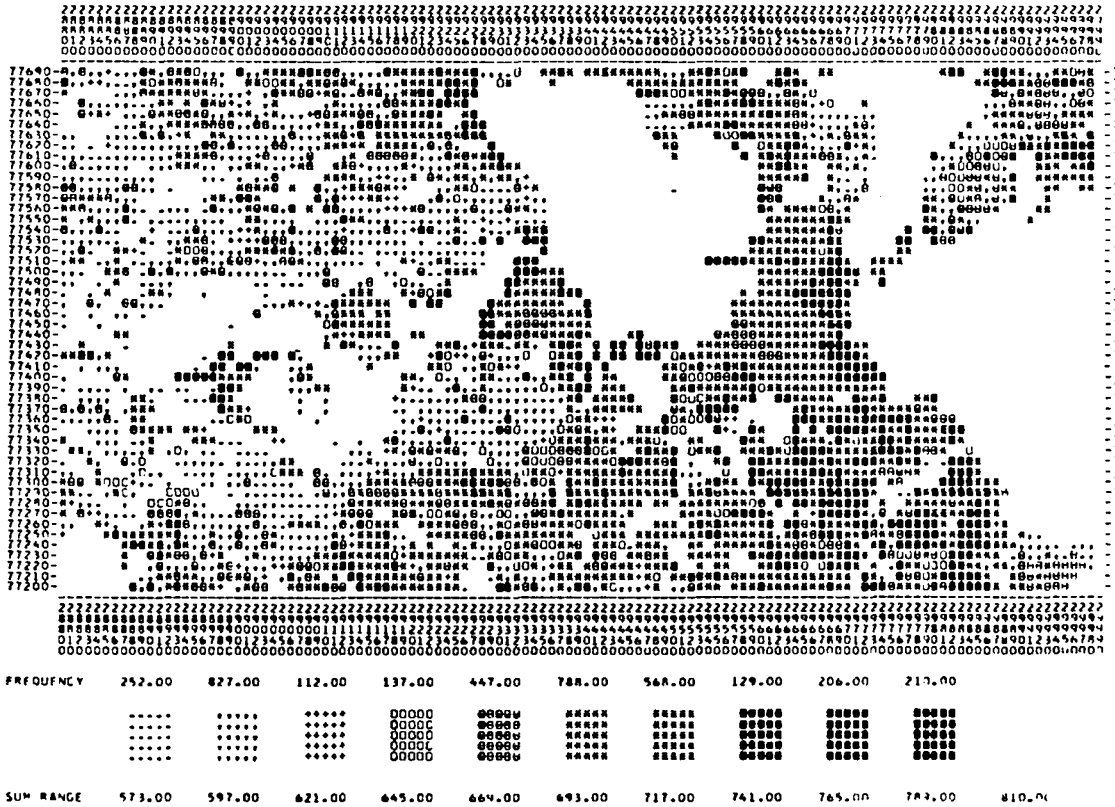

FIG. 22 - RESIDENTIAL LAND USE SUITABILITY WITH 1803 LEAST FAVORABLE CELLS DROPPED (3676 CELLS SHOWN)

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Exhibit E

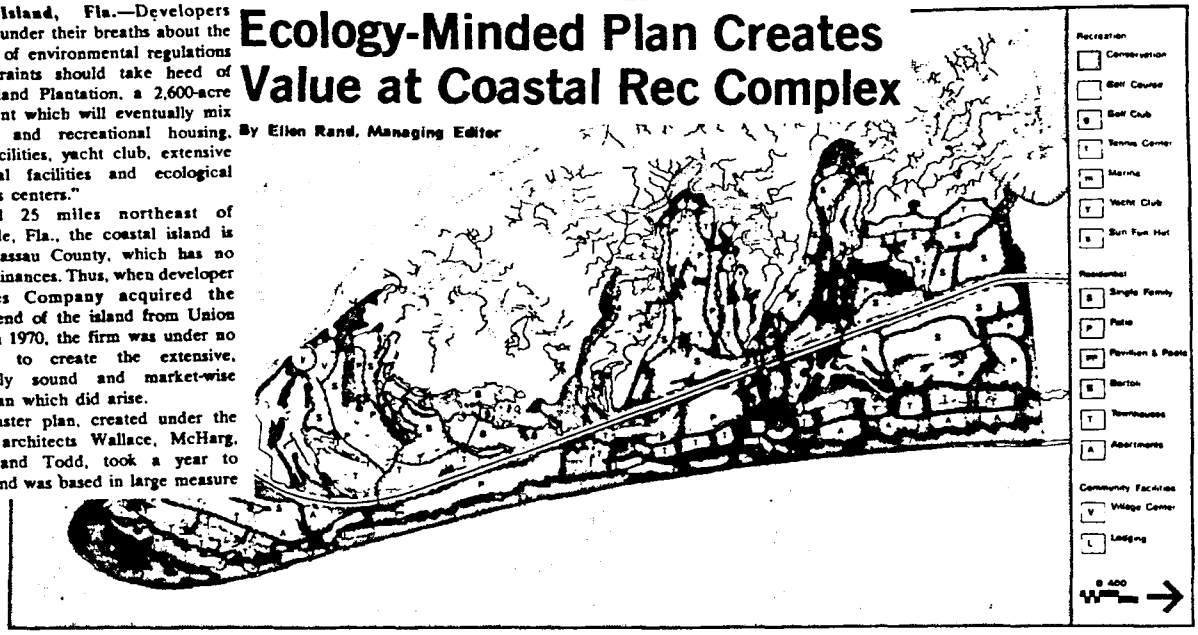
Ecology-Minded Plan Creates Value at Coastal Rec Complex

By Ellen Rand, Managing Editor

Amelia Island, Fla.—Developers grumbling under their breaths about the rising tide of environmental regulations and constraints should take heed of Amelia Island Plantation, a 2,600-acre development which will eventually mix residential and recreational housing, lodging facilities, yacht club, extensive recreational facilities and ecological "awareness centers."

Located 25 miles northeast of Jacksonville, Fla., the coastal island is part of Nassau County, which has no zoning ordinances. Thus, when developer Sea Pines Company acquired the southern end of the island from Union Carbide in 1970, the firm was under no obligation to create the extensive, ecologically sound and market-wise master plan which did arise.

The master plan, created under the aegis of architects Wallace, McHarg, Wallace and Todd, took a year to develop and was based in large measure



NEITHER WHOLLY RESIDENTIAL nor wholly resort, Amelia Island Plantation will be a stable community of single family homes, townhouses, patio homes and apartments. The site includes four miles of ocean frontage, 1,642 acres of high ground and 1,000 acres of tidal marshland. Residential area will cover 498 acres. There will be rec facilities, yacht club, golf course, lodging facilities and village center. Undeveloped marshbank covers 968 acres, additional conservation areas cover 364 acres.

Developers Mix Residential, Resort Units, Keep Tight Controls for Long-Range Value

Matrix 2: Environmental Evaluation Matrix for Residential Land Uses on Amelia Island

Vegetation

Physical Characteristics	Sub-classification Characteristics	Housing Types Land Use Suitability: Single Family Detached	Bartoli	Pavilion & Pools	Patio	Villas	Town-houses	Dune Houses	Garden Apart-ments	Planning, Design and Management Guidelines
Tolerance to Disturbance	1. sea oats grassland	□	□	□	□	□	□	□	□	no residential uses
	2. sea oats savanna	□	□	□	□	□	□	⊟	□	
	3. wind-pruned scrub	□	□	□	□	□	□	□	□	no residential uses
	4. wind-pruned woodland	◪	■	□	■	□	□	■	◪	siting in the field with minimum clearance
	5. broadleaf forest	■	■	■	■	■	■	□	■	
Tree Size	1. over 10" dbh	■	◪	◪	■	■	■	■	■	selective clearing
	2.									
	3. 6"–10" dbh	◪	■	■	◪	■	◪	■	◪	minimum trimming of lower branches
	4.									
	5. under 6" dbh	⊟	◪	◪	⊟	⊟	⊟	⊟	⊟	
Height of Tree Canopy	1. 0'–6'	□	□	□	□	□	□	□	□	
	2. 6'–12'	⊟	□	⊟	□	⊟	□	□	□	
	3. 12'–25'	◪	◪	◪	◪	◪	⊟	◪	□	minimum trimming of lower branches
	4. 25'–50'	■	■	■	■	■	■	■	◪	preserve canopy
	5. 50'–70'	■	⊟	⊟	◪	◪	■	□	■	
Understory Type	1. wax myrtle	◪	■	⊟	■	⊟	■	□	◪	minimum clearance
	2. slash pine	■	□	□	□	◪	■	□	◪	incorporate into landscape plan
	3. berry thickets	□	■	□	□	□	□	□	□	
	4. mixed	■	■	■	■	■	■	■	■	
	5. saw palmetto	■	■	■	■	■	■	■	■	incorporate handsome stands into landscape design

□ = Unsuitable ⊟ = Low Suitability ◪ = Moderate Suitability ■ = Suitable

FOLLOWING EXTENSIVE FIELD WORK, master plan evolved by creating spatial description of collected data and social value system which determined locational suitabilities for all prospective land uses. Trade-offs could be made to arrive at an optimum fit, according to architects. Shown here are some environmental criteria for residential land uses on Amelia Island.

Continued from page 1...

on original field work conducted by various consultants in climatology, limnology, soil study, dune restoration, herpetology, mammology and ornithology.

The plan proved not only to be a classic of its kind, but has boosted the community's image and marketability. Land sales are fully 50 percent higher than originally anticipated with one-fifth acre lots selling as high as $16,000 and the first phase of dune villas, in the $50,000 to $80,000 range, have been sold with completion scheduled for this summer.

In addition to professional and academic consultants and the Sea Pines Co.'s own planning staff, the environmental design team was served by a Board of Review created to make recommendations on the plan. The Board is comprised of environmental planning experts as well as leaders of local citizens' groups.

"We found that coastal studies of natural scientists had generally overlooked Amelia Island, and therefore much needed scientific information on the geology, soils, plants and animals on the island had to be developed in the field," explained Jonathan Sutton of Wallace, McHarg, Roberts and Todd, and project director for Amelia Island Plantation. "When we were asked to do the master plan, we were on a two-month timetable, with a critical path established. It soon became apparent that we would need more time, and the two-month period was extended to a year."

A series of interpretive maps, suggesting the processes of each natural phenomenon over time, was derived from the descriptive data collected. By recording rates of erosion or relative heights of tides or temperature gradients, such information was categorized and

Continued on page 32...

Exhibit E

SCIENTIFIC PLACEMENT of air movement in clearings was determined for optimum human comfort in residential areas of Amelia Island Plantation. Such details are typical of the studies that were done for Sea Pines Co.'s master planned development by Wallace, McHarg, Roberts and Todd.

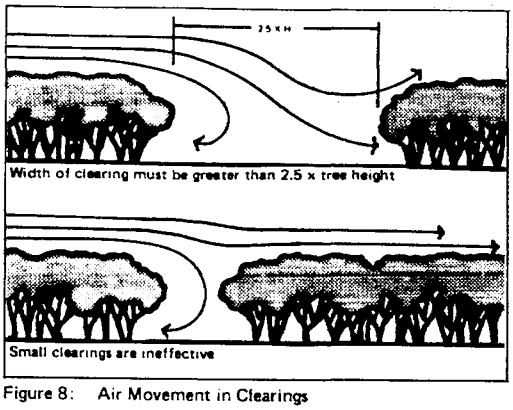


Figure 8: Air Movement in Clearings

Strict Architectural Controls by Review Committee is Key Operating Principle

Continued from page 34...

offered the most promising and flexible development possibilities for early phases, more thorough planning and design investigations were conducted there. The site was divided into five development zones.

Installation of major utilities was initiated in January 1972 and at the same time, the buildings which will serve as the hub of Amelia Island Plantation were begun. Utilities are underground.

A water treatment and supply system for the complex has been designed by the Jacksonville engineering firm of Bessent, Hammock and Ruckman, Inc.

Likewise, a sewage treatment plant is being constructed, hidden in the woods, on 22 acres just outside the Plantation. It will treat sewerage to the tertiary level, which means that all discharge will exceed any minimums set by regulating agencies. As an extra precaution, all treated discharge is pumped into a conservation area surrounding the treatment plant, which provides for natural ground filtration of the discharge and saves oyster beds in the Amelia River. Eventually, sewage discharge will be pumped back onto the golf courses to provide irrigation.

Eight tennis courts, a pro shop, the beach club and restaurant-bar will open this summer, and 18-hole golf course will open in the fall and the Amelia Island Inn will open in late December, according to Glen McCaskey, vice president of Sea Pines Co. and head of the firm's leisure systems and environmental control group.

With the emphasis on golf and tennis, Amelia Island Plantation is drawing a lot of sports-minded buyers, particularly from the East and Midwest, said Jonathan Sutton.

While the Amelia Island Company will, for a fixed commission, act as rental agent for condo owners, the firm does not plan to operate a rental pool. Amelia Island Company is a wholly-owned subsidiary of the Sea Pines Company.

Besides mixing residential and resort housing a preserving large areas in their natural states, one of the key development principles of the Sea Pines Company is the strict control of land usage through extensive deed covenants and architectural controls.

The controls are administered by an architectural review committee of the Company. A key paragraph in the deed restrictions provides that "No building, fence or other structure shall be erected, placed or altered on any lot in such residence areas until the proposed building plans, specifications, exterior color or finish, plot plans (showing the proposed location of such building or structure, drives and parking areas), and construction schedule shall have been approved in writing by the Amelia Island Company, its successors or assigns. . . . No alterations may be made in such plans after approval by the Company is given except by and with the consent of the Company. No alterations in the exterior appearance of any building or structure shall be made without like approval by the company. One copy of all plans and related data shall be furnished the Company for its records."

The Plantation Community Association will be a non-profit corporation formed under Florida state laws. The Amelia Island Company, as the developer of Amelia Island Plantation, will be entitled to the same number of votes in each association as all other members of the Association combined plus one vote, during the period of development. The Amelia Island Company has a right to such a vote until January 1, 1986.

The Sea Pines Company now has five communities under development. Besides Amelia Island Plantation and Sea Pines Plantation, the company also began a residential community near Charlotte, N.C. in 1971. Construction is underway on a new Sea Pines resort on the southeastern coast of Puerto Rico and will take 20 years to complete. □

2. Thermal and infra-red photography (identification of underground faults or vegetation disease as well as micro-climate).
3. In Wisconsin free soil conservation service is considered constructive notice to the public of site limitation and therefore must be considered by the appraiser.
4. The Earth Resources Technology Satellite (Exhibit B)
5. Computerized mapping of suitability (Exhibits D and E)

Suggested reading:

DESIGN WITH NATURE by Ian L. McHarg, Natural History Press, 1969

CITY PLANNING AND AERIAL INFORMATION, by Melville C. Branch, Harvard University Press 1971

MANUAL OF COLOR AERIAL PHOTOGRAPHY by American Society of Photogrammetry, American Society of Photogrammetry, 1968.

D. The site inventory should include physical limits which are created by:
   1. Access controls (proximity is not accessability)
   2. Concealed utility easements
   3. Flood plains which have been determined by Corp of Engineers, etc.
   4. Old foundations, etc.
   5. Scarce environmental elements which almost certainly mean environmental impact litigation
   6. Landmarks or historical structure

E. The land map should also include possible physical controls imposed by legal-political characteristics of the site which are not always obvious from existing zoning or recorded easements. Consider:
   1. Water district, harbor commission, or other special district lines
   2. Premises of community master plans still in incubation process
   3. Tax conservancy commitments
   4. Extra territorial zoning or subdivision powers
   5. Attitudes of sewer, water, and highway commissions
   6. Contractual agreements among previous buyers and sellers which may or may not run with the land.
   7. Planner views or physical barriers to contain sprawl

F. Anticipate impact of impending legislation which appears to have reasonable probability of passage rather than simply meeting current standards relative to:
   1. Septic tank installation
   2. Ground water, depth and conservation of high water recharge areas
   3. Salt water encroachment
   4. Conservation of environmental edges
   5. Conservation of prime agricultural
   6. Impact on off-site areas down wind or down stream

G. Some static attributes can lead to monopoly advantage because its suitability is unique relative to lands all about it, because of prior political review and approval of development plans, including licenses for dredging, creation of water control districts, or control of riparian features essential to contiguous property owners.
   1. Keep in mind that static attributes will help identify most probable use and buyer.
   2. Property with high speculative uncertainty can still be given a probable price with a high range of alternatives, providing the appraiser with a method of treating speculative property which would be unacceptable for fair market valuation.

H. A map of land use suitabilities will define its maximum capacity to provide usable net acres for different type of land uses. Ultimately the purchase price must always be related to the buyer viewpoint of usable net acres even though sellers like to talk in terms of gross area.
   1. Usable net acres relative to development is similar to farm appraisal which classifies net acres as cropped land, pasture, etc. and may subdivide these in terms of soil fertility, etc.
   2. Usable net acres becomes an important qualification in the selection of comparables for the adjustments which must be made.
   3. Mixed use acreage may require a set of comparables for each.

VI. Before final determination of suitability and capacity, it is also necessary to define the dynamic attributes of the site, that is behavior of people and customers in relationship to the site.

A. First there are image problems inherent in the location:
   1. Historical community reputation and values attached to the area
   2. Image conditioning of the approach zone
   3. Anxiety factors of access and security
   4. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.
   5. Noise as a function of traffic count
   6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example)

B. Existing improvements on a given site may provide potentials for romancing or discouraging the politician and the consumer.
   1. Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.
   2. Recycling may establish historical roots and images (such as the Plantation House at Sea Pines)
   3. Potential for dislocation of the disadvantaged or the politically articulate

C. In short, the dynamic attributes of the site relate to identified relationships and reactions of people to the site in terms of visibility, convenience, status, esthetics, anxieties, and linkages of the site to all manner of supporting or adverse land uses in its market area.

VII. Appraisal depends upon the correct identification of the property attributes to be sold. Facts can be assembled at some expense with patient inquiry about the physical aspects of land. Today there is no need to speculate about the facts.

A. The physical facts go a long way toward identification of comparable properties and probable buyers.

B. Comparable buyers will suggest the appropriate uses or improvements and therefore the capacity of the site to serve those uses.

C. Many of the physical, static and dynamic attributes of the site suggest the capability of the site to the uses for which it might be appropriate.

1. At this point social compatability is unknown
2. Economic impact on the public sector as an element of compatability has been left to later.
3. It may not be necessary to provide further analysis for appraisal depending on the possible timing for development.

D. There are four basic phases of the land development process which represent alternative investment strategies and therefore rather different probable buyers.
   1. Sale of unimproved property
   2. Sale of unimproved property with master plan and public approvals
   3. Sale of improved lots and building pads
   4. Sale of totally improved packages to investors/public authorities/ final user (see attached box outline).

E. The passive land speculator type of buyer is planning for the spread between low intensity raw land and land which may be ready for development. His success depends on his ability to forecast a trend to control land which will be in limited supply and to carry payments for an indefinite period of 3-10 years purchase terms are significant.

F. The packager options for the wholesale price from the land speculator and creates a spread or value by focusing a trend on a specific site and by securing the initial political and financial approvals. His success depends upon his ability to perform at conceptual selling and reliable feasibility analysis. He builds almost nothing.

G. The land developer executes the detail of the plan including construction of necessary streets, sewer, water, etc., expecting the wholesale sites to others who build and rent buildings.

H. The contractor-developer builds on the prepared pads and creates a spread from his construction skill and retailing ability.

I. The final phase is property management of the rental properties and periodic refurbishing of aging development. An important point to note is that moving from speculator to manager the amount of money is increasing, time span for execution is decreasing, value spreads are shifting from entrepreneurial risk taking to administrative execution skills.
   1. Since the profit centers and risk positions are different at each phase, the appraiser must be careful not to simply discount revenues from a finished product back to raw land as this can exaggerate values and timing.
   2. Changing stringency and lead times for public approvals and the risk of no public approval should drastically alter the discount rates between sites ready for improvement with buildings and raw land. The monopoly premium and the risk premium will significantly distort price from any cost to reproduce approach.
   3. Since the packager may or may not succeed, the values he would enjoy with political approvals are too speculative to include in a fair market value appraisal or to side-step the statement of limiting conditions.
   4. The appraiser could determine the unit value of sites ready for construction of site improvements (See Exhibit F).

STRATEGIC FORMAT OF DEVELOPER ROLE AND FUNCTION

	LAND CONTROL	SALE OF UNIMPROVED PROPERTY	SALE OF UNIMPROVED PROPERTY WITH SOME DEVELOPMENT PLANS & APPROVALS	SALE OF IMPROVED LOTS OR BUILDING PADS TO BUILDER/ DEVELOPER OR FINAL USER	SALE OF VARIOUS BUILDING IMPROVEMENT TO INVESTORS/PUBLIC HOUSING AUTHORITIES/ FINAL USERS
DEVELOPMENT ROLE ASSUMED	LAND SPECULATION hold or "land bank" interesting property	"PACKAGING" conceptualize development plan or land use — acquire broader public approvals such as zoning — arrange financing or structure deal.	LAND DEVELOPER undertake and complete land development phase — install roads, utilities, common improvements, survey and subdivide for sale.	BUILDING DEVELOPER undertake and complete various building improvements — offer and consummate sales.	
MAJOR OBJECTIVE	capture "spread" between raw land purchase cost and wholesale price created by "mass" market trends.	increase spread or value by bringing an important trend to focus on a specific site or into focus as a potential project. Shift buyer's perception through description, analysis, various "enabling" factors	increase spread or value by virtue of completing improvements that further shift buyer's perception of utility and make sites available for construction.	create construction and sales profit through completion of building improvements that further shift buyers perception of utility/value and make buildings available for occupancy/ownership	
KEY DETERMINANTS OF ECONOMIC SUCCESS	1) ability to accurately forecast a trend 2) ability to select and control attractive land	1) ability to complete a convincing study of economic feasibility. 2) ability to obtain key public action in timely fashion 3) ability to perform at "conceptual selling"	1) ability to efficiently complete various improvements 2) ability to efficiently (and tastefully) market improved building sites. 3) ability to carry financing cost	1) ability to efficiently complete various building improvements 2) ability to efficiently market 3) ability to carry debt.	
THOSE ELEMENTS OF THE COST/PRICE RELATIONSHIP OVER WHICH THE DEVELOPER HAS SOME CONTROL (major tasks to be completed or costs to be incurred — specific problems of estimating, analysis, evaluation)	1) land price 2) carrying costs 3) legal expense 4) maximum loss	5) feasibility determination: • site or physical determinants • regulatory or political factors • market determinants • "reappraisal" or investment valuation (what's the deal worth if we do it vs. what's the deal worth if we get out now? 6. obtain basic public approval: (zoning) 7) arrangement of financing (takeout) 8) marketing costs	9) obtain specific public approvals 10) negotiate and secure various contracts within budget 11) stage/manage/control development on time, within budget + quality standards 12) arrange interim financing — land development loan 13) stage/manage/control the marketing of improved lots or building sites 14) obtain sales approval, registration etc.	9) obtain construction permits + approvals 10) negotiate and secure various contracts within budget. 11) stage/manage/control construction effort on time, within budget + quality standards 12) arrange interim + long term financing (construction loan and mortgage) 13. stage/manage/control the marketing of various building improvements 14. obtain sales approval, registration, etc.	

2

	LAND CONTROL	SALE OF UNIMPROVED PROPERTY	SALE OF UNIMPROVED PROPERTY WITH SOME DEVELOPMENT PLANS + APPROVALS	SALE OF IMPROVED LOTS OR BUILDING PADS TO BUILDER / DEVELOPER OR FINAL USER	SALE OF VARIOUS BUILDING IMPROVEMENTS TO INVESTORS / PUBLIC HOUSING AUTHORITIES / FINAL USERS
ELEMENTS OF RISK INCURRED (or places where "slippage" may occur)	1) various factors or events never materialize in a way that makes the property an attractive candidate for development 2) complete lack of analysis, planning, or other preparation for development means that property is never perceived as attractive or ready for development	1) costs of undertaking and completing above-listed analyses, estimates (esp. if feasibility study produces unattractive outcome and development is dropped) 2) development cost shifts 3) shifts in market situation (new market or competitive standard, general economic conditions) 4) regulatory standards change 5) cost or availability of financing shifts 6) reliability of various estimates + analyses 7) lose control of land or development situation 8) public approvals denied, delayed, or conditioned	1) delay in obtaining public approvals, attachment of conditions to approval, high costs of soliciting approval, or denial. 2) delay in completion of improvements 3) cost over-run on improvements 4) poor quality of finished improvements or related adverse side effects (eg. class action suits) 5) failure to carefully estimate TOTAL cost of improvements (installation, operation/maintenance, assurances) 6) lagging market performances • slowed pace of sales • lower price of units offered • higher cost of sales	1) delay in obtaining permits 2) delay in completion of improvements 3) cost over-run on improvements 4) poor quality of finished improvements or related adverse effects (eg. call-backs, class actions) 5) lagging market performance • slowed pace of sales • lower price of units offered • higher cost of sales	
GENERALIZATIONS	entrepreneurial-intensive roles	time necessary to capture profit is diminishing (holding period shortens) and this affects capital turnover? How about "entry fee" or amount of capital needed, however? ratio of value-added to costs is diminishing as the composite cost base builds up? more complexity, more internal variables to control; management burden requirements? increasing "image" or credibility exposure — what are the consequences of taking on a deal and failing — a lingering risk even if you escape with the dollars		management-intensive roles	incremental cost vs profit centers

PROPERTY MANAGER

Exhibit F

Profit Center Identification of Typical PUD

Townhouse sale		$35,000
Sales Commission	$1,750	
Mortgage loan finders fee	350	
Insurance fee	50	
*Profit Center to sales agency		2,150
		32,850
General Contracting Profit Center		3,000
Direct cost of construction		21,000
Sales value of townhouse pad		8,850
*Profit Center to land developer		1,850
		7,000
*Profit Center for engineering and planning services		1,000
		6,000
Construction costs of site improvement		2,500
*Profit Center to site improvement contractor		500
Value attributable to raw land after master plan		3,000
*Profit Center for securing approval of preliminary master plan and rezoning		1,000
Market value of raw site before rezoning		2,000
Original purchase price basis		500[1]
		1,500
*Profit Center approciation due to passive land banking		1,500
		$ 0

[1] Six pads per gross acre @ $3,000/gross acre

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Exhibit 6

ACQUISITION PRIORITY TABLE

(ratings (0 to 4) in matrix represent each parcel's rating by criteria)

	Parcel Number	1	2	3	5	6	7	9	10	13	14	15	17	18	19	20	21	22	23	24
	Acreage	80	120	170	160	40	150	165	130	180	35	75	75	75	26	30	140	24	65	70
Criteria Weight	*Criteria**																			
7X	Contiguity	0	1	3	3	3	4	1	2	2	0	3	3	0	0	1	0	0	0	0
5X	Assemblage Strategy	(this criteria not applied for hypothetical example)																		
4X	Gross Acreage	2	3	4	4	1	4	4	4	4	1	2	2	2	1	1	4	1	2	2
4X	Amenity Proximity	4	4	3	3	1	1	3	3	2	1	3	3	3	0	1	3	0	1	0
3X	Existing Highway Frontage	3	3	2	3	3	1	3	1	4	3	2	2	3	4	0	4	4	0	4
2X	Proposed Highway Frontage	4	0	0	3	0	0	0	4	0	0	4	0	0	0	3	0	0	4	4
2X	Sewer	3	2	3	2	2	2	4	0	4	4	0	4	4	4	0	4	4	2	4
2X	Water	0	0	0	1	1	2	2	2	4	3	4	3	3	3	2	2	3	1	0
2X	Topography	(this criteria not applied for hypothetical example)																		
—2X	Noxious Use Proximity	0	1	3	0	0	1	3	0	1	1	0	2	1	0	3	2	1	4	4
	Total Score (Weight (X) Rating)	47	46	55	(70)	44	57	50	57	(64)	29	(63)	57	41	30	19	48	28	18	28

Rating System: ratings (0-4) in the matrix represent each parcel's rating by criteria

0 = No relevance to parcel
1 = Negligible relevance
2 = Minor relevance
3 = Moderate relevance
4 = Extreme relevance

DEFINITIONS AND ANALYSIS

Contiguity: In view of the scattered, noncontiguous nature of the presently controlled properties, the critical need which must be met by additional assemblage activity is to fill "doughnut holes." The success of the new town venture will depend upon the developer's ability to plan and create a total environment within the assemblage boundaries. Large "out" parcels, not under the developer's control, could seriously compromise the aesthetics and financial profitability of the new town.

Assemblage strategy: The sequence of purchases can be critical to the overall assemblage when related to the intentions of other landowners and developers and existing zoning. For example, it may be known that other developers are attempting to assemble large holdings within the boundaries of the contemplated assemblage. Where such action can be blocked by acquiring a parcel critical to another man's assemblage, that action should be taken immediately. Generally, this criteria is a catchall intended to cover the market and political environment of the assemblage.

Gross acreage: The goal of this assemblage is the development of a new town. By definition, that requires contiguous acreage large enough to plan a total environment containing a variety of land uses, including all densities of residential, retail, commercial, and open space. The larger the parcel acquired, the more meaningful its inclusion is to the primary goal of the assemblage.

Amenity proximity: There are three important amenities (river, golf course, reservoir) within or adjacent to the boundaries of the contemplated assemblage. To the extent it is possible to acquire property adjacent to these amenities, the marketability of the overall new town development will be greatly enhanced.

Existing highway frontage: An important part of the proposed development's public image will be its visual impact from the heavily traveled arterial, Route 14. The more frontage the developer controls along Route 14, the more he will be able to control the environmental impact. Whether the purpose is to develop retail and commercial uses or merely to provide a gracious entrance, as much highway frontage as possible should be controlled.

Proposed highway frontage: A new controlled access Interstate Highway will parallel the southern boundary of the assemblage. Traffic projections reveal that it will be as heavily traveled as Route 14. Because the developer will have total environmental control along this arterial, the main entrance to the new town could logically be located here rather than on Route 14 where that level of control cannot be reasonably obtained. It is also known that Assembly Road will be improved as a major thoroughfare running north and south through the site. Control of adjacent parcels on both sides of that right-of-way should be obtained.

Sewer: Staging of the new town development will probably be related to sewer lines that exist at the time of development. At present, there is limited sewerage available parallel to Route 14. At a later time, a trunk line running parallel and adjacent to the river is anticipated. Parcels within reach of the limited existing line should be acquired to permit early planning and development for the first phases of the new town.

Water: Water in sufficient quantity to serve the new town development runs along Assembly Road north to south. The first-phase development should be planned to be reasonably proximate to that water line to avoid excessive utility installation costs. Thus, parcels adjacent to the existing water line should be acquired for early development.

Topography: Each type of land use has a corresponding ideal topography type from a planner's point of view, although the uses contemplated here are generally best suited to well-drained, rolling, wooded land. All other factors being equal, the parcels with this ideal topography profile should be acquired first.

Noxious use proximity: At the eastern end of the assemblage is a regional sanitary land fill, and at the northern boundary, a large sand and gravel operation. Parcels adjacent to these uses should be penalized by the quantitative rating system.

and costs which could be attributed to the proposed development.

C. Must reading for the appraiser are two articles in House and Home: "A Solution to the Coming Crisis in Land," House and Home, August, 1972. "A New Approach to Land Development Feasibility," House and Home, October, 1973.

D. For the demonstration for the conversion of suitability and capacity to a test of compatability and impact, let us refer to Exhibit H.

BREAK FOR LUNCH

J. Valuation of a single parcel which may be part of a larger future assemblage for a packager requires not only analysis of physical suitability but at least some idea of the priority of the parcel for impossible or probable buyer type. The location of the parcel may provide an adjacent developer or professional packager with highway frontage, contiguity for annexation, control of site lines for a valley or any number of other attributes of value primarily to him (See Exhibit G).

VIII. If the appraiser is looking at land with known suitability and capacity for a certain type of development, the next problem is to determine the compatability of such development with its surrounding environs.

A. The impact of the land use which is possible gains or loses probability of ever occurring depending on the impact it makes upon the immediate neighbors, with existing physical infra-structure of existing roads, utilities, etc., and impact on the cash budgets of the governments making the decisions.

B. Compatability is essentially the social acceptability of the project while impact is concerned with the physical and financial benefits and costs which could be attributed to the proposed development.

C. Must reading for the appraiser are two articles in House and Home: "A Solution to the Coming Crisis in Land," House and Home, August, 1972. "A New Approach to Land Development Feasibility," House and Home, October, 1973.

D. For the demonstration for the conversion of suitability and capacity to a test of compatability and impact, let us refer to Exhibit H.

BREAK FOR LUNCH

ADVANCED APPRAISAL PRACTICE SEMINAR
Sponsored by Society of Real Estate Appraisers - Chapter #89
The Airport Holiday Inn, Tampa, Florida
Monday, June 10, 1974

AFTERNOON SESSION

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

I. A demonstration of the appraisal of land following analysis of most probable use and definition of most probable buyer type is not intended to suggest there is only one way to do it but rather to emphasize that physical comparability for market comparison is no more important than buyer comparability. The definition of the buyer defines the proper market area and the range and character of possibly appropriate sales with which to infer future sales price - most probable sales price and range.

A. To demonstrate one technique and also show the application of Vp to residential appraisal, we'll begin with a single family home case and then apply the technique to a vacant land appraisal.

B. Professor Ratcliff, in Chapters 6 and 7 of his most recent book VALUATION FOR REAL ESTATE DECISIONS (available from Democrat Press, P.O. Box 984, Santa Cruz, Cal. 95060) demonstrates a means of converting physical features of homes in comparison to the subject property without having to make arbitrary dollar adjustments.
1. He would first analyze home buyers in the neighborhood of the subject property to identify the basic goals and preferences of such a home buyer. Some knowledge of the economic-social profile of the neighborhood plus some phone calls to recent buyers of roughly comparable properties to the subject property, might suggest the following factors and weights which the probable buyer attaches to them.

Feature	Middle Income Weight	Low Income Weight
Structural soundness	5	5
Space utilization	25	25
Mechanical equipment	5	5
Off-site utilities and services	5	15
Visual appeal	10	5
Location	40	15
Financial operating burden	10	30
	100	100

C. The following actual student appraisal is an example of how seven sales might be rated, these in turn are converted to weighted ratings and a total number of amenity points determined for each property.

D. The third step is to graph points scored against the sale price for each comparable property and fit a straight line to the scatter diagram by inspection or by calculator (HP 80 has a good, linear regression procedure to establish the coefficients in $Y = a + bX$).

EXHIBIT A.

Features	Weight	821 Minakwa St.	3120 Gregory [redacted]	645 Sheldon St.	636 Crandell St.	628 Crandell St.	640 Knicherbocker	657 Knicherbo[redacted]	SUBJECT
		Rating / Weighted Ratings							
Location & Neighborhood	25	2/50	6/150	4/100	2/50	2/50	4/100	4/100	2/50
Lot	5	2/10	4/20	4/20	6/30	4/20	4/20	4/20	4/20
Financial Burden	15	4/60	2/30	4/60	6/90	4/60	4/60	4/60	6/90
Exterior Architecture	15	4/60	4/60	4/60	6/90	6/90	6/90	6/90	4/60
Mechanical	10	2/20	2/20	4/40	6/60	6/60	4/40	4/40	6/60
Physical Condition	10	2/20	4/40	4/40	4/40	4/40	4/40	4/40	4/40
Interior Attractiveness	20	2/40	2/40	4/80	4/80	6/120	6/120	6/120	4/80
TOTAL	100	260	360	400	440	440	470	470	400
PRICE		$26,300	$24,500	$23,800	$22,900	$22,900	$21,900	$21,900	???

Ratcliff Linear Regression

EXHIBIT B

$$Y = a + bx$$

$$b = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{n(\Sigma x^2) - \Sigma(x)^2}$$

$$a = \frac{Y - b(\Sigma x)}{n}$$

$n = 7$	The number of comparables.
$\Sigma Y = 164,200$	The sum of the seven actual prices paid for the comparables. ($26,300) + ($24,500) + ($23,800).....
$(\Sigma y) = 164,200$	
$(\Sigma x) = 2840$	The sum of the total weighs for the comparables. (260) + (360) + (400) + (440) + ...
$(\Sigma xy) = 65,916,000$	(260)(26,300) + (360)(24,500) + ..
$(\Sigma x)(\Sigma y) = 465,328,000$	(2840)(164,200)
$\Sigma(x)^2 = 8,065,600$	$(2840)^2$
$(\Sigma x^2) = 1,186,200$	$(260)^2 + (360)^2 + (400)^2 + (440)^2$ + ..

$$b = \frac{7(65,916,000) - (465,328,000)}{7(1,186,200) - (8,065,600)} = -16.467619 \simeq -16.5$$

$$a = \frac{164,200 - (-16.5)(2840)}{7} = 30,151.428 \simeq \$30,151.$$

$$Y = a + bx$$

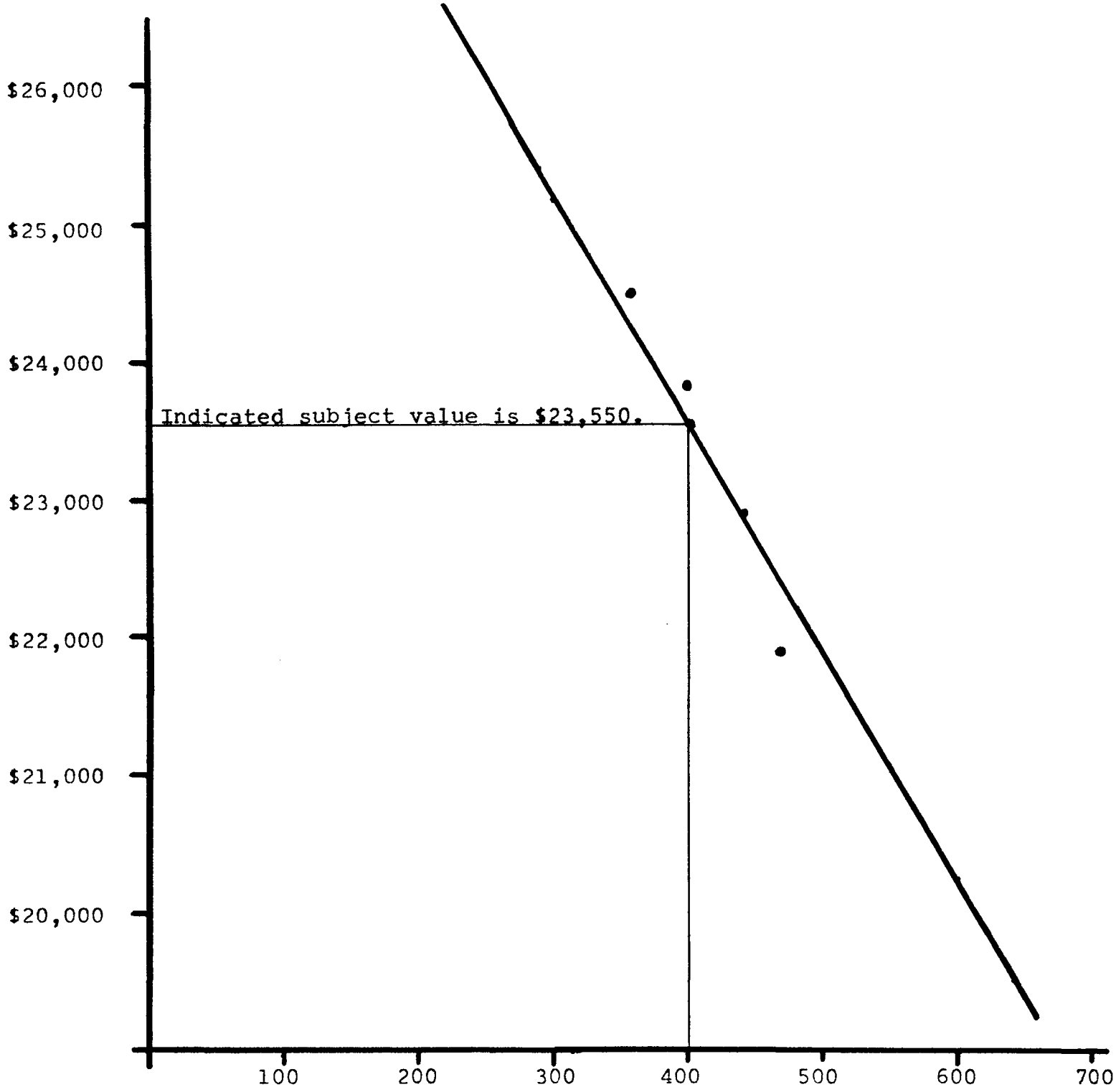
$$Y = 30,151 + (-16.5)(x)$$

'x' for the subject property was 400

$$Y = 30,151 + (-16.5)(400)$$

$$Y = \$23,550$$

EXHIBIT 2


$26,000
$25,000
$24,000
$23,000
$22,000
$21,000
$20,000
Indicated subject value is $23,550.
100
200
300
400
500
600
700

1. By locating the points scored by the subject property on the hand-fit line it is possible to read the price on the verticle axis of the scale.
2. The statistical technique is more useful because it gives you the central tendency and the standard error of the estimate for the regression line.

II. While most of you can do a residential appraisal much more quickly with probably the same accuracy, this technique does illustrate how to relate features and attributes to price with roughly the same emphasis that a possible buyer might place on these features. The linear regression technique is very useful in interpreting and adjusting a few comparable sales for tracts of vacant land and therefore we have created a step by step illustration for you to follow. These statistical techniques are very well explained on page 238-242 of GENERAL APPLIED STATISTICS by Fadil Zuwaylif, published by Addison Wesley.

A. Taking your inventory of physical land features and your knowledge of buyers for that type of site, it should be possible to build a weighted rating on the important elements of SUITABILITY, CAPACITY, COMPATIBILITY, and IMPACT. (See Exhibit D)
   1. For difficult comparisons use a 1,2,3 or 1,3,5 scale with average being the middle number. The weight attached will magnify the result.
   2. A 10 point scale could be adjusted as a 0,2,4,6,8 or 10 using your judgment of how it compares to the best of available. NOTE: IT IS NOT COMPARED TO THE SUBJECT.
   3. While the adjustments are rough, one is relying on the theory of offsetting errors to permit some leveling of these errors in degree. It is simply a way of quantifying your judgment for an organized synthesis which the client can follow and possibly criticize.

B. The next step is to calculate the coefficients of the regression line to convert the points scored by the subject site to a price per gross acre (See Exhibit E).

C. The best way to communicate the results is with a graph as on Exhibit F.

D. Initially the regression equation indicates a central tendency of $2,366 per gross acre. However, probable price requires a statement of range around which transactions might likely fall:
   1. Step VI computes the standard error of the estimate, which in this case is $107 plus or minus. Statistically we could say that 66 times out of 100 times the price should fall between $2259 and $2473.
   2. 95% of the time the probable transaction price will fall between $2152 and $2580.
   3. The appraisers work is not done at this point since he may wish to modify this result by introducing the influence of current regional phenomenon in terms of finance, legislation, etc. as these institutional factors might be expected to modify industrial behavior. (Refer to suggested outline of appraisal in Part IV of the morning session).

VACANT LAND MARKET COMPARISON

USING WEIGHTED SCALE

Feature	Scale	Subject	A	B	C	D	Weight	Subject	A	B	C	D
Suitability (40)												
Soils	5	5	2	5	3	3	10	50	20	50	30	30
Shape	5	4	3	5	3	4	10	40	30	50	30	40
Vegetation	10	6	5	2	3	5	10	60	50	20	30	50
Water	10	0	8	5	3	2	10	0	80	50	30	20
Capacity (15)												
Public Infrastructure	5	3	1	5	5	0	9	27	9	45	45	0
Economic Scale	5	2	1	5	2	3	3	6	3	15	6	9
Area Growth	5	5	2	3	0	3	3	15	6	9	0	9
Comparability (15)												
Social	5	5	5	3	3	4	5	25	25	15	15	20
Physical	10	3	3	5	6	4	10	30	30	50	60	40
Impact (30)												
Fiscal	10	10	6	8	6	7	15	150	90	120	90	105
Environmental	10	6	3	10	4	8	15	90	45	150	60	120
TOTALS							100%	493	388	574	396	443
Gross Price per Acre			1500	2500	1700	1900						

EXHIBIT D

Exhibit E

Least Squares Method of Appraising Vacant Land

$$Y = a - bX$$

where Y = estimated land

X = weighted points for subject site

a = intercept b = slope of line

Step I: Construct 5 columns to record actual values of Y (price) and X (points), their squares and their crossproducts.

Comp	Y	X	Y^2	X^2	XY
A	15~~00~~	388	225	150544	582000
B	25~~00~~	574	625	329476	1435000
C	17~~00~~	396	289	156816	673200
D	19~~00~~	443	361	196249	841700
	$\Sigma = 76$	$\Sigma = 1801$	$\Sigma = 1500$	$\Sigma = 833085$	$\Sigma = 3531900$

Step II: Compute the mean of Y and the mean of X

$$\bar{Y} = \frac{\Sigma Y}{n} = \frac{76}{4} = 19$$

$$\bar{X} = \text{Sum of } \frac{X}{n} = \frac{1801}{4} = 450$$

Step III: Compute Σy^2, Σx^2, and Σxy (Note that we use lower-case letters for these terms which are completely different from the terms denoted by upper-case letters that we computed previously). Use the following these equations:

$$\Sigma y^2 = \Sigma Y^2 - n(\bar{Y})^2$$
$$= 1500 - 4(19)^2 = 56$$
$$\Sigma x^2 = \Sigma X^2 - n(\bar{X})^2$$
$$= 833085 - 4(450)^2 = 23085$$
$$\Sigma xy = \Sigma XY - n\bar{X}\bar{Y}$$
$$= 3531900 - 4(450)19 = 3297700$$
$$= 1119$$

Step IV: Compute the regression coefficient b:

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{1119}{23085}$$

$$= .098$$

Step V: Compute the regression coefficient a:

$$a = \bar{Y} - b\bar{X}$$

$$= 19 - .048(450)$$

$$= -2.81$$

Hence the regression equation is

$$Y' = 2.81 + .048X$$

Subject Price Equals $.048(493)(100) = 2366$

Step VI: Compute the Standard error of the estimate.

$$S_{yx} = \sqrt{\frac{\Sigma y^2 - b\Sigma xy}{n-2}}$$

$$= \sqrt{\frac{56 - .048(1119)}{4-2}}$$

$$= \sqrt{\frac{2.29}{2}} \quad = \sqrt{1.146}$$

$$\approx (1.07)(100) = 107$$

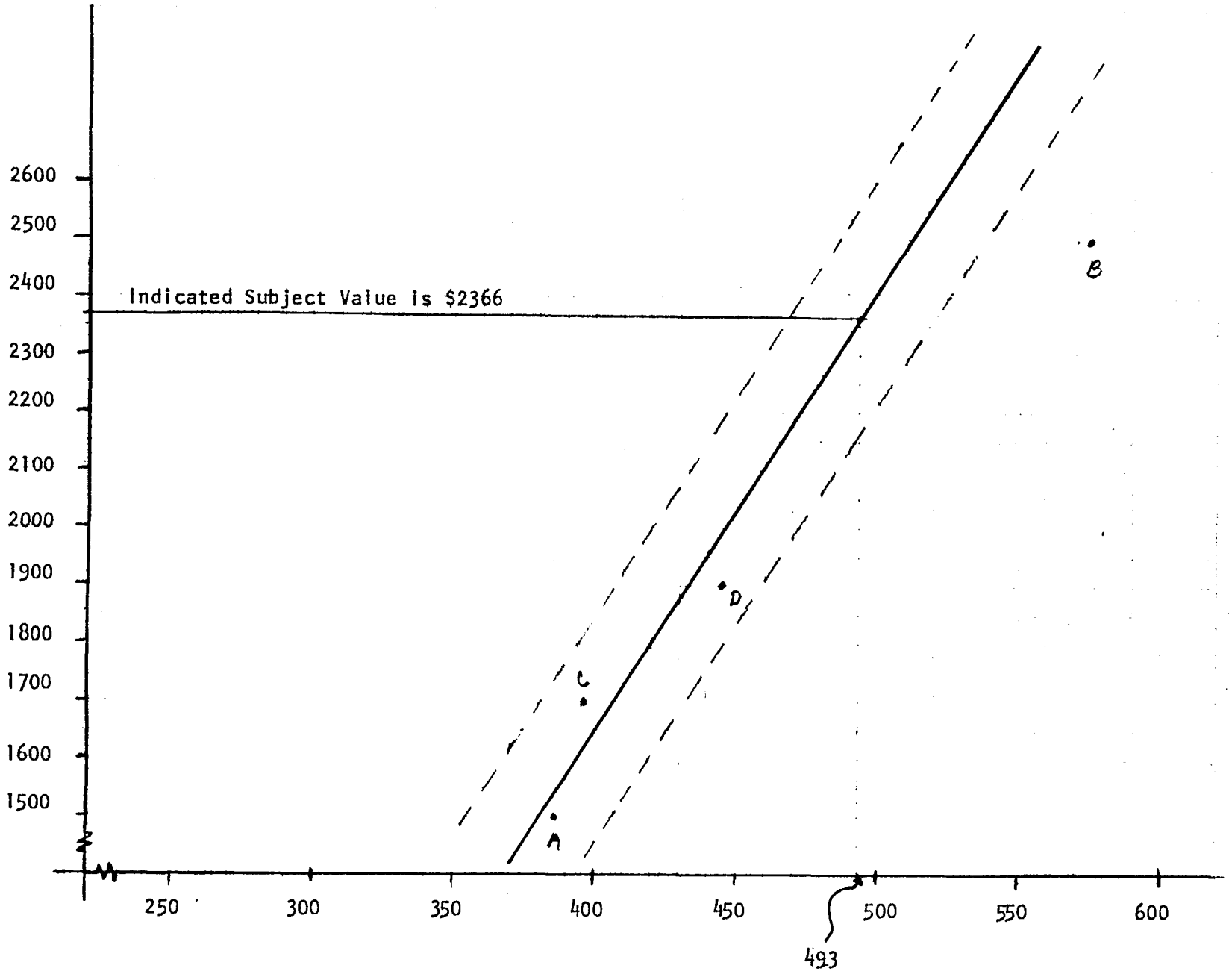
Step VII: Compute the Correlation Coefficient

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}}$$

$$= \frac{1119}{\sqrt{23085(56)}}$$

$$= \frac{1119}{\sqrt{1292760}} \approx \frac{1119}{1137} = .98$$

EXHIBIT F



Weighted Point Scale for Comparable Lands Tracts

E. Step VII computes the correlation coefficient which attempts to measure the relationshp of the sample to the true population. In this case it is a very high .98 which indicates the data was limited (for sales) and perhaps a little artificial.
   1. A small sample of four minus one dependent variable minus one as a correction for a small sample gives us only two degrees of freedom.
   2. A statistics textbook table of significance indicate this means we have a 5% chance of rejecting or excluding the right answer in the manner in which we use our standard error. Put another way the real distribution of transaction prices could fall around a different average price and in different ranges only five out of 100 times.

2:30-2:45 REFRESHMENT BREAK

III. As land is brought under public control, the uncertainties surrounding sale values must eventually have an impact on site value. Existing uses will enjoy monopoly premiums and future uses will be sharply discounted for delay, risk, the high front end costs of securing development approval, and potential for down zoning.

A. The future shock of accelerating change in the ground rules of real estate are leading the professional to plant both feet and balk at any proposed regulation. Instead you as a professional should assist in the development of procedures which advance environmental objectives and concentrate your attack on regulations which are a sham and require you to deliver a product which is not suitable for the use intended.
   1. Mortgage loan ratios have been around for years and is a sham used by the lenders to simplify their regulatory proces and to shift the burden of mortgage lender ignorance and hypocracy on the appraiser. Simplistic out-of-date concepts such as this you have a professional obligation to resist.
   2. When communities use regulation to exclude low income groups or less d esirable land use solely on the basis of environment, cast iron zoning, or fiscal impact you have a professional duty to speak out in opposition. Appraisers are often not highly regarded because of their go-along to get-along attitude. This period of trnasition to public land use control gives you an excellent opportunity to reestablish yourselves as the economic impact analyst of public policy alternatives.
   3. More appraisers should consider seeking career opportunities with land regulating agencies. Many of these agencies are being staffed with anti-real estate graduates of the planning schools who teach an "us against them" type of adversary planning without ever finding out anything about real estate enterprise and how it works.

B. The real problem with new regulations such as the development of regional impact (DRI Section) of the Florida Environmental Land and Water Management Act of 1972 (ELMS) are the two related problems of an agreed on data base and expedient processing of development plans.
   1. The scope of the entire impact analysis is requiring development of mechanics for review and development of clear concise and hopefully graphic standards for impact testing. Pending that the DRI may be premature in scope.

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SPECIAL MANUAL TRAFFIC COUNT

UNIVERSITY AVENUE

BETWEEN LAKE ST. & FRANCIS ST.

		WESTBOUND					EASTB'ND	TOTAL E'BND + W'BND
		CARS (C_W)	TRUCKS (T_W)	BUSES (B_W)	TOTAL	%(T&B)	BUSES (B_E)	
	3:00 - 3:15	274	4	3	281		1	282
	3:15 - 3:30	323	9	2	334		3	337
	3:30 - 3:45	319	2	2	323		1	324
	3:45 - 4:00	327	7	3	337		4	341
	4:00 - 4:15	354	3	2	359		4	363
PEAK HOUR 4:15 - 5:15	4:15 - 4:30	397	1	1	399	0.50	7	406
	4:30 - 4:45	414	1	2	417	0.72	2	419
	4:45 - 5:00	376	2	4	382	1.57	5	387
	5:00 - 5:15	399	1	1	401	0.50	2	403
	5:15 - 5:30	351	1	3	355		6	361
	5:30 - 5:45	351	1	2	354		4	358
	5:45 - 6:00	309	1	3	313		6	319

COUNT TAKEN: WED. 11/28/73

WEATHER: DRY, COOL (MID 30's TO 40's)

Herman A.J. Kuhn

COUNT SUPERVISOR: HERMAN A.J. KUHN

ASSOC. PROF. - CIVIL AND ENVIRONMENTAL ENGINEERING

COUNT SUMMARY : UNIVERSITY AVENUE

PEAK HOUR : 4:15 - 5:15 pm

TOTAL VOLUME : 1615

	VOLUME	% OF TOTAL
WESTBND AUTOS	1586	98.2
" TRUCKS	5	.3
" TRANSIT BUSES	8	.5
EASTBND TRANSIT BUSES	16	1.0

% OF TRUCKS & LOCAL TRANSIT IN BOTH DIRECTIONS : 1.8

Worksheet C – Roadway Noise

List all major roads within 1000 ft of the site:	Acceptability Category: Automobiles	Trucks
1. University Avenue	Normally Acceptable	Clearly Unacceptable
*2. UNIVERSITY AVENUE	NORMALLY ACCEPTABLE	NORMALLY UNACCEPTABLE
**3. UNIVERSITY AVENUE	NORMALLY ACCEPTABLE	NORMALLY UNACCEPTABLE
4.		

Necessary Information:	Road #1	*Physical Count ~~Road #2~~ Peak Hour 4:15-5:15pm	**Physical Count ~~Road #3~~ Peak Truck Hour 3:15-4:15pm	Road #4
1. The distance in feet from the site to the centerline of				
a. nearest lane:	62'	62'	62'	
b. farthest lane:	89'	89'	89'	
2. The total number of automobiles per hour in both directions:	1482	1,615	1323	
3. The number of trucks per hour				
a. uphill direction:				
b. downhill direction:				
c. both directions:	100	29	42	
4. Effective distance from site to road:	74'	74'	74'	
Adjustments for Automobile Traffic				
5. Stop-and-go:	148	162	132	
6. Mean speed:	N/A	N/A	N/A	
Adjustments for Truck Traffic				
7. Road gradient:	N/A	N/A	N/A	
8. Stop-and-go:	500	145	210	
9. Mean speed:	N/A	N/A	N/A	
Barrier Adjustment				
10. Distance from site to barrier:				
11. Distance from center of road to barrier:				
12. Effective elevation of road:				
13. Effective elevation of site:				
14. Effective elevation of barrier:				
15. Difference in elevation between site and road:				

(Over)

REVISED: AS/EMPIRICAL DATA

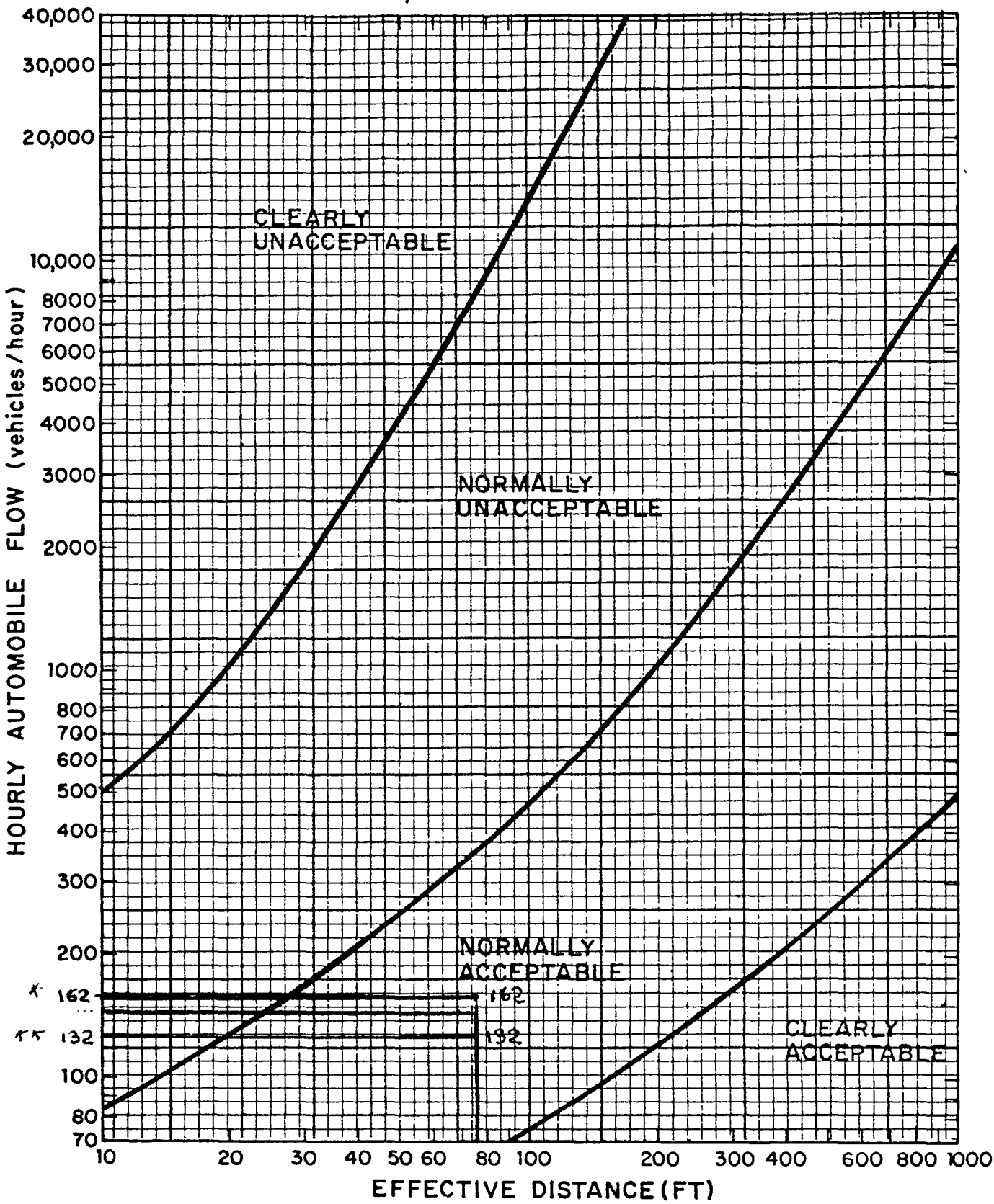

Figure 2.

* PEAK HOUR

** PEAK TRUCK HOUR

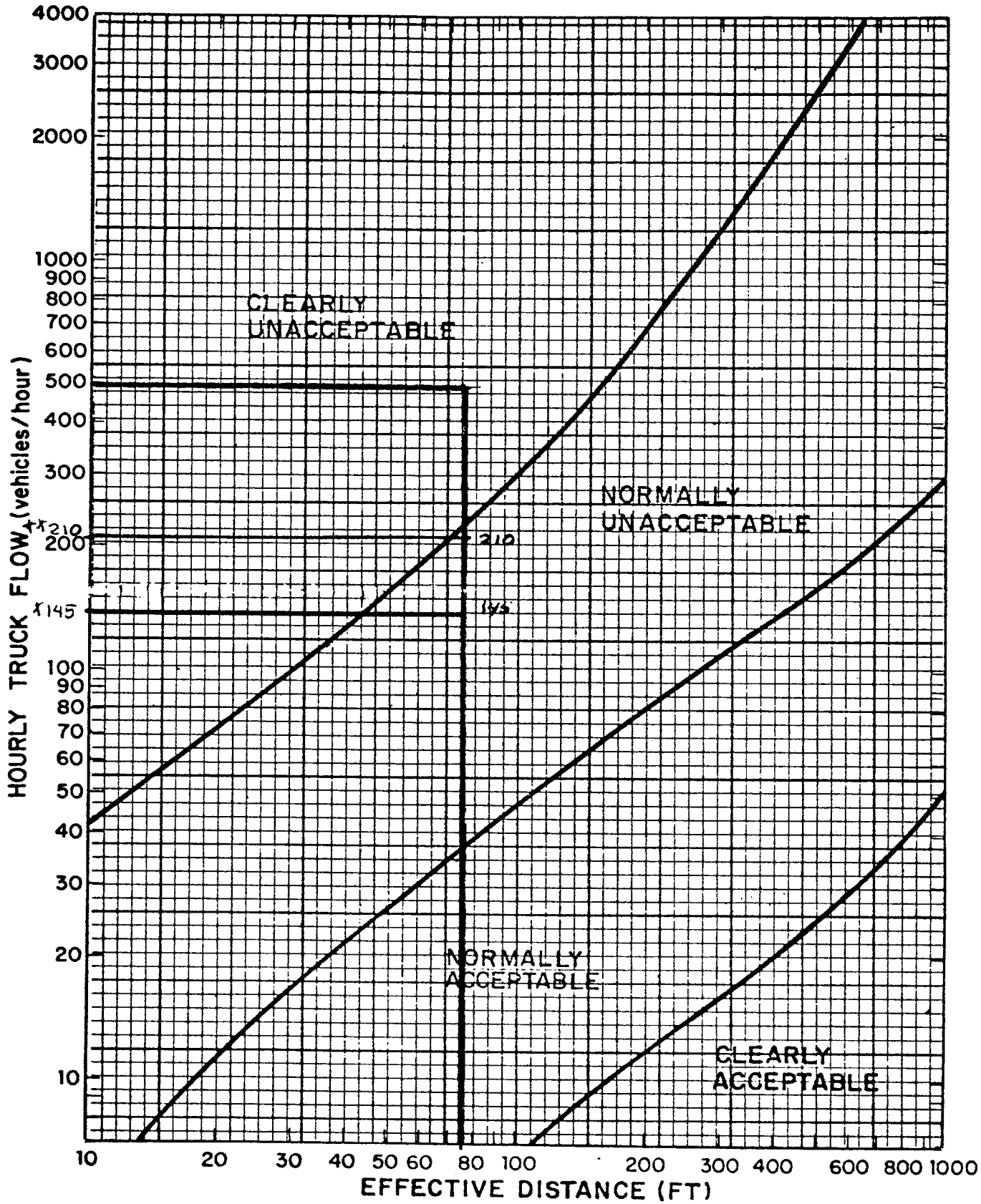

Figure 3.

U.S. GOVERNMENT PRINTING OFFICE : 1971 O - 450-445

* PEAK HOUR

** PEAK TRUCK HOUR.

2. Regulators are groping for easily understood standards for very complex problems but one must hope that they will not find anything so simple minded as a mortgage loan ratio.

3. However, let us look at several basic federal systems for environmental site attributes.

C. If you do any appraisal for or feasibility studies for FHA financed projects, the HUD noise assessment guidelines are a must. They are also extremely useful for any residential site evaluation. (Written by Theodore Schultz and Nancy McMahon, it is available from the Superintendent of Documents, U.S. Printing Office, Washington, D.C. 20402 - price 70¢ - Stock #2300-1194).
   1. This project involves a 221-d4 on a five lane street in Madison. There was a stop light on one corner of the block and a bus lane devoted entirely to buses. Automatic application of the guidelines determined that trucksare 5% of vehicle count and the stop light would multiply that factor by 10 so that the site would be clearly unacceptable for residential use.
   2. HUD seriously suggested that the developer should request the city to pass an ordinance banning all through truck traffic on that segment of University Avenue!
   3. The alternative was to show them that trucks normally did not use University Avenue and that the presumption of 5% truck traffic was wrong. The city traffic count did not distinguish between vehicles. HUD defined any vehicle with dual wheels or a bus - a truck.
   4. The emperical data, analytical form, and simplified chart decision making forms Exhibit G.

D. The federal Flood Disaster Protection Act has made it illegal for federally regulated lenders to make loans on properties in areas identified as flood plain unless the property is covered by flood insurance. It went into effect February 28, 1974.
   1. In 15,000 flood prone communities only 2300 currently participate in subsidized federal flood insurance.
   2. If the community is to qualify it must provide proof of a building permit system which allows for review of new construction.
   3. HUD may identify "special flood hazard areas" where subsequent new construction will be ineligible for insurance.
   4. As an aside one can expect that earthquake zones may soon have a similar requirement.

E. The action was required as most communities continued to ignore the reality of 25 and 50 year high water marks and because the nation can seldom afford to provide all types of unnecessary financial assistance to those who persist in tempting fate and the environmental cycle. (See attached materials)

F. The Office of Interstate Land Sales Regulation affects the sale of projects with 50 or more lots or units. A project is to define to include a series of plats which are part of a larger master plan or are contiguous to eliminate technical avoidance. Exemptions from the act are limited and useful current information is available from two excellent sources:

1. Real Estate Review, a quarterly, such as the article "Exemptions Under the Federal Land Sales Disclosure Act" by William H. McMullin, Jr. Fall 1973, pp. 92-97.
2. American Land magazine published by American Land Development Association, 1000 16th Street NW, Washington, D.C. 20036.

G. The Securities Exchange Commission has become interested in limited partnerships and condominiums as investment securities. However, many of those in NAREB organizations, the Institute for Real Estate Securities and Syndications, are of the opinion that over the next decade most real estate investment will be classified as a security position.
   1. To avoid costly registration the small developer will need to avoid large projects.
   2. To finance the high cost of large scale development registration, the large developer must pay less for the land or receive more generous terms from the seller.
   3. Large appraisal offices and appraisal chapters may find it useful to subscribe to services such as: The Land Development Law Reporter available to non-member of ALDA for $225 a year.

IV. Inherent in all of these regulatory constraints on land use and marketing of finished products are a number of basic implications for the appraiser:

A. A premium will be paid for sites which already have public services and zoning approval which are of sufficiently small scale that the small developer can avoid direct contact with many overlays of regulation.

B. For those projects or sites which have a large number of uncertainties relative to political acceptability or capacity, the lead time necessary to secure political approval may now be 2 or 3 years.
   1. Negative cash flows will persist for longer periods of time.
   2. Discount rates to determine present value must be higher.
   3. Land sales prior to '73 and '74 are no longer comparable nor necessarily easily adjusted.
   4. Land values are not going to increase steadily in value for the passive investor and may actually be decreasing since it is a residual between total value and total cost of improvements and indirect charges.

C. In the appraisal of land and larger tracts, the appraiser must consider some of the basic regulatory constraints which introduce significant uncertainty as to the value of the site.
   1. He cannot dismiss these regulations in his statement of limiting conditions because that would be inconsistent with the professional societies definition of highest and best use.
   2. There is an ethical responsibility of the professional to participate in development of regulatory mechanisms to carry out the social consensus that land use is a public concern.
   3. The buyer who pays too much for land deserves no compensation from society on the basis of hardship when he is not permitted to exploit his site to the injury of others.
   4. The appraisal societies must lead in the development of public regulations which are workable rather than parrot the gripes and concerns of their developer customers and clients who are having difficulties adapting to the new courses of environment and consumer protection.

REAL ESTATE FEASIBILITY SEMINAR
November 21-22, 1974
Doubletree Inn, Scottsdale, Arizona

SECOND AFTERNOON

I. To this point the feasibility analysis will have assembled all the critical data for the design process as flow charted in Exhibit One.

A. The pre-architectural program will be initially specified by the various analyses which have been discussed in our previous session. These constraints and objectives will lead to fairly detailed statement about the space-time product to be built. The next problem is to convert these physical limitations to their corresponding financial implications. The design team should be given:

1. A definition of rental units in terms of size, features (ranked by customer appeal and indicated as required or desired), mix and rental level or price.

2. Price should be allocated between direct construction budget, site improvement, land, and indirect cost including profit per unit.

3. Site analysis should establish essential linkage points, negative elements to be neutralized, environmental factors to be considered or avoided, and special legal or political constraints.

4. Designers should be given a statement on investment strategy and financial criteria with which alternative design concepts will be evaluated.

B. Converting design elements to the cash cycle of the real estate enterprise requires basic assumptions about:

1. The time-line of financial events for an enterprise

2. Schedules of outlays

3. Schedules of receipts

4. Measures of yield

5. Measures of risk

C. In appraisal and feasibility the nature of these assumptions has been changed as the industry has become more sophisticated in financial management. It is useful to see how feasibility differs from appraisal by the comparison summarized on Exhibit One.

D. When the view point changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

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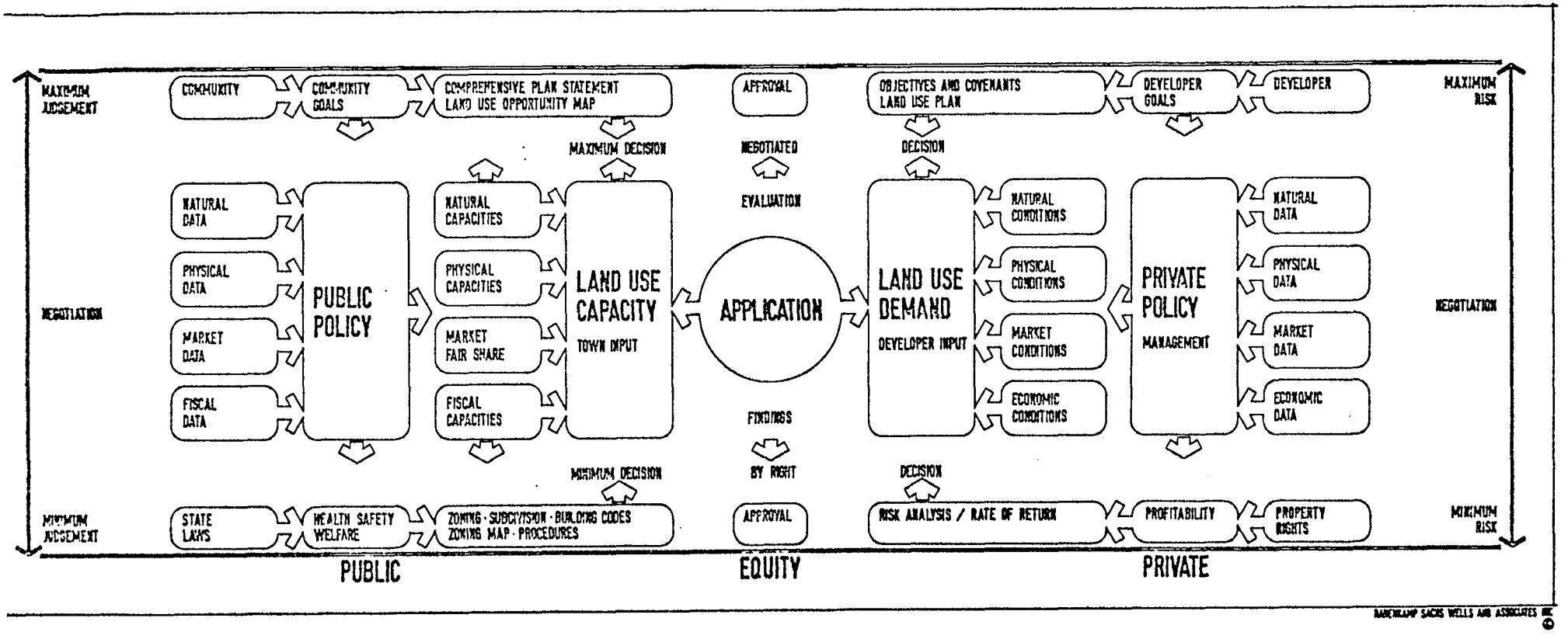

EXHIBIT ONE

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.

2. Exhibit Two, Col. C summarizes the assumptions of modern capital budget decision models.

3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

4. Financing Real Estate Development, Harry A. Golemon, AIA editor Aloray Publisher Englewood, N.J. 07631.

E. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events

2. A schedule and amount of outlays for each period

   a. Capital outlays
   b. Expense outlays
   c. Debt service outlays
   d. Tax outlays

3. A schedule and amounts of receipts for each period

   a. Operating revenues
   b. Sales proceeds
   c. Borrowed funds
   d. Derivative receipts or savings

4. Measures of yield

   a. Periodic dollars of profit
   b. Periodic return in dollars invested
   c. Average periodic return on total resources
   d. Total cumulative dollar increase in net worth

5. Measures of risk

   a. Capacity for absorbing surprise
   b. Range of variation in alternative outcomes
   c. Definition of maximum loss

II. Before one can provide much financial analysis of the elements above, it is necessary to structure the forecast to permit rapid testing of alternatives.

EXHIBIT TWO

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

3. A system firm which provided mail-back service as well as Tymshare network programs is: OMNIMETRICS, 3325 Wilshire Boulevard, Suite 1215, Los Angeles, California, 90005, 386-1360.

III. Measuring rate of return is really an elaboration on buy-low-sell-high when looking at streams of outlays and receipts over time. Some basic questions which should be asked before using one measure or another in a feasibility report are:

A. Who is reading the report and what method does he use? Some may be interested in total dollars as real estate is their business while others may be interested in rate of return since money management is their business.

B. What is the definition of the equity investment? Cash equity up front, net cash after tax shelter, or liquidating cash equity?

C. What is the precise definition of items to be included as a return on investment as opposed to a return on service and how are shares in these items distributed? Floors? Ceiling? Priorities?

D. What reinvestment assumption does the client wish to make in evaluating the project?

1. Prospective rate which disregards reinvestment

2. Reinvestment at the safe rate ala Hoskold

3. Reinvestment at the discounting rate ala Inwood or IRR

4. The modified internal rate of return for money managers

E. Method for determining the resale or liquidating price assumption

IV. The feasibility study is asking the client to purchase a set of assumptions about the future and the analyst should identify the consequences of the most critical but variable assumptions and the protection which the investor may or may not have available to "lay-off" the risk.

A. Required market segment for planned absorption as a percent of total market opportunity and protection provided by monopoly characteristics of project.

B. Direct cost overruns and the possibilities of shifting the risk by contract.

C. Significant timing upsets as a result of political regulation or seasonal markets and possible risk control for carrying charges.

D. The use of the equity pay back ratio - the ratio of total cash received cumulatively to original cash investment plus exposure if any on notes and mortgages.

E. Designing the project for a conservative default ratio or cash break even point both in structuring the financing and phasing the project.

F. Funded holding power should be at least three times cash equity required plus exposure on notes.

A. Exhibit Three provides a systematic organization of receipts and outlays for a rental property.

   1. These items must be forecast for quarterly and annual periods.

   2. Careful definition is the first step in structuring the financial term with both lenders and partners.

B. Mini-mod demonstrates a simple model for a typical rental project but this model has several flaws: (see Exhibit Four)

   1. Nothing is done about cash flows during the construction period.

   2. Projections are made on a simple straight line basis.

   3. It is not a valuation model; it is an investment analysis.

C. TAP is an after-tax Ellwood model which does permit erratic and alternative methods of predicting resale value. However it does not handle the construction phase very well because it does not permit refinancing. (see Exhibit Five)

D. A more useful model for feasibility analysis has been developed by John Nabors of Dallas, Texas. He is both a real estate analyst and a computer systems man. One of his techniques is shown in Exhibit Six.

   1. This model handles direct and indirect cost of construction phase.

   2. It is one of the few computer models which provide sensitivity analysis in a from appropriate to the prearchitectural program and in a form which permits the analyst to make exquisite recommendations to the client as to financial and design flaws or objectives.

E. A number of computer modeling services are being marketed to architects, which are not only useful to appraisers but demonstrate how rapidly appraisers are becoming obsolete if they continue to use the basic income approach for feasibility analysis.

   1. A system which implements the process of classification and scheduling fundamentals extremely is called REAP which is available on Tymshare from the vendor CLM/Systems, Inc., 292 Main Street, Cambridge, Massachusetts 02142, (617) 492-6210. (For a partial example see Exhibit Seven).

   2. A timesharing computer service also on the Tymshare network is Comarc Design Systems, The agriculture Building Embarcadero at Mission, San Francisco, California 94105 (415) 392-5268 P.O. Box 3919 San Francisco, California 94119. (They have programs which will compute LUI, test MPS standards, provide pre-tax analysis of land and condiminium sales projects, and after-tax analysis of office, industrial, and apartment structures.)

EXHIBIT THREE

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCTNG PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME.

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200	
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200	
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500	
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100	
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

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INVESTMENT MARKET VALUE ANALYSIS
DATA INPUT FORM

PROJECT ID: EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

Date: 2 DECEMBER 1970

ANALYSIS OF AN ACTUAL SALE: In June 1970 a New York manufacturing corporation, with much taxable income, purchased a 306-unit, poorly located and unattractively planned garden apartment complex in Virginia, paying cash above existing 6% mortgages. The land is zoned commercial, but if it were vacant it would probably not sell at much more than if zoned for row houses. If the purchaser obtains a shift in the tax assessment, from land to buildings, reducing the land value to $268,000, what would be the IMV for an equity yield of .0875? The actual purchase price was $2,640,000.

Next, prepare a price-yield curve surrounding the actual purchase price, and while doing so, determine the yield at such purchase price. Do this under the assumption that the land assessment will be reduced.

Finally, what would a REIT have paid for this property, to have obtained the same equity yield (.0875), but failing to get the land valuation, as assessed, below its present $450,000? Note that in order for the REIT to achieve a suitable cash-flow-to-equity ratio, it would have had to refinance the property at the best available terms as of the purchase date.

PREPARED BY: MBH

© Thomas A. Prince, 1970

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 EDUCARE SEMINAR PROBLEM FIVE

101 UNIVERSITY OF WISCONSIN

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	217000	.15	.0875

OPERATION CODE:

1–Produces IMV for a given after tax equity yield rate

2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:

1–Constant net income value for each year

2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	10	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	220000	220000	218000	218000	216000
	(6)	(7)	(8)	(9)	(10)
105	216000	214000	214000	210000	210000
	(11)	(12)	(13)	(14)	(15)
106					
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:

1–Corporation (Operating losses applied to other investments)

2–Corporation (Operating losses carried back/carried over)

3–Corporation (Taxable income offset by losses from other investments)

4–Corporation (Set-up solely for this investment)

5–Non-corporation (Operating losses applied to other investments)

6–Non-corporation (Operating losses carried back/carried over)

7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:

1–No recapture

2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)

3–All other residential rentals (After 100 months-declines 1% per month)

4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	1	.48	.10	.10	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:

1–% of IMV (Enter the % in the APP/DEP AT RESALE column)

2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)

3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

5-2

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	1860000	.0175

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	268000

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	3	.64	2	26	0
112	3	.19	2	13	0
113	3	.17	1	5	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	1186414	.06	0	.09170491
119	1	855518	.06	0	.09713413
120					
121					
122					
123					

1ST RUN

```
100 EDUCARE SEMINAR PROBLEM FIVE
101 UNIVERSITY OF WISCONSIN
102 217000,.15,.0875
103 1,10,2
104 220000,220000,216000,216000,216000
105 216000,214000,214000,210000,210000
108 1,.48,.10,.10,3
109 3,1860000,.0175
110 3,268000
111 3,.64,2,26,0
112 3,.19,2,13,0
113 3,.17,1,5,0
117 2
118 1,1186414,.06,0,.09171491
119 1,855518,.06,0,.09713413
```

2D5E70-2

1ST RUN

INVESTMENT MARKET VALUE ANALYSIS
EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

PREPARED BY A COMPUTER IN CONSULTATION WITH
M. B. HODGES,JR MCLEAN, VIRGINIA

****

INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%: $ 2357132

AFTER TAX YIELD OF 8.75%: $ 2492436

****

DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

EXISTING	6.00%	17 YRS	9 MONS	$	1186414
EXISTING	6.00%	16 YRS	1 MONS	$	855518

EQUITY CASH: $ 450504

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE	$	1860000
LESS: MORTGAGE BAL.		1094217
SALES COMMISSION		32550
CASH REVERSION BEFORE TAXES	$	733233
LESS: CAPITAL GAINS TAX(ALT.)		231206
TAX ON RECAPTURED DEPR.		13867
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	488160

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	120576	184713	-85289	-45373	71336	73461
2	220000	116176	177515	-73691	-39203	75736	67291
3	218000	111504	170851	-64355	-34236	80408	60324
4	218000	106545	165877	-54422	-28952	85367	55040
5	216000	101279	163039	-48318	-25705	90633	49793
6	216000	95689	84706	35605	18941	96223	5147
7	214000	89755	84171	40074	21319	102157	769
8	214000	83454	84171	46375	24671	108458	-2583
9	210000	76765	84171	49064	26102	115147	-8014
10	210000	69662	84171	56167	29880	122250	-11792

2 DECTO-1

2ND RUN

```
OLD INPUT
READY
103 2,10,2
REPLACE INPUT        (COMPUTER IS NOW IN OPERATION CODE 2, PREPARED
                      TO ASK USER FOR A NUMBER OF TRIAL IMV AMOUNTS,
                      TO GIVE USER THE AFTER TAX YIELD FOR EACH)
```

2 Dec 70-2

2ND RUN

```
WHAT IS TRIAL IMV AMOUNT NO 1 (0=STOP)?2564000

AFTER TAX YIELD  6.92%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 2 (0=STOP)?2650000

AFTER TAX YIELD  5.19%
DO YOU WANT DETAIL(0-NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 3 (0=STOP)?2475000

AFTER TAX YIELD  9.27%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 4 (0=STOP)?2750000

AFTER TAX YIELD  3.60%
DO YOU WANT DETAIL)0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 5 (0=STOP)?2350000

AFTER TAX YIELD  13.07%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 6 (0=STOP)?2850000

AFTER TAX YIELD  2.33%
DO YOU WANT DETAIL(0=NO,1=YES)?0
```

2Dec70-2

GRAPHIC ANALYSIS FOR INVESTMENT MARKET VALUE

(EDUCARE FIVE)

Investment Criteria

10 Year Ownership Projection Term.

$ 217000 Average Annual Net Income or as shown annually on FORM E.

____% Loan-to-Value Ratio; or assumption of mortgage balance(s) shown on FORMS C & D

Terms of mortgage(s) shown on FORM C.

Land Value = $ 268000; or ____% of IMV.

Capital Imps. at Cost of $_____.

Ordinary State Income Tax Rate = .10 %

Ordinary Federal Income Tax Rate = .48 %

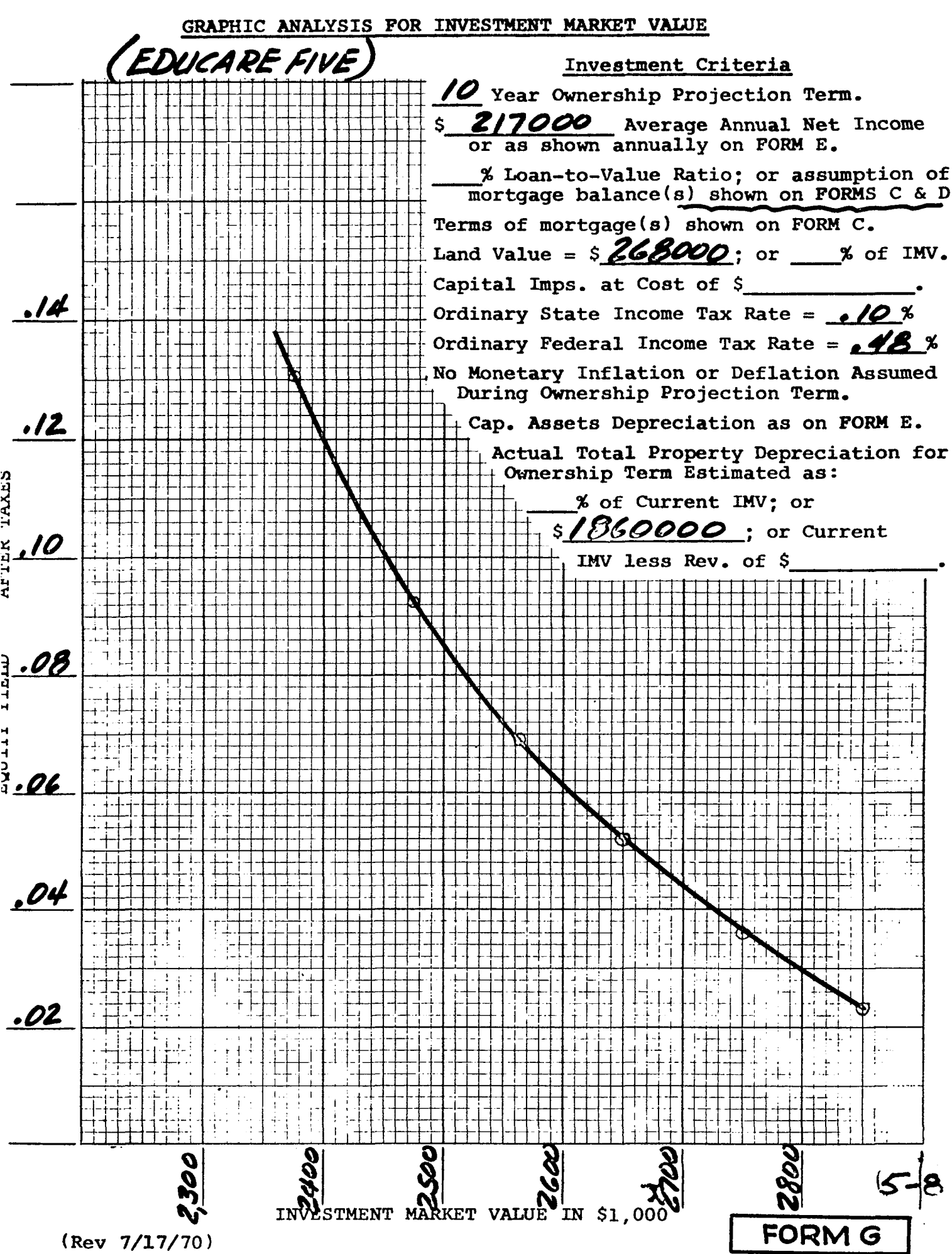
No Monetary Inflation or Deflation Assumed During Ownership Projection Term.

Cap. Assets Depreciation as on FORM E.

Actual Total Property Depreciation for Ownership Term Estimated as:

____% of Current IMV; or

$ 1860000; or Current IMV less Rev. of $_____.



5-8

(Rev 7/17/70)

FORM G

2 DEC 70-2

3RD RUN

INVESTMENT MARKET VALUE ANALYSIS
EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

PREPARED BY A COMPUTER IN CONSULTATION WITH
M. B. HODGES,JR MCLEAN, VIRGINIA

****

INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%: $ 1875093

AFTER TAX YIELD OF 8.75%: $ 2095923

****

DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
NEW 1ST 10.25% 25 YRS 0 MONS $ 1571942

EQUITY CASH: $ 523981

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE	$	1860000
LESS: MORTGAGE BAL.		1336034
SALES COMMISSION		32550
CASH REVERSION BEFORE TAXES	$	491416
LESS: CAPITAL GAINS TAX(STD.)		149296
TAX ON RECAPTURED DEPR.		8291
TAX PREFERENCE TAX		15355
CASH REVERSION AFTER TAXES	$	318474

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	160466	136674	-77140	-33170	14281	78423
2	220000	158931	131348	-70279	-30219	15816	75472
3	218000	157231	126417	-65648	-28228	17516	71481
4	218000	155349	122737	-60086	-25836	19398	69089
5	216000	153265	120637	-57902	-24897	21482	66150
6	216000	150956	62676	2368	1018	23791	40235
7	214000	148400	62280	3320	1427	26347	37826
8	214000	145569	62280	6151	2644	29178	36609
9	210000	142434	62280	5286	2272	32313	32981
10	210000	138961	62280	8759	3766	35786	31487

2DEC20-2

3RD RUN

```
OLD INPUT
READY
103 1,10,2                (PLACES COMPUTER BACK INTO CODE 1 OPERATION
108 5,.40,.04,.05,3        WITH NEW DATA FOR A REAL ESTATE INVESTMENT
110 3,450000               TRUST AS THE PROSPECTIVE PURCHASER.
117 1                      NEW FINANCING REQUIRED TO GET THE REIT
118 2,.75,.1025,300,0      A CASH FLOW RETURN SATISFACTORY TO ITS
REPLACE INPUT              STOCKHOLDERS)
```

2Dec70-2

Real Estate Feasibility Analysis Seminar
Sponsored by the Arizona Chapter of American Institute of Real Estate Appraisers
Doubletree Inn, Scottsdale, Arizona
(November 21-22, 1974)

Morning - Second Day

I. Yesterday we discussed the constraints imposed on feasibility by market action of individual consumers. This morning we want to discuss the constraints imposed by the attributes of the site and public regulation of the site. Site analysis was once called highest and best use analysis and dealt with the legal, technical feasibility, and economic need for a particular use. Today we will recast that into the jargon of the '70's - SUITABILITY, CAPACITY, COMPATIBILITY, and ECONOMIC IMPACT.

A. Louie Carter has a song about things that seem the same but are really not - like a place with birds and bees and grass and trees which to some is just a vacant lot. There is no such thing today as raw land or a vacant lot. Every site has:

1. Static attributes - physical characteristics of size, shape, topography, soils, etc.
2. Linkage attributes - relationships to other sites which may tend to generate movements of goods and people to the subject site.
3. Dynamic attributes - characteristics which affect behavior such as visibility, prestige, or feelings of fear or anxiety.

B. There has been a revolution in the supply of information about sites, particularly static attributes but also the measurement of linkages and dynamic characteristics. This in turn has drastically altered the ability of the public to police land use within the concept of due process of law and within an acceptable cost benefit ratio.

1. The appraiser must have an adequate map of the static attributes or physical facts of the site to determine suitability for use and begin to measure capacity.
2. A basic list of data types and cheap sources of information is provided in Exhibit A, B and C.
3. The appraiser will soon discover that land appraisal assignments may often require the skills of a professional land planner to organize and present all the free data in a comprehensible form.
4. Keep in mind the appraisal function is to interpret the economic (sales price) consequences of suitability, capacity and compatibility.

C. Space technology will have more immediate impact on the use of the surface of this earth than it will have for a long time on the surface of the moon. Space research and military intelligence have developed some incredible new information gathering devices in the form of aerial surveillance.

1. High and low survey photography coordinated with 1/4 1/4 section markers and planning departments can now overlay building permits and other data tied to tax code numbers. (Example DU counts and growth potential for shopping center or bank site).

2. Thermal and infra-red photography (identification of underground faults or vegetation disease as well as micro-climate).
3. In Wisconsin free soil conservation service is considered constructive notice to the public of site limitation and therefore must be considered by the appraiser.
4. The Earth Resources Technology Satellite (Exhibit B)
5. Computerized mapping of suitability (Exhibits D and E)

Suggested reading:

DESIGN WITH NATURE by Ian L. McHarg, Natural History Press, 1969

CITY PLANNING AND AERIAL INFORMATION, by Melville C. Branch, Harvard University Press 1971

MANUAL OF COLOR AERIAL PHOTOGRAPHY by American Society of Photogrammetry, American Society of Photogrammetry, 1968.

D. The site inventory should include physical limits which are created by:
   1. Access controls (proximity is not accessability)
   2. Concealed utility easements
   3. Flood plains which have been determined by Corp of Engineers, etc.
   4. Old foundations, etc.
   5. Scarce environmental elements which almost certainly mean environmental impact litigation
   6. Landmarks or historical structure

E. The land map should also include possible physical controls imposed by legal-political characteristics of the site which are not always obvious from existing zoning or recorded easements. Consider:
   1. Water district, harbor commission, or other special district lines
   2. Premises of community master plans still in incubation process
   3. Tax conservancy commitments
   4. Extra territorial zoning or subdivision powers
   5. Attitudes of sewer, water, and highway commissions
   6. Contractual agreements among previous buyers and sellers which may or may not run with the land.
   7. Planner views of physical barriers to contain sprawl

F. Anticipate impact of impending legislation which appears to have reasonable probability of passage rather than simply meeting current standards relative to:
   1. Septic tank installation
   2. Ground water, depth and conservation of high water recharge areas
   3. Salt water encroachment
   4. Conservation of environmental edges
   5. Conservation of prime agricultural
   6. Impact on off-site areas down wind or down stream

G. Some static attributes can lead to monopoly advantage because its suitability is unique relative to lands all about it, because of prior political review and approval of development plans, including licenses for dredging, creation of water control districts, or control of riparian features essential to contiguous property owners.
   1. Keep in mind that static attributes will help identify most probable use and buyer.
   2. Lack of fit between static site and merchandising data is a basic cause of unsuccessful projects.

H. A map of land use suitabilities will define its maximum capacity to provide usable net acres for different type of land uses. Ultimately the purchase price must always be related to the buyer viewpoint of usable net acres even though sellers like to talk in terms of gross area.

1. Usable net acres relative to development is similar to farm appraisal which classifies net acres as cropped land, pasture, etc.
2. Usable net acres becomes an important qualification in the selection of comparables for the adjustments which must be made.
3. Mixed use acreage may require a set of comparables for each.

II. The linkage attributes of the site have to do with its direct and indirect ties to other nearby sites by street, sidewalk, or site line.

A. Access points in alternative approaches.

1. Traffic department controls, present and proposed.
2. Indirect controls imposed by elements affecting behavior

B. Relationship to ancillary or economic base activities.

C. Simulation of auto, truck, or pedestrian approaches and capacity for volumes generated by site.

D. Implications for off-site improvement budgets.

E. Utilities services are linkage capacity issues, too.

1. Sewer, water, and electric capacity
2. Adequacy of energy sources
3. Implicit resources such as game supplies, open space, continued operation of schools, etc.

III. Dynamic attributes have to do with the mental or emotional qualities of the site and its environment.

A. First there are image problems and opportunities in the location:

1. Historical community reputation and values attached to the area
2. Image conditioning of the approach zone
3. Anxiety factors of access and security
4. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.
5. Noise as a function of traffic count
6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example)
7. Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.
8. Recycling may establish historical roots and images (such as the Plantation House at Sea Pines)

B. Then there are the political images which have been established for a site by the public positions of local politicians or vested interest groups.

1. Potential for dislocation of the disadvantage
2. Potential for dissatisfaction of contiguous property owners and neighborhood associations
3. Potential for misuse by outside vested interest or activist group
4. Hierarchy of regulating agencies whose long term plan affects site in advance of restrictive zoning
5. Compatibility of proposed uses with social preferences of neighborhood

IV. The analysis for feasibility study is equally appropriate to the appraisal of special use sites. The various attributes are compared with a point system and various groups of points can be weighted to determine relative desirability for either site selection, or by correlation to price, for appraisal.

A. Professor Ratcliff, in Chapters 6 and 7 of his most recent book VALUATION FOR REAL ESTATE DECISIONS (available from Democrat Press, P.O. Box 984, Santa Cruz, Cal. 95060) demonstrates a means of converting physical features of homes in comparison to the subject property without having to make arbitrary dollar adjustments.

B. Although his example involves a single family home, it is much more useful to compare commercial sites, as in the two examples in Appendix F & G.

C. The linear regression process is very simple with a small calculator and virtually automatic with an HP-80. Moreover, once the points have been assigned for various attributes it is possible to work backward to the weights buyers are assigned to different groups of factors, a technique which is useful for market insight.

V. Site analysis in terms of static, linkage, and dynamic attributes leads eventually to a basis for environmental impact analysis both for technical and political compatibility of a proposed project.

A. More and more projects will depend on financing, directly or indirectly from the federal government and therefore the analyst and the appraiser must have quick access to worksheets which describe such things as:

1. FHA work sheets on noise control relative to traffic and other sources
2. Federal definitions of the flood plain and procedures for adjustment.
3. State and federal worksheets involving projects like shopping centers, planned unit developments, etc.

B. Recent actions of local administrative agencies for the FHA A-95 form as it may affect feasibility of future projects.

C. The evolving science of normative measurements of environmental and resources impact.

EXHIBIT "A"

INTRODUCTION

This data list is not to be viewed as a final or all inclusive list of needed environmental factors but rather a general framework through which we can work with the County's representatives in identifying the necessary factors needed to assist them in their decision making.

SUGGESTED ENVIRONMENTAL FACTORS AND POSSIBLE DATA SOURCES

A. PHYSICAL CHARACTERISTICS

1. EARTH

*a. Mineral resource [Geological studies/U.S.G.S.]
*b. Construction material [Geological studies/U.S.G.S.]
*c. Landform [Geological studies/U.S.G.S.]
*d. Unique physical features [Geological studies/U.S.G.S.]
*e. Soil [Form 1972 Soil Survey]
1. Depth to bedrock
2. Depth to seasonal high water table
3. Unified class
4. AASHO class
5. Liquid limit
6. Plastic limit
7. Permeability
8. Available water capacity
9. Reaction-ph.
10. Salinity
11. Shrink-swell
13. Suitability-topsoil
14. Suitability-sand and gravel
15. Suitability-road fill
16. Hydrologic soil group
17. Suitability-road location
18. Water retention-embankment

19. Water retention-reservoir area
20. Agricultural drainage
21. Irrigation
22. Limitation-septic tank
23. Agricultural capability unit

f. Topography
*1. % slope-average predominant type [U.S.G.S.]
*2. Centroid elevation [U.S.G.S.]
*3. Orientation [U.S.G.S.]

2. WATER

*a. Surface
*1. Lakes or pond [U.S.G.S./Infra Red Photo]
*2. Rivers [U.S.G.S./Infra Red Photo]
*3. Stream [U.S.G.S./Infra Red Photo]
*4. Intermittent stream [U.S.G.S.]

b. Underground
*1. Ground water levels at wells [Hydrologic data]
*2. Recharge areas [Geological studies]

3. PROCESSES
*a. Floods
1. 10 year [Infra Red or Color Photo]
2. 25 year [Infra Red or Color Photo]
3. 50 year [Infra Red or Color Photo]
4. 100 year [Infra Red or Color Photo]

*b. Stability
Slides and slumps [Geological studies/Soil Map/Photo]

*c. Stress-strain
Earthquake [Geological studies/Photo's]

*d. Air movements [Climatological Data]

B. BIOLOGICAL CONDITIONS

1. FLORA
*a. Dominant type [Infra Red Photo]
1. Trees
2. Shrubs
3. Grass
4. Crops
5. Swamp
*b. Endangered species [State/County Studies]

1. Tree
2. Shrub
3. Grass
4. Other

2. Fauna
*Endangered species [State/County Studies]

C. CULTURAL FACTORS

*1. LAND USE- Dominant type [Infra Red Photo's]

a. Wilderness
b. Wetland
c. Forest
d. Grazing
e. Agriculture
f. Residential
g. Commercial
h. Industrial
i. Mining and quarrying/wells

*2. RECREATION [State/County/Infra Red Photo]

a. Hunting
b. Fishing
c. Boating
d. Swimming
e. Camping and hiking
f. Picnicking
g. Golfing
h. Tennis
i. Other

*3. AESTHETICS AND HUMAN INTEREST [State Studies/Infra Red Photo]

a. Scenic views and vistas
b. Wilderness qualities
c. Landscape design
e. Unique physical features
f. Parks and reserves
g. Monuments
*h. Rare and unique species or ecos./stems[State/Infra Red Photo]
*i. Historical or archaeological sites and objects [State Studies/Infra Red Photo]

4. CULTURAL STATUS
*a. Cultural patterns (life Style) [State/ Photo's]

*b. Population density	[Photo's]

5. MAN-MADE FACILITIES

*a. Transportation network	[U.S.G.S./Photo's]
*b. Utility network	[County/Photo's]
*c. Waste disposal	[County/Photo's]

6. POLITICAL BOUNDARIES

*a. Zoning	[County]
*b. Special assessment districts	[County]
*c. Sewage district	[County]
*d. City boundaries	[County]
*e. School district High, Junior, Elementary	[County]

Exhibit B

INTRODUCTION

Appraisers and real estate counselors are expected to consider a great array of information when reviewing land in its present and projected uses. In attempting to respond to these reviews or assistments these persons must begin to search out and exploit to the fullest all sources of accurate and relevant information.

A variety of government agencies are expanding the number of free and low cost sources of information. This information is available to the citizen, providing he knows how and from where to request the information.

The following list of sources is organized by agency and type of information or data index available from each agency.

I. The United States Geological Survey

Address: Map Information Office
U.S. Geological Survey
Washington, D.C. 20242

Phone: 202/343-2446

A. Topographic Map

A topographic map is a graphic representation of selected manmade and natural features. It is a record in convenient readable form of the physical characteristics of the terrain as determined by precise engineering surveys and measurements. The distinguishing characteristic of a topographic map is that through the use of a contour symbol it portrays the shape and elevation of the landscape. To understand the contour symbol, think of it as an imaginary line on the ground which takes any shape necessary to maintain a constant elevation above sea level.

The colors in which symbols are printed indicate the general classes of map features they represent. Symbols for water features are printed in blue; manmade objects (roads, railroads, buildings, transmission lines, and many others) are shown in black; and green is used to distinguish wooded areas from clearings. The contours which portray the shape and elevation of the land surface are printed in brown.

On recent maps, solid red is used to represent or emphasize certain cultural features, such as the more important roads, fence lines, and the boundary lines of townships, ranges, sections, and land growth in states subdivided by public land surveys.

A booklet describing topographic maps and symbols is available free upon request from the Map Information Office of the U.S. Geological Survey.

B. Status Index Maps

Maps showing the status of various phases of mapping and areas covered by aerial photography in the United States are available free on request. There are three types of status index maps all printed at the same scale. Scale, 1:5,000,000 (1 inch = about 80 miles); Size, 27 x 41 inches.

1. Topographic Mapping--Status and Progress of Operations (7-1/2 and 15 minute series).

   Shows the status of topographic mapping and progress of operations in the United States by the Geological Survey and other federal agencies. General appraisal of the adequacy of these maps is indicated by color patterns. Published semi-annually.

2. Status of Aerial Photography.

   Shows the areas that have been photographed and agencies holding the film. Aerial photographic coverage is shown only if reproductions are available for purchase.

3. Status of Aerial Mosaics.

   Shows areas in the United States for which mosaics or photomaps have been prepared from aerial photographs, scale of negatives, dates of photography, and sources from which copies may be obtained.

C. State Index Maps

Shows published topographic maps in each state, Puerto Rico, and the Virgin Islands. Available free on request

from U.S. Geological Survey, Washington, D.C. 20242, or Federal Center, Denver, Colorado 80225. These indexes contain lists of special maps, addresses of local map reference libraries, local map dealers, and federal map distribution centers. An order blank and detailed instructions for ordering maps are also supplied with each index.

D. Geological Survey Photography

Probably one of the greatest sources of exploitable information is the aerial photograph. Advances in the development of new films and cameras has brought to the decision-maker a totally new dimension in area analysis. Available today is not only the customary black and white photography taken from 5,500 to 24,000 feet above the ground, but also color and color infrared photographs, many taken from an elevation as high as 65,000 feet above the ground.

1. Aerial Photographic Reproductions

The Map Information Office, U.S. Geological Survey, maintains records of aerial photographic coverage of the United States and outlying areas, based on reports from federal and state agencies and commercial companies. From these records, the Map Information Office furnishes data to prospective purchasers on the available photography and the agency or firm holding the aerial film.

Geological Survey vertical aerial photography is obtained primarily for topographic and geologic mapping. Reproductions from this photography are usually satisfactory for general use. Because reproductions are not stocked, but are custom processed for each order, they cannot be returned for credit or refund.

2. Print Sizes

Contact prints are the same size as aerial negatives, approximately 9 x 9 inches. Prints are available with stereoscopic overlap or without such overlap (pictorial coverage). Photographs with stereoscopic overlap, when viewed with a stereoscope, will permit the observer to obtain a mental impression of the three dimensional shape of the

landscape. Stereoscopic coverage requires about twice as many prints as pictorial photography. Orders for photographs or requests for information should specify which type is needed.

Enlargements to an exact ratio or to a specific scale are available. If ratio factors are not furnished by the purchaser, enlargements will be processed to ratios derived from lens focal lengths and flight heights specified in the photographic contract or reported by the contractor.

Prints are processed only from whole negatives; prints of selected parts of negatives are not available.

Index: A complete index listing type of photography, scale, date, direction flight was flown, and lens focal length is available from any of the regional headquarters. Where large areas are involved, photo indexes are essential for selecting prints and should be requested.

3. Photography Orders

Because many types of reproductions are available, requests should state the purpose for which the photographs are desired and define the specific area of interest by means of a detailed description, sketch, or latitude and longitude position. The size of photographs and type of coverage (pictorial or stereoscopic) should also be specified.

a. Requests for reproductions or information from the following states should be sent to: Atlantic Region Engineer, U.S. Geological Survey, 1109 N. Highland St., Arlington, Va. 22210.

Alabama, Connecticut, Delaware, Florida, Georgia, Indiana, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Vermont, West Virginia, Puerto Rico, Virgin Islands, U.S.

b. Requests for reproductions or information from the following states should be sent to: Central Region Engineer, U.S. Geological Survey, Box 133, Rolla, Mo. 65401.

Arkansas, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Oklahoma, Nebraska, North Dakota, South Dakota, Wisconsin.

c. Requests for reproductions or information from the following states should be sent to: Rocky Mountain Region Engineer, U.S. Geological Survey, Building 25, Federal Center, Denver, Colorado 80225.

Alaska, Colorado, Montana, New Mexico, Texas, Wyoming.

d. Requests for reproductions or information from the following states should be sent to: Pacific Region Engineer, U.S. Geological Survey, 345 Middlefield Road, Menlo Park, California 94025.

Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington.

Shipment by parcel post or railway express is prepaid. Extra charges for shipment by air express or airmail and special delivery are paid by the purchaser.

Check, money order, or draft payable to the U.S. Geological Survey must accompany the order. Refund will be made for any part of the order that is not filled.

II. ERTS

On Sunday, July 23, 1972, the Earth Resources Technology Satellite (ERTS-A) was launched into orbit. It is a butterfly shaped observatory flying in a 570 mile circular orbit which is nearly polar. From this vantage point, its imaging systems provide useful information concerning agriculture and forest resources, mineral and land resources, water resources, marine resources, land use and environmental quality, and ecology.

ERTS circles the earth every 103 minutes or 14 times per day. The pass is from north to south at an angle of 80° retrograde to the equator. Each pass covers a region 115 miles wide, however there is some overlap between the proceeding and succeeding passes. After 18 days or about 252 passes the satellite returns to the same position. In other words ERTS covers the entire globe every 18 days.

The ERTS-A spacecraft carries two types of imaging sensors: the Return Beam Vidicon (RBV) cameras and the Multi-Spectral Scanner (MSS).

The Return Beam Vidicon cameras are television cameras mounted side by side in the spacecraft and bore-sighted to simultaneously photograph the earth beneath the spacecraft in each of three spectral regions: .475 to .575 micrometers (blue-green, Band 1); .580 to .680 micrometers (red, Band 2); and .690 to .830 micrometers (near infrared, Band 3). These cameras do not contain film but rather their images are stored on photosensitive surfaces within each vidicon camera which in turn is scanned by an internal electron beam to produce a video picture. This process requires 11 seconds to read out and transmit all three pictures. The RBV cameras will repeat the cycle each 25 seconds producing overlapping pictures of the ground scene below with 10% overlap.

The Multi-Spectral Scanner Subsystem (MSS) covers the same area as the RBV system in four wavelength bands: .5 to .6 micrometers (green, Band 1); .6 to .7 micrometers (red, Band 2); .7 to .8 (near infrared, Band 3); and .8 to 1.1 (near infrared, Band 4).

The Multi-Spectral Scanner and Return Beam Vidicon cameras on ERTS-A take pictures in specific wavelength bands for very particular reasons.

1. Green, Band 1, .5 to .6 micrometers.

   This band appears green to the naked eye. Water is quite transparent in this band which consequently tends to enhance features contained within water such as sediment. Unfortunately, light scattering in the atmosphere makes "seeing" in this band difficult at times.

2. Red, Band 2, .6 to .7 micrometers.

This band appears red to the eye. Unlike the green band, the red easily penetrates the atmosphere. This is good for land use mapping where regional population patterns need to be observed against the vegetation patterns. The red band shows good contrast between natural surface cover such as vegetation which absorbs most of this energy against manmade structures which strongly reflect this energy. Many manmade structures appear very bright against dark appearance of vegetation. Bare soil is often highly reflective in this band, so that deserts are best seen in this band.

3. Infrared, Bands 3 and 4, .7 to 1.1 micrometers.

This is invisible to the human eye. Water appears black in the infrared because water almost totally absorbs the radiant energy in these wavelengths. A significant characteristic about the infrared bands is that vegetation appears bright and water appears dark. As a comparison, vegetation is as bright in the infrared as snow is in the visible region.

The average green leaf reflects about 20% of green light and absorbs the other 80%. It absorbs approximately 95% of red light due to absorption by chlorophyll and is frequently called the chlorophyll absorption band. It reflects approximately 80% of the infrared light and transmits the other 20%. The brightness of vegetation in this band depends upon several things. First, the type of vegetation, i.e., big leaves will be brighter than small ones. Hardwood trees (deciduous) show up brighter than pine (evergreen). Because of leaf thickness, tobacco shows up brighter than wheat. Second, in the infrared, crop brightness depends upon plant health. Healthy crops, in the infrared will be much brighter than diseased vegetation.

A. <u>How ERTS Imagery May Be Obtained</u>

ERTS imagery may be obtained at cost from several sources: EROS (Earth Resources Observation Systems), NOAA (National Oceanographic and Atmospheric Administration, and The Department of Agriculture.

1. The EROS Data Center

The EROS Data Center in Sioux Falls, South Dakota, is operated for the Earth Resources Observation Systems Program of the Department of the Interior by the Topographic Division of the Geological Survey to provide access to Earth Resources Technology Satellite (ERTS) imagery, USGS aerial photography, and NASA aircraft data for the general public, domestic government agencies at all levels, foreign government agencies at all levels, and foreign government. Facilities are available for data storage, retrieval, reproduction, and dissemination, and for user assistance and training.

a. ERTS Imagery

ERTS imagery, originally processed at the Goddard Space Flight Center, NASA Data Processing Facility (NDPF), is a significant part of the Data Center imagery file. Each scene, covering 10,000 square nautical miles, is imaged seven times from ERTS-A. The raw data is either system corrected images (bulk processed) and provided to the Data Center in the form of 70 mm film, or scene corrected images (precision processed) and provided on 240 mm film at a scale of 1:1,000,000. The Data Center has a catalog of the ERTS imagery and a 16 mm browse film including only one RBV image and one MSS image per scene for rapid evaluation of coverage and cloud cover.

Copies of the system corrected individual images are available at contact scale, 1:3,369,000 approximately 2-1/2 x 2-1/2 inches or enlarged by a factor of 3.369 to 1:1,000,000 scale, approximately 9 x 9 inches including marginal data. Color composites, derived by processing the three RBV or three of the four MSS images together are available only at a scale of 1:1,000,000 of those frames prepared by NDPF.

Copies of scene corrected (precision) images may be obtained only at scales of 1:1,000,000 or larger. These images have been rectified at the NDPF to orthographic photographs and have been overprinted with the UTM grid.

Both individual and color composites are available at 1:1,000,000 scale, approximately 9 x 9 inches including marginal data. Only about 5% of the ERTS images available in the Data Center will have been precision processed.

b. NASA Aircraft Imagery and Photography

Imagery and photography obtained by NASA, as part of its aircraft program in support of the development of Earth Resources Surveys by aircraft and spacecraft, are processed at the Manned Spacecraft Center, Houston, Texas, and at the Ames Research Center, Moffett Field, California. The data was acquired for specific purposes and to varied specifications as to time, aerial coverage, and sensors, and is primarily of test sites within the continental United States. Supplementary to the NASA aircraft program data, are the earth-oriented photographs from the Apollo and Gemini manned spacecraft missions. A catalog of all this NASA imagery and photography, and browse films, is also at the Data Center.

Copies of these images and photographs may be purchased at contact scales, enlargements, or reductions, in color or black and white, on film or on paper, in rolls or cut. Provided with each image order are annotations on a computer printout that provide: date, local time, geographic coordinates, print scale, flying height, film, filter, sensor, originating agency, project, roll and frame, and order number in an understandable code.

c. USGS Aerial Photography

Aerial photographs taken by the U.S. Geological Survey primarily for purposes of topographic and geologic mapping are available from the Data Center. The vast majority are black and white vertical photographs at a scale of approximately 1:24,000, but they range in scale from 1:12,000 to 1:66,000. In addition, photography flown in support of various projects of the Bureaus of Reclamation and Land Management is routinely provided to the U.S. Geological Survey for indexing and general distribution.

These photographs are at various scales reflecting the specifications of the particular project.

Photographs obtained prior to 1941 are held by The National Archives and Record Service. This material is available on request but not within the normal one week reproduction time.

d. How to Place an Order

To obtain data from the EROS Data Center you may:

Telephone from: 7:00 a.m. to 7:00 p.m., Central Time
605/339-2270 (Commercial)
605/336-2381 (Federal Telephone System Users)

Visit from: 7:45 a.m. to 4:30 p.m., Central Time
EROS Data Center
10th and Dakota Avenue
Sioux Falls, South Dakota

Write at any time:

EROS Data Center
Data Management Center
Sioux Falls, South Dakota 57198

If you should need assistance EROS personel will help you identify the data best suited to your needs, but you must be prepared to tell them:

1. Limits of the geographic area of interest,

2. What you want to use the data for, and

3. How you want to use the data.

e. Browse Films

Copies of ERTS imagery, aircraft program imagery and photography, and USGS photography produced on 16 mm film are available for purchase. These films are not intended for basic research.

They are designed to provide prepurchase evaluation of such things as: aerial coverage, cloud cover, and sensor angle. Most of the browse films have two indexes to locate scenes at high speeds: Kodamatic Indexer Code Lines and Image Control; NASA aircraft program imagery and photography browse films have only Image Control. The film is supplied on an open reel and each film is designed so that it can be cut and mounted by the user for microfiche presentation. Browse films for ERTS data are updated every 18 days and are available on a subscription basis. Updating of the other browse films is irregular and films must be purchased individually.

Browse file locations have been established by the Department of the Interior at:

EROS Data Center
U.S. Geological Survey
10th and Dakota Avenue
Sious Falls, South Dakota 57198
Phone: 605/339-2270

Map Information Office
U.S. Geological Survey
Room B-310, GSA Building
18th and F Streets, NW
Washington, D.C. 20242
Phone: 202/343-2611

CARETS Information Center
U.S. Geological Survey
Room 837, 1717 H Street, NW
Washington, D.C. 20242
Phone: 202/343-5985

Water Resources Division
U.S. Geological Survey
Room 343, Post Office and
Court House Building
Albany, New York 12201
Phone: 518/472-3107

U.S. Geological Survey
5th Floor, 80 Broad Street
Boston, Massachusetts 02110
Phone: 617/223-7202

EROS Program Assist. Office
Room B-210, Building 1100
U.S. Geological Survey
Mississippi Test Facility
Bay St. Louis, Miss. 39520
Phone: 601/688-3541

Regional Topographic Engineer
U.S. Geological Survey
Room 2404, Building 25
Denver Federal Center
Denver, Colorado 80225
Phone: 303/234-2351

Water Resources Division
U.S. Geological Survey
Room 5107, Federal Building
230 North 1st Avenue
Phoenix, Arizona 85025
Phone: 602/261-3188

Public Inquiries Office
U.S. Geological Survey
Room 7638, Federal Building
300 N. Los Angeles Street
Los Angeles, California 90012
Phone: 213/688-2850

Public Inquiries Office
U.S. Geological Survey
Room 678, U.S. Court House Bldg.
West 920 Riverside Avenue
Spokane, Washington 92201
Phone: 509/456-2524

Public Inquiries Office
U.S. Geological Survey
108 Skyline Building
508 2nd Avenue
Anchorage, Alaska 99501
Phone: 907/277-0577

Regional Topographic Engineer
U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025
Phone: 415/323-8111

Inter American Geodetic Survey
Headquarters Building
Fort Clayton, Canal Zone
Phone: 117-1201
Panama Routine 833-227

Topographic Division
U.S. Geological Survey
961 Pine Street
Rolla, Missouri 65401
Phone: 314/364-3680

State Topographic Engineer
Florida Dept. of Transportation
State Topographic Office
Lafayette Building
Koger Office Center
Tallahassee, Florida 32304
Phone: 904/599-6212

Director
Portland Service Center
U.S. Bur. of Land Management
710 N.E. Holladay
Portland, Oregon 97208
Phone: 503/234-4100

EROS Program Library
U.S. Geological Survey
Room 827, 1717 H Street, NW
Washington, D.C. 20244
Phone: 202/343-7500

Chief, Maps and Surveys Branch
Tennessee Valley Authority
200 Haney Building
311 Broad Street
Chattanooga, Tennessee 37401
Phone: 615/755-2133

Dr. Everett A. Wingert
University of Hawaii
Department of Geography
Physical Science Building
Room 313-C
Honolulu, Hawaii 96822
Phone: 944-8463

EROS Coordinator
Office of the Governor
Pago Pago, American Samoa
Phone: 32203

EROS Coordinator
Trust Territory of the Pacific Islands
Office of the High Commissioner
Saipan, Mariana Islands 96950
Phone: 202/343-2141 or 2176

Dr. Frank J. Janza
Sacramento State University
Dept. of Electrical Engineering
6000 Jay Street
Sacramento, California 95819
Phone: AC-916/454-6545

Dr. Douglas Smith
University of Guam
EROS/P.I.E.R. Program
Section of the Pacific Room
P.O. Box EK
Agana, Guam 96910
Phone: 749-2921, Ext. 363

2. National Ocenaographic and Atmospheric Administration

The Department of Commerce, National Oceanographic and Atmospheric Administration (NOAA) has an Earth Resources Data Center at Suitland, Maryland. This center will furnish data gathered by ERTS to users in the oceanographic, hydrologic, and atmospheric sciences as well as to the general public.

To aid in selecting the data desired, NOAA has established public browse files at 22 locations around the nation. They are located in:

Hillcrest Heights, Md.	Fort Worth, Tex.
Rockville, Md.	Salt Lake City, Ut.
Silver Spring, Md.	Anchorage, Alaska
Washington, D.C.	Honolulu, Hawaii
Miami, Fla.	Norman, Okla.
Norfolk, Va.	Boulder, Colo.
Garden City, N.Y.	LaJolla, Calif.
Woods Hole, Mass.	Tibaron, Calif.
Asheville, N.C.	Seattle, Wash.
Detroit, Mich.	Madison, Wisc.
Kansas City, Mo.	College Station, Tex.

Reproductions may be ordered from the National Climate Center, NOAA Environmental Data Service, Federal Building, Asheville, N.C. 28801.

3. Department of Agriculture

The Department of Agriculture also sells ERTS imagery dealing with agriculture. Photos may be obtained from the Western Aerial Photo Laboratory, Agricultural Stabilization and Conservation Service, USDA, 2505 Parley's Way, Salt Lake City, Utah 84109.

It is now possible to order ERTS Standard Catalogs from the Superintendent of Documents. Private individuals should direct requests to the NASA Publications Desk, at the main GPO bookstore, 710 North Capital Street, Washington, D.C. 20402, Telephone: 202/783-3238.

III. U.S. Department of Agriculture - Soil Conservation Service

The U.S. Department of Agriculture, in cooperation with state agricultural experiment stations and other federal and state agencies, has been making soil surveys and publishing them since 1899. These surveys are designed to furnish soil maps and interpretations needed in guiding decisions about soil selection, use, and management.

Since these soil surveys are a basic scientific inventory, they can provide valuable information needed for land use planning, highway location and design, park and open space planning, subdivision layout and designs, planning and design of sewage disposal facilities, zoning and other land use controls, as well as for agricultural and forest land use planning and management.

Soil surveys published since 1957 contain many different kinds of interpretations for each of the different soils mapped in the area. The kind of interpretations included in these recent surveys vary with the needs of the area, but the following interpretations are in most of them: estimated yields of the common agricultural crops under defined levels of management, land-capability interpretations, soil-woodland interpretations, range land interpretations, engineering uses of soils, interpretations for community planning, suitability of the soil for drainage and irrigation, and suitability of the soil for recreation and wildlife.

Most of the soil surveys published since 1957 contain soil maps printed on a photomosaic base. The usual scale is 1:20,000 or 1:15,840 depending upon the needs of the area.

A soil survey published by the U.S. Department of Agriculture that is still in print may be obtained in one of the following ways:

1. Land users in the area surveyed and professional workers who have use for the survey can obtain a free copy from the local office of the Soil Conservation Service, from their county agent, or from their congressman. Those outside the area surveyed who have

use for the survey can obtain a free copy from the Information Division, Soil Conservation Service, Washington, D.C. 20250.

2. For a time after publication, copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

3. Many libraries keep published soil surveys on file for reference. Also soil conservation district offices and county agricultural extension offices have copies of local soil surveys that may be used for reference.

A list of all published soil surveys may be obtained by writing the Information Division, Soil Conservation Service, Washington, D.C. 20250.

Requests for information pertaining specifically to soil conservation service photography should be addressed to: Director, Cartography Division, Soil Conservation Service, USDA Federal Center Building, Hyattsville, Maryland 20781.

IV. Additional Federal Agency Photography

Besides the Geological Survey and Soil Conservation Service, several other federal agencies regularly make extensive use of aerial photography. These include the Agricultural Stabilization and Conservation Service and the U.S. Forest Service.

Requests for information pertaining to Agricultural Stabilization and Conservation Service Photography should be addressed to a regional laboratory.

Orders for photographs of the following states should be addressed to: Western Aerial Photography Laboratory, Compliance and Appeals Division, ASCS-USDA, 2505 Parley's Way, Salt Lake City, Utah 84109 (Tel. 801/524-5856).

Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Kansas, Louisiana, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, Texas, Utah, Washington, Wyoming.

Orders for photographs of the following states should be addressed to: Eastern Aerial Photography Laboratory, Compliance and Appeals Division, ASCS-USDA, 45 South French Broad Avenue, Asheville, North Carolina 28801 (Tel. 704/254-0961, Ext. 610).

Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin.

Requests for information pertaining to U.S. Forest Service Photography should be addressed to: Division of Engineering, Forest Services, USDA, Washington, D.C. 20250.

V. Conclusion

The interpretation of aerial photographs and soil surveys represents a tool for efficient, economical, and highly detailed landscape evaluation. It is hoped that the use of these new and ever expanding data sources will assist in providing socially acceptable decisions concerning the land development and valuation process.

The sources of information outlined in the paper do not begin to represent all the available information, either by agency or within agency. These information sources do represent an initial contact point from which other information concerning a particular area or problem can be identified if needed.

EROS Data Center Photographic Products Price List -- November 1972

Contact prints, enlargements and transformed prints are unmounted and untrimmed. The reproduction will be printed on standard paper stock unless the order specified other materials.

PRODUCT	PRICE	
Black and white paper prints	1 to 25	Over 25*
Contact prints:		
70 mm	$ 1.25	$ 1.00
5 in x 5 in	1.50	1.00
9 in x 9 in	1.75	1.25
10 in x 12 in*	2.50	2.50
20 in x 24 in**	3.00	3.00
Enlargements:***		
20 in x 20 in	3.50	3.00
30 in x 30 in	4.50	3.50
40 in x 40 in	9.00	8.00
Black and white film transparency		
Contact prints:		
16 mm (100 ft. roll)	15.00	15.00
35 mm (100 ft. roll)	20.00	20.00
70 mm	2.50	2.50
5 in x 5 in	2.75	2.75
10 in x 10 in	3.00	3.00
Color paper print		
Contact prints:		
70 mm	4.00	2.50
10 in x 10 in	7.00	3.00
Enlargements:***		
20 in x 20 in	12.00	9.00
30 in x 30 in	17.00	13.00
40 in x 40 in	25.00	20.00
Color film transparency		
Contact prints:		
16 mm (100 ft. roll)	20.00	20.00
35 mm (100 ft. roll)	25.00	25.00
70 mm	4.00	2.50
10 in x 10 in	7.00	4.00
Enlargements:***		
20 in x 20 in	15.00	8.00
30 in x 30 in	19.00	15.00
40 in x 40 in	27.00	22.00

	1 to 25	Over 25*
Transformed prints from either convergent or transverse low-oblique photographs	$ 3.50	$ 3.00

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* Quantity prices apply only to those prints ordered in excess of 25 of the same size, i.e., 26 contact prints cost: 25 at $1.75 each--$43.75 plus 1 at $1.25 - $45.00.

** Photo indexes.

*** For an intermediate-size enlargement, use the price listed for the next larger size.

The EROS Data Center is located at 10th and Dakota Avenue, Sioux Falls, South Dakota 57198, Telephone: 605/339-2270.

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2. Bartelli, Linda, ed., Soil Surveys and Land Use Planning, Soil Science Society of America, Madison, Wisconsin, 1966.

3. Geological Survey Circular 645, "A Procedure for Evaluating Environmental Impact", U.S. Geological Survey, Washington, D.C., 1971.

4. Gruen, Gruen and Associates, The Impacts of Growth, California Better Housing Foundation, Inc., Berkely, California, 1972.

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6. Kiefer, Ralph W., "Terrain Analysis for Metropolitan Fringe Area Planning", Journal of the Urban Planning and Development Division, ASCE, Vol. 93, No. UP4, Paper 5649, 1967.

7. Kiefer, R. W. and M. L. Robbins, "Computer-Based Land Use Suitability Maps", Paper presented to 1972 Annual and National Environmental Engineering Meeting, Houston, Texas, October, 1972.

8. List of Published Soil Surveys, U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C., January, 1972.

9. Lueder, Donald R., Aerial Photographic Interpretation, McGraw-Hill, New York, 1959.

10. Lynch, Kevin, Site Planning, The M.I.T. Press, Cambridge, Massachusetts, 1962.

11. McHarg, Ian L., Design With Nature, Natural History Press, Garden City, New York, 1969.

12. Miller, Allen H. and Bernard J. Niemann, An Interstate Corridor Selective Process, Environmental Awareness Center--Department of Landscape Architecture, University of Wisconsin, Madison, Wisconsin, 1972.

13. Scherz, James and Alan Stevens, An Introduction Photography and Remote Sensing, Department of Civil and Environmental Engineering, University of Wisconsin, Madison, Wisconsin, 1969.

14. "Topographic Maps", U.S. Geological Survey, Washington, D.C.

Exhibit C

Cost Effective Data Collection Sources

Data Requirement	Data Sources							
	High Altitude Aerial Photography	Low Altitude Aerial Photography	Field Investigations	Special Purpose Maps	Topographic Maps	Government Publications	Non-government Publications	Local Experts
I. Topography	2				1			
II. Soils								
Class	2			1				
Permeability						1		2
Depth of Bedrock						1		2
III. Vegetation								
Association Level	1			2				
Community Level	1			2				
Species Level			1					2
IV. Land Use								
Urbanized Area	1			2				
Commercial Land	1					2	2	
Commercial Type			1	1				
V. Agriculture								
Cultivated Land	1			2		2		
Crop Class	1		2					
Crop Type		2	1	1				

1 Primary Source
2 Secondary Source

Exhibit D

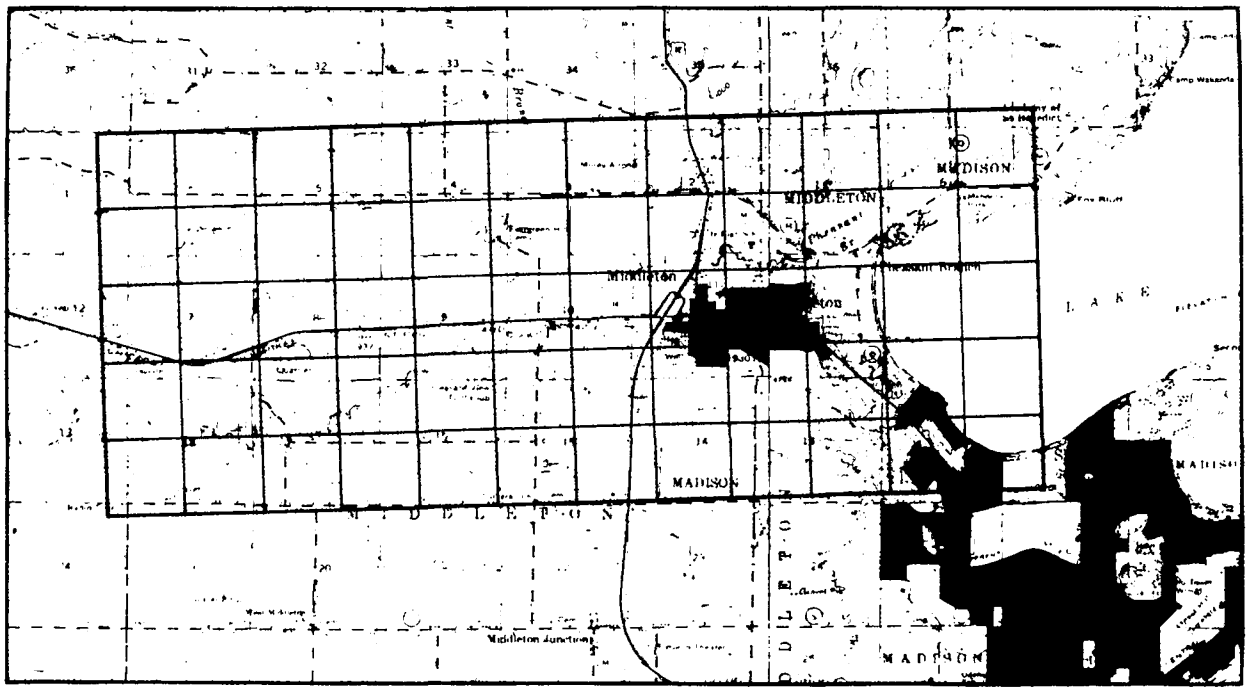

FIG. 1 - U.S.G.S. TOPOGRAPHIC MAP WITH 1 km^2 GRID

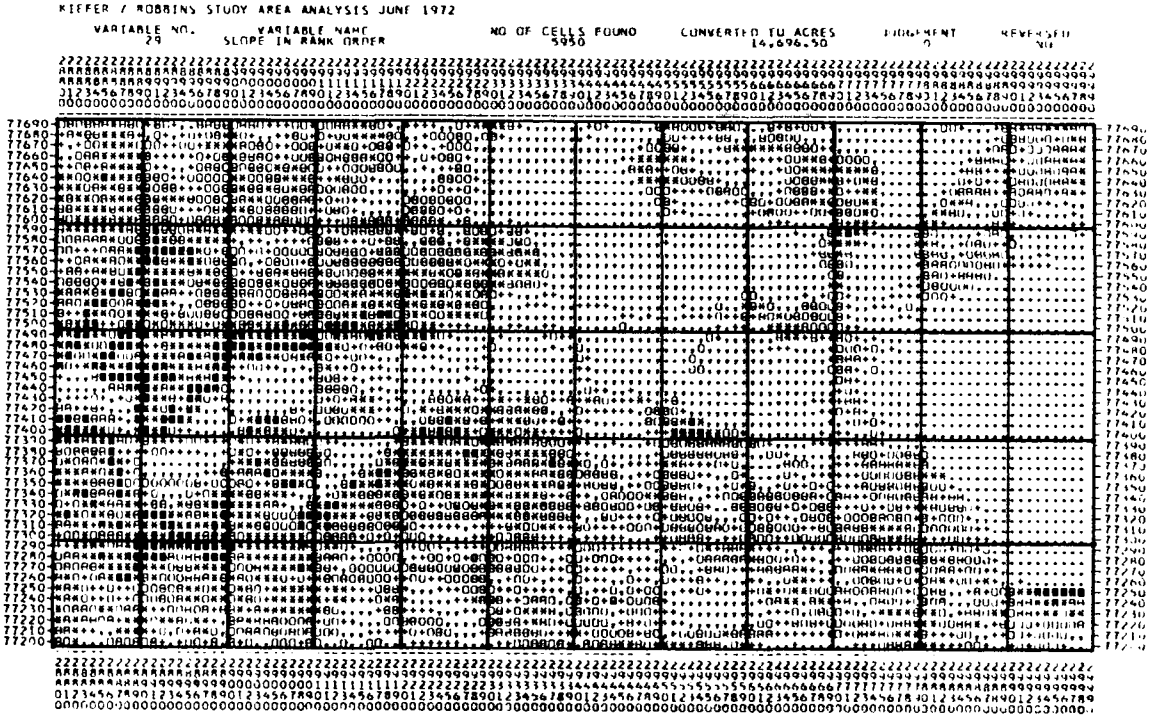

FIG. 2 - COMPUTER PRINTOUT OF TOPOGRAPHIC SLOPE WITH 1 km^2 GRID

Exhibit E



FIG. 21 - RESIDENTIAL LAND USE SUITABILITY WITH 1401 LEAST FAVORABLE CELLS DROPPED (4078 CELLS SHOWN)



FIG. 22 - RESIDENTIAL LAND USE SUITABILITY WITH 1803 LEAST FAVORABLE CELLS DROPPED (3676 CELLS SHOWN)

EXHIBIT #8

Basic Information on Restaurant-Commercial Land Sale Comparables

	Barnaby's East	Barnaby's West	Bud's West	Pigs Ear East	Marc's Big Boy South	Marc's Big Boy East
Sales Price	$92,000*	$89,000	$75,700	$91,000	$87,500	$85,000
Sales Date	10-6-70	6-30-70	6-29-71	5-20-72	9-3-69	3-15-68
Type of Deed	Lease with Option	WD	WD	WD	WD	WD
Volume & Page	209-455	184-75	264-173	344-385	130-463	15-108
Grantee	Barnaby's Inc.	Barnaby's Inc. Clyde Chamberlain		Poole, Inc.	B & G Realty	B & G Realty
Area	38,211	32,900	45,236	141,570	38,327	30,237
Zoning	C-2	C-3-L	C-3-L	M-1	C-2	C-2
Principal Business Frontage	E. Washington Ave.	Mineral Point & Grand Canyon Roads	Odana Rd.	Cottage Grove Road & Atlas Avenue	S. Park Street	E. Washington Ave.
Position on Block	Inside lot	Corner lot	Inside lot	Corner lot	Corner lot	Inside lot

All have city services, Pigs Ear did not have curb and gutter
No adjustment of time required as restaurant economics would not permit inflation of land prices.

EXHIBIT F

EXHIBIT #9

Attribute Point and Weight Comparison
Of Restaurant-Commercial Land Sales and Subject Property

	(See Exhibit #8)	Barnaby's East		Barnaby's West		Bud's West		Pigs Ear East		Marc's Big Boy South		Marc's Big Boy East		Subject	
30	*Site	Points	Wgt'd Pts												
	Shape	5		1		5		3		5		3		5	
	% Usable	3		3		5		5		5		5		1	
	Site Preparation	3		1		5		5		5		5		5	
	Visibility	3		5		5		3		5		3		3	
	Access														
	Left & Right Turn	5		5		5		3		3		3		1	
	Frontage Road	3		5		5		1		5		5		5	
	Total	18		20		25		20		28		24		20	
	Weight		540		600		750		600		840		720		600
50															
	Linkages														
	Traffic Volume	5		5		3		3		5		5		3	
	Supportive Retail/Serv.	5		5		3		1		1		3		1	
	Proximity to Multi-Family Residential	1		5		5		1		3		3		3	
	Proximity to Employm.	3		3		3		1		1		5		3	
	**Interstate-Beltline	2		1		1		3		2		2		1	
	Total	15		18		15		9		12		18		11	
	Weight														
20	Image														
	Development Activity	5		5		3		1		1		3		1	
	Prestige of Street Address	5		5		3		1		3		5		1	
100	Total	10		10		6		2		4		8		2	
			200		200		120		40		80		160		40
	*Scale 1,3,5 Except **		1490		1700		1620		1090		1520		1780		1190

EXHIBIT F

EXHIBIT F

Determination of Linear Regression
Weighted Mean Value of Land/sf
Commercial-Restaurant

Comparable	1 Land $/sf Yi	2 Total Wgtd. Pts. Xi	3 (Land $/sf)^2 Yi^2	4 (Wgtd.Pts)^2 Xi^2	5 (3 x 4) XiYi
1	$2.40	1490	5.76	2220100	3575
2	2.73	1700	7.45	2890000	4641
3	1.67	1620	2.79	2624000	2705
4	.64	1090	.41	1881000	698
5	2.28	1520	5.20	2310400	3466
6	2.81	1780	7.90	3168400	5002
TOTAL	$12.53	9200	29.51	15093000	20087
Mean	(Y)=$2.09	(X)=1533			

Calculations of Mean, Standard Deviation

$$\text{Sum } y^2 = Y^2 - n(Y)^2$$

$$= (29.51)^2 - 6(2.09)^2$$

$$= 845$$

$$\text{Sum } x^2 = X^2 - n(X)^2$$

$$= 1509900 - 6(1533)^2$$

$$= 993366$$

$$\text{Sum } xy = XY - n(x)(Y)$$

$$= 20087 - 6(1533)(2.09)$$

$$= 863$$

$$Y' = a + bX_{subject}$$

$$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = \frac{863}{993366} = .00087$$

$$a = (Y) - b(X) = \$2.09 - .00087(1533)$$

SALES PRICE/SUBJECT SITE

$$Y' = a + bX_{subject}$$

$$= -\$.76 = .00087(1190) = \underline{\$1.80}$$

STANDARD DEVIATION

$$S_{xy} = \frac{\text{Sum } y^2 - b(\text{Sum } xy)}{n-2}$$

$$= \$ \underline{.15}$$

APPENDIX II

Vacant Land Market Comparison
Office Use
Subject - Fauerbach Property

Weight Total	Weight Sub Total	Factor	CMI Wgt	CMI Wgt*	VIP Wgt	VIP Wgt*	Doty School Wgt	Doty School Wgt*	WPS-1 Wgt	WPS-1 Wgt*	IBM Wgt	IBM Wgt*	WPS-2 Wgt	WPS-2 Wgt*	Subject Wgt	Subject Wgt*
30		Site														
	10**	Intensity of Land Use	8	80	10	100	6	60	4	40	2	20	2	20	6	60
	10**	Topography	10	100	8	80	6	60	4	40	1	10	4	40	6	60
	10**	Views	8	80	6	60	4	40	8	80	4	40	4	40	6	60
25		Image														
	10**	Lineal Ft Lake/Park	10	100	4	40	4	40	8	80	6	60	1	10	8	80
	5	Lake Exposure	5	25	3	15	3	15	3	15	1	5	1	5	3	15
	10**	Community Recognition	10	100	8	80	8	80	6	60	4	40	2	20	2	20
35		Linkages														
	15**	Downtown	8	120	10	150	8	120	4	60	1	15	1	15	4	60
	5	Auto Approach Zone	5	25	3	15	3	25	2	10	2	10	1	5	3	15
	5	Ancillary Uses	3	15	5	25	3	15	3	15	1	5	2	10	1	5
	5	Employee--Housing & Transportation	3	15	3	15	3	15	1	5	3	15	3	15	3	15
	5	Protection from adverse Contiguous Uses	5	25	4	20	3	15	3	15	4	20	2	10	1	5
10		Construction Suitability														
	5	Depth to Ground water/ Soils	5	25	5	25	3	15	1	5	1	5	2	10	3	15
	5	Drainage	5	25	5	25	3	15	3	15	1	5	3	10	3	15
100	100	Totals		735		650		515		440		225		210		425

* Weight x Scale
** 10 Point Scale

$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = .0249$

$a = Y - bX = -\$5.75$

$Y' = a + bX_{subject}$

$= -\$5.75 + .0249(425)$

$= \$4.83$ per sq. ft. $\pm$ $ .08 (standard deviation)

EXHIBIT G

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06/29/74

DEVELOPMENT IMPACT ANALYSIS FOR WISCONSIN ALUMNI FOUNDATION

REPORT ONE
DATA SUMMARY

			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
1	SITE ACQUISITION		600.0	0	0	0	0	0	600.0
2	ACQUISITION COST	1	1,400,000.0	0	0	0	0	0	1,400,000.0
	NON-RES LND USE								
3	OPTION 1	1	0	0	0	0	0	0	0
4	AREA IN ACRES		0	425.0	0	0	0	0	0
5	OPTION 2	1	0	0	0	0	0	0	0
6	AREA IN ACRES		0	0	12.5	12.5	0	0	0
7	OPTION 3	1	0	0	0	300,000.0	0	0	0
8	AREA IN ACRES		0	0	0	5.0	0	0	0
23	TOT NON-RES LND USE	2	0	425.0	12.5	17.5	0	0	455.0
24	AVAIL FOR RES LND USE		600.0	175.0	162.5	145.0	145.0	145.0	145.0
25	TOT NON-RES DEVEL		0	0	0	300,000.0	300,000.0	300,000.0	300,000.0
	SOURCE OF PROPERTY TAX								
26	REAL ESTATE TAX		7.2	7.2	7.2	7.3	7.3	7.4	0
28	SCHOOL TAX		22.5	22.6	22.7	22.8	22.9	23.0	0
29	TOTAL TAX RATE		29.7	29.8	29.9	30.1	30.2	30.4	0
30	TAX CREDIT		8.3	6.2	6.2	6.3	6.3	6.3	0
31	NET TAX LEVY		21.3	23.6	23.7	23.8	23.9	24.1	4.0
32	EQUALIZATION RATE		.6	.7	.7	.7	.7	.7	0

SOURCE CODE: 1 = USER SUPPLIED; 2 = COMPUTED;
3 = MARKET STUDY

06/29/74

DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT TWO
DATA SUMMARY

			TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TOTAL
33	CONSTRUCTION MIX	2	.2	.3	.2	.2	.3	1.0
34	DENSITY / DU / TYP	1	1.0	3.0	3.0	4.0	4.0	0
35	ACRES REQUIRED / TYP	2	50.0	25.0	16.7	12.5	18.8	122.9
37	TOTAL DU / TYP BUILT	1	50.0	75.0	50.0	50.0	75.0	300.0
	CONST SCHEDULE							
38	YEAR 1	1	.0	.0	.0	0	0	0
39	YEAR 2	1	.5	.1	.1	0	0	0
40	YEAR 3	1	0	.2	.2	0	.0	0
41	YEAR 4	1	.0	.4	.2	.0	.3	0
42	YEAR 5	1	.3	.2	.3	.5	.3	0
43	YEAR 6	1	.3	.2	.3	.5	.3	0
48	TOTAL CONST SCHUDL	1	1.0	1.0	1.0	1.0	1.0	0
49	CONSTRCT COST / TYP	3	50,400.0	30,800.0	33,600.0	15,840.0	19,170.0	29,962.0
50	DEVELOPMENT COST-TYP	3	.4	.3	.3	.3	.3	.3
51	SELLING PRICE / TYP	3	80,000.0	44,000.0	48,000.0	22,000.0	27,000.0	44,200.0
	MARKETING SCHEDULE							
52	YEAR 1	1	.0	0	0	0	0	0
53	YEAR 2	1	.9	0	0	0	0	0
54	YEAR 3	1	.9	.9	.9	0	0	0
55	YEAR 4	1	0	.9	.9	.9	.9	0
56	YEAR 5	1	.9	.9	.9	.9	.9	0
57	YEAR 6	1	1.0	1.0	1.0	1.0	1.0	0
62	TOT SCOOL CLDRN / DU	2	.6	.2	.7	0	.3	.4
	NUM SCOOL CLDRN / UN BY SCOOL LEVEL							
63	GRADE	3	.1	.0	.1	0	.0	0
64	MIDDLE	3	.4	.1	.4	0	.3	.3
65	HIGH	3	.1	.1	.1	.0	.1	.1
66	NUM OCC / DU UNIT	3	3.3	2.7	3.3	1.9	2.8	2.8
67	TRIPS / DU	3	4.0	3.2	3.2	2.0	2.1	2.9

68 SEWAG / DU IN G/D	3	330.7	267.5	334.9	161.7	238.4	266.6
69 WATER / DU IN G/D	3	396.8	321.0	401.9	190.2	280.5	318.1
70 SURF COVERAGE / DU	3	.1	.2	.2	.2	.2	.2
71 TOTAL SITE COVERAGE	2	5.0	13.5	10.0	11.0	17.3	56.8

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DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT THREE
MUNICIPAL CASH FLOW — SCHOOLS

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
	# SCHOOL CLDRN / LEVEL							
72	GRADE	0	2	2	2	4	4	14
73	MIDDLE	0	9	8	14	20	22	73
74	HIGH	0	3	2	4	6	7	22
75	# DEVEL SCHOOL CLDRN	0	14	12	20	30	33	109
76	# NON-DEVL SCHOOL CLDRN	1,570	1,570	1,586	1,602	1,618	1,634	0
77	# CUM SCHOOL CLDRN	1,570	1,584	1,612	1,648	1,694	1,743	0
	NET OPERATING COST							
78	W/O PROJECT	1,912,917	1,912,917	1,932,046	1,951,367	1,970,880	1,990,589	0
79	WTH PROJECT	1,912,917	1,929,975	1,963,725	2,007,414	2,063,480	2,123,397	0
	MAXIMUM NON-OPER COST							
80	W/O PROJECT	157,000	157,000	158,570	160,156	161,757	163,375	0
81	WTH PROJECT	157,000	158,400	161,170	164,756	169,357	174,275	0
	TOTAL SHARED COST							
82	W/O PROJECT	2,069,917	2,069,917	2,090,616	2,111,522	2,132,638	2,153,964	0
83	WTH PROJECT	2,069,917	2,088,375	2,124,895	2,172,170	2,232,837	2,297,672	0
84	PRIMARY COST / STUDENT	1,225	1,225	1,237	1,250	1,262	1,275	0
	PRIMARY COST CELING							
85	W/O PROJECT	1,923,250	1,923,250	1,961,907	2,001,342	2,041,569	2,082,604	0
86	WTH PROJECT	1,923,250	1,940,400	1,994,076	2,058,824	2,137,490	2,221,551	0
	PRIMARY SHARED COST							
87	W/O PROJECT	1,923,250	1,923,250	1,961,907	2,001,342	2,041,569	2,082,604	0
88	WTH PROJECT	1,923,250	1,940,400	1,994,076	2,058,824	2,137,490	2,221,551	0
	SECONDARY SHARED COST							
89	W/O PROJECT	146,667	146,667	128,709	110,181	91,069	71,360	0
90	WTH PROJECT	146,667	147,975	130,819	113,345	95,348	76,121	0
	DIST. EQUALIZ. VALUE TO NEAREST 10,000							
91	W/O PROJECT	10,649	10,649	10,756	10,863	10,972	11,082	0
92	WTH PROJECT	10,650	10,655	10,760	10,870	10,981	11,091	0
93	AMT PRI GUAR VALUATION	75,500	75,500	76,255	77,018	77,788	78,566	0

94	AMT SEC GUAR VALUATION	47,600	47,600	48,076	48,557	49,042	49,533	0
	TOTAL PRI GUAR. VAL TO NEAREST 10,000							
95	W/O PROJECT	11,854	11,854	12,092	12,335	12,583	12,836	0
96	WTH PROJECT	11,854	11,959	12,290	12,689	13,174	13,692	0
	TOTAL SEC GUAR. VAL TO NEAREST 10,000							
97	W/O PROJECT	7,473	7,473	7,623	7,777	7,933	8,092	0
98	WTH PROJECT	7,473	7,540	7,748	8,000	8,306	8,632	0
	NET PRI GUAR. VAL TO NEAREST 10,000							
99	W/O PROJECT	1,204	1,204	1,336	1,472	1,611	1,754	0
100	WTH PROJECT	1,203	1,304	1,530	1,819	2,193	2,601	0
	NET SEC GUAR. VAL TO NEAREST 10,000							
101	W/O PROJECT	(3,176)	(3,176)	(3,132)	(3,087)	(3,039)	(2,989)	0
102	WTH PROJECT	(3,177)	(3,115)	(3,011)	(2,870)	(2,675)	(2,458)	0
	PRIMARY AID MILL RATE							
103	W/O PROJECT	16	16	16	16	16	16	0
104	WTH PROJECT	16	16	16	16	16	16	0
	SECONDARY AID MILL RAT							
105	W/O PROJECT	2	2	2	1	1	1	0
106	WTH PROJECT	2	2	2	1	1	1	0
	TOTAL PRI EQALIZ AID							
107	W/O PROJECT	195,396	195,396	216,775	238,758	261,359	284,593	0
108	WTH PROJECT	195,201	211,569	248,316	295,193	355,828	422,088	0
	TOTAL SEC EQALIZ AID							
109	W/O PROJECT	(62,332)	(62,332)	(52,884)	(43,732)	(34,887)	(26,359)	0
110	WTH PROJECT	(62,355)	(61,142)	(50,839)	(40,659)	(30,711)	(21,677)	0
	TOTAL EQUALIZ AID							
111	W/O PROJECT	133,065	133,065	163,891	195,026	226,473	258,234	0
	TOTAL EQUALIZ AID							
112	WTH PROJECT	132,845	150,426	197,477	254,535	325,118	400,411	0
	TOTAL AID / STUDENT							
113	W/O PROJECT	85	85	103	122	140	158	0
	TOTAL AID / STUDENT							
114	WTH PROJECT	85	95	123	154	192	230	0

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DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT FOUR
PROJECT TAX STATEMENT

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	PROJECT TAX BASE						
	UNSOLD RAW LND						
115	AREA IN ACRES	600.0	145.8	120.4	83.3	46.0	8.1
116	EFF. MILL RATE	13.9	15.4	15.6	15.7	15.9	16.0
117	TAX $$ ON RAW LND	19,410.3	4,717.8	3,895.5	2,693.5	1,489.4	262.6
	UNSOLD INVENTORY / TYP						
124	TYPE A	0	2.5	.3	.3	1.3	0
125	TYPE B	0	7.5	1.9	2.8	1.8	0
126	TYPE C	0	5.0	1.3	1.1	1.6	0
127	TYPE D	0	0	0	0	2.5	0
128	TYPE E	0	0	0	2.5	2.8	0
134	TOTAL UNSOLD INVENTORY	0	15.0	3.4	6.7	9.9	0
135	EFF. MILL RATE	13.9	15.4	15.6	15.7	15.9	16.0
136	TAX $$ ON UNSOLD	0	11,849.9	2,529.2	4,175.1	6,151.0	0
	SOLD DWELLING UNITS						
137	TYPE A	0	22.5	2.3	0	11.5	13.8
138	TYPE B	0	0	16.9	25.3	16.0	16.8
139	TYPE C	0	0	11.3	10.1	14.5	14.1
140	TYPE D	0	0	0	0	22.5	27.5
141	TYPE E	0	0	0	22.6	24.9	27.9
147	TOTAL SOLD INVENTORY	0	22.5	30.4	58.1	89.4	100.1
148	EFF. MILL RATE	13.9	15.4	15.6	15.7	15.9	16.0
149	TAX $$ ON SOLD DU	0	27,701.0	22,762.6	34,746.2	55,359.1	62,155.7
	TAXES NON-RES LND USE						
150	CUMULATIVE MARKT VALUE	0	0	0	300,000.0	300,000.0	300,000.0
151	EFF. MILL RATE	13.9	15.4	15.6	15.7	15.9	16.0
152	TOTAL NON-RES USE TAX	19,410.3	4,717.8	3,895.5	7,409.6	16259.4	5062.6

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DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT FIVE
MUNICIPAL CASH FLOW -- GENERAL

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	POPULATION GROWTH						
153	W/O PROJECT	3,000	3,150	3,308	3,473	3,647	3,829
154	WTH PROJECT	3,000	3,224	3,398	3,638	3,889	4,097
	WATER DEMAND IN G/D						
157	W/O PROJECT	375,000	378,750	382,538	386,363	390,227	394,129
158	WTH PROJECT	375,000	387,679	393,368	404,900	417,015	423,707
	PEAK TRAFFIC / HR						
159	W/O PROJECT	0	0	0	0	0	0
160	WTH PROJECT	0	90	99	161	241	268
	MUNICIPAL TAX						
161	STATE TAX LEVY	0	0	0	0	0	0
162	COUNTY TAX LEVY	7	7	7	7	7	7
163	VOC. ED. DIST.	0	0	0	0	0	0
165	TOTAL TAX RATE	7	7	7	7	7	8
166	EQUALIZATION RATE	1	1	1	1	1	1
167	EFFECTIVE TAX RATE	5	5	5	5	5	5
	MUNICIPAL R.E. VALUE						
168	W/O PROJECT	19,855,175	19,855,175	20,847,934	21,890,331	22,984,847	24,134,089
169	WTH PROJECT	19,855,175	21,534,028	21,914,773	23,523,910	25,553,663	26,716,955
	MUNICIPAL R.E. TAXES						
170	W/O PROJECT	142,304	143,727	152,423	161,644	171,424	181,795
171	WTH PROJECT	142,304	155,880	160,223	173,707	190,582	201,251
172	SEWAGE CAPACITY /M GAL	73	73	183	183	183	183
	ESTIMATED DEMAND /M GAL						
173	W/O PROJECT	110	115	121	127	133	140
174	WTH PROJECT	110	118	124	133	142	150
	REMAINING CAPACITY						
175	W/O PROJECT	(37)	(42)	62	56	49	43

176	WTH PROJECT	(37)	(45)	58	50	41	33
	POPULATION EQUIVALENT REMAINING CAPACITY:						
177	W/O PROJECT	(1,000)	(1,150)	1,693	1,527	1,353	1,171
178	WTH PROJECT	(1,000)	(1,224)	1,602	1,362	1,111	903
	% CAPACITY IN USE						
179	W/O PROJECT	150 %	158 %	66 %	69 %	73 %	77 %
180	WTH PROJECT	150 %	161 %	68 %	73 %	78 %	82 %
	COST /M GAL						
181	W/O PROJECT	75	75	121	115	110	104
182	WTH PROJECT	75	75	118	110	103	98
	PROCESSING COST / YR						
183	W/O PROJECT	5,490	5,490	14,600	14,600	14,600	14,600
184	WTH PROJECT	5,490	5,490	14,600	14,600	14,600	14,600
185	DEBT SERVICE / YR	15,200	15,200	62,975	62,975	62,975	62,975
	TOTAL COST / YR						
186	W/O PROJECT	20,690	20,690	77,575	77,575	77,575	77,575
187	WTH PROJECT	20,690	20,690	77,575	77,575	77,575	77,575

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DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT SIX
DEVLOPERS CASH FLOW

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
	DEVELOPMENT COSTS							
188	SITE ACQUISITION	1,400,000	0	0	0	0	0	1,400,000
189	SITE IMPROVEMENT	800,000	800,000	200,000	200,000	0	0	2,000,000
190	OFF-SITE IMPRVMT	0	82,000	50,000	0	0	0	132,000
	CONSTRUCTION							
191	SALEABLE	0	1,659,000	598,500	1,626,146	2,473,646	2,389,646	8,746,939
192	NON-SALEABLE	0	0	0	300,000	0	0	300,000
205	DEV OUTLAYS	$ 2,200,000	$ 2,541,000	$ 848,500	$ 2,126,146	$ 2,473,646	$ 2,389,646	$ 12,578,939
	OPERATING COSTS							
206	EXPENSE OPTION 1	64,000	64,000	64,000	64,000	64,000	64,000	384,000
207	EXPENSE OPTION 2	10,000	10,000	10,000	10,000	10,000	10,000	60,000
208	EXPENSE OPTION 3	0	35,000	35,000	20,000	10,000	0	100,000
211	OP OUTLAYS	$ 74,000	$ 109,000	$ 109,000	$ 94,000	$ 84,000	$ 74,000	$ 544,000
212	TOTAL ANNUAL COST	$ 2,274,000	$ 2,650,000	$ 957,500	$ 2,220,146	$ 2,557,646	$ 2,463,646	$ 13,122,939
	GROSS RECEIPTS							
213		0	$ 1,800,000	$ 1,462,500	$ 2,210,288	$ 3,486,566	$ 3,875,771	$ 12,835,125
214	LESS: DEV OUTLAYS	2,200,000	2,541,000	848,500	2,126,146	2,473,646	2,389,646	12,578,939
	CONTRIBUTION TO							
215	OVERHEAD & PROFIT	(2,200,000)	(741,000)	614,000	84,141	1,012,920	1,486,125	256,186
216	LESS: OPERATNG EXP	74,000	109,000	109,000	94,000	84,000	74,000	544,000
219	B/4 TAX SPNDABL INCOME	$ (2,274,000)	$ (850,000)	$ 505,000	$ (9,859)	$ 928,920	$ 1,412,125	$ (287,814)
220	CUMULATIVE CASH FLOW (+/-)	$ (2,274,000)	$ (3,124,000)	$ (2,619,000)	$ (2,628,859)	$ (1,699,939)	$ (287,814)	$(12,633,611)

06/29/74

DEVELOPMENT IMPACT ANALYSIS
FOR
WISCONSIN ALUMNI FOUNDATION

REPORT SEVEN
SOURCES AND USES OF FUNDS

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
	SOURCES OF FUNDS							
246	B/4 TAX SPNDABL INCOME	(2,274,000)	(850,000)	505,000	(9,859)	928,920	1,412,125	(287,814)
	INCREASE IN OWNERS INTEREST:							
250	OWNERS EQUITY	2,309,000	991,000	359,000	594,000	84,000	0	4,337,000
254	TOTAL SOURCES OF FUNDS	$ 35,000	$ 141,000	$ 864,000	$ 584,141	$ 1,012,920	$ 1,412,125	$ 4,049,186
	USES OF FUNDS							
255	ACQUISITION OF LAND	1,400,000	0	0	0	0	0	1,400,000
256	DEV OUTLAYS	2,200,000	2,541,000	848,500	2,126,146	2,473,646	2,389,646	12,578,939
257	OP OUTLAYS	74,000	109,000	109,000	94,000	84,000	74,000	544,000
264	TOTAL USES OF FUNDS	$ 3,674,000	$ 2,650,000	$ 957,500	$ 2,220,146	$ 2,557,646	$ 2,463,646	$ 14,522,939
	INCREASE (DECREASE)							
265	IN WORKING CAPITAL	$ (3,639,000)	$ (2,509,000)	$ (93,500)	$ (1,636,005)	$ (1,544,726)	$ (1,051,521)	$(10,473,753)

A GUIDE TO FEASIBILITY ANALYSIS

A Seminar at Howard Johnsons - Downtown
Sponsored by Society of Real Estate Appraisers
Central Florida Chapter
Orlando, Florida
Tuesday, January 7, 1975

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Alternative Specialists to input facts

IV. Elements of Financial Feasibility

COFFEE BREAK: 10:30

V. The Concept of Risk

VI. Determining Objectives and Criteria of the Client

VII. Structuring Market Date Analysis with Models

LUNCHEON: 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants

II. Pre-Architectural Programming

III. Developing a Customer Profile with a Consumer Survey

COFFEE BREAK: 2:30

IV. Structuring and Modeling Cash Flows for Rental Properties

V. Modeling Cash Flows for Land Development

VI. Modeling Cash Flows and other Measures of Economic Impact on a Community

VII. Risk Evaluation

FEASIBILITY ANALYSIS SEMINAR OUTLINE

Concepts and definitions basic to real estate enterprise

A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

   1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

   2. The business of real estate is the process of converting space-time to money-time.

   3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

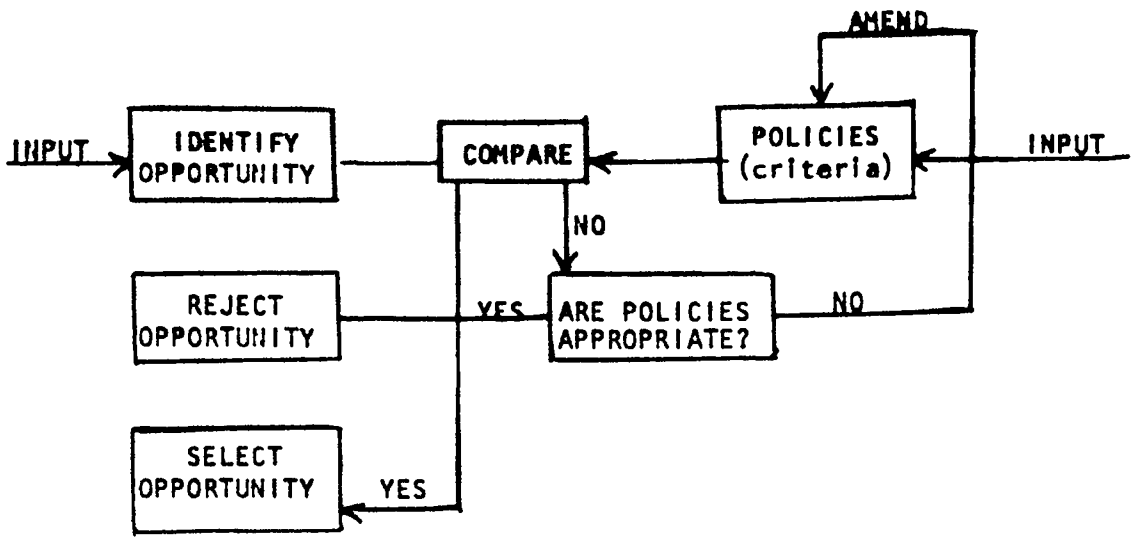
C. Traditional sequence of management function:

   1. Planning
   2. Organizing
   3. Directing
   4. Controlling

D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

   1. Goal-setting
   2. Forming policies
   3. Searching for opportunities which are consistent with policies
   4. Selecting opportunities which are consistent with policies
   5. Designing <u>systems</u> for capturing selected opportunities
   6. Installing <u>systems</u> for capturing selected opportunites
   7. operating the <u>systems</u> that have been installed
   8. Maintaining and continously perfecting the operating <u>systems</u>

E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical -aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and ob jectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources. James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

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EXHIBIT ONE

FEASIBILITY RESEARCH GROUP

Accountability

Accountability rests with the individual (s) firm (s) or sources as indicated below:

1. Statement of Objectives by _____
2. Satisfaction Criteria by _____
3. Alternative Research by _____
4. Market Research by _____
5. Market Analysis by _____
6. Space User Profile by _____
7. Consumer Preference Survey by _____
8. Market Forecast by _____
9. Absorption Rate Forecast by _____
10. Land Development Cost Estimate by _____
11. Building Improvement (s) Cost Estimate by _____
12. Indirect Cost Estimate by _____
13. Producer Cash Flow Forecast by _____
14. Tax Liability Projection by _____
15. Investor Cash Flow Forecast by _____
16. Environmental Impact by _____
17. School District Impact by _____
18. Municipal Government Impact by _____
19. Financing and Refinancing Impact by _____
20. _____

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

EXHIBIT TWO

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

EXHIBIT THREE

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (÷ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development(10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise 28.0%		
Garden 49.1		
77.1%		978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		708

That share of households who said they would be willing to move:

Within 1 year from now	15.6% -	110 households
Within 2 years	31.2% -	220 "
Within 5 years	53.4% -	378 "
		708

A project of 100 units requires a capture rate of:

91% for a 1 - year absorption rate
90% for a 2 year " "
14% for a 5 year " "

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

See previous "A Guide to Feasibility Analysis" seminars for Exhibits – 1) 11/10/71 housing questionnaire (Landmark Research, Inc

2) Comparison of Critical Valuations Assumptions for Three Present Value Viewpoints in R.E.

3) Systematic Estimation of Forecast Annual Income for an Income Producing Property

4) Land Development Computer Analysis Output

A GUIDE TO REAL ESTATE INVESTMENT FINANCIAL ANALYSIS

American Society of Real Estate Appraisers
University of Florida Union
Gainesville, Florida
Wednesday, January 8, 1975

Instructed by Professor James A. Graaskamp
University of Wisconsin School of Business

MORNING SESSION: 9:00 A.M.

I. Basic Elements of Real Estate Financial Analysis

II. Evolution of Real Estate Appraisal Income Analysis

III. The Basic Elements of After-Tax Cash Flow Analysis

COFFEE BREAK: 10:30 A.M.

IV. Working through a Basic Problem for an Incomr Property

V. Computer Analysis of an Income Property

LUNCHEON

AFTERNOON SESSION: 1:00 P.M.

I. What is Risk Analysis?

II. Risk Analysis Applied to a Mortgage Loan Application

III. Risk Applied to Limited Partnership Analysis

COFFEE BREAK: 2:30 P.M.

IV. Sensitivity Analysis for Development

V. Fair Market VAlue or Investment Value?

VI. All Purpose Cash Flow Model

Counterpoint: "There is nothing so disastrous as a rational investment policy in an irrational world."

John Maynard Keynes

Outline to
Guide to Real Estate Investment Analysis

MORNING SESSION

I. Basic Elements of Real Estate Financial Analysis

A. The valuation process is a system of models which attempts to predict what a prudent man working for his economic betterment would do.

1. The market comparison approach is a logic model of if/then statements.
2. The cost approach is an aggregation model
3. The income approach is a simulation model

B. Simulation requires forecasting the cash cycle of an enterprise. Basic elements of a cash cycle forecast are:

1. The time-line of financial events for an enterprise
2. Schedules of outlays
3. Schedules of receipts
4. Measures of yield
5. Measures of risk

C. To make forecasting feasible it is necessary to simplify the future transaction pattern to the most important elements. Reducing a problem to basic relationships is called modeling. The basic considerations of a model as to its usefullness are:

1. What prediction or decision needs to be made?
2. What data is available to make it?
3. What theories and assumptions are available to structure the data?
4. What are the limitations of the model user?
5. What are the constraints on communicating the output?
6. What is the cost/benefit ratio of using the model?

D. The types of financial modeling decisions typically found in financial analysis are:

1. Economic allocation of all resources
2. Acceptance or rejection of a specific investment opportunity
3. Identification of the optimal combination of ingredients for a profitable opportunity
4. Sensitivity analysis of relationship of financial success to specific variables
5. Trade-off decision
6. Measuring tolerance for and probability of surprise (risk)

E. Comparison of critical assumptions for two investment valuation models or viewpoints in real estate:

1. The traditional income appraisal began with an economic model intended to best allocate the country's investment in capital improvements and land. (See Illustration 1, Col. A)

2. The Ellwood valuation model began with the need to accept or reject mortgage loan applications and a correlary question of how much to lend on acceptable properties. (Illustration 1, Col.B)

F. When the viewpoint changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.
2. Illustration 1, Col. C summarizes the assumptions of modern capital budget decision models.
3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

G. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events
2. A schedule and amount of outlays for each period

    a. Capital outlays
    b. Expense outlays
    c. Debt service outlays
    d. Tax outlays

3. A schedule and amounts of receipts for each period

    a. Operating revenues
    b. Sales proceeds
    c. Borrowed funds
    d. Derivative receipts or savings

4. Measures of yield

    a. Periodic dollars of profit
    b. Periodic return in dollars invested
    c. Average periodic return on total resources
    d. Total cumulative dollar increase in net worth

5. Measures of risk

    a. Capacity for absorbing surprise
    b. Range of variation in alternative outcomes
    c. Definition of maximum loss

COMPARISON OF CRITICAL ASSUMPTIONS FOR THREE VALUATION MODELS OR VIEWPOINTS IN REAL ESTATE

By Professor James A. Graaskamp

Col. A Economic Allocation of Resources	Col. B Accept or Reject Loan Application or How Much to Lend?	Col. C Which Investment Has the Best Probability of Maximizing Net Spendable & Net Worth
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax	2. Productivity limited to parcel after debt but before income tax	2. Productivity is net change in spendable cash from all sources after devt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

II. Basic Money Management Theory

A. A real estate purchase is a capital budgeting decision and yet real estate professional societies teach capitalization as if the state of the arts was still the same as it was in 1935. To understand investment analysis is only necessary to calssify an investment as to type and the decision to be made.

B. Investment money managers distinguish between a conventional investment and a non-conventional investment by the pattern of outlays and receipts. Investment theory presumes outlays occur at the beginning of a period and proceeds are earned at the end of each period. A period is generally one year but might be a quarter or a month.

1. A conventional investment has one or more periods of outlays followed by one or more periods of positive cash proceeds. Negative cash proceeds (losses) are treated as outlays.

2. A non-conventional investment has one or more periods of outlays interspersed with periods of positive cash flows.

C. Assuming risk to be equal investment decisions attempt to provide a standard for choosing between alternative investment (courses of action) based on yield.

1. For an investor with relatively unlimited funds and opportunities, such as an insurance company, the problem is to make accept or reject decisions for many independent investments, generally accepting each if yield is greater than some minimum acceptable rate of discount.

a. Substitution theory and the cost of money
b. Ellwood theory began as device to screen loan submissions

2. Some investors have only enough money for a single site with which to make one investment and they are interested in shaping that investment to make the best profit possible within an acceptable limit of risk. A plant location problem where many sites may be profitable but where one site would be most profitable and only one plant would be built. Or there are engineering decisions to trade off one feature for another such as central air conditioning with higher rents, lower annual costs but higher initial investment as opposed to window air conditioners with average rents, higher depreciation, more responsibility and cost shifted to the tenant and higher finance charges. Such decisions are mutually exclusive, its one or the other.

a. Yield methods may give less accurate rankings for mutually exclusive decisions because they reflect average rather than incremental cash flows.
b. Mutually exclusive investments often involve marginal revenue versus marginal investment issues.

D. Your appraisal training has already given you some introduction to the problem of defining what is profit and what is recapture of capital and therefore ranking of investments.

1. Straight line allocates earnings without recognition of a reinvestment rate and produces the lowest value.

2. Hoskold uses a sinking fund factor to recognize reinvestment at a safe rate and therefore releases more proceeds to income and produces a higher value than straight line approach.

3. Inwood defines reinvestment to be the same as a discount rate, therefore requiring smaller sinking fund amounts and releasing more to income thereby generating the highest value for the investment.

E. The ranking of alternative investments depends on a definition of yield and works best for pairs of alternatives and disintegrates as the number of alternatives increases. It will be shown by the end of the morning that an investment will be judged by a combination of yield factors in order to correctly define the investment from the standpoint of risk, the cost of money plans for use of the profits, and the viewpoint of the investor. Consider the following alternative measures of yield relative to four investments.

		Net Cash Proceeds Per Year	
Investment	Initial Cost	Year 1	Year 2
A	$10,000	$10,000	
B	10,000	10,000	$1,100
C	10,000	3,762	7,762
D	10,000	5,762	5,762

THE PAYBACK PERIOD

Investment	Payback Period (years)	Ranking
A	1	1
B	1	1
C	1.8	4
C	1.7	3

AVERAGE INCOME ON BOOK VALUE

Investment	Average Proceeds	Average Depreciation*	Average Income (Proceeds less Depreciation)	Average Book† Value	Income on Book Value,%	Ranking
A	$10,000	$10,000	$ 0	$5,000	0	4
B	5,550	5,000	550	5,000	11	3
C	5,762	5,000	762	5,000	15	1
D	5,762	5,000	762	5,000	15	1

* Assuming straight line depreciation, † investment divided by two.

AVERAGE INCOME ON COST

Investment	Cost	Average Income	Ave. Income on Cost,%	Ranking
A	$10,000	$ 0	0	4
B	10,000	550	5.5	3
C	10,000	762	7.6	1
C	10,000	762	7.6	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$ 9,450	$10,000	$ -570	4
B	10,413	10,000	+413	3
C	10,457	10,000	+457	2
D	10,564	10,000	+564	1

PRESENT VALUE OF THE INVESTMENT Rate of Interest: 30%

Investment	Present Value of Proceeds	Present Value of Outlay	Net Present Value	Ranking
A	$7,692	$10,000	$ -2,308	3
B	8,343	10,000	-1,657	1
C	7,487	10,000	-2,513	4
D	7,842	10,000	-2,158	2

SUMMARY OF RANKING

Measure of Investment Worth	A	B	C	D
Payback Period	1*	1*	4	3
Average Income on Book Value or Cost	4	3	1*	1*
Present Value: at 6%	4	3	2	1
at 30%	3	1	4	2

* Indicates tie between two investments

INCREMENTAL BENEFITS

Investment	Year	Cash Flows: Outlays	Cash Flows: Proceeds	Yield,%	Net Present Value at 5%
Y	0	$100.00		20	$27.89
	1		$20.00		
	2		120.00		
	0	100.00		25	23.58
	1		100.00		
	2		31.25		

Investment	0	1	2	Present-Value Index
X	$ -1,500	$1,000	$1,000	1.16
Y	-3,100	2,000	2,000	1.12

Investment	0	1	2	Present-Value Index
Y - X	$ -1,600	$1,000	$1,000	1.08

F. The real estate appraiser is generally familiar with investment decisions using a net present value method for decision making. Note that this method requires assuming a discount rate (9% in example below) and a stream of benefits and the object is to compute the maximum justified investment. Example:

An Income Property Costing $50,000 (PVO) Will Have the Following Cash Flows:

Year 1	$2,000 Income
Year 2	5,000 Income
Year 3	5,100 Income
Year 4	5,200 Income
Year 5	55,000 Income and Reversion

At 9% What is the Net Present Value (NPV) of the Property?

	Amount	P.V. Factor at 9%	P.V. Benefits (PVB)
Year 1	2,000	.9174	$ 1,834
Year 2	5,000	.8417	4,209
Year 3	5,100	.7722	3,938
Year 4	5,200	.7084	3,684
Year 5	55,000	.6499	35,745
			$49,410

PVB - PVO = NPV

$49,410 - $50,000 = -$590

CONCLUSION: Do Not Buy the Project

G. Many corporations wish to solve for yield when they know the outlay and they know the stream of benefits. The measure of yield which they use is the internal rate of return (IRR). The internal rate is that rate which makes net present value (NPV) equal to 0 or PVB equal to PVO. For example:

An Income Property Costing $20,000 Will Have the Following Cash Flows:

Year 1	2,000	Income
Year 2	3,000	Income
Year 3	3,000	Income
Year 4	3,500	Income
Year 5	20,000	Income and Reversion

Net Present Value at 11%

	Amount	P.V. Factor at 12%	P.V. Benefits (PVB)
Year 1	2,000	.8929	1,785.80
Year 2	3,000	.7972	2,391.60
Year 3	3,000	.7118	2,135.40
Year 4	3,500	.6355	2.224.25
Year 5	20,000	.5674	11,348.00
			19,885.05

PVB - PVC = NPV

$19,885.05 - 20,000 = 114.95

Net Present Value at 11.8375017151%

	Amount	P.V. Factor at 11.8375017151%	P.V. Benefits (PUB)
Year 1	2,000	.89415445	1788.3089
Year 2	3,000	.79951218	2398.5365
Year 3	3,000	.71488738	2144.6621
Year 4	3,500	.63921973	2237.2691
Year 5	20,000	.57156117	11431.2234
			20,000.0000

PVB - PVC = NPV

20,000 - 20,000 = 0

Internal Rate of Return (IRR): That Rate Which Makes NPV = 0
or PVB - PVC

IRR = 11.8375017151

H. Many institutions, however, feel that the internal rate of return is misleading or inappropriate for reasons particularly relevant to real estate.

1. The internal rate or Inwood discounting assumes that capital recapture is reinvested immediately at the same rate at which you are discounting. (Reinvestment rate)

2. More investments today are non-conventional - a series of outlays insterspersed with a series of returns and IRR cannot be computed by interpolation and algebraically the equation would have as many roots as there was a change in direction in net outlays per period versus net receipts.

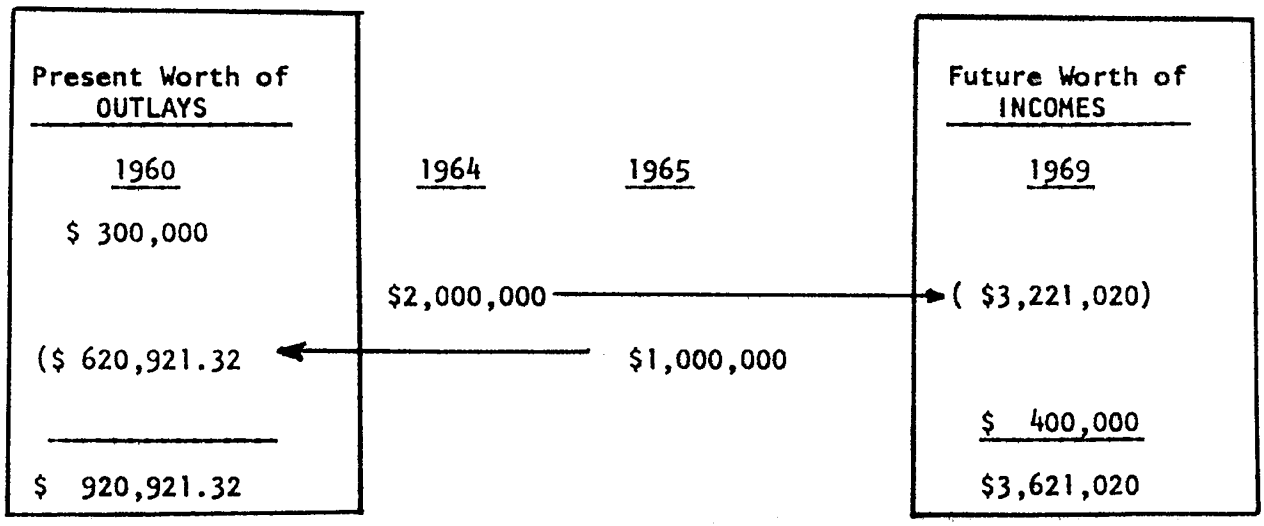
3. Equity investment does not occur on a continual basis but rather at erratic points in time and much equity money is qualified as limited partnership money, money raised by a public offering of stock, or participations as a condition of a loan with the result that the cost of money changes significantly over time and with the size of the project. Thus both the cost of capital and the reinvestment rate available for proceeds may differ from the yield on a specific investment.

I. The result that has been that development of what is called the modified internal rate of return (MIR). In MIR you first determine the present value of a series of outlays by discounting at the opportunity cost of capital. You then compound receipts forward to the end of a forecast period at the reinvestment rate. Having determined the present value of the outlay and the future compound value of the receipts, it is possible to solve for the internal rate of return. Consider the following example:

Suppose we have the following outlays and incomes:

OUTLAYS:	Jan. 1, 1960	$ 300,000
	Jan. 1, 1965	1,000,000
INCOMES:	Jan. 1, 1964	2,000,000
	Jan. 1, 1969	400,000

and the cost of capital rate is 10% p.a. compounded annually.



$920,921.32 (1 + i)^{10} = 3,621,020.00 = 16.43%

III. Basic Elements of After Tax Cash Flow Analysis

A. There are four kinds of benefit dollars available from investment in real estate.

1. Cash from operations at the income tax rate
2. Cash from sales at the capital gains rate
3. Cash from surplus due to refinancing (non-taxable)
4. Cash from tax savings on other taxable income

B. It is desirable to have a systematic method of classifying periodic returns and capital reversions from real estate on a pre-tax and after tax basis. (See outline)

C. It is useful to use a sample case to see how each element of cash flow is computed and the schedules necessary to support such a presentation. (See attached sample case)

IV. Working Through a Basic Problem for an Income Property With a Simple Computer Model

A. Busy work computations are the type of thing computers do best and Mini-Mod is an example of a central teaching model. There are many superior computer models which you can use for your client in your office by means of computer terminals. That is what EDUCARE is all about.

B. A purchase and remodel problem (See "Analysis for Purchase of Apartment House Investment").

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

GUIDE TO REAL ESTATE INVESTMENT ANALYSIS

Professor James A. Graaskamp
Wednesday, January 8, 1975

AFTERNOON SESSION

I. Rates of return or investment yield from financial models first depend on qualification of the risks implicit in the investment. Rate of return is just a financial ratio which implies nothing. What is important is the stability or potential variance in the assumption which led to the ratio. Remember - when you buy an investment all you really purchase is a set of assumptions about the future - you are working and forecasting under conditions of uncertainty.

A. Modern management defines risk as the potential variance between expectations and realizations, i.e., between proforma prospects and balance sheet and P & L statements.

B. Dyanmic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

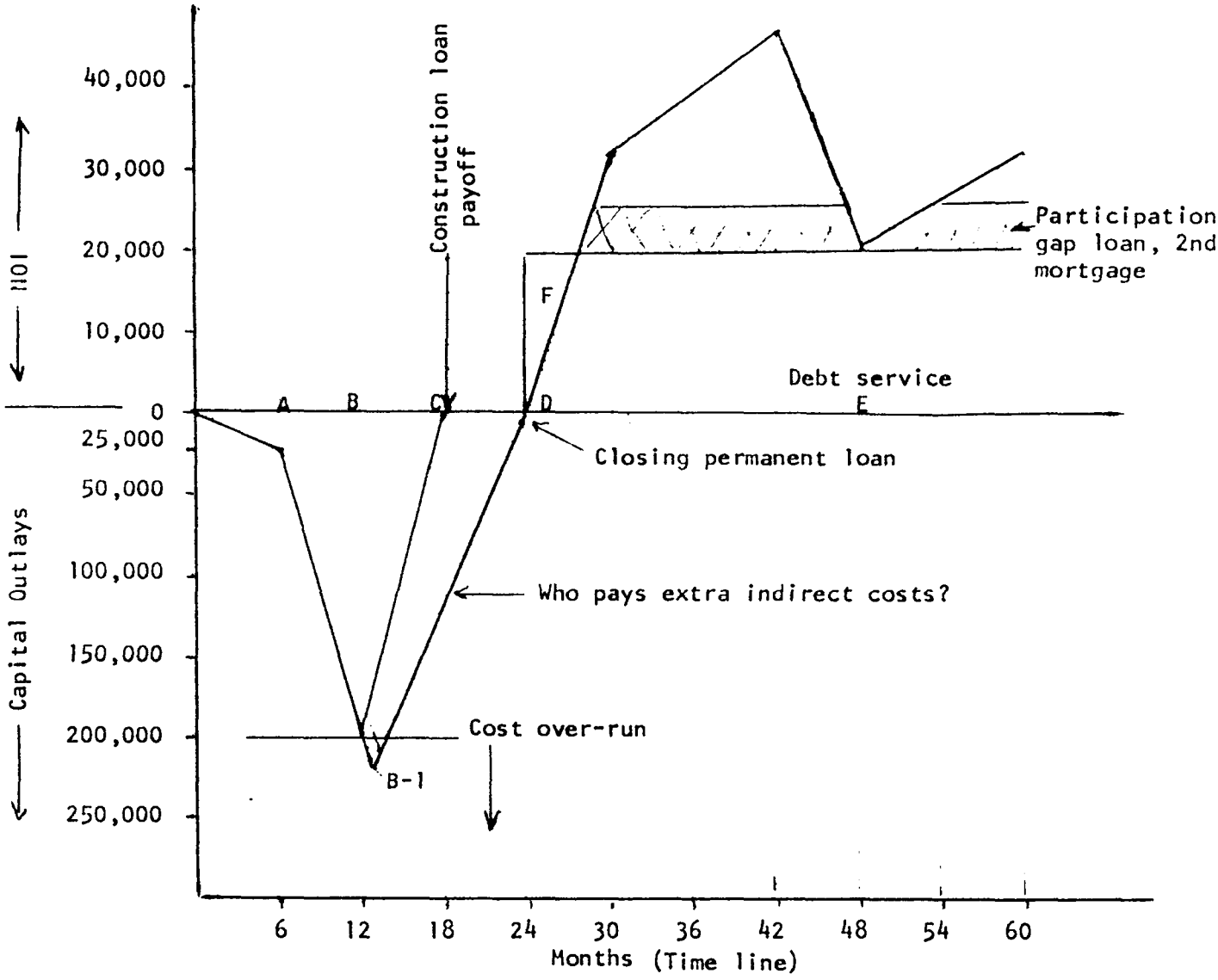
C. Static risks are those which can only cause a loss due to surprise upset of a plan.

D. Risk management has two objectives:
   1. Identification of significant exposures to loss
   2. Estimation of potential loss frequency and severity
   3. Identification of alternative methods to avoid loss
   4. Selection of a risk management method
   5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:
   1. Avoid uncertainty (confirm the facts, research the variance or don't do it)
   2. Reduce frequency of loss (reducing errors or fire proof construction)
   3. Reduce severity of loss (loss limit or sprinkler systems)
   4. Combine risks to improve prediction of variance (reserves for expenses or pooling of investment)
   5. Achieve pooling by purchase of insurance
   6. Shift the risk of variance by contract (escalator, escape, or sub-contract clauses)
   7. Limit maximum loss (corporate shell of limited partnership)
   8. Hedge (a mortgage is a straddle)

F. A mortgage closing is an exercise in risk management:
   1. Title is confirmed by abstract or insured
   2. Siting is confirmed by survey
   3. Contingent claim are eliminated by waiver of lien, affadavit, or recording time
   4. Casualty loss to collateral is shifted by property insurance
   5. Error in appraisal shifted by mortgage guaranty insurance
   6. Discomfort as loan collection control

G A graphic representation of real estate cash flows will serve to review the nature of yield and risk control in real estate financing and investment and provide a method for analyzing loan opportunities or limited partnerships.



A = Start of construction
B = Estimated completion date
B-1 = Actual completion date
C = Construction loan payoff
C-D = Gap financing period
D-E = Positive cash flow and gap loan participation
F = Negative cash throw-off

II. Risk management analysis combined with cash flow projections can be first shown to be critical in a mortgage loan analysis for an income property. The strategy of a mortgage loan if very simple. The lender wants absolute safety, the best yield available, and carefully rescheduled repayment. The borrower find real estate too risky for his own money, yielding a better return than the mortgage lender requires as interest, and his rate of return steadily declines if he repays the loan.

A. The fact that the borrower needs the money and the lender doesn't know what to do for an investment makes it possible to bargain with the lender controlling his risk exposure through the management devices of incentive, pain, and an escape or bailout mechanism.

B. The incentives for the borrower was primarily a vested interest in cash dividends now and in the future. Thus the lender should:
   1. Identify profit centers for the borrower along the time line of the project. Only those occuring after the closing of the loan secure the lenders position. Those occurring before or at the closing increase payback of borrower capital and reduce the borrowers risk.
   2. Relate duration of cash dividends to duration of mortgage loan.
   3. Cushion in cash flow variance indicated by default ratio, expense ratio and positive change in after-tax spendable cash attributable to real estate.
   4. Capacity of borrower to absorb cash flow variances from standby commitments or existing capital.
   5. Evaluate incentive (positive or negative) created by ancillary contracts such as limited partnerships, management contract, earnout contracts, or profit sharing formulas.(See III)

C. Pain factor
   1. Damages for breach of contract
   2. Suit for a specific performance
   3. Exercise of assignment of rents, licenses, endorsements, etc.
   4. Offsetting cash claims, etc.

D. The bailout is either mortgage guaranty insurance or acquisition of property for operation or sale.
   1. Pain of equity loss in foreclosure is fictitious--consider payback ratio--thus, poor motivation
   2. Threat of foreclosure implies lender has alternative use for property.
      a. Rents restructured to lender's cost to acquire
      b. Conversion of property
      c. Consideration of payback to be realized by drastic surgery such as charitable donation, demolition, financial reorganization, or joint venture resale to reshape management incentives.

E. A good loan has forecast the cash flows to the borrowers as the primary collateral and retained either a set of paying incentives or a bailout option. If there is both an exculpatory clause and no existing plan for bailout, a bad loan is inevitable.
   1. Many lenders now require a cash flow statement

2. Appraisals made for mortgage lending should provide at least an Ellwood proof with cash dividend and graph of alternative yields given alternative resale prices. After tax cash flow with adjustment for borrower profit centers would be preferable.

F. Supplementary loan interest contracts are totally concerned with who bears the risk of variance in future receipts and outlays.
   1. Does the lender share in all gross rents or only inflationary increases in gross?
   2. Does he share in net income after all expenses or only after non-discretionary items for management, vacancy, etc. are given a flat amount to control expenditures by borrowers?
   3. What is the accounting definition of the number in which the lender participates?

III. Control of incentive and the issue of who bears the risk of variance is the critical issue in the fine print of the limited partnership contract. Consider some of the alternative definitions of annual returns or sales proceeds which might appear in a limited partnership agreement. Note carefully how these definitions shift variance or incentive between the general and the limited partner.

A. "Annual Returns"

1. Taxable income,
2. Net profit only (i.e. not net loss),
3. Taxable income calculated on the basis of straight line depreciation
4. Net profit calculated on the basis of straight line depreciation,
5. Cash available for distribution before allowance for reserves,
6. Cash available for distribution after allowance for reserves,
7. Cash actually distributed,
8. Cash available for distribution before allowance for reserves plus the amount of that year's principal payment on the mortgage debt.
9. Cash available for distribution after allowance for reserves plus the amount of that year's principal payment on the mortgage debt.
10. Cash actually distributed plus the amount of that year's principal payment on the mortgage debt,
11. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
12. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
13. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket,
14. Cash available for distribution before allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
15. Cash available for distribution after allowance for reserves plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket plus the amount of that year's principal payment on the mortgage debt,
16. Cash actually distributed plus the tax liability or the tax shelter benefits of the taxable income calculated for a specified tax bracket, plus the amount of that year's principal payment on the mortgage debt.

B. Definitions of "Sales Proceeds"

1. Gross sales price,
2. Gross sales price less closing costs and real estate sales commissions, also known as the net sales price,
3. Net sales price less beginning mortgage balance,
4. Net sales price less mortgage balance at time of sale,
5. Net sales price less purchase price,
6. Net sales price less the mortgage balance at time of sale less the initial equity investment.
7. Net sales price less the mortgage balance at the time of sale less the initial equity investment plus the sum of returns, however defined, distributed to the limited partners,
8. Net sales price less the partners' basis for tax purposes (the purchase price less accumulated depreciation),
9. Net sales price less the partners' basis for tax purposes less the amount necessary to pay taxes at some specified rate,
10. All cash, after payment of mortgage balance at time of sale, including refund of working capital, unused reserves, and unallocated reserves.

IV. The relationship between a change in one financial variable and another can be explored by testing the sensitivity of the dependent output to the independent assumption which has been altered. Recently EDUCARE added a program designed by John Nabors which permits the application of cash flow analysis to the design process.

A. To simplify analysis the short form of the program looks only at the first year cash flow projections given a change in various features or prices for the project.

B. What is unique about this program is that it permits each division of responsibility in a real estate development team to see their specific contribution to improving the cash flow situation of a project.

C. See Exhibit 6

V. An excellent after tax Ellwood approach is available for appraisers called TA after its principle author Thomas A. Prince.

A. Refer to Exhibit 7

B. This program can be used to challenge a tax assessment or measure economic obsolescense in the cost approach to an income property.

C. The Los Angeles Superior Court recently accepted the investment market value approach as the correct way to appraise a property for purposes of partition, in this case a series of limited partnerships.

D. A Michigan court recently defined economic income to be after tax cash income.

E. The Dane County Court in Madison, Wisconsin recently indicated that a cash income approach was the correct assessment approach even for a partially constructed income property building. The cost approach

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JOHN H. NABORS, JR.

EXHIBIT SIX

PROGRAM SUMMARY
DESIGN ANALYSIS PROGRAM

The Design Analysis Program is basically a method of determining a number of possible annual cash flows from a proposed income property based upon up to five different values of six different cash flow parameters:

1 = Rental Rates e.g. $6.50/sq ft/yr
2 = Vacancy Rates e.g. 10% of potential rental revenue
3 = Expense Rates e.g. $2.50/sq ft/yr
4 = Financing Conditions e.g. 9½% 30 yrs paid monthly
5 = Building Efficiency e.g. 85% of gross space
6 = Loan Ratios e.g. 90% of construction and land costs.

The basic format used is that of a planning format of an annual cash flow proforma: Rental Revenue adjusted for a Vacancy Allowance less Operating Expenses and Debt Service, yielding Annual Cash Flow.

This basic format reflects a single set of conditions that result in a single cash flow quantity. Actual practice reveals that parameter 1, 2, and 3 will constantly vary between years and within the year. Parameters 4 and 6 will be negotiated prior to construction by the developer, while parameter 5 will be established in the design phase and adjusted somewhat with the initial leasing strategy.

During the planning phase of an income property, best estimates of the values of these six parameters are utilized to prepare a cash flow pro forma. The DESIGN ANALYSIS PROGRAM allows the financial analyst to vary each parameter throughout a range of values to study the effect upon the pro forma annual cash flow. With five different values for six parameters, there are exactly 361 different annual cash flows.

The program allows the analyst to produce a 5 by 5 table of annual cash flows by varying one or two of the parameters over a range of values while using a primary or basic value for each of the other parameters. In addition, the breakeven rental rates or the rates of return on initial equity are given for the corresponding cash flows.

The total cost of construction and land can be input to the program or can be calculated through the use of the Construction Cost Estimate subprogram. The total cost of the structure can be computed from per square foot costs, component structure costs, professional fees, and land costs. Interim interest costs for land and construction are both computed.

Date_____
Run #_____

RJE DATA FORM

Line # in DESRJE	Answer	Question by the Program
350	$_____	IS THERE A CONSTRUCTION DATA FILE? (If Answer is NO, delete lines 360,370,380)
360	$_____	CONSTRUCTION DATA FILE NAME?
370	$_____	LIST THE CONSTRUCTION DATA?
380	$_____	OUTPUT THE CONSTRUCTION COST SCHEDULE?
390	$_____	IS THERE A CASH FLOW DATA FILE? (If answer is NO, no more data is needed.)
400	$_____	NAME OF CASH FLOW DATA FILE?
410	$_____	LIST CASH FLOW DATA?
420	$_____	OUTPUT LOAN AND DEBT SERVICE CALCULATIONS?
430	$_____	OUTPUT ALL CASH FLOW TABLES?
440	$_____	OUTPUT SENSITIVITY TABLE?

EXAMPLES

Example 1: No construction file, do not list data file or debt service data; output all tables.

350	$NO
390	$YES
400	$ (file name)
410	$NO
420	$NO
430	$YES
440	$YES

Example 2: Construction and cash flow data files exist, output all data lists and tables.

350	$YES
360	$(file name)
370	$YES
380	$YES
390	$YES
400	$(file name)
410	$YES
420	$YES
430	$YES
440	$YES

LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED $ 5612930 EQUITY $ 1403232

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	566359
8.50	30.0	9.2270	517903
9.00	30.0	9.6555	541955
9.75	30.0	10.3099	578685
10.00	30.0	10.5309	591090

AMOUNT FINANCED $ 4911313 EQUITY $ 2104849

LOAN RATIO 70.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	495564
8.50	30.0	9.2270	453165
9.00	30.0	9.6555	474210
9.75	30.0	10.3099	506349
10.00	30.0	10.5309	517203

AMOUNT FINANCED $ 6314546 EQUITY $ 701616

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	637153
8.50	30.0	9.2270	582641
9.00	30.0	9.6555	609699
9.75	30.0	10.3099	651020
10.00	30.0	10.5309	664976

AMOUNT FINANCED $ 7016162 EQUITY $ 0

LOAN RATIO100.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	707948
8.50	30.0	9.2270	647379
9.00	30.0	9.6555	677444
9.75	30.0	10.3099	723356
10.00	30.0	10.5309	738862

JOHN H. NABORS, JR.

CONSTRUCTION COST ESTIMATE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

DATE: 8/28/1974
BLDG: 6001
RUN : 1

CONSTRUCTION COSTS			DOLLARS
CONSTRUCTION-SHELL	150000 SQ FT AT $ 26.00	$	3900000
CONSTRUCTION-INTERIOR	150000 SQ FT AT $ 4.00	$	600000
GRADE PARKING	500 SPACES AT $ 525		262500
LANDSCAPING/LIGHTING			100000
SUBTOTAL CONSTRUCTION			4862500
ARCHITECTURE FEES	AT 4.0 PCT		194500
ENGINEERING FEES	AT 1.0 PCT		48625
LOAN ORIGINATION FEES	AT 1.0 PCT		48625
TAXES AND INSURANCE	AT 1.0 PCT		48625
CUMULATIVE SUBTOTAL			5202875
INTERIM INTEREST-CONSTRUCTION			
$ 5202875 AT 12.0 PCT FOR 13 MO X .5			338187
DEVELOPER"S PROFIT	AT 2.0 PCT OF $ 5202875		104057
CONTINGENCY	AT 2.0 PCT OF $ 5202875		104057
TOTAL CONSTRUCTION COSTS			5749177

LAND COSTS		
275865 SQ FT AT $ 3.95		1089669
INTERIM INTEREST-LAND		
100.00 PCT OF $ 1089669 AT 12.00 PCT FOR 13.00 MO		141657
5.00 MONTHS AT $ 7132 PER MONTH		35660
TOTAL LAND COST		1266986
TOTAL LAND AND CONSTRUCTION COST		7016162

CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

DATE: 9/ 5/1974
BLDG: 4444
RUN : 1

GROSS SQUARE FEET IN BUILDING:		150000
BUILDING EFFICIENCY	:	85 PCT
NET LEASEABLE SQUARE FOOTAGE	:	127500
LAND AND CONSTRUCTION COST	: $	7016162
LOAN TO COST RATIO	:	80.0 PCT
ORIGINAL LOAN AMOUNT	: $	5612930
EQUITY REQUIREMENT	: $	1403232
PERMANENT INTEREST RATE	:	9.50 PCT
TERM OF LOAN		30 YEARS
ANNUAL DEBT SERVICE	: $	566359

	ANNUAL DOLLARS
GROSS INCOME : 127500 SQ FT AT $ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
GROSS EFFECTIVE INCOME	975375
OPERATING EXPENSES: 127500 SQ FT AT $ 2.50	318750
NET OPERATING INCOME	656625
DEBT SERVICE (10.09 PCT CONSTANT)	566359
PRO FORMA CASH FLOW	90266

RETURN ON EQUITY 6.43 PERCENT

JOHN H. NABORS, JR.

SENSITIVITY TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS — PAGE 3 OF 4

SITE	275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	150000 SQUARE FEET	BLDG	4444
EFFICIENCY:	85.00 PCT ØF GRØSS		
LØAN RATIØ:	80.00 PCT ØF $ 7016162		
EQUITY	$ 1403232		
FINANCING	30 YEARS 9.50 PCT		
REVENUE	$ 8.50 PER SQ FT		
VACANCY	10.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 0 ANNUALLY	RUN	1
EXPENSES	$ 2.50 PER SQ FT		

CØNSTRUCTIØN AND LAND CØST 7016162
CØNSTRUCTIØN INTERIM RATE 12.000 PCT
CØNSTRUCTIØN PERIØD 13 MØNTHS
LAND INTERIM RATE IS 12.00 PCT

EFFECT ØF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW	EFFECT ØN CØNSTRUCTIØN
DECREASE CØNSTRUCTIØN CØST $ 100,000	11930	-118235
DECREASE CØNSTRUCTIØN $ 1.00 PER SQ FT	17895	-177352
DECREASE CØNSTRUCTIØN PERIØD 1 MØNTH	3724	-36911
DECREASE CØNST AND LAND INTERIM 1 PCT	4035	-39987
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
DECREASE RENTAL RATE $ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE ØPERATING RATE $ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12244	
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-3514	
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-22121	
DECREASE THE LØAN RATIØ BY 5 PERCENT	35397	

EQUIVALENT EFFECTS TØ YIELD A $ 10000 INCREASE IN ANNUAL CASH FLØW

DECREASE CØNSTRUCTIØN CØST BY $ .56 PER SQ FT
DECREASE CØNSTRUCTIØN PERIØD BY 2.7 MØNTHS
DECREASE INTERIM INTEREST BY 2.48 PCT
INCREASE BUILDING EFFICIENCY BY 1.29 PCT
INCREASE RENT RATE BY $ .09 PER SQ FT
DECREASE VACANCY BY .92 PCT
DECREASE EXPENSE RATE BY $ .08 PER SQ FT
DECREASE PERMANENT RATE BY .20 PCT
INCREASE PERMANENT LØAN TERM BY 2.3 YEARS
DECREASE LØAN RATIØ BY 1.4 PERCENT

JOHN H. NABORS, JR.

CONSTRUCTION COST SCHEDULE
DATA INPUT - SHORT FORM

100 _____, _____, _____, _____ Bldg ID#, Mo, Day, Yr
101 _____ 60 character title(ctrd)
102 _____ 60 character title(ctrd)
103 _____ Gross sq ft or Acreage in Tract
104 _____ Run Number

CONSTRUCTION COSTS: (use 201 and 202 or 203)

201 _____, _____ Shell - sq ft, $/sq ft.
202 _____, _____ Interior - sq ft, $/sq ft.
203 _____, _____ Building - sq ft, $/sq ft
204 _____, _____, _____ Grade Parking-sq ft/space, spaces, $/sq ft.
205 _____, _____, _____ Structured Parking " " " "
206 _____ Landscaping/Lighting Costs -$ or $/sq ft.
207 _____ Furniture, Fixture & Equipment " " "
208 _____, _____ Sq ft, $/sq ft or 0,0
(209) _____ Title
210 _____, _____ Sq ft, $/sq ft or 0,0
(211) _____ Title
212 _____, _____ Sq ft, $/sq ft or 0,0
(213) _____ Title
214 _____, _____, _____ 0, $, or % of Shell & Interiors
(215) _____ Title
(216) _____ Title
(217) _____ Title
218 _____ Constr.Contingency-0, $, or % of Shell & Interior

301 _____ Architecture Fees
302 _____ Engineering Fees
303 _____ Loan Origination Fees
304 _____ Legal & Closing Fees
305 _____ Taxes & Insurance

Enter 0, $ or % of Subtotal of lines 201 - 218

309 _____, _____, _____
310 _____ Title
311 _____ Title
312 _____ Title

Optionally titled fees and costs: 0, $ or % of Subtotal of line 201-218

401 _____, _____ Constr Interim Int Rt, Constr.Period-Months
402 _____, _____ Other expenses 0, $ or % of Subtotal
(403) _____ Title
(404) _____ Title

500 _____ Zero or $ Cost of Land (or use line 501)
501 _____, _____ Cost of Land -sq ft or Acres, cost/unit
502 _____, _____, _____ Interim Land Cost-% of Land cost Interest rt, months.
503 _____, _____, _____ Interim Land Cost " " " " " "
504 _____, _____ Interim Land Cost - $/month, months
505 _____ Other land costs-$ or % of Land Cost

Complete lines with ( ) only if corresponding data is non-zero.

JOHN H. NABORS, JR.

File Name_____

INPUT FORM
CASH FLOW ANALYSIS

100 _____ 0 or 1 0= lines 101-107 required 1= use constr. data
101 *_____, _____, _____, _____ Building ID#, Mo., Day, Year
102 *_____ Title Line 1
Description Line 1 up to 60 characteristics
103 *_____Title Line 2
104 *_____ Gross Square Footage in Tract
105 *_____ Gross Square Footage in Building
106 *_____ Total Construction Cost
107 *_____ Run Number
*Items are entered only if value is 0 on Line 100

200 _____ Number of Rental Rates (1 to 5)
201 _____, _____, _____, _____, _____ Rental Rates in$/sq ft
202 _____ Number of Vacancy Rates (1 to 5)
203 _____, _____, _____, _____, _____ Vacancy Rates in %
204 _____ Annual Parking Income $ or 0
205 _____ Other Income $ or 0
206 _____ Number of Operating Expenses (1 to 5)
207 _____, _____, _____, _____, _____Operating Expenses in$/sq ft
208 _____ Number of Financing Conditions (1 to 5)
209 _____, _____, _____, _____, _____ Interest Rates (Annual %)
210 _____, _____, _____, _____, _____ Term in Years
212 _____ Number of Building Efficiency Rates (1 to 5)
213 _____, _____, _____, _____, _____ Efficiency Rates (% of Gross)
214 _____ Number of Cash Flow Tables (0 to 10)

215 _____, _____
216 _____, _____
217 _____, _____
218 _____, _____
219 _____, _____
220 _____, _____
221 _____, _____
222 _____, _____
223 _____, _____
224 _____, _____

Enter Parameters to be output
1 Rental Rate
2 Vacancy Rate
3 Operating Expense Rate
4 Financing Conditions
5 Building Efficiency
6 Loan to Cost Ratios

2XX ROW , COLUMN

230 _____ Number of Loan to Cost Ratios (1 to 5)
231 _____, _____, _____, _____, _____ Loan Ratios in %

240 _____ 0 1 or 2 1 = Breakeven Rental Rates 2 = Rates of Return

250 _____ 10000

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2nd Edition

"MARKET VALUE" NOT ALWAYS APPLICABLE TO INVESTMENT PROPERTY OWNERS

"Market value", under its hundreds of state and federal court definitions, has been acceptable to the real estate appraiser as the fair measurement of just compensation (for all but special use properties) under eminent domain, estate and gift tax, property tax assessment and other situations. It is also applied as one of the two standards for assessment by assessment appraisers. Most definitions of market value mention a "price" and a "willing seller" and a "willing buyer". Even those which do not name or refer to a "seller" have been interpreted to carry the inference that the seller would be willing to sell at the price the buyer could afford to pay.

It is believed, however, the "market value" premise has been erroneous and thus inapplicable to numerous investment properties in the price range which attracts long term mortgagees and high tax bracket equity investors, ever since the investment market began to exploit the capital depreciation methods of the 1954 Internal Revenue Code. That code provided the first uses of the 200% of straight-line-declining-balance and the sum-of-the-years-digits methods; and the code has not been sufficiently modified by the 1962 and 1969 revisions to discourage but a small portion of investors in creating new properties or buying operating properties primarily - and often exclusively - for sheltering taxable income derived both from the newly acquired properties and from other investments and earnings.

This 7-page handout demonstrates the three major reasons for the obsolescence in the age-old definitions of market value: site cost basis, capital depreciation method, and secondary mortgage financing often provided by the seller of the land, on a non-transferable basis.

In this example the first owner of a one-year old, 250-unit apartment property has constructed the building on a site he acquired at a price of $720,000, $511,000 of which price was taken back as a deferred, long term purchase money trust to be subordinated to the mortgage loan on the completed property. The terms of the purchase money trust note call for full prepayment in event the property is resold.

Through his superlative mortgage financing and his use of the most accelerated depreciation method on the new building, the first owner and user of the property could not now afford to sell at the price which another investor in the same federal and state income tax brackets could afford to pay for the property, as the second user. Reasons: the second user could employ only 125% SL/DB depreciation, would not be allowed to claim that the non-depreciable asset, the land, is of less than $720,000 in value, and would not enjoy the long term second mortgage loan as would the first owner. The major assumptions in this example follow:

1. No monetary inflation or deflation considered; future net income and resale value forecast on basis of constant dollars. Equity yield employed matches the extrapolated yields from recently sold, similarly priced investment properties, all on the constant dollar premise.

2. Future resale value of the property, if held by the first owner for an optimum term of 12 years, is calculated to be the capitalized worth of the next average annual net income stream ($335,650 at OA rate of .10) less $250 per apartment unit for major capital replacements at date of future reversion; and, for the second owner, under his optimum ownership term of 10 years, to be the capitalized worth of the next average annual net income stream ($358,000 at OA rate of .10) less $200 per apartment unit.

3. The new first mortgage loan, closed two months ago when the building reached 85% occupancy, is more than the laughable "75% of value" to the second owner and user, but is quite typical and realistic. It is based upon a required 125%-of-debt-service (25% coverage ratio) against the "stablized" net annual income projected at 95% occupancy. The terms of this mortgage note do not preclude its assumption by another owner of the property, if approved by the mortgage lender.

4. First owner, for tax reasons, has capitalized some of his entreprenural expenses (mortgage and construction loan application fees, architectural and legal fees) as part of his capital costs, totalling $3,700,000; while today's hypothetical buyer and second user will be allowed to depreciate only that portion of his purchase price which excludes the $720,000 site value.

See next the two IMV computer printouts (*) showing,

Investment market value to the first owner = $4,419,676

Investment market value to the second owner = 3,980,860

Difference = 438,816 (11.02%)

Although the entreprenural builder-owner has not invested nearly as much cash as is indicated in the first computer printout, the equity cash figure shown represents the present worth of his entreprenural profit, his actual cash investment and the after-tax losses incurred in his expenses of construction loan interest, advertising and building operation during the rent-up period - all as of the date of valuation.

This real estate valuation analysis is written to invite attention to the need of some of the older professions and occupations to modernize their practises in dealing with this branch of land economics. It should also encourage the mortgage lenders, who are facing some increase in loan defaults in certain regions, to specify to the responsible appraisers which of the two values - first or second owner - is to be estimated.

(*) The Thomas A. Prince computer model treats after-tax cash flow in each year (except the reversion from resale) as being received, in 1/12th instalments, each at the beginning of the month.

ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 1 YR OLD APT PROP 95% OCCUPIED

101 INVESTMENT VALUE TO 1ST OWNER

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	390000	.11	.085

OPERATION CODE:

→ 1–Produces IMV for a given after tax equity yield rate

2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:

1–Constant net income value for each year

→ 2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	12	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	400000	400000	400000	396000	392000
	(6)	(7)	(8)	(9)	(10)
105	388000	384000	380000	376000	372000
	(11)	(12)	(13)	(14)	(15)
106	368000	364000	0	0	0
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:

1–Corporation (Operating losses applied to other investments)

2–Corporation (Operating losses carried back/carried over)

3–Corporation (Taxable income offset by losses from other investments)

4–Corporation (Set-up solely for this investment)

→ 5–Non-corporation (Operating losses applied to other investments)

6–Non-corporation (Operating losses carried back/carried over)

7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:

1–No recapture

2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)

→ 3–All other residential rentals (After 100 months-declines 1% per month)

4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	5	.60	.09	.09	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:

1–% of IMV (Enter the % in the APP/DEP AT RESALE column)

2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)

3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	3419000	.02

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

→1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
→5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	0

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	1	2590000	5	40	0
112	1	629000	5	22	0
113	1	481000	5	10	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

→1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	3267000	.09	336	0
119	1	511000	.10	300	0
120					
121					
122					
123					

BEFORE TAX IMV(11.00%) $ 3957929
AFTER TAX IMV(8.50%) $ 4419676
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 1ST OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST. MCLEAN, VA. 22101 14:44EST 11/15/72

****
INVESTMENT MARKET VALUE:

AFTER TAX YIELD OF 8.50%: $ 4419676
****
DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

1.	9.000%	28 YRS	0 MONS	$	3267000
2.	10.000%	25 YRS	0 MONS	$	511000

EQUITY CASH: $ 641676

RESALE OF INVESTMENT IN 12 YEARS:

ESTIMATED RESALE PRICE	$	3419000
LESS: MORTGAGE BAL.		3113321
SALES COMMISSION		68380
CASH REVERSION BEFORE TAXES	$	237299
LESS: CAPITAL GAINS TAX(STD.)		286047
TAX ON RECAPTURED DEPR.		228415
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	-277163

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	343813	268491	-212304	-125319	24256	149575
2	400000	340764	254101	-194865	-115667	24256	139923
3	400000	337425	239711	-177136	-105830	24256	130086
4	396000	333766	225321	-163087	-98334	20256	118590
5	392000	329757	210931	-148688	-90615	16256	106871
6	388000	325365	196540	-133905	-82653	12256	94909
7	384000	320552	182150	-118702	-74423	8256	82679
8	380000	315278	167760	-103038	-65532	4256	69788
9	376000	309500	153370	-86870	-55249	256	55505
10	372000	303169	138980	-70149	-44614	-3744	40870
11	368000	296231	124590	-52821	-33469	-7744	25725
12	364000	288629	118945	-43574	-27713	-11744	15969

```
BEFORE TAX IMV(11.00%) $  3919359
AFTER TAX IMV( 8.50%) $  3980860
DO YOU WANT DETAIL (0=NO,1=YES)?1



INVESTMENT MARKET VALUE ANALYSIS
1-YR OLD APT PROP 95% OCCUPIED
INVESTMENT VALUE TO 2ND OWNER

PREPARED BY A COMPUTER IN
CONSULTATION WITH M.B. HODGES,JR
6819 ELM ST.   MCLEAN, VA. 22101     14:49EST 11/15/72

**************************************************
INVESTMENT MARKET VALUE:

      AFTER TAX YIELD OF    8.50%:          $ 3980860
**************************************************
               DETAIL FOR AFTER TAX IMV

FINANCING:

        MORTGAGES:
            1.    9.000%  28 YRS  0 MONS   $  3267000

        EQUITY CASH:                        $   713860


RESALE OF INVESTMENT IN 10 YEARS:

        ESTIMATED RESALE PRICE              $  3530000

          LESS: MORTGAGE BAL.                  2847849
                SALES COMMISSION                 70600

        CASH REVERSION BEFORE TAXES         $   611551

          LESS: CAPITAL GAINS TAX(STD.)        256985
                TAX ON RECAPTURED DEPR.         29904
                TAX PREFERENCE TAX              12354

        CASH REVERSION AFTER TAXES          $   312308
```

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	400000	292931	155817	-48748	-30886	79978	110864
2	400000	290389	145174	-35563	-22618	79978	102596
3	400000	287609	135531	-23140	-14717	79978	94695
4	396000	284569	131847	-20416	-12984	75978	88962
5	392000	281243	128319	-17562	-11169	71978	83147
6	388000	277606	125770	-15376	-9779	67978	77757
7	384000	273627	123868	-13495	-8582	63978	72560
8	380000	269274	122025	-11299	-7186	59978	67164
9	376000	264514	120240	-8754	-5567	55978	61545
10	372000	259307	120240	-7547	-4799	51978	56777

is not acceptable in Wisconsin if the market approach or income approach can be applied.

VI. A variety of cash flow programs on computer terminal are available to the architect to present continuing analysis of projects under design. One of the most flexible is a program called REAP and it demonstrates how the basic cash flow elements we talked about this morning can be used to produce any cash flow forecast;

A. First it classifies each financial transaction by an account number which not only identifies it as an outlay or a receipt but organizes it for income tax accounting as well.

B. Secondly it requires a date as to the transaction but allows you to distribute that transaction over a curved time line for completion - such as draws on a construction loan.

C. It allows you to create your own labels for each transaction.

D. If it is expensively programmed to allow the amateur to put the data in the machine with a minimum of controls and format errors. It is more expensive to operate but involves very little cost to learn. Indeed it could be typed in by a secretary.

E. Thus we end where we began. There is much data about cash flow characteristics of many types of property and many models to organize that data to answer a variety of questions. Many professions including accountants, architects, and banks already have the capability of serving the customer at very favorable cost benefit ratios.

WHAT QUESTIONS ARE PRESENT APPRAISAL MODELS APPROPRIATE TO ANSWER?

Introduction

REAP provides developers, investors, and financers an unusually powerful set of capabilities for proposing and analyzing real estate development and investment projects. Although it is impossible in a single example to illustrate all of the REAP features, the following typical investment situation serves as a vehicle to display some of the more important REAP capabilities. Throughout the example, the description of the situation is followed by the actual REAP English language commands used to describe the situation.

The General Project Concept

The HSF Investment Trust is an investment vehicle for one of the wealthy families in Atlanta. HSF has been approached by the Central Development Company (CDC) to become a limited partner in a joint venture to build a medium sized office building in downtown Atlanta. In return for an initial equity input and low interest loan, HSF will receive a substantial portion of the tax losses and cash flows until the original equity has been returned; thereafter, HSF will continue to receive the tax losses plus one-half the cash flow. Project ownership will be equal.

The immediate CDC problem is to make a proposal to HSF that will be attractive in terms of overall cash flow, return on investment, and payout, with detailed schedules showing cash requirements, financing arrangements, depreciation, project income and expense, tax losses, cash flows, returns, etc. To determine just what mixture of tax loss, interest, and cash flow can best meet the overall HSF investment portfolio objectives, and to test various project alternatives for the most beneficial arrangements on costs, financing, timing, required income levels, sensitivity to vacancy rates, etc., CDC has turned to the powerful set of capabilities offered by REAP.

CDC first identifies itself to the REAP system by the command

```
REAP ID 'CDC' DATE 11 15 71
```

The project, to be called the "One Peach Tree Plaza" will be given the code name 'PTP' and the project number 7112.

PROJECT NAME 'ONE PEACH TREE PLAZA' ID 'PTP' NUMBER 7112

CDC, as a well managed development company, has a cost accounting and management system that depends on a chart of accounts breakdown of building and operation costs. This chart of accounts is entered as

CHART OF ACCOUNTS
101.00 'LAND ACQUISITION'
102.00 'LEGAL FEES'
103.00 'ARCHITECTURAL & ENGINEERING FEES'
104.00 'BASIC BUILDING'
105.00 'TENANT IMPROVEMENTS'

These accounts are used in assigning project costs and cash requirements. Land costs for the 30,000 square feet parcel are projected at $50 per square foot, and it is expected that the current option to buy will be exercised on December 31, 1971.

In general, cash requirements are entered as a series of steps, with these land costs entered as follows:

PROJECT CASH REQUIREMENTS SCHEDULE
STEP 1 COMMENT '30000 SF LAND AT $50/SF' AMOUNT 1500000
DATE 12 31 71 ACCOUNT 101.00

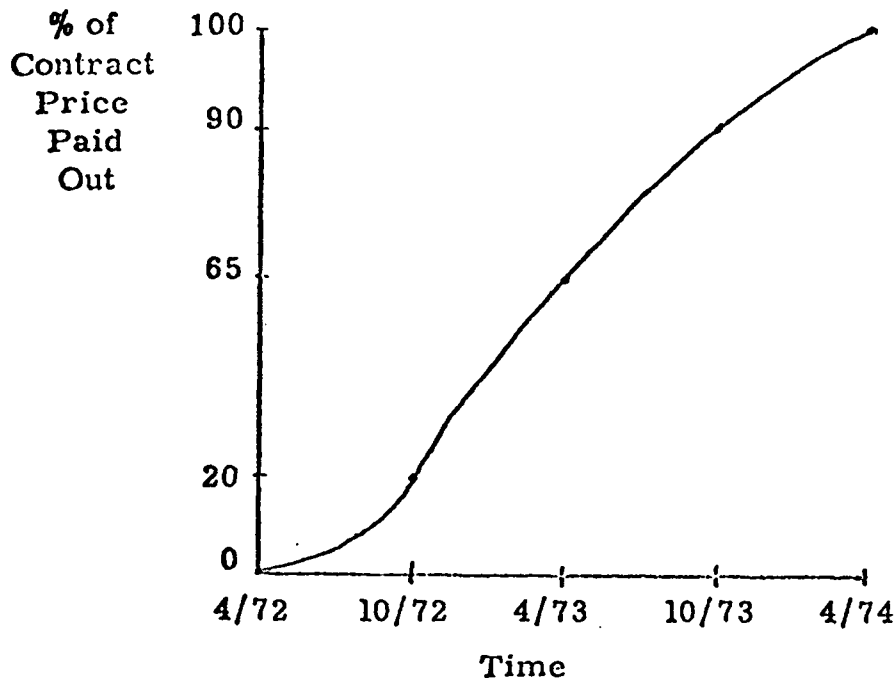
Certain legal fees are expected on the project, and are to be paid in two installments - 25,000 on July 1, 1972 and another 25,000 on December 31, 1973.

STEP 2 AMOUNT 25000 DATE 7 1 72 ACCOUNT 102.00 -
COMMENT 'LEGAL FEES'

STEP 3 AMMOUNT 25000 DATE 12 31 73 ACCOUNT 102.00 -
COMMENT 'LEGAL FEES'

Overall, the plan calls for a twenty story tower, with 300,000 square feet

of space at a cost of approximately $30 per square foot on the basic building. The total basic building cost will be paid out monthly to the general contractor over a two year period, beginning April 1, 1972, according to a construction requisition curve which has the following shape:



This cash requirement is given as

STEP 4 COMMENT 'MAIN CONSTRUCTION CONTRACT' AMOUNT 9000000 -

ACCOUNT 104.00 CURVE 20 65 90 PAYOUT 2 BEGINNING 4 1 72

Architectural and engineering fees, estimated at 5% of the basic building cost, amount to 450,000, and are paid over a one year period of time beginning January 1, 1972 according to the following schedule:

March 31, 1972	15% of fee
June 30, 1972	50
Sept. 30, 1972	90
December 31, 1972	100

This is entered as:

STEP 5 AMOUNT 450 000 ACCOUNT 103.00 CURVE 15 50 90 PAYOUT 1 -
BEGINNING 1 1 72 COMMENT 'ARCHITECT FEES'

Tenant improvements are reckoned at a $5/sq. ft. allowance, for a total of 1,500,000, and are to be paid out in approximately equal amounts over a 1 1/2 year period beginning October 1972.

STEP 6 AMOUNT 1500000 ACCOUNT 105.00 CURVE 25 50 75 PAYOUT 1.5 -
BEGINNING 10 1 72 COMMENT 'TENANT IMPROVEMENTS'

Although the actual project costs will be allocated in somewhat more detail when the project is better defined by CDC, the steps outlined above outline the gross overall costs and their expected distributions over time. By issuing of the command

DISPLAY PROJECT COSTS ON PROJECT 7112
EVERY 12 MONTHS FOR FIRST 5 YEARS BEGINNING 12 31 71

CDC is able to obtain the project cash requirements schedule shown in Figure 1. Note that the various project costs have indeed been spread over differing time periods, beginning on different dates, as requested by the initial input.

Using this project cash requirements schedule, CDC is now able to formulate a financing program composed of several loans. The current owner of the land has agreed to finance 1,000,000 of the land cost until the end of the construction period (i.e., for the 2 1/4 year period 12/31/71 - 3/31/74) on an interest only basis at 10%.

FINANCING
LOAN 1 AMOUNT 1000000 RATE 10 INTEREST ONLY -
PAYOUT 2.25 BEGINNING 12 31 71

Construction financing in the amount of 10,000,000 at 12% over the two year construction period beginning April 1, 1972 has been arranged, and will be paid out according to the following construction requisition curve.

ONE PEACH TREE PLAZA

PROJECT ID PTP NUMBER 7112.00 DATE 11/15/71
PROJECT COSTS

	12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
30000 OF LAND AT $50/SF						
STEP 1	1500000.	0.0	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 2	0.0	25000.	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 3	0.0	0.0	25000.	0.0	0.0	0.0
MAIN CONSTRUCTION CONTRACT						
STEP 4	0.0	3149992.	5249994.	599996.	0.0	0.0
ARCHITECT FEES						
STEP 5	0.0	434989.	14999.	0.0	0.0	0.0
TENANT IMPROVEMENTS						
STEP 6	0.0	166666.	999999.	333332.	0.0	0.0
TOTAL COSTS	1500000.	3776647.	6289992.	933328.	0.0	0.0

FIGURE 1

ONE PEACH TREE PLAZA

PROJECT ID PTP NUMBER 7112.00 DATE 11/15/71
INTEREST TABLES

	12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
PROJ PTP LOAN 1 AMOUNT 1000000. RATE 10.00 INTEREST ONLY BEGIN 12/31/71						
PAYOUT 2.3 DEBT CONST. 0.0						
INTEREST	0.0	100000.	100000.	25000.	0.0	0.0
AMORTIZATION	0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL	1000000.	1000000.	1000000.	0.0	0.0	0.0
LUMP SUM PAYOUTS	0.0	0.0	0.0	1000000.	0.0	0.0
PROJ PTP LOAN 2 AMOUNT 10000000. RATE 12.00 CONSTRUCTION BEGIN 4/ 1/72						
PAYOUT 2.0 DEBT CONST. 0.0						
INTEREST	0.0	214531.	904530.	290937.	0.0	0.0
AMORTIZATION	0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL	0.0	4703121.	9489575.	0.0	0.0	0.0
LUMP SUM PAYOUTS	0.0	0.0	0.0	9999991.	0.0	0.0
PROJ PTP LOAN 3 AMOUNT 13000000. RATE 9.50 AMORT. TERM 20.0 BEGIN 4/ 1/74						
PAYOUT 0.0 DEBT CONST. 11.19						
INTEREST	0.0	0.0	0.0	819220.	1210292.	1186091.
AMORTIZATION	0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL	0.0	0.0	0.0	12849792.	12605943.	12337893.
TOTALS FOR ALL LOANS						
INTEREST	0.0	314531.	1004530.	1135156.	1210292.	1186091.
AMORTIZATION	0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL	1000000.	5703121.	10489575.	12849792.	12605943.	12337893.
LUMP SUM PAYOUTS	0.0	0.0	0.0	10999991.	0.0	0.0
FINANCING PROCEEDS	1000000.	4703121.	4786454.	2510425.	- 0.0	- 0.0

FIGURE 2

REAL ESTATE FEASIBILITY WORKSHOP
Sponsored by Society of Real Estate Appraisers
Chapters of Puerto Rico, Palm Beach County,
Greater Miami & Broward County
Hilton Hotel, San Juan, Puerto Rico
April 1-2, 1975

Instructor: Prof. James A. Graaskamp

FIRST AFTERNOON

1:00 P.M. The Real Estate Process
Elements of a Total Feasibility Analysis
Determining Objectives and Decision Criteria of the Client
Defining Audience for Report
Establishing Professional Accountability

3:15 Coke Break

3:30 Site as a Guide to Market
Static Attributes
Linkage Attributes
Dynamic Attributes
Defining Most Probable Use
Defining the Most Probable Buyer

MORNING - SECOND DAY

9:00 A.M. Structuring Market Data Analysis
Demonstration of Report Display of Market Data
Market Segmentation and Prospect Identification

10:15 Coffee Break

Developing a Customer Profile
Designing the Consumer Survey
Drafting Survey Questionnaire
Tabulating Survey Results
Defining a Product Mix and Price Range
Backdoor Approach to Feasibility

12:00 Luncheon

1:00 P.M. A Pre-Architectural Program
Front Door Approach to Feasibility
Modeling Cash Flow for Development Project
Evolution of Convepts for Measuring Rate of Return
Evolution of Concepts of Risk Evaluation

2:30 Coke Break

2:45 Cash-Flow Analysis of Rental Project
Cash-Flow Analysis of Condominium Project
Sensitivity Analysis Related to Departmental Responsibilities
Conclusions as Statement of Alternatives (if, then statements)

FEASIBILITY ANALYSIS SEMINAR OUTLINE

I. Concepts and definitions basic to real estate enterprise

A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

2. The business of real estate is the process of converting space-time to money-time.

3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

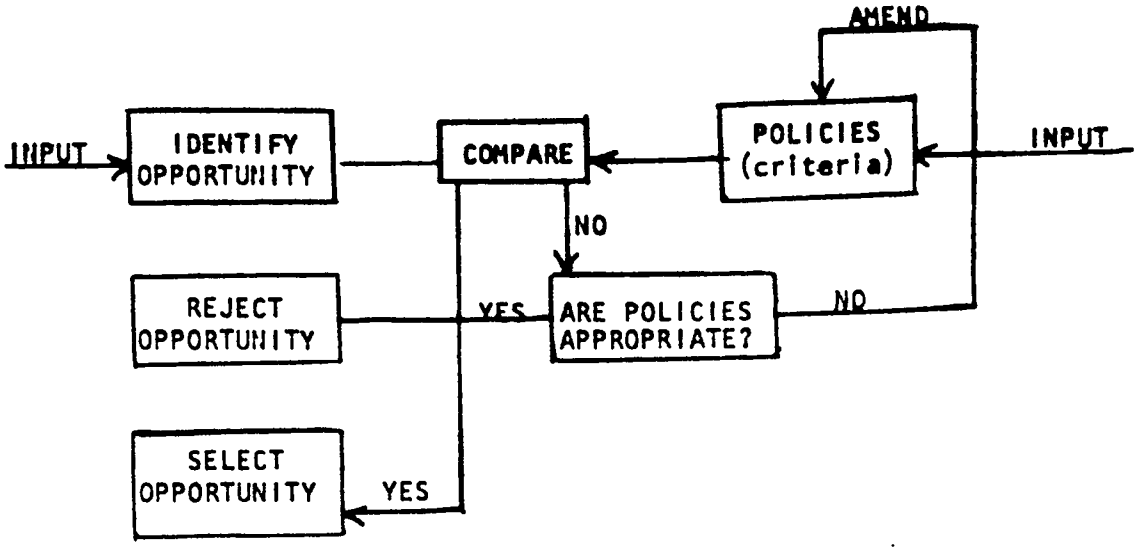
C. Traditional sequence of management function:

1. Planning
2. Organizing
3. Directing
4. Controlling

D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunites
7. operating the systems that have been installed
8. Maintaining and continously perfecting the operating systems

E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical -aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Feasibility analysis is primarily concerned with the first four and the feedback process. In a cash cycle enterprise, it is the consumer decision to buy or rent which is the initial stimulus to the cash cycle. Therefore the next two days will emphasize the identification of alternative real estate market groups and then profiling of small selected micro market consumers to produce a pre-architectural program.

H. The artist concept of context, form, fit, and the ensemble is useful because in the planning stages the feasibility analyst is attempting to define the context to which the project must fit; when confronted with the completed project design, the analyst is searching for the critical misfit which would lead to failure.

I. Combining the concept of enterprise and the concept of fit leads to this definition of the elusive concept "feasibility":

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. A feasibility study relates to one of three alternative situations:

1. A site or a property in search of a use (market).
2. A use in search of a site and related improvements.
3. A client in search of a real estate opportunity.

D. Since a real estate decision always involves forecasting of future behavior and conditions, and always involves a cash cycle enterprise, ultimately the various research questions must be converted to financial forecasts and decision rules.

1. Real estate investment means that someone has bought a set of assumptions about the future.
2. Financial assumptions provide both constraints and tests of alternative solutions.
3. Initially financial constraints are stated as proforma expectations but ultimately are refined into tests of alternative solutions (subject matter for tomorrow afternoon).

E. The initial financial constraints can be stated in terms of the:

1. Front door approach which converts total cost to annual requirements for equity dividends, debt service, operating expenses, and vacancy cushion. Annual requirement dividend by rental unit equals rent.
2. The back door approach to feasibility which converts the ability to pay of the user to maximum project cost acceptable - the major design constraint.
3. See Exhibit 2.

F. Risk in the business situation is the variance between assumptions about the fact in the planning process and realizations in the execution of the program.

1. Since feasibility is operating under conditions of uncertainty, a significant part of analysis is concerned with risk management - methodical analysis of critical assumptions and identification of alternative risk control methods.
2. The game of "what if" and the consequences of surprise is cheaper to play on paper while designing the program.

G. The functions of risk management include:

1. Identification of significant exposures to loss.
2. Estimation of potential loss frequency and severity.
3. Identification of alternative methods to avoid loss.
4. Selection of a risk management method.
5. Monitoring execution of risk management plan.

H. Risk management methods relate to static risks (those that only cause a loss) and dynamic risks (those where the contingencies could cause a profit or a loss). Risk management methods include:

1. Risk avoidance.
2. Reduction of frequency of loss (underwriting selection of mortgagee or tenant).
3. Reduction of severity of loss (mortgage terms, contingent stop loss contracts, sprinkler systems).
4. Shifting the risk of variance by contract (insurance, fixed price subcontracting, escalator clause).
5. Limit liability (corporate shell, limited partnership law).
6. Hedging (sale and lease back with option to by, the mortgage as a straddle in the market).

I. For dynamic risks the best risk management devices are knowledge of the facts and incentives to control management motivation.

1. Customer acceptance or lack of it is the primary cause of unfavorable financial results. Investors will require 3% insurance to protect collateral should it burn down. Why not require 1% market research to see if it will rent up?
2. Financial projections presume aggressive management and execution of the plan. Compensation should parallel performance. (Bad example: real estate trust advisor fees)
3. Any portion of a total feasibility study is intended to perform risk management functions of identification and measurement of major assumption risks.

IV. Defining Strategic Objectives and Client Constraints

The initial strategic objectives and client constraints initially define the approach to market segmentation and analysis. It is therefore critical to make the clients thinking explicit as in many cases his implicit assumptions are hidden at the time of his original contact.

A. A feasibility consultant has 3 alternative situations:

1. A site or a project in search of a market.
2. A known specific market segment in search of site and a project.
3. A specific client in search of an opportunity in real estate.

B. Initial interviews with a client in any of these situations should reveal:

1. His preferred method of meeting entrepreneurial risk.
2. His preferred method of personnel compensation.
3. His style of value decision trade-offs between qualitative and quantitative issues.
4. His perception of his risk position and his risk utility "curve".
5. His personal non-business objective.

C. Too many real estate and building professionals understand the above inquiry to mean pandering to the client of his building committee. Just the reverse however should be the purpose. The professional must make the client recognize his implicit program content and must challenge the initial explicit statements of purpose by the client.

1. Staging of the research to permit the client self-examination and discovery to avoid extensive research of unacceptable alternatives.
2. Give the client time to recognize where critical assumptions need analysis be expertise in a team approach.
3. Your hold harmless clause should be an explicit statement as to personal accountability for various assumptions. (See Exhibit 1)

D. The client and the analyst should come to an understanding as to the essence of any particular type of business. First, there are general characteristics to the development process:

1. For example, in the land development game there are five basic strategies:
   a. Passive investment in raw land
   b. Master planning of raw land to secure critical public approvals
   c. Sale of improved lots or development sites
   d. Sale of totally improved land and building packages to final user, investor, or public authority (turn key)
   e. Management of properties as agent for others or for one's own account
2. Note that each phase requires higher volumes with smaller profit margins, shorter periods for execution, increasing cash flows, and more precision in execution.
3. From one phase to the next the critical input shifts from organization with foresight, imagination, and persuasiveness to organizations with internal systems for administrative control and execution - from entrepreneurship to administration.

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EXHIBIT ONE

FEASIBILITY RESEARCH GROUP

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Accountability

Accountability rests with the individual (s) firm (s) or sources as indicated below:

1. Statement of Objectives by _____
2. Satisfaction Criteria by _____
3. Alternative Research by _____
4. Market Research by _____
5. Market Analysis by _____
6. Space User Profile by _____
7. Consumer Preference Survey by _____
8. Market Forecast by _____
9. Absorption Rate Forecast by _____
10. Land Development Cost Estimate by _____
11. Building Improvement (s) Cost Estimate by _____
12. Indirect Cost Estimate by _____
13. Producer Cash Flow Forecast by _____
14. Tax Liability Projection by _____
15. Investor Cash Flow Forecast by _____
16. Environmental Impact by _____
17. School District Impact by _____
18. Municipal Government Impact by _____
19. Financing and Refinancing Impact by _____
20. _____

EXHIBIT 2

Demonstration of Back-Door, Front-Door Calculations
for an Apartment Building with some Commercial Space

(Developed by James R. DeLisle)

			What is Rent? Front Door 1.4m TRC	What is TIV? Back Door* $220/mo./1 bdr.
1	Total Replacement Cost (TRC)	Sp $%	1400000	
2	Mortgage @ % TRC	Sp % in decimals	.90	
3	Equity @ % TRC	(1 - Ln 2)	.10	
4	Mortgage Constant	Sp in decimals	.0907	
5	Equity Constant	Sp in decimals	.08	.08
6	Net Income Required	(Ln1) [(Ln 2)(Ln4)+ (Ln3)(Ln5)]	125,482	115,549
7	Mortgage @ % NIR	Sp % in decimals	.90	.90
8	Mortgage NIR	(Ln6)(Ln 7)	112,934	103,942
9	Mortgage Investment Value	(Ln8) ÷ (Ln4)	1,245,136	1,146,009
10	Equity Net Income	(Ln6)-(Ln8)	12,548	11,607
11	Equity Investment Value	(Ln10)÷(Ln5)	156,850	145,087
12	Equity Constant-Residual	(Ln1)-(Ln9) Backdoor		
13	Total Investment Value (TIV)		1,401,986	1,291,097
14	Expenses,Taxes,Reserves @ %GBR	Sp % in decimals	.40	
15	Expense, Taxes & Reserves	[(Ln6)÷(1-Ln14)]-(Ln6)	83,655	76,995
16	Required Effective Gross	(Ln6) + (Ln15)	209,137	192,487
17	Occupancy %	Sp % in decimals	.93	
18	Required Annual Gross	(Ln16)÷(Ln17)	224,878	206,976
19	Required Monthly Gross	(Ln18)÷ 12	18,739	17,750
20	Fixed Source Contribution to Gross			
21	Fixed Source #Reserve Units	Sp #		
22	Fixed Source Revenue/Unit/Mo.	Sp $'s		
23	Fixed Source Contribution Gross	(Ln21) x (Ln22)		
24	Allocated Mo. Gross	(Ln19) - (Ln23)	18,739	17,248
25	Basic Revenue Unit, #(BRU)	Sp #	45	
26	s.f./unit	Sp. s.f.	560	
27	Relation to Basic Rev. Unit			
28	Type R-2 #	Sp #	9	
29	Type R-2 Relation	Sp % in decimals	1.3	
30	Type C-1 # s.f.	Sp. s.f.	8668	
31	Type C-1 Relation	Sp % in decimals	1.4	
32	Factors			
33	BRU	Ln25	45	
34	R-2 (#in BRU)	(Ln28)(Ln29)	11.7	
35	C-1 (#in BRU)	[(Ln30)÷(Ln26)](Ln31)	21.7	
36	Total Factors	(Ln33) + (Ln34)+(Ln35)	78.4	
37	$/BRU Unit/Mo.	(Ln24)÷(Ln36)	$239	$220*
38	$/R-2/Mo.	(Ln37) x (Ln29)	$311	$286
39	$/C-1 s.f./Mo.	(Ln37) x(Ln31)÷(Ln26)	.60	.55

4. The restaurant business must first define the essential ratio of recreation to food to turn over time to establish elements required in a location.
5. Every real estate use has an essential trade off formula which is the essence of the feasibility problem.

COKE BREAK

V. The Site in Search of a Market

The classic appraisal problem of "highest and best use analysis" and the typical feasibility study begins with a specific site. The various attributes of the site will narrow the potential market demand for that site to a few alternative uses which in turn will define the most probable user and investor.

A. Louie Carter has a song about things that seem the same but are really not - like a place with birds and bees and grass and trees which to some is just a vacant lot. There is no such thing today as raw land or a vacant lot. Every site has:

1. Static attributes - physical characteristics of size, shape, topography, soils, etc.
2. Linkage attributes - relationships to other sites which may tend to generate movements of goods and people to the subject site.
3. Dynamic attributes - characteristics which affect behavior such as visibility, prestige, or feelings of fear or anxiety.

B. There has been a revolution in the supply of public information about physical attributes of a site and there is increasing awareness and sophistication on the part of consumers as to which combinations of site attributes best serve their own purposes. As a result the appraiser or the feasibility analyst, beginning with a specific site:

1. Has a problem in assembling, interpreting and communicating efficiently.
2. Has increased exposure to a charge of negligence (for example, in Wisconsin, a lower court has ruled that the Soil Conservation Service provides constructive notice of suitabilities).
3. Must predict if environmental resources can represent an implicit encumbrance on the property.
4. Must provide a map defining net usable area or space units.

C. The definition of static site attributes (physical limits and features) should include a concise statement and illustration of:

1. Size, shape, and area.
2. Topography.
3. Soils and water table (and therefore suitabilities).
4. Set-back lines and building envelopes.
5. Access controls (proximity is not accessibility).
6. Concealed utility easements.
7. Flood plains which have been determined by Corp of Engineers, etc.
8. Old foundations, etc.
9. Scarce environmental elements which almost certainly mean environmental impact litigation.
10. Landmarks or historical structures.

D. The site map and analysis should also include possible physical controls placed by the legal-political characteristics of the site over and beyond basic zoning classification and easements of record. Each factor must be evaluated and their future influences anticipated to some degree unless permission has been granted for a limiting condition to disregard such things as:

1. Water district, harbor commission, or other special district lines.
2. Premises of community master plans still in incubation process.
3. Tax conservancy commitments.
4. Extra territorial zoning or subdivision powers.
5. Attitudes of sewer, water, and highway commissions.
6. Contractual agreements among previous buyers and sellers which may or may not run with the land.
7. Planner views or physical barriers to restrict "sprawl."

E. Anticipate impact of impending legislation which appears to have reasonable probability of passage rather than simply meeting current standards relative to:

1. Septic tank installation.
2. Ground water, depth and conservation of high water recharge areas.
3. Salt water encroachment.
4. Conservation of environmental edges.
5. Conservation of prime agricultural.
6. Impact on off-site areas down wind or down stream.

F. Analysis of the static site attributes should also be in terms of competitive advantages and disadvantages of each attribute in terms of pricing and marketing.

1. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.
2. Some statec attributes can provide monopoly advantages because its suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.
3. Keep in mind that static attributes will help identify most probable use and buyer.
4. Lack of fit between static site and merchandising data is a basic cause of unsuccessful projects.

VI. Linkage Attributes of Subject Site

Linkage attributes have to do with its functional relationships to other features and activity centers which will create customers or serve as the connection between the subject site and users.

A. There are physical linkages which represent the infrastructure of improvements upon which the site depends.

1. Streets, sidewalks, rail, and transit systems serving the site.
2. Access points.
   a. Traffic department controls, present and proposed
   b. Rail switching and truck tariff zones
   c. Indirect controls imposed by factors affecting behavior (see dynamic attributes)

3. Utility services are linkages,too.
   a. Sewer, water, gas, and electric hook-ups, availability and capacity
   b. Community energy supplies and sources
   c. Implicit resources such as stock of wild game, labor pools, alternatives to the auto, etc.
4. Capacity of existing transportation systems to absorb unit volume generated on site and implications for off-site improvement budgets.

B. Relationship of subject site to generators of potential needs and uses for the subject site.

   1. Employment centers.
   2. Institutional activities.
   3. Neighborhood characteristics, etc.

C. Relationship to competitive alternative sites and properties.

D. Relationship of subject site to various categories of potential suitable uses.

VII. Dynamic Attributes of Subject Site

Dynamic attributes have to do with the mental or emotional qualities of the site and its environment.

A. First there are image problems and opportunities in the location:

   1. Historical community reputation and values attached to the area.
   2. Image conditioning of the approach zone.
   3. Anxiety factors of access and security.
   4. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.
   5. Noise as a function of traffic count.
   6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).
   7. Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.
   8. Recycling may establish historical roots and images (such as the Plantation House at Sea Pines).

B. Then there are the political images which have been established for a site by the public positions of local politicians or vested interest groups.

C. Static site attributes can also be related to dynamic environmental interpretations which can be physical, social, or economic in terms of the outreach. Growth management is often more in the mind and its capacity for change than in the physical limitations.

   1. More and more projects will depend on financing, directly or indirectly from the federal government, and therefore the analyst and the appraiser must have quick access to worksheets which describe such things as:

a. FHA work sheets on noise control relative to traffic and other sources
b. Federal definitions of the flood plain and procedures for adjustment
c. State and EPA worksheets involving projects like shopping centers, planned unit developments, etc.
d. FNMA project evaluation forms

2. Recent actions of local administrative agencies for the FHA A-95 form as it may affect feasibility of future projects.
3. The evolving science of normative measurements of environmental and resources impact.

VIII. Definition of Market Alternatives for Site Attribute Package

Filtering through these various attributes the analyst should be able to identify one or more uses which would be legally permissible, physically possible, and suitably located. The site attributes may even suggest that the cost of improvement will be above or below average suggesting the delivered price to the user may possibly be an advantage or disadvantage.

A. That brings the analyst to the critical question of both appraisal and feasibility "WHO NEEDS IT? AND CAN THEY AFFORD IT?"

B. There are three readings which should be basic to those analyzing best use:

1. "Highest and Best Use," William Crouch, The Appraisal Journal, April, 1966, pp. 166-176 (some important points are that the appraiser must prove effective demand and reasonable probability of political permission to use the site).
2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April, 1972, pp. 165-174 (some important points are that the opinion of highest and best use must consider so many variables on an after tax basis that the conclusions must vary with investor type just as judgments and analytical skill must vary by appraiser).
3. "The Importance of the Highest & Best Use Analysis," Paul Tischler, The Real Estate Appraiser, May-June, 1972, (some important points are that proposed use must not only consider highest income to owner but also external costs and impact in others).

C. Most probable use analysis then requires evaluation of site use alternatives with preliminary estimates of market demand to focus on selected alternatives most likely to meet investment objectives.

EXHIBIT 3

IV. Subject Site Static Attributes

A. The subject property presently has an irregular shape, as it lies between a somewhat meandering shoreline of Lake Monona to the south and a bend in the 600 block of Williamson Street--a major boulevard arterial on the north which suffers a reduction in width from 120 feet of right-of-way to 100 feet at the west end of the subject property. The property has approximately 425 feet of frontage on Lake Monona, 257 feet of depth on its Blount Street frontage to the southeast, but only approximately 310 feet on Williamson Street and 150 feet of depth on its western border which slices across Lots 3 and 4. These borders encompass about 94,470 square feet of land area. However, this generous site area is misleading, despite its zoning as C-3 Highway Commercial District due to the following: (See Exhibit #2 & #3)

1. A dockline is established for lake front property by the State of Wisconsin which establishes the shoreward point beyond which construction or substantial grade changes are not permitted. This dockline leaves 21,200 square feet of land area between it and the high water level which is set at 1.50 feet, City datum, leaving approximately 73,270 square feet available for development, if it were not for the new Madison waterfront controls.

2. The site is subject to the more restrictive waterfront development standards as established by City of Madison, Ordinance 4664 (as of 8-5-74), which requires the following:

   a. A conditional use permit for virtually any change in the status quo. (See 28.04(19) City Building Code.
   b. Shoreline to building setback shall conform to existing development pattern which in this case has been dictated by the Chicago and Northwestern spur track. From discussions between John Glad and Barney Riley of the City of Madison Zoning Department, on September 17, 18, and 19 it was determined that the building line would be a distance of 101 feet from the lake shore. Thus the area left for development is approximately 49,730 square feet between the rear yard line and Williamson Street.

3. City of Madison Ordinance 28.09 2d(3) and 28.09 4d (1) further modify C-3 zoning. Residential use is restricted to the second floor and above, and to 50% of the total building floor area unless a conditional use permit for greater residential area is obtained. Recent decisions of City Council suggest flexibility on area limit but reluctance to permit residential on first floor.

B. The dominant positive feature of the site is its 425 feet of southeast shoreline exposure on Lake Monona, providing an opportunity for a pleasing view and excellent solar orientation. The site has a gradual slope of 4% from Williamson Street down to the lakeshore.

C. The physical character of site improvements is mixed and negative, generally representing clearance costs before vacant site could be utilized. Lots 8 & 9 are essentially leveled with fill and rubble from a former brewery and the condition of underground footings and

basement floors which remain below the backfill is not known but could pose additional expense for new construction. On Lot 7 is a one and two story building with concrete foundations, a partial basement for a boiler room, and brick mill construction. Outside walls are masonry and building tile with steel industrial windows. Interior of building is a medium strength wood beam and second floor loft system spanned by large wood arch trusses which feature some skylights and a front section of office-display space. The arches, skylights and fair condition of the building would seem to indicate that it has some potential for restoration and reuse.

The remainder of the parcel of Lots 4, 5, and 6 are covered by a one-story garage building, with a small partial basement, a few minor structural additions, and a paved concrete apron on Williamson Street which once served as a Sinclair Filling Station. The wooden roof, supported on light steel trusses has rotted away and would need to be replaced. The balance of the building has been vandalized to the extent there are no windows remaining, wall board has been ripped away, and interiro fittings stolen or burned (by unknown occupants to keep warm)? The obsolete layout and vandalism lead to the conclusion that this building should be razed. To the rear of the building is a side track coming from the Blair Street side which has been officially released by the Northwestern Railroad and could be removed.

Approximately 100 feet of land between Lake Monona and the existing building is unimproved except for cinder and gravel surfacing and some industrial fencing. There is a concrete alley between lots 6 and 7 to provide access. At the foot of Blount Street, to the southeast corner of the site, is a popular fishing pier. A nearby culvert dumps hot water from the Madison Gas & Electric generator plant into the lake so that the lake never freezes in this immediate vicinity.

At the southwest corner of the site is an easement approximately ten feet in width and an inoperative pumping station which have been the property of Madison Gas & Electric Company since 1899. There is no indication that this interest has been abandoned or released as was the case with the side track.

D. Utilities available on the Williamson Street frontage include 8" sewer collector, 8" city water line, 6" Madison Gas & Electric gas line, and full electric service. Sewer may be inadequate for extensive apartment development on subject site depending on current load. Madison Gas & Electric may be able to supply steam or hot water for heating from its generator plants two blocks away as it currently supplies several downtown Madison office buildings.

E. Because of the heavy traffic on Williamson and the boulevard median strip, future development of the subject site will probably be limited to one access point on Williamson and one on Blount Street. Parking will impose a major constraint on the extent of permissable commercial floor area development since City Building Code requires one parking

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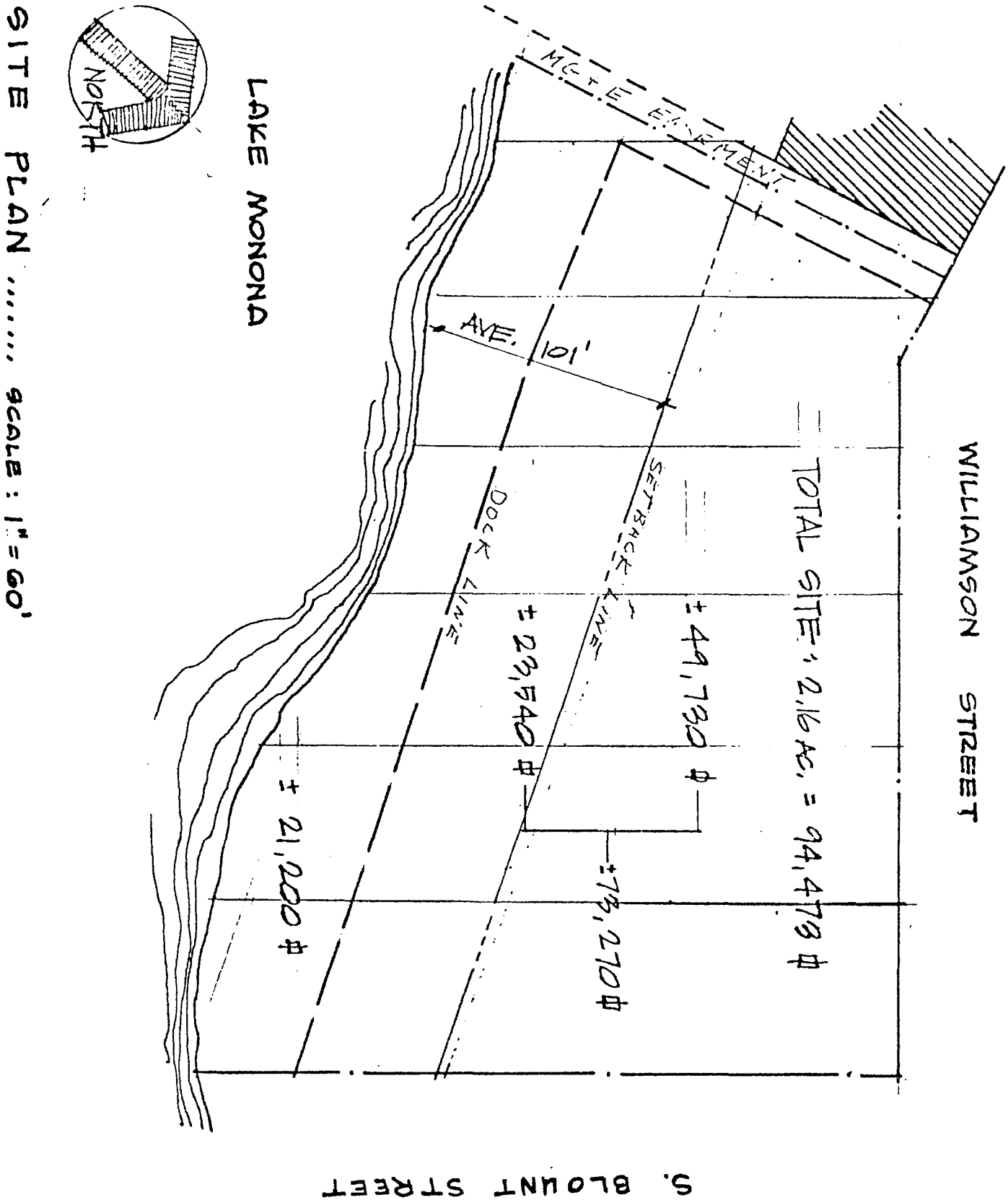
EXHIBIT #3

Source: Glad, Sarko & Associates



stall for each 300 square feet of commercial area. For residential purposes the limiting factor for development of the subject site is the required lot area per dwelling unit.

Type	Land Area Required	Open Space/DU
Efficiency	700	160
1-bedroom	1000	160
2-bedrooms	1300	320

Development alternatives will be considered after key site linkages and behavior attributes have been identified in Sections V & VI.

V. Subject Site Linkages

Site linkages refer to the relationship of the subject property to off-site activities and to other sites; which might facilitate an exchange of people, goods, and services and therefore contribute to the usefulness of the property. Reference to the district zoning map indicates the subject site is at the foot of a major industrial (M-1) zone for the City of Madison. It is also at the gateway to the near east side residential area commonly referred to as the Marquette neighborhood, which is generally zoned R-5 or R-4A. The Williamson Street commercial zone is a relatively low grade retailing area with no cluster of ancillary service or convenience retail stores in immediate proximity to the subject site.

A. On the northeast side of the subject property, across Blount Street, is located the new and well furbished Elks Club Building, which is the scene of a variety of civic and commercial activities and functions. That is the only civilizing amenity, contiguous to the site. At the northwest corner of the Blount Street intersection is a day care center in a converted, small commercial building, for children of eastside families who are dropped off by parents on their way to work in downtown Madison via public transit.

B. The northwest site exposure across Williamson Street is dominated by a one-story truck garage and truck pool lot, which is leased on a long term basis to the U.S. Post Office. At the foot of Williamson Street facing Blair is an old filling station converted to a used car lot. The subject site also has a view down Williamson Street to the west, toward an old hotel and several bars along a strip of Wilson Street primarily known for a variety of recent crimes of violence.

C. The visibility of the subject site from the direction of the Wilson and Williamson Street access points to the west and from John Nolan Drive and Law Park to the southwest, is blocked by an old two-story building on the western half of block 126 in which the subject is located. This building presently houses an annex of the U.S. Post Office and a number of auto parts and applicance wholesalers. Since the federal government is presently considering construction of

consolidated post office operation on the far east side of Madison, it is possible that leases on the garage building and the annex will be terminated within the next few years. As it would be speculative to assume that better neighbors than the U.S. Post Office might be found for these buildings, the compatibility and stability their use must be considered suspect.

D. Just beyond the immediate contiguous environment of the subject site are a number of adverse influences. East of Blount Street is the major coal-fired generator plant of Madison Gas & Electric, with five tall smoke stacks and a variety of coal unloading and lifting machinery systems. Any building on the subject site would need to be carefully designed to screen out a view of the plant and to avoid undesirable accumulations of soot and noise. At one time there was a major railway station for the Chicago & Northwestern Railroad at the corner of Wilson and Blair. The station has been converted into MG & E offices but switching yards remain east of Patterson Street. Two major rail tracks cross Williamson Street at the Blair-Wilson Street intersection to create a significant psychological and physical barrier between the subject site and the Madison Square six blocks away.

E. The street linkages of the site are in a significant state of flux. The City Planning and Traffic Engineering Departments are considering two alternative plans to relieve the congestion of the four corner, angular intersection of Williamson, John Nolan Drive, Wilson and Blair Streets, which is further complicated by the Northwestern Railroad corssing through the center of the intersection.

1. One plan would make Blair Street one way from East Washington to John Nolan Drive in order to divert north-south through traffic around the congested Madison Square via John Nolan Drive. At the same time Blount Street would be made one way to East Washington to handle traffic traveling east on John Nolan Drive. Left turns from Williamson to Blount would require a stop light at that intersection. Various measures are also under consideration to reduce vehicle through traffic in the Marquette neighborhood by a modification of Spaight and Jenifer Streets at the Livingston Street intersection.

2. An alternative plan--which is apparently the preferred plan--would convert Blair Street into a wider two way arterial connecting John Nolan Drive on the Lake Monona side of the isthmus to East Washington and to Gorham Street on the Lake Mendota side. When considered with the Regent Street improvements already completed at the west end of John Nolan Drive, the Blair Street project would provide an outer loop around downtown Madison. The demolitions required for that street improvement plus those which continue as part of the State Office Building project between Webster and Franklin would eventually lead to a significant renewal of the area between the subject site and the Capitol Square area.

3. Further development of John Nolan Drive and the Blair-Blount connectors together with a reduction of traffic through the Marquette neighborhood, will lead to increasing traffic volumes on Williamson Street. This in turn will create traffic levels which could be unacceptable for FHA residential environmental noise specifications for residential construction and which would constitute a barrier to pedestrian access to the Square. Final traffic plans might also make the automobile route from the subject site to the Square even more circuitous than is presently the case with the median strip preventing left turns toward the Square from the Williamson Street access points of the subject site.

VI. Dynamic Site Attributes

Dynamic site attributes are concerned with the attitudes of people as they relate to the subject property or the behavior of the consumer as he evaluates the utility of the property for his own purposes. It has already been suggested that the high intensity intersection at Williamson and Blair would intimidate the pedestrian and may in the future be designed to divert the motorist in directions less than convenient to the subject property. It is a classic case where proximity (to downtown Madison, to Law Park, and to the services on East Washington Avenue) is nevertheless not accessibility with convenience and safety for the occupant of the subject site.

A. The Madison resident typically associates the site area with the rail yard and tracks, the power plant, and the saloons and bowery atmosphere of Williamson Street between Butler and Blair. While the subject property is on the lakeshore, it is not given a prestige rating.

B. In several market surveys (Stewart '69, DeLisle '73, and Ibach '74), the subject property has been presented as one of a number of alternative lake view sites which could be selected by prospective luxury apartment or condominium tenants. These reports showed that Lake Mendota in the Mansion Hill area was regarded as the prestige area, and that several alternative sites on the Lake Monona side were all greatly preferred to the subject site, which the Madison consumer does not presently consider residential in character.

C. The subject site would benefit greatly from a physical and visual connection with Law Park to the southwest and the amenities at the Clark Park beach one and a half blocks to the east. However, the old warehouse building occupied by the Post Office Annex blocks the view from and to Law Park. It would seem desirable to assemble all of block 126 in order to create visual impact for the better on traffic approaching from John Nolan Drive and from Blair Street. Without such assembly, the subject property is cut off from those elements which otherwise might enhance its market recognition.

D. The marketability of a site depends in part on the attitudes created by the approach zone for pedestrians and motorists. This attitude is a function of the stress and anxiety created by the intensity of traffic, the attractiveness of the visual surroundings, and the sense of safety of the pedestrian who is conditioned to shy from unsavory saloons and lonely industrial night-time zones. All of these negative elements are present to a large degree at the subject site and it would be speculative at best to anticipate any improvement or change in current land uses during the next 3 to 5 years.

VII. Alternative Redevelopment Strategies for Subject Site

With the assistance of Glad, Sarko and Associates and Bernard Riley, City Zoning Administrator, a variety of development alternatives were explored to establish allowable gross building areas, building configurations, and required parking facilities. Exhibit #4 summarizes all of the alternatives considered. Each of these alternatives was then evaluated in light of current Madison market requirements, consumer acceptability, and floor area ratio intensity of use.

A. For residential uses a major constraint on development intensity is the land area per dwelling unit, while for commercial uses the required parking index quickly puts a limit on maximum size of development. Given existing ground water conditions, it is assumed there can be only one level of parking below the grade of Williamson Street. Parking ramp construction costs about $4800 a car stall at today's prices, a factor which drives up building costs faster than off-setting rental rates. Above grade ramps would be economically unfeasible for commercial and would preclude total development of permissable site floor area ratios.

B. Lot area setback requirements would be most favorable for a two-story building:

1. Minimum setbacks for residential development:

   Lake Side-Average 101 ft. from shoreline
   Williamson Street - 20 feet
   South Blount Street - 10 feet
   Easement (pump house alley) - 10 feet

2. Minimum setbacks for commercial use:

   Easement (pump house alley) - 10 feet
   Lake Shore - 101 feet from shore
   All Other Sides - none

C. Exhibit #4 provides a summary of nine different potential combinations of residential and commercial development which might be considered on the subject site. Only three of these appear to be viable for consideration as of this date. The other alternatives have been eliminated from consideration not only because of zoning change required but for additional reasons as follows:

EXHIBIT #4

Faurbach Site Development Options

Options	Use	Building Area	No. of Stories	Parking Stalls	Location	Primary Constraint	Yard Requirements FR.	S	Zoning Change
A.	Res.	75,000	3	89	AG	* LA/DU	20'	10'	Yes-pkg
B.	Res.	75,000	3	89	BG	LA/DU	20'	10'	No
C.	Comm.	90,000	3	200 100	BG AG	Parking	-	-	Yes-pkg
D.	Comm.	60,000	2	200	BG	Parking	-	-	No
E.	Comm.	33,000	1	111	BG	Parking	-	-	Yes-pkg
	Res.	75,000	3	89	BG	LA/DU	20'	10'	Yes-ORD
F.	Comm.	48,000	2	111 50	BG AG	Parking	-	-	Yes-ORD
	Res.	75,000	3	89	BG	LA/DU	10'	10'	
G.	Comm.	60,000	2	111 92	BG AG	Parking	-	-	Yes-ORD
	Res.	75,000	3	89	BG	LA/DU	20'	10'	
H.	Comm.	208,400	8	696	AG (4-level ramp)	Bldg. Ht.	-	10'	101
	Res.	78,000	3	89	BG	Set Backs	20'	10'	Yes-PUD
	Ramp		4						
I.	Old Comm.	14,200	2	32	AG	Parking	-	10'	No
	Res.	65,000	6	55 37	BG AG	LA/DU	20'	10'	

* Land Area per Dwelling Unit

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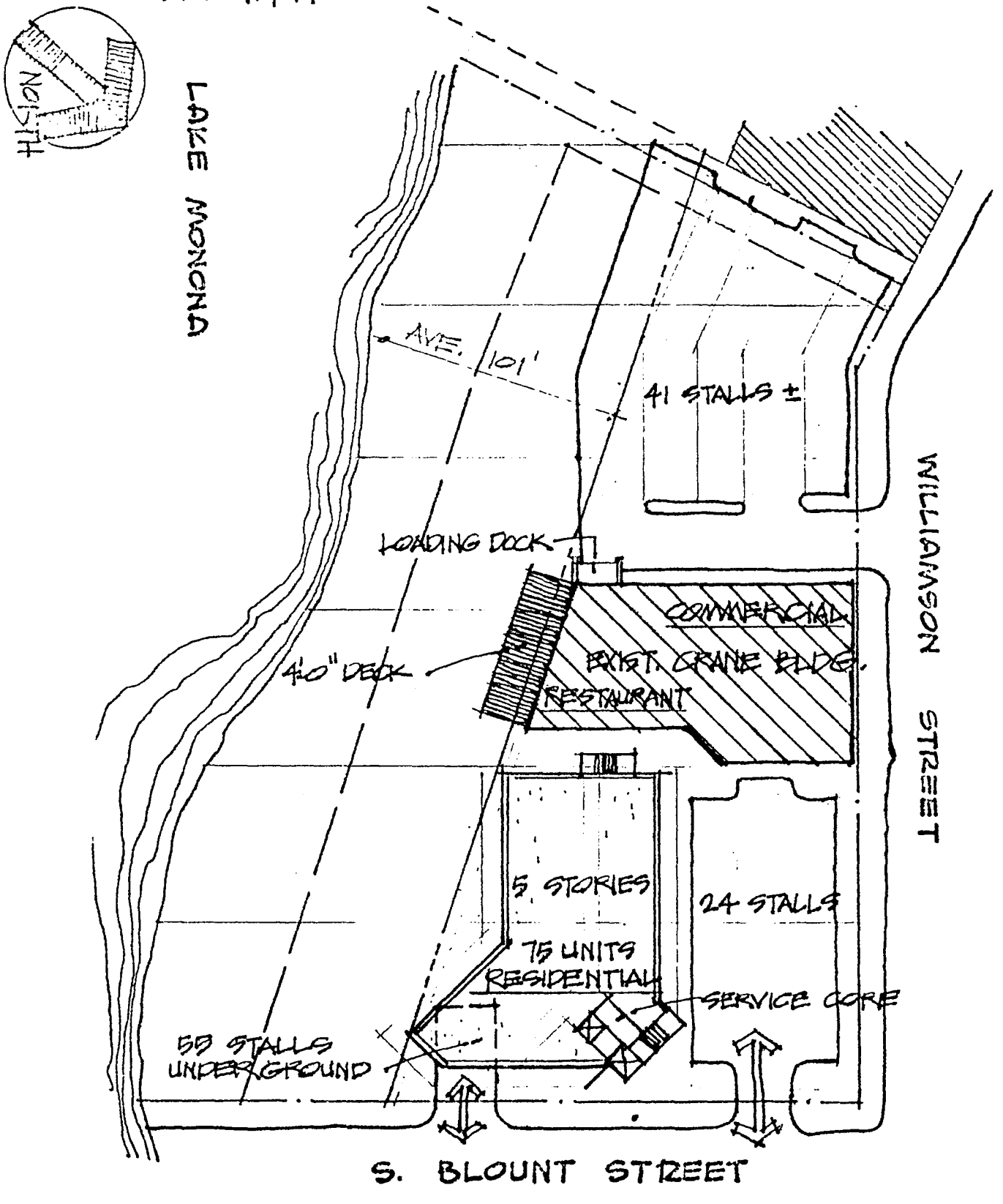
Sketch #4

2. PARCEL CONCEPT: COMMERCIAL @ CRANE BLDG. 75 NEW RESIDENTIAL UNITS

OCTOBER 18, '74

SITE PLAN ..... SCALE: 1" = 60'



1. Option A with above grade parking (See Sketch #1) would produce a very cluttered appearance for what would be marketed as a luxury apartment location. It would put cars between the building line and lake, a feature probably unacceptable to City Hall. Indeed above grade parking would represent a security problem and a marketing deterrent in subject site neighborhood.

2. Option C has been eliminated because there is no room for 100 above grade parking units and no market for speculative commercial office space in Madison. The City already has a significant surplus of A and B grade office space vacant in the downtown area due to construction of new bank office buildings, several speculative office buildings such as VIP, several remodeled office buildings such as the Hovde Tower and Cantwell Building, and another bank building on the boards.

3. E, F and G (See Sketches #1 & #2) would require an additional conditional use permit from the City Council since the residential development greatly exceeds the maximum of 50% of gross building area permissable under C-3. Indeed a zoning change to PUD or ORD would probably be required and is assumed to be unavoidable. There is also little market for high rent commercial space which is combined with residential on the upper floors. A survey done for Investment Services, Inc. in 1974 (Ibach study) indicated considerable objection by both prospective commercial and higher income residential tenants to such a combination in the same building in Madison. Both F and G require additional above grade parking which means either that part of the first floor of the building must be parking (which hurts its commercial space marketability) or surface parking must be permitted in the lakeshore strip between rear building line and open space which is probably not acceptable to the City according to zoning administrator Bernard Riley.

4. Alternative H represents the extreme building envelope which could be put on this site were it developed to downtown Chicago standards. It would require one level of underground parking plus four levels of ramp parking before reaching eight stories of commercial space and three stories of residential. That general scheme may be appropriate to the John Hancock Building, but it would be extremely speculative for Madison on any site. There would be no market for 208,000 gross feet of office space in central downtown Madison, let alone in a fringe downtown area. At least the sky is not the limit, as the 15-story height reaches the foot of elevation on the Capitol dome columns.

D. Three alternative development options (B, D, and I) remain to be explored as the most probable use for the subject site. A preliminary estimate of site value for each of these uses provides an initial indicator of the probability of such uses as seen by a prospective purchaser:

1. Option 1(B) is exclusively a three-story residential building with 89 below grade parking stalls for 89 apartment units, 80% one-bedroom and 20% two-bedroom and could be built with a building area of 75,000 sq. ft. A possible configuration is suggested in Sketch #1, Option A, with the surface parking omitted and parking placed below the building. The number of stories is limited by the need to use the lowest cost construction method available and remain competitive with the large number of efficiencies and one-bedrooms recently built near the Square.

2. Option 2(D) would be exclusively a 60,000 sq. ft. commercial building, intended primarily as a home office building for a Madison firm. It would offer 200 parking stalls below grade. The 20,000 sq. ft. first floor would cover less than 50% of ground area, leaving guest parking on the surface and good views of lake from Williamson Street.

3. Option 3(I) is a mixed use alternative (See Sketch #4) and makes use of the existing Crane Building with its interesting wood beam roof and truss interior. The latter offers opportunity for small specialty shops and a restaurant looking over the lake, in the style but not the scale of Toronto's Boardwalk, San Francisco's Ghiardelli Square, or Rochester's River Front Square. The present Sinclair garage building would be demolished to provide 32 parking stalls for the restaurant in the Crane Building. Only 20 stalls would be required since this would be a renovation of an existing structure and would therefore avoid the requirement of one parking stall for each 300 sq. ft. of commercial according to the opinion of Zoning Administrator, Bernard Riley. A residential tower six stories high with 75 apartments on five floors could be built at the Blount Street side of the site to maximize views of the lake and the Capitol and simultaneously to avoid views of the power plant. This building would have no commercial area on the first floor, no enclosed space other than the lobby, no less than 20 surface parking spaces, and 55 underground parking stalls. Residential amenities would not only include the broad lake-front strip but also the adjacent restaurant and miscellaneous specialty shops in the Crane Building.

E. To select a most probable use from the three alternatives above, it is necessary to make a reasonable preliminary estimate of a sales price consistent with recent transactions in the Madison market and to adjust price for the time required under current conditions to market and convey the existing site to an investor likely to develop the uses proposed. These comparative sales estimates adjusted for the present value of money over the assumed marketing period are summarized in Exhibit #5 where a preliminary pricing formula for each of the three options is displayed. The assumptions for each alternative follow:

REAL ESTATE FEASIBILITY WORKSHOP
Sponsored by Society of Real Estate Appraisers
Chapters of Puerto Rico, Palm Beach County,
Greater Miami & Broward County
Hilton Hotel, San Juan, Puerto Rico
April 1-2, 1975

Instructor: Prof. James A. Graaskamp

FIRST AFTERNOON

1:00 P.M. The Real Estate Process
Elements of a Total Feasibility Analysis
Determining Objectives and Decision Criteria of the Client
Defining Audience for Report
Establishing Professional Accountability

3:15 Coke Break

3:30 Site as a Guide to Market
Static Attributes
Linkage Attributes
Dynamic Attributes
Defining Most Probable Use
Defining the Most Probable Buyer

MORNING - SECOND DAY

9:00 A.M. Structuring Market Data Analysis
Demonstration of Report Display of Market Data
Market Segmentation and Prospect Identification

10:15 Coffee Break

Developing a Customer Profile
Designing the Consumer Survey
Drafting Survey Questionnaire
Tabulating Survey Results
Defining a Product Mix and Price Range
Backdoor Approach to Feasibility

12:00 Luncheon

1:00 P.M. A Pre-Architectural Program
Front Door Approach to Feasibility
Modeling Cash Flow for Development Project
Evolution of Convepts for Measuring Rate of Return
Evolution of Concepts of Risk Evaluation

2:30 Coke Break

2:45 Cash-Flow Analysis of Rental Project
Cash-Flow Analysis of Condominium Project
Sensitivity Analysis Related to Departmental Responsibilities
Conclusions as Statement of Alternatives (if, then statements)

REAL ESTATE FEASIBILITY WORKSHOP
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Morning Session - Market and Merchandising

I. Real estate market opportunities may be identified and scaled to focus on specific sub-markets of space users. Market data is aggregate data, secondary information, and only tentative.

A. There is more aggregate data than one can use and therefore it is necessary to create devices, called models, which will discard most of it as irrelevant and focus what remains on the problem.

B. Model structure your research, organize your report and communicate assumptions which must be accepted or challenged by those who must use the report.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

C. Market definition is a research problem and a research model should relate to the following elements:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What is the cost benefit ratio between the method and the question?

D. Models begin with secondary market data and then attempt to disaggregate that data by application of various divices or ratios which define specific segments of a market with increasing accuracy.

1. For example, you have all used a device of a primary, and secondary trade area for a super market or a retail center. Most real estate is a form of retailing and these analogies can be borrowed for many other types of real estate.
2. Market data will identify the total size of a given opportunity in terms of household in selected income ranges, within a trade area, or number of autos or travelers who represent potential customers.
3. Merchandising analysis determines what percentage of the total opportunity groups can be captured for a specific project. Absorption rates tell how many people bought lots, rented apartments or leased office space in a given area during a specific period of time. Capture rates are the ratios of this potential which might be secured for a project on the up-side or must be secured for a project to achieve profit goals. The capture rate will reflect the care taken in product definition, pricing, and timing.

E. There are many ways to communicate the nature of modeling assumptions to the client so that he may participate in the process and understand the sensitivity of different outcomes to different assumptions. Consider the construction of a demand forecast for resort motel rooms near a small ski hill in Wisconsin. There were 9 demand models for different parts of the year:

Summer Season:
- Vacationers by the week
- Summer travelers by the night
- In-house summer seminars

Off-Season: (Fall & Spring)
- Business seminars
- Weekend mini-vacations for fall color
- Miscellaneous travelers

Winter Season:
- Weekend skiers on ski hill
- Cross country skier
- Snowmobilers
- Mini-vacationers
- Business meetings - Monday through Thursday

For example: WEEKEND SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Potential Rooms Occupied per Average Weekend Night in Market Area where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen ski hill can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip	
÷ Three people per room	x 2.5%	conservative market share	= 208	Potential rooms occupied per average weekend night in general area			

F. Consider flow chart display: (Exhibit #2)

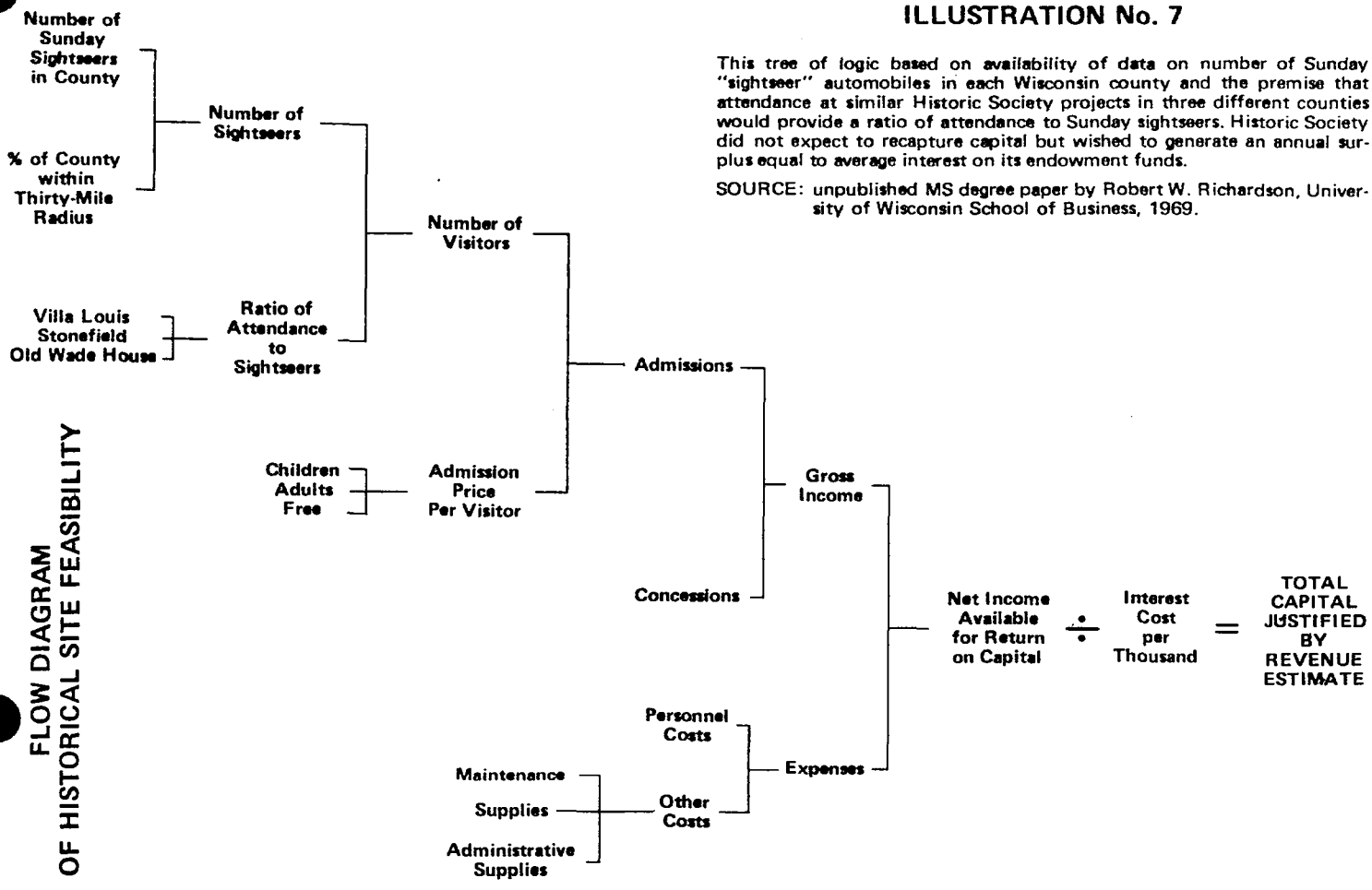

ILLUSTRATION No. 7

This tree of logic based on availability of data on number of Sunday "sightseer" automobiles in each Wisconsin county and the premise that attendance at similar Historic Society projects in three different counties would provide a ratio of attendance to Sunday sightseers. Historic Society did not expect to recapture capital but wished to generate an annual surplus equal to average interest on its endowment funds.

SOURCE: unpublished MS degree paper by Robert W. Richardson, University of Wisconsin School of Business, 1969.

G. Consider this summary on the market for elderly housing by Neujahr and Binkowski, a Madison, Wisconsin firm. Some of the data is aggregate data and some of the ratios are the product of a questionnaire, the technique we will talk about next.

H. There are many techniques for building up aggregate data about population, buying power, growth trends, etc. including:

1. Adjustment of 1970 census tract by use of change in automobile registration, DU building permits, or air photo counts.
2. In Wisconsin building permits and census data are now broken out by 1/4 1/4 sections and referenced to low level aerial photos as in Exhibit #4 (Exhibit #4 consists of items described as Table #3, #7-A, and 7-B.
3. Cross tabbing of 1970 census data is cheap and useful
4. Electric and telephone company make detailed projection for various neighborhoods.
5. City planning offices have developed neighborhood district data
6. City housing authorities have counts on elderly and low income households.

EXHIBIT THREE

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (÷ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development (10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise 28.0%		
Garden 49.1%		
77.1%		978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		708

That share of households who said they would be willing to move:

Within 1 year from now	15.6%	110 households
Within 2 years	31.2%	220 "
Within 5 years	53.4%	378 "
		708

A project of 100 units requires a capture rate of:

91% for a 1 - year absorption rate
90% for a 2 year " "
14% for a 5 year " "

TABLE #3

HOUSEHOLD GROWTH RATE - PRIMARY TRADE AREA 1970-1972
(Basis for household projection, 1974-1980)

Section	Quarter Section	Households 1970	Increase Households 1970-1972	Households 1972	Increase(%) Household 1970-1972
23	3	13	0	13	0
	4	44	0	45	0
24	1 .25	16	3	19	9 *
	2 .25	10	0	10	0
	3	4	0	4	0
	4	2	0	2	0
25	1	130	50	180	19 *
	2	134	8	142	3 *
	3	36	12	48	17 *
	4	323	104	427	16 * (NG)
26	1	145	4	149	1 *
	2	3	0	3	0
	3	8	0	8	0
	4	1	0	1	0
27	1 .50	0	-	-	-
	4 .67	125	52	177	21 *
34	1	1	0	1	0
	4	5	0	5	0
35	1	28	0	28	0
	2	8	0	8	0
	3	0	0	0	0
	4	25	0	25	0
36	1	23	3	26	7 *
	2	51	5	56	5 *
	3	9	0	9	0
	4	10	0	10	0
19	1 .50	317	4	321	1 * (NG)
	2 .50	240	10	250	2 * (NG)
	3	529	7	536	1 * (NG)
	4	511	1	512	0 (NG)
30	1	273	0	273	0 (NG)
	2	285	40	325	7 *
	3	113	11	124	5 *
	4	19	0	19	0
31	1	20	0	20	0
	2	142	19	161	7 *
	3	10	0	10	0
	4	7	0	7	0
TOTALS		3620	334	3954	4.6%
HGA ('70-'72) *		2609	334	2943	6.4% = G '70-'72
HNG '72 (NG)				2319	
HGA '72				1635	

TABLE #7

HOUSEHOLD PROJECTION - CALCULATIONS
1974 - 1980

GIVEN:

H	= Number of Households
HGA ('72)	= Total # Households in Growth Areas (*) 1972
HGA ('74)	= Total # Households in Growth Areas (*) 1974
HNG ('72)	= Total # Households No Growth Areas NG - 1972
HI ('72-'74)	= Increase # Households (1972-1974)
HI ('74-'80)	= Increase # Households (1974-1980)
G ('70-'72)	= Annual Projected Increase (%) # Households
Na	= Number of Years/'72-'74 Projection Period = 2
Nb	= Number of Years/'74-'80 Projection Period = 6

THEN: H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)

WHERE: HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na

AND: H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)

WHERE: HI ('74-'80) = [HGA ('74)] [G('70-'72)] Nb

TABLE #7-A

I. 1974 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given: G ('70-'72) = 6.4%
HNG ('72) = 2319
HGA ('72) = 1635
HI (72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (1635) (.064) (2)
= 209

Therefore: PTA - H 1974 = HNG ('72) + HGA ('72) + HI ('72-74)
= 2319 + 1635 + 209
= 4163

B. Secondary Trade Area - A

Given: G ('70-'72) = 4.8%
HNG ('72) = 590
HGA ('72) = 390
HI ('72-'84) = [HGA ('72)] [G ('70-'72)] Na
= (390) (.048) (2)
= 37

Therefore: STA (A) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 590 + 390 + 37
= 1017

C. Secondary Trade Area - B

Given: G ('70-'72) = 2.5%
HNG ('72) = 2297
HGA ('72) = 535
HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (535) (.025) (2)
= 27

Therefore: STA (B) - H 1974 = HNG ('72) HGA ('72) + HI ('72-'74)
= 2296 535 + 27
= 2858

D. Secondary Trade Area - C

G ('70-'72) = 8.5%
HNG ('72) = 3574
HGA ('72) = 1326
HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (1326) (.085) (2)
= 225

Therefore: STA (C) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 3574 + 1326 + 225
= 5125

TABLE #7-B

II. 1980 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given: G ('70-'72) = 6.4%
HNG ('72) = 2319
HGA ('74) = 1844
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (1844) (.064) (6)
= 708

Therefore: PTA H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 2319 + 1844 + 708
= 4871

B. Secondary Trade Ares - A

Given: G ('70-'72) = .048
HNG ('70) = 590
HGA ('74) = 427
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (427) (.048) (6)
= 123

Therefore: STA (A) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 590 + 427 + 123
= 1140

C. Secondary Trade Area - B

Given: G ('70-'72) = 2.5%
HNG ('72) = 2296
HGA ('74) = 562
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (562) (025) (6)

Therefore: STA (B) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 2296 + 562 + 84
= 2942

D. Secondary Trade Area (C)

Given: G ('70-'72) = .085
HNG ('72) = 3574
HGA ('74) = 1551
HI ('74-'80 = [HGA ('74)] [G ('70-'72)] Nb
= (1551) (.085) (6)
= 791

Therefore: STA (C) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 3574 + 1551 + 791
= 5916

II. The typical real estate project is primarily concerned with very small micro markets and thus precise market segmentation and identification are the critical elements of a feasibility analysis. The objective is to define a need, a product, and a price which will provide some monopoly advantages to reinforce the desired capture rate.

A. There is a interaction between preliminary assumptions which relate to the front door and back door approaches to feasibility analysis.

1. The front door approach:
   Total project cost = mortgage balance + equity capital
   Cash dividend on equity + debt service = net income
   Net income + expenses + real estate tax + vacancy = required gross receipts
   Required gross receipts/space units = rental price/unit

2. Back door approach:
   Gross rents - vacancy + expenses = net income available for debt service + equity dividends
   Gross rents x desired default point = maximum expenses and outlays
   Break even cash - expenses = income available for debt service
   Income availabelefor debt service/$1,000/year of loan debt service = maximum loan
   Maximum loan + equity capital to be committed = total project budget

B. Within the general price ranges initially suggested above, the next step in market segmentation will generally be:

1. Correctly identify the revenue unit or commodity or method of measuring profit of the project in question.
   a. Per acre
   b. Per pad
   c. Per front foot of shoreline
   d. Per dollar of gross sales
   e. Per event

2. As an alternative identify who really signs the check for a particular type of real estate.
   a. The salesman or the management paying his travel costs
   b. The doctor or the clinic
   c. The district manager or the corporate real estate manager
   d. The ticket buyer or the promoter

C. Devices for generating a prospect list

1. A reverse directory or criss-cross telephone book
2. Building directories of comparables
3. Mailing lists of specialty publications
4. License number spotting
5. Guest registers
6. Charge account mailing addresses

D. Comparison shopping to define a competitive standard and supply gaps

E. Customers surveys to identify a competitive differential and a marketing opportunity gap while market data scales the size of the market.(body count)

III. The objectives of primary research of a particular market are three-fold; to generate ratios to complete market analysis, to discover needs, anxieti fears, or changing conditions which will motivate the consumer to relocate, and to identify sites and product features which will best serve their purposes.

A. The first two items establish the size and character of the market target and the basic theme of merchandising to be followed.

B. The third element should produce a pre-architectural program which selects a site, defines negative location factors to be neutralized by design, and product features by competitive standards and by competitive edge.

C. Typically one can choose between professional telephone interviews, direct mail questionnaires, and personal interview in depth. These represent increasing costs and reliability at the expense of increasing time required for completion.

D. First define the ratios and tables including precise titles you wish to appear on the table, including a mockup of same for the report. Refer to elderly housing chart - Exhibit #3.

1. Ratios should follow a logical reduction pattern. For example:
   a. How many will consider moving ?
   b. Of those, how many would consider staying in town ?
   c. Of those, how many would consider an apartment ?
   d. Of those remaining who would consider an apartment in town, how many would consider a specific location ?

2. Be precise about table headings

E. Define a market by age, income, marriage status, number of children, and location prior to move.

F. To analyze site and product factors look for basic anxieties or irritations with present alternatives.

G. Refer to consumer survey questionnaire (Landmark Research)

202A Breese Terrace, Madison, Wisconsin 53705 608 238-6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	
Spring	1	2	3	4	5	6+	
Summer	1	2	3	4	5	6+	
Fall	1	2	3	4	5	6+	

2. Do you presently own a summer home or cabin site?

No

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes

No → What is your main reason? _____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No

Yes → Which one? _____
What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____

Age of head of household_____
Occupation_____
Hometown _____

Children: Under 6_____
6-12 _____
13-17 _____
18 & over_____

Number of dogs and cats _____

16. Your comments and suggestions _____
_____
_____

Thank you.

VI. The construction of the questionaire follows from a determination of the essential items of data required needed to complete a model, profile a customer group, or identify areas of discontent and possible mobility.

A. There are two types of questions, a closed end question and the open ended question which is fishing for comment.

1. The closed end question is fast and relates to factual items which can be answered yes or no, by a number, or with a limited set of alternative responses which can be checked. It is easy to code and quantify.

2. The open end question takes more skill on the part of the interviewer, more time, and considerable more interpretation and analytical time. However it may supply a new insight.

B. Since a survey is an imposition on the respondent, it should be kept short and as many questions as possible should be avoided by the manner in which the mailing list is constructed.

1. For example if you want to reach upper income families use a mailing list already profiled by income age etc. Such lists can be purchased or there may be affinity groups which provide an alternative.

2. Use first questions to weed out those without relevant information for the survey but prompt them to return the quesionaire or otherwise qualify themselves so that you have a profile of the non-response types.

C. Begin with a hypothesis:

1. Purchasers of two bedroom condiminiums can be found primarily in rental apartments within a mile of the subject property and represent working couples.

2. That premise generates the following questions:

a. Is this condiminium unit your first residence in Phoenix?
b. If no, what was the address or project name where you lived just prior to moving to your new condiminium?
c. If yes, did you move from out of town?
d. What was the primary reason to buy instead of rent?
e. How many people in your household?
f. How many have full time employment?
g. Why did you buy instead of rent your first home in Phoenix?
h. How did you first hear about your present unit?
i. What do you like best about the project?
j. What do you like best about your individual unit?
k. What is the biggest disappointment in the project you selected? in the unit you selected?

D. Each of the above can be asked in either a closed or an open ended fashion.

1. (open ended) In general, how do you feel about the current state of world affairs?

2. (closed) In general, do you feel that the current state of world affairs is (circle one) good, both good and bad, or bad?

VII. In asking questions, the surveyor must be careful to use basic clear English and avoid long questions. If special trade terms must be used, provide a short standard definition. Not everybody knows the difference between a townhouse and an apartment or a single family home and a townhouse.

A. Any word of several syllables is a possible source of trouble:

1. How do you feel about your neighborhood?
Do you like the people on your block?

B. Answers can be distorted by inserting a name or an issue in the question which may be irrelevant as in:

1. In your opinion is the Peace Corps doing a good job?
In your opinion is the late President Kennedy's peace Corps doing a good job?

2. This bias is called the halo or reversed halo effect.

C. The leading question is a very common problem. Typically such a question does not give equal presentation to both sides of an issue or imputes favorable or unfavorable behavior to the respondent. For example:

1. In your opinion, should the state university continue to expand and improve, or should it stay at its current level even though some qualified students may not be admitted in the future?

In your opinion, should the state university continue to expand and not improve--even though this would require more tax support, or should it stay at its current level--even though some qualified students may not be admitted in the future?

2. Do you aggree with the statement: "The state university should continue to expand and improve"?

3. Leading by assumption and omission also is illustrated in the next series where each succeeding question is less likely to reveal a person with <u>no</u> religious preference.

Do you have a religious preference, or not?
What is your religious preference, if any?
What is your religious preference? (less likely to reveal those with no preference because it implies you should have one.)

D. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

1. Would you be at all uneasy if people of a different religion or race were to move in next to your home?

2. As you see it, what are some of the good points and the bad points of the present Govenor of this state?

E. Sensitivite questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked the response should permit some degree of obliqueness by the respondent.

1. The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.

2. If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

F. Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:

(112) Generally speaking, in politics do you usually think of yourself as a Republican, a Democrat, an Independent, or what?

/Republican/ /Democrat/

(112a) Would you say that you are a strong or not so strong (Republican; Democrat)?

/Strong/ /Not so strong/

(112b) Was there ever a time when you thought of yourself as closer to the other party?

/Yes/ /No/

/Independent/ /Other/ /No pref./

(112c) In general, do you consider yourself closer to the Republican or to the Democratic party?

/Rep./ /Dem./ /Neither/ /No pref/

(112d) Was there ever a time when you thought of yourself as a Republican or Democrat?

/Yes/ /No/

G. Any questionaire should be pre-tested on ten or twelve characteristic respondents as it will inevitably reveal misunderstandings or other problems with the survey or may suggest another question that should have been asked in order to qualify the results.

H. For telephone surveys and many mail surveys you almost always find it cheaper or more effective to use professional interview services. They are less likely to bias results and will almost always be faster and cheaper in compiling the data.

1. You provide the contact list, the questionaire etc.

2. Even though respondents may be anonymous, replies can be coded by address and a telephone survey or by return envelope in a mail survey.

3. Keeping records on non-responses is useful to test affinity of mailing list names, bias of non-response or patterns of non-response.

I. When testing a preference for certain features, qualify the degree of desire with a measure of how much the customer might pay extra for that feature. (see attached apartment survey response and sample questions.)

J. This type of survey could be done by the professional appraisal society for certain kinds of projects and then used by all the membership to complete their own feasibility studies. A higher quality product at lower cost would be the result and the professional society would gain local stature as a result of releasing some of the information to a local paper.

1. One application would be for FNMA forms such as 1026, part II. (see attached copies)

2. Determination of market data for establishing market rents for assessment valuation or important elements for market comparison of sales.

21. How much would you pay extra per month for:

	$0	$1-5	$6-10	$11-15	$16-20	$21-25	$25+
An apartment with a lakeview	( )	( )	( )	( )	( )	( )	( )
An apartment with a fireplace	( )	( )	( )	( )	( )	( )	( )
A carport	( )	( )	( )	( )	( )	( )	( )
A garage	( )	( )	( )	( )	( )	( )	( )

22. Now that you have been living at your present location, what 3 factors do you consider most important? (Please number in order of importance.)

( ) Appearance of project
( ) Appearance of community
( ) Quality of schools
( ) Closeness of shopping facilities
( ) Level of neighborhood income
( ) Social class of surrounding area
( ) Nearby recreational facilities
( ) Transportation and nearness of expressways
( ) Rent
( ) Overall location
( ) Site and floor plan of apartment unit

23. How would you rate a "Total Electric" apartment? (Electric heat, air conditioning, cooking, and lights)

( ) Very Desirable ( ) Somewhat Desirable ( ) Indifferent
( ) Somewhat Undesirable ( ) Very Undesirable

24. How would you rate your T.V. reception?

( ) Excellent ( ) Good ( ) Fair ( ) Poor

25. Is your T.V. connected to a master T.V. antenna system? ( ) yes ( ) no

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

27. How important are the following special kitchen features?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Electric self-cleaning oven	( )	( )	( )	( )	( )
Frost-free refrig.	( )	( )	( )	( )	( )
Dishwasher	( )	( )	( )	( )	( )
Trash compactor	( )	( )	( )	( )	( )
Above average kitchen lighting (Luminous ceiling)	( )	( )	( )	( )	( )

28. How much would you be willing to pay extra per month for:

	I Expect it	$0	$1-2	$3-4	$4-5	$5+
Electric self-cleaning oven	( )	( )	( )	( )	( )	( )
Frost-free refrig.	( )	( )	( )	( )	( )	( )
Dishwasher	( )	( )	( )	( )	( )	( )
Sauna & Exercise Room in community building	( )	( )	( )	( )	( )	( )
Laundry facilities in each apt. building	( )	( )	( )	( )	( )	( )
Washer/dryer connection in your own apt.	( )	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )	( )
Trash compactor	( )	( )	( )	( )	( )	( )
Draperies	( )	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )	( )
Above Ave. kitchen lighting (Luminous ceiling)	( )	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Shared by all building residents)	( )	( )	( )	( )	( )	( )

29. How would you rate the area along West 38th Street near Kessler Boulevard for apartment living?
( ) Very Desirable ( ) Somewhat Desirable ( ) Indifferent
( ) Somewhat Undesirable ( ) Undesirable ( ) Don't know where it is

30. Have you seen any apartment complexes with recreational facilities which you have considered outstanding? If so, which project?_____

31. How much would you be willing to pay extra per month to have those outstanding community facilities in your apartment project?
( ) $0 ( ) $1-5 ( ) $6-10 ( ) $11-15 ( ) $16-20 ( ) $20-25 ( ) $25+

INTEROFFICE MEMO

To:_____ Date:_____

From:_____ Copies To:_____

Subject:_____

A consumer preference study, consisting of consumer interviews within the housing market area was preformed. The interviews were conducted in eight of the competitive apartment developments on the west side. The eight developments contain approximately 2600 units. Using a random sampling technique, approximately 750 questionnaires were passed out in these projects. 202 questionnaires were returned to us by mail, which is a 27% return. Also, 147 questionnaires were done by personal interviews. The tabulated results, as presented in Table A-1, are based on 340 usable interviews.

Some of the salient factors derived from the tabulated interviews are presented below:

(1) Respondents were rental oriented, with 52% having an apartment as their previous residence.

(2) 49% of the respondents stated that the residence in which they previously lived was located outside of the Indianapolis area.

(3) Also, 30% of the respondents lived on the Northwest side before moving to their present residence.

(4) While looking for their present apartment complex, the tenants found the following important:

Size and floor plan of apartment	24%
Rent	20%
Overall location	16%
Appearance of the project	12%
Transportation & nearness of expressway	9%
Closeness of shopping	6%
Appearance of the community	5%
Quality of schools	4%
Social class of surrounding area	2%
Nearby recreation facilities	1%
Level of neighborhood income	1%

(5) 22% of the respondents were paying $150.00 or less for rent and 38% were paying between $170.00 and $200.00 for rent. Only 18% of the respondents were paying above $200.00 per month for rent.

(6) 58% of the respondents indicated they would move within the next two years.

(7) 20% of the respondents indicated they would move but stay on the North West side of Indianapolis.

(8) 32% of the respondents indicated that they would prefer an apartment next time they moved.

(9) About 52% of the respondents said that their extra storage was not adequate.

(10) 71% of the respondents chose indoor extra storage over extra storage enclosed on the patio or balcony.

(11) Fireplaces were considered very desirable by 56% of the respondents. With only 24% of the respondents saying they would pay nothing for a fireplace.

(12) Apartments with lakeviews did not fair too well, 52% of the respondents indicated they would pay $0 for a lakeview, with only 28% paying $1-5 and 15% paying $6-10.

(13) 51% of the respondents indicated they would pay $1-5 for carports, and $15% of them said they would pay $6-10.

(14) Although 77% of the respondents indicated an electric self-cleaning oven was very important or somewhat important, 45% of them indicated they would pay nothing extra for it.

(15) The respondents felt that a frost-free refrigerator was more important than the electric self-cleaning oven. 65% of them considered the frost-free refrigerator very important and 51% of them said they expected a frost-free refrigerator with only 27% indicating they would pay nothing for it.

(16) Only 9% of the respondents expected a sauna and exercise room with 55% of them indicating they would not pay anything extra for the facilities.

(17) 52% of the respondents expected extra storage space, with only 24% indicating they would pay nothing for it.

(18) 51% of the respondents living in the projects were 2 family households.

(19) Of the children living in the projects, 45% of them were preschoolers; 30% kindergarten through 6th grade; 9% 7th to 8th grade; and 16% 9th through 12th grade.

I hope the above information can help you in your study. If more information is desired please contact. Table A-1 is attached.

Part II - Market Analysis. (To be completed by Appraiser previously determined to be acceptable to FNMA.)

1. Market Survey.

a. Map. Exhibit _____.
Define the market area and attach a map highlighting thereon the subject area and competing developments.

b. Buyer Characteristics. Exhibit _____.
Describe typical buyer characteristics in the market area, e.g., "empty nesters," young couples, singles, retired, buyer seeking to upgrade, buyer seeking tax shelter.

c. Competition From All Types of Development. Exhibit _____.
Describe competition within the market area to the subject property from all types of real estate development. Discuss the effect of this competition on the subject property.

d. Competition From Without. Exhibit _____.
Describe what competition from outside of the subject market area may affect the subject property.

e. Common Area Comparison. Exhibit _____.
Describe common area amenities most preferred by buyers in the market area and the quality of maintenance received by common areas in competitive developments. Identify developments receiving exceptional or poor maintenance.

f. Transportation Systems. Exhibit _____.
Describe proximity of (time and distance) and the adequacy of transportation systems in terms of employment centers and shopping areas.

g. Inventory. Exhibit _____.

(1) Immediate inventory--Report on unsold, finished and ready-to-deliver inventory of competitive developments. If appropriate, indicate the reason for this inventory in terms of market absorption. If the subject property is proposed, indicate whether the inventory will remain on the market as competition.

(2) Developing inventory--With reference to developments which are under construction or on which construction will soon commence, identify those which will be competing with the subject in the next two years.

(3) Potential inventory--Report any permit applications, tentative map filings, engineering studies and other information derived from spot-checks of governmental agencies which might indicate potential inventory coming on the market.

h. Resale Market. Exhibit _____.

(1) Discuss the value trends for comparable units in the market area.

(2) Describe any change in buyers' characteristics subsequent to the development's initial sales.

i. Absorption. Exhibit _____.
If the subject property is proposed or under construction, provide an estimation of absorption per month. Also, indicate the developer's projected sell-out date of the project.

j. Environment. Exhibit _____.
Describe those general environmental factors which may have an influence upon the enjoyment of the units by unit owners and which might, accordingly, tend to have an effect upon demand for comparable units in the subject area.

k. Summary. Exhibit _____.
Provide a summary of the competitive position of the subject development in the market place in terms of location, timing, price, and design. Discuss each in detail and its application to a valuation conclusion. Provide an appropriate price range based upon market sales of each type unit in the project.

2. Qualitative Study.

a. Unit/Common Area Interrelationship. Exhibit _____.
Comment upon the location and accessibility of the units as they relate to the common area. Isolate locational preferences within the project.

b. Land Use. Exhibit _____.
Comment upon the density of the use, the site plan layout and the balance and proportion in land uses.

c. Parking. Exhibit _____.
Analyze the adequacy of parking facilities considering numbers, size, restrictions and objectionable factors.

d. Recreational Facilities. Exhibit _____.
Analyze the adequacy of recreational facilities in terms of the numbers and price class of units within the project.

e. Supporting Facilities. Exhibit _____.
Analyze the adequacy of other facilities associated with the project, e.g., laundry.

f. Unit Features. Exhibit _____.
Analyze the quality of the individual units in terms of: (1) size, layout and mix; (2) bath and kitchen equipment; (3) heating and air conditioning; (4) storage and cabinetry; (5) sound transmission control; and (6) proportion.

Part III - Valuation Conclusions

1. The following table is to be prepared and signed by the two independent fee appraisers who signed the residential appraisal reports. The table should reflect a tabulation of unit-by-unit valuations organized by unit types. Additional sheets should be added as necessary with any comments footnoted.

UNIT TYPE	UNIT NO.	APPRAISED VALUE LOT/UNIT (If applicable)	(PROPOSED) SALES PRICE	EXPLANATION OF DIFFERENCES BETWEEN VALUATION AND/OR SALES PRICES OF DIFFERENT UNITS OF SAME TYPE	VALUE/SALES PRICE-OPTIONAL VARIATIONS AND EQUIPMENT
		$	$		$

Part III - Valuation Conclusions - Continued *(Number additional pages 10A, 10B, 10C, etc.)*

UNIT TYPE	UNIT NO.	APPRAISED VALUE LOT/UNIT (If applicable)	(PROPOSED) SALES PRICE	EXPLANATION OF DIFFERENCES BETWEEN VALUATION AND/OR SALES PRICES OF DIFFERENT UNITS OF SAME TYPE	VALUE/SALES PRICE-OPTIONAL VARIATIONS AND EQUIPMENT
		$	$		$

FNMA Form 1026
Approved 4/74

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Market comparables supporting site values are provided by separate attachment. Exhibit _____.

Appraiser Name	Signature	Date
Appraiser Name	Signature	Date

2. Complete the following cost analysis chart:

SITE COST-RAW LAND (Entire Project)	CONSTRUCTION LOAN CHARGES (Including Interest Through Sales Period)	INSURANCE	LEGAL FEES
$	$	$	$
ENGINEERING FEES	GOVERNMENTAL FILING EXPENSES	BONDING COSTS	TAXES THROUGH SALES PERIOD
$	$	$	$
ADVERTISING	SALES MERCHANDISING (Including Model Unit Costs)	SALE CLOSING COSTS	
$	$	$	$
$	$	$	$

3. Additional Information. Exhibit _____.

Identified herein are additional documents or information which the Appraiser is forwarding in support of this valuation report.

_____

_____

_____

_____

CERTIFICATION

The contingent and limiting conditions and requirements that are stated on Page 4 of FNMA Form 1004, Appraisal Report, apply to the foregoing Parts II and III.

Appraiser Name	Signature	Date
Appraiser Name	Signature	Date
Review Appraiser Name (*Optional*)	Signature	Date

REAL ESTATE FEASIBILITY WORKSHOP
Sponsored by Society of Real Estate Appraisers
Chapters of Puerto Rico, Palm Beach County,
Greater Miami & Broward County
Hilton Hotel, San Juan, Puerto Rico
April 1-2, 1975

SECOND AFTERNOON

I. To this point the feasibility analysis will have assembled all the critical data for the design process as flow charted in Exhibit One.

A. The pre-architectural program will be initially specified by the various analyses which have been discussed in our previous session. These constraints and objectives will lead to fairly detailed statement about the space-time product to be built. The next problem is to convert these physical limitations to their corresponding financial implications. The design team should be given:

1. A definition of rental units in terms of size, features (ranked by customer appeal and indicated as required or desired), mix and rental level or price.

2. Price should be allocated between direct construction budget, site improvement, land, and indirect cost including profit per unit.

3. Site analysis should establish essential linkage points, negative elements to be neutralized, environmental factors to be considered or avoided, and special legal or political constraints.

4. Designers should be given a statement on investment strategy and financial criteria with which alternative design concepts will be evaluated.

B. Converting design elements to the cash cycle of the real estate enterprise requires basic assumptions about:

1. The time-line of financial events for an enterprise

2. Schedules of outlays

3. Schedules of receipts

4. Measures of yield

5. Measures of risk

C. In appraisal and feasibility the nature of these assumptions has been changed as the industry has become more sophisticated in financial management. It is useful to see how feasibility differs from appraisal by the comparison summarized on Exhibit One.

D. When the view point changes from valuation of a property for a mortgage commitment to an equity commitment the assumptions from the Ellwood approach become too simple, too far removed from reality to be a useful model.

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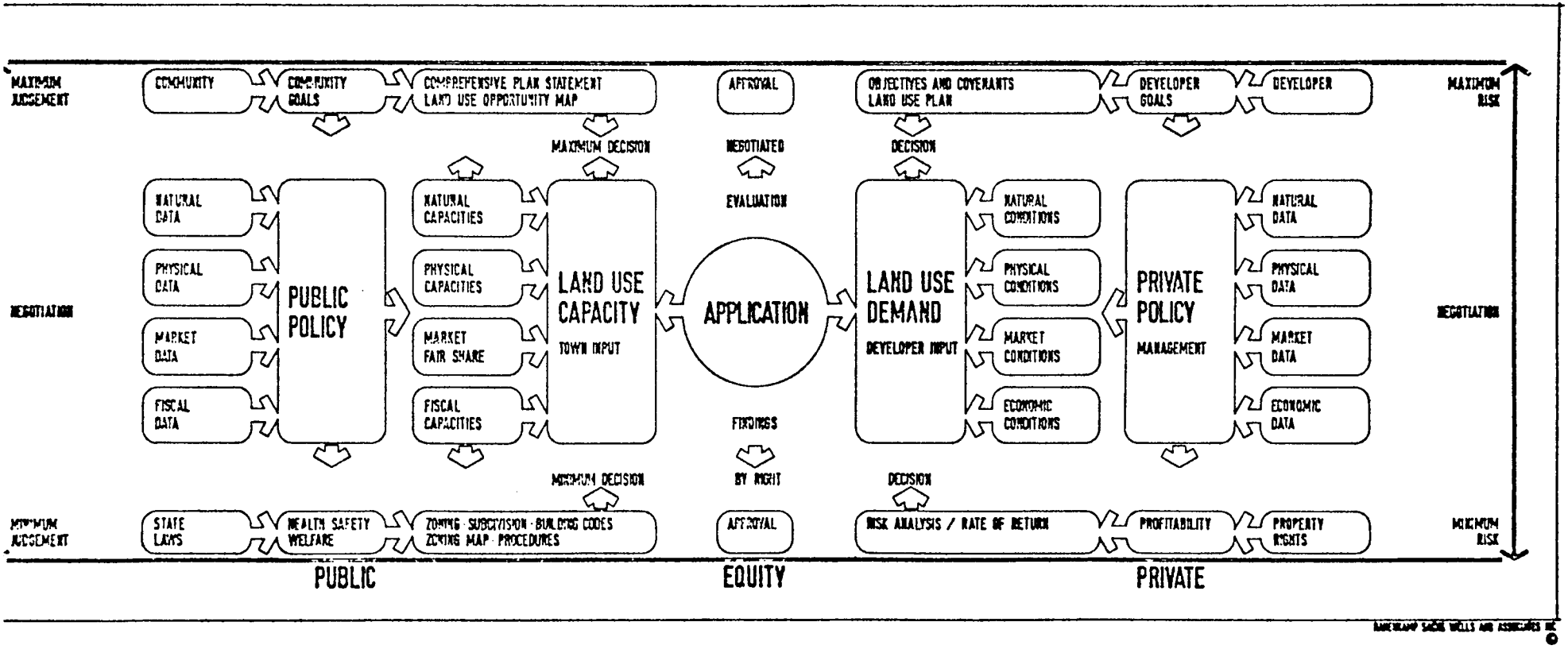

EXHIBIT ONE

1. The question for the equity investor is which investment has the best probability of maximizing his net spendable cash in the future and his total accumulation of net worth over time with an acceptable level of risk and hassle.

2. Exhibit Two, Col. C summarizes the assumptions of modern capital budget decision models.

3. Notice that it is no longer possible to have a single NOI in the numerator or in some cases, a single capitalization rate in the denominator. It will be necessary to do some accounting period by period.

4. Financing Real Estate Development, Harry A. Golemon, AIA editor Aloray Publisher Englewood, N.J. 07631.

E. Modern money management therefore requires the following inputs to a financial forecast and investment strategy.

1. The time line for significant financial events

2. A schedule and amount of outlays for each period

   a. Capital outlays
   b. Expense outlays
   c. Debt service outlays
   d. Tax outlays

3. A schedule and amounts of receipts for each period

   a. Operating revenues
   b. Sales proceeds
   c. Borrowed funds
   d. Derivative receipts or savings

4. Measures of yield

   a. Periodic dollars of profit
   b. Periodic return in dollars invested
   c. Average periodic return on total resources
   d. Total cumulative dollar increase in net worth

5. Measures of risk

   a. Capacity for absorbing surprise
   b. Range of variation in alternative outcomes
   c. Definition of maximum loss

II. Before one can provide much financial analysis of the elements above, it is necessary to structure the forecast to permit rapid testing of alternatives.

EXHIBIT TWO

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

3. A system firm which provided mail-back service as well as Tymshare network programs is: OMNIMETRICS, 3325 Wilshire Boulevard, Suite 1215, Los Angeles, California, 90005, 386-1360.

III. Measuring rate of return is really an elaboration on buy-low-sell-high when looking at streams of outlays and receipts over time. Some basic questions which should be asked before using one measure or another in a feasibility report are:

A. Who is reading the report and what method does he use? Some may be interested in total dollars as real estate is their business while others may be interested in rate of return since money management is their business.

B. What is the definition of the equity investment? Cash equity up front, net cash after tax shelter, or liquidating cash equity?

C. What is the precise definition of items to be included as a return on investment as opposed to a return on service and how are shares in these items distributed? Floors? Ceiling? Priorities?

D. What reinvestment assumption does the client wish to make in evaluating the project?

1. Prospective rate which disregards reinvestment

2. Reinvestment at the safe rate ala Hoskold

3. Reinvestment at the discounting rate ala Inwood or IRR

4. The modified internal rate of return for money managers

E. Method for determining the resale or liquidating price assumption

IV. The feasibility study is asking the client to purchase a set of assumptions about the future and the analyst should identify the consequences of the most critical but variable assumptions and the protection which the investor may or may not have available to "lay-off" the risk.

A. Required market segment for planned absorption as a percent of total market opportunity and protection provided by monopoly characteristics of project.

B. Direct cost overruns and the possibilities of shifting the risk by contract.

C. Significant timing upsets as a result of political regulation or seasonal markets and possible risk control for carrying charges.

D. The use of the equity pay back ratio - the ratio of total cash received cumulatively to original cash investment plus exposure if any on notes and mortgages.

E. Designing the project for a conservative default ratio or cash break even point both in structuring the financing and phasing the project.

F. Funded holding power should be at least three times cash equity required plus exposure on notes.

A. Exhibit Three provides a systematic organization of receipts and outlays for a rental property.

1. These items must be forecast for quarterly and annual periods.

2. Careful definition is the first step in structuring the financial term with both lenders and partners.

B. Mini-mod demonstrates a simple model for a typical rental project but this model has several flaws: (see Exhibit Four)

1. Nothing is done about cash flows during the construction period.

2. Projections are made on a simple straight line basis.

3. It is not a valuation model; it is an investment analysis.

C. TAP is an after-tax Ellwood model which does permit erratic and alternative methods of predicting resale value. However it does not handle the construction phase very well because it does not permit refinancing. (see Exhibit Five)

D. A more useful model for feasibility analysis has been developed by John Nabors of Dallas, Texas. He is both a real estate analyst and a computer systems man. One of his techniques is shown in Exhibit Six.

1. This model handles direct and indirect cost of construction phase.

2. It is one of the few computer models which provide sensitivity analysis in a from appropriate to the prearchitectural program and in a form which permits the analyst to make exquisite recommendations to the client as to financial and design flaws or objectives.

E. A number of computer modeling services are being marketed to architects, which are not only useful to appraisers but demonstrate how rapidly appraisers are becoming obsolete if they continue to use the basic income approach for feasibility analysis.

1. A system which implements the process of classification and scheduling fundamentals extremely is called REAP which is available on Tymshare from the vendor CLM/Systems, Inc., 292 Main Street, Cambridge, Massachusetts 02142, (617) 492-6210. (For a partial example see Exhibit Seven).

2. A timesharing computer service also on the Tymshare network is Comarc Design Systems, The agriculture Building Embarcadero at Mission, San Francisco, California 94105 (415) 392-5268 P.O. Box 3919 San Francisco, California 94119. (They have programs which will compute LUI, test MPS standards, provide pre-tax analysis of land and condiminium sales projects, and after-tax analysis of office, industrial, and apartment structures.)

EXHIBIT THREE

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCTING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME.

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

COMPONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
LAND	.00	1	.	0	$	40000.
BUILDING	1.00	1	35.	3	$	165300.
PARKING	.50	1	10.	3	$	7200.
FURNISHINGS	1.00	1	7.	1	$	13200.
ELEVATOR	.80	1	12.	3	$	12500.
TRANSACTION COST	1.00	1	35.	3	$	1800.
7TH YR REFURBISH	1.00	8	7.	1	$	10000.
TOTAL INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.020
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.020
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.050
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.010
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.090
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.120

	1	2	3	4	5	6	7	8	9	10
CASH EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

FINANCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
* * *

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INVESTMENT MARKET VALUE ANALYSIS

DATA INPUT FORM

PROJECT ID: EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

Date: 2 DECEMBER 1970

ANALYSIS OF AN ACTUAL SALE: In June 1970 a New York manufacturing corporation, with much taxable income, purchased a 306-unit, poorly located and unattractively planned garden apartment complex in Virginia, paying cash above existing 6% mortgages. The land is zoned commercial, but if it were vacant it would probably not sell at much more than if zoned for row houses. If the purchaser obtains a shift in the tax assessment, from land to buildings, reducing the land value to $268,000, what would be the IMV for an equity yield of .0875? The actual purchase price was $2,640,000.

Next, prepare a price-yield curve surrounding the actual purchase price, and while doing so, determine the yield at such purchase price. Do this under the assumption that the land assessment will be reduced.

Finally, what would a REIT have paid for this property, to have obtained the same equity yield (.0875), but failing to get the land valuation, as assessed, below its present $450,000? Note that in order for the REIT to achieve a suitable cash-flow-to-equity ratio, it would have had to refinance the property at the best available terms as of the purchase date.

PREPARED BY: MBH

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ALL INPUTS INVOLVING A % MUST BE ENTERED AS A DECIMAL EQUIVALENT [11.75%=.1175]

PROJECT ID (Maximum 30 characters per line)

100 EDUCARE SEMINAR PROBLEM FIVE

101 UNIVERSITY OF WISCONSIN

USED FOR ELLWOOD'S VALUATION

	AVG. ANNUAL NET INCOME	BEFORE TAX YIELD	AFTER TAX YIELD
102	217000	.15	.0875

OPERATION CODE:

1–Produces IMV for a given after tax equity yield rate

2–Produces four after tax equity yield rates for four given IMVs

NET INCOME CODE:

1–Constant net income value for each year

2–Different net income value for each year (If the last year of the projection term does not fall in the last position of a line fill the remaining years of that line with zeros)

	OPERATION CODE	PROJECTION TERM (yrs)	NET INCOME CODE
103	1	10	2

NET INCOME [If net income is constant enter the value in position (1) only]

	(1)	(2)	(3)	(4)	(5)
104	220000	220000	218000	218000	216000
	(6)	(7)	(8)	(9)	(10)
105	216000	214000	214000	210000	210000
	(11)	(12)	(13)	(14)	(15)
106					
	(16)	(17)	(18)	(19)	(20)
107					

OWNERSHIP FORM CODE:

1–Corporation (Operating losses applied to other investments)

2–Corporation (Operating losses carried back/carried over)

3–Corporation (Taxable income offset by losses from other investments)

4–Corporation (Set-up solely for this investment)

5–Non-corporation (Operating losses applied to other investments)

6–Non-corporation (Operating losses carried back/carried over)

7–Non-corporation (Taxable income offset by losses from other investments)

EXCESS DEPRECIATION RECAPTURE CODE:

1–No recapture

2–FHA 221 (d) (3), 236 before 1975 (After 20 months-declines 1% per month)

3–All other residential rentals (After 100 months-declines 1% per month)

4–All non-residential–100% recapture

	OWNERSHIP FORM CODE	FEDERAL TAX RATE	STATE TAX RATE	STATE CAPITAL GAINS RATE	EXCESS DEPRECIATION RECAPTURE CODE
108	1	.48	.10	.10	3

APPRECIATION/DEPRECIATION AT RESALE:

APP/DEP CODE:

1–% of IMV (Enter the % in the APP/DEP AT RESALE column)

2–$ amount (Enter the $ amount in the APP/DEP AT RESALE column)

3–Reversionary $ amount (Enter the $ amount in the APP/DEP AT RESALE column)

5-2

	APP/DEP CODE	APP/DEP AT RESALE ($ OR %)	SALES COMMISSION RATE (0 if none)
109	3	1860000	.0175

DEPRECIABLE CAPITAL ASSETS:

ASSET CODE: Asset value as a:

1–$ amount (Enter the $ amount in the ASSET VALUE column)
2–% of IMV (Enter the % in the ASSET VALUE column)
3–% of the difference between IMV and land value (Enter $ amount for land value in LAND VALUE column and the % in the ASSET VALUE column)

METHOD CODE:

1–Straight line
2–125%
3–150%
4–200%
5–Sum-of-years-digits

	NUMBER OF ASSETS (0 to 6)	LAND VALUE (0 if ASSET CODE 3 is not used)
110	3	268000

[Assets MUST be entered in order of ASCENDING ASSET CODES]

	ASSET CODE	ASSET VALUE ($ or %)	METHOD CODE	LIFE	SALVAGE (0 if none)
111	3	.64	2	26	0
112	3	.19	2	13	0
113	3	.17	1	5	0
114					
115					
116					

MORTGAGES:

MORTGAGE CODE:

1–Existing mortgage or mortgage of known $ amount (Enter the $ amount in the KEY FIGURE column)
2–New mortgage amount which is a % of IMV (Enter the ratio (%) in the KEY FIGURE column)

THE FOLLOWING TWO OPTIONS CANNOT BE USED SIMULTANEOUSLY

3–Secondary mortgage amount which is the difference between IMV and sum of known amounts for equity cash and the other mortgages (Enter the $ amount for cash equity in the KEY FIGURE column)
4–Secondary mortgage amount which is the difference between a total mortgage ratio and the sum of other mortgages of known amounts (Enter the total mortgage ratio (%) in the KEY FIGURE column)

TERM AND ANNUAL CONSTANT:

For each mortgage either the TERM or the ANNUAL CONSTANT must be provided except in the case of a balloon for which both must be provided. Enter a zero for the TERM or the ANNUAL CONSTANT, whichever is unknown. The annual constant must be at least 8 decimal places.

	NUMBER OF MORTGAGES (0 to 6)
117	2

[Mortgages MUST be entered in order of ASCENDING MORTGAGE CODES]

	MORTGAGE CODE	KEY FIGURES ($ or %)	INTEREST RATE	TERM (Months)	ANNUAL CONSTANT
118	1	1186414	.06	0	.09170491
119	1	855518	.06	0	.09713413
120					
121					
122					
123					

1ST RUN

```
100 EDUCARE SEMINAR PROBLEM FIVE
101 UNIVERSITY OF WISCONSIN
102 817000,.15,.0875
103 1,10,2
104 220000,220000,218000,218000,216000
105 216000,214000,214000,210000,210000
108 1,.48,.10,.10,3
109 3,1860000,.0175
110 3,268000
111 3,.64,2,26,0
112 3,.19,2,13,0
113 3,.17,1,5,0
117 2
118 1,1186414,.06,0,.09171491
119 1,855518,.06,0,.09713413
```

2 DECK-2

2ND RUN

```
OLD INPUT
READY
103 2,10,2
REPLACE INPUT        (COMPUTER IS NOW IN OPERATION CODE 2, PREPARED
                      TO ASK USER FOR A NUMBER OF TRIAL IMV AMOUNTS,
                      TO GIVE USER THE AFTER TAX YIELD FOR EACH)
```

2Dec70-2

1ST RUN

INVESTMENT MARKET VALUE ANALYSIS
EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

PREPARED BY A COMPUTER IN CONSULTATION WITH
M. B. HODGES,JR MCLEAN, VIRGINIA

****

INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%: $ 2357132

AFTER TAX YIELD OF 8.75%: $ 2492436

****

DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:

EXISTING	6.00%	17 YRS	9 MONS	$	1186414
EXISTING	6.00%	16 YRS	1 MONS	$	855518

EQUITY CASH: $ 450504

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE	$	1860000
LESS: MORTGAGE BAL.		1094217
SALES COMMISSION		32550
CASH REVERSION BEFORE TAXES	$	733233
LESS: CAPITAL GAINS TAX(ALT.)		231206
TAX ON RECAPTURED DEPR.		13867
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	488160

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	120576	184713	-85289	-45373	71336	73461
2	220000	116176	177515	-73691	-39203	75736	67291
3	218000	111504	170851	-64355	-34236	80408	60324
4	218000	106545	165877	-54422	-28952	85367	55040
5	216000	101279	163039	-48318	-25705	90633	49793
6	216000	95689	84706	35605	18941	96223	5147
7	214000	89755	84171	40074	21319	102157	769
8	214000	83454	84171	46375	24671	108458	-2583
9	210000	76765	84171	49064	26102	115147	-8014
10	210000	69662	84171	56167	29880	122250	-11792

2 DECTO-2

2ND RUN

```
WHAT IS TRIAL IMV AMOUNT NO 1 (0=STOP)?2564000

AFTER TAX YIELD  6.92%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 2 (0=STOP)?2650000

AFTER TAX YIELD  5.19%
DO YOU WANT DETAIL(0-NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 3 (0=STOP)?2475000

AFTER TAX YIELD  9.27%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 4 (0=STOP)?2750000

AFTER TAX YIELD  3.60%
DO YOU WANT DETAIL)0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 5 (0=STOP)?2350000

AFTER TAX YIELD  13.07%
DO YOU WANT DETAIL(0=NO,1=YES)?0

WHAT IS TRIAL IMV AMOUNT NO. 6 (0=STOP)?2850000

AFTER TAX YIELD  2.33%
DO YOU WANT DETAIL(0=NO,1=YES)?0
```

2 DEC 70-2

GRAPHIC ANALYSIS FOR INVESTMENT MARKET VALUE

(EDUCARE FIVE)

Investment Criteria

10 Year Ownership Projection Term.

$ 217000 Average Annual Net Income or as shown annually on FORM E.

____% Loan-to-Value Ratio; or assumption of mortgage balance(s) shown on FORMS C & D

Terms of mortgage(s) shown on FORM C.

Land Value = $ 268000; or ____% of IMV.

Capital Imps. at Cost of $_____.

Ordinary State Income Tax Rate = .10 %

Ordinary Federal Income Tax Rate = .48 %

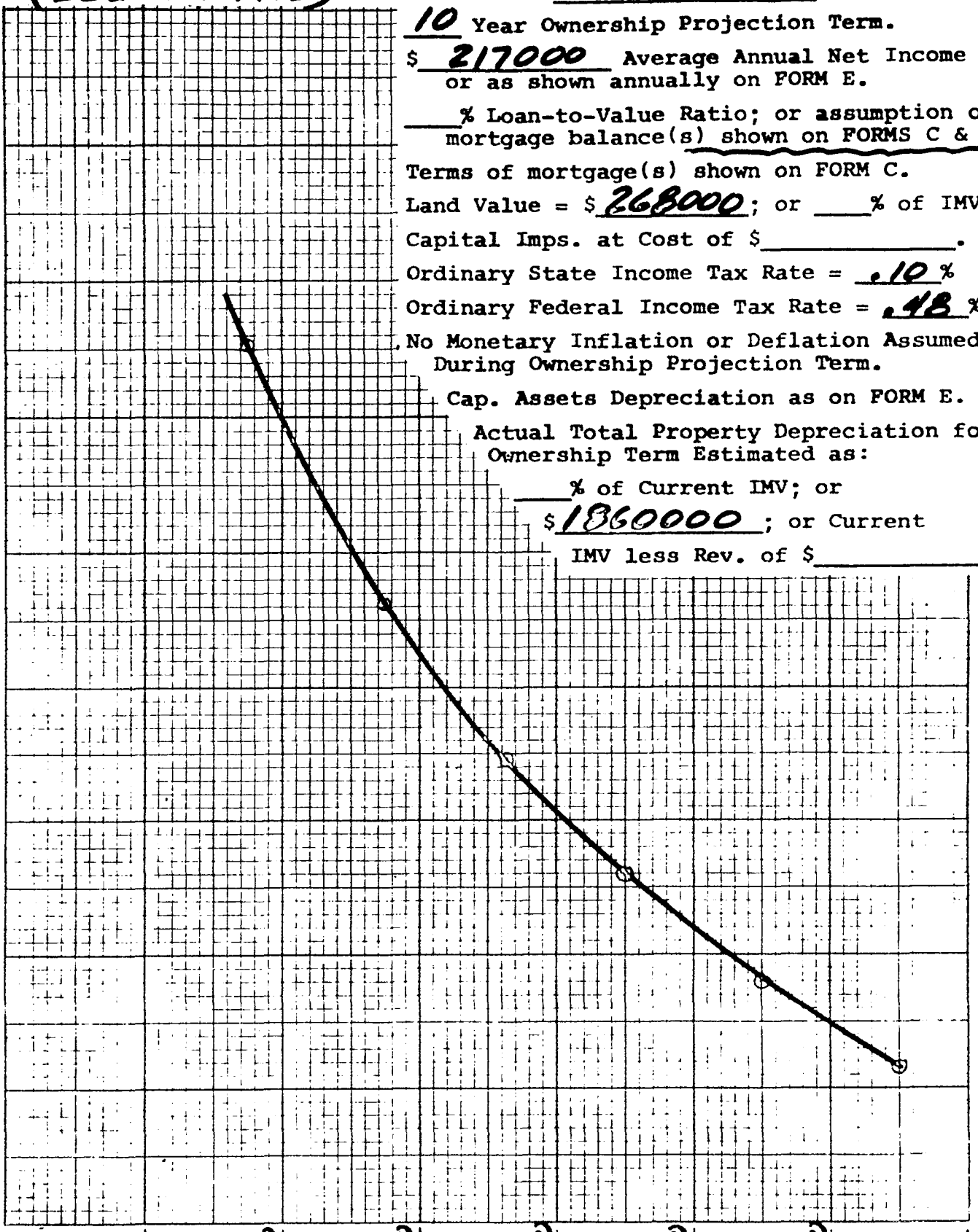
No Monetary Inflation or Deflation Assumed During Ownership Projection Term.

Cap. Assets Depreciation as on FORM E.

Actual Total Property Depreciation for Ownership Term Estimated as:

____% of Current IMV; or

$ 1860000; or Current IMV less Rev. of $_____.



INVESTMENT MARKET VALUE IN $1,000

5-18

(Rev 7/17/70)

FORM G

2 DEC 70-2

3RD RUN

INVESTMENT MARKET VALUE ANALYSIS
EDUCARE SEMINAR PROBLEM FIVE
UNIVERSITY OF WISCONSIN

PREPARED BY A COMPUTER IN CONSULTATION WITH
M. B. HODGES,JR MCLEAN, VIRGINIA

****

INVESTMENT MARKET VALUE:

BEFORE TAX YIELD OF 15.00%: $ 1875093

AFTER TAX YIELD OF 8.75%: $ 2095923

****

DETAIL FOR AFTER TAX IMV

FINANCING:

MORTGAGES:
NEW 1ST 10.25% 25 YRS 0 MONS $ 1571942

EQUITY CASH: $ 523981

RESALE OF INVESTMENT IN 10 YEARS:

ESTIMATED RESALE PRICE	$	1860000
LESS: MORTGAGE BAL.		1336034
SALES COMMISSION		32550
CASH REVERSION BEFORE TAXES	$	491416
LESS: CAPITAL GAINS TAX(STD.)		149296
TAX ON RECAPTURED DEPR.		8291
TAX PREFERENCE TAX		15355
CASH REVERSION AFTER TAXES	$	318474

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	MORTGAGE AMORTIZE	CASH FLOW AFTER TAX
1	220000	160466	136674	-77140	-33170	14281	78423
2	220000	158931	131348	-70279	-30219	15816	75472
3	218000	157231	126417	-65648	-28228	17516	71481
4	218000	155349	122737	-60086	-25836	19398	69089
5	216000	153265	120637	-57902	-24897	21482	66150
6	216000	150956	62676	2368	1018	23791	40235
7	214000	148400	62280	3320	1427	26347	37826
8	214000	145569	62280	6151	2644	29178	36609
9	210000	142434	62280	5286	2272	32313	32981
10	210000	138961	62280	8759	3766	35786	31487

2DEC80-2

3RD RUN

```
OLD INPUT
READY
103 1,10,8                (PLACES COMPUTER BACK INTO CODE 1 OPERATION
108 5,.40,.04,.05,3        WITH NEW DATA FOR A REAL ESTATE INVESTMENT
110 3,450000               TRUST AS THE PROSPECTIVE PURCHASER.
117 1                      NEW FINANCING REQUIRED TO GET THE REIT
118 2,.75,.1025,300,0      A CASH FLOW RETURN SATISFACTORY TO ITS
REPLACE INPUT              STOCKHOLDERS)
```

2DEC70-2

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EXHIBIT SIX

PROGRAM SUMMARY
DESIGN ANALYSIS PROGRAM

The Design Analysis Program is basically a method of determining a number of possible annual cash flows from a proposed income property based upon up to five different values of six different cash flow parameters:

1 = Rental Rates e.g. $6.50/sq ft/yr
2 = Vacancy Rates e.g. 10% of potential rental revenue
3 = Expense Rates e.g. $2.50/sq ft/yr
4 = Financing Conditions e.g. 9½% 30 yrs paid monthly
5 = Building Efficiency e.g. 85% of gross space
6 = Loan Ratios e.g. 90% of construction and land costs.

The basic format used is that of a planning format of an annual cash flow proforma: Rental Revenue adjusted for a Vacancy Allowance less Operating Expenses and Debt Service, yielding Annual Cash Flow.

This basic format reflects a single set of conditions that result in a single cash flow quantity. Actual practice reveals that parameter 1, 2, and 3 will constantly vary between years and within the year. Parameters 4 and 6 will be negotiated prior to construction by the developer, while parameter 5 will be established in the design phase and adjusted somewhat with the initial leasing strategy.

During the planning phase of an income property, best estimates of the values of these six parameters are utilized to prepare a cash flow pro forma. The DESIGN ANALYSIS PROGRAM allows the financial analyst to vary each parameter throughout a range of values to study the effect upon the pro forma annual cash flow. With five different values for six parameters, there are exactly 361 different annual cash flows.

The program allows the analyst to produce a 5 by 5 table of annual cash flows by varying one or two of the parameters over a range of values while using a primary or basic value for each of the other parameters. In addition, the breakeven rental rates or the rates of return on initial equity are given for the corresponding cash flows.

The total cost of construction and land can be input to the program or can be calculated through the use of the Construction Cost Estimate subprogram. The total cost of the structure can be computed from per square foot costs, component structure costs, professional fees, and land costs. Interim interest costs for land and construction are both computed.

Date_____
Run #_____

RJE DATA FORM

Line # in DESRJE	Answer	Question by the Program
350	$_____	IS THERE A CONSTRUCTION DATA FILE? (If Answer is NO, delete lines 360,370,380)
360	$_____	CONSTRUCTION DATA FILE NAME?
370	$_____	LIST THE CONSTRUCTION DATA?
380	$_____	OUTPUT THE CONSTRUCTION COST SCHEDULE?
390	$_____	IS THERE A CASH FLOW DATA FILE? (If answer is NO, no more data is needed.)
400	$_____	NAME OF CASH FLOW DATA FILE?
410	$_____	LIST CASH FLOW DATA?
420	$_____	OUTPUT LOAN AND DEBT SERVICE CALCULATIONS?
430	$_____	OUTPUT ALL CASH FLOW TABLES?
440	$_____	OUTPUT SENSITIVITY TABLE?

EXAMPLES

Example 1: No construction file, do not list data file or debt service data; output all tables.

350	$NO
390	$YES
400	$ (file name)
410	$NO
420	$NO
430	$YES
440	$YES

Example 2: Construction and cash flow data files exist, output all data lists and tables.

350	$YES
360	$(file name)
370	$YES
380	$YES
390	$YES
400	$(file name)
410	$YES
420	$YES
430	$YES
440	$YES

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CONSTRUCTION COST SCHEDULE
DATA INPUT - SHORT FORM

100 _____, _____, _____, _____ Bldg ID#, Mo, Day, Yr
101 _____ 60 character title(ctrd)
102 _____ 60 character title(ctrd)
103 _____ Gross sq ft or Acreage in Tract
104 _____ Run Number

CONSTRUCTION COSTS: (use 201 and 202 or 203)

201 _____, _____ Shell - sq ft, $/sq ft.
202 _____, _____ Interior - sq ft, $/sq ft.
203 _____, _____ Building - sq ft, $/sq ft
204 _____, _____, _____ Grade Parking-sq ft/space, spaces, $/sq ft.
205 _____, _____, _____ Structured Parking " " " "
206 _____ Landscaping/Lighting Costs -$ or $/sq ft.
207 _____ Furniture, Fixture & Equipment " " "
208 _____, _____ Sq ft, $/sq ft or 0,0
(209) _____ Title
210 _____, _____ Sq ft, $/sq ft or 0,0
(211) _____ Title
212 _____, _____ Sq ft, $/sq ft or 0,0
(213) _____ Title
214 _____, _____, _____ 0, $, or % of Shell & Interiors
(215) _____Title
(216) _____Title
(217) _____Title
218 _____ Constr.Contingency-0, $, or % of Shell & Interior

301 _____ Architecture Fees
302 _____ Engineering Fees
303 _____ Loan Origination Fees
304 _____Legal & Closing Fees
305 _____ Taxes & Insurance

Enter 0, $ or % of Subtotal of lines 201 - 218

309 _____, _____, _____
310 _____ Title
311 _____ Title
312 _____ Title

Optionally titled fees and costs: 0, $ or % of Subtotal of line 201-218

401 _____, _____ Constr Interim Int Rt, Constr.Period-Months
402 _____, _____ Other expenses 0, $ or % of Subtotal
(403) _____ Title
(404) _____ Title

500 _____ Zero or $ Cost of Land (or use line 501)
501 _____, _____ Cost of Land -sq ft or Acres, cost/unit
502 _____, _____, _____ Interim Land Cost-% of Land cost Interest rt, months.
503 _____, _____, _____ Interim Land Cost " " " " " "
504 _____, _____ Interim Land Cost - $/month, months
505 _____Other land costs-$ or % of Land Cost

Complete lines with ( ) only if corresponding data is non-zero.

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File Name_____

INPUT FORM
CASH FLOW ANALYSIS

100 _____ 0 or 1 0= lines 101-107 required 1= use constr. data
101 *_____, _____, _____, _____ Building ID#, Mo., Day, Year
102 *_____ Title Line 1
Description Line 1 up to 60 characteristics
103 *_____Title Line 2
104 *_____ Gross Square Footage in Tract
105 *_____ Gross Square Footage in Building
106 *_____ Total Construction Cost
107 *_____ Run Number
*Items are entered only if value is 0 on Line 100

200 _____ Number of Rental Rates (1 to 5)
201 _____, _____, _____, _____, _____ Rental Rates in$/sq ft
202 _____ Number of Vacancy Rates (1 to 5)
203 _____, _____, _____, _____, _____ Vacancy Rates in %
204 _____ Annual Parking Income $ or 0
205 _____ Other Income $ or 0
206 _____ Number of Operating Expenses (1 to 5)
207 _____, _____, _____, _____, _____Operating Expenses in$/sq ft
208 _____ Number of Financing Conditions (1 to 5)
209 _____, _____,_____, _____, _____ Interest Rates (Annual %)
210 _____, _____, _____, _____, _____ Term in Years
212 _____ Number of Building Efficiency Rates (1 to 5)
213 _____, _____, _____,_____,_____ Efficiency Rates (% of Gross)
214 _____ Number of Cash Flow Tables (0 to 10)

215 _____, _____
216 _____, _____
217 _____, _____
218 _____, _____
219 _____, _____
220 _____, _____
221 _____, _____
222 _____, _____
223 _____, _____
224 _____, _____

Enter Parameters to be output
1 Rental Rate
2 Vacancy Rate
3 Operating Expense Rate
4 Financing Conditions
5 Building Efficiency
6 Loan to Cost Ratios

2XX ROW , COLUMN

230 _____ Number of Loan to Cost Ratios (1 to 5)
231 _____, _____, _____, _____, _____ Loan Ratios in %

240 _____ 0 or 1 or 2 1 = Breakeven Rental Rates 2 = Rates of Return

250 _____ 10000

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CONSTRUCTION COST ESTIMATE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

DATE: 8/28/1974
BLDG: 6001
RUN : 1

CONSTRUCTION COSTS			DOLLARS
CONSTRUCTION-SHELL	150000 SQ FT AT $ 26.00	$	3900000
CONSTRUCTION-INTERIOR	150000 SQ FT AT $ 4.00	$	600000
GRADE PARKING	500 SPACES AT $ 525		262500
LANDSCAPING/LIGHTING			100000
SUBTOTAL CONSTRUCTION			4862500
ARCHITECTURE FEES	AT 4.0 PCT		194500
ENGINEERING FEES	AT 1.0 PCT		48625
LOAN ORIGINATION FEES	AT 1.0 PCT		48625
TAXES AND INSURANCE	AT 1.0 PCT		48625
CUMULATIVE SUBTOTAL			5202875
INTERIM INTEREST-CONSTRUCTION			
$ 5202875 AT 12.0 PCT FOR 13 MO X .5			338187
DEVELOPER"S PROFIT	AT 2.0 PCT OF $ 5202875		104057
CONTINGENCY	AT 2.0 PCT OF $ 5202875		104057
TOTAL CONSTRUCTION COSTS			5749177

LAND COSTS		
275865 SQ FT AT $ 3.95		1089669
INTERIM INTEREST-LAND		
100.00 PCT OF $ 1089669 AT 12.00 PCT FOR 13.00 MO		141657
5.00 MONTHS AT $ 7132 PER MONTH		35660
TOTAL LAND COST		1266986
TOTAL LAND AND CONSTRUCTION COST		7016162

LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED $ 5612930 EQUITY $ 1403232

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	566359
8.50	30.0	9.2270	517903
9.00	30.0	9.6555	541955
9.75	30.0	10.3099	578685
10.00	30.0	10.5309	591090

AMOUNT FINANCED $ 4911313 EQUITY $ 2104849

LOAN RATIO 70.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	495564
8.50	30.0	9.2270	453165
9.00	30.0	9.6555	474210
9.75	30.0	10.3099	506349
10.00	30.0	10.5309	517203

AMOUNT FINANCED $ 6314546 EQUITY $ 701616

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	637153
8.50	30.0	9.2270	582641
9.00	30.0	9.6555	609699
9.75	30.0	10.3099	651020
10.00	30.0	10.5309	664976

AMOUNT FINANCED $ 7016162 EQUITY $ 0

LOAN RATIO100.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	707948
8.50	30.0	9.2270	647379
9.00	30.0	9.6555	677444
9.75	30.0	10.3099	723356
10.00	30.0	10.5309	738862

CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

DATE: 9/ 5/1974
BLDG: 4444
RUN : 1

GROSS SQUARE FEET IN BUILDING:		150000
BUILDING EFFICIENCY	:	85 PCT
NET LEASEABLE SQUARE FOOTAGE	:	127500
LAND AND CONSTRUCTION COST	: $	7016162
LOAN TO COST RATIO	:	80.0 PCT
ORIGINAL LOAN AMOUNT	: $	5612930
EQUITY REQUIREMENT	: $	1403232
PERMANENT INTEREST RATE	:	9.50 PCT
TERM OF LOAN		30 YEARS
ANNUAL DEBT SERVICE	: $	566359

	ANNUAL DOLLARS
GROSS INCOME : 127500 SQ FT AT $ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
GROSS EFFECTIVE INCOME	975375
OPERATING EXPENSES: 127500 SQ FT AT $ 2.50	318750
NET OPERATING INCOME	656625
DEBT SERVICE (10.09 PCT CONSTANT)	566359
PRO FORMA CASH FLOW	90266

RETURN ON EQUITY 6.43 PERCENT

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SENSITIVITY TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS — PAGE 3 OF 4

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY	: 85.00 PCT ØF GRØSS		
LØAN RATIØ	: 80.00 PCT ØF $ 7016162		
EQUITY	: $ 1403232		
FINANCING	: 30 YEARS 9.50 PCT		
REVENUE	: $ 8.50 PER SQ FT		
VACANCY	: 10.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

CØNSTRUCTIØN AND LAND CØST 7016162
CØNSTRUCTIØN INTERIM RATE 12.000 PCT
CØNSTRUCTIØN PERIØD 13 MØNTHS
LAND INTERIM RATE IS 12.00 PCT

EFFECT ØF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW	EFFECT ØN CØNSTRUCTIØN
DECREASE CØNSTRUCTIØN CØST $ 100,000	11930	-118235
DECREASE CØNSTRUCTIØN $ 1.00 PER SQ FT	17895	-177352
DECREASE CØNSTRUCTIØN PERIØD 1 MØNTH	3724	-36911
DECREASE CØNST AND LAND INTERIM 1 PCT	4035	-39987
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
INCREASE RENTAL RATE $ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE ØPERATING RATE $ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12244	
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-3514	
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-22121	
DECREASE THE LØAN RATIØ BY 5 PERCENT	35397	

EQUIVALENT EFFECTS TØ YIELD A $ 10000 INCREASE IN ANNUAL CASH FLØW

DECREASE CØNSTRUCTIØN CØST BY $ .56 PER SQ FT
DECREASE CØNSTRUCTIØN PERIØD BY 2.7 MØNTHS
DECREASE INTERIM INTEREST BY 2.48 PCT
INCREASE BUILDING EFFICIENCY BY 1.29 PCT
INCREASE RENT RATE BY $ .09 PER SQ FT
DECREASE VACANCY BY .92 PCT
DECREASE EXPENSE RATE BY $ .08 PER SQ FT
DECREASE PERMANENT RATE BY .20 PCT
INCREASE PERMANENT LØAN TERM BY 2.3 YEARS
DECREASE LØAN RATIØ BY 1.4 PERCENT

Introduction

REAP provides developers, investors, and financers an unusually powerful set of capabilities for proposing and analyzing real estate development and investment projects. Although it is impossible in a single example to illustrate all of the REAP features, the following typical investment situation serves as a vehicle to display some of the more important REAP capabilities. Throughout the example, the description of the situation is followed by the actual REAP English language commands used to describe the situation.

The General Project Concept

The HSF Investment Trust is an investment vehicle for one of the wealthy families in Atlanta. HSF has been approached by the Central Development Company (CDC) to become a limited partner in a joint venture to build a medium sized office building in downtown Atlanta. In return for an initial equity input and low interest loan, HSF will receive a substantial portion of the tax losses and cash flows until the original equity has been returned; thereafter, HSF will continue to receive the tax losses plus one-half the cash flow. Project ownership will be equal.

The immediate CDC problem is to make a proposal to HSF that will be attractive in terms of overall cash flow, return on investment, and payout, with detailed schedules showing cash requirements, financing arrangements, depreciation, project income and expense, tax losses, cash flows, returns, etc. To determine just what mixture of tax loss, interest, and cash flow can best meet the overall HSF investment portfolio objectives, and to test various project alternatives for the most beneficial arrangements on costs, financing, timing, required income levels, sensitivity to vacancy rates, etc., CDC has turned to the powerful set of capabilities offered by REAP.

CDC first identifies itself to the REAP system by the command

The project, to be called the "One Peach Tree Plaza" will be given the code name 'PTP' and the project number 7112.

PROJECT NAME 'ONE PEACH TREE PLAZA' ID 'PTP' NUMBER 7112

CDC, as a well managed development company, has a cost accounting and management system that depends on a chart of accounts breakdown of building and operation costs. This chart of accounts is entered as

CHART OF ACCOUNTS
101.00 'LAND ACQUISITION'
102.00 'LEGAL FEES'
103.00 'ARCHITECTURAL & ENGINEERING FEES'
104.00 'BASIC BUILDING'
105.00 'TENANT IMPROVEMENTS'

These accounts are used in assigning project costs and cash requirements. Land costs for the 30,000 square feet parcel are projected at $50 per square foot, and it is expected that the current option to buy will be exercised on December 31, 1971.

In general, cash requirements are entered as a series of steps, with these land costs entered as follows:

PROJECT CASH REQUIREMENTS SCHEDULE
STEP 1 COMMENT '30000 SF LAND AT $50/SF' AMOUNT 1500000
DATE 12 31 71 ACCOUNT 101.00

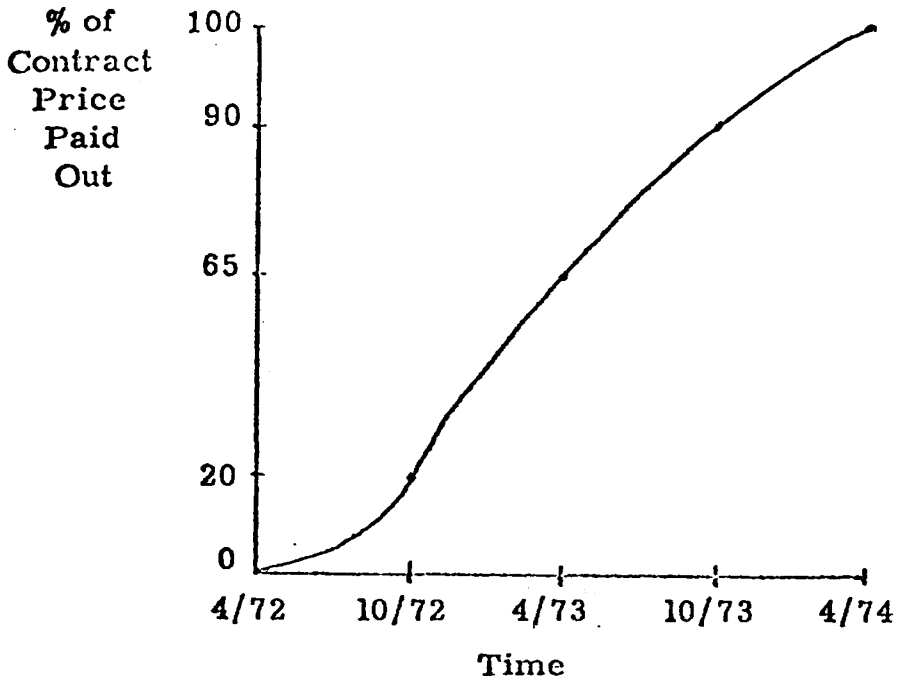
Certain legal fees are expected on the project, and are to be paid in two installments - 25,000 on July 1, 1972 and another 25,000 on December 31, 1973.

STEP 2 AMOUNT 25000 DATE 7 1 72 ACCOUNT 102.00 -
COMMENT 'LEGAL FEES'

STEP 3 AMMOUNT 25000 DATE 12 31 73 ACCOUNT 102.00 -
COMMENT 'LEGAL FEES'

Overall, the plan calls for a twenty story tower, with 300,000 square feet

of space at a cost of approximately $30 per square foot on the basic building. The total basic building cost will be paid out monthly to the general contractor over a two year period, beginning April 1, 1972, according to a construction requisition curve which has the following shape:



This cash requirement is given as

STEP 4 COMMENT 'MAIN CONSTRUCTION CONTRACT' AMOUNT 9000000 -

ACCOUNT 104.00 CURVE 20 65 90 PAYOUT 2 BEGINNING 4 1 72

Architectural and engineering fees, estimated at 5% of the basic building cost, amount to 450,000, and are paid over a one year period of time beginning January 1, 1972 according to the following schedule:

March 31, 1972	15% of fee
June 30, 1972	50
Sept. 30, 1972	90
December 31, 1972	100

This is entered as:

STEP 5 AMOUNT 450 000 ACCOUNT 103.00 CURVE 15 50 90 PAYOUT 1 -
BEGINNING 1 1 72 COMMENT 'ARCHITECT FEES'

Tenant improvements are reckoned at a $5/sq. ft. allowance, for a total of 1,500,000, and are to be paid out in approximately equal amounts over a 1 1/2 year period beginning October 1972.

STEP 6 AMOUNT 1500000 ACCOUNT 105.00 CURVE 25 50 75 PAYOUT 1.5 -
BEGINNING 10 1 72 COMMENT 'TENANT IMPROVEMENTS'

Although the actual project costs will be allocated in somewhat more detail when the project is better defined by CDC, the steps outlined above outline the gross overall costs and their expected distributions over time. By issuing of the command

DISPLAY PROJECT COSTS ON PROJECT 7112
EVERY 12 MONTHS FOR FIRST 5 YEARS BEGINNING 12 31 71

CDC is able to obtain the project cash requirements schedule shown in Figure 1. Note that the various project costs have indeed been spread over differing time periods, beginning on different dates, as requested by the initial input.

Using this project cash requirements schedule, CDC is now able to formulate a financing program composed of several loans. The current owner of the land has agreed to finance 1,000,000 of the land cost until the end of the construction period (i.e., for the 2 1/4 year period 12/31/71 - 3/31/74) on an interest only basis at 10%.

FINANCING
LOAN 1 AMOUNT 1000000 RATE 10 INTEREST ONLY -
PAYOUT 2.25 BEGINNING 12 31 71

Construction financing in the amount of 10,000,000 at 12% over the two year construction period beginning April 1, 1972 has been arranged, and will be paid out according to the following construction requisition curve.

ONE PEACH TREE PLAZA

PROJECT ID PTP NUMBER 7112.00 DATE 11/15/71
PROJECT COSTS

	12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
30000 OF LAND AT $50/SF						
STEP 1	1500000.	0.0	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 2	0.0	25000.	0.0	0.0	0.0	0.0
LEGAL FEES						
STEP 3	0.0	0.0	25000.	0.0	0.0	0.0
MAIN CONSTRUCTION CONTRACT						
STEP 4	0.0	3149992.	5249994.	599996.	0.0	0.0
ARCHITECT FEES						
STEP 5	0.0	434989.	14999.	0.0	0.0	0.0
TENANT IMPROVEMENTS						
STEP 6	0.0	166666.	999999.	333332.	0.0	0.0
TOTAL COSTS	1500000.	3776647.	6289992.	933328.	0.0	0.0

FIGURE 1

ONE PEACH TREE PLAZA

PROJECT ID PTP NUMBER 7112.00 DATE 11/15/71
INTEREST TABLES

	12/31/71	12/31/72	12/31/73	12/31/74	12/31/75	12/31/76
PROJ PTP LOAN 1 AMOUNT 1000000. RATE 10.00 INTEREST ONLY BEGIN 12/31/71						
PAYOUT 2.3 DEBT CONST. 0.0						
INTEREST	0.0	100000.	100000.	25000.	0.0	0.0
AMORTIZATION	0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL	1000000.	1000000.	1000000.	0.0	0.0	0.0
LUMP SUM PAYOUTS	0.0	0.0	0.0	1000000.	0.0	0.0
PROJ PTP LOAN 2 AMOUNT 10000000. RATE 12.00 CONSTRUCTION BEGIN 4/ 1/72						
PAYOUT 2.0 DEBT CONST. 0.0						
INTEREST	0.0	214531.	904530.	290937.	0.0	0.0
AMORTIZATION	0.0	0.0	0.0	0.0	0.0	0.0
REMAINING PRINCPL	0.0	4703121.	9489575.	0.0	0.0	0.0
LUMP SUM PAYOUTS	0.0	0.0	0.0	9999991.	0.0	0.0
PROJ PTP LOAN 3 AMOUNT 13000000. RATE 9.50 AMORT. TERM 20.0 BEGIN 4/ 1/74						
PAYOUT 0.0 DEBT CONST. 11.19						
INTEREST	0.0	0.0	0.0	819220.	1210292.	1186091.
AMORTIZATION	0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL	0.0	0.0	0.0	12849792.	12605943.	12337893.
TOTALS FOR ALL LOANS						
INTEREST	0.0	314531.	1004530.	1135156.	1210292.	1186091.
AMORTIZATION	0.0	0.0	0.0	150205.	243844.	268045.
REMAINING PRINCPL	1000000.	5703121.	10489575.	12849792.	12605943.	12337893.
LUMP SUM PAYOUTS	0.0	0.0	0.0	10999991.	0.0	0.0
FINANCING PROCEEDS	1000000.	4703121.	4786454.	2510425.	- 0.0	- 0.0

FIGURE 2

(Experimental Prototype)

ONE DAY WORKSHOP

REAL ESTATE FEASIBILITY ANALYSIS FOR THE APPRAISER

Prepared at Request of:

1975 Seminar Committee
American Institute of Real Estate Appraisers

For Presentation to:

AIREA Kentucky & Indiana Chapters
September 12, 1975

Prof. James A. Graaskamp, Chairman
Real Estate & Urban Land Economics Department
and
James R. DeLisle, Project Assistant
School of Business Administration
University of Wisconsin
Madison, Wisconsin

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One Day Workshop

REAL ESTATE FEASIBILITY ANALYSIS FOR THE APPRAISER

New Albany, Indiana, September 12, 1975

Outline of Topics

Morning Session:

1.000 Basic Concept Defining Feasibility Concept

- 1.100 What is real estate?
- 1.200 What are decision-making mechanisms for problem solving?
- 1.300 What does feasibility mean?
- 1.400 What is the problem as perceived by the client?
- 1.500 What is the problem as understood by the consultant?

2.000 The Capital Outlay Approach to Feasibility

- 2.100 Capital outlay worksheet kit
- 2.200 Alternatives for defining total capital cost of project
- 2.300 Allocating cash cost contribution between mortgage dollars and equity dollars
- 2.400 Allocating operating cost estimates to alternative revenue units
- 2.500 Computing rental income required by unit type
- 2.600 Implications of required rental income estimate
- 2.700 Risk management concepts applied to real estate financial analysis
- 2.800 Basic tests for risk bearing capacity
- 2.900 Rate of return concepts for initial feasibility analysis

Afternoon Session:

3.000 Market Revenue Model Worksheet

- 3.100 Market revenue worksheet kit
- 3.200 Selection of rental detail options
- 3.300 Operating expenses and real estate taxes
- 3.400 Default ratio requirement
- 3.500 Justified debt structure
- 3.600 Justified equity cash contribution

3.700 Total replacement cost reduced to hard dollar budget

3.800 Hard dollar structure budget allocations

3.900 Relationship of capital outlay and market revenue approaches

4.000 Real Estate Market and Merchandising Analysis

4.100 The use of market data models

4.200 Structuring aggregate market data to focus on specific problems

4.300 Market segmentation and revenue unit concept

4.400 Objectives of market segmentation

4.500 Primary consumer research

4.600 Elderly housing case

4.700 Converting consumer profile to pre-architectural program

5.000 Non-Market Constraints on Project Feasibility

5.100 Introduction to site and structure analysis

5.200 Static site attributes

5.300 Political jurisdictions controlling site

5.400 Linkage attributes of site

5.500 Dynamic attributes of site

5.600 Matching site attributes to potential use and potential users

5.700 Compatibility of site use with environment and community

6.000 Structuring the Feasibility Report

6.100 Format - three modules

6.200 The executive Summary

6.300 Statement of limiting conditions

6.400 Analytical report and reference document

6.500 Reports by contributing professionals

One Day Workshop on Real Estate Feasibility Analysis
For the Appraiser
Prepared for
American Institute of Real Estate Appraisers
Prof. James A. Graaskamp
University of Wisconsin

1.000 Basic Concepts Defining the Feasibility Assignment

1.100 What is real estate? The industry is very sloppy in the use of the term real estate and real estate development so that the term no longer provides the clue to any systematic understanding of the concept. Careful definition of any term avoids misunderstanding or analysis based on false premises.

1.110 The real estate product is often thought to be a very tangible physical site with structural improvements. In essence, however, it is always an abstract intangible space-time unit.

It is always the spaces enclosed by the structure or defined by the borders of the site which are useful - not the land or the solid portion of the structure per se.

The economic unit of real estate is sq. ft./year, apartment rent/month, room per night, tennis court per hour, coliseum per event/day, wilderness park/century, and so on.

1.120 An enterprise is any organized undertaking. Many enterprises are cash cycle enterprises which use cash to acquire raw material, labor to produce an inventory of goods or provide services which generate revenue in the form of cash. A real estate enterprise is any systematic approach to converting cash to a space-time product or conversely converting an inventory of space-time to cash.

1.121 Flexibility of the enterprise depends on duration of the time cycle.
1.122 All cash cycle enterprises must achieve cash break-even or self destruct.
1.123 Solvency becomes the minimum objective and absolute control on consumer, investor/supplier, and public service agencies.
1.124 Equilibrium in the community occurs where all enterprises involved in real estate achieve solvency.

1.130 The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power - the power of the environment to dictate form and behavior of the organization of one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

The functional steps in any systematic enterprise are:

1.131 Goal-setting
1.132 Forming policies
1.133 Searching for opportunities which are consistent with policies
1.134 Selecting opportunities which are consistent with policies
1.135 Designing systems for capturing selected opportunities
1.136 Installing systems for capturing selected opportunities
1.137 Operating the systems that have been installed
1.138 Maintaining and continuously perfecting the operating systems

1.140 The real estate process is the interaction of consumer cash cycle enterpises requiring space-time units and the enterprises which supply the space-time unit and services which make them operational. Supply enterprises may include those in the private sector such as developers, property managers, bankers, and all the rest and those in the public sector including all of the utility, roads, police and fire services, and other systems which make an individual property operational in the urban context.

The consumer, the producer, and the public infrastructure enterprises often appear to be in conflict but ultimately these vested interests must find a joint solution to each real estate problem which recognizes:

1.141 That land is a finite physical resource which must be used consistent with environmental safety and public priorities for food, shelter, safety, health, and so on.

1.142 Neither the consumer, producer, or public enterprise can require the others to make outlays which inevitably lead to insolvency. Cash is the ultimate property, not non-vested and speculative rights to future opportunities. Eminent domain must always make compensation in cash, not in kind. The power to force insolvency on others is the power to destroy an enterprise. While free enterprise depends on that war between private enterprises, it is not an acceptable relationship between public and private enterprises.

The real estate process is the interaction of consumer, producer, and public infrastructure services as they attempt to resolve their enterprise problems within cash constraints while respecting land as a fragile and finite public resource.

1.143 Each enterprise is attempting to convert its requirements relative to the space-time real estate product to projections of its cash receipts and outlays in order to make decisions about its role in the real estate process.

1.134 The fact that consumer, producer and public agency each must achieve solvency provides opportunity to test and discover alternative solutions in common since no one viewpoint can ask any of the others to endure insolvency.

1.150 Risk for any enterprise is the variance that will occur between its assumptions about space-time and money-time projections and its realizations, between proforma income projections and actual receipt and expenditures realized.

1.151 Risk management controls variance due to surprise from static risks such as fire or dynamic risks of entrepreneurial skills.

1.152 The feasibility analyst is a risk manager who must first conserve the net worth of his client from loss and then stabilize future variance in expectations.

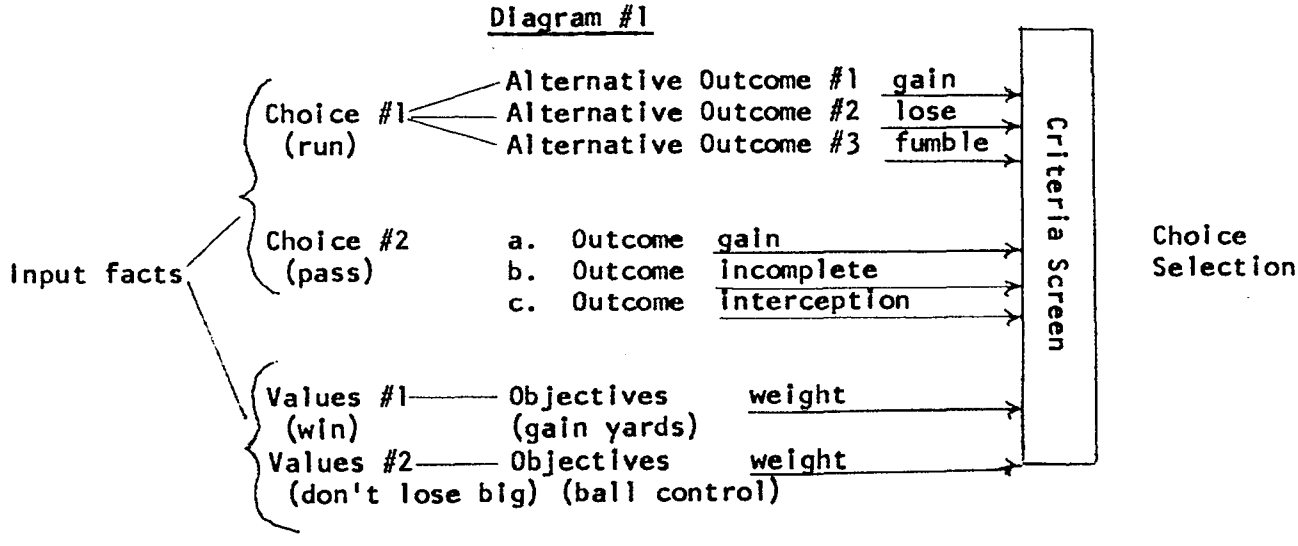
1.160 Real estate analysis is concerned with the search for the real estate product (space-time unit) which best fits the consumer cash constraints, the public infrastructure costs and revenue, and the cash requirement of the producer within the natural limitations of land, both single parcels and collectively. The failure of any segment of this process ultimately leads to the collapse of the others.

Real estate analysis is concerned with making and testing the assumptions which are the basis of real estate decisions to judge their fit to the needs and solvency limitations of all those affected by the decision.

1.200 What are Decision Making Mechanisms for Real Estate Problems?

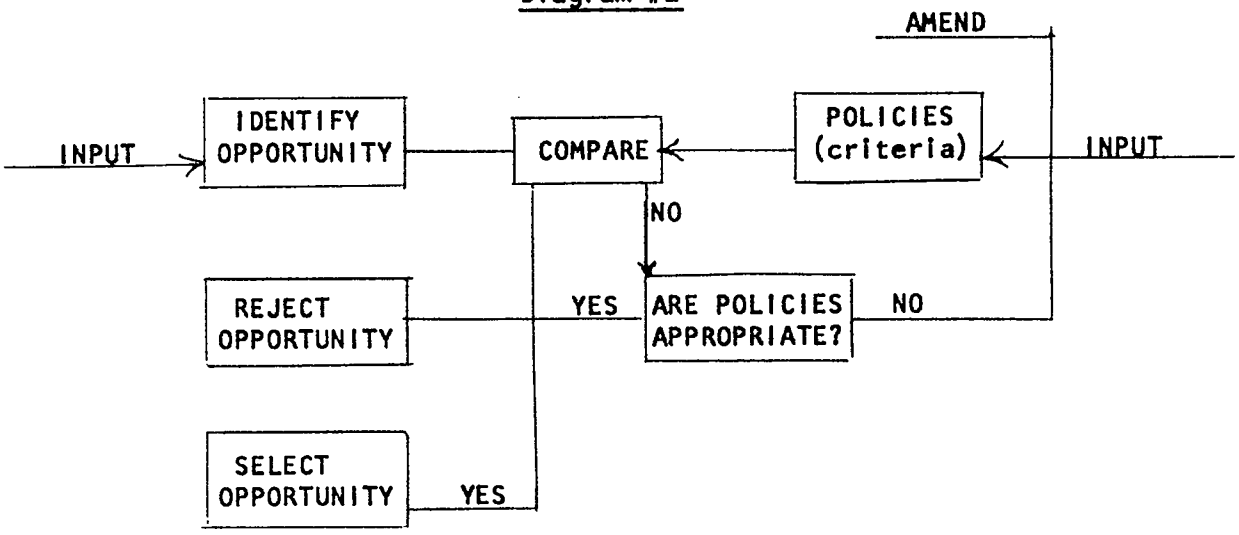
1.210 In general, a decision requires that information be systematically organized to identify choices of action and the alternative outcomes from each choice. (See diagram #1) At the same time facts help shape general values which in turn lead to explicit objectives, and then specific selection criteria.

Diagram #1



The systems engineer might diagram a decision as a simple flow chart below. (See Diagram #2)

Diagram #2



1.220 Models of relationships permit analysis of complex decisions involving many variables which require a systematic approach to permit comprehensive analysis, a careful statement of relationships among variables, and successful communication of the answers that result. Any model has three basic inputs:

1.221 A careful statement of the question or decision
1.222 Determination of implementation available or obtainable
1.223 A statement (hypothesis) about the relationship of the data to the question.
1.224 Models can be used to state mathematical relationships, so that the Ellwood formulas are representative of the relationship of financial value to net income under explicit assumptions about financing, resale, and the trend in net income.

1.225 Models may also be used to communicate complex relationships in simple ways which may be more relevant to the decision maker.

1.230 Constraints on the use of models to answer any particular problem requirement and models should be judged in terms of how they meet these constraints:

1.231 What are the limitations of the analyst who intends to use the model? Does he understand the implications and can he do the analysis?

1.232 Communication of the results must have credibility with the decision maker. The client who has succeeded with decisions made using the net income multiplier may not accept an improved analysis as a result of cash flow projections or regression analysis.

1.233 In all cases the cost of executing a particular model must be appropriate to the utility value of the result. The cost-benefit ratio must favor the decision model technique selected.

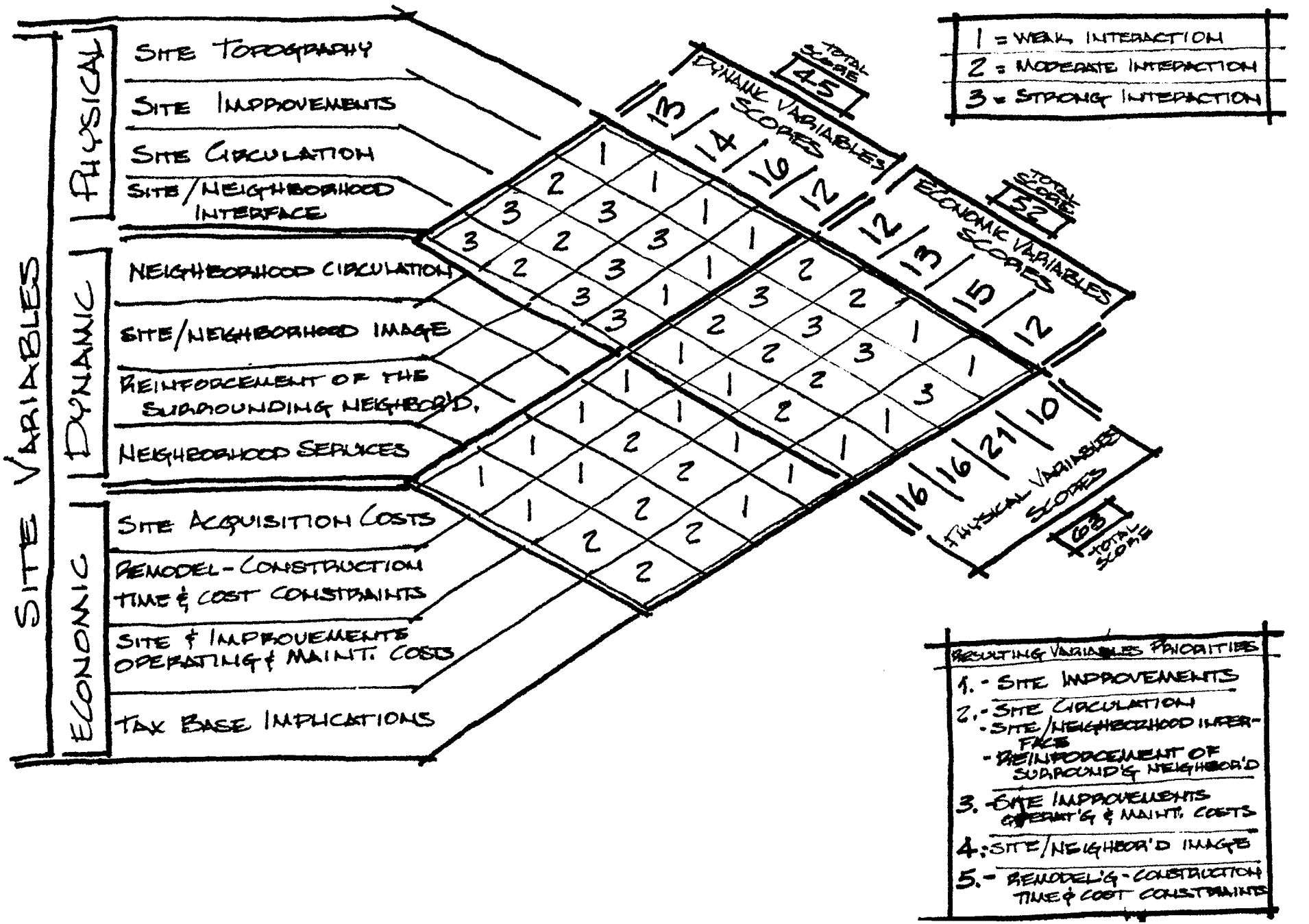
1.240 The appraiser is accustomed to modeling the appraisal process by the format of his report and exhibits. The three approaches to value the recommended report outlines are examples of modeling an analytical problem by format. As long as the question is always the same - what is fair market value - and the data is always similar, it is easiest to train the analyst to condition the client as to credibility implied by an approved format, and probably to reduce cost doing the same thing in the same way each time.

1.250 The feasibility analyst will find the most proven method for approaching new questions and decisions which may seem strange at first, is to relate them to familiar questions and problems by analogy. There is a system of creative thought called Synectics which suggests that problems with no immediate satisfactory solution should always be researched "to make the strange familiar and the familiar strange" in order to gain perspective. The technique is both a teaching tool and a tool for intellectual discovery depending on conscious use of analogy.

This technique begins to structure a problem, identify data which needs to be collected, and assists in communicating the analytical approach and its reliability to the client. (More examples in Sect. 3.000)

1.260 Use of a matrix to model a decision allows the analyst to structure the essential relationships and interrelationships of multiple variables to one another, and serves to structure both the data search and related analysis and report presentation in a concise and almost graphic manner.

EXAMPLE OF SITE VARIABLE MATRIX (OR SEMI-LATICE)



1.270 Real estate decisions give form to certain variables which are in the control of the decision maker. Critiquing the form of the real estate solution is analogous to the artistic concept of judging the form of an art object by examining the context in which it was created. For example, a clay jug must be first related to its intended purpose, to boil water or to hold a single rosebud, in light of limitations in the clay material, the heat source for boiling water or the weight of the rose, the availability of a potters wheel, and so on.

The form of the clay jug must fit the context in which it was created so that success must be judged only when the relationship of form to context is known. For the artist contexts are those elements which are given and cannot be changed, to which any solution must adapt, while elements of form are those variables within the artists' control at any particular time.

1.300 The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likilhood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

1.310 The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client. If ball control is the number one objective, then the forward pass is much less likely to fit the requirements in many situations than if crowd pleasing thrills and drama are the primary requirements of the play caller.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures," with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1.311 A check list of physical attributes
1.312 A check list of critical linkage attributes
1.313 A check list of dynamic behavioral attributes
1.314 A check list of attributes or services (given weighted point scores)
1.315 Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
1.316 Probability distributions of alternative outcomes and standard error of the estimate

1.317 Psychological gratifications
1.318 Specified legal attributes
1.319 Measures of impact on environment
1.320 Ad infinitum

1.320 The definition also implies uncertainty - a reasonable liklihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analytical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

1.330 To invest in real estate is to purchase a set of assumptions and to see if the assumptions are acceptable, they should be made explicit whenever possible.

1.340 Correct definition of the problem requires careful definition of those items which are given in terms of context and constraint and more than 50% of any feasibility study is involved in correct specification of these constraints. Subject matter of analysis of the context would include:

1.341 Market trends and opportunity areas
1.342 Merchandising targets with monopoly characteristics
1.343 Legal-political constraints
1.344 Ethical-esthetic constraints
1.345 Physical-technical constraints
1.346 Financing constraints

1.350 The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

1.360 These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1.361 Strategy study: selection of objectives, tactics, and decision criteria.
1.362 Market analysis: economic base studies or other related aggregate data review.
1.363 Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.

1.364 Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

1.365 Compatability studies of project to community planning, conservation standards, or other public policies.

1.366 Engineering, land planning, and architectural studies.

1.367 Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

1.400 The original problem as perceived by the client is seldom the real issue of feasibility analysis that will need to be examined by the analyst. The appraiser is conditioned to having the client specify the function of the appraisal, such as for fire insurance or eminent domain and then having the client's attorney or the court jurisdiction define the definition of fair market value, the question which the appraiser then begins to answer.

1.410 However, the client may ask for an appraisal when he needs a feasibility study. He may ask what he should pay for a piece of property before he has determined that his strategic needs are best met by purchase rather than by leasing by avoiding ownership of additional space altogether (by subcontracting certain functions of others by the way in which he purchases services and supplies).

1.420 Since everyone is an expert on real estate the client will probably presume that a certain procedure will be followed. The architect will presume that the real estate expert will show the financial implications of a final design, when in fact the real estate expert should first assist in the pre-architectural program of design objectives. Almost every client will overlook some of the basic issues because of the natural bias of his position and what that position tends to encourage in what is taken for granted. The consultant must begin by attempting to discover what is taken for granted and that search will continue to condition his relationship with his client.

1.430 When the client first contacts the consultant the question provided by the client will conceal some implicit client preferences and assumptions. The consultant will need to interview his client by asking him explicitly about:

1.431 His preferred method of meeting entrepreneurial risk

1.432 His preferred method of personnel compensation

1.433 His style of value decision trade-offs between qualitative and quantitative issues.

1.434 His perception of his risk position and his risk utility "curve."

1.435 His personal non-business objective.

1.436 His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of indepth preparation by the client).

1.440 The client is often skeptical of the ability of the consultant to contribute anything new since he may regard the consultant as one "who tells him the time by reading the client's own watch." Moreover, he may be using the consultant to double check another source of information and therefore expects a consultant to begin from scratch as a way of confirming the original source. Nevertheless, the feasibility analyst must eventually extract from the client, preferably in writing, an agreement as to what the stated objectives of the study are and the input which will be provided by others than the analyst. This step will probably only be accomplished after the consultant has come to a better understanding of the real problems faced by the client.

1.500 The problem as perceived by the client almost always must be converted into a sequence of problems as understood by the consultant. The perceived question of "How much should I pay for the land," may first require a strategic restatement of "What are the client's objectives in going into land development and how are those best achieved given the context in which the client is operating?"

1.510 The feasibility analyst should be the devil's disciple for in order to define what needs doing, he must first discover what has been done, what assumptions have been made, and whether those who made the assumptions knew what they were doing.

1.511 A review of different feasibility report types with the client will begin to educate the client on the various facets of his real estate problem. (See 1.361-7) The professional must make the client recognize the implicit program content initially assumed and he must challenge the initial explicit statements of purpose by the client.

1.512 The analyst should stage his feasibility research to permit additional opportunities to interact with the client, giving the client opportunity for further self examination and the analyst opportunity to discover unacceptable alternative courses which need have no further research.

1.513 The analyst must preserve the independence of his judgment by avoiding subcontracting positions with those such as an architect or mortgage banker who are advocates of a vested viewpoint or producing a report to solve the problem "obtaining a million dollar loan" if more fundamental economic questions remain unanswered.

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EXHIBIT I

Feasibility Assignment and Accountability Worksheet
XYZ Appraisal Company
xxx Street Anywhere U.S.A.

Name of Client_____ Date_____

Assignment Description_____

Feasibility Input	Provided by	Approved by	Sequence and date available
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
(Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group, 210 Michigan Theater Building, Ann Arbor, Michigan, 48108.

EXHIBIT 2

APPRAISAL AS A FICTIONAL SET OF FEASIBILITY ASSUMPTIONS

Feasibility Analysis Will the project really work for a specific investor?	Appraisal Analysis What would the project sell for if it did work for a typical investor?
1. Objectives - decision standards provided by client decision process a. Maximize spendable cash of total enterprise b. Subjective gratification of specific individual c. Adaptation to enterprise management specialties and weaknesses	1. Objectives - decision standards provided by theoretical framework a. Maximize economic surplus of individual parcel b. Prudent behavior of economic man c. Average management to isolate return to land & capital
2. Aggregate market potential opportunity identification	2. Aggregate market potential business climate
3. Merchandising analysis (Defining competitive edge) and specific user profile	3. Merchandising comparison (Defining standard competitive substitute)
4. Legal-political context a. All legal constraints on site, seller, buyer, and user are considered b. What is legal is qualified by what is political	4. Legal-political context a. Legality assumed b. Limited to site use rather than regulations on probable user as alternative buyers are assumed
5. Physical-technical constraints are examined in terms of what might be	5. Physical-technical constraints are studied as is or in terms of conventional uses
6. Impact on environment and community specifically forecast	6. Impact on environment and community assumed acceptable within existing permitted uses
7. Financing from buyer viewpoint considering all profit centers	7. Financing from lender viewpoint considering only net income line and below
8. Income tax advantages or disadvantages affecting spendable cash	8. Income tax not considered except implicitly recognized in market comparison
9. Actual cash revenues and expenses forecasted for each period of time horizon	9. Revenues and expenses generally normalized and projected on linear trend for standard period
10. Limiting assumptions of solution a. Identification of potential variance and sensitivity of objectives to alternative futures b. Responsibility allocated among sources of expertise c. Budget & purpose of study edits information scope d. Format of analysis determined by structuring of data to lead to desired conclusion or recommendation	10. Limiting assumptions of solution a. Average outcome without qualification as to alternative futures b. Responsibility denied for other areas of expertise c. Date of appraisal edits information scope d. Format of analysis defined by model of fair market value appraisal report

1.520 In search of the real problem as opposed to the initial problem perceived by the client, the analyst should retreat to some basic classification and task identification checklists. First there are only three alternative feasibility situations:

1.521 A site or a project owned by a specific client in search of a market.

1.522 An identified market segment or use in search of the site and project to be provided by a specific client.

1.523 A specific client desiring to search for an opportunity in real estate enterprise.

1.530 Next the analyst must know the viewpoint of the audience for his report, written or oral, because the elements considered important by a mortgage lender may be significantly different than those of a general partner or those of a limited partner or those of a large tenant.

1.540 Since there are so many facets to the context of a real estate project and measurement of its success, not to mention the assumptions on which the determination of feasibility depends, it is important to have the client agree on what elements of feasibility are to be provided by which expert or analyst. It is useful to include a standard check list of components with a letter of proposal as that checklist later becomes the really significant portion of the statement of limiting conditions (hold harmless agreements) which are part of the final report. A sample of one such checklist is provided in Exhibit 1.

1.550 With a review of which elements are to be provided by which experts it then becomes possible to assist the client in choosing which report title or titles are properly the responsibility of the real estate analyst. (See 1.360)

1.560 With definition of the report expected and the information to be provided by others, the analyst can prepare a budget and a schedule for staging the report so that he and the client can begin to establish priorities both in time and money available for research to define the feasibility assignment on which the analyst is to proceed.

1.570 Obviously the interaction between client and feasibility analyst will require several meetings in most cases and is far more elaborate in custom tailoring a report than would be true of an appraisal assignment. This is so because an appraisal is simply a fictitious feasibility report where most of the critical assumptions are assumed away by conventional assumptions of appraisal methodology or the narrowness of the question implied by appraisal. See Exhibit 2 for significant differences between appraisals and feasibility assumptions.

1.600 Given the two basic feasibility situations - project in search of a market or market in search of a workable project, there are two basic financial approaches to feasibility analysis. These approaches provide an initialset of numbers and required financial constraints which must be tested against realities of the marketplace. Notice that these approaches reflect some appraisal truism:

1.610 Capital outlay approach:
Total project cost = mortgage balance + equity capital
Cash dividend on equity + debt service = net income
Net income + expenses + real estate tax + vacancy = required gross receipts
Required gross receipts/space units = rental price/unit

1.620 Market Revenue Approach:
Gross rents - vacancy + expenses = net income available for debt service + equity dividends
Gross rents x desired default point = maximum expenses and outlays
Break-even cash - expenses = income available for debt service
Income available for debt service/$1,000/year of loan debt service = maximum loan
Maximum loan + equity capital to be committed = total project budget

1.630 The most common assignment for the appraiser turned feasibility analyst is to test a full blown project proposal for feasibility. In these cases, the total purchase price or the site and building plans, product mix, and building cost have already been established by a developer or a disigner.

1.631 The question is then what income will be necessary to support the project successfully given certain parameters of financing terms, equity dividends, operating expenses, vacancy rates, and break even levels of operation required or desired.

1.632 In short, a given capital budget must be converted to a first year proforma income statement.

1.633 It is much less preferable than beginning with a desired rent level and working back to the allowable building budget, the market in search of a viable project since there is so much less flexibility with structure and site fixed at the outset.

1.640 It should be noted that this method is not a cash flow projection but only a first year analysis before income tax considerations.

1.641 if the project won't work its first full year of operation, there is little sense in projecting future years of cash flow for the initial analysis.

1.642 When one set of numbers can be made to work, it is then possible to test the specific proposal for its fit to the risk management considerations of the investor, to the public impact constraints in the community, and to the self interest of the space user.

1.650 Both the capital and the market approaches are models which serve several functions at the outset of any feasibility study, for purchase of an existing project or design specification of a proposed one. Like all models they oversimplify the case and ignore income tax considerations and non-quantitative objectives of the client. Nevertheless at the start they perform several useful functions for the analyst:

1.651 The formulas edit the data necessary to specify the space-time product and to convert that product to money-time assumptions.

1.652 The process immediately focuses analysis on the testing of the critical assumptions for success, namely availability of the required rent or possibility of construction within the required budget. If a basic proforma statement cannot be made to work either there is a prima facie case that the project is not feasible or priorities of feasibility study are shifted to discovery of a lower cost building technique or of willingness by the ultimate consumer to pay more for certain unique features.

1.653 It permits the analyst to repeatedly adjust the assumptions in a search to bracket a range of workable solutions (alternative choices) and then seek the relevant market data which may rebut or support the assumption of the capital or market proforma model.

1.654 The capital and the market approach are the two components of a reversible equation which permits sensitivity analysis of the critical variable which are within the control, in part, of the investor-developer.

1.700 The capital or market approach is a concise model for communicating critical relationships to the client and the audience for whom the report is intended. Should the audience disagree with assumptions made by the analyst, the audience can then immediately test their own assumptions by the same logic as the analyst.

2.000 The capital outlay approach to feasibility involves a series of steps to determine rents required, when risk management parameters, and total capital costs are known or can be assumed.

2.100 The capital outlay approach is best demonstrated by reference to a worksheet which provides a step by step framework for analysis. (See Exhibit 3 for demonstration case; a sample blank set of worksheets is at the back of study kit for later office use).

2.200 Step 1 is to complete the capital outlay budget and determine total hard dollar costs of the project (line 260, Exhibit 3).

2.210 If total dollar cost of acquisition is the only number known, start with line 260.

2.220 Otherwise begin with gross sq. ft. of building costs for residential and multiply by gross area (line 110); repeat the process for commercial or other space and rename the categories if desired.

2.230 The contingency reserve factor (line 200) is a risk allowance for an overrun in the cost of total structure. If you have assumed the highest cost imaginable, set it to 0; if construction costs are from an optimistic architect or contractor, the percentage of contingency reserve might be 10% plus an allowance for inflation if the building will not be built for a year or more.

2.240 Consultant and developers fees and carrying charges (line 240, 250) can each be computed separately and summarized as a single number on the form to provide a check list for all of the elements which might be accounted for in a final detailed analysis. Note that construction loan costs are computed separately beginning with line 270.

2.300 To allocate hard dollar costs between mortgage dollars and equity dollars the analyst must assume either a specific number of mortgage dollars or a percent of hard dollar costs which will be available from debt money (line 270). Note there may be a combination of mortgages so that the percentage factor is not a traditional loan ratio but the ratio of debt dollars to total hard dollar requirements.

EXHIBIT

CAPITAL OUTLAY MODEL WORKSHEET

FHA 221(d)(4), 90% MTG.

	Structures Cost			
	Residential			
110	Gross sq. ft.	60500		Specify (Sp.) sq. ft.
120	Cost/gross sq. ft.	21.59		Sp. $'s/sq. ft.
130	Total Res. Structures	1306200	(60500x21.59)	Lns. (110 x 120)
	Commercial			
140	Gross sq. ft.	16000		Sp. sq. ft.
150	Cost/gross sq. ft.	18.35		Sp. $'s/sq. ft.
160	Total Comm'l Structures	293600	(16000x18.35)	Lns. (140 x 150)
170	Miscellaneous Structures	0		Sp. $'s
180	**Total Structures**	1600000	(1306200+293600)	Sum Lns. (130, 160, 170)
190	Contingency Reserve Factor	.03		Sp. %
200	Contingency Reserve	48000	(1600000 x.03)	Lns. (130 x 190)
210	Total Structures and Reserves	1648000	(1600000+48000)	Sum Lns. (190 + 200)
220	Land	113500		Sp. $'s
230	Total Structures, Reserves, Land	1761500	(1648000+113500)	Sum Lns. (210 + 220)
240	Consultant/Developers Fee	50000		Sp. $'s
250	Carrying charges (tax, Ins.)	25000		Sp. $'s
260	**Total Hard Cost**	1836500	(1761500+50000+25000)	Sum Lns. (230 + 240 + 250)
270	Mtg. @ % Total Hard Cost	.90		Sp. %
280	Const. Loan @ % Tot. Hard Cost	.90		Sp. %
290	Const. Period in Months	15		Sp. #
300	Const. Interest Rate	.12		Sp. %
310	Const. Interest	123960	(1836500x.90x 15/12x.12x1/2)	Lns. (260x280)x(LN .290/12)x(LN 300) x (1/2)
320	Financing fee @ % Mtg.	.05		Sp. %
330	Financing Fees	91825	(1836500x.05)	Lns. (270 x 320)
340	**Total Replacement Cost**	2052285	(1836500+123960+91825)	Sum Lns. (260 + 310 + 330)
350	Mortgage Capital Contribution	1652850	(1836500x.90)	Lns (260 x 270)
360	Required Equity Cash	399435	(2052285-399435)	Lns (340 - 350)

Required Revenue Budget

Unit Mix; # & code
(Code: Residential = 1, Commercial = 2)
(If Code 1, give # rooms; Code 2 sq. ft. GLA)

370	RU - 1	1	46		1			Sp., # units & code
380	# Rooms (iff. residential)			35				Sp. # Rooms
390	RU - 2		10		1			Sp., # & Code
400	# Rooms			45				Sp. # Rooms
410	RU - 3	15000			2			Sp., # & Code
420	# Rooms							Sp. # Rooms
430	RU - 4							Sp., # & Code
440	# Rooms							Sp. # Rooms
450	RU - 5							Sp. # & Code
460	# Rooms							Sp. # Rooms
470	Total # Rooms, Res. RU's		206			(46×3.5)+(10×4.5)		Sum Lns [(370x380)+(390x400)+(410x420)+(430x440)+(450x460)]
	Expenses & Taxes							
	Residential							
480	Expenses/room/year			140				Sp. $'s
490	Taxes/room/year			160				Sp. $'s
	Commercial							
500	Expenses/sq. ft. GLA/year				50			Sp. $'s
510	Taxes/sq. ft. GLA/year			100				Sp. $'s
520	Total Res. Exp. & Taxes		61800			(140+160)(206)		Ln (470) x Sum Lns (430+490)
530	Total Comm'l Exp. & Taxes		22500			(150)(5000)		Ln (370-460 Code 2 #s) (Sum Lns 500+510)
540	Total Exp. & Taxes		84300			(61800+22500)		Sum Lns. (520+530)
550	Mtg. Constant				0926	FHA		Sp. %
560	Mtg. Debt Service Required		153050			(1652850)(.0926)		Lns. (350 x 550)
570	Equity Cash Dividend Constant				08			Sp. %
580	Equity Dividend Required		31950			(399435)(.08)		Lns. 360 x 570)
585	Cash income required for Exp. & Tax, Mtg. & Equity		269300			(84300+153050+31950)		Sum Lns. (540+560+580)

590	Non-Distributable cash & variance factor		02		Sp. %
600	Non-Dist. cash & Var. Revenue	5385		(289300-(289300)(98)	Ln(585)-(Ln[585])(1-Ln[590])
610	Required Annual Effective Gross Revenue	274690			Sum Lns (585 + 600)
615	Vacancy Factor		05		Sp. %
620	Required Annual Gross Revenue	289140		(274690÷.95)	Ln (610)/(1 - Ln 615)
625	Required Monthly Gross Rev.	24095		(289140÷12)	Ln (620)/12 months
630	# Non-allocated Price RU's	45			Sp. #
640	Mo. Income/RU's	15			Sp. $'s
650	Total Non-allocated RU Revenue	675		(45x15)	Lns. (630 x 640)
655	Allocatable Revenue	23420			Lns. (620 - 650)

(Note Factor Calculations: Refer to Unit Mix
Section Lns. (370-470)
If Type 1,(res) multiply # units by rent @ BRU
If Type 2,(comm'l);(Read sq. ft. RU and / by sq. ft. BRU (Ln 665)
x (rent @ % BRU)

660	Base Revenue Unit Type	RU-1			Sp. Type
665	Base Revenue Unit (BRU) sq. ft.	576			Sp. sq. ft.
670	RU - 1 rent @ % BRU		100		Sp. %
680	Factors	46		(46x1.00)	(See: Note Factor Code)
690	RU - 2 rent @ % BRU		140		Sp %
700	Factors	14		(10x1.40)	
710	RU - 3 rent @ % BRU		160		Sp %
720	Factors	41.67		(15000÷576x1.6)	
730	RU - 4 rent @ % BRU				Sp %
740	Factors				
750	RU - 5 rent @ % BRU				Sp %
760	Factors				
770	Total Factors	101.67		(46+14+41.67)	Sum Lns. (680+700+720+740+760)

Rental Structure

* If type 2 (or Comm'l), divide by Ln (665)

780	**BRU rent/mo.**	23035		Lns. (655 / 770)
790	RU - 1 rent/mo	23035	(1.00 x 230.35)	Lns. (670 x 780)*
800	RU - 2 rent/mo	322	(1.40 x 230.35)	Lns. (690 x 780)*
810	RU - 3 rent/mo	64	(1.60 x 230) ÷ 576	Lns. (710 x 780)*
820	RU - 4 rent/mo			Lns. (730 x 780)*
830	RU - 5 rent/mo			Lns. (750 x 780)*
840	Total Annual Rev. from RU - 1's	126960	(230 x 46 x 12)	Lns. (370 x 790)
850	Total Annual Rev. from RU - 2's	38640	(322 x 10 x 12)	Lns (390 x 800)
860	Total Annual Rev. from RU - 3's	115200	(.64 x 15000 x 12)	Lns. (410 x 810)
870	Total Annual Rev. from RU - 4's			Lns. (430 x 820)
880	Total Annual Rev. from RU - 5's			Lns. (440 x 830)
890	**Total Annual Allocated Rev.**	280800		Sum Lns. (840+850+860+870+880)
	(Compare to Ln. 655) x 12			Lns. (890-655)
900	**Default Ratio**	82	(84300 + 153000 ÷ 289140)	Lns. (540+560)/Ln (620)
910	Default Ratio, upset point			Sp. %

EXHIBIT 1

CAPITAL OUTLAY MODEL WORKSHEET

ALL EQUITY; NO MTG.

	Structures Cost				
	Residential				
110	Gross sq. ft.	60500			Specify (Sp.) sq. ft.
120	Cost/gross sq. ft.	21.59			Sp. $'s/sq. ft.
130	Total Res. Structures	1306200		(60500 x 21.59)	Lns. (110 x 120)
	Commercial				
140	Gross sq. ft.	16000			Sp. sq. ft.
150	Cost/gross sq. ft.	18.35			Sp. $'s/sq. ft.
160	Total Comm'l Structures	293660		(16000 x 18.35)	Lns. (140 x 150)
170	Miscellaneous Structures	0			Sp. $'s
180	**Total Structures**	1600000		(= 1306200+293660)	Sum Lns. (130, 160, 170)
190	Contingency Reserve Factor		.03		Sp. %
200	Contingency Reserve	48000		(1600000 x .03)	Lns. (130 x 190)
210	Total Structures and Reserves	1648000		(1600000+48000)	Sum Lns. (190 + 200)
220	Land	113500			Sp. $'s
230	Total Structures, Reserves, Land	1761500		(1648000+113500)	Sum Lns. (210 + 220)
240	Consultant/Developers Fee	50000			Sp. $'s
250	Carrying charges (tax, ins.)	25000			Sp. $'s
260	**Total Hard Cost**	1836500		(1761500+50000+25000)	Sum Lns. (230 + 240 + 250)
270	Mtg. @ % Total Hard Cost		0		Sp. %
280	Const. Loan @ % Tot. Hard Cost		0		Sp. %
290	Const. Period in Months				Sp. #
300	Const. Interest Rate				Sp. %
310	Const. Interest				Lns. (260x280)x(LN .290/12)x(LN 300) x (1/2)
320	Financing fee @ % Mtg.				Sp. %
330	Financing Fees				Lns. (270 x 320)
340	**Total Replacement Cost**	1836500			Sum Lns. (260 + 310 + 330)
350	Mortgage Capital Contribution	0			Lns (260 x 270)
360	Required Equity Cash	1836500			Lns (340 - 350)

Required Revenue Budget

Unit Mix; # & code
(Code: Residential = 1, Commercial = 2)
(If Code 1, give # rooms; Code 2 sq. ft. GLA)

370	RU - 1		46	1				Sp., # units & code
380	# Rooms (iff. residential)			35				Sp. # Rooms
390	RU - 2		10	1				Sp., # & Code
400	# Rooms			45				Sp. # Rooms
410	RU - 3		15000	2				Sp., # & Code
420	# Rooms							Sp. # Rooms
430	RU - 4							Sp., # & Code
440	# Rooms							Sp. # Rooms
450	RU - 5							Sp. # & Code
460	# Rooms							Sp. # Rooms
470	Total # Rooms, Res. RU's		206			(46x35)+(10x45)		Sum Lns [(370x380)+(390x400)+(410x420)+(430x440)+(450x460)]
	Expenses & Taxes							
	Residential							
480	Expenses/room/year			140				Sp. $'s
490	Taxes/room/year			160				Sp. $'s
	Commercial							
500	Expenses/sq. ft. GLA/year				50			Sp. $'s
510	Taxes/sq. ft. GLA/year			100				Sp. $'s
520	Total Res. Exp. & Taxes		61800			(140+160)(206)		Ln (470) x Sum Lns (430+490)
530	Total Comm'l Exp. & Taxes		22500			(150)(15000)		Ln (370-460 Code 2 #s) (Sum Lns 500+510)
540	Total Exp. & Taxes		84300			(61800+22500)		Sum Lns. (520+530)
550	Mtg. Constant			0				Sp. %
560	Mtg. Debt Service Required							Lns. (350 x 550)
570	Equity Cash Dividend Constant				08			Sp. %
580	Equity Dividend Required		146920			(1836500)(.08)		Lns. 360 x 570)
585	Cash income required for Exp. & Tax, Mtg. & Equity		230220			(84300+146920)		Sum Lns. (540+560+580)

590	Non-Distributable cash & variance factor		02	Sp. %
600	Non-Dist. cash & Var. Revenue	4600	(230220-(230220(.98)	Ln(585)-(Ln[585])(1-Ln[590])
610	Required Annual Effective Gross Revenue	234820	(230220+4600)	Sum Lns (585 + 600)
615	Vacancy Factor		05	Sp. %
620	Required Annual Gross Revenue	247180	(234820÷.95)	Ln (610)/(1 - Ln 615)
625	Required Monthly Gross Rev.	20600	(247180÷12)	Ln (620)/12 months
630	# Non-allocated Price RU's	45		Sp. #
640	Mo. Income/RU's	15		Sp. $'s
650	Total Non-allocated RU Revenue	675	(45x15)	Lns. (630 x 640)
655	Allocatable Revenue	19925	(20600-675)	Lns. (620 - 650)

(Note Factor Calculations: Refer to Unit Mix
Section Lns. (370-470)
If Type 1,(res) multiply # units by rent @ BRU
If Type 2,(comm'l);(Read sq. ft. RU and / by sq. ft. BRU (Ln 665)
x (rent @ % BRU)

660	Base Revenue Unit Type	RU-1		Sp. Type
665	Base Revenue Unit (BRU) sq. ft.	576		Sp. sq. ft.
670	RU - 1 rent @ % BRU	100		Sp. %
680	Factors	46	(46x1.00)	(See: Note Factor Code)
690	RU - 2 rent @ % BRU	140		Sp %
700	Factors	14	(10 x 1.400)	
710	RU - 3 rent @ % BRU	160		Sp %
720	Factors	41.67	(15000x1.4)÷576	
730	RU - 4 rent @ % BRU			Sp %
740	Factors			
750	RU - 5 rent @ % BRU			Sp %
760	Factors			
770	Total Factors	101.67	(46+14+41.67)	Sum Lns. (680+700+720+740+760)

Rental Structure

* If type 2 (or Comm'l), divide by Ln (665)

780	BRU rent/mo.		196	(19925÷101.67)	Lns.(655 / 770)
790	RU - 1 rent/mo		196	(196 x 1.00)	Lns.(670 x 780)*
800	RU - 2 rent/mo		274	(196 x 1.40)	Lns.(690 x 780)*
810	RU - 3 rent/mo	54		(196 x 1.60)÷576	Lns. (710 x 780)*
820	RU - 4 rent/mo				Lns. (730 x 780)*
830	RU - 5 rent/mo				Lns. (750 x 780)*
840	Total Annual Rev. from RU - 1's		108192	(46 x 196) x 12	Lns. (370 x 790)
850	Total Annual Rev. from RU - 2's		32880	(10 x 274) x 12	Lns (390 x 800)
860	Total Annual Rev. from RU - 3's		97200	(15000 x .54) x 12	Lns. (410 x 810)
870	Total Annual Rev. from RU - 4's				Lns. (430 x 820)
880	Total Annual Rev. from RU - 5's				Lns. (440 x 830)
890	Total Annual Allocated Rev.		238270	(108192+32880+97200)	Sum Lns.(840+850+860+870+880)
	(Compare to Ln. 655) x 12				Lns. (890-655)
900	Default Ratio	34		(84300÷247180)	Lns. (540+560)/Ln (620)
910	Default Ratio, upset point				Sp. %

2.310 Lines 280 to 330 provide an initial estimate of soft dollar costs for construction loan costs and other financing fees for registration, marketing research and points. These costs added to hard costs provide the total replacement costs, the same term used on line 73 of the FHA 2013 form.

2.320 The total replacement cost minus the mortgage amount from permanent financing (line 350) establishes the equity cash (line 360) that will be required once the project goes on stream as operational. Note that total replacement costs less the construction loan in line 280 will reveal the equity cash required during construction if all subcontractors are to be paid before the end of the construction phase. However, cash budgeting of the construction phase at that level of detail is premature at this point in the analysis.

2.400 It is then necessary to define space-time units by some common denominator appropriate to expense accounting as well. If there were only identical one-bedroom apartments in the structure, then the one bedroom apartment is an appropriate avenue unit (RU) as on line 370. However, if the project has a mix of apartment type, it is useful to redefine each type of rental unit in terms of some common denominator such as numberof rooms or number of sq. ft. or in terms of one bedroom units so that average expenses per room or per sq. ft. may be used.

2.410 The total number of common denominator units (line 470) in rooms, sq. ft., dormitory bed or whatever represents the residential units in order to simplify expense calculations on line 480 and 490.

2.420 In most communilites it is possible to know the median real estate tax per room, sq. ft., or apartment, etc. and the expenses of roughly similar projects and these appropriate costs on lines 480, 490, 500 and 510, provide a total expense and tax cost for line 520.

2.430 The same process is repeated for commercial or non-residential rental units in the same project, (lines 500 and 510) on a sq. ft. leasable basis to arrive at total cash outlays for expenses and taxes attributable to those commercial areas in line 530.

2.440 Line 540 represents the total cash required annually for cash expenses and real estate taxes attributable to the rental units contemplated by the plan on which the capital budget was estimated.

2.500 The other major cash outlay is the dollar amount required for debt servicing. This dollar amount can be determined by assuming specific terms of interest, term of repayment, or annual mortgage constant which would be appropriate to the permanent financing assumed as a basis for mortgage amount in line 350, and is entered as a dollar amount in line 560.

2.510 Required equity cash on line 360 - if any, may also require an annual cash return (much like the Ellwood cash dividend); even if equity cash was equal to 0 or negative, the owners may require some cash return each year as one of the benefits of ownership so these annual dividend dollars should be included in line 580.

2.520 Cash income required annually for expenses and taxes, mortgages and equity owners is then summarized on line 585.

2.521 The cash income required is subject to some error in estimating and there may be certain cash sinking fund programs which are desirable, such as for replacement of furnishings in a motel or store fronts in a retail project which wise developers actually fund in hard dollars from annual operations.

2.522 These non-distributable cash and allowance for variance (line 590) when added to line 585 provide an estimate of <u>required annual effective gross revenues</u> in line 610.

2.530 Effective gross revenue is revenue which must be collected, after certain vacancy and collection losses. A percentage vacancy allowance must be substracted from 100% and the remainder divided in effective gross to determine the required <u>potential annual gross revenue</u> in line 620.

2.531 To reduce the potential annual gross revenue to a period more appropriate to the type of space unit contemplated and market rents, it is then necessary to divide annual gross by some factors such as numbered months to determine monthly rents, number of days for motel prices, or hours during which the business is open for the year for a tennis court or ice arena (see line 625).

2.532 Required period income should be reduced by revenues which are fixed or should not be allocated to the various revenue units previously indentified on page 2 (line 630-650). The analyst then has the allocatable revenue per unit in line 655 from which rents can be

determined for each of the remaining mix of rentable units.

2.540 For the example given the base revenue type was the one-bedroom apartment with 576 sq. ft. of space and all other rental units were expressed in terms of this common denominator. It is therefore necessary to determine the equivalent of common denominator units represented by the product mix being tested.

2.541 For example, the two bedroom apartments were expected to rent for 140% of the one-bedroom apartment price and the commercial area was expected to rent at 160% of what was expected of the one-bedroom apartment. (The sq. footage in the one-bedroom provided an arbitrary base for conversion of GLA). If commercial were not a significant part of a project, revenue expected from such miscellaneous sources can be deducted from revenue to be generated from basic revenue units in line 650.

2.542 Given the sum of equivalent revenue unit factors (on line 770) it is then possible to divide the total into total allocatable revenue (line 655) to determine minimum monthly rent required for one-bedroom units. The minimum monthly rent multiplied by the previous common denominator factor in (lines 680, 700, 720, 740, and 760) then provides the monthly rents for each of the other rental unit mix components.

2.600 At this point the analyst can begin a series of "if, then" statements in order to select the next step in his analysis of a project in search of a market. The objective is to identify the fit of the key assumptions to the realities of the physical project and a potential market, always looking for the key misfit which makes the project as proposed unfeasible.

2.610 Some of the key questions would be:

2.611 Are required investment dollars available? If not, what financial elements could be changed to improve investment results and by how much? If investment structure is acceptable, what are the risks of variance in the critical assumptions?

2.612 Are required rents acceptable or appropriate for the market intended? If not it may be appropriate to try the market structure approach (See 3.000). If the rents are reasonable, analysis would shift to the marketability of the proposed product.

2.613 If cash outlays and returns are acceptable for private sector, then what is the impact on the cash flows of the public sector in terms of new revenues and new service costs?

2.700 Since a primary function of the analyst is to provide risk management input to a proposal, it is useful to describe the risk management function in more detail before continuing to test the capital structure approach further. Risk in the business situation is the variance between assumptions about the fact in the planning process and realizations in the execution of the program. The game of "what if" and the consequences of surprise is cheaper to play on paper while designing the project program.

2.710 There are two types of risk for concern:

2.711 Static risks are those contingencies or events which can only cause a loss and which are highly unpredictable in terms of frequency of occurrence and severity of loss. In large part they are beyond control of the risk taker such as fire, death, accident, or world political events. Often these risks can be shifted by insurance devices.

2.712 Dynamic risks are those contingencies or events which can cause a profit or a loss, such as drilling for oil, or selecting a stock of style apparel for a retailing outlet. In these cases success or failure is in a large part dependent on the amount of information, skills, and judgment of the risk taker, who is motivated in varying degrees by the pain of loss or the gains of success.

2.720 The primary objective of risk management is to conserve existing net worth and asset values, and the secondary objective is to realize future expectations of net income. The functions of risk management include:

2.721 Identification of significant exposures to loss.

2.722 Estimation of potential loss frequency and severity.

2.723 Identification of alternative methods to avoid loss.

2.724 Selection of a risk management method.

2.725 Monitoring execution of risk management plan.

2.730 The loss potential of each contingency must be examined in terms of three elements:

2.731 The direct loss is the result of physical destruction of property or cash necessary to correct the damage.

2.732 The consequential loss is the loss of income or opportunity as a result of the direct loss.

2.733 The extra expense loss which includes all additional costs necessary to bring the contingency under control of satisfy claims of third parties adversely affected.

2.734 For example, a fire in a retail store causes direct damage to the property, consequential loss of rental income, and the extra expense of managing the recovery and meeting third party suits for damages.

2.740 The methods available to the risk manager to reduce financial surprises of risk include:

2.741 Avoiding risk (exterior storage of inflammable liquids, no FHA projects, no spec building).

2.742 Reducing frequency of loss (fireproof construction, underwriting selection of mortgagor or tenant).

2.743 Reducing severity of loss (sprinkler system, low ratio mortgage, exculpatory clause for borrower).

2.744 Shifting the risk of future variance by contract (fire insurance, real estate tax escalator clause, fixed price subcontract).

2.745 Limiting liability (corporate shell, limited partnership law, joint venture agreement).

2.746 Hedging (sale and lease-back with option to buy, the mortgage as a straddle position in the real estate futures market).

2.747 Creating compensation incentives for performance (deductibles and experience rating for insurance, graduated commissions or equity participation for management).

2.800 Risk management analysis begins with several basic indices of tolerance for variation in financial assumptions of either the capital structure or market structure approach. These in turn lead to sensitivity analysis of variables within the control of the decision maker.

2.810 The default point is the critical cash break-even point to which operations must adapt expressed as a ratio to potential gross rent.

$$\frac{\text{cash expenses + real estate taxes + debt service + short term loans}}{\text{potential gross rent}}$$

2.811 A default point of 80% means that vacancy could be 20% or rents might be cut by 20% to achieve 100% occupancy or some combination.

2.812 Expressing expenses and real estate taxes as a percent of gross potential allows analysis of variance which might occur in these cash outlays before exceeding cushion provided by defaulty point less normal vacancy.

2.813 A statement of debt service as a percent of gross rent provides a meaningful measure of the amount of debt which may be carried safely by the project or the terms of the loans necessary to maintain solvency in any particular period.

2.814 Default points may be relatively high for an FHA apartment project with subsidized rents, say 85%,or low for a luxury resort - say 55%, but these are judgments which must be made by the analyst or the client.

2.820 The maximum potential loss facing a developer-investor is his net cash investment plus extent of direct liability on project liabilities. This exposure can hopefully be reduced by cash taken out of the project operations, and tax savings through other income. The time it takes to reduce the peak cash exposure to zero is known as the payback period.

2.821 For example, many investors would insist in a payback period of five years or less since they regard the future beyond that point completely unforeseeable and the possible events adverse to their investment almost infinite.

2.822 Payback can be altered by changing the debt ratio, reducing the cost of the project, retaining more pre-operating profit centers, or modification of partner shares and timing of distribution.

2.823 It is important to note that even if the capital structure approach suggests a rent structure which may be acceptable in the market, the default point (line 900) or the payback ratio (line 910) of the capital structure may be unacceptable so that it will be necessary to rework the assumptions about loan ratio or equity dividend rate or cost or variance in operating expenses in order to achieve desired results.

2.830 Not all risks can be given financial perameters and then neatly laid off through one financial device or another but it is useful to make underlying assumptions about the status quo explicit so that the decision maker has some idea about the alternative outcomes which could adversely affect the desired result or possibly, if fully understood, lead to a rejection of present profits because unpredictable future losses:

2.831 Private college dormitories depended on a college administrative rule that students live in supervised housing. If the rule is removed by administrative fiat, what then?

2.832 A key industrial park tenant may require a five year lease with renewal options. If the option is not taken, what then?

2.833 A recent financial forecast about availability of real estate financing in 1976 made the following explicit assumptions:

"Assuming no renewal of Middle East hostilities and a resulting oil embargo."

"Assuming a reduction of the inflation rate to 5% through effective federal government fiscal and monetary programs."

"Assuming only moderate increases for construction labor contracts in the summer of 1975."

2.900 The concept of rate of return has as many variations as there are investors, but essentially it attempts to measure the relationship of cash outlays to cash receipts over time. Essentially it is a corollary of buy low and sell high with an adjustment for elapsed time between the two transactions.

2.910 Perceived risk eventually influences the desired rate of return but risk and investment yield are not directly integrated. A high rate of return may be possible because there is little equity cash and therefore a very small maximum potential loss and short payback period.

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EXHIBIT 4

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PROGRAM SUMMARY
DESIGN ANALYSIS PROGRAM

The Design Analysis Program is basically a method of determining a number of possible annual cash flows from a proposed income property based upon up to five different values of six different cash flow parameters:

1 = Rental Rates e.g. $6.50/sq ft/yr
2 = Vacancy Rates e.g. 10% of potential rental revenue
3 = Expense Rates e.g. $2.50/sq ft/yr
4 = Financing Conditions e.g. 9½% 30 yrs paid monthly
5 = Building Efficiency e.g. 85% of gross space
6 = Loan Ratios e.g. 90% of construction and land costs.

The basic format used is that of a planning format of an annual cash flow proforma: Rental Revenue adjusted for a Vacancy Allowance less Operating Expenses and Debt Service, yielding Annual Cash Flow.

This basic format reflects a single set of conditions that result in a single cash flow quantity. Actual practice reveals that parameter 1, 2, and 3 will constantly vary between years and within the year. Parameters 4 and 6 will be negotiated prior to construction by the developer, while parameter 5 will be established in the design phase and adjusted somewhat with the initial leasing strategy.

During the planning phase of an income property, best estimates of the values of these six parameters are utilized to prepare a cash flow pro forma. The DESIGN ANALYSIS PROGRAM allows the financial analyst to vary each parameter throughout a range of values to study the effect upon the pro forma annual cash flow. With five different values for six parameters, there are exactly 361 different annual cash flows.

The program allows the analyst to produce a 5 by 5 table of annual cash flows by varying one or two of the parameters over a range of values while using a primary or basic value for each of the other parameters. In addition, the breakeven rental rates or the rates of return on initial equity are given for the corresponding cash flows.

The total cost of construction and land can be input to the program or can be calculated through the use of the Construction Cost Estimate subprogram. The total cost of the structure can be computed from per square foot costs, component structure costs, professional fees, and land costs. Interim interest costs for land and construction are both computed.

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Date_____
Run #_____

RJE DATA FORM

Line # in DESRJE	Answer	Question by the Program
350	$_____	IS THERE A CONSTRUCTION DATA FILE? (If Answer is NO, delete lines 360,370,380)
360	$_____	CONSTRUCTION DATA FILE NAME?
370	$_____	LIST THE CONSTRUCTION DATA?
380	$_____	OUTPUT THE CONSTRUCTION COST SCHEDULE?
390	$_____	IS THERE A CASH FLOW DATA FILE? (If answer is NO, no more data is needed.)
400	$_____	NAME OF CASH FLOW DATA FILE?
410	$_____	LIST CASH FLOW DATA?
420	$_____	OUTPUT LOAN AND DEBT SERVICE CALCULATIONS?
430	$_____	OUTPUT ALL CASH FLOW TABLES?
440	$_____	OUTPUT SENSITIVITY TABLE?

EXAMPLES

Example 1: No construction file, do not list data file or debt service data; output all tables.

350	$NO
390	$YES
400	$ (file name)
410	$NO
420	$NO
430	$YES
440	$YES

Example 2: Construction and cash flow data files exist, output all data lists and tables.

350	$YES
360	$(file name)
370	$YES
380	$YES
390	$YES
400	$(file name)
410	$YES
420	$YES
430	$YES
440	$YES

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CONSTRUCTION COST SCHEDULE
DATA INPUT - SHORT FORM

100 _____, _____, _____, _____ Bldg ID#, Mo, Day, Yr
101 _____ 60 character title(ctrd)
102 _____ 60 character title(ctrd)
103 _____ Gross sq ft or Acreage in Tract
104 _____ Run Number

CONSTRUCTION COSTS: (use 201 and 202 or 203)

201 _____, _____ Shell - sq ft, $/sq ft.
202 _____, _____ Interior - sq ft, $/sq ft.
203 _____, _____ Building - sq ft, $/sq ft
204 _____, _____, _____ Grade Parking-sq ft/space, spaces, $/sq ft.
205 _____, _____, _____ Structured Parking " " " "
206 _____ Landscaping/Lighting Costs -$ or $/sq ft.
207 _____ Furniture, Fixture & Equipment " " "
208 _____, _____ Sq ft, $/sq ft or 0,0
(209) _____ Title
210 _____, _____ Sq ft, $/sq ft or 0,0
(211) _____ Title
212 _____, _____ Sq ft, $/sq ft or 0,0
(213) _____ Title
214 _____, _____, _____ 0, $, or % of Shell & Interiors
(215) _____Title
(216) _____Title
(217) _____Title
218 _____ Constr.Contingency-0, $, or % of Shell & Interior

301 _____ Architecture Fees
302 _____ Engineering Fees
303 _____ Loan Origination Fees
304 _____Legal & Closing Fees
305 _____ Taxes & Insurance

Enter 0, $ or % of Subtotal of lines 201 - 218

309 _____, _____, _____
310 _____ Title
311 _____ Title
312 _____ Title

Optionally titled fees and costs: 0, $ or % of Subtotal of line 201-218

401 _____, _____ Constr Interim Int Rt, Constr.Period-Months
402 _____, _____ Other expenses 0, $ or % of Subtotal
(403) _____ Title
(404) _____ Title

500 _____ Zero or $ Cost of Land (or use line 501)
501 _____, _____ Cost of Land -sq ft or Acres, cost/unit
502 _____, _____, _____ Interim Land Cost-% of Land cost Interest rt, months.
503 _____, _____, _____ Interim Land Cost " " " " " "
504 _____, _____ Interim Land Cost - $/month, months
505 _____Other land costs-$ or % of Land Cost

Complete lines with ( ) only if corresponding data is non-zero.

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File Name_____

INPUT FORM
CASH FLOW ANALYSIS

100 _____ 0 or 1 0= lines 101-107 required 1= use constr. data
101 *_____, _____, _____, _____ Building ID#, Mo., Day, Year
102 *_____ Title Line 1
Description Line 1 up to 60 characteristics
103 *_____Title Line 2
104 *_____ Gross Square Footage in Tract
105 *_____ Gross Square Footage in Building
106 *_____ Total Construction Cost
107 *_____ Run Number
*Items are entered only if value is 0 on Line 100

200 _____ Number of Rental Rates (1 to 5)
201 _____, _____, _____, _____, _____ Rental Rates in$/sq ft
202 _____ Number of Vacancy Rates (1 to 5)
203 _____, _____, _____, _____, _____ Vacancy Rates in %
204 _____ Annual Parking Income $ or 0
205 _____ Other Income $ or 0
206 _____ Number of Operating Expenses (1 to 5)
207 _____, _____, _____, _____, _____Operating Expenses in$/sq ft
208 _____ Number of Financing Conditions (1 to 5)
209 _____, _____, _____, _____, _____ Interest Rates (Annual %)
210 _____, _____, _____, _____, _____ Term in Years
212 _____ Number of Building Efficiency Rates (1 to 5)
213 _____, _____, _____, _____, _____ Efficiency Rates (% of Gross)
214 _____ Number of Cash Flow Tables (0 to 10)

215 _____, _____
216 _____, _____
217 _____, _____
218 _____, _____
219 _____, _____
220 _____, _____
221 _____, _____
222 _____, _____
223 _____, _____
224 _____, _____

Enter Parameters to be output
1 Rental Rate
2 Vacancy Rate
3 Operating Expense Rate
4 Financing Conditions
5 Building Efficiency
6 Loan to Cost Ratios

2XX ROW, COLUMN

230 _____ Number of Loan to Cost Ratios (1 to 5)
231 _____, _____, _____, _____, _____ Loan Ratios in %

240 _____ 0 1 or 2 1 = Breakeven Rental Rates 2 = Rates of Return

250 _____ 10000

CONSTRUCTION COST ESTIMATE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

DATE: 8/28/1974
BLDG: 6001
RUN : 1

CONSTRUCTION COSTS			DOLLARS
CONSTRUCTION-SHELL	150000 SQ FT AT $ 26.00	$	3900000
CONSTRUCTION-INTERIOR	150000 SQ FT AT $ 4.00	$	600000
GRADE PARKING	500 SPACES AT $ 525		262500
LANDSCAPING/LIGHTING			100000
SUBTOTAL CONSTRUCTION			4862500
ARCHITECTURE FEES	AT 4.0 PCT		194500
ENGINEERING FEES	AT 1.0 PCT		48625
LOAN ORIGINATION FEES	AT 1.0 PCT		48625
TAXES AND INSURANCE	AT 1.0 PCT		48625
CUMULATIVE SUBTOTAL			5202875
INTERIM INTEREST-CONSTRUCTION			
$ 5202875 AT 12.0 PCT FOR 13 MO X .5			338187
DEVELOPER"S PROFIT	AT 2.0 PCT OF $ 5202875		104057
CONTINGENCY	AT 2.0 PCT OF $ 5202875		104057
TOTAL CONSTRUCTION COSTS			5749177

LAND COSTS		
275865 SQ FT AT $ 3.95		1089669
INTERIM INTEREST-LAND		
100.00 PCT OF $ 1089669 AT 12.00 PCT FOR 13.00 MO		141657
5.00 MONTHS AT $ 7132 PER MONTH		35660
TOTAL LAND COST		1266986
TOTAL LAND AND CONSTRUCTION COST		7016162

LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED $ 5612930 EQUITY $ 1403232

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	566359
8.50	30.0	9.2270	517903
9.00	30.0	9.6555	541955
9.75	30.0	10.3099	578685
10.00	30.0	10.5309	591090

AMOUNT FINANCED $ 4911313 EQUITY $ 2104849

LOAN RATIO 70.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	495564
8.50	30.0	9.2270	453165
9.00	30.0	9.6555	474210
9.75	30.0	10.3099	506349
10.00	30.0	10.5309	517203

AMOUNT FINANCED $ 6314546 EQUITY $ 701616

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	637153
8.50	30.0	9.2270	582641
9.00	30.0	9.6555	609699
9.75	30.0	10.3099	651020
10.00	30.0	10.5309	664976

AMOUNT FINANCED $ 7016162 EQUITY $ 0

LOAN RATIO100.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	707948
8.50	30.0	9.2270	647379
9.00	30.0	9.6555	677444
9.75	30.0	10.3099	723356
10.00	30.0	10.5309	738862

PRØ FØRMA CASH FLØW TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY	: 85.00 PCT ØF GRØSS		
REVENUE	: $ 8.50 PER SQ FT		
VACANCY	: 10.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

ANNUAL CASH FLØWS

LØAN TØ CØST RATIØ

FINANCING	70.0PCT	80.0PCT	90.0PCT	100.0PCT
30YR 9.50PCF	161061	90266	19472	-51323
30YR 8.50PCF	203460	138722	73984	9246
30YR 9.00PCF	182415	114670	46926	-20819
30YR 9.75PCF	150276	77940	5605	-66731
30YR 10.00PCF	139422	65535	-8351	-82237

BREAKEVEN RENTAL RATES

LØAN TØ CØST RATIØ

FINANCING	70.0PCT	80.0PCT	90.0PCT	100.0PCT
30YR 9.50 PCT	7.10	7.71	8.33	8.95
30YR 8.50 PCT	6.73	7.29	7.86	8.42
30YR 9.00 PCT	6.91	7.50	8.09	8.68
30YR 9.75 PCT	7.19	7.82	8.45	9.08
30YR 10.00 PCT	7.28	7.93	8.57	9.22

PRO FORMA CASH FLOW TABLE

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

FIXED PARAMETERS — PAGE 1 OF 12

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY:	85.00 PCT OF GROSS		
LOAN RATIO:	80.00 PCT OF $ 7016162		
EQUITY	: $ 1403232		
FINANCING	: 30 YEARS 9.50 PCT		
OTR INCOME:	$ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

ANNUAL CASH FLOWS

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLOWANCE 0. PCT	5.0PCT	10.0PCT	15.0PCT
$ 7.50	71141	23329	-24484	-72296
$ 8.00	134891	83891	32891	-18109
$ 8.50	198641	144454	90266	36079
$ 9.00	262391	205016	147641	90266
$ 9.50	326141	265579	205016	144454

PERCENTAGE CASH FLOW RETURN ON EQUITY

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLOWANCE 0. PCT	5.0PCT	10.0PCT	15.0PCT
$ 7.50	5.07	1.66	-1.74	-5.15
$ 8.00	9.61	5.98	2.34	-1.29
$ 8.50	14.16	10.29	6.43	2.57
$ 9.00	18.70	14.61	10.52	6.43
$ 9.50	23.24	18.93	14.61	10.29

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PRO FORMA CASH FLOW TABLE

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

FIXED PARAMETERS — PAGE 4 OF 12

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY	: 85.00 PCT OF GROSS		
LOAN RATIO	: 80.00 PCT OF $ 7016162		
EQUITY	: $ 1403232		
VACANCY	: 10.00 PCT OF LEASEABLE		
OTR INCOME	: $ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

ANNUAL CASH FLOWS

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	30 YEARS 9.50 PCT	30 YEARS 8.50 PCT	30 YEARS 9.00 PCT	25 YEARS 9.50 PCT	30 YEARS 10.00 PCT
$ 7.50	-24484	23972	-80	-46605	-49215
$ 8.00	32891	81347	57295	10770	8160
$ 8.50	90266	138722	114670	68145	65535
$ 9.00	147641	196097	172045	125520	122910
$ 9.50	205016	253472	229420	182895	180285

PERCENTAGE CASH FLOW RETURN ON EQUITY

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	30 YEARS 9.50 PCT	30 YEARS 8.50 PCT	30 YEARS 9.00 PCT	25 YEARS 9.50 PCT	30 YEARS 10.00 PCT
$ 7.50	-1.74	1.71	-.01	-3.32	-3.51
$ 8.00	2.34	5.80	4.08	.77	.58
$ 8.50	6.43	9.89	8.17	4.86	4.67
$ 9.00	10.52	13.97	12.26	8.95	8.76
$ 9.50	14.61	18.06	16.35	13.03	12.85

SENSITIVITY ANALYSIS
DESIGN ANALYSIS PROGRAM

Sensitivity testing is generally considered to be the study of the changes in a dependent variable resulting from unit changes in an independent variable. In the case of an income property, the dependent variable will be the annual cash flows from the property and the independent variables could be any one of the many variables that have an effect on the cash flow. If the values of all the variables but one are held constant, the effect of unit changes in the one variable can be reflected in a change in annual cash flow.

The table CASH FLOW PRO FORMA USING PARAMETER NORMS reflects the basic data and assumptions concerning the income property and the resulting Annual Cash Flow and Rate of Return on Equity.

The table entitled SENSITIVITY TABLE reflects three basic sets of information:

1. Basic Parameter Values
2. Effects on Annual Cash Flows of Unit Changes in Fixed Parameters
3. Equivalent Effects to Yield a $10,000 Increase in Annual Cash Flow.

The first set of information lists the values of each parameter as reflected in the CASH FLOW PRO FORMA USING PARAMETER NORMS table.

The second set reflects the effect upon annual cash flow and upon the construction cost total from reasonable unit changes of all of the Basic Parameter Values. This table then can be used to analyze the effect on the annual cash flow by the changes in one or more variables. More detailed uses of this data are discussed on following pages.

The third set of data relates each of the parameters to the arbitrary dollar increase in annual cash flow in order to better equate functions that are not often related in the planning process. Hence, the engineer can relate increases in capital expenditures for building equipment to decreases in operating expenses. The leasing agent can relate rental rates to building efficiency or operating expenses. The developer can relate permanent interest rates to loan terms or to percentage rentals to lenders. Examples of these comparisons are discussed on the following pages.

CASH FLOW PLANNING DURING THE DESIGN STAGE USING THE SENSITIVITY TABLE

The data contained in the table entitled CASH FLOW PRO FORMA USING PARAMETER NORMS and in the table entitled SENSITIVITY TABLE can be used to estimate cash flows under conditions not studied during the computer program analysis.

Using the basic data on the attached example, several problems of the following nature can be solved:

Problem 1

What will be the effect on annual cash flow of decreasing the permanent interest rate by 1/2%?

ANS: Increase annual cash flow by approximately $24,488* to $114,754.

0.25% = $12,244. Therefore, 0.50% = 2($12,244)=$24,488.

Problem 2

What will be the effect of increasing the operating expense by 10%?

ANS: Decrease annual cash flow by $31,875 to $58,391.
10% of $2.50 = 25¢, which is 2.5 x 10¢.
So, 2.5 x $12,750 - $31,875.

Problem 3

What will be the revised annual cash flow resulting from a reduction of the vacancy rate to 5% and a reduction of annual rental rates by 50¢ per square foot?

ANS: Vacancy reduction increases cash flow by $54,190
Rental reduction decreases cash flow by -$57,375.

Pro Forma Cash Flow	$90,266
Vacancy Reduction	54,190
Rental Reduction	-57,375
Estimated New Cash Flow:	$87,081**

* Actual amount taken from other output data is $24,404.
** Actual amount taken from other output data is $83,891.

Problem 4

What will be the net effect on annual cash flow of an increase of $75,000 in construction cost and a reduction of $6000 per year in operating expenses?

ANS:		
	Increase construction cost	$ -8,948
	Decrease operating expense	6,000
	Net Increase in Annual Cash Flw	$ 2,948

Problem 5

What will be the adjusted annual cash flow after a reduction in rental efficiency from 85% to 83% with a decrease in annual rental rates of $1.00 per square foot for half the building and no change for the balance of the building?

ANS:		
	Pro Forma Cash Flow	$ 90,266
	Decrease in Rental Rates by 50¢	-57,375
	Reduction in Efficiency by 2%	-15,450
	Estimated Net Cash Flow	$ 17,441*

Problem 6

What will be the net effect of increasing the loan ratio from 80% to 85%, increasing vacancy by 5%, and increasing building efficiency by 2%?

ANS:		
	Loan Ratio increases by 5%	$ -35,397
	Vacancy Rate increase by 5%	-54,190
	Building Efficiency increased	15,450
	Net Effect on Cash Flow	$ -74,137

Problem 7

What will be the net effect on the total construction cost and on the resulting cash flow from an increase in the construction period by two months?

ANS:		
	Total Construction Cost increases by	$ 73,822
	Annual Cash Flow decreases by	$ 7,448

* Actual Cash Flow taken from other tables is $18,791.

CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

DATE: 9/ 5/1974
BLDG: 4444
RUN : 1

GROSS SQUARE FEET IN BUILDING:		150000
BUILDING EFFICIENCY	:	85 PCT
NET LEASEABLE SQUARE FOOTAGE	:	127500
LAND AND CONSTRUCTION COST	: $	7016162
LOAN TO COST RATIO	:	80.0 PCT
ORIGINAL LOAN AMOUNT	: $	5612930
EQUITY REQUIREMENT	: $	1403232
PERMANENT INTEREST RATE	:	9.50 PCT
TERM OF LOAN		30 YEARS
ANNUAL DEBT SERVICE	: $	566359

	ANNUAL DOLLARS
GROSS INCOME : 127500 SQ FT AT $ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
GROSS EFFECTIVE INCOME	975375
OPERATING EXPENSES: 127500 SQ FT AT $ 2.50	318750
NET OPERATING INCOME	656625
DEBT SERVICE (10.09 PCT CONSTANT)	566359
PRO FORMA CASH FLOW	90266

RETURN ON EQUITY • 6.43 PERCENT

SENSITIVITY TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY	: 85.00 PCT ØF GRØSS		
LØAN RATIØ	: 80.00 PCT ØF $ 7016162		
EQUITY	: $ 1403232		
FINANCING	: 30 YEARS 9.50 PCT		
REVENUE	: $ 8.50 PER SQ FT		
VACANCY	: 10.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

CØNSTRUCTIØN AND LAND CØST 7016162
CØNSTRUCTIØN INTERIM RATE 12.000 PCT
CØNSTRUCTIØN PERIØD 13 MØNTHS
LAND INTERIM RATE IS 12.00 PCT

EFFECT ØF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW	EFFECT ØN CØNSTRUCTIØN
DECREASE CØNSTRUCTIØN CØST $ 100,000	11930	-118235
DECREASE CØNSTRUCTIØN $ 1.00 PER SQ FT	17895	-177352
DECREASE CØNSTRUCTIØN PERIØD 1 MØNTH	3724	-36911
DECREASE CØNST AND LAND INTERIM 1 PCT	4035	-39987
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
DECREASE RENTAL RATE $ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE ØPERATING RATE $ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12244	
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-3514	
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-22121	
DECREASE THE LØAN RATIØ BY 5 PERCENT	35397	

EQUIVALENT EFFECTS TØ YIELD A $ 10000 INCREASE IN ANNUAL CASH FLØW

DECREASE CØNSTRUCTIØN CØST BY $ .56 PER SQ FT
DECREASE CØNSTRUCTIØN PERIØD BY 2.7 MØNTHS
DECREASE INTERIM INTEREST BY 2.48 PCT
INCREASE BUILDING EFFICIENCY BY 1.29 PCT
INCREASE RENT RATE BY $ .09 PER SQ FT
DECREASE VACANCY BY .92 PCT
DECREASE EXPENSE RATE BY $ .08 PER SQ FT
DECREASE PERMANENT RATE BY .20 PCT
INCREASE PERMANENT LØAN TERM BY 2.3 YEARS
DECREASE LØAN RATIØ BY 1.4 PERCENT

COMMENTS ON THE USE OF THE UNIT CHANGE FACTORS

This technique is often very useful for quick assistance in estimating cash flows without numerous recalculations. Several problems cannot be satisfactorily solved by this method when unit changes of more than one interdependent variable are calculated. The following variables are interdependent:

Rental Rates.....Vacancy Rates
Rental Rates.....Building Efficiency
Expense Rates.....Building Efficiency

There are 15 different pairs of two parameters, three of which are interdependent; thus, 12 sets are independent. As long as the above three parameters are not varied together, the sums of effects on cash flow are correctly additive as in Problem 4 and 6. When these variables are varied together, their interdependency results in an error as in Problems 3 and 5. This error will usually be fairly small unless the parameter is varied by a large multiple of the unit change.

There are 20 sets of three parameters, 10 of which contain interdependent parameters. Therefore, many of the combinations of parameters will yield errors in calculating cash flow in this manner.

When one parameter is varied by unit amounts, the correct annual cash flow can be calculated for all unit changes for all parameters except the financial parameters--rate and term. For this reason, the SENSITIVITY TABLE lists the effect of five-year and one-year reductions in the loan term.

2.920 There are two ways of measuring returns, prospectively one year at a time, or retrospectively over the full span of the investment cycle. A cash-on-cash return is a common example of the former while the internal rate of return, discounted cash flow, or the Ellwood approach are examples of the latter.

2.930 A cash dividend or equity cash throw-off approach before adjustment for income tax influence is the most useful approach in the early stages of feasibility analysis. Most people should have learned by now the fallacy of "tax loss only" deals which are not viable on their own.

2.931 An equity dividend constant was built into the rent structure (line 580). This is a cash-on cash prospective return and is also a measure of the strength of the vested interest of the borrower continuing to make mortgage payments on time.

2.932 Cash-on-cash is also the reciprocal of pre-tax payback of equity capital investment. For example, an 8% cash divident is a 12:1/2 year payback before adjustment for tax savings, future refinancing surplus, profit centers retained, or "funny money" strategies to remove equity cash dollars.

2.940 Internal rate of return or discounted cash flow analyses will be postponed until seciton 5.000 where they will be considered as part of the "fine tuning adjustments" to the feasibility process.

2.950 Sensitivity analysis explores the change in one assumption on the relationships of the capital structure approach to various key assumptions about casot to acquire or operating revenues and expenses. It should be apparent that the repetitive nature of these types of automated computation and sensitivity analysis is best demonstrated by reference to one of the models which are commercially available.

2.951 Exhibit 4 contains a descriptive manual of a computer terminal service call Design Analysis Program, authored by John Nabors of Dallas, Texas. Special variations are available for hotel type or land development type formats.

2.952 Similar types of program are available on high memory capacity electronic calculators. For example, the Monroe Calculator Company offers a series of feasibility programs developed by a real estate consultant-appraiser McCloud B. Hodges, Jr., MAI, of McLean, Virginia.

3.000 Market Revenue Model Worksheet

The market revenue approach to feasibility involves a series of steps to determine the maximum allowable replacement costs of a project when risk management parameters and gross potential gross rents are known or can be assumed.

3.100 The market revenue approach is best demonstrated by reference to a worksheet which provides a step-by-step framework for analysis (see Exhibit 5 for demonstration; a sample blank set of worksheets is at the back of the study kit for later office use).

3.200 Step 1 is to decide if the monthly rental structure is known for each type of revenue unit (RU) or if it is first necessary to establish the rental relationship among various revenue units in the product mix.

3.210 If rental structure is known, start with line 350; if only total potential revenue from old sources is known, start with line 460 - the objective of all calculations to that point.

3.220 Otherwise first separate non-allocated or fixed revenue by specification in line 110 or computation through lines 120-140. Note that non-allocated revenue is stated as an annual figure.

3.230 To allocate revenue among different types of rental units or to test alternative product mix, it is desirable to define each revenue unit type in terms of a single common denominator such as room, sq. ft. of GLA, or even an apartment unit such as standard one-bedroom unfurnished apartment plan A. Lines 160-340 provide a worksheet for stating these relationships but are not necessary for a preliminary analysis. Note that codes 1 & 2 allow the analyst to distinguish between GLA and other types of revenue base units.

3.300 Step 2 is to determine the total operating expenses and real estate taxes which might be expected for the rental mix in question. The worksheet assumes the common denominator for residential is the same RU used in lines 180-240 or 360-410 and shifts to gross usable area for commercial development. The proper unit is whatever the analyst wishes to use that relates to his expense data information and provides some sensitivity to different possible product mixes in various projects.

3.310 Fixed expenses in line 470 and special expenses provide opportunity to distinguish between basic expenses and special services which the developer might like to include (say maid service or special guest rooms) which may not be affordable and would be dropped in subsequent calculations on the worksheet.

EXHIBIT

MARKET REVENUE MODEL WORKSHEET

RENT BRM @ $210/MO.

100	Do you know complete rental structure? (If yes, go to line 350)	No			Answer
110	Non-Allocated Revenue				
120	Non-Allocated Revenue Units (RU's)	45			Specify (Sp.) #
130	Monthly Revenue/non-allocated RU	15			Sp. $'s
140	Total Annual Non-allocated Revenue	8100		(45×15×12)	Lns (120 x 130 x 12) Sp. $'s
150	Allocated Revenue				
160	Base Revenue Unit (BRU) Type	RU-1, 1 bd			Specify Type
170	BRU sq. ft.	576			Sp. #
180	Relationship of RU's				
190	(Code: 1 = residential RU; 2 = commercial RU)				
200	RU - 1, specify code, rent @ % BRM	100			Sp. code, %
210	RU - 2, specify code, rent @ % BRM	140			Sp. code, %
220	RU - 3, specify code, rent @ % BRM	160			Sp. code, %
230	RU - 4, specify code, rent @ % BRM				Sp. code, %
240	RU - 5, specify code, rent @ % BRM				Sp. code, %
250	Unit Mix				
260	(if code 1 residential, specify # units,# rms (if code 2 commercial, specify sq. ft. GLA)				
270	RU - 1	46	3.5		Sp. # RU's, # rooms
280	RU - 2	10	4.5		Sp. # RU's, # rooms
290	RU - 3	15000	—		Sp. # RU's, # rooms
300	RU - 4				Sp. # RU's, # rooms
310	RU - 5				Sp. # RU's, # rooms
320	Total # of residential (code 1) RU's	56		(46+10)	Sum # code 1's, Lns(270 to 310)
330	Total # of residential (code 1) rooms	206			Sum # code 1;(# units)x(# rooms)
340	Total # commercial sq. ft. GLA	15000			Sum # code 2's Lns(270 to 310)

2 - Market Revenue

*Note: Lns (370 to 410);divide by Ln. 170 if code 2

	Rental Structures					
360	BRU rent/mo		210			Sp. $'s
370	RU - 1 rent/mo*		210		(210 x 100%)	Lns (200 x 360)
380	RU - 2 rent/mo		294		(210 x 140%)	Lns (210x360) [÷ by Ln 170 if code 2]
390	RU - 3 rent/mo			58		Lns (220x360) [X by Ln 170 if code 2]
400	RU - 4 rent/mo					Lns (230x360) [X by Ln 170 if code 2]
410	RU - 5 rent/mo					Lns (240x360) [X by Ln 170 if code 2]
420	Total annual revenue from RU - 1's	115920			(46 x 210 x 12)	Lns (270x370)
425	Total annual revenue from RU - 2's	35280			(10 x 294 x 12)	Lns (280x380)
430	Total annual revenue from RU - 3's	104400			(15000 x .58 x 12)	Lns (290x390)
435	Total annual revenue from RU - 4's					Lns (300x400)
440	Total annual revenue from RU - 5's					Lns (310x410)
445	Total annual revenue from res. RU's	151200			(115920 + 35280)	Sum Lns (420 to 440) code 1's
450	Total annual revenue from comm'l RU's	104400				Sum Lns (420 to 440) code 2's
455	Potential annual allocated revenue	255600			(151200 + 104400)	Sum Lns (445+450)
460	Total Potential Revenue from all Sources	263700			(255600 + 8100)	Sum Lns (140+455)
	Expenses and Taxes					
	Residential					
470	Fixed Expenses/room/year		130			Sp. $'s
480	Special Expenses/room/year		10			Sp. $'s
490	Taxes/room/year		160			Sp. $'s
500	Commercial					
510	Expenses/sq.ft.GLA/year			50		Sp. $'s
520	Taxes/sq.ft.GLA/year			100		Sp. $'s
530	Total Residential Exp. & Taxes	61800			(300 x 206)	[Sum Lns (470+480+490)] [Ln(330)]
540	Total Commercial Exp & Taxes	22500			(.50 x 15000)	[Sum Lns (510+520)] [Ln (340)]
550	Total Expenses & Taxes	84300			(61800 + 22500)	Sum Lns (530+540)
560	Default Ratio			80		Sp. %
570	Cash Available for Debt Service	126660			(263700 x .80) - 84300	[Ln 460x Ln(560)] - Ln 550
580	Potential Cash Available for Variance, Vacancy & Equity	52740			(263700 - 84300 - 126660)	Lns (460-550-570)

Mortgage Determination

590	Mtg. constant		.0926		Sp. %
600	Mtg. Capital Contribution	1367820		(126660÷.0926)	Lns (570/590)
610	Vacancy Factor		05		Sp. %
620	Vacancy Cash Loss	13185		(263700 x.05)	(Ln 610)(460)
630	Non-Distributable Cash & Variance Factor		02		Sp. %
640	Non-Distributable Cash Reserve	5274		(263700 x.02)	(Ln 640)(460)
650	Cash Available for Equity Dividend	34081		(52540-13185-5274)	Ln580 - (620+640)
660	Equity Cash Dividend Constant		08		Sp. %
670	Equity Cash Investment	426010		(34081÷.08)	Ln 650/660
680	Total Replacement Cost (TRC) Budget	1793830		(1367820+426010)	Sum Lns (600+670)
690	Construction Period (in months)		15		Sp. #
700	Construction interest rate		12		Sp. %
710	Construction Interest	102590		(1367820x.5x1.25x.12)	[Ln(600)][(1/2)(Ln.720/12 mo) Ln.700)]
720	Financing fees @ % Mtg.		05		Sp. %
730	Financing fees	68390			Lns (600 x 720)
740	Carrying Charges	25000			Sp. $'s
750	Consultant/developers fees	50000			Sp. $'s
760	Total Hard Dollar Budget	1547850		(1793830-(102590+68390+25000+50000))	Lns (680-(710+730+740+750)
770	Land	113500			Sp. $'s
780	Off-site Improvements	0			Sp. $'s
790	Total Structures & Reserves	1434350		(1547850-113500)	Lns 760-(770+780)
800	Contingency Reserve or Factor		03		Sp. %
810	Architect-Engineering Fees or Factor		05		Lns (790x800)
820	Total Hard Dollar Structures Budget	1319600		(1434350-114750)	Lns 790-(800+810)or 790-(800+810 x790)
830	Non-allocated	0			Sp $'s
840	Total allocated structures budget	1319600			Lns (820-830)
850	Gross residential sq. ft.	60500			Sp. #

860	Gross commercial sq. ft.		16000			Sp. #
870	Cost/commercial sq. ft. @ %/residential			85		Sp. %
880	TOTAL ADJUSTED SQ. FT.		74100		(60500)+(16000 x.85)	Ln (850) + Lns (860+870)
890	$'s/residential sq. ft.			17 81	(1319600 ÷ 74100)	Lns (840/880)
900	$'s/commercial sq. ft.			15 14	(17.81 x.85)	Ln (900x870)
910	Total Residential Structure Budget	1077505			(60500 x 17.81)	Lns (850x890)
920	Total Commercial Structure Budget	242240			(16000 x 15.14)	Lns (870x900)
		1319745				

3.320 At a preliminary stage it may be possible to assume total expenses and taxes (line 550) to be a specific percentage of line 460 and omit calculations from lines 470-540.

3.400 A default ratio must then be specified (line 560) appropriate to the volatility of revenue or risk capacity desired for the project.

3.410 The default ratio times total potential revenue (line 460) then reveals the total cash normally available for expenses, real estate taxes and debt service. Subtracting total expenses in line 550 yields the total cash available for debt service.

3.420 The total potential revenue minus expenses and debt service indicates cash available for allocation to vacancy losses, potential increases in expenses and taxes, and cash dividends to equity.

3.500 Page 3 of the worksheet is intended to estimate the debt and equity structure which might be supported by the forecasted revenue stream.

3.510 The key is to determine the amount of mortgage money available for permanent financing.

3.520 For pre-tax cash flow analysis all that is needed is the annual mortgage debt service constant (line 590) appropriate to financing terms to be sought or available. This constant is 12 times the monthly payment per $1000 divided by 1000 for fixed term loans, as stated by the lender for constant payment loans, as stated by FHA for available insured loans, or can be calculated as a weighted average of the terms for several mortgages combined.

3.530 Dividing the constant (line 590) into cash available for debt service (line 570) will determine the total face amount of mortgage capital which can be supported by the project at an acceptable break-even point.

3.540 For after tax analysis it would be necessary to distinguish between interest and principle payments, a refinement best done with electronic data processing.

3.600 To determine the equity capital contribution it is necessary to define cash available for equity dividends by reducing line 580 for vacancy losses and a cushion for variance in estimates. It may also be desirable to establish non-distributable cash reserves for certain types of properties.

3.610 Vacancy factor as a percent of total potential revenue in line 460 is specified in line 610 to produce a vacancy cash loss in line 620.

3.620 A factor for non-distributable cash and variance in vacancy estimates can be introduced in line 630 as a percent of the line 580 item, an optional adjustment.

3.630 Potential cash of line 580 is then reduced by vacancy loss (line 620) and non-distributable cash line 640 to define cash available for equity dividends in line 650.

3.640 The desired equity cash dividend rate or constant is then specified in line 660 and divided into cash available (line 650) to determine the maximum equity cash investment justified under the conditions outlined.

3.650 The total replacement cost or justified investment value (line 680) is the sum of the supportable mortgage capital contribution (line 600) and the total justified equity cash adjustment (line 670). It is then desirable to allocate the total capital budget among various components to arrive at a budget for structures, etc.

3.700 To reduce the total investment budget to the total hard cost budget, it is necessary to remove indirect costs for construction financing, carrying charges and consultant development fees.

3.710 Construction loan interest requires an estimate of the construction period in months (line 690), the construction loan interest rate (line 700) per year and the assumption that one half of the construction loan would be outstanding on the average during the construction phase. The worksheet further assumes that the construction loan is equal to the permanent mortgage amount determined in line 600 but the analyst could reduce this assumption as appropriate.

3.720 In addition to the construction interest calculated in line 710, financing fees as a percent of the loan amount (or points) can be specified in line 720 and the dollar amount entered on line 730.

3.730 Miscellaneous carrying charges including real estate taxes and insurance can be specified as a dollar amount in line 740.

3.740 Consultant and developer fee can be specified in line 750.

3.750 When these indirect charges are subtracted from total justified replacement cost (line 680) it is possible to state the total hard cash dollar budget available for land, construction, and contingency reserves in line 760.

3.760 Given a specification for a land cost in dollars (line 770) it is then possible to determine total budget for structures and contingency reserves in line 790.

3.770 Specification of a contingency reserve percentage for construction costs or a dollar amount in line 800 and specification of architect-engineering commission rate or dollar amount in line 810 then makes it possible to isolate the total hard dollar budget for structural improvements (line 820).

3.800 Structural hard dollar budgets are more meaningful if distributed among various types of space uses for mixed use projects. The worksheet demonstrates one possible allocation between residential and commercial space but the analyst may choose to make his allocations on some other basis such as between site improvements, structure and furnishing - whatever is appropriate to the problem. Remember models must change as the questions requiring answers change.

3.810 Total hard dollar structure budgets should first be reduced by non-allocated costs appropriate for common items such as site improvements or special off-site improvement costs or for spaces producing income that were unallocated in line 140.

3.820 The remaining allocated structures budgets in line 840 can then be distributed by allocating among gross sq. ft. of space of different uses. On the worksheet commercial sq. ft. is adjusted by a factor to make it equivalent to residential sq. ft. For example, unfinished commercial space might cost only 80% of residential space so that in effect one could build 1.25 sq. ft. of commercial area for the same number of dollars required to build one sq. ft. of finished residential. The total adjusted sq. ft. is entered in line 890.

3.830 The dollars per sq. ft. determined in 890 and 900 or the total budgets in 910 and 920 become part of the pre-architectural constraint on the design. If these numbers are obviously unattainable based on the experience of the analyst or other professional advice, there is immediately a problem of examining the assumptions, the rental structure and the product size. Or a return to the capital structure approach could determine what rents might work for the costs in question.

3.900 The input for the market revenue approach and the test of the capital structure approach both depend on a thorough analysis of the market and motivations of the consumer relative to the client. (See 4.000)

3.910 Detailed analysis of a market will permit the analyst to make "If/than" statements based on the result of the market revenue worksheet above.

3.920 Where no site has been selected and general construction costs are known, it would be possible to modify the worksheet slightly to solve for the allowable land cost which would then become a guide for site selection and purchase, a process not unlike the land residual approach in appraisal.

3.930 For existing buildings where market rents are known the market revenue approach produces a justified capital investment which can be subtracted from cost to replace new to determine economic obsolescense of project. It provides a useful support to a tax assessment challenge where the assessor has rightly or wrongly used the cost approach.

4.000 Real Estate Market and Merchandise Analysis

Marketing research provides the key input for the market revenue worksheet and the key tests as to the acceptability of the conclusions based on the capital outlay worksheet. Since there is more plausible but overly general data in most cases than one can use, market and merchandising analysis both require a systematic approach which will discard most of the data as irrelevant at any particular time and focus the remaining information on a specific problem.

4.100 Most feasibility cases require the analyst to create his own models with which to structure the data available and the data which must be researched.

4.110 Remember, models organize the analyst, the report, and the client.

4.411 Models explain what you are going to do
4.412 Models make relationships and key assumptions explicit
4.413 Models permit clients to understand logic of conclusion and to test his own set of assumptions.

4.120 A market research model should be careful to recognize:

4.121 What are the questions?
4.122 What data is available which is relevant?
4.123 What theory is available to focus data on the questions?
4.124 How will the results be communicated?
4.125 What are the abilities of the analyst?
4.126 What is the cost benefit ratio between the model method and the question?

4.130 Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on.

It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

4.140 Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

4.141 Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many sq. ft. of leased office space were occupied.

4.142 Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

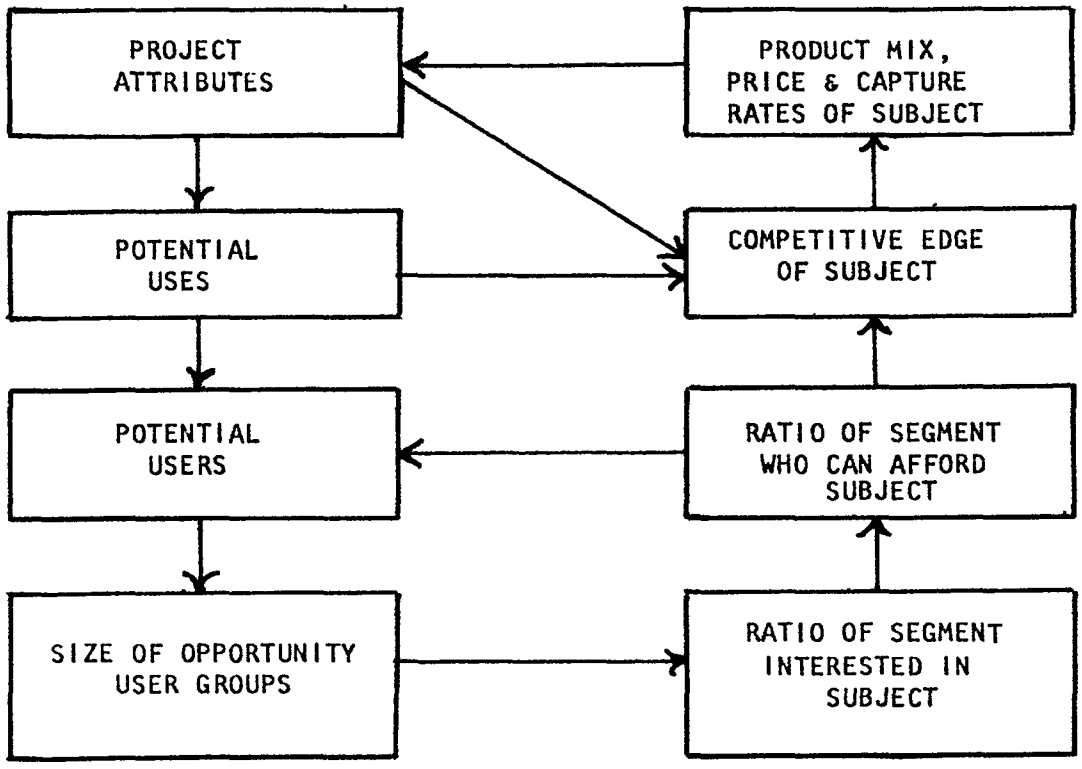
4.150 Unlike appraisals the feasibility analyst generally begins with a particular users group in mind and then relates this target to the larger economic scene. As Diagram #4 suggests, site analysis identifies one or more probable user types or client preference or intuition as focused on a rental range and therefore market segment he may wish to serve.

4.151 The relationships between the determinance the project attributes and market requirements as to product mix, amenities, and price are reversible procedures depending on whether we have a physical property in search of a user group or a user group for which a physical property is sought or is to be designed.

4.152 A more complex flow chart of the market research process is provided in Exhibit 6.

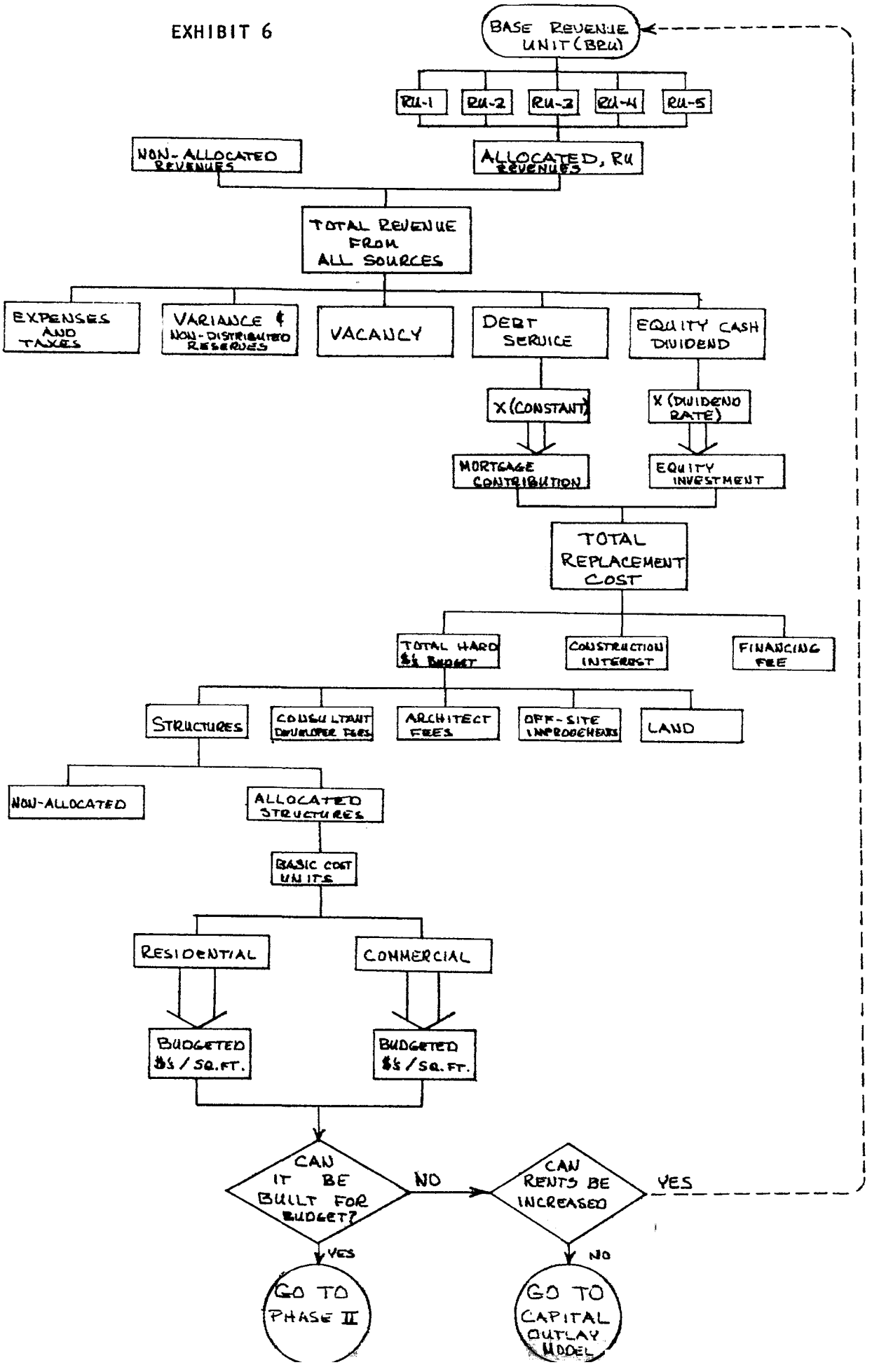
4.160 Before analyzing the relationship between the physical attributes of the site or project and merchandising requirements to reach the potential users of that site, some of the basic market research techniques appropriate to either case will be examined.

DIAGRAM #4


PROJECT ATTRIBUTES
PRODUCT MIX, PRICE & CAPTURE RATES OF SUBJECT
POTENTIAL USES
COMPETITIVE EDGE OF SUBJECT
POTENTIAL USERS
RATIO OF SEGMENT WHO CAN AFFORD SUBJECT
SIZE OF OPPORTUNITY USER GROUPS
RATIO OF SEGMENT INTERESTED IN SUBJECT

MARKET REVENUE MODEL FLOW CHART

EXHIBIT 6



4.200 There are many model methods to edit and reduce aggregate data to focus on market questions relative to a particular property or consumer group. Before doing primary research on potential consumer groups, it is useful to structure the aggregate data in such a way that one can identify the critical ratios which permit the analyst to define a specific market segment and estimate the size of that market segment opportunity.

4.210 Establishing a retail trade area perimeter for a supermarket is a device which segregates households with a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income.

4.220 Consider Exhibit 7 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

4.230 Consider Exhibit 8, an extended tabular model to project household growth and bank deposits for a branch bank in a planning district where population and building permit data is integrated with low-level air survey photography on a quarter-quarter section basis.

4.240 Consider Exhibit 9, a flow chart to diagram the relationships by which market data is eventually converted to gross revenue. This chart is placed near the beginning of the report to communicate where the analyst is going and how he proposes to get there. The answer is given and then the assumptions are documented like footnotes to an accounting statement. This approach is just the opposite of many studies which catalog data ad naseum and then arrive at a conclusion out of the wilderness, leaving no trail to follow.

4.250 Some types of projects may require several different aggregate data models because of various sub-markets for the property. An office building may appeal to lawyers, accountants, and perhaps political lobbyists and trade associations. The scale of each of those markets and the capture rate may be different. To construct a market demand base for a northern Wisconsin resort center, there were nine different aggregate demand models and capture rate models required:

Summer Season:
(1) Vacationers by the week
(2) Summer travelers by the night
(3) In-house summer seminars

Off-Season: (Fall & Spring)
(4) Business seminars
(5) Weekend mini-vacations for fall color
(6) Miscellaneous travelers

EXHIBT 7

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (+ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development(10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269

Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:

Highrise or midrise	28.0%	
Garden	49.1	
	77.1%	978

Less estimated numbers of households who might move into competitive developments available supply of units	270
Households that can be considered candidates for the proposed development	708

That share of households who said they would be willing to move:

Within 1 year from now	15.6% -	110 households
Within 2 years	31.2% -	220 "
Within 5 years	53.4% -	378 "
		708

A project of 100 units requires a capture rate of:

91% for a 1 - year absorption rate
90% for a 2 year " "
14% for a 5 year " "

EXHIBIT 8

HOUSEHOLD GROWTH RATE - PRIMARY TRADE AREA 1970-1972
(Basis for household projection, 1974-1980)

Section	Quarter Section	Households 1970	Increase Households 1970-1972	Households 1972	Increase(%) Household 1970-1972
23	3	13	0	13	0
	4	44	0	45	0
24	1 .25	16	3	19	9 *
	2 .25	10	0	10	0
	3	4	0	4	0
	4	2	0	2	0
25	1	130	50	180	19 *
	2	134	8	142	3 *
	3	36	12	48	17 *
	4	323	104	427	16 * (NG)
26	1	145	4	149	1 *
	2	3	0	3	0
	3	8	0	8	0
	4	1	0	1	0
27	1 .50	0	-	-	-
	4 .67	125	52	177	21 *
34	1	1	0	1	0
	4	5	0	5	0
35	1	28	0	28	0
	2	8	0	8	0
	3	0	0	0	0
	4	25	0	25	0
36	1	23	3	26	7 *
	2	51	5	56	5 *
	3	9	0	9	0
	4	10	0	10	0
19	1 .50	317	4	321	1 * (NG)
	2 .50	240	10	250	2 * (NG)
	3	529	7	536	1 * (NG)
	4	511	1	512	0 (NG)
30	1	273	0	273	0 (NG)
	2	285	40	325	7 *
	3	113	11	124	5 *
	4	19	0	19	0
31	1	20	0	20	0
	2	142	19	161	7 *
	3	10	0	10	0
	4	7	0	7	0
TOTALS		3620	334	3954	4.6%
HGA ('70-'72) *		2609	334	2943	6.4% = G '70-'72
HNG '72 (NG)				2319	
HGA '72				1635	

EXHIBIT 8a

HOUSEHOLD PROJECTION - CALCULATIONS
1974 - 1980

GIVEN:

H	= Number of Households
HGA ('72)	= Total # Households in Growth Areas (*) 1972
HGA ('74)	= Total # Households in Growth Areas (*) 1974
HNG ('72)	= Total # Households No Growth Areas NG - 1972
HI ('72-'74)	= Increase # Households (1972-1974)
HI ('74-'80)	= Increase # Households (1974-1980)
G ('70-'72)	= Annual Projected Increase (%) # Households
Na	= Number of Years/'72-'74 Projection Period = 2
Nb	= Number of Years/'74-'80 Projection Period = 6

THEN: H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)

WHERE: HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na

AND: H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)

WHERE: HI ('74-'80) = [HGA ('74)] [G('70-'72)] Nb

EXHIBIT 8b

I. 1974 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given:
- G ('70-'72) = 6.4%
- HNG ('72) = 2319
- HGA ('72) = 1635
- HI (72-'74) = [HGA ('72)] [G ('70-'72)] Na
  = (1635) (.064) (2)
  = 209

Therefore: PTA - H 1974 = HNG ('72) + HGA ('72) + HI ('72-74)
= 2319 + 1635 + 209
= 4163

B. Secondary Trade Area - A

Given:
- G ('70-'72) = 4.8%
- HNG ('72) = 590
- HGA ('72) = 390
- HI ('72-'84) = [HGA ('72)] [G ('70-'72)] Na
  = (390) (.048) (2)
  = 37

Therefore: STA (A) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 590 + 390 + 37
= 1017

C. Secondary Trade Area - B

Given:
- G ('70-'72) = 2.5%
- HNG ('72) = 2297
- HGA ('72) = 535
- HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
  = (535) (.025) (2)
  = 27

Therefore: STA (B) - H 1974 = HNG ('72) HGA ('72) + HI ('72-'74)
= 2296 535 + 27
= 2858

D. Secondary Trade Area - C

- G ('70-'72) = 8.5%
- HNG ('72) = 3574
- HGA ('72) = 1326
- HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
  = (1326) (.085) (2)
  = 225

Therefore: STA (C) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 3574 + 1326 + 225
= 5125

EXHIBIT 8c

II. 1980 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given: G ('70-'72) = 6.4%
HNG ('72) = 2319
HGA ('74) = 1844
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (1844) (.064) (6)
= 708

Therefore: PTA H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 2319 + 1844 + 708
= 4871

B. Secondary Trade Ares - A

Given: G ('70-'72) = .048
HNG ('70) = 590
HGA ('74) = 427
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (427) (.048) (6)
= 123

Therefore: STA (A) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 590 + 427 + 123
= 1140

C. Secondary Trade Area - B

Given: G ('70-'72) = 2.5%
HNG ('72) = 2296
HGA ('74) = 562
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (562) (025) (6)

Therefore: STA (B) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 2296 + 562 + 84
= 2942

D. Secondary Trade Area (C)

Given: G ('70-'72) = .085
HNG ('72) = 3574
HGA ('74) = 1551
HI ('74-'80 = [HGA ('74)] [G ('70-'72)] Nb
= (1551) (.085) (6)
= 791

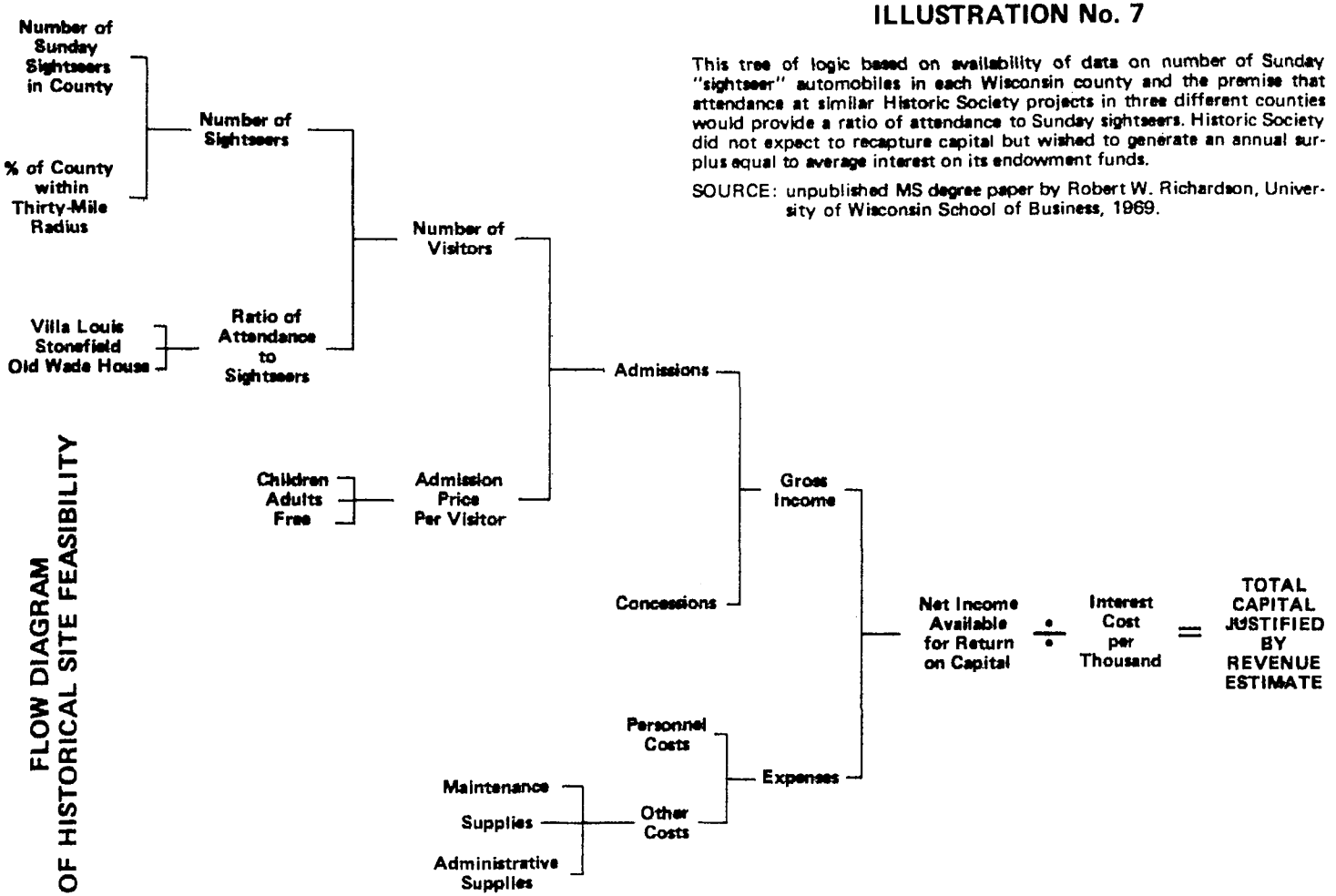
Therefore: STA (C) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 3574 + 1551 + 791
= 5916

EXHIBIT 9

ILLUSTRATION No. 7

This tree of logic based on availability of data on number of Sunday "sightseer" automobiles in each Wisconsin county and the premise that attendance at similar Historic Society projects in three different counties would provide a ratio of attendance to Sunday sightseers. Historic Society did not expect to recapture capital but wished to generate an annual surplus equal to average interest on its endowment funds.

SOURCE: unpublished MS degree paper by Robert W. Richardson, University of Wisconsin School of Business, 1969.



Source: James A. Graaskamp. A Guide to Feasibility Analysis, (Society of Real Estate Appraisers, 1972), p.40.

Winter Season:
(7) Weekend skiers on ski hill
(8) Cross-country skiers
(9) Snowmobilers
(5) Mini-vacationers
(4) Business meetings - Monday through Thursday

4.260 The analyst must learn to make the best use of secondary data wherever he can find it by creating his own models and these models must show the client the logical, systematic progression from aggregate data to edited information. True, many of the initial assumptions are common-sense and convenience but the error in those may not be significant as further reductions of data are made; those assumptions which are crucial become visibly apparent and become the target of more exacting research expense. Finally, those assumptions when shown to be relevant remind the client of data in his own record system which he had not realized would be relevant. The initial models become a device for further action with the client.

4.261 Remember that the model should relate to the question, namely delineation of the general group of consumers and not a nose-counting census.

4.262 Remember there is a difference between precision and accuracy and one can have no more accuracy than is implicit in the assumptions. Precision is simply doing the mathematics correctly.

4.300 The revenue unit concept of the capital outlay and market revenue worksheets was left as a general unit because merchandising research, as well as definition of revenue potential, requires careful definition of the revenue unit which leads to models for market segmentation.

4.310 The first clue to market segmentation may be found in correctly understanding the essense of the business or activity to be housed.

4.311 A restaurant may be to feed, to provide recreational entertainment, or to provide a background for social exchange for business, for pleasure, for publicity, etc.

4.312 A motel may be for transients, resorts, or terminal traffic. In any event the objective is to sell a room night where there is an 80% gross margin and anything after that is justified by its contribution to room night sales or reduction of fixed costs.

4.320 The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc. not to mention sq. ft., per bowling alley or per tennis court hour.

4.330 Sometimes the unit is identified by who really signs the check for a particular type of real estate.

4.331 The salesman or the management paying his travel costs
4.332 The doctor or the clinic
4.333 The district manager or the corporate real estate manager
4.334 The ticket buyer or the promoter
4.335 The bowling league, team business manager, travel agency tour guide

4.340 The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

4.341 A reverse directory or criss-cross telephone book
4.342 Building directories of comparables
4.343 Mailing lists of specialty publications
4.344 License number spotting
4.345 Guest registers
4.346 Charge account mailing addresses

4.400 The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations.

4.410 The objective of this research is to produce a definition of site, product, and amenity attributes for a project which provides some element of monopoly for the project owner. Average rents are never adequate to current costs so that a project must always strive for the top dollar. Free enterprise is the art of creating a monopoly, if only for a moment in the mind of the buyer.

4.411 Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

4.412 A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

4.420 A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

4.430 A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

4.500 To construct a useful and efficient consumer survey it is first necessary to have a basic model of the relationships you are trying to prove and a careful definition of the market segment you are attempting to define. In short, you begin with a mock-up of the final report logic, the model which converts data to rents (to test previous worksheet).

4.510 Consider the elderly housing market chart in Exhibit 7. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and overwhelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

4.520 The ratio sought by the survey follow a precise reduction pattern:

4.521 How many will consider moving?
4.522 Of those, how many would consider staying in town?
4.523 Of those, how many would consider an apartment?
4.524 Of those remaining who would consider an apartment in town, how many would consider a specific location?
4.525 Notice the reduction process defines a subset of the elderly market - a micro-market.

4.530 Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unneccessary questions are avoided. These type of questions

depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

4.540 The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

4.541 Probe for dissatisfaction with existing space or life style.
4.542 Probe for anxieties about uncontrollable trends and events.
4.543 Probe for desired social structure ties, real or imagined.

4.550 The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth. These represent increasing costs to gain reliability and scope, particularly on visual concepts, at the expense of increasing time required for completion. The results of the surveys can:

4.551 Provide much input to pre-architectural programs ranging type of unit to floor and wall textures preferred.
4.552 Serve as a device for political participation in the neighborhood impacted by the proposed development.
4.553 Generate pre-sale prospect lists.
4.554 Redefine true nature of market and its motivation and the revenue unit to provide a base for analysis.

4.600 As a simple illustration of the relationship of consumer need to pre-architectural programs, consider the survey approach for a turnkey, 160-unit elderly housing project, solicited by the City of Madison Housing and Redevelopment Authority for a specific urban renewal site. Developers were to compete on both cost and sensitivity of design with an oral presentation to the Board in addition to submission of bid materials.

4.610 The packet of bid instructions included:

4.611 Identification of the 116,549 sq. ft. site (with views of lake, park, and hospital)
4.612 Restriction of access to one side of site, and inclusion of 53 parking stalls, and a drive through portachere

4.613 A statement that the proposed structure be in harmony with existing buildings.

4.614 Limit of 160 units in three distinct structures inter-connected by an enclosed weatherized corridor system for elderly housing.

4.615 Specification of three structures consist of a one-story building housing 10-15% of total units; a three-story with 25-35% of total units; and a high rise with the remaining 60-70% of the total units.

4.616 Provision of extensive community, recreation, management and maintenance spaces with explicit instructions as to the location and relationship of the latter two space groups.

4.617 Design in accord with HUD Minimum Property Standards.

4.618 Time between solicitation and presentation was four weeks.

4.620 Joint venture proposal was to include experienced design/construction firm from out-of-town, the local broker/developer for financing and community relations, and a team of two graduate students in real estate. After organization of their joint venture three and one half weeks remained; designer required two weeks to prepare materials; estimator two days, etc. and specification and development of a pre-architectural program had to be completed in eight days.

4.621 Four days allocated to data collection and survey design; four days allocated to analysis and development of design program.

4.622 Market researchers read relevant secondary literature (such as Housing the Elderly, Central Mortgage and Housing Corporation of Canada, Second Edition, July 1972, Printed in Canada; or Design of Housing for the Elderly: A checklist, by Marie C. McGuire, NAHRO 1972; Items found in The Built Environment For the Elderly and the Handicapped, a bibliography, U. D. Department of Housing & Urban Development, Library and Information Division, June 1971).

4.623 Researchers visited several Madison projects, obtained floor plans, and visited with managers to make a subjective analysis of the relative success or misfit design elements in existing housing.

4.630 During same two day period architect/engineers reviewed information packet and site constraints; then met with market researchers to generate the following basic research questions.

4.631 What are the physical limitations of the prospective residents requiring special features?
4.632 What is the prior living experience of the resident, to minimize disruption of life style through design sensitivity?
4.633 What unit mix would be appropriate?
4.634 How is unit mix allocated between three required structures?
4.635 What should be basic unit size?
4.636 How should space within each unit be allocated?
4.637 What functions and design features should be included in community spaces?
4.638 Are there other wants, needs and anxieties of users unmet by existing Madison elderly housing projects?

4.640 To answer these questions the survey design required specification of survey measurement devices and identification of a respondent group.

4.641 Given the experience of the researchers, their preliminary research to brief themselves, and a two-day time limit, they chose to do a non-probability judgment sample.
4.642 Time schedule required a telephone survey technique with a random sample of residents in elderly housing units in Madison.

4.650 Sampling criteria required:

4.651 Sample be representative of the population of interest
4.652 Persons selected must be able to respond with relevance and validity to the survey
4.653 Population from which sample would be drawn had to be experienced in type of unit to be researched

4.660 In response to these criteria:

4.661 It was reasoned that most likely there would be homogeneity of demand characteristics between present occupants of public elderly housing in Madison and prospective occupants on Housing Authority waiting lists.
4.662 Literature search indicated that continuity theory (habit, pattern, life style) control elderly so that occupant of present comparable units would best be able to relate to design questions and project their future needs and desires relative to their own units and experience.

4.663 A need survey could have been made of Housing Authority management, building managers, or HUD underwriters but developer felt that the best responding group would be the elderly themselves.

4.670 The interview sampling plan consisted of:

4.671 Identification of Madison public housing units for the elderly by street address

4.672 Identification of present occupants by name in existing units from current reverse telephone directory.

4.673 Random sample of residents named and available by phone (potential bias)

4.680 Survey results were to be keypunched and analyzed on a cross tabulation program at the UW School of Business Computer Center to reveal how different persons in different types of units might have differed in their responses.

4.681 For speed, keypunching was to be done directly from completed questionnaire form

4.682 Usable forms were required to have answers to all relevant questions

4.683 Ultimately there were 99 usable responses from a total population of 268 apartment units in the Madison elderly housing program.

4.684 Two persons completed these responses in two twelve hour working days; computer analysis took one day.

4.690 Sample questionnaire provided in Exhibit 10

4.691 Telephone survey very poor technique for measuring attitudes of elderly

4.692 More valid than group meetings conducted by Housing Authority where residents are intimidated by landlord, size of group, or dominant extroverts

4.693 Personal interview more time consuming and more valuable

4.694 Interviews should be conducted in respondent own unit to position questions against current experience and to permit demonstration with more ease than verbal articulation.

4.695 Exhibit 10 should be viewed as demonstrating how standardization is imposed on telephone survey techniques

4.696 Interviewers were women

4.700 The questionnaire was intended to generate a brief consumer profile, identify possible significant and subtle dissatisfactions with unit design, and permit some open-end questions to explore areas not anticipated by researchers.

4.710 The consumer profile of the typical occupant:

4.711 Was female (83%)

4.712 Had previously rented a housing unit (82%) with 91% having paid less than $175 per month and 60% had paid less than $100, indicating most found the public housing unit better in quality and lower in price ($50-$60 per month)

4.713 Long waiting periods before admittance to public housing generally made them most grateful and non-critical.

4.714 Almost all had known low density low rise residential environments over their lifetimes.

4.720 For space allocation and features the survey revealed:

4.721 Satisfaction of present site with living room larger than bedroom, etc.

4.722 99% preferred bathroom to open into bedroom

4.723 Open-end question revealed majority wanted outside window from kitchen

4.724 Desire for indoor walking-exercise area without steps

4.725 Desire for lounges tied to indoor passages and with views of action centers

4.726 Desire for outside space defended from intrusion by strangers, kids, etc.

4.727 Desire for community craft and recreation facilities which were not isolated by stairs, windowless walls, or outside walkways (as was the case in Madison projects).

4.728 Anxiety about high rise among many due to fire hazard dependence on elevators or lifetime unfamiliarity with high rises.

4.729 Preferred more units per floor in low rise to exclusiveness of high rise floor but would take anything they could get.

4.730 The theory on aging elderly behavior patterns also contributed to design constraints, for example, the disengagement theory indicates the elderly gradually lose the energy to maintain a great variety of social contacts, etc., a tendency which leads to isolation and increased depression due to lonliness.

4.731 Physical design must provide a variety of choices as to their withdrawal from the street, the total project, a small group of neighbors, or their own room.

4.732 At the same time heterogeneity of unit mix avoids clustering all handicapped, all married, etc. in one particular zone to give everyone a variety of social contacts.

4.733 Circulation patterns can be designed to encourage random meetings without forcing social involvement.

4.734 Visual elements which are depressants such as views of cemeteries, hospitals, nursing homes, etc. should be avoided.

4.740 With the initial design constraint inputs, the designers worked up a tentative plan which proved to exceed the desired cost estimate at which point estimators, market analysts, and designers met in an all-day session to hammer out final trade-offs. A 165-unit project was the result as described in Exhibits 11, 12, 13 and 14.

4.741 Project had second lowest total cost ($3,397,380 or $26,000 per unit) of the ten proposals submitted.

4.742 Project was turned down by renewal board because they did not like contractors reputation for economy and thought the exterior was less attractive than conventional tower.

4.743 Experience is typical of real estate that is designed to please the investor rather than the ultimate user, particularly when the investor has not properly defined the context in sufficient detail to judge the fit of any proposal submitted.

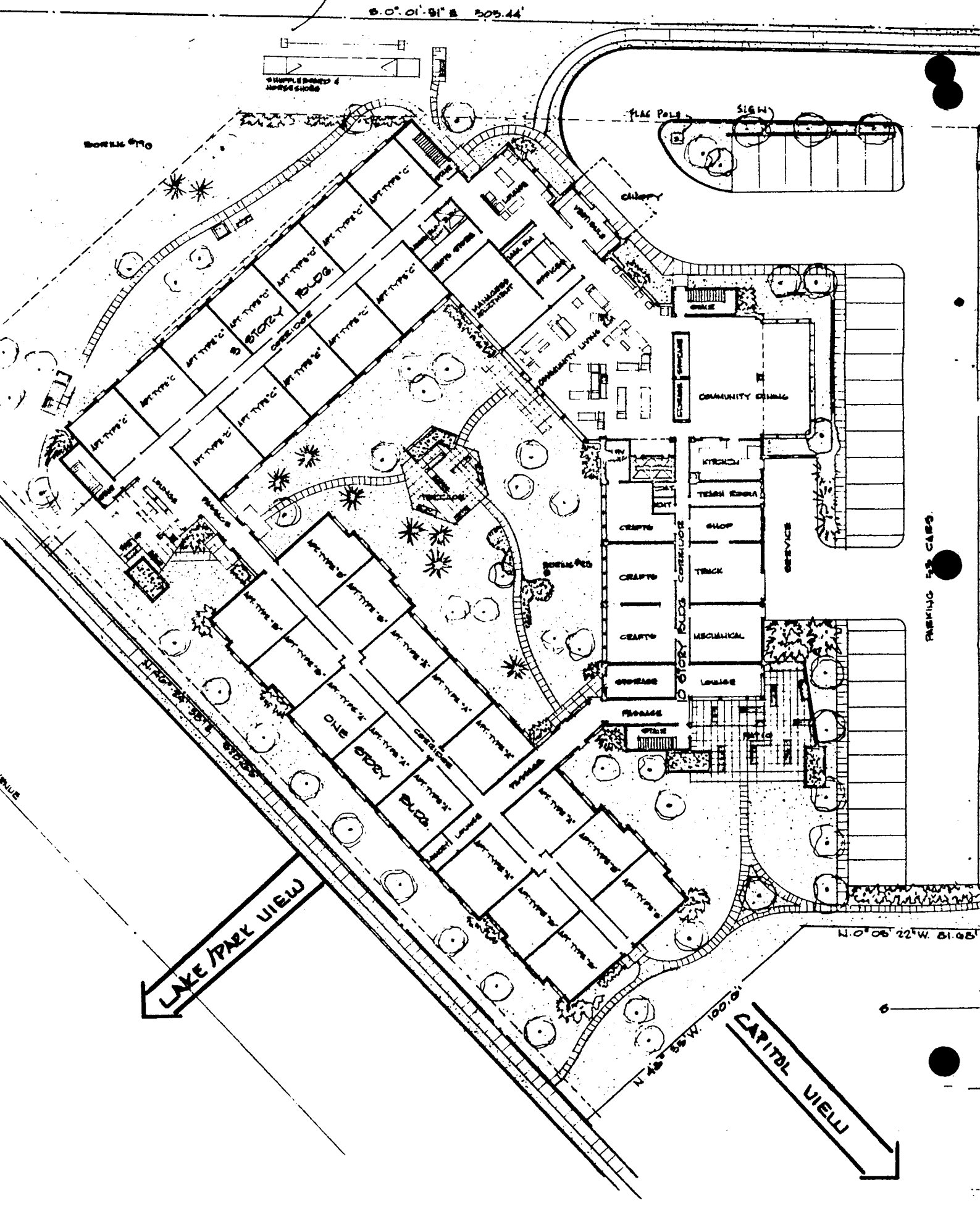
TABLE

UNIT CHARACTERISTICS AND DISTRIBUTION

BUILDING	UNIT TYPE	DESCRIPTION	NUMBER	FLOOR	NET SQUARE FOOTAGE	TYPICAL VIEW
One-Story	A	Handicapped 1 Bed	8	1	505	(4) Courtyard (4) Brittingham Park
	B	Handicapped 2 Beds	8	1	524	(2) Courtyard (2) Neighborhood Terrace (4) Brittingham Park
Mid-Rise	C	Handicapped 1 Bed	12	1	504	(7) Brittingham Park West (5) Courtyard
	C	1 Bed	18	2,3	504	(6) Brittingham Park West (12) Brittingham Park East
	D	2 Beds	8	2,3	536	(8) Brittingham Park West
	E	1 Bed	2	2,3	504	(2) Brittingham Park East
High Rise	C	1 Bed	84	2-8	504	(42) Capitol (42) Lake Monona
	D	2 Beds	24	9,10	536	(12) Capitol (12) Lake Monona
Manager's Apartment	F	2 Bedroom	1	1	660	Courtyard

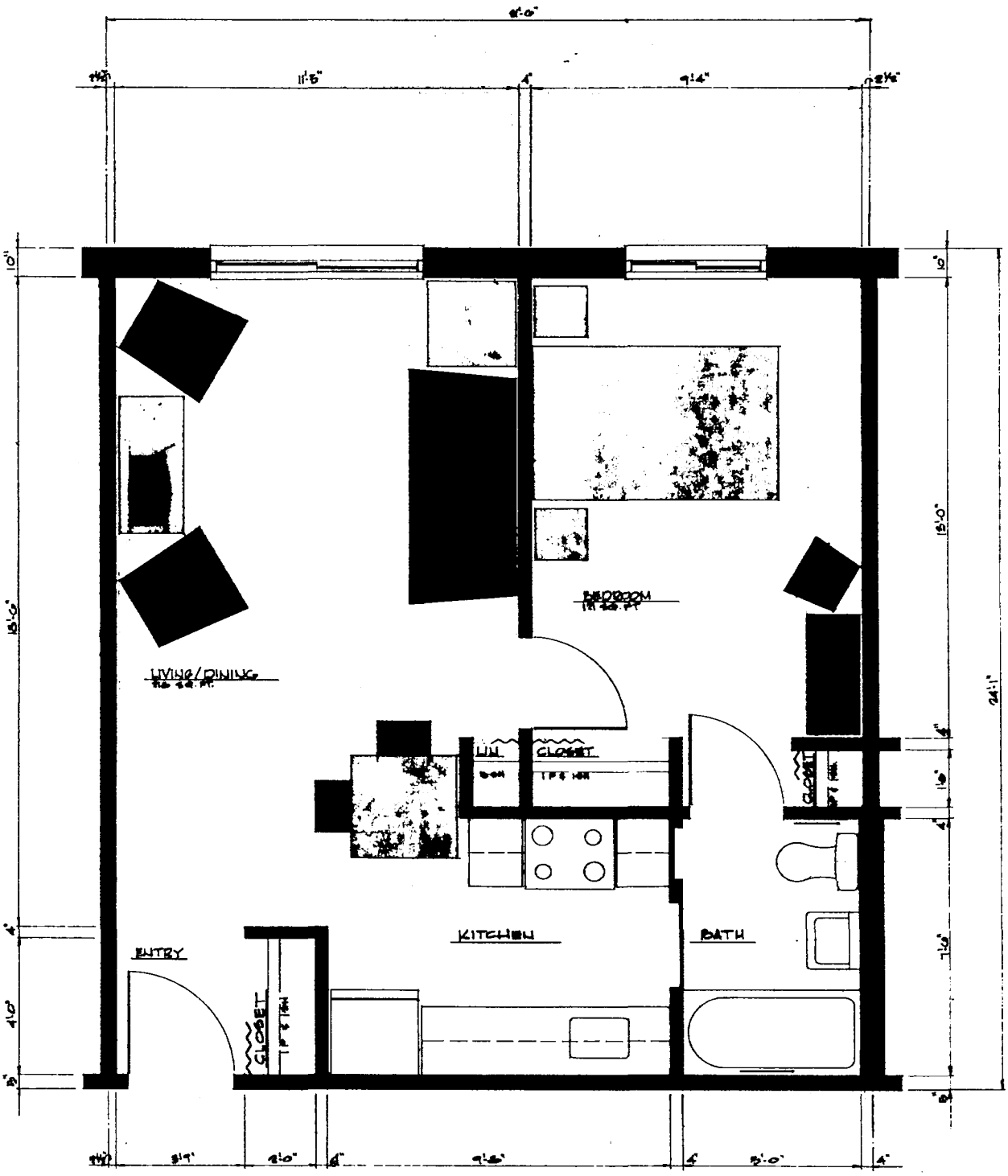
EXHIBIT 11

EXHIBIT 12



S.0°.01'.51" E 505.44'
FLAG POLE
SIGN
CANOPY
3 STORY BLDG.
CORRIDOR
COMMUNITY DINING
KITCHEN
TRASH ROOM
SHOP
TRACK
MECHANICAL
LOUNGE
CRAFTS
STORAGE
SERVICE
10 STORY BLDG.
ONE STORY BLDG.
LAKE/PARK VIEW
CAPITOL VIEW
N.0°.05'.22" W. 81.08'
N.48°.55' W. 100.0'

EXHIBIT 13



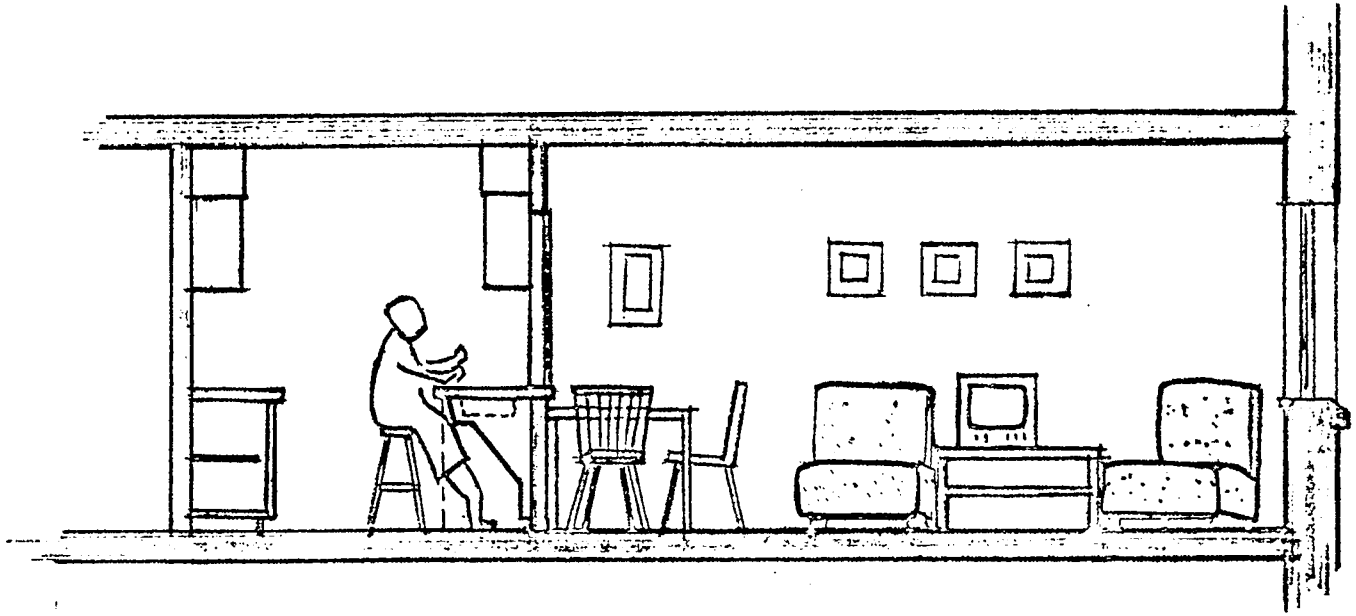
622 SQ FT. GROSS . 505 SQ FT. NET

ONE STORY BLDG - ONE BEDROOM APT. TYPE "A" . 8 UNITS

SCALE 1/2" = 1'-0"

KITCHEN SHELF AREA 53 SQ FT.
KITCHEN DRAWERS 8 SQ. FT.
GENERAL STORAGE 179 CU. FT.

EXHIBIT 14



ELEVATION — KITCHEN & LIVING ROOM TYPES C & D

SCALE 1/4" = 1'-0"

TOTAL 146 UNITS

5.000 Non-Market Constraints on Project Feasibility

Assuming effective demand and capital cost numbers can be brought into balance for specific package of improvement, there remain several key questions of fit, any one of which can derail a project. In order of importance are site suitabilities, impact compatibility on the community, and the legal-political environment within which the project must work. In a survey of feasibility issues these can be treated only in a introductory fashion.

5.100 Site analysis begins with a specific site and structures or stems from the market revenue approach as a set of site specifications which will control the search for alternatives. There is no such thing today as raw land or a vacant lot. A site suitability study recognizes every site has:

5.110 Static attributes - physical characteristics of size, shape, topography, soils, etc.

5.120 Linkage attributes - relationships to other sites which may tend to generate movements of goods and people to the subject site.

5.130 Dynamic attributes - characteristics which affect behavior such as visibility, prestige, or feeling of fear or anxiety.

5.200 Static attributes analyzed should include the facts and the implications of the following:

5.210 Size, shape, and area

5.220 Topography, soils, slope stability, and water table

5.230 Legal uses

5.240 All set-back lines and building envelopes

5.250 Access controls (proximity is not accessibility)

5.260 Concealed utility easements, old foundations, etc.

5.270 Flood plains which have been determined by Corp of Engineers, etc.

5.280 Scarce environmental elements which almost certainly mean environmental impact litigation

5.290 Landmarks or historical structures

5.300 Site map and analysis should not only document the existing controls but attempt to anticipate external controls on use which may be introduced by administrative process:

5.310 Water district, harbor commission, or other special district lines

5.320 Premises of community master plans still in incubation process

5.330 Tax conservancy commitments

5.340 Extra territorial zoning or subdivision powers

5.350 Attitudes of sewer, water, and highway commissions

5.360 Contractual agreements among previous buyers and sellers which may or may not run with the land

5.370 Planner views of physical barriers to restrict "sprawl"

5.380 Existing or impending legislation should be anticipated relative to:

- 5.381 Septic tank installation
- 5.382 Ground water, depth and conservation of high water recharge areas
- 5.383 Salt water encroachment
- 5.384 Conservation of environmental edges
- 5.385 Conservation of prime agricultural land
- 5.386 Water quality standards
- 5.387 Air quality standards

5.390 Analysis of the static site attributes should also be in terms of competitive advantages and disadvantages of each attribute in terms of pricing and marketing.

5.391 Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

5.392 Some static attributes can provide monopoly advantages because its suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

5.393 Static attributes will also help identify "best use" or the most probable buyer.

5.394 Lack of fit between static site and merchandising data is a basic cause of unsuccessful projects.

5.400 Linkage attributes have to do with functional relationships or points of interaction with activity centers which may generate users or provide the infrastructure of improvements which support the site.

5.410 Streets, sidewalks, rail, and transit systems serving the site.

5.420 Access points

- 5.421 Traffic department controls, present and proposed
- 5.422 Rail switching and truck tariff zones
- 5.423 Indirect controls imposed by factors affecting behavior (see dynamic attributes, 5.000)

5.430 Utility services are linkages, too.

- 5.431 Sewer and storm water capacities
- 5.432 Water, gas, and electric hook-ups, availability and capacity
- 5.433 Community energy supplies and sources
- 5.434 Implicit resources such as stock of wild game, labor pools, alternatives to the auto, etc.

5.440 Capacity of existing transportation systems to absorb unit volume generated on site and implications for off-site improvement budgets.

5.450 Relationship of subject site to generators of potential needs and uses for the subject site.

- 5.451 Employment centers
- 5.452 School system alternatives
- 5.453 Neighborhood demographic characteristics, etc.
- 5.454 Complimentary existing nearby uses
- 5.455 Recreational services
- 5.456 Health care systems
- 5.457 Security systems
- 5.458 Waste disposal services

5.460 Relationship to competitive alternatives and exposure to interception of linkages.

5.500 Dynamic attributes have to do with the mental or emotional responses which it stimulates as it affects decision making behavior. These decision makers may be property buyers, regulators of site use, or customers of establishments located on the site.

5.510 Image conditioning of the approach zone

5.520 Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

5.530 Anxiety factors of access and security

5.540 Noise as a function of traffic count (FHA noise pollution manual).

5.550 Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

5.560 Political images established for a site by the public positions of local politicians or vested interest groups.

5.570 Historical community reputation and values attached to the project site and structures.

5.570A Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.

5.570B Recycling may establish historical roots and images.

5.600 These various groups of attributes bear different weights in the process of feasibility analysis depending on what questions remain to be answered. At one point or another the analyst will be arriving at some conclusions as to the potential misfits between the site and:

5.610 What attributes are essential for the intended use?

5.620 What attributes negative to the intended use can be neutralized and at what cost?

5.630 Are there competitive sites with superior attributes or does the site possess monopoly characteristics for the use intended?

5.640 Who essentially needs the site?

5.650 Can these potential users afford the site?

5.660 How many of these users with effective demand potential are there (relative to the capacity of the site)?

5.700 The real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers which represent the community political environment. The landscape builds like a reef, the cumulative bones of thousands of individual decisions. This decade will witness a final transition from relative laissez faire attitudes of land as a commodity to highly democratic regualtion of land as a public resource and land use as a privilege granted by the public. If the proposal won't sell at City Hall there will be no opportunity to market the product to individuals. Therefore the project must consider in its feasibility procedures and in constraints imposed by pre-architectural programs the impact on the environment of?

5.710 Physical factors of the environment

5.711 Soil stability and water tables beyond the site boundaries

5.712 Eutrophication of lakes and streams
5.713 Disruption of environmental edges, plant, and wildlife areas
5.714 Impact on energy resources
5.715 Contribution to social disintegration
5.716 Aesthetic and urban design

5.720 Social factors of the environment

5.721 Displacement of existing residents and neighborhood units
5.722 Contribution to social integration or mobility barriers
5.723 Contribution to land use heterogeneity
5.724 Contribution to regional and community master plans

5.730 Economic factors of the environment

5.731 Direct impact on real estate tax revenues
5.732 Direct impact on other governmental revenue
5.733 Direct impact on incremental government
5.734 Secondary contributions to local government revenues
5.735 Secondary cost burdens created for local communities

5.740 Real estate business ethic environment

5.741 Impact on supply equilibrium
5.742 Impact on associated contractors
5.743 Impact on families of project sponsor
5.744 Ligitimacy of financing structure

5.750 Silhouette of proposed project in terms of public perception of impact.

5.760 Relationship of impact assessment to:

5.761 Scale of project
5.762 Vulnerability of project sponsor to secondary consequences of political discretion
5.763 Stamina of project sponsor in the face of public pressure

6.000 Structuring the Feasibility Report

Ultimately the budget established for analysis and the need to communicate the findings represent a severe constraint on the feasibility process. Priorities and critical assumptions necessary to achieve the desired outcome must be separated from the great mass of detail and presented tersely.

6.100 Format of the report should rely on three elements:

- 6.110 An executive summary which tersely identifies alternative courses of action and recommendations as to how client can make the choice.
- 6.120 A basic reference document which includes all the detail analysis.
- 6.130 A collection of reports by contributing professionals incorporated by reference.

6.200 To be terse the executive summary should depend on:

- 6.210 Simple charts of choices of alternative outcomes
- 6.220 Simple flow charts
- 6.230 Specific criteria used to measure "liklihood of success"
- 6.240 Incorporation by reference of statement of limiting conditions

6.300 Statement of limiting conditions should emphasize who:

- 6.310 Defined the constraints
- 6.320 Defined success
- 6.330 Provided the data and assumptions
- 6.340 Permitted key assumptions to remain untested for economy or speed
- 6.350 Accepted assumptions of conditions of uncertainty
- 6.360 Assembled proforma financial statements and projections

A GUIDE TO FEASIBILITY ANALYSIS

Center for Management Development
Wichita State University
January 13, 1976

Sponsored by:

Wichita Chapter #69 of the Society of Real Estate Appraisers
Topeka Chapter #159 of the Society of Real Estate Appraisers
American Institute of Real Estate Appraisers Kansas Chapter #45
Professorship of Real Estate and Land Use Economics, Wichita State University

MORNING SESSION: 9:00 A.M.

I. Real Estate as an Enterprise and the Management Process

II. Elements of a Total Feasibility Analysis

III. Alternative Specialists to Input Facts missing

IV. Elements of Financial Feasibility missing

COFFEE BREAK: 10:30

V. The Concept of Risk missing

VI. Determining Objectives and Criteria of the Client missing

VII. Structuring Market Data Analysis With Models ✓ (VI)

LUNCHEON: 12:00

AFTERNOON SESSION: 1:00 P.M.

I. Market Segmentation and Identification of Prospective Buyers or Tenants ✓

II. Pre-Architectural Programming ✓

III. Developing a Customer Profile with a Consumer Survey ✓

COFFEE BREAK: 2:30

IV. Structuring and Modeling Cash Flows for Rental Properties ✓

V. Modeling Cash Flows for Land Development ✓

VI. Modeling Cash Flows and Other Measures of Economic Impact on a Community ✓

VII. Risk Evaluation ✓

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EXHIBIT ONE

FEASIBILITY RESEARCH GROUP

Accountability

Accountability rests with the individual (s) firm (s) or sources as indicated below:

1. Statement of Objectives by _____
2. Satisfaction Criteria by _____
3. Alternative Research by _____
4. Market Research by _____
5. Market Analysis by _____
6. Space User Profile by _____
7. Consumer Preference Survey by _____
8. Market Forecast by _____
9. Absorption Rate Forecast by _____
10. Land Development Cost Estimate by _____
11. Building Improvement (s) Cost Estimate by _____
12. Indirect Cost Estimate by _____
13. Producer Cash Flow Forecast by _____
14. Tax Liability Projection by _____
15. Investor Cash Flow Forecast by _____
16. Environmental Impact by _____
17. School District Impact by _____

FEASIBILITY ANALYSIS SEMINAR OUTLINE

1. Concepts and definitions basic to real estate enterprise

   A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

   B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

      1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

      2. The business of real estate is the process of converting space-time to money-time.

      3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

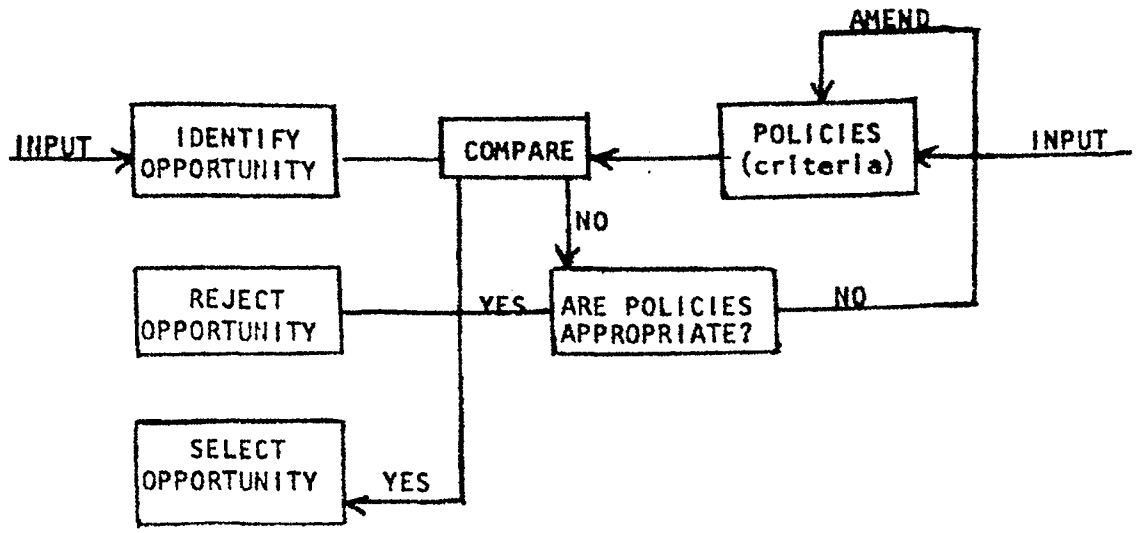
   C. Traditional sequence of management function:

      1. Planning
      2. Organizing
      3. Directing
      4. Controlling

   D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

      1. Goal-setting
      2. Forming policies
      3. Searching for opportunities which are consistent with policies
      4. Selecting opportunities which are consistent with policies
      5. Designing <u>systems</u> for capturing selected opportunities
      6. Installing <u>systems</u> for capturing selected opportunities
      7. Operating the <u>systems</u> that have been installed
      8. Maintaining and continously perfecting the operating <u>systems</u>

   E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other hand.



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical -aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and ob jectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

   "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources--James A. Graaskamp.

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

pp. 4+5 are missing

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis with Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram)

EXHIBIT TWO

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen Motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

EXHIBIT THREE

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (÷ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development (10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise	28.0%	
Garden	49.1	
	77.1%	978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		708

That share of households who said they would be willing to move:
Within 1 year from now 15.6% - 110 households

EXHIBIT THREE CONTINUED

Households that can be considered candidates for the

proposed development

that share of households who said they would be willing to move:

Within 1 year from now	15.6% - 110	households
Within 2 years	31.2% - 220	"
Within 5 years	53.4% - 378	"
	708	

A project of 100 units requires a capture rate of:

91% for a 1 - year absorption rate
90% for a 2 year " "
14% for a 5 year " "

FEASIBILITY ANALYSIS - AFTERNOON SESSION

1. Market Segmentation and Identification

   A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

   B. First name the typical revenue unit or method of measuring profit per sales unit

      1. Per acre
      2. Per apartment
      3. Per event

   C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

   D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

   A. Scaling the market with a body count and opportunity gaps

   B. Classifying the body count by preferences

   C. Study of the competition to define the competitive standard and supply gaps

   D. Surveying the consumer to identify a competitive differential

   E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

   F. Refer to Consumer Survey Questionnaire (Landmark Research)

   G. Direct mail and phone call techniques

III. Pre-Architectural Programming

   A. The theme and market target

   B. Product size mix and price

   C. Product features by competitive standard and competitive edge

   D. Negative market factors to be neutralized by design

   E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

   A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See chart)

   B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

   No

   Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	
Spring	1	2	3	4	5	6+	
Summer	1	2	3	4	5	6+	
Fall	1	2	3	4	5	6+	

2. Do you presently own a summer home or cabin site?

   No

   Yes → County _____ State _____
   Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

   Yes

   No → What is your main reason? _____

Thank you

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No ↓

Yes → Which one? _____
Yes → What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No ↓

Yes → Would you buy one again: Yes No
No → Why not? _____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check one preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999 ( ) $40,000-44,999
( ) 25,000-29,999 ( ) 45,000-49,999
( ) 30,000-34,999 ( ) Could pay more

14. What type of building features would you prefer in the layout of the condominiu unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCTING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

PART I OF IMV INVESTMENT VALUE APPROACH

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

May 1, 1971

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SUGGESTED OUTLINE OF CASH ANALYSIS FOR LAND DEVELOPMENT PROJECT

DEVELOPMENT PERIOD	1	2
PRODUCTION STARTS		
PRODUCTION COMPLETIONS		
1. BEGINNING INVENTORY		
2. SALES IN UNITS		
UNITS SOLD FOR CASH		
PRICE PER UNIT		
REVENUE FROM CASH SALES		
UNITS SOLD ON LAND CONTRACTS		
DOWN PAYMENT RECEIVED		
ACCOUNTS RECEIVABLE ADDED		
3. SALES COSTS		
COMMISSIONS PAID		
CLOSING COSTS		
4. RUNOFF OF LAND CONTRACT SALES		
INTEREST		
PRINCIPAL		
PERIOD END ACCOUNTS RECEIVABLE		
5. NET CASH GENERATED FROM SALES		
6. OPERATING COSTS		
CARRYING COSTS--RAW LAND		
CARRYING COSTS--INVENTORY		
REAL ESTATE TAX--RAW LAND		
REAL ESTATE TAX--INVENTORY		
MANAGEMENT + ADMINIST. COSTS		
7. NEW ALLOCATED CAPITAL OUTLAYS		
8. NEW GENERAL CAPITAL OUTLAYS		
9. PROJECT DEBT STRUCTURE		
TOTAL INITIAL CASH		
DEBT BALANCE END OF PERIOD		
TOTAL PRINCIPAL PAYMENTS		
TOTAL INTEREST PAID ON PROJ.		
INTEREST ADDED TO LOAN BAL.		
10. NET CASH FROM DEBT INCURRED		
11. CASH AVAILABLE BEFORE TAXES		

ONENTS	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST
ND	.00	1	.	0	$	40000.
ILDING	1.00	1	35.	3	$	165300.
RKING	.50	1	10.	3	$	7200.
RNISHINGS	1.00	1	7.	1	$	13200.
EVATOR	.80	1	12.	3	$	12500.
ANSACTION COST	1.00	1	35.	3	$	1800.
H YR REFURBISH	1.00	8	7.	1	$	10000.
L INITIAL INVESTMENT					$	240000.

GROSS RENT	$ 46080.	RATE OF GROWTH OF GROSS RENT	.0200	
EXPENSES	$ 8400.	RATE OF GROWTH OF EXPENSES	.0200	
R E TAXES	$ 9000.	RATE OF GROWTH OF R E TAXES	.0500	
INCOME TAX RATE	.3000	RATE OF GROWTH OF PROJECT VALUE	.0100	
VACANCY RATE	.0500	WORKING CAPITAL LOAN RATE	.0900	
EQUITY DISCOUNT RATE	.1800	EXTRAORDINARY EXPENSES	$ 7625.	
STAGING YR(0),FACTOR	.00	COST OF EQUITY CAPITAL	.1200	

	1	2	3	4	5	6	7	8	9	10
EQUITY REQUIRED	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

NCING PLAN

FIRST ASSUMED MORTG. $ 180000.
MONTHLY PAYMENT $ 1477. INTEREST RATE .0775 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
INTEREST	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
BALANCE	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

SELLERS 2ND MORTG $ 15000.
MONTHLY PAYMENT $ 185. INTEREST RATE .0850 STARTS 1 ENDS 5 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
INTEREST	1236.	1148.	1053.	948.	835.	.	.	.	.	.
BALANCE	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

REFINANCED FIRST $ 190000.
MONTHLY PAYMENT $ 1589. INTEREST RATE .0800 STARTS 6 ENDS 10 BONUS INTEREST .0400 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
INTEREST	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
BALANCE	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

REFURBISH CHATTEL $ 10000.
MONTHLY PAYMENT $ 150. INTEREST RATE .0900 STARTS 8 ENDS 10 BONUS INTEREST .0000 OF GROSS RENT

	1	2	3	4	5	6	7	8	9	10
PRINCIPAL	.	.	.	.	.	.	.	938.	1026.	1122.
INTEREST	.	.	.	.	.	.	.	861.	773.	677.
BALANCE	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.
MARKET VALUE	242400.	244800.	247200.	249600.	252000.	254400.	256800.	269200.	271600.	274000.
BALANCE OF LOANS	191298.	184767.	179014.	172789.	166054.	185983.	181634.	185985.	179858.	173211.
NET WORTH OF PROPERTY	51101.	60032.	68185.	76810.	85945.	68416.	75165.	83214.	91741.	100788.
CAPITAL GAIN	10253.	20506.	30759.	41013.	51266.	61519.	71773.	83455.	95329.	106757.
CAPITAL GAINS TAX	1537.	3075.	4613.	6151.	7689.	9227.	10765.	12518.	14299.	16013.
INCOME TAX ON EXCESS DEPRECIATION	1084.	1890.	2426.	2702.	2729.	2401.	1828.	1362.	663.	.
* * * * * * * * * *	* *	* *	* *	* *	* *	* *	* *	* *	* *	* *
PERCENT INITIAL EQUITY PAYBACK AFTER TAX	.0517	.1609	.2946	.4233	.5471	1.0797	1.1843	1.2696	1.3517	1.4303
NET INCOME-MARKET VALUE RATIO	.0773	.1087	.1087	.1087	.1087	.1087	.1087	.1046	.1046	.1047
RETURN ON NET WORTH BEFORE TAXES	.1086	.3052	.2511	.2318	.2158	.1510	.1978	.3093	.1676	.1601
RETURN ON NET WORTH AFTER TAXES	.1290	.2372	.2196	.2061	.1933	.1406	.1939	.1762	.1665	.1553
CASH RETURN ON ORIG CASH EQUITY BEF TAX	-.0269	.1482	.1539	.1596	.1653	.6102	.1357	.3041	.1085	.1129
CASH RETURN ON ORIG CASH EQUITY AFT TAX	.0517	.1091	.1336	.1287	.1237	.5873	.1045	.0853	.0820	.0786
DEFAULT RATIO	.9763	.8339	.8054	.8029	.8004	.8204	.8185	.8508	.8484	.8461
LENDER BONUS INTEREST RATE	.0000	.0000	.0000	.0000	.0000	.0122	.0110	.0115	.0114	.0120
PRESENT VALUE OF PROJECT BEFORE TAXES	239306.	242903.	245505.	247329.	248531.	247609.	247992.	255579.	255349.	255001.
PRESENT VALUE OF PROJECT AFTER TAXES	238058.	240050.	241378.	242202.	242600.	241500.	241748.	246686.	246477.	246115.
EQUITY RATE W/ COST OF CAPITAL AT .120	.1290	.1793	.1887	.1889	.1862	.1775	.1742	.1706	.1672	.1639

NEW APPRAISAL METHODS

ONE DAY SEMINAR
presented by
PROFESSOR JAMES A. GRAASKAMP
sponsored by

THE AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS
ONTARIO CHAPTER #44

All real estate practitioners are invited to attend this one day seminar that will present new concepts of appraisal theory, appraisal format and appraisal practice through an examination of the present appraisal process; its obsolescence of basic concepts and modern alternatives.

FRIDAY FEBRUARY 20th

The seminar will be held on the lower level of the Sheraton Four Seasons Hotel, 123 Queen St. W., Toronto, on this day.

Registration fee is $40.00 which includes all printed materials, lunch and coffee breaks.



LECTURER

Professor James A. Graaskamp

Professor James A. Graaskamp is currently an Associate Professor of Real Estate at the University of Wisconsin. His undergraduate work was done at Rollins College, Florida; he then attended Marquette University where he received his M.B.A., and in 1964 at the University of Wisconsin he received his Ph.D. in Urban Land Economics and Risk Management. Professional designations include the Society of Real Estate Appraisers, American Society of Real Estate Counsellors and the College of Property Underwriters.

Professor Graaskamp has research interests in the development of a variety of after-Tax flow investment simulation models for Real Estate; research of innovative Tax Assessment Techniques and recreational real estate development. In private industry he is co-founder of a general contracting firm in Madison, a land development firm in Madison, and a farm investment corporation. His work includes investment counselling in insurance companies and banks, court testimony as an expert witness and projects for various Wisconsin municipalities as well as private investors. He is also co-designer and instructor of EDUCARE teaching program for computer terminal applications in Real Estate.

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NEW APPRAISAL CONCEPTS & METHODS

A Seminar Sponsored by
The American Institute of Real Estate Appraisers Ontario Chapter #44

Sheraton Four Seasons Hotel, Toronto, Canada
Friday, February 20, 1976

Instructor: James A. Graaskamp
University of Wisconsin School of Business

I. Urban Land Economics is moving toward fundamental redefinitions of the premises upon which appraisal is based and at the same time business enterprises are becoming more sophisticated in their understanding of the decision process and the need for economic forecasting.

A. Since appraisal has its roots in urban land economics but serves as a tool for business decisions affecting land, it follows that the appraisal process must undergo some modification.

B. Urban land economics and the appraisal framework are both decision models intended to structure a baffling number of variables into a manageable framework that leads to a conclusion. Any model is developed to fit the following requirements:

1. The question to be answered
2. The facts available
3. The theory
4. Credibility with the decision maker
5. Facility of the analyst
6. Cost benefit ratio of method

C. A model of any decision framework has the following components:

1. Factual input organized to identify alternative courses of action and to predict their consequences
2. Factual input analyzed to generate value judgment and objectives
3. Objectives reduced to explicit standards, criteria, or screens intended to reduce the alternative courses of action to that one plan predicted to provide the most acceptable consequences (the objectives)

D. The key issue is "What is the question to be answered"?

1. The traditional three approaches are models of a prudent man decision process where the objective is to maximize profits
2. The appraiser locks himself to the model with his statement on the question (or purpose) "the purpose of this appraisal is to determine fair market value"
3. What if value is not the central issue? What if clients ask other questions?

E. Urban land economics is reexamining the concept of land as a commodity and "highest and best use" as the ultimate land use decision standard or screen.

F. Business sees the investment decision as acceptance of a set of assumptions, assumptions made under conditions of uncertainty. Risk is the variance between assumptions and realizations. Thus there is an interest not only in a forecast of favorable future consequences of a decision but in the degree of probability in achieving that goal. Single point estimates rather than a range of alternative outcomes are suspect.

II. The simple concept of highest and best use (that use which would maximize value to the owner over a stated period of time) was central to land economics and the presumed decision standards for only a brief point in time.

A. Historically land use allocations reflect a social system, a consensus as to fears and aspirations, and a static state of the arts, and technology, of the population base, and the cultural structure.

B. The turmoil of the pioneer era and the industrial age destroyed the stability of population, static technology, and cultural continuity on which long term land use decisions had depended.

C. We are now in an era in which the people are attempting to redefine a consensus on land use priorities and reassert control of land use decisions.

1. The Rockefeller Land Use Commission noted a growing public consensus that land use was central to both environmental balance and social equity and therefore subject to public control first and private development second.

2. In Wisconsin the State Supreme Court in Just vs. Marinette ruled that the owner of a lake lot has no right to develop land which in its natural state is a marsh served an important function as a filter and wild life edge for the general area. The family had enjoyed camping on the tract many years prior to applying for a permit to build a cottage and the judge ruled that it served adequately as recreational property without a cottage. Said State Supreme Court Chief Justice Hallows, "The changing of wetlands and swamps to the damage of the general public by upsetting the natural environment and the natural relationship is not a reasonable use of the land...
...nothing this court has said or held in prior cases indicates that destroying the natural character of a swamp or a wetland so as to make that location available for human habitation is a reasonable use of that land when the new use, although of a more economical value to the owner, causes a harm to the general public. ... While loss of value is to be considered in determining whether a restriction is a constructive taking, value based upon changing character of the land at the expense of harm to public rights is not an essential factor or controlling.
The land belongs to the people ... a little of it to those dead... some to those living... but most of it belongs to those yet to be born ..." 56 Wis 2d 7

3. A variety of cases in the U.S. show a declining status of property rights viz-a-viz personal rights or public rights.

D. However, there are several key readings in basic appraisal which reveal a parallel development in the concept of best use for the appraiser:

1. "Highest and Best Use," William Crouch, The Appraisal Journal, April 1966, pp. 166-176
2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April 1972, pp. 165-174
3. "The Importance of the Highest & Best Use Analysis," Paul Tischler The Real Estate Appraiser May-June 1972.
4. "A Rational Approach to Feasibility Analysis," James A. Graaskamp The Appraisal Journal, October 1972, pp. 513-521
5. "Highest and Best Use: A New Definition, A New Opportunity," John E. Bohling, The Real Estate Appraiser, January-February 1976, pp. 33-36

E. Some key points made are:

1. Crouch - appraiser must prove effective demand and reasonable probability of political permission to use the site.
2. Wendt - the opinion of highest and best use must consider so many variables on an after tax basis that the conclusions must vary with investor type just as judgments and analytical skill must vary by appraiser.
3. Tischler - proposed use must not only consider highest income to owner but also external costs and impact on others.
4. Graaskamp - feasibility requires cash solvency of consumer, producer, and public infrastructure as well as environmental fit to the land.
5. Bohling - discusses synthesis of the above made official in ARIEA - SRA dictionary of Real Estate Appraisal Terminology See Part IV.

III. At the University of Wisconsin we are exploring a more balanced base to urban land economics and business decisions by going back to basics and providing careful definitions of each component, each decision maker, and the relationship among them.

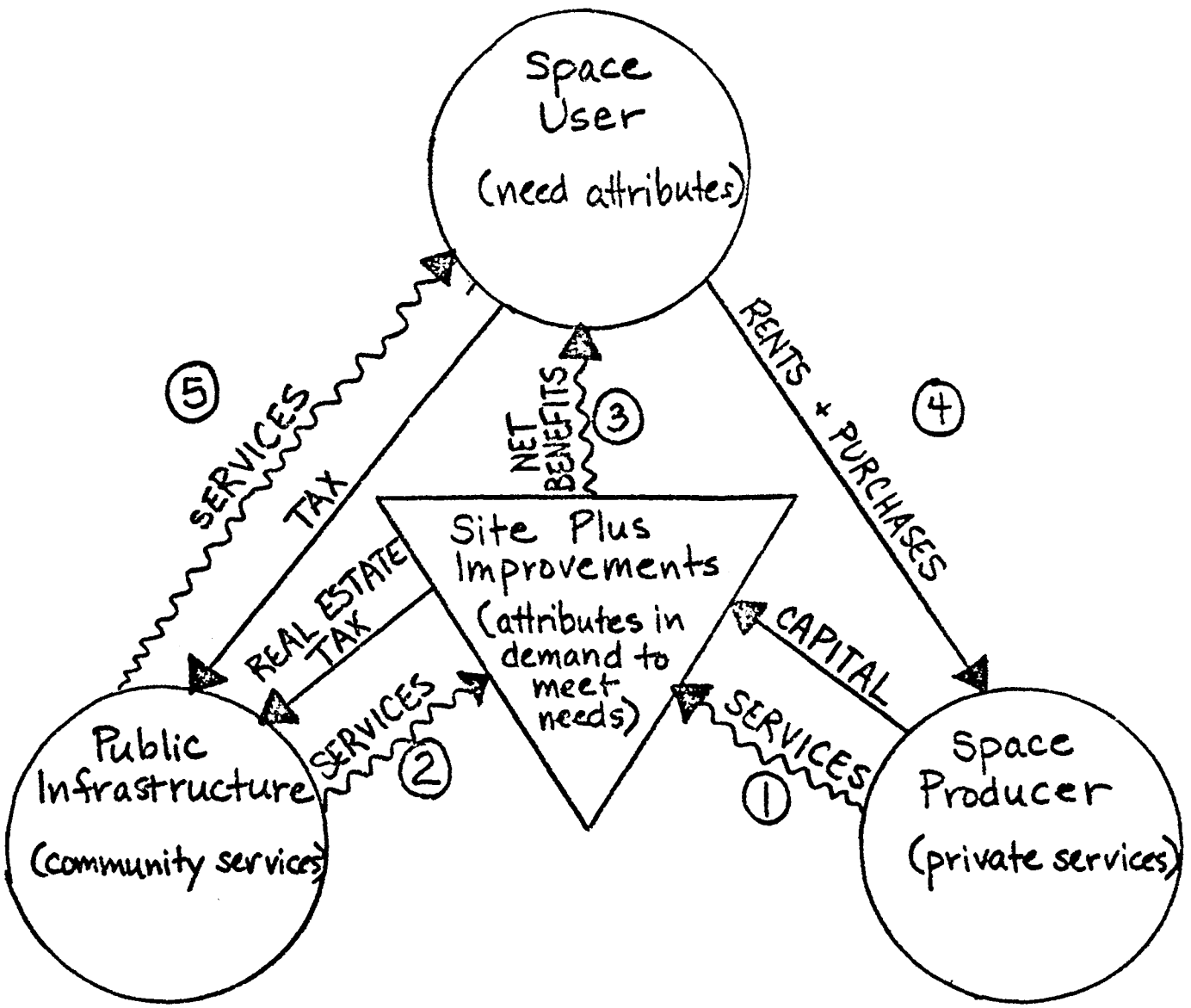
A. Real estate is defined as artificially delineated space (cubage) with a fourth dimension of time, given a fixed reference point to the surface of the earth.

B. The real estate enterprise is any cash cycle organization concerned with the conversion of space/time to money/time or vice versa, a definition which includes the space user, the space producer, and supporting public infrastructure agencies.

1. Conversion requires specification of assumptions about the future.
2. Risk is a variance between assumptions and actual realization
3. Risk management is the control of variance for static risks (contingency which only cause loss) and dynamic risks (contingencies which may be profitable or otherwise, depending on entrepreneurial expertise).

C. The real estate process is the dynamic interface of all three cash cycle enterprises, the space user, the space producer, and the public infrastructure who must interact to find compromise solutions which permits all three to operate at solvency. That solution will impact on the land and must be constrained by the capacities of the land.

D. Land is a finite natural resource, at most a public utility and more probably a public stewardship.



E. Basic definitions lead to several basic axioms:

1. Space/time units and money/time units are reversible equations requiring a fungible common denominator
2. Solvency of the total process, not value of the parcel is the critical issue and the means for conflict resolution.
3. The real estate process is cultural and the value judgments generated then determine land use.

4. Real estate enterprise for profit does not depend on ownership of land but on access to opportunity to provide services and expertise.
5. Equity ownership is the degree to which one can divert available cash flows to ones benefit (legally).

F. From this evolves our approach to the typical issue of feasibility: "A real estate project is 'feasible' when analysis indicates that there is a reasonable likelihood of satisfying explicit objectives and when a selected course of action is tested for fit to a context of specific constraints and limited resourses. The context defines the problem. Feasibility of a real estate project is normally related to its probable economic potential."

G. Context relates in part to assumptions which are implicit or explicit in the decision process. Consider the definition of market value and its implicit assumptions, i.e., the context in which the market value model is to work: "The price which a property will bring in a competitive market under all conditions requisite to a fair sale, which would result from negotiations between a buyer and a seller, each acting prudently, with knowledge, and without undue stimulus." (SREA, Real Estate Appraisal Principles and Terminology [Chicago, Kinnard, 1960] p. 85).

1. Competitive market conditions
2. An informed buyer and seller
3. No undue pressure on either party
4. "Rational" or prudent economic behavior by both buyer and seller
5. A reasonable turnover period
6. Payment consistent with the standards of behavior of the market
7. Market Value looks at the transaction from the point of view of the buyer

H. Giving the changing character of property rights, given the expanding numberof public and private decisions which must be made relative to land, is it reasonable to expect appraisal to determine market value within rigidly defined concepts and to arrive at a single number or "point" value.

1. Since all of the implied ocnditions rarely are true in an imperfect market or during the period of rapid public and market changes of policy and preference, value is seldom price.
2. To hedge the appraisal conclusion with a variety of limiting conditions at a time when the variables for consideration are increasing, is to produce a value conclusion that is almost fictitious.
3. Since the concept of limiting conditions must be used sparingly less the appraiser support consistency rather than accuracy, better methods must be found to introduce some tolerance for the conditions of uncertainty which surround the appraisal estimate.
4. Given all the variables a more logical appraisal format is required, at the very least.

I. A broader more realistic theoretical base is now possible as the professional societies have adapted the definition of highest and best use to be the mort probable use and Ratcliff has established the concept of most probable selling price.

1. Probable use recognizes the need to modify profit maximization by consideration of such variables as business risk of the user, compatibility with the community, and the relative bargaining power or motivation of different types of buyers.
2. The concept of most probable price has been defined by Prof. Ratcliff:

   "The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."

   a. Central tendency is the point conclusion as a mode, or median (not an average)
   b. Ranges which define standard error statistically or intuitively
   c. Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal.
      Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.
      The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.[1]

      [1] Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D., SRPA, Ballinger Publishing Co., Cambridge, Mass., 1975, p. 107; co-sponsored by Society of Real Estate Appraisers and American Institute of Real Estate Appraisers.

IV. An appraisal is a qualified feasibility study of a site in search of a market. It requires identification of most probable use, inference of most probable buyer type, and then analysis of that buyer's past behavior or simulation of his probable purchase logic. Exhibit B provides a suggested outline for an appraisal report based on these premises.

EXHIBIT B

SUGGESTED OUTLINE OF A BASIC APPRAISAL REPORT

I. Letter of Transmittal

II. Table of Contents

III. Salient facts and conclusions (optional and relevant to purpose of appraisal)

IV. Statement of context for which appraisal is required:

A. Brief statement of the issue for which the appraisal will serve as a decision benchmark.

B. Special problems implicit in the property which specify definition of value or modify appraisal methodology.

C. Special instructions or assumptions provided by others and approved by client (for example, a request to appraise current use rather than best use, or a request for investment value rather than probable sales price, etc., or special assumptions required for cash flow projections by state securities commission).

V. Definition of the legal interests to be appraised

A. Specify legal description and source

B. Specify fixtures or personalty to be included

C. Specify typical operating assets excluded (such as furniture when doing a motel structure for a real estate tax).

VI. Definition of value to be objective of appraisal

A. State selected definition (for example the R.U. Ratcliff definition of probable price):

"The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."

B. Indicate source of definition and applicability to purpose of appraisal

C. Indicate implicit conditions of the definition. (For example, the conditions of a fair sale presumed by fair market value or the implication of the range of error around most probable price implied by the Ratcliff definition).

Exhibit B continued

VII. Productivity or potential use analysis of subject property

A. Site analysis

1. Physical (static) site attributes including location, size, shape, slope, soils, etc.
2. Legal constraints on use of site including zoning, easements, or those implied by purpose of appraisal (purpose for use as a bank drive-in teller facility must be a specified distance from main bank building).
3. Linkages of site to neighborhood and community (visual and physical relationships to flows of people, traffic, goods, or activity centers.
4. Dynamic attributes of site (behavioral responses of people to site in terms of anxiety, special attractions of water, view, etc., visibility, prestige, etc.

B. Improvement analysis

1. Physical (static) attributes of improvements listed by type, construction, layout, condition, etc.
2. Legal-political constraints on use of improvements (including problems of non-conformity, building code violations, zoning, etc.
3. Current uses and tenancies, if any
4. Linkages of current uses to neighborhood and community
5. Potential linkages or attributes which could be marketed (feasibility problem of a property in search of a market)
6. Dynamic attributes of improvement (behavioral responses of people to building style, bulk, sentimental history, historical values, etc.

C. Identification of significant and physically appropriate uses for subject property

D. Comparative analysis to select most probable use as of valuation date considering:

1. Effective market demand
2. Competitive supply of alternatives
3. Legality and political compatibility
4. Financial feasibility
5. Risk sensitivity

VIII. Specification of most probable buyer type implied by most probable use of subject property.

A. Alternative buyer types and motivations and selection of most probable buyer profile.

B. Specification of essential site, improvement, financial, or other key decision criteria of probable buyer type.

C. Explanation of appraisal methodology for prediction of probable purchase price range consistent for most probable buyer.

1. Preferred method - to infer buyer behavior from actual market transaction and market data available.
2. In the absense of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. The text proposed to indicate the fit of property and probable price prediction to be made to the criteria of the probable buyer profile.

Exhibit B continued

IX. Initial estimate of appraised value

A. Inference from market transactions of similar buyers

1. Search and data collection method
2. Definition of basis for comparison
3. Adjustments and supporting evidence
4. Extrapolating comparative sales to subject property
5. Estimate of central tendency of value and standard error prior to adjustments for external of changing condition

B. Simulation of possible or probable buyer logic in establishing his offer price

1. Justification for using simulation rather than market comparison
2. Justification for simulation methods selected
3. Description of the basic simulation approach
4. Development of data required for simulation
5. Estimate of most probable simulation value
6. Identification of "softest" assumptions to which value is sensitive
7. Pessimistic and optimistic assumption sets to establish range of alternative values

X. Identification of significant external conditions, economic, political, or otherwise, not considered by past market transactions or investment simulation based on empirical evidence.

A.. Identify neighborhood, community, regional, or national factors which would bear directly on marketability of such a property and which were not present in market comparison or simulation assumptions.

B. Identify possible political or other contingent factors which might foreseeably occur to upset normal appraisal assumptions.

C. Specify any violation of conditions in the appraisal methodology of the definition of value.

D. Adjust initial value estimate in IX or indicate no adjustment is necessary.

XI. Demonstrate with test previously indicated how predicted transaction price would permit investor to achieve objectives attributed to him in definition of most probable buyer profile.

XII. Provide value conclusion and certification of appraisal

XIII. Provide statement of limiting conditions which establish:

A. Contributions of other professionals on which report relies

B. Facts and forecasting under conditions of uncertainty

C. Assumptions provided by the client

C. Controls on use of appraisal imposed by the appraiser

XIV. Appendices and Professional Credentials

V. The appraisal outline above is really a special case of a feasibility study - the problem of a site and/or building in search of a market. Moreover, I can hear the old-timers stating that it is too detailed and too theoretical and that if the ivory tower professor had to do an appraisal like that, he would find it didn't work out at all. Anticipating that, I thought I would risk a recent appraisal which I did for the City of Madison and from which I have reproduced the main part of the report.

   A. This report was selected not because it was good but because it was representative.

   B. Anticipating certain litigation, it was necessary to use fair market value rather than most probable price but you will notice that the method of analysis was the same.

   C. You are welcome to criticize

   D. Linear regression valuation from market data will be domonstrated immediately after lunch.

   E. Check lists on static and linkage attributes are provided in VI, VII, and VIII.

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	Professional Credentials	

I. Statement of Appraisal Purpose and Fair Market Value

A. The purpose of this appraisal is to provide an opinion of fair market value for the subject property to be described in a narrative appraisal report to the City of Madison Real Estate Division. The appraiser has been instructed to regard the properties in question as a single entity owned by the Lake Development Monona Partnership, although title reports indicate three separate ownerships, and to consider highest and best use only as consistent with existing C-3 zoning as specified in a letter from M. N. Gawlik to Landmark Research, Inc., dated August 30, 1974.

B. For purposes of this appraisal fair market value is defined as the amount which can be realized on sale by an owner willing, but not compelled to sell, to a purchaser willing and able but not obliged to buy. Wis. J.I. Civil Part II 8100 P.C. Monday P.T.A. vs. Milwaukee City Expressway Commission 24 Wis. (2d) 107-128 NW s(3)(63) 1963.

C. It is recognized that the subject site is currently pledged toward a variety of notes and mortgages but these claims upon the asset are not recognized in this valuation. Instead the purpose of the appraisal is to decide if the fair market value of the site would justify assumption of these notes by the buyer and since release of an obligation is constructive receipt of cash, the appraisal seeks the cash price which the seller could expect as fair market value.

II. General Description of Subject Property

A. The general location of the property is in the 600 block of Williamson Street in Madison, Wisconsin on the shore of Lake Monona at the foot of Blount Street. Improvements include the former Crane Building Warehouse which is partially occupied by a used furniture shop; an abandoned and vandalized commercial garage building; an old railway spur track; and below grade rubble and footings of a demolished brewery. The name of the former brewery gives the site the general reference (identification) of the Fauerbach property.

B. The legal description of the subject property defines it as: Part of lots 3 and 4 and all of lots 5,6, 7, 8, and 9 of block 126, Original Plat, City of Madison, Dane County, Wisconsin. (See Exhibit #1; for full legal description supplied by City of Madison).

C. The tax parcel numbers include:

Parcel No.	Land Assessment	Improvement Assessment	Total Assessment
709-134-2002-5	70,200	15,200	85,400
709-234-2003-3	56,200-	26,900	83,100
709-234-2004-1	111,200	0	111,200

III. Appraisal Report Research and Organization

A. The key question in forecasting the fair market value of any property is determining what might be the most profitable use to which the property could be put by possible investors in the marketplace. Once some determination of the most probable use has been made, it is possible to identify the most probable type of buyer who would seek that site and then, discover how that buyer might determine his offering price given his identified objectives, legal and economic constraints to which the property is subject, and available alternatives. The best method for determining most probable buyer behavior is by inference from actual purchase prices paid for properties of similar use potential. Where sufficient market data is not available, it may be possible to simulate the income expectations that would result from ownership and assign some part of that investment value to the land as it presently exists. Where existing improvements play a minimal part in the calculus of possible investors, the cost approach is irrevelant, as in this case, and should not be used.

B. To identify alternative possible uses for the site, it will be first necessary to describe the various characteristics or attributes of the subject property which provide important advantages or disadvantages to the investor. These attributes can be subdivided into static attributes (inherent physical characteristics), linkages (relationship to activities and properties around it), and dynamic behavioral attributes (attitudes of various public segments to the site).

C. In this case the appraiser will test a number of different development strategies for the site consistent with C-3 zoning, and select the probable use strategy for private investment in light of site attributes and market demand as of October 1, 1974. This will lead to a general identification of the most probable type of buyer who would be interested in the site and that in turn would lead to selection of comparable sales for analysis.

D. Primary reliance will be placed upon the market comparison approach but it should be noted that current economic conditions affecting the level of effective demand, the degree of leverage, the cost of construction, and the income tax environment of real estate represent a change in conditions which require careful adjustment of sales prices occurring in the more prosperous years just passed.

E. To assist in the technical analysis of site potentials and to provide some initial sketches of alternative layouts consistent with existing zoning, this study has utilized the services of Glad, Sarko, and Associates of 418 Russell Walk, Madison, Wisconsin, land planning consultants and designers.

IV. Subject Site Static Attributes

A. The subject property presently has an irregular shape, as it lies between a somewhat meandering shoreline of Lake Monona to the south and a bend in the 600 block of Williamson Street--a major boulevard arterial on the north which suffers a reduction in width from 120 feet of right-of-way to 100 feet at the west end of the subject property. The property has approximately 425 feet of frontage on Lake Monona, 257 feet of depth on its Blount Street frontage to the southeast, but only approximately 310 feet on Williamson Street and 150 feet of depth on its western border which slices across Lots 3 and 4. These borders encompass about 94,470 square feet of land area. However, this generous site area is misleading, despite its zoning as C-3 Highway Commercial District due to the following: (See Exhibit #2 & #3)

1. A dockline is established for lake front property by the State of Wisconsin which establishes the shoreward point beyond which construction or substantial grade changes are not permitted. This dockline leaves 21,200 square feet of land area between it and the high water level which is set at 1.50 feet, City datum, leaving approximately 73,270 square feet available for development, if it were not for the new Madison waterfront controls.

2. The site is subject to the more restrictive waterfront development standards as established by City of Madison, Ordinance 4664 (as of 8-5-74), which requires the following:

   a. A conditional use permit for virtually any change in the status quo. (See 28.04(19) City Building Code.
   b. Shoreline to building setback shall conform to existing development pattern which in this case has been dictated by the Chicago and Northwestern spur track. From discussions between John Glad and Barney Riley of the City of Madison Zoning Department, on September 17, 18, and 19 it was determined that the building line would be a distance of 101 feet from the lake shore. Thus the area left for development is approximately 49,730 square feet between the rear yard line and Williamson Street.

3. City of Madison Ordinance 28.09 2d(3) and 28.09 4d (1) further modify C-3 zoning. Residential use is restricted to the second floor and above, and to 50% of the total building floor area unless a conditional use permit for greater residential area is obtained. Recent decisions of City Council suggest flexibility on area limit but reluctance to permit residential on first floor.

B. The dominant positive feature of the site is its 425 feet of southeast shoreline exposure on Lake Monona, providing an opportunity for a pleasing view and excellent solar orientation. The site has a gradual slope of 4% from Williamson Street down to the lakeshore.

C. The physical character of site improvements is mixed and negative, generally representing clearance costs before vacant site could be utilized. Lots 8 & 9 are essentially leveled with fill and rubble from a former brewery and the condition of underground footings and

basement floors which remain below the backfill is not known but could pose additional expense for new construction. On Lot 7 is a one and two story building with concrete foundations, a partial basement for a boiler room, and brick mill construction. Outside walls are masonry and building tile with steel industrial windows. Interior of building is a medium strength wood beam and second floor loft system spanned by large wood arch trusses which feature some skylights and a front section of office-display space. The arches, skylights and fair condition of the building would seem to indicate that it has some potential for restoration and reuse.

The remainder of the parcel of Lots 4, 5, and 6 are covered by a one-story garage building, with a small partial basement, a few minor structural additions, and a paved concrete apron on Williamson Street which once served as a Sinclair Filling Station. The wooden roof, supported on light steel trusses has rotted away and would need to be replaced. The balance of the building has been vandalized to the extent there are no windows remaining, wall board has been ripped away, and interiro fittings stolen or burned (by unknown occupants to keep warm)? The obsolete layout and vandalism lead to the conclusion that this building should be razed. To the rear of the building is a side track coming from the Blair Street side which has been officially released by the Northwestern Railroad and could be removed.

Approximately 100 feet of land between Lake Monona and the existing building is unimproved except for cinder and gravel surfacing and some industrial fencing. There is a concrete alley between lots 6 and 7 to provide access. At the foot of Blount Street, to the southeast corner of the site, is a popular fishing pier. A nearby culvert dumps hot water from the Madison Gas & Electric generator plant into the lake so that the lake never freezes in this immediate vicinity.

At the southwest corner of the site is an easement approximately ten feet in width and an inoperative pumping station which have been the property of Madison Gas & Electric Company since 1899. There is no indication that this interest has been abandoned or released as was the case with the side track.

D. Utilities available on the Williamson Street frontage include 8" sewer collector, 8" city water line, 6" Madison Gas & Electric gas line, and full electric service. Sewer may be inadequate for extensive apartment development on subject site depending on current load. Madison Gas & Electric may be able to supply steam or hot water for heating from its generator plants two blocks away as it currently supplies several downtown Madison office buildings.

E. Because of the heavy traffic on Williamson and the boulevard median strip, future development of the subject site will probably be limited to one access point on Williamson and one on Blount Street. Parking will impose a major constraint on the extent of permissable commercial floor area development since City Building Code requires one parking

stall for each 300 square feet of commercial area. For residential purposes the limiting factor for development of the subject site is the required lot area per dwelling unit

Type	Land Area Required	Open Space/DU
Efficiency	700	160
1-bedroom	1000	160
2-bedrooms	1300	320

Development alternatives will be considered after key site linkages and behavior attributes have been identified in Sections V & VI.

V. Subject Site Linkages

Site linkages refer to the relationship of the subject property to off-site activities and to other sites; which might facilitate an exchange of people, goods, and services and therefore contribute to the usefulness of the property. Reference to the district zoning map indicates the subject site is at the foot of a major industrial (M-1) zone for the City of Madison. It is also at the gateway to the near east side residential area commonly referred to as the Marquette neighborhood, which is generally zoned R-5 or R-4A. The Williamson Street commercial zone is a relatively low grade retailing area with no cluster of ancillary service or convenience retail stores in immediate proximity to the subject site.

A. On the northeast side of the subject property, across Blount Street, is located the new and well furbished Elks Club Building, which is the scene of a variety of civic and commercial activities and functions. That is the only civilizing amenity, contiguous to the site. At the northwest corner of the Blount Street intersection is a day care center in a converted, small commercial building, for children of eastside families who are dropped off by parents on their way to work in downtown Madison via public transit.

B. The northwest site exposure across Williamson Street is dominated by a one-story truck garage and truck pool lot, which is leased on a long term basis to the U.S. Post Office. At the foot of Williamson Street facing Blair is an old filling station converted to a used car lot. The subject site also has a view down Williamson Street to the west, toward an old hotel and several bars along a strip of Wilson Street primarily known for a variety of recent crimes of violence.

C. The visibility of the subject site from the direction of the Wilson and Williamson Street access points to the west and from John Nolan Drive and Law Park to the southwest, is blocked by an old two-story building on the western half of block 126 in which the subject is located. This building presently houses an annex of the U.S. Post Office and a number of auto parts and applicance wholesalers. Since the federal government is presently considering construction of

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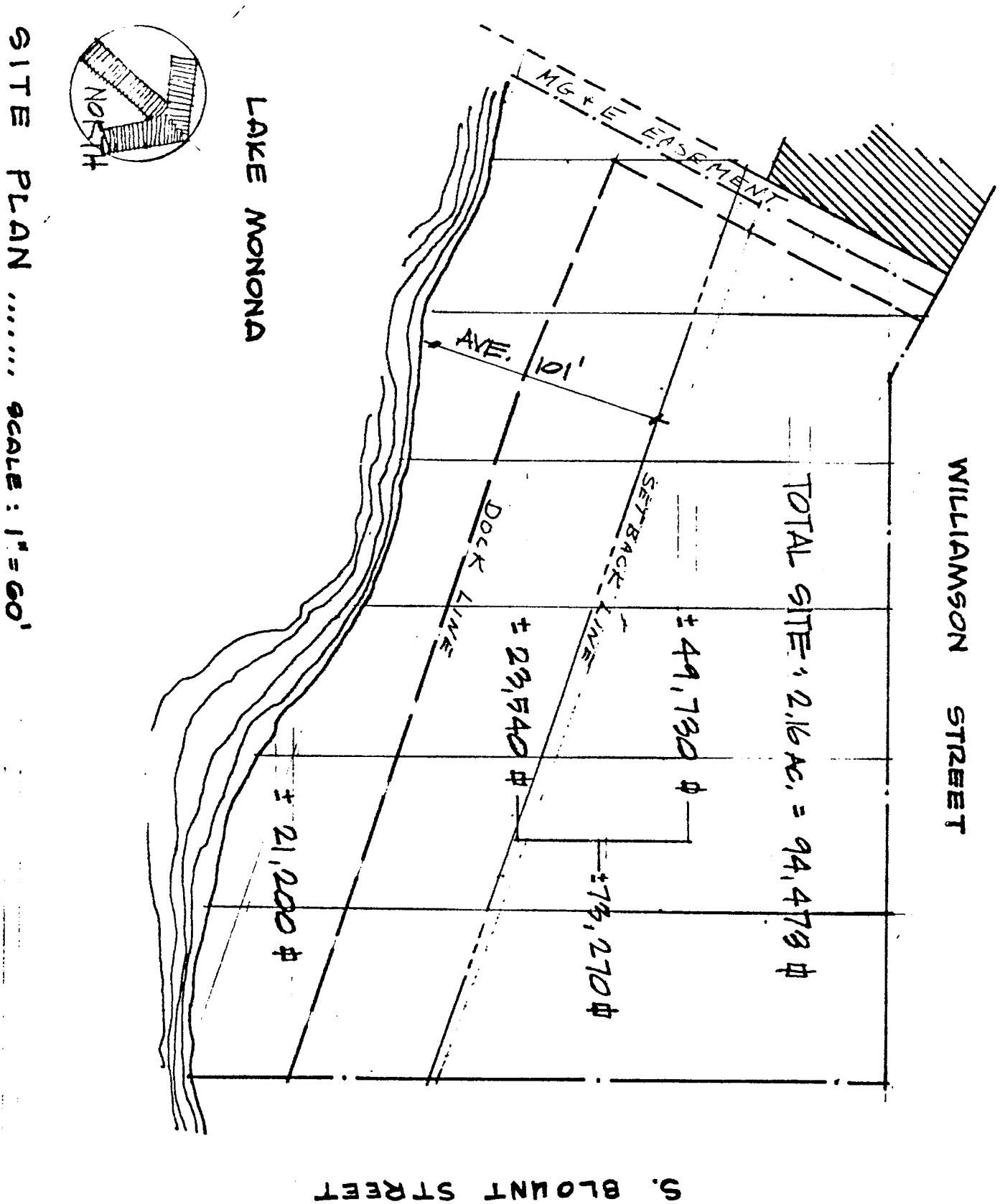
EXHIBIT #3

Source: Glad, Sarko & Associates



consolidated post office operation on the far east side of Madison, it is possible that leases on the garage building and the annex will be terminated within the next few years. As it would be speculative to assume that better neighbors than the U.S. Post Office might be found for these buildings, the compatibility and stability their use must be considered suspect.

D. Just beyond the immediate contiguous environment of the subject site are a number of adverse influences. East of Blount Street is the major coal-fired generator plant of Madison Gas & Electric, with five tall smoke stacks and a variety of coal unloading and lifting machinery systems. Any building on the subject site would need to be carefully designed to screen out a view of the plantand to avoid undesirable accumulations of soot and noise. At one time there was a major railway station for the Chicago & Northwestern Railroad at the corner of Wilson and Blair. The station has been converted into MG & E offices but switching yards remain east of Patterson Street. Two major rail tracks cross Williamson Street at the Blair-Wilson Street intersection to create a significant psychological and physical barrier between the subject site and the Madison Square six blocks away.

E. The street linkages of the site are in a significant state of flux. The City Planning and Traffic Engineering Departments are considering two alternative plans to relieve the congestion of the four corner, angular intersection of Williamson, John Nolan Drive, Wilson and Blair Streets, which is further complicated by the Northwestern Railroad corssing through the center of the intersection.

1. One plan would make Blair Street one way from East Washington to John Nolan Drive in order to divert north-south through traffic around the congested Madison Square via John Nolan Drive. At the same time Blount Street would be made one way to East Washington to handle traffic traveling east on John Nolan Drive. Left turns from Williamson to Blount would require a stop light at that intersection. Various measures are also under consideration to reduce vehicle through traffic in the Marquette neighborhood by a modification of Spaight and Jenifer Streets at the Livingston Street intersection.

2. An alternative plan--which is apparently the preferred plan--would convert Blair Street into a wider two way arterial connecting John Nolan Drive on the Lake Monona side of the isthmus to East Washington and to Gorham Street on the Lake Mendota side. When considered with the Regent Street improvements already completed at the west end of John Nolan Drive, the Blair Street project would provide an outer loop around downtown Madison. The demolitions required for that street improvement plus those which continue as part of the State Office Building project between Webster and Franklin would eventually lead to a significant renewal of the area between the subject site and the Capitol Square area.

3. Further development of John Nolan Drive and the Blair-Blount connectors together with a reduction of traffic through the Marquette neighborhood, will lead to increasing traffic volumes on Williamson Street. This in turn will create traffic levels which could be unacceptable for FHA residential environmental noise specifications for residential construction and which would constitute a barrier to pedestrian access to the Square. Final traffic plans might also make the automobile route from the subject site to the Square even more circuitous than is presently the case with the median strip preventing left turns toward the Square from the Williamson Street access points of the subject site.

VI. Dynamic Site Attributes

Dynamic site attributes are concerned with the attitudes of people as they relate to the subject property or the behavior of the consumer as he evaluates the utility of the property for his own purposes. It has already been suggested that the high intensity intersection at Williamson and Blair would intimidate the pedestrian and may in the future be designed to divert the motorist in directions less than convenient to the subject property. It is a classic case where proximity (to downtown Madison, to Law Park, and to the services on East Washington Avenue) is nevertheless not accessibility with convenience and safety for the occupant of the subject site.

A. The Madison resident typically associates the site area with the rail yard and tracks, the power plant, and the saloons and bowery atmosphere of Williamson Street between Butler and Blair. While the subject property is on the lakeshore, it is not given a prestige rating.

B. In several market surveys (Stewart '69, DeLisle '73, and Ibach '74), the subject property has been presented as one of a number of alternative lake view sites which could be selected by prospective luxury apartment or condominium tenants. These reports showed that Lake Mendota in the Mansion Hill area was regarded as the prestige area, and that several alternative sites on the Lake Monona side were all greatly preferred to the subject site, which the Madison consumer does not presently consider residential in character.

C. The subject site would benefit greatly from a physical and visual connection with Law Park to the southwest and the amenities at the Clark Park beach one and a half blocks to the east. However, the old warehouse building occupied by the Post Office Annex blocks the view from and to Law Park. It would seem desirable to assemble all of block 126 in order to create visual impact for the better on traffic approaching from John Nolan Drive and from Blair Street. Without such assembly, the subject property is cut off from those elements which otherwise might enhance its market recognition.

D. The marketability of a site depends in part on the attitudes created by the approach zone for pedestrians and motorists. This attitude is a function of the stress and anxiety created by the intensity of traffic, the attractiveness of the visual surroundings, and the sense of safety of the pedestrian who is conditioned to shy from unsavory saloons and lonely industrial night-time zones. All of these negative elements are present to a large degree at the subject site and it would be speculative at best to anticipate any improvement or change in current land uses during the next 3 to 5 years.

VII. Alternative Redevelopment Strategies for Subject Site

With the assistance of Glad, Sarko and Associates and Bernard Riley, City Zoning Administrator, a variety of development alternatives were explored to establish allowable gross building areas, building configurations, and required parking facilities. Exhibit #4 summarizes all of the alternatives considered. Each of these alternatives was then evaluated in light of current Madison market requirements, consumer acceptability, and floor area ratio intensity of use.

A. For residential uses a major constraint on development intensity is the land area per dwelling unit, while for commercial uses the required parking index quickly puts a limit on maximum size of development. Given existing ground water conditions, it is assumed there can be only one level of parking below the grade of Williamson Street. Parking ramp construction costs about $4800 a car stall at today's prices, a factor which drives up building costs faster than off-setting rental rates. Above grade ramps would be economically unfeasible for commercial and would preclude total development of permissable site floor area ratios.

B. Lot area setback requirements would be most favorable for a two-story building:

1. Minimum setbacks for residential development:

Lake Side-Average 101 ft. from shoreline
Williamson Street - 20 feet
South Blount Street - 10 feet
Easement (pump house alley) - 10 feet

2. Minimum setbacks for commercial use:

Easement (pump house alley) - 10 feet
Lake Shore - 101 feet from shore
All Other Sides - none

C. Exhibit #4 provides a summary of nine different potential combinations of residential and commercial development which might be considered on the subject site. Only three of these appear to be viable for consideration as of this date. The other alternatives have been eliminated from consideration not only because of zoning change required but for additional reasons as follows:

EXHIBIT #4

Faurbach Site Development Options

Options	Use	Building Area	No. of Stories	Parking Stalls	Location	Primary Constraint	Yard Requirements FR.	S	Zoning Change
A.	Res.	75,000	3	89	AG	* LA/DU	20'	10'	Yes-pkg
B.	Res.	75,000	3	89	BG	LA/DU	20'	10'	No
C.	Comm.	90,000	3	200 100	BG AG	Parking	-	-	Yes-pkg
D.	Comm.	60,000	2	200	BG	Parking	-	-	No
E.	Comm.	33,000	1	111	BG	Parking	-	-	Yes-pkg
	Res.	75,000	3	89	BG	LA/DU	20'	10'	Yes-ORD
F.	Comm.	48,000	2	111 50	BG AG	Parking	-	-	Yes-ORD
	Res.	75,000	3	89	BG	LA/DU	10'	10'	
G.	Comm.	60,000	2	111 92	BG AG	Parking	-	-	Yes-ORD
	Res.	75,000	3	89	BG	LA/DU	20'	10'	
H.	Comm.	208,400	8	696	AG (4-level ramp)	Bldg. Ht.	-	10'	101
	Res.	78,000	3	89	BG	Set Backs	20'	10'	Yes-PUD
	Ramp		4						
I.	Old Comm.	14,200	2	32	AG	Parking	-	10'	No
	Res.	65,000	6	55 37	BG AG	LA/DU	20'	10'	

* Land Area per Dwelling Unit

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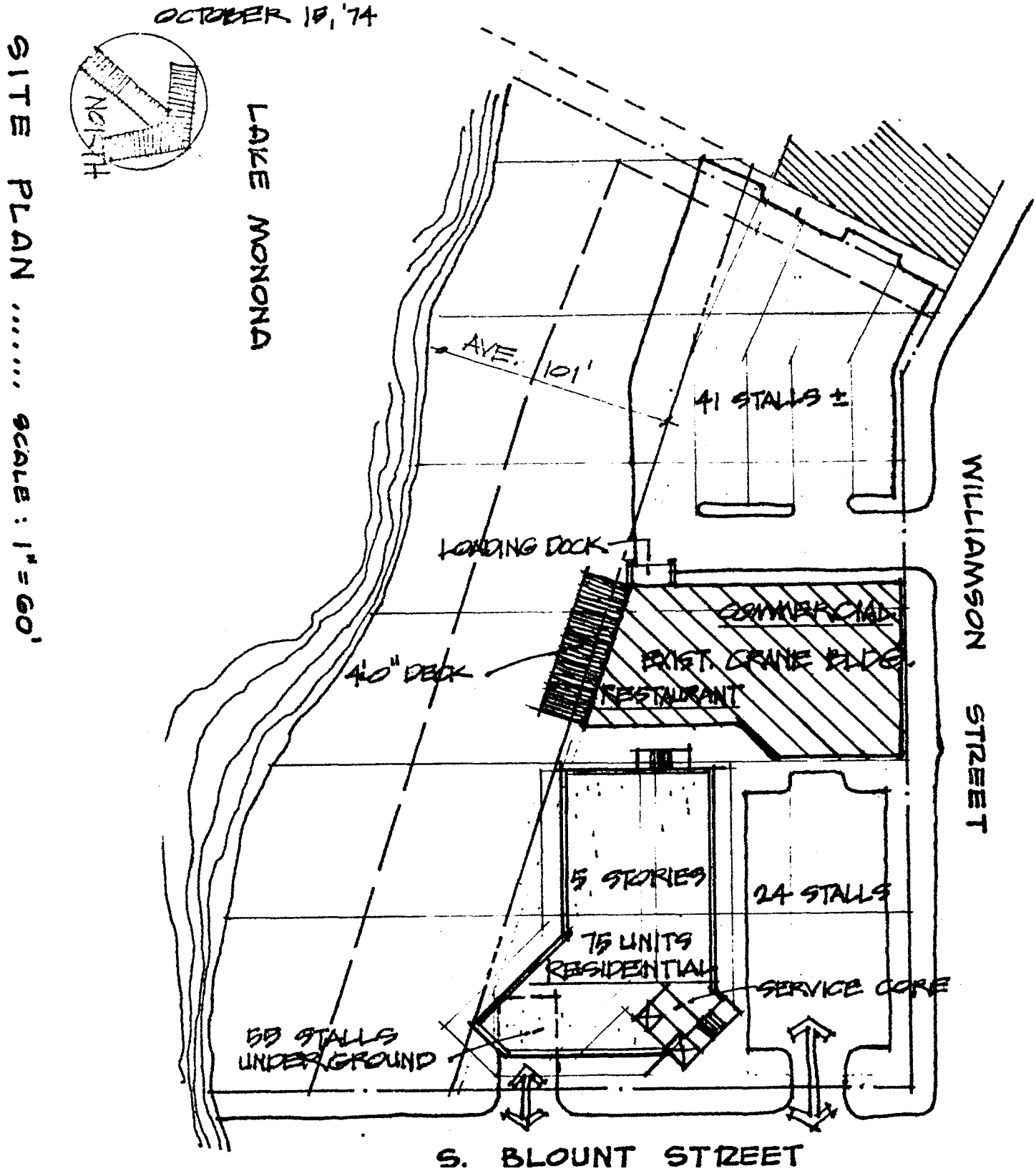
Sketch #4

2. PARCEL CONCEPT: COMMERCIAL @ CRANE BLDG. 75 NEW RESIDENTIAL UNITS



1. Option A with above grade parking (See Sketch #1) would produce a very cluttered appearance for what would be marketed as a luxury apartment location. It would put cars between the building line and lake, a feature probably unacceptable to City Hall. Indeed above grade parking would represent a security problem and a marketing deterrent in subject site neighborhood.

2. Option C has been eliminated because there is no room for 100 above grade parking units and no market for speculative commercial office space in Madison. The City already has a significant surplus of A and B grade office space vacant in the downtown area due to construction of new bank office buildings, several speculative office buildings such as VIP, several remodeled office buildings such as the Hovde Tower and Cantwell Building, and another bank building on the boards.

3. E, F and G (See Sketches #1 & #2) would require an additional conditional use permit from the City Council since the residential development greatly exceeds the maximum of 50% of gross building area permissable under C-3. Indeed a zoning change to PUD or ORD would probably be required and is assumed to be unavoidable. There is also little market for high rent commercial space which is combined with residential on the upper floors. A survey done for Investment Services, Inc. in 1974 (Ibach study) indicated considerable objection by both prospective commercial and higher income residential tenants to such a combination in the same building in Madison. Both F and G require additional above grade parking which means either that part of the first floor of the building must be parking (which hurts its commercial space marketability) or surface parking must be permitted in the lakeshore strip between rear building line and open space which is probably not acceptable to the City according to zoning administrator Bernard Riley.

4. Alternative H represents the extreme building envelope which could be put on this site were it developed to downtown Chicago standards. It would require one level of underground parking plus four levels of ramp parking before reaching eight stories of commercial space and three stories of residential. That general scheme may be appropriate to the John Hancock Building, but it would be extremely speculative for Madison on any site. There would be no market for 208,000 gross feet of office space in central downtown Madison, let alone in a fringe downtown area. At least the sky is not the limit, as the 15-story height reaches the foot of elevation on the Capitol dome columns.

D. Three alternative development options (B, D, and I) remain to be explored as the most probable use for the subject site. A preliminary estimate of site value for each of these uses provides an initial indicator of the probability of such uses as seen by a prospective purchaser:

EXHIBIT #5

Preliminary Market Estimates
For Three Alternative Use Strategies
Of Subject Parcel to Determine Most Profitable Use
(Highest & Best Use)

Option	Use	Formula				Total
#1	Residential 3-story	+ Units x % one-bd. x 2.5 rms/1-bd x land price/rm				
		+ 89	x .80	x 2.5	x 1500	$267,000
	(See VII, D(1) & Appendix III)	+ 89	x .20	x 1.5	x 1500	40,050
		Total Possible Sales Price				307,050
		Present Value Factor Time on Market - 24 months, cost of money 15%				x .756144
		Total present value of possible sales price				$230,000
#2	Home Office	Gross Sq. ft. of Buildable area (within dock line)				
	(See VII D(2) & Appendix III)	73,000 x $4.80 Total possible sales price				$350,000
		Present Value Factor Time on Market - 36 month, cost of money 15%				x .657516
		Total present value of possible sales price				$230,130
#3	Residential Tower	+ 40 efficiency		x 1.5	x 1500	90,000
		+ 35 1-bedroom		x 2.5	x 1500	131,250
						221,250
	(See VII D(3) & Sketch #4)	Time on market - 24 months, cost of money 15%				x .756144
						$167,297
		14,200 sq. ft. Crane Building x $5/sq. ft. =				71,000
		26,000 sq. ft. commercial land x $2.40 =				62,400
		Total for commercial parcel				133,400
		Present value factor Time on market - 12 months				x .869565
						115,999
						$283,296
		Total Present Value of Possible Sales Price rounded to				$285,000

1. Option 1(B) is exclusively a three-story residential building with 89 below grade parking stalls for 89 apartment units, 80% one-bedroom and 20% two-bedroom and could be built with a building area of 75,000 sq. ft. A possible configuration is suggested in Sketch #1, Option A, with the surface parking omitted and parking placed below the building. The number of stories is limited by the need to use the lowest cost construction method available and remain competitive with the large number of efficiencies and one-bedrooms recently built near the Square.

2. Option 2(D) would be exclusively a 60,000 sq. ft. commercial building, intended primarily as a home office building for a Madison firm. It would offer 200 parking stalls below grade. The 20,000 sq. ft. first floor would cover less than 50% of ground area, leaving guest parking on the surface and good views of lake from Williamson Street.

3. Option 3(I) is a mixed use alternative (See Sketch #4) and makes use of the existing Crane Building with its interesting wood beam roof and truss interior. The latter offers opportunity for small specialty shops and a restaurant looking over the lake, in the style but not the scale of Toronto's Boardwalk, San Francisco's Ghiardelli Square, or Rochester's River Front Square. The present Sinclair garage building would be demolished to provide 32 parking stalls for the restaurant in the Crane Building. Only 20 stalls would be required since this would be a renovation of an existing structure and would therefore avoid the requirement of one parking stall for each 300 sq. ft. of commercial according to the opinion of Zoning Administrator, Bernard Riley. A residential tower six stories high with 75 apartments on five floors could be built at the Blount Street side of the site to maximize views of the lake and the Capitol and simultaneously to avoid views of the power plant. This building would have no commercial area on the first floor, no enclosed space other than the lobby, no less than 20 surface parking spaces, and 55 underground parking stalls. Residential amenities would not only include the broad lakefront strip but also the adjacent restaurant and miscellaneous specialty shops in the Crane Building.

E. To select a most probable use from the three alternatives above, it is necessary to make a reasonable preliminary estimate of a sales price consistent with recent transactions in the Madison market and to adjust price for the time required under current conditions to market and convey the existing site to an investor likely to develop the uses proposed. These comparative sales estimates adjusted for the present value of money over the assumed marketing period are summarized in Exhibit #5 where a preliminary pricing formula for each of the three options is displayed. The assumptions for each alternative follow:

1. Option 1(B) assumed development of the site with a low-rise residential structure. The neighborhood south and east of the Square experienced heavy building of efficiencies and small one-bedroom apartments as indicated by building permit study for Madison in Appendix 1. These units recently have had high overall vacancies. The land acquisition prices suggest a relatively low cost of land per apartment unit because the efficiency units have such small lot area per dwelling unit and open space requirements. The majority of the new buildings are in R-6 zones which require less land per unit than the subject site C-3 zoning, which follows C-1 standards. The subject site attempts to avoid direct competition with these by providing an assumed 80% mix of large one-bedroom and 20% generous efficiency units but this change from the approximate 80-90% efficiency to 10-20% one-bedroom mix of the recent developments argues for land cost comparison on a per room rather than per apartment basis. Analysis of recent downtown apartment land sales is provided in Exhibit #6. To determine the present value of sale for residential purposes only, it was assumed that both the surplus of units downtown and the economic crisis for 1975 would discourage residential construction in this area for at least 24 months. Also during this time the Williamson-Blair Street intersection plan would be resolved as well as future uses for contiguous post office property. The cost of money at 15% compounded, suggests a present value of possible sales price under Option #1(B) of about $230,000. (See Exhibit #5)

2. Option 2(D) assumed use of the site for a prestige home office structure. A very careful comparative analysis was made of recent site purchases by Madison firms for major office structures including lakeshore property for the Continental Mortgage Insurance (CMI) Building, lake view property for James Wilson Plaza (VIP), the recent listing of extensive frontage on Lake Monona by Wisconsin Physicians Service (WPS-1), the new home office site of WPS on E. Broadway (WPS-2), the IBM site on the Beltline near the Arboreteum and the 1973 negotiations for the sale of the Doty School property on West Wilson Street (Doty School). Of all these decisions, it should be noted that IBM conducted one of the few truly thorough searches for a site in downtown Madison; a search marked by rational selection criteria, and chose the Beltline location at the lowest cost per sq. ft. of gross land. The IBM building will depend on surface parking as subsurface contains rock formations necessitating expensive excavation costs. The second lowest price was paid by the speculative builder of James Wilson Plaza (VIP) while the higher prices were paid on more prestiguous sites on Lake Mendota. Site assemblages by banks and utility companies and institutions near the Square are not considered comparable sales due to the fact that buyers were locked into existing locations and specific parcels.

Virtually a full appraisal of the home office option is provided in Appendix II. A linear regression comparison suggests a value of $4.80 on the average for the subject property when compared to recent home office site purchases. The total possible sales price for the office use would require as long as three years to realize. Economic conditions in 1974 and the recent surge in office building construction, both for use and for speculation resulting in a softening of the for-use market and an over-saturation of the for-rent market; coupled with the decreased marketability of the subject site resulting from uncertainty of the future utilization of the Reynolds Building (Post Office Annex) site which will have a direct impact on the visibility of the subject site from the John Nolan Drive approach, argue for this extended 36 month market exposure. Thus, with the cost of capital at 15% compounded, the discounted present value of Option 2(D) indicates a possible sales price of approximately $230,000.

3. Option 3(I) is a combination of a restaurant-specialty commercial use rehabilitation of the existing Crane Building and a high rise 75 unit residential tower as opposed to a long three-story 89-unit apartment building in Option #1(B) at the Blount Street end of the subject site. Land for the residential tower has been initially estimated on the same per room value as in Option 1(B) for purposes of best use comparison. Note that Option 3(I) anticipates sale of the total parcel in two sections, with the residential sale probably not occurring for at least 24 months consistent with Option 1(B). There are a number of restaurants both with existing establishments in Madison and from out-of-town who are currently searching for a site, with attributes not unlike the Crane Building site given additional parking. Thus, the smaller commercial parcel presumably could be sold within 12 months. For these purposes it was assumed that rent structures for commercial and restaurant space would limit the total structural budget to $25 a sq. ft. of gross area. Assuming that at least $20/sq. ft. would be required to renovate the building to a point ready for tenant improvement and furnishings the building shell was valued at $5 a sq. ft. of gross building area. The commercial land to accompany the building cannot exceed 30,000 sq.ft. with the land area per dwelling unit requirements of the C-3 zoning. However, this 30,000 sq. ft. is sufficient to include the land occupied by the existing Crane Building and provide additional parking on the existing Sinclair station parcel. A minimal amount of land is included beyond the existing building line since it falls in the 101 foot setback open space zone required for a rear yard. The commercial land was given a preliminary value of $2.40 per sq. ft. based on recent suburban Madison restaurant sales but it should be noted that such a land area would provide little more than 30 restaurant parking stalls on grade which is definitely marginal. These values are discounted for one year of marketing exposure until closing. The combined present compounded values at 15% cost of money for the residential portion of the site, the shell of the Crane Building and the commercial land approach $285,000.

F. A preliminary valuation of alternative options for reuse of the subject site clearly ranks the mixed commercial use renovation and new construction residential tower Option 3(1) at $285,000 first compared to the low rise residential option in #1(B) at $230,000, or purchase of the site for use with a home office building Option 3(1) at $230,000. It should be noted that these preliminary comparisons should not be considered the appraisal valuation as no adjustments have been made either for removal of existing improvements or for current trends in construction costs, and are based on a cursory analysis of probable effective demand as of October 1.

HOWEVER, BASED ON THESE VALUATIONS IT IS POSSIBLE TO CONCLUDE THAT OPTION #3 IS THE MOST PROFITABLE, PROBABLE (HIGHEST AND BEST) USE FORTHE SITE: NAMELY, THAT USE WHICH WOULD BE LEGAL, PRUDENT, AND POSSIBLE IN THE CURRENT MARKET WHICH PRODUCES THE HIGHEST PRESENT VALUE FOR A STATED TERM OF TIME. THEREFORE, THE REMAINDER OF THIS APPRAISAL VALUATION IS BASED ON THE ASSUMPTION THAT THE MOST PROBABLE USE WOULD BE SUCH A MIXED RESIDENTIAL-COMMERCIAL USE PROJECT, PHASED OVER SEVERAL YEARS BY POSSIBLY TWO INVESTOR-DEVELOPERS.

VIII. The Most Probable Buyer-Investor

A. Given the assumed most probable use of the property, it is possible to anticipate that not one but several purchasers would be potential investors in specific components of the subject site package. The most immediate prospect would be the commercial property development specialist who is interested in retail specialty centers and in buildings to suit specific clients such as franchise restaurants. This type of developer typically avoids residential development of any type and often negotiates purchase of a site simultaneously with lease of the finished product to one or more anchor tenants. It is therefore assumed that the shell of the Crane Building and the land presently covered by the vandalized Sinclair garage building would be sold to this type of buyer, and a separate buyer would be necessary for the residential portion of the package.

B. The residential tower site is a speculative acquisition and requires equity investment of such scale that the small local investor of 8-unit buildings and the like is out of the running. The rich professional man seeking tax shelter lacks the technical expertise necessary to execute the construction and merchandising plan required. Therefore, the most probable buyer would be the realtor-packager who could build and manage the proposed six-story tower building while selling off limited partnerships in the venture to a number of local investors. In the current market that possibility is unlikely because the interest rates required on mortgages and the cash return required on equity dollars leads to a capitalization rate and building value lower than the cost to construct plus the profit spread required by the packager.

As mentioned earlier in discussion of dynamic attributes of the site, the present neighborhood has a negative public image due to lack of residential amenities and surrounding adverse land uses. This has been reflected repeatedly in market surveys conducted for potential developers of residential projects in downtown Madison.

To offset the present negative residential character of the site, it would be hoped that the successful renovation of the Crane commercial building would provide some supplemental residential amenities, and greater street safety that comes with more heterogeneity of legitimate activities over more hours of the day. Remodeling of Williamson-Blair intersection and possible removal of surplus post office and miscellaneous commercial uses in the immediate block should improve visual and audio environmental quality for residential uses. Certainly further development at Law Park and a trail and bike path system extended to Clark Park would strengthen the residential quality of the site.

C. A third possible buyer which might indirectly contribute additional sales dollars to the seller would be the City of Madison which could purchase a portion of the lake frontage right-of-way from the residential developer after that developer has concluded construction of the building. Although Option 3(1) requires ownership of all the backyard open space to meet land area per dwelling unit requirements for 75 units, it is conceivable that following residential development of the site at a density level negotiated with the City, the land beyond the dock line and land within the dock line sufficient to permit construction of a lighted bicycle and/or pedestrian path could be sold to the City, thus increasing the future benefit package to the buyer resulting in a higher present value. So long as the permissable number of residential units was not reduced below 75, the difference in value would be negligible since property income would be unaffected or increased slightly due to presence of contiguous city park. Maintenance expense would drop slightly although access to a boat dock or similar facility would be lost.

D. The assumption of this report is to assume separate sales of the commercial portion of Option 3(1) and the residential tower portion of the site to professional developers as described above.

IX. Most Probable Sales Price For Subject Property

To forecast the probable sales price or fair market value of the subject property it is necessary to analyze sales for two types of land purchase, multi-family apartment land in the downtown Madison area in 1972-73 purchased by packagers for a syndication, and retail sites for restaurants in the Madison area during the same general market period. However, it is necessary to modify past sales for the impact of current economic conditions which will adversely affect the sale of the subject site. The amount which any developer/packager can pay for land is at best the difference between the present value of the income from a completed rental project and the cost to construct the improvement. High interest rates in excess of 11% and high cash returns currently available on federal securities, tax free municipals, real estate equity trusts, etc.

make high risk investment in real estate--despite tax shelter advantages--relatively unattractive, unless future benefits or returns to equity are discounted sharply at 18-25%, thus compensating investors for this higher risk investment. Consequently the price investors are willing to pay for the present value of those equity benefits income property has fallen unless sellers provide very favorable terms. At the same time construction costs have risen at an accelerating rate. The current economic conditions also decrease the ability of the market to pay these increasing fixed charges so that today few projects are economically feasible when costs to construct are matched against market value, unless land has been acquired at an extremely favorable price. Therefore current market conditions must lead to declining prices for the land component.

A. Details on five vacant land purchases for multi-family uses are provided in Exhibit #6 and analyzed in Exhibit #7. Since most of these sales anticipated intense use of the site by construction of a high proportion of small efficiencies to one-bedroom apartments, comparison has been related to the total number of rooms built. Assuming 1 1/2 rooms per efficiency and 2 1/2 rooms for a one-bedroom unit the land sales price per room was calculated. These sales were unadjusted for time, demolition, or slight differences of location as the average sales price per room of $1288 had an unadjusted standard deviation of only $43. Thus a price range of $1245 to $1331 per room would cover 67% of the sales in this market and a range of $1202 to $1374 would cover 96% of all sales prices per room for this type of property in downtown Madison 1972-73. Assuming an average of two rooms per apartment this compares with the realtors rule of thumb that $2400-2750 per apartment in the Square area.

B. It is our opinion that the same type of site east of the Square under current market conditions would sell at the lower end of the range of two standard deviations from the mean price per room or $1200 per room. However an upward adjustment is required for presence of the lake view and contiguous city park facilities that would be unique to the subject property. An excessive adjustment is not appropriate to the subject site, however, because of the nearby industrial uses and truck traffic on Williamson Street. The residential character and suitability of the site depends on successful renovation of the Crane Building as a restaurant and retail specialty area and some upgrading of neighboring land uses once present post office facilities are consolidated at the proposed Milwaukee Street post office site. Therefore as October 1, 1974 an upward adjustment of the mean of land per room of 20% is appropriate suggesting an adjusted price of $1440.

C. The maximum number of dwelling units which could be placed on the subject site and still provide at least 30,000 sq. ft. of land for the commercial restaurant portion of the development package would be most constrained by the land area per dwelling unit requirements of the C-3 zoning, applicable to the entire site.

Given the existing residential rental market in central Madison, characterized by an over-saturation of efficiency units, the recommended mix of efficiency to one-bedroom units of

50:50 is recommended. Assuming a total site area of some 63,000 sq. ft. more-or-less (Total Site Area--94,473 sq. ft. -- less 30,000 sq. ft. to commercial) the maximum number of dwelling units which could be placed on the site would be:

Type DU	Land Area/DU	Total # Units	# Rms/DU	Total Rms	Total Required Land Area
Efficiency	700	38	1.5	57	27,000
One-bedroom	1000	37	*3	111	37,000
		75		168	64,000

* Reflecting larger units and full kitchen a room count of 3 is used for these one-bedroom apartments as opposed to bedroom units in comparable sales.

The 75 apartment units would be distributed on five floors with 15 units per floor not ot exceed 12,000 gross sq. ft. per floor. The first floor level would contain the lobby entrance and 20 parking stalls, with the remaining 55 stalls below grade.

D. Using the adjusted market value of land per room (See B above) and the total rooms indicated (Item C above), it is possible to forecast the probable sales price of the 63,400 sq. ft. of residential land component of the site:

$1,440 per room x 168 rooms = $241,900 or rounded to the nearest 1% = $240,000.

E. The balance of the site, the specialty-commercial restaurant area, would comprise some 30,000 sq. ft. of land, more or less. This area would include the existing Crane Building which covers approximately 8600 sq. ft. of ground area. The shell of the building is valued separately from the land area to determine most probable market price for the commercial area package.

1. It is assumed that the total cost of renovation should produce a price of $25 a sq. ft. of gross building area before tenant improvements for display, kitchens, etc. For these purposes it was assumed that $20 a sq. ft. of gross building area, providing a building budget of $284,000 (8600 sq. ft. for the ground floor plus 5600 sq. ft. mezzanine). This budget would include demolition of Sinclair station and resurfacing required for parking.

2. The balance of the budget of $5 a sq. ft. is used to represent a value of the existing building shell.

$5 per gross sq. ft. x 14,200 = $71,000 for Crane Building

F. To value the commercial land it was decided that Madison sales to middle priced restaurants would be most comparable to the uses proposed for the Crane Building. Such restaurants are looking for sites on

a high traffic artery, with 30-45,000 sq. ft. of land area, good visibility, convenient access and good linkages to traffic generating land uses such as neighborhood shopping and multi-family residential for family business, nearby businesses for luncheon volume and possible convenience for travelers and motel visitors. Since this type of site differs widely from one side of town to the other, a simple average of sales prices is inappropriate. Instead each comparable sale is analyzed and compared with the subject property on a point scale for selected attributes and these point scales are weighted to reflect the relative importance of these items to the type of buyer seeking the restaurant site. The selected comparable sales are described in Exhibit #8, analyzed for attribute points and weightings in Exhibit #9 and then converted to a simple linear regression formula to compute value in Exhibit #10.

G. Reference to Exhibit #9 will indicate that the subject property scored as well or better than the comparables in terms of shape, site preparation required and access to a frontage road but scored poorly in the percent of usable area because of the setback improvement line, visibility, and the inability to make a left turn from williamson onto the site. In terms of linkages the subject site is average in terms of traffic volume but poor in terms of proximity of retailing attractions such as shopping centers and other drive-ins. It also ranked very poorly in terms of the drawing power of development activities and its related implications for growth of market and for positive consumer attitudes relative to its address. The linear regression formula that results from this analysis is:

Price = a + b (weighted points scored by subject site)(See Ex.#10)
$1.80/per sq. ft. = $.76 + .00087 (1190)

H. The $1.80/sq. ft. of land represents a type of average estimate for which a standard deviaiton of 15¢ has been calculated, adjusted for the small sample. The coefficient correlation indicates that this estimating formula explains about % of the value differences between the various sales prices selected. By increasing the mean price of $1.80 per sq. ft. by two standard deviations (2 x .15 or 30¢) it is possible to conclude that 95% of alternative offering prices would be $2.10 a sq. ft. of land or less under current market conditions and assuming that differences around the mean due to negotiations and other influences will be randomly distributed. Therefore it is concluded in this case that:

30,000 sq. ft. of commercial land x $2.10 = $63,000

I. The fair market price of the subject property is then estimated by combining the most probable prices for each of the three components analyzed above:

Residential parcel component =	$240,000	(64,400 sq. ft. of land)
Crane Building structure as is =	71,000	--
Commercial land portion of site =	63,000	30,000 sq. ft.
	374,000	94,400

Rounded to: $375,000

VALUE CONCLUSION

Based on the assumptions, limiting conditions, and property analysis above, it is the opinion of the appraiser that the fair Market Value of the subject property herein described as of October 1, 1974 is:

THREE HUNDRED SEVENTY-FIVE THOUSAND DOLLARS

($375,000)

APPENDIX I

Multi-Family Residential Building Permits 1971-1974
Central Business District Area

Year	Date	Address	No. of Units	Total per Year
1971	March 22	22 N. Franklin	12	
	April 27	523 W. Wilson	24	
	April 2	134 E. Johnson	24	
	Nov. 17	130 N. Hancock	22	
	Dec. 28	424 W. Dayton	57	
				139
1972	Jan. 28	22 N. Hancock	24	
	April 18	22 Langdon	72	
	April 18	219 N. Frances	24	
	May 17	507 W. Wilson	49	
	May 11	102 N. Franklin	43	
	June 14	140 Iota Ct.	36	
	June 21	111 S. Bassett	24	
	June 28	434 W. Mifflin	73	
	July 14	738 E. Dayton	16	
	July 25	512-18 W. Wilson	40	
	Aug. 17	511 W. Johnson	64	
	Aug. 28	427-31 W. Main	24,42,43	
	Sept. 8	526-30 W. Wilson	24	
	Nov. 28	307-15 E. Johnson	22	
	Nov. 14	15 N. Hancock	32	
				652
1973	Jan. 4	544 W. Johnson	12	
	Feb. 2	409 W. Doty	11	
	Feb. 28	420 W. Wilson	43	
	March 30	415 W. Johnson	68	
	May 8	22 Langdon	Add'l Fee	
	May 31	422 W. Johnson	28	
	June 14	454 W. Dayton	55	
	June 15	511 W. Main	19	
				236
1974	Mar. 20	528-30 E. Washington	8	
	to Oct. 10	-----	-	
				8

EXHIBIT # 7(a)

Vacant Land Market Comparison
Residential Use Land Price: Mean

Comparable Sales

Factors	420 W. Wilson No. 1	219 N. Frances No. 2	102 N. Franklin N. 3	434 W. Mifflin N. 4	427-31 W.Main No. 5	Mean (X) 1-5
Sales Price	$84950	$48000	$86900	$160000	$53000	$432850
Date of Sale	'73	'72	'72	'72	'72	
Land Area (sq.ft.)	13068	7920	15246	26400	8712	71346
No. of Dwelling Units Built	43	24	43	73	24	207
Total Gross Bldg.	20070	12670	24364	43040	10900	111044
Total # Rms Blt.	65.5	38	65.5	130.5	40	339.5
Mean Land Price - $/per:						
1. Square Ft. of Land	$6.50	$6.06	$5.60	$6.06	$6.08	$6.06
2. Dwelling Unit Blt.	$1976	$2000	$2020	$2192	$2208	$2079
3. Total Gross Bldg. Floor Area	$4.23	$3.79	$3.79	$3.72	$4.86	$4.08
4. Total # Rms Blt.	1297	1263	1327	1226	1325	1288

NEW APPRAISAL CONCEPTS & METHODS
A Seminar Sponsored by
The American Institute of Real Estate Appraisers Ontario Chapter #44
Sheraton Four Seasons Hotel, Toronto, Canada
Friday, February 20, 1976

AFTERNOON SESSION

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

I. This afternoon our first objective is to continue the land appraisal case problem of this morning by demonstrating the application of a linear regression system of averaging market prices for very different comparables by the use of a point system for comparison of property features and a weighting system to reflect how a certain group of buyers make their preference decision. The result is a prediction of the most probable sales price and a statement about the range of alternative outcome for a transaction price relative to the estimated probable price.

A. The technique employed was first suggested by Prof. R. U. Ratcliff in Chapter 6 & 7 of his recent book VALUATION FOR REAL ESTATE DECISIONS (available from Democrat Press, P.O. Box 984, Santa Cruz, California 94060). His example is for single family homes but it is an example of more modeling than is necessary to make a typical family home appraisal. It might be more useful for mansions but in any event it is a thorough demonstration.

B. Exhibits 8, 9, and 10 show the data and the analysis of six high grade fanchise restaurant-sandwich deals in Madison.
   1. One reason for comparing on a point scale is the hope that the analyst may make many small offsetting errors rather than a few major biased mistakes.
   2. The weights are determined by talking to buyers and then testing the resulting regression line for fit. If we have a very high standard error after looking at similar buyer sales, we will begin to analyze and modify the weights until we have a good regression fit.
   3. The regression coefficients generated are then used to estimate sales price of subject site.
   4. The standard deviation of the estimate is also calculated to provide the appraiser with a base for possible adjustments of the initial estimate to determine the final probable price.

C. Another example is provided in Appendix II which summarized the determination of value for home office building sites in Madison.

D. Statistical format may vary slightly between textbooks. We recommend pages 238-242 of GENERAL APPLIED STATISTICS by Fadil Zwayliff, published by Addison Wesley.

E. A step by step example is furnished in Exhibit E & F for a hypothetical land valuation problem. Prices are expressed per acre after adjustments for time and terms.

COFFEE BREAK

EXHIBIT #8

Basic Information on Restaurant-Commercial Land Sale Comparables

	Barnaby's East	Barnaby's West	Bud's West	Pigs Ear East	Marc's Big Boy South	Marc's Big Boy East
Sales Price	$92,000*	$89,000	$75,700	$91,000	$87,500	$85,000
Sales Date	10-6-70	6-30-70	6-29-71	5-20-72	9-3-69	3-15-68
Type of Deed	Lease with Option	WD	WD	WD	WD	WD
Volume & Page	209-455	184-75	264-173	344-385	130-463	15-108
Grantee	Barnaby's Inc.	Barnaby's Inc.	Clyde Chamberlain	Poole, Inc.	B & G Realty	B & G Realty
Area	38,211	32,900	45,236	141,570	38,327	30,237
Zoning	C-2	C-3-L	C-3-L	M-1	C-2	C-2
Principal Business Frontage	E. Washington Ave.	Mineral Point & Grand Canyon Roads	Odana Rd.	Cottage Grove Road & Atlas Avenue	S. Park Street	E. Washington Ave.
Position on Block	Inside lot	Corner lot	Inside lot	Corner lot	Corner lot	Inside lot

All have city services, Pigs Ear did not have curb and gutter
No adjustment of time required as restaurant economics would not permit inflation of land prices.

Landmark Research, Inc.

EXHIBIT #9

Attribute Point and Weight Comparison
Of Restaurant-Commercial Land Sales and Subject Property

	(See Exhibit #8)	Barnaby's East		Barnaby's West		Bud's West		Pigs Ear East		Marc's Big Boy South		Marc's Big Boy East		Subject	
30	*Site	Points	Wgt'd Pts												
	Shape	5		1		5		3		5		3		5	
	% Usable	3		3		5		5		5		5		1	
	Site Preparation	3		1		5		5		5		5		5	
	Visibility	3		5		5		3		5		3		3	
	Access														
	Left & Right Turn	5		5		5		3		3		3		1	
	Frontage Road	3		5		5		1		5		5		5	
	Total	18		20		25		20		28		24		20	
	Weight		540		600		750		600		840		720		600
50															
	Linkages														
	Traffic Volume	5		5		3		3		5		5		3	
	Supportive Retail/Serv.	5		5		3		1		1		3		1	
	Proximity to Multi-Family Residential	1		5		5		1		3		3		3	
	Proximity to Employm.	3		3		3		1		1		5		3	
	**Interstate-Beltline	2		1		1		3		2		2		1	
	Total	15		18		15		9		12		18		11	
	Weight														
	Image														
	Development Activity	5		5		3		1		1		3		1	
	Prestige of Street Address	5		5		3		1		3		5		1	
10	Total	10		10		6		2		4		8		2	
			200		200		120		40		80		160		40
	*Scale 1,3,5 Except **		1490		1700		1620		1090		1520		1780		1190

Landmark Research, Inc.

Exhibit #10

Determination of Linear Regression
Weighted Mean Value of Land/sf
Commercial-Restaurant

Comparable	1 Land $/sf Yi	2 Total Wgtd. Pts. Xi	3 (Land $/sf)^2 Yi^2	4 (Wgtd.Pts)^2 Xi^2	5 (3 x 4) XiYi
1	$2.40	1490	5.76	2220100	3575
2	2.73	1700	7.45	2890000	4641
3	1.67	1620	2.79	2624000	2705
4	.64	1090	.41	1881000	698
5	2.28	1520	5.20	2310400	3466
6	2.81	1780	7.90	3168400	5002
TOTAL	$12.53	9200	29.51	15093000	20087
Mean	(Y)=$2.09	(X)=1533			

Calculations of Mean, Standard Deviation

$$\text{Sum } y^2 = Y^2 - n(Y)^2$$

$$= (29.51)^2 - 6(2.09)^2$$

$$= 845$$

$$\text{Sum } x^2 = X^2 - n(X)^2$$

$$= 1509300 - 6(1533)^2$$

$$= 993366$$

$$\text{Sum } xy = XY - n(x)(Y)$$

$$= 20087 - 6(1533)(2.09)$$

$$= 863$$

$$Y' = a + bX_{subject}$$

$$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = \frac{863}{993366} = .00087$$

$$a = (Y) - b(X) = \$2.09 - .00087(1533)$$

SALES PRICE/SUBJECT SITE

$$Y' = a + bX_{subject}$$

$$= -\$.76 = .00087(1190) = \$1.80$$

STANDARD DEVIATION

$$S_{xy} = \sqrt{\frac{\text{Sum } Y^2 - a(\text{Sum } Y) - b(\text{Sum } xy)}{n-2}}$$

Landmark Research, Inc.

$$= \$ .15$$

APPENDIX II

Vacant Land Market Comparison
Office Use
Subject - Fauerbach Property

Weight Total	Sub Total	Factor	CMI Wgt	CMI Wgt*	VIP Wgt	VIP Wgt*	Doty School Wgt	Doty School Wgt*	WPS-1 Wgt	WPS-1 Wgt*	IBM Wgt	IBM Wgt*	WPS-2 Wgt	WPS-2 Wgt*	Subject Wgt	Subject Wgt*
30		Site														
	10**	Intensity of Land Use	8	80	10	100	6	60	4	40	2	20	2	20	6	60
	10**	Topography	10	100	8	80	6	60	4	40	1	10	4	40	6	60
	10**	Views	8	80	6	60	4	40	8	80	4	40	4	40	6	60
25		Image														
	10**	Lineal Ft Lake/Park	10	100	4	40	4	40	8	80	6	60	1	10	8	80
	5	Lake Exposure	5	25	3	15	3	15	3	15	1	5	1	5	3	15
	10**	Community Recognition	10	100	8	80	8	80	6	60	4	40	2	20	2	20
35		Linkages														
	15**	Downtown	8	120	10	150	8	120	4	60	1	15	1	15	4	60
	5	Auto Approach Zone	5	25	3	15	3	25	2	10	2	10	1	5	3	15
	5	Ancillary Uses	3	15	5	25	3	15	3	15	1	5	2	10	1	5
	5	Employee--Housing & Transportation	3	15	3	15	3	15	1	5	3	15	3	15	3	15
	5	Protection from adverse Contiguous Uses	5	25	4	20	3	15	3	15	4	20	2	10	1	5
10		Construction Suitability														
	5	Depth to Ground water/ Soils	5	25	5	25	3	15	1	5	1	5	2	10	3	15
	5	Drainage	5	25	5	25	3	15	3	15	1	5	3	10	3	15
100	100	Totals		735		650		515		440		225		210		425

* Weight x Scale
** 10 Point Scale

$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = .0249$

$a = Y - bX = -\$5.75$

$Y' = a + bX_{subject}$

$= -\$5.75 + .0249(425)$

$= \underline{\$4.83}$ per sq. ft. ± $ .08 (standard deviation)

Landmark Research, Inc.

VACANT LAND MARKET COMPARISON

USING WEIGHTED SCALE

Feature	Scale	Subject	A	B	C	D	Weight	Subject	A	B	C	D
Suitability (40)												
Soils	5	5	2	5	3	3	10	50	20	50	30	30
Shape	5	4	3	5	3	4	10	40	30	50	30	40
Vegetation	10	6	5	2	3	5	10	60	50	20	30	50
Water	10	0	8	5	3	2	10	0	80	50	30	20
Capacity (15)												
Public Infrastructure	5	3	1	5	5	0	9	27	9	45	45	0
Economic Scale	5	2	1	5	2	3	3	6	3	15	6	9
Area Growth	5	5	2	3	0	3	3	15	6	9	0	9
Comparability (15)												
Social	5	5	5	3	3	4	5	25	25	15	15	20
Physical	10	3	3	5	6	4	10	30	30	50	60	40
Impact (30)												
Fiscal	10	10	6	8	6	7	15	150	90	120	90	105
Environmental	10	6	3	10	4	8	15	90	45	150	60	120
TOTALS							100%	493	388	574	396	443
Gross Price per Acre			1500	2500	1700	1900						

EXHIBIT D

Exhibit E

Least Squares Method of Appraising Vacant Land

$$Y = a - bX$$

where Y = estimated land

X = weighted points for subject site

a = intercept b = slope of line

Step I: Construct 5 columns to record actual values of Y (price) and X (points), their squares and their crossproducts.

Comp	Y	X	Y^2	X^2	XY
A	15~~00~~	388	225	150544	582~~000~~
B	25~~00~~	574	625	329476	1435~~000~~
C	17~~00~~	396	289	156816	673~~200~~
D	19~~00~~	443	361	196249	841~~700~~
	Σ= 76	Σ= 1801	Σ= 1500	Σ= 833085	Σ= 3531~~900~~

Step II: Compute the mean of Y and the mean of X

$$\bar{Y} = \frac{\Sigma Y}{n} = \frac{76}{4} = 19$$

$$\bar{X} = \text{Sum of } \frac{X}{n} = \frac{1801}{4} = 450$$

Step III: Compute Σy^2, Σx^2, and Σxy (Note that we use lower-case letters for these terms which are completely different from the terms denoted by upper-case letters that we computed previously). Use the following these equations:

$$\Sigma y^2 = \Sigma Y^2 - n(\bar{Y})^2$$
$$= 1500 - 4(19)^2 = 56$$

$$\Sigma x^2 = \Sigma X^2 - n(\bar{X})^2$$
$$= 833085 - 4(450)^2 = 23085$$

$$\Sigma xy = \Sigma XY - n\bar{X}\bar{Y}$$
$$= 3531900 - 4(450)19 = 3297700$$
$$= 1119$$

Step IV: Compute the regression coefficient b:

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{1119}{23085}$$

$$= .0485$$

Step V: Compute the regression coefficient a:

$$a = \bar{Y} - b\bar{X}$$
$$= 19 - .0485(450)$$
$$= -2.83$$

Hence the regression equation is

$$y' = -2.83 + .0485\ (493)$$

Subject Price Equals $= -283 + 23.91 \times 100 = 2108$ or $2100

Step VI: Compute the Standard error of the estimate.

$$Syx = \sqrt{\frac{\Sigma y^2 - b\Sigma xy}{n-2}}$$

$$= \sqrt{\frac{56 - .048(1119)}{4-2}}$$

$$= \sqrt{\frac{2.29}{2}} \qquad = \sqrt{1.146}$$

$$\approx (1.07)(100) = 107$$

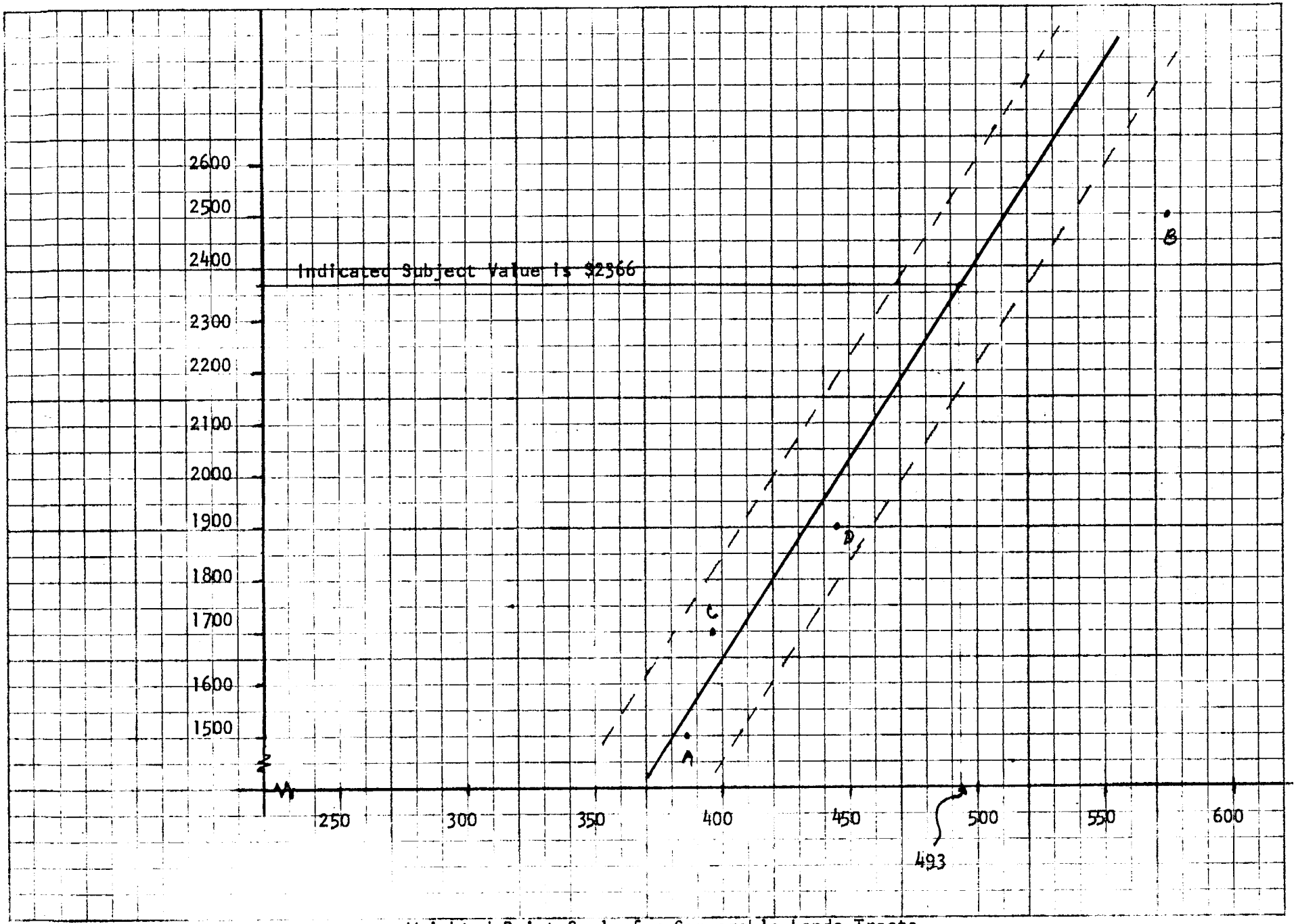
Step VII: Compute the Correlation Coefficient

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}}$$

$$= \frac{1119}{\sqrt{23085(56)}}$$

$$= \frac{1119}{\sqrt{1292760}} \approx \frac{1119}{1137} = .98$$

EXHIBIT E



Weighted Point Scale for Comparable Lands Tracts

II. A major area of appraisal opportunity today is the appeal of tax assessments.

A. Assessors may appraise the building both during construction and upon its completion primarily as a percent of cost to construct.

B. The Wisconsin law states that the assessment should be at the highest price at which a building would sell to another owner. Thus special buildings can be sharply discounted for special owner-occupant features which have little or no market value.

1. Case law states that in the absence of market or investment data, only then can the cost approach be used but with due consideration to economic obsolescence.

2. Recently several American court cases have recognized the present value of after tax income valuation as the relevant appraisal method. One of the courts suggested it was easier to "buy" that particular set of assumptions than the more conventional appraisal set of assumptions before taxes.

C. A useful test for a appraisal conclusion or a valuation assessment is the basic back door-front door approach (See Exhibit F)

D. One strategy in tax valuation is always to accept the assessor's methodology and push it to its logical conclusion, i.e., the correct technical application. Thus if the assessor uses the cost approach but fails to deduct for economic obsolescence, it is useful to take his value conclusion and the actual income stream of the property in order to:

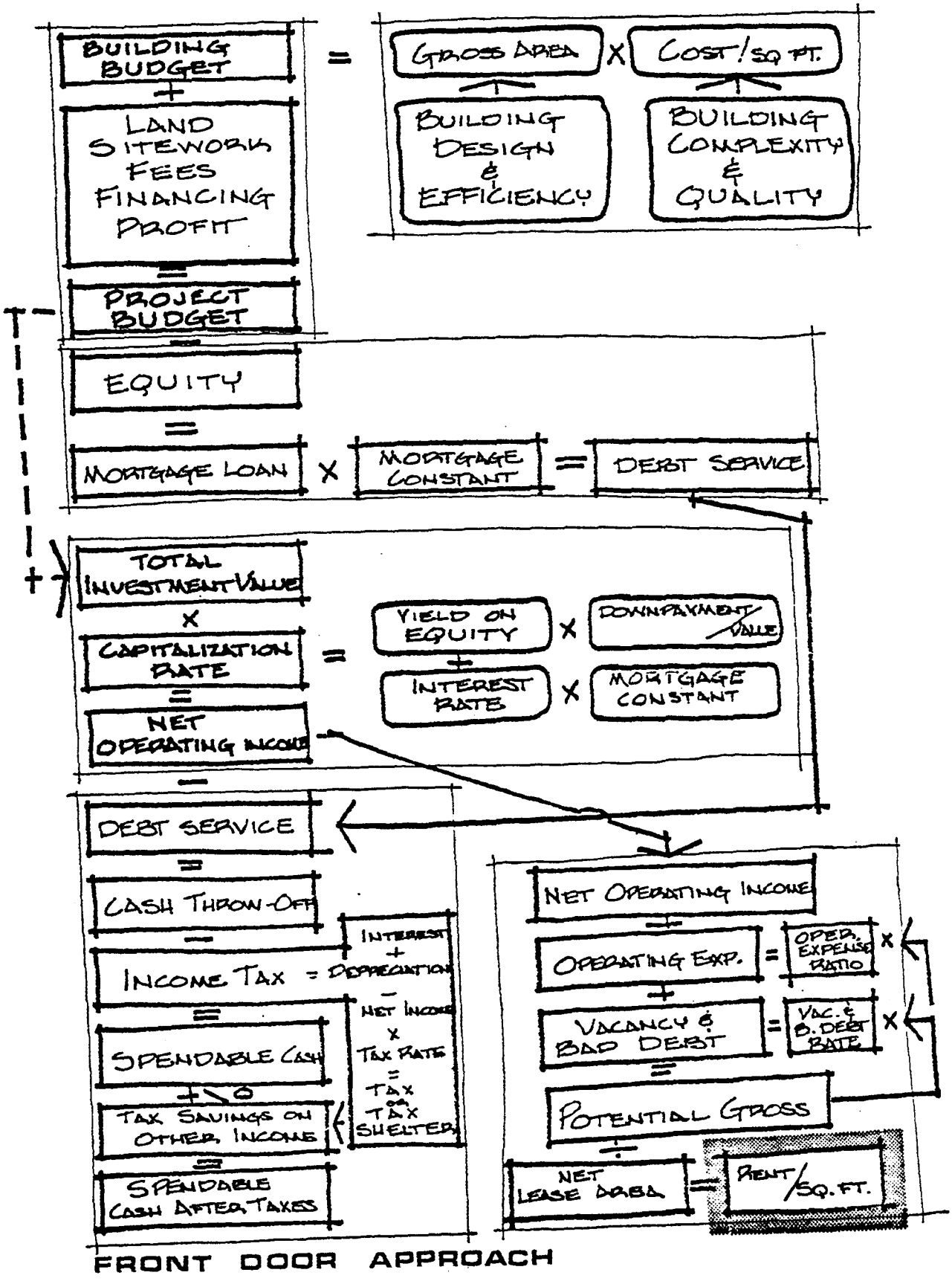
1. Demonstrate the yield to the equity position assuming the assessors purchase price to be correct
2. Test the yield to equity at successively lower prices to arrive at a minimum accessible before or after tax return.
3. Establish the difference between cost to replace ala the assessor and maximum price to permit satisfactory return as a measure of economic obsolescence which should have been factored into the assessors cost approach.

E. There are computer approache which permit both valuation or determination of yield given the purchase price. Exhibit G will provide an example of appraisal of a hotel in an overbuilt hotel market using a program called IMV, developed for EDUCARE by Thomas Prince.

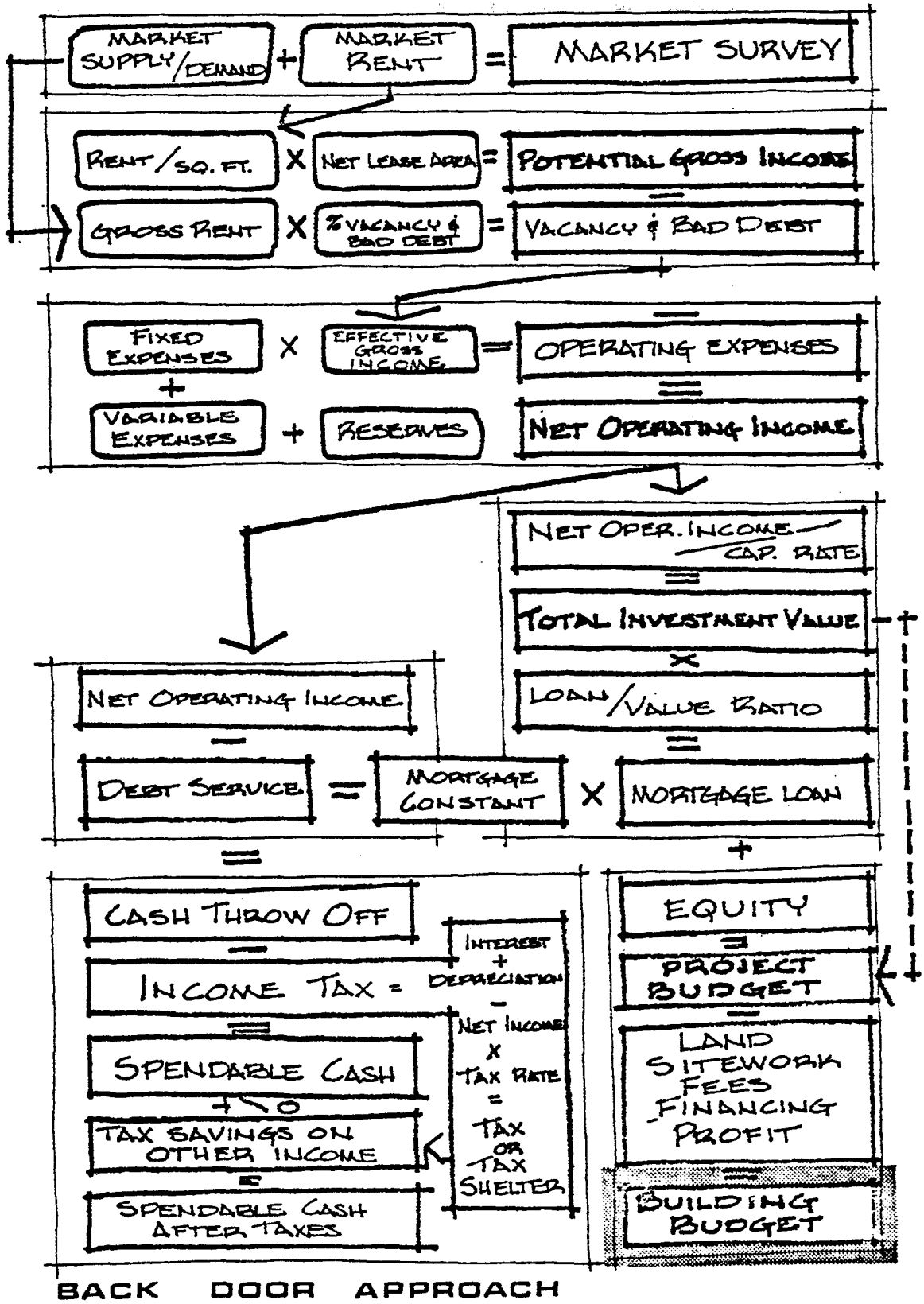
F. Two recent significant court cases relating value to after tax income or cash flow:

1. In Michigan the court defined conomic income to be cash income and accepted a cash flow valuation. C.A.F. INVESTMENT COMPANY, a Michigan partnership, Plaintiff-Appellant, v. MICHIGAN STATE TAX COMMISSION and Township of Saginaw, Defendants-Appellees. No. 6. Supreme Court of Michigan. Sept. 6, 1974. 533 Michigan. 221 NORTH WESTER REPORTER, 2d SERIES

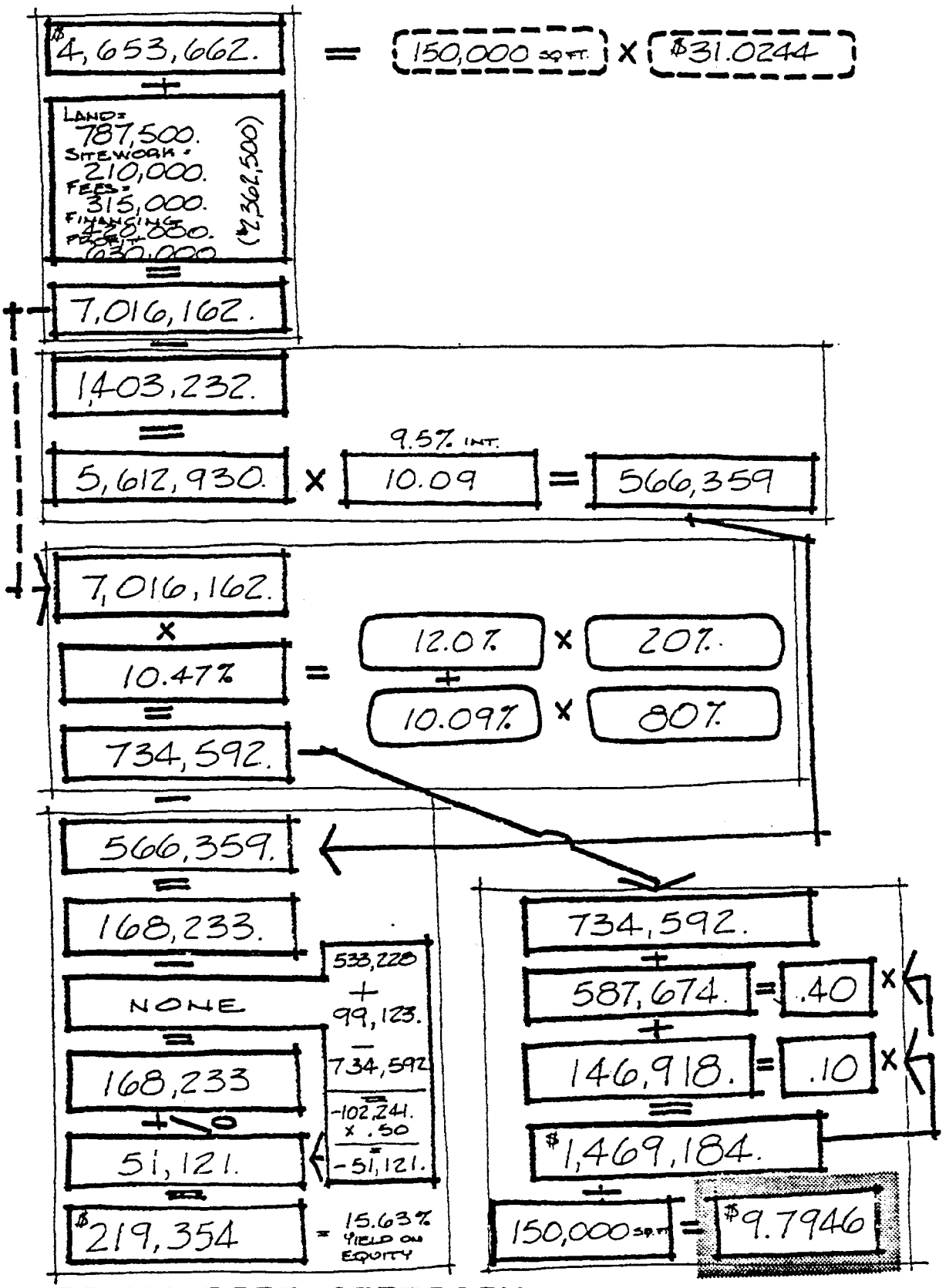
EXHIBIT F



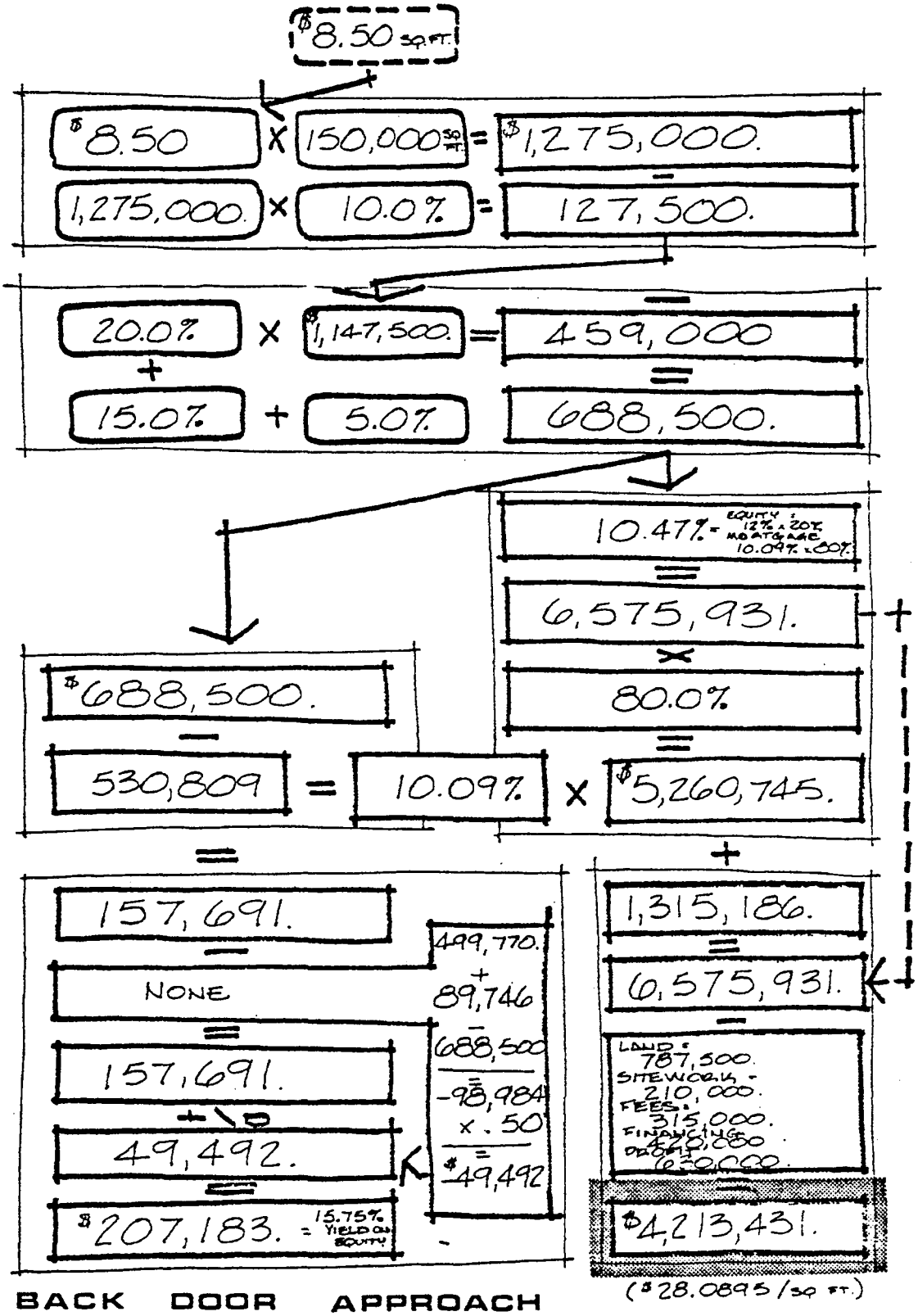
FRONT DOOR APPROACH



BACK DOOR APPROACH



FRONT DOOR APPROACH



BACK DOOR APPROACH

Howard Johnson - DT Madison
Schedule of Projected Income and Expenses
For the Years Commencing May 1, 1974-78

Exhibit G

Period	1974-75	1975-76	1976-77	1977-78	1978-79
Occupancy (163 rooms)	68%	70%	71%	72%	73%
Revenue:					
Available Rooms	59,463	59,400	59,400	59,400	59,400
Occupied Rooms	40,463	41,580	42,174	42,768	43,362
Rate Average[1]	18.89	19.00	19.50	20.00	20.50
Room Revenue	764,450	790,020	822,390	855,360	888,920
Public Room Rental[2]	7,116	7,200	7,200	7,200	7,200
Restaurant Rental[3]	31,500	31,500	31,500	31,500	31,500
Telephone[4]	(14,345)	(14,795)	(15,375)	(15,960)	(16,560)
Other Income[5]	6,113	6,165	6,405	6,650	6,900
Room Service Commissions[6]	1,635	1,850	1,920	1,995	2,070
Total Revenue	796,468	821,940	854,040	886,745	920,030
Operating Expenses:					
Payroll[7]	166,180	164,390	170,808	177,349	184,006
Housekeeping[8]	33,160	33,700	34,200	34,700	35,200
Adm. & Gen.[9]	83,150	85,890	89,250	92,665	96,145
Adv. & Promotion[10]	82,250	82,735	84,704	86,352	88,030
Utilities[11]	66,500	76,030	79,000	82,025	85,100
Repairs & Maintenance[12]	16,550	13,500	13,500	13,500	13,500
Total Operating Expenses	447,790	456,245	471,462	486,591	501,981
House Profit	348,678	365,695	382,578	400,154	418,049
Misc. Interest Income	720	720	720	720	720
Gross Profit	349,398	366,415	383,298	400,874	418,769
Less: Insurance	10,314	9,926	9,926	9,926	9,926
Land Rental[13]	7,680	7,680	7,680	7,680	7,680
Income to Furnishing[14]	64,000	64,000	64,000	64,000	64,000
Income before RE Taxes and Debt Service to Land and Buildings	267,404	284,809	301,692	319,268	337,163

NOTE: PERCENTAGES MUST BE ENTERED AS A DECIMAL EQUIVALENT (11.75% = .1175)

EXHIBIT G

PROJECT IDENTIFICATION

Maximum 70 characters per line

100 [illegible] Johnson Motor Inn

101 Johnson and Marion Street

102 MARISON, WIS - MAY, 1974

TYPE OF ANALYSIS

	Code	Value
Investment Market Value:		
Based on specific after-tax yield	A	After-tax yield
Based on specific before-tax yield	B	Before-tax yield
Project Feasibility:	I	Market value or cost

	Code	Value
103	B	.29

.314 Second Run .20

RESALE VALUE

Alternatives	Code	Value
Reversionary	RV	$ Amount
Mortgage Balance	MB	Additional $ (±) if any
Appreciation/Depreciation	AD	$ or % (neg = depr.)

	Code	Value	Resale Year (1 to 25 yrs.)	Sales Commission (% or $)
104	AD	0	5	.02

NET INCOME

Last value entered is assumed for balance of project life.

	1	2	3	4	5
105	267404	284809	301692	319268	337163
	6	7	8	9	10
106					
	11	12	13	14	15
107					
	16	17	18	19	20
108					
	21	22	23	24	25
109					

EXHIBIT G

FINANCING

Mortgage Code:

Standard Mortgage:

1 - Mortgage value is a $ amount or a % of IMV. (Enter $ or % in Mortgage Amount Column).

The following two options cannot be used simultaneously:

2 - Mortgage value is the difference between IMV and the sum of known amounts for equity cash and other mortgages. (Enter the $ amount for cash equity in the Mortgage Amount column).

3 - Mortgage amount is the difference between a total mortgage ratio and the sum of other mortgages of known amounts. (Enter the total mortgage ratio (%) in the Mortgage Amount column).

NOTE: Place a minus sign (-) in front of the Mortgage Code for any mortgage (except those for refinancing) that should not be included in the calculation of the original equity cash i.e. a future mortgage for capital improvement.

Refinancing:

4 - Refinancing value is the balance remaining on the loans to be refinanced plus or minus a $ amount. (Enter the additional $ amount in the Mortgage Amount column).

5 - Refinancing value is a specific $ amount. (Enter the $ amount in the Mortgage Amount column).

In using Mortgage Codes 4 and 5, loans to be refinanced are indicated by entering their number (the number that corresponds to their line position relative to the other loans) immediately after refinancing Mortgage Code number --- i.e. if using refinancing code #4 to refinance loans #1,2,4 and 5 enter 41245 in the Mortgage Code column. If the resulting refinancing value is greater or less than loans balances being refinanced, that difference automatically becomes an adjustment against equity and is reflected in both the before-tax and after-tax cashflows.

Term and Annual Constant:

For each mortgage either the Term or the Annual Constant must be provided except in the case of balloon or interest only mortgages for which both must be provided. Enter a zero for the Term or the Annual Constant, whichever is unknown.

	Mortgage Code	Mortgage Amount($ or %)	Interest Rate	Term (Months)	Annual Constant	Start Month (1 is std.,no neg.)
122	1	.75	.105	240	0	1
123			.095			
124						
125						
126						
127						
128						
129						
130						
131						

OWNERSHIP FORM

Ownership code:

Corp.	Non-Corp.	
1	5	Operating losses applied to other investments.
2	6	Operating losses carried back/carried forward.
3	7	Taxable income offset by losses from other investments.
4		Corporation set up solely for this investment.

	Ownership Code	Federal tax rate (.48 is std. for corp.)	State tax rate	State capital gains rate
110	2	.35	0	0

DEPRECIABLE CAPITAL ASSETS

Excess Depreciation Recapture Code:

1 - No recapture
2 - FHA 221 (d) (3) or 236 before 1975 (After 20 months declines 1% per month)
3 - All other residential rentals (After 100 months declines 1% per month)
4 - All non-residential - 100% recapture

Land Value:

Use only when land value is known and asset amounts are entered as a % of total depreciable value. Land value is automatically subtracted from total project cost or value before Asset Value % is applied.

	Excess Depreciation Recapture Code	Land Value ($) (0 if not known)
111	4	0

Depreciation Method:

1 - Straight line
2 - 125%
3 - 150%
4 - 200%
5 - SOYD

	Asset Value ($ or %)	Depreciation Method	Life (yrs.)	Salvage Value ($ or %)	Starting Month (1 is std.,no neg.)
112	.90	1	35	.20	1
113					
114					
115					
116					
117					
118					
119					
120					
121					

READY
RUN IMV

EXHIBIT G

IMV 15:02CST 10/27/75

WHAT IS YOUR DATA FILE NAME?MAX1

IRV : $ 1877227
AFTER TAX YIELD(IRR) : 22.47%
BEFORE TAX YIELD(IRR): 31.40%
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS 15:03CST 10/27/75

HOWARD JOHNSON MOTOR INN
JOHNSON AND MARION STREET
MADISON, WIS.------MAY,1974

****
AFTER TAX YIELD(IRR) : 22.47%
BEFORE TAX YIELD(IRR): 31.40%

INVESTMENT MARKET VALUE: $ 1877227
****

FINANCING:

MORTGAGES:
1. 1ST MONTH 9.500% 20 YRS 0 MONS $ 1407920

EQUITY CASH: $ 469307

RESALE OF INVESTMENT IN 5 YEARS:

ESTIMATED RESALE PRICE	$	1877227
LESS: MORTGAGE BAL.		1256790
SALES COMMISSION		37545
CASH REVERSION BEFORE TAXES	$	582892
LESS: CAPITAL GAINS TAX(STD.)		42236
TAX ON RECAPTURED DEPR.		0
TAX PREFERENCE TAX		0
CASH REVERSION AFTER TAXES	$	540656

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	267404	132691	48271	86442	30254	109921	79667
2	284809	130231	48271	106307	37207	127326	90119
3	301692	127526	48271	125895	44063	144209	100146
4	319268	124553	48271	146444	51255	161785	110530
5	337163	121284	48271	167608	58662	179680	121018

```
MAX1          15:02CST     10/27/75

100 HOWARD JOHNSON MOTOR INN
101 JOHNSON AND MARION STREET
102 MADISON, WIS.------MAY,1974
103 B,.314
104 AD,0,5,.02
105 267404,284809,301692,319268,337163
110 5,.35,0,0
111 4,0
112 .90,1,35,.20,1
122 1,.75,.095,240,0,1
```

READY
RUN IMV

EXHIBIT G

IMV 15:12CST 10/27/75

WHAT IS YOUR DATA FILE NAME?MAX2

IMV : $ 1918142
AFTER TAX YIELD(IRR) : 14.80%
BEFORE TAX YIELD(IRR): 20.00%
DO YOU WANT DETAIL (0=NO,1=YES)?1

INVESTMENT MARKET VALUE ANALYSIS 15:12CST 10/27/75

HOWARD JOHNSON MOTOR INN
JOHNSON AND MARION STREET
MADISON, WIS.------MAY,1974

****
AFTER TAX YIELD(IRR) : 14.80%
BEFORE TAX YIELD(IRR): 20.00%

INVESTMENT MARKET VALUE: $ 1918142
****

FINANCING:

MORTGAGES:
1. 1ST MONTH 9.500% 20 YRS 0 MONS $ 1438606

EQUITY CASH: $ 479536

RESALE OF INVESTMENT IN 5 YEARS:

ESTIMATED RESALE PRICE	$	1918142
LESS: MORTGAGE BAL.		1284178
SALES COMMISSION		38363
CASH REVERSION BEFORE TAXES	$	595601
LESS: CAPITAL GAINS TAX(STD.)		43157
TAX ON RECAPTURED DEPR.		0
TAX PREFERENCE TAX		1150
CASH REVERSION AFTER TAXES	$	551294

YR	NET INCOME	MORTGAGE INTEREST	BOOK DEPR.	TAXABLE INCOME	INCOME TAX	CASH FLOW BEFORE TAX	CASH FLOW AFTER TAX
1	213903	135583	49323	28997	10148	52987	42839
2	231308	133069	49323	48916	17120	70392	53272
3	248191	130305	49323	68563	23997	87275	63278
4	265767	127267	49323	89177	31211	104851	73640
5	283662	123928	49323	110411	38643	122746	84103

```
MAX2          15:12CST     10/27/75

100 HOWARD JOHNSON MOTOR INN
101 JOHNSON AND MARION STREET
102 MADISON, WIS.------MAY,1974
103 6,.20
104 AD,0,5,.02
105 213903,231308,248191,265767,283662
110 5,.35,0,0
111 4,0
112 .90,1,35,.20,1
122 1,.75,.095,240,0,1
```

2. In Los Angeles in DTM Investment Company, et al, plaintiffs vs Palm-Larrabee, et al, defendents (Ring Brothers Development Co.) The Superior Court ruled in July 26, 1974 that after tax investment value was acceptable and accurate for income property valuation and that it was an acceptable procedure to value limited partnership interest as opposed to valuing the entire property. In that case, the developer had sued for partition and was attempting to buy out the limited partners at an apparently advantageous price.

G. Computer based income valuation models also provide two useful approaches to establishing a range of alternative prices or alternative assumptions about the marketplace.

1. Sensitivity models will reflect the variations which must occur in one or more assumptions in order to affect some other variables such as total value, cash throwoff, etc. One example is DAP, a program on EDUCARE developed by John Nabors. (See Exhibit H)

2. At the universities they are developing density models or probability models. These models will produce a hundred alternative net incomes and reversion prices for a given project given a certain range of variance possible for each critical assumption. The product is a frequency distribution value of alternative values and a standard error of the estimate.

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EXHIBIT H

SENSITIVITY TABLE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

FIXED PARAMETERS PAGE 3 OF 4

SITE	: 275965 SQUARE FEET	DATE	8-28-1974
BUILDING	: 150000 SQUARE FEET	BLDG	6001
EFFICIENCY	: 85.00 PCT OF GROSS		
LOAN RATIO	: 80.00 PCT OF $ 7070897		
EQUITY	: $ 1414179		
FINANCING	: 30 YEARS 9.50 PCT		
REVENUE	: $ 3.50 PER SQ FT		
VACANCY	: 10.00 PCT OF LEASEABLE		
OTR INCOME	: $ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

CONSTRUCTION AND LAND COST 7070897
CONSTRUCTION INTERIM RATE 12.000 PCT
CONSTRUCTION PERIOD 13 MONTHS
LAND INTERIM RATE IS 12.00 PCT

EFFECT OF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLOW	EFFECT ON CONSTRUCTION
DECREASE CONSTRUCTION COST $ 100,000	$ 12015	$ -119078
DECREASE CONSTRUCTION $ 1.00 PER SQ FT	18023	-178617
INCREASE CONSTRUCTION PERIOD 1 MONTH	-6542	64836
DECREASE CONST AND LAND INTERIM 1 PCT	4805	-47625
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
INCREASE RENTAL RATE $ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE OPERATING RATE $ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12340	
DECREASE PERMANENT LOAN TERM BY 1 YEAR	-3541	
DECREASE PERMANENT LOAN TERM BY 5 YEARS	-22294	
DECREASE THE LOAN RATIO BY 5 PERCENT	35674	

EQUIVALENT EFFECTS TO YIELD
A $ 10000 INCREASE IN ANNUAL CASH FLOW

DECREASE CONSTRUCTION COST BY	$ .55 PER SQ FT
DECREASE CONSTRUCTION PERIOD BY	1.5 MONTHS
DECREASE INTERIM INTEREST BY	2.08 PCT
INCREASE BUILDING EFFICIENCY BY	1.29 PCT
INCREASE RENT RATE BY	$ .09 PER SQ FT
DECREASE VACANCY BY	.92 PCT
DECREASE EXPENSE RATE BY	$ .08 PER SQ FT
DECREASE PERMANENT RATE BY	.20 PCT
INCREASE PERMANENT LOAN TERM BY	2.2 YEARS
DECREASE LOAN RATIO BY	1.4 PERCENT

JOHN H. NABORS, JR.

CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

DATE: 8/28/1974
BLDG: 6001
RUN : 1

GROSS SQUARE FEET IN BUILDING:		150000
BUILDING EFFICIENCY	:	85 PCT
NET LEASEABLE SQUARE FOOTAGE	:	127500
LAND AND CONSTRUCTION COST	: $	7070897
LOAN TO COST RATIO	:	80.0 PCT
ORIGINAL LOAN AMOUNT	: $	5656718
EQUITY REQUIREMENT	: $	1414179
PERMANENT INTEREST RATE	:	9.50 PCT
TERM OF LOAN		30 YEARS
ANNUAL DEBT SERVICE	: $	570777

	ANNUAL DOLLARS
GROSS INCOME : 127500 SQ FT AT $ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
GROSS EFFECTIVE INCOME	975375
OPERATING EXPENSES: 127500 SQ FT AT $ 2.50	318750
NET OPERATING INCOME	656625
DEBT SERVICE (10.09 PCT CONSTANT)	570777
PRO FORMA CASH FLOW	85848

RETURN ON EQUITY 6.07 PERCENT

CRITICAL REVIEW OF APPRAISAL AND FEASIBILITY REPORTS IN SUPPORT OF CAPITAL FUNDING DECISIONS

Princeton MAI Conference
Thursday, June 10, 1976

Comments Prepared By:
Prof. James A. Graaskamp
University of Wisconsin

I. An appraisal is a decision-making tool, requiring a forecast about the future under conditions of uncertainty - uncertainty producing anxiety, nervousness, and freedom of judgment - conditions from which all corporate types will flee.

A. Historical dependence on decision specialists - priests with chicken entrails, oracles, military machines, or political processes. All of these tend to gravitate toward consistency rather than truth, to static procedure applied deductively rather than dymanic interaction developed inductively, and to elaborate apprenticeships in self administered education.

B. The appraisal process and those who have designations as the high priests of real estate investor entrails have been trapped:

1. By customers who demand certainty and consistency rather than truth
2. By static procedures which characterize any cult depending for its mystique on liturgy learned by rote rather than empirical observation
3. By freedom from the consequences of error since those who rely on the appraisal do not have standing to sue for malpractice unless they paid for the report.

C. Once before in the 1930's when the appraisal process broke down, the primary users of appraisal services - financial institutions, the federal government, and investors met to organize some standards of appraisal procedure. Once again it is time for them to critically review:

1. The basic assumptions and definitions which define the real estate process.
2. The essence of a mortgage loan.
3. The purpose, structure, and assumptions of an appraisal report.
4. The relationship between the financial institution and the appraiser.

II. The real estate industry often does not understand itself because it is so sloppy in defining its terms and its viewpoints. Careful definition is the base for accurate analysis.

A. The real estate product or economic unit is always a space-time unit.

1. One markets square feet per year, apartments per month, rooms per night, tennis courts per hour, etc.
2. Surveys and structure define the unit geometry and law defines the time and use.

B. An enterprise is any organized undertaking and many enterprises are cash cycle enterprises. A real estate enterprise is any systematic approach to convert cash to a space-time product or to convert space-time units to cash.

1. All cash cycle enterprises must achieve cash breakeven or self destruct.

2. Space users, space producers, and public sector services are all cash cycle enterprises.

C. The real estate process is the interaction of producers, users, and the public infrastructure with solvency as the minimal objective and absolute constraint for all three.

1. Cash balances, not value, are the ultimate constraint on the system.
2. Equilibrium for the real estate process occurs where all three enterprises can resolve their differences about land use to achieve solvency.
3. The space-time to money-time equation is reversible and can be approached from cost to build, ability to pay, or cost of services to establish a real estate development program.

D. Some value judgments which provide further constraint on land use:

1. Land is a finite physical resource which must be used consistent with environmental safety and public priorities for food, shelter, safety, and health.
2. Equity ownership is the degree to which one can divert cash flow and benefits to its benefit.
3. The real estate enterprise is an active customer for services and the profit centers for real estate are in the outlays for services. Thus real estate can be a successful business even if economic income is zero.
4. Each enterprise attempts to relate its goal relative to space-time units to projections of its cash receipts and cash outlays.
5. The borrower and lender for a commercial real estate project ultimately seek to maximize spendable cash after taxes and/or an increase in net worth after taxes at some future time.

E. Risk is the variance between all expectations and realization, and risk management is the control of variance from static risks or dynamic ones.

1. Static risks are those contingencies which are independent, random, and unforeseeable in terms of frequency or severity.
2. Dynamic risks are those contingencies which could cause a profit or a loss, behavioral in origin, and partially controllable through motivation.
3. Objectives of risk management are first to conserve existing net worth, and then to stabilize future expectations.
4. Conservation requires reduction of maximum potential loss with the least probability.
5. Realization of expectations requires stabilizing the largest possible cushion above an acceptable cash breakeven point.
6. The tools of risk management include avoidance, better prediction through better information, shift of variance by contract, by insurance, or reduction of losses by design, motivation, limits on liability, or hedging.

F. Mortgage lending process is risk management of assumptions.

1. Closing process
2. Forecasting process
3. Static risks well handled
4. Dynamic risks ignored or left as indiscriminate variables
5. Pleasure, pain, and bail-out theory of a loan

6. Real estate as a business enterprise should be financed on cash cycle - not on value as a going concern.
7. Loan ratio is irrelevant compared to pay-back and default point.
8. Capacity for surprise measured by sensitivity analysis.

G. Sophisticated lenders make commercial loans based on pain, bail-out, and then on cash flows - require appraisals only for the file drawer.

H. A feasibility report by a generalist provides a set of assumptions which would have a reasonable probability of working in a given situation. However, feasibility confirmation by specialists will need to establish these assumptions as fact (as is done in the closing process of a mortgage loan).

I. A real estate project is "feasible" when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

J. An appraisal report like a feasibility report is a model of the decision process but sharply qualified to represent a generalized investor, most recently termed "probable buyer" attempting to maximize economic surplus from a single parcel of real estate enterprise and expecting to purchase all services outside his own organization - a non-integrated, passive capital rather than an entrepreneur with multiple profit centers.

III. Solutions to complex problems are both discovered and communicated by means of simplifying models. An appraisal report is a comminication model which should reflect that an appraisal is a feasibility study from a fictitious scenario, seen from the viewpoint of a presumed investor group (such as a prudent man, a mortgage investor, etc.).

A. A real difficulty in understanding and critiquing an appraisal report is the subtle shift of viewpoint that takes place as you change from appraisal theory to appraisal practice,and as you move from one appraisal approach to value, to another.

1. The traditional view of economic income, cost to replace, and justified investment is the economist view of asset management.
2. The Ellwood approach which is the sum of claims against income and reversion, is the banker view of leverage, i.e. liability management.
3. The market for commercial projects and credit analysis represents a business viewpoint of cash management in the short run.

B. As a result, the long run goals of maximizing the assets are being modified and the reality of variance in the short run, of external factors to the real estate, and of compatability to community goals are entering into appraisal estimates - appraisal estimates which recognize the possibility of error.

1. Compare the official definitions of "highest and best use" in the old and new terminology handbooks (see EXHIBIT A).
2. At the University of Wisconsin we talk of "most fitting use" as we find the old term arrogant and a remnant of the time when land was thought of as a commodity.

C. Feasibility analysis is concerned with three alternative problems:

HIGHEST AND BEST USE, PRINCIPLE OF - Real Estate Appraisal Principles and Terminology, by SRA, Second Edition 1971

A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.

HIGHEST AND BEST USE - Real Estate Appraisal Terminology, by Boyce, for MAI-SRA, 1975.

That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal.

Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. See Interim Use.

Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners.

Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. See Most Probable Use, Most Profitable Use.

1. Site in search of a market
2. Market in search of a site
3. Investor in search of a real estate opportunity

D. An appraisal always involves a site in search of a market.

1. A vacant site searching for its most profitable alternative.
2. An improved site seeking its most profitable alternative use.
3. Thus an appraisal is a feasibility study.
4. Thus appraisal requires definition of a problem, a viewpoint, and a context of limiting assumptions.

E. Since it always begins with a site, a viewpoint, and a problem requiring a decision, an appraisal is inductive - moving from the specific to the more general context.

1. Traditionally the appraisal report moves from the general to the particular.
2. Since the best use premise is an opinion, the conclusion contains an element of uncertainty or variance.

F. A report format following these premises is provided in EXHIBIT B and provides a base for appropriate content in an appraisal report.

G. A useful test of an appraisal conclusion as to value or market rent is a simple frontdoor (cost to required rent)-backdoor (market rent to justified cost), (see EXHIBIT C).

IV. Reform of the appraiser-financial institution relationship involves a variety of factors:

A. The loan ratio as a regulatory device on commercial properties should be abandoned.

1. It is irrelevant to risk when it is not based on actual cash cost (to protect net worth) and inappropriate to future default which will be a function of cash flows. It produces a desired debt coverage ratio only when interest rates are constant so it conceals increasing risk of insolvency as mortgage constants rise.
2. Loan ratio leads to pressure to value properties to secure desired loan by including non-cash items in value and concealing timing of cash receipts by lumping them into a present value number.
3. Since the lender analyzes the deal one way (cash flow) but must legalize the loan with an appraisal methodology which is obsolete, he transfers his disdain for the methodology to the appraiser.
4. LTV is a prime example of the counter productive character of over-simplified regulations intended to measure safety of the loan.

B. The default ratio is immediately sensitive to changes in utilities, interest expense, real estate tax, due to inflation while value is distorted by changing expectations of future reversions. Banking commissions and accountants should regulate by cash breakeven points if a simple-minded definition of a legal loan is required.

EXHIBIT B

SUGGESTED OUTLINE OF A BASIC APPRAISAL REPORT

I. Letter of Transmittal

II. Table of Contents

III. Salient facts and conclusions (optional and relevant to purpose of appraisal)

IV. Statement of context for which appraisal is required:

A. Brief statement of the issue for which the appraisal will serve as a decision benchmark.

B. Special problems implicit in the property which specify definition of value or modify appraisal methodology.

C. Special instructions or assumptions provided by others and approved by client (for example, a request to appraise current use rather than best use, or a request for investment value rather than probable sales price, etc., or special assumptions required for cash flow projections by state securities commission).

V. Definition of the legal interests to be appraised

A. Specify legal description and source

B. Specify fixtures or personalty to be included

C. Specify typical operating assets excluded (such as furniture when doing a motel structure for a real estate tax).

VI. Definition of value to be objective of appraisal

A. State selected definition (for example the R.U. Ratcliff definition of probable price):

"The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."

B. Indicate source of definition and applicability to purpose of appraisal

C. Indicate implicit conditions of the definition. (For example, the conditions of a fair sale presumed by fair market value or the implication of the range of error around most probable price implied by the Ratcliff definition).

Exhibit B continued

VII. Productivity or potential use analysis of subject property

A. Site analysis

1. Physical (static) site attributes including location, size, shape, slope, soils, etc.
2. Legal constraints on use of site including zoning, easements, or those implied by purpose of appraisal (purpose for use as a bank drive-in teller facility must be a specified distance from main bank building).
3. Linkages of site to neighborhood and community (visual and physical relationships to flows of people, traffic, goods, or activity centers.
4. Dynamic attributes of site (behavioral responses of people to site in terms of anxiety, special attractions of water, view, etc., visibility, prestige, etc.

B. Improvement analysis

1. Physical (static) attributes of improvements listed by type, construction, layout, condition, etc.
2. Legal-political constraints on use of improvements (including problems of non-conformity, building code violations, zoning, etc.
3. Current uses and tenancies, if any
4. Linkages of current uses to neighborhood and community
5. Potential linkages or attributes which could be marketed (feasibility problem of a property in search of a market)
6. Dynamic attributes of improvement (behavioral responses of people to building style, bulk, sentimental history, historical values, etc.

C. Identification of significant and physically appropriate uses for subject property

D. Comparative analysis to select most probable use as of valuation date considering:

1. Effective market demand
2. Competitive supply of alternatives
3. Legality and political compatibility
4. Financial feasibility
5. Risk sensitivity

VIII. Specification of most probable buyer type implied by most probable use of subject property.

A. Alternative buyer types and motivations and selection of most probable buyer profile.

B. Specification of essential site, improvement, financial, or other key decision criteria of probable buyer type.

C. Explanation of appraisal methodology for prediction of probable purchase price range consistent for most probable buyer.

1. Preferred method - to infer buyer behavior from actual market transaction and market data available.
2. In the absense of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. The text proposed to indicate the fit of property and probable price prediction to be made to the criteria of the probable buyer profile.

Exhibit B continued

IX. Initial estimate of appraised value

A. Inference from market transactions of similar buyers

1. Search and data collection method
2. Definition of basis for comparison
3. Adjustments and supporting evidence
4. Extrapolating comparative sales to subject property
5. Estimate of central tendency of value and standard error prior to adjustments for external of changing condition

B. Simulation of possible or probable buyer logic in establishing his offer price

1. Justification for using simulation rather than market comparison
2. Justification for simulation methods selected
3. Description of the basic simulation approach
4. Development of data required for simulation
5. Estimate of most probable simulation value
6. Identification of "softest" assumptions to which value is sensitive
7. Pessimistic and optimistic assumption sets to establish range of alternative values

X. Identification of significant external conditions, economic, political, or otherwise, not considered by past market transactions or investment simulation based on empirical evidence.

A.. Identify neighborhood, community, regional, or national factors which would bear directly on marketability of such a property and which were not present in market comparison or simulation assumptions.

B. Identify possible political or other contingent factors which might foreseeably occur to upset normal appraisal assumptions.

C. Specify any violation of conditions in the appraisal methodology of the definition of value.

D. Adjust initial value estimate in IX or indicate no adjustment is necessary.

XI. Demonstrate with test previously indicated how predicted transaction price would permit investor to achieve objectives attributed to him in definition of most probable buyer profile.

XII. Provide value conclusion and certification of appraisal

XIII. Provide statement of limiting conditions which establish:

A. Contributions of other professionals on which report relies

B. Facts and forecasting under conditions of uncertainty

C. Assumptions provided by the client

C. Controls on use of appraisal imposed by the appraiser

XIV. Appendices and Professional Credentials

EXHIBIT C

THE ADVANCED FRONT-DOOR APPROACH

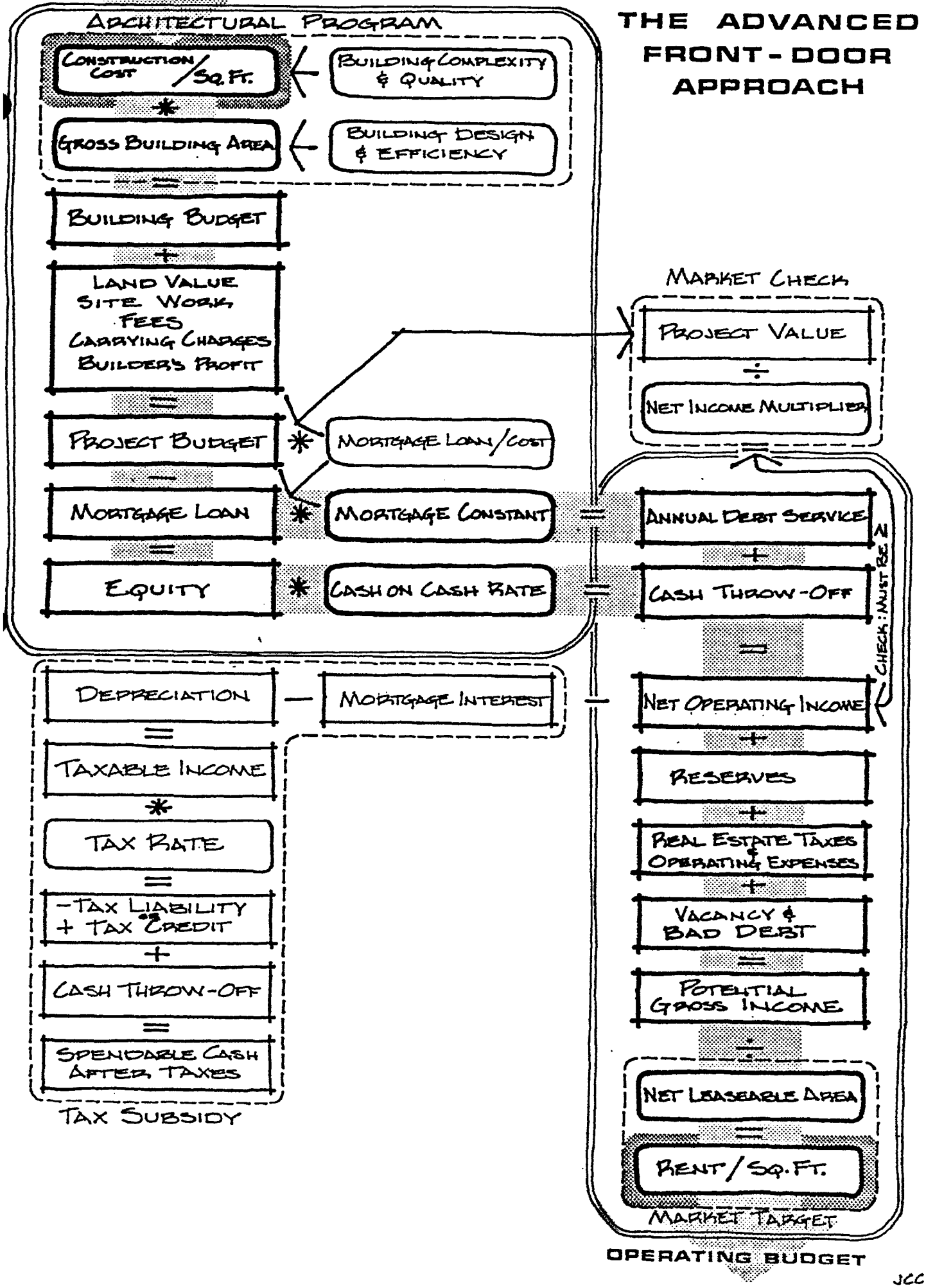

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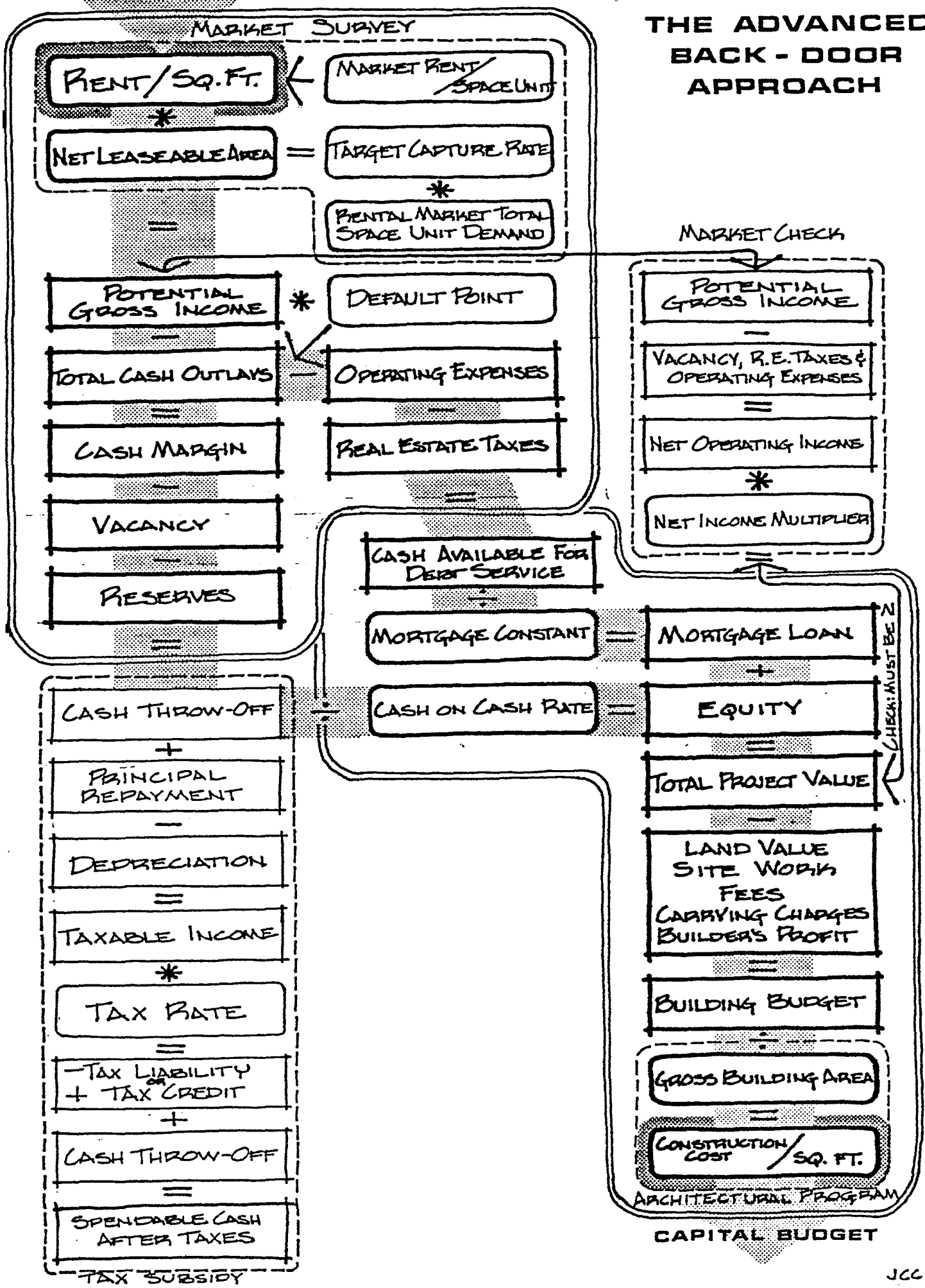
EXHIBIT C (cont'd)

THE ADVANCED BACK-DOOR APPROACH



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C. Appraisal boiler plate leads to mass production prices for a task which is a custom fitting of factors for each unique situation. Appraisal is a handcrafted art form.

1. If the lender requires 2% be spent on insurance in case the project should burn down, why not at least 1% to see if it will rent up?
2. Handcraftsmanship does not have to price itself at mass production prices.

D. Feasibility definition may be done by a single generalist but confirmation of critical assumptions must be done by specialists so that appraisal has become a team effort.

1. Appraiser should be prime contractor because he has less of a vested interest in a "go" decision.
2. Appraiser should be protected from pressure that a "stop" decision means he doesn't get paid.

E. Selection and payment of the appraiser should be by the mortgage lender, funded from the application fee.

1. Converts advocacy character of the American business attitude to the benefit of the lender.
2. Payment should be 50% down and balance on delivery with the appraiser financing his subcontractors, the architect, engineer, environmentalist, etc.
3. Financial institutions can insist on cash flow analysis by the appraiser and new formats for the appraisal report which provide critical information in a format appropriate to the lending decision rather than the useless vageries of fair market value.
4. Lenders obtain and should pursue the right to sue for negligence.

V. Seminars advancing these views:

A. MAI Seminar on Feasibility (Boston, Denver, Dallas).

B. EDUCARE (folders available at desk).

C. University of Wisconsin,July One-Week Seminar on Contemporary Appraisal Methods (folders available at desk).

SRA Chapter 73 Meeting
June 27, 1976

HIGHEST AND BEST USE, PRINCIPLE OF - Real Estate Appraisal Principles and Terminology, by SRA, Second Edition 1971

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TWO DAY WORKSHOP

REAL ESTATE FEASIBILITY ANALYSIS FOR THE APPRAISER

Prepared at Request of:

1976 Seminar Committee
American Institute of Real Estate Appraisers

Prof. James A. Graaskamp, Chairman
Real Estate & Urban Land Economics Department
School of Business Administration
University of Wisconsin
Madison, Wisconsin

With the Assistance of:
James R. DeLisle
James C. Canestero
John H. Nabors, Jr.

Two Day Workshop

REAL ESTATE FEASIBILITY ANALYSIS FOR THE APPRAISER

Outline of Topics

First Morning Session

1.000 Basic Concepts Defining the Feasibility Assingment

- 1.100 What is Real Estate
- 1.200 What are Decision Making Mechanisms for Real Estate Problems?
- 1.300 What Does Feasibility Mean?
- 1.400 What is Relationship of Feasibility Analysis to Appraisal?
- 1.500 What is the Problem as Perceived by the Client?
- 1.600 What is the Problem as Understood by the Consultant?

First Afternoon Session:

2.000 The Basic Case - A Site in Search of a Market

- 2.100 Generalist versus Specialist
- 2.200 Elements of Site Analysis
- 2.300 Static Attributes
- 2.400 Legal Attributes
- 2.500 Static and Legal Attributes Impact on Cost, Price, & Market
- 2.600 Linkage Attributes
- 2.700 Dynamic Attributes
- 2.800 Environmental Impact Attributes
- 2.900 Identification of Alternative Uses

3.000 Preliminary Test of Economic Feasibility

- 3.100 The Preliminary Capital Outlay Approach to Pricing
- 3.200 A Test of Value as a Budget
- 3.300 Purpose of Capital Approach Model
- 3.400 Notes to Capital Approach Worksheet
- 3.500 Definition of Space-Time Unit as Common Denominator

3.600 Debt Service Impact on Required Annual Effective Gross

4.000 Feasibility Analysis as an Exercise in Risk Management

4.100 Basic Definitions of Risk Management

4.200 Basic Indices of Risk Tolerance

4.300 Rate of Return Concepts

Second Morning Session:

5.000 Market Revenue Model Workshop

5.100 Concept of Market Revenue Model

5.200 Establishing Total Annual Revenues

5.300 Establishing Total Operating Expenses

5.400 Significance of a Default Ratio

5.500 Establishing the Capital Structure Assumptions

5.600 Determination of Total Justified Investment

5.700 Indirect Capital Charges

5.800 Structural Hard Dollar Budgets

5.900 Testing Model Input Against Market Reality

6.000 Real Estate Market Analysis

6.100 Three Different Functions of a Model

6.200 Organizing to Exclude Secondary or Aggregate Data

Second Afternoon Session:

7.000 Selecting Market Targets or a Market Position Within a Defined Market Opportunity

7.100 Monopoly - Essence of Free Enterprise Merchandise Research

7.200 Constructing a Hypothetical Marketing Program

7.300 Segmentation and the Essential Nature of an Enterprise

7.400 Delineation of a Market Sub-Set

7.500 Introduction to Prospect Survey

7.600 Telephone Survey to Improve Bidding Position on Turn-Key Elderly Housing Project

7.700 Telephone Survey Questionnaire Results

7.800 Generalized Format of Merchandising Report Summary

8.000 Structuring the Feasibility Report

8.100 Report Format Components

8.200 Executive Summary

8.300 Statement of Limiting Conditions

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Capital Cost Approach Worksheet

Revenue Approach to Total Budget Worksheet

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Two Day Workshop

REAL ESTATE FEASIBILITY ANALYSIS FOR THE APPRAISER

Prepared For
American Institute of Real Estate Appraisers

Prof. James A. Graaskamp
University of Wisconsin

1.000 Basic Concepts Defining the Feasibility Assignment

1.100 What is real estate? The industry is very sloppy in the use of the term real estate and real estate development so that the term no longer provides the clue to any systematic understanding of the concept. Careful definition of any term avoids misunderstanding or analysis based on false premises.

1.110 The real estate product is often thought to be a very tangible physical site with structural improvements. In essence, however, it is always an abstract intangible space-time unit.

It is always the spaces enclosed by the structure or defined by the borders of the site which are useful - not the land or the solid portion of the structure per se.

The economic unit of real estate is sq. ft./year, apartment rent/month, room per night, tennis court per hour, coliseum per event/day, wilderness park/century, and so on.

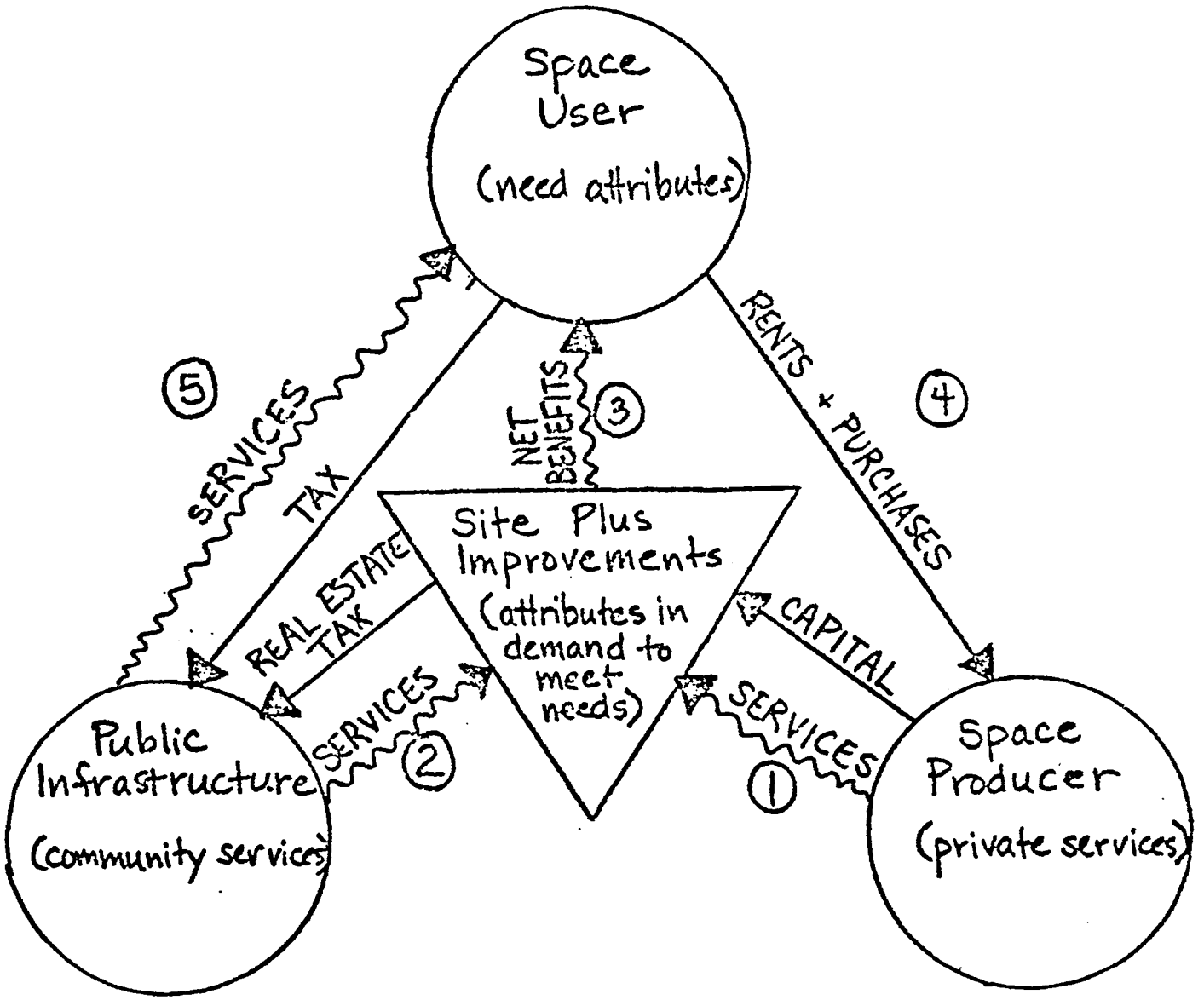
1.120 An enterprise is any organized undertaking. Many enterprises are cash cycle enterprises which use cash to acquire raw material, labor to produce an inventory of goods or provide services which generate revenue in the form of cash.

1.121 A real estate enterprise is any systematic approach to converting cash to a space-time product or conversely converting an inventory of space-time to cash.

1.122 Flexibility of the enterprise depends on duration of the time cycle.

1.123 All cash cycle enterprises must achieve cash breakeven or self destruct.

1.124 Space users (consumers), space producers in the private sector, and agencies of the public sector which provide utility and service infrastructure are all cash cycle enterprises.



1.125 Solvency becomes the minimum objective and absolute control on consumer, investor/supplier, and public service agencies.

1.126 Equilibrium in the community occurs where all enterprises involved in real estate achieve solvency.

1.130 The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power - the power of the environment to dictate form and behavior of the organization of one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

The functional steps in any systematic enterprise are:

1.131 Goal-setting
1.132 Forming policies
1.133 Searching for opportunities which are consistent with policies
1.134 Selecting opportunities which are consistent with policies
1.135 Designing systems for capturing selected opportunities
1.136 Installing systems for capturing selected opportunities
1.137 Operating the systems that have been installed
1.138 Maintaining and continuously perfecting the operating systems

1.140 The real estate process is the dynamic interface of all three cash cycle enterprises, the space user, the space producer, and the public infrastructure who must interact to find compromise solutions which permits all three to operate at solvency. That solution will impact on the land and must be constrained by the capacities of the land.

The consumer, the producer, and the public infrastructure enterprises often appear to be in conflict but ultimately these vested interests must find a joint solution to each real estate problem which recognizes:

1.141 That land is a finite physical resource which must be used consistent with environmental safety and public priorities for food, shelter, safety, health, and so on.

1.142 Neither the consumer, producer, or public enterprise can require the others to make outlays which inevitably lead to insolvency. Cash is the ultimate property, not non-vested and speculative rights to future opportunities. Eminent domain must always make compensation in cash, not in kind. The power to force solvency on others is the power to destroy an enterprise. While free enterprise depends on that war between private enterprises, it is not an acceptable relationship between public and private enterprises.

1.143 Each enterprise is attempting to convert its requirements relative to the space-time real estate product to projections of its cash receipts and outlays in order to make decisions about its role in the real estate process.

1.144 For a given problem space-time units and money-time units are opposite sides of the reversible equation; it is possible to move from desired rent to a justified space-time unit; a specific plan for a space-time unit can be converted to a required rental income over time. A great variety of trade-offs exist among site, quantity of space, quality of space, and the life cycle of money outlays and receipts.

1.150 Risk for any enterprise is the variance that will occur between its assumptions about space-time and money-time projections and its realizations, between proforma income projections and actual receipt and expenditures realized.

1.151 Risk management controls variance due to surprise from static risks such as fire or dynamic risks of entrepreneurial skills.

1.152 The feasibility analyst is a risk manager who must first conserve the net worth of his client from loss and then stabilize future variance in expectations.

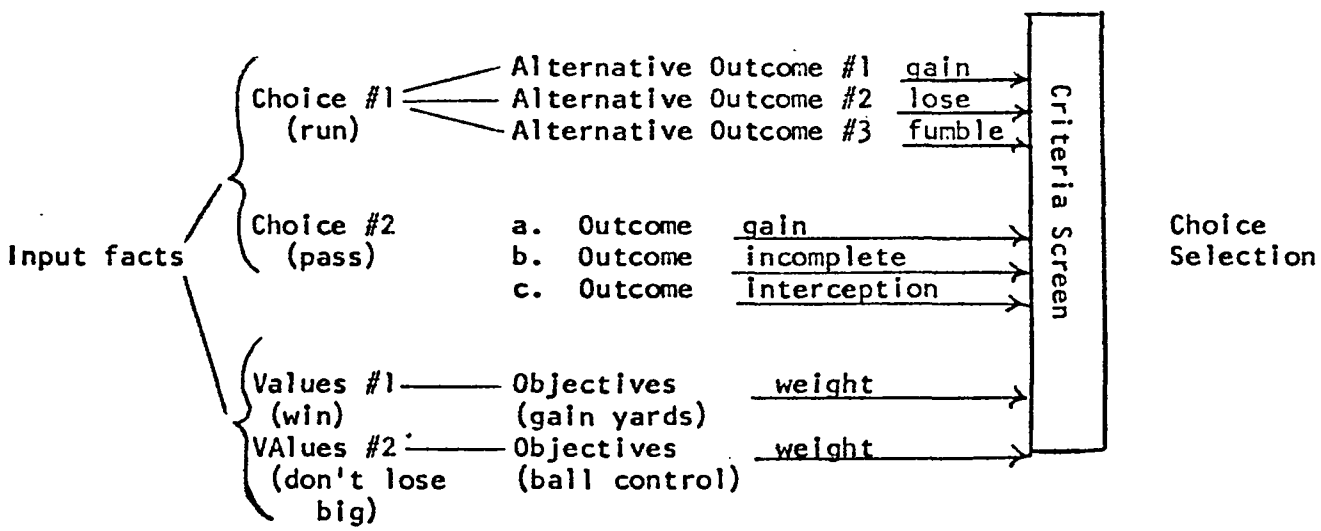
1.160 Real estate analysis is concerned with the search for the real estate product (space-time unit) which best fits the consumer cash constraints, the public infrastructure costs and revenue, and the cash requirement of the producer within the natural limitations of land, both single parcels and collectively. The failure of any segment of this process ultimately leads to the collapse of the others.

Real estate analysis is concerned with making and testing the assumptions which are the basis of real estate decisions to judge their fit to the needs and solvency limitations of all those affected by the decision.

1.200 What are Decision Making Mechanisms for Real Estate Problems?

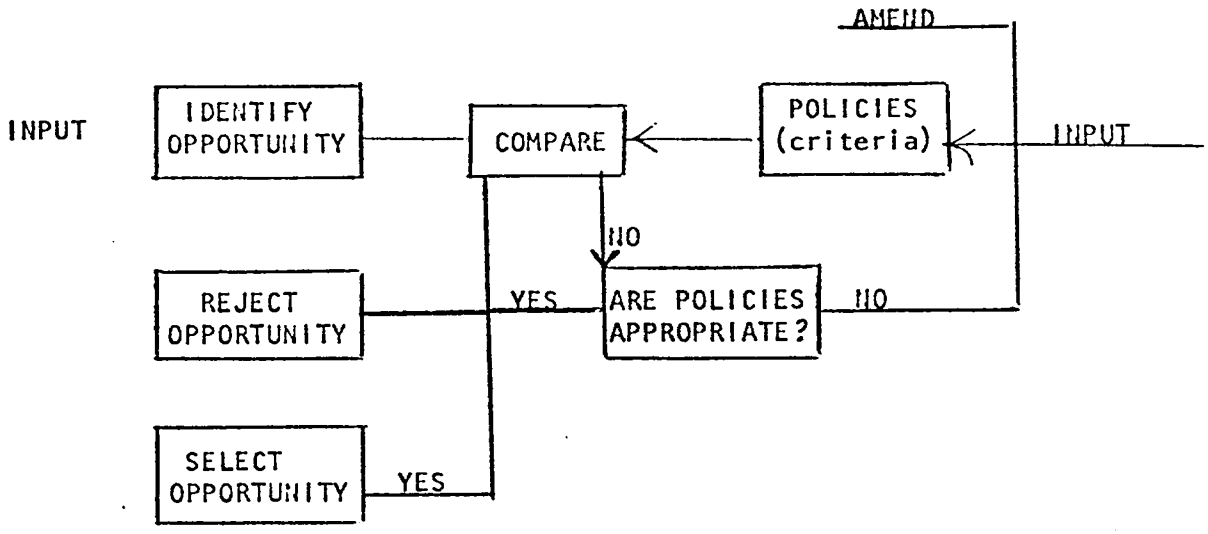
1.210 In general, a decision requires that information be systematically organized to identify choices of action and the alternative outcomes from each choice. (See Diagram #1). At the same time facts help shape general values which in turn lead to explicit objectives, and then specific selection criteria.

Diagram #1



The systems engineer might diagram a decision as a simple flow chart below. (See Diagram #2)

Diagram #2



1.220 Models of relationships permit analysis of complex decisions involving many variables which require a systematic approach to permit comprehensive analysis, a careful statement of relationships among variables, and successful communication of the answers that result. Any model has three basic inputs:

1.221 A careful statement of the question or decision
1.222 Determination of available or obtainable data
1.223 A statement (hypothesis) about the relationship of the data to the question.
1.224 Models may be physical representations of an airplane fuselage or site topography.
1.225 Models may also be used to communicate complex relationships in simple ways which may be more relevant to the decision maker. A report format is a model.
1.226 Models can be used to state mathematical relationships, so that the Ellwood formulas are representative of the relationship of financial value to net income under explicit assumptions about financing, resale, and the trend in net income.

1.230 Constraints on the use of models to answer any particular problem requirement and models should be judged in terms of how they meet these constraints:

1.231 What are the limitations of the analyst who intends to use the model? Does he understand the implications and can he do the analysis?

1.232 Communication of the results must have credibility with the decision maker. The client who has succeeded with decisions made using the net income multiplier may not accept an improved analysis as a result of cash flow projections or regression analysis.

1.233 In all cases the cost of executing a particular model must be appropriate to the utility value of the result. The cost-benefit ratio must favor the decision model technique selected.

1.240 Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1.241 Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.

1.242 Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.

1.243 A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.

1.244 Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.

1.245 Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

1.300 What Does Feasibility Mean?

The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable liklihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

1.310 The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1.311 A check list of physical attributes
1.312 A check list of critical linkage attributes
1.313 A check list of dynamic behavioral attributes
1.314 A check list of attributes or services (given weighted point scores)
1.315 Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
1.316 Probability distributions of alternative outcomes and standard error of the estimate
1.317 Psychological gratifications
1.318 Specified legal attributes
1.319 Measures of impact on environment

1.320 The definition also implies uncertainty - a reasonable liklihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analytical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

1.330 The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical-aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

1.340 The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

1.350 These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1.351 Strategy study: selection of objectives, tactics, and decision criteria.
1.352 Market analysis: economic base studies or other related aggregate data review.
1.353 Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
1.354 Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
1.355 Compatability studies of project to community planning, conservation standards, or other public policies.
1.356 Engineering, land planning, and architectural studies.
1.357 Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

1.400 What is Relationship of Feasibility Analysis to Appraisal?

An appraisal report like a feasibility report is a model of a decision process. In fact, an appraisal report is a sharply qualified (fictitious) feasibility study of a site in search of a market.

1.410 The key differences are what question each model attempts to answer and who asked the question.

1.411 The appraiser locks himself to a model when he states the purpose of the appraisal is to determine market value on a given date. The appraiser assumes the viewpoint of a prudent economic man using the traditional three economic approaches to value with the objective of maximizing economic surplus of a single parcel real estate enterprise.

1.412 What if value is not the central question? What if economic surplus is 0 but profit centers above the net income line are positive? What if motivations are personal, subjective, or in a broader portfolio viewpoint than offered by a single parcel?

1.413 The feasibility analyst sees the project from the viewpoint of a particular client with unique objectives; the appraiser works with an undefined, generalized economic man; more recently a profiled group called "most probable buyer." (See Exhibit I)

APPRAISAL AS A FICTIONAL SET OF FEASIBILITY ASSUMPTIONS

Feasibility Analysis	Appraisal Analysis
Will the project really work for a specific investor?	What would the project sell for if it did work for a typical investor?
1. Objectives - decision standards provided by client decision process a. Maximize spendable cash of total enterprise b. Subjective gratification of specific individual c. Adaptation to enterprise management specialties and weaknesses	1. Objectives - decision standards provided by theoretical framework a. Maximize economic surplus of individual parcel b. Prudent behavior of economic man c. Average management to isolate return to land & capital
2. Aggregate market potential opportunity identification	2. Aggregate market potential business climate
3. Merchandising analysis (Defining competitive edge) and specific user profile	3. Merchandising comparison (Defining standard competitive substitute)
4. Legal-political context a. All legal constraints on site, seller, buyer, and user are considered b. What is legal is qualified by what is political	4. Legal-political context a. Legality assumed b. Limited to site use rather than regulations on probable user as alternative buyers are assumed
5. Physical-technical constraints are examined in terms of what might be	5. Physical-technical constraints are studied as is or in terms of conventional uses
6. Impact on environment and community specifically forecast	6. Impact on environment and community assumed acceptable within existing permitted uses
7. Financing from buyer viewpoint considering all profit centers	7. Financing from lender viewpoint considering only net income line and below
8. Income tax advantages or disadvantages affecting spendable cash	8. Income tax not considered except implicitly recognized in market comparison
9. Actual cash revenues and expenses forecasted for each period of time horizon	9. Revenues and expenses generally normalized and projected on linear trend for standard period
10. Limiting assumptions of solution a. Identification of potential variance and sensitivity of objectives to alternative futures b. Responsibility allocated among sources of expertise c. Budget & purpose of study edits information scope d. Format of analysis determined by structuring of data to lead to desired conclusion or recommendation	10. Limiting assumptions of solution a. Average outcome without qualification as to alternative futures b. Responsibility denied for other areas of expertise c. Date of appraisal edits informat scope d. Format of analysis defined by model of fair market value appraisal report

1.420 The appraiser and the feasibility analyst have recently begun to merge their analytical approaches as revealed by the striking redefinition of the fundamental concept of appraisal, specifically the concept of highest and best use.

1.421 Highest and best use concept -
"A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements."
P. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971

1.422 "Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.
The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing imrpovements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgment and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

1.423 At the University of Wisconsin the term highest and best use is thought to be obsolete, reflecting a view that land is a commodity to go to the highest bidder and that the private sector gets to determine the most appropriate "or best" use. In fact, land is a natural resource and the public domain has first claim on decisions on use via the police powers and eminent domain. Modern land use decisions are concerned with the most fitting use and of those uses, for the private sector who is interested in the most profitable option for the alternative left to the private sector. Therefore, the students are taught the concept of most fitting use.

10:30 COFFEE BREAK

1.500 What is the Problem as Perceived by the Client?

The original problem as perceived by the client is seldom the real issue of feasibility analysis that will need to be examined by the analyst.

1.510 The appraiser is conditioned to having the client specify the function of the appraisal, such as for fire insurance or eminent domain and then having the client's attorney or the court jurisdiction define the definition of fair market value, the question which the appraiser then begins to answer.

1.520 However, the client may ask for an appraisal when he needs a feasibility study. He may ask what he should pay for a piece of property before he has determined that his strategic needs are best met by purchase rather than by leasing by avoiding ownership of additional space altogether (by sub-contracting certain functions of others by the way in which he purchases services and supplies).

1.521 Since everyone is an expert on real estate the client will probably presume that a certain procedure will be followed.

1.522 The architect will presume that the real estate expert will show the financial implications of a final design, when in fact the real estate expert should first assist in the pre architectural program of design objectives.

1.523 Almost every client will overlook some of the basic issues because of the natural bias of his position.

1.524 The consultant must begin by attempting to discover what is taken for granted and that search will continue to condition his relationship ith his client.

1.530 When the client first contacts the consultant the question provided by the client will conceal some implicit client preferences and assumptions. The consultant will need to interview his client by asking him explicitly about:

1.531 His concept as to the "essence" of his business

1.532 His preferred method of meeting entrepreneurial risk

1.533 His preferred method of personnel compensation

1.534 His style of value decision trade-offs between qualitative and quantitative issues.

1.535 His perception of his risk position and his risk utility "curve."

1.536 His personal non-business objective.

1.537 His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of indepth preparation by the client).

1.540 The client is often skeptical of the ability of the consultant to contribute anything new since he may regard the consultant as one "who tells him the time by reading the client's own watch."

1.541 Moreover, he may be using the consultant to double check another source of information and therefore expects a consultant to begin from scratch as a way of confirming the original source.

1.542 Nevertheless, the feasibility analyst must eventually extract from the client, preferably in writing, an agreement as to what the stated objectives of the study are and the input which will be provided by others than the analyst.

1.543 This step will probably only be accomplished after the consultant has come to a better understanding of the real problems faced by the client.

1.600 What is the Problem as Understood by the Consultant?

The problem as perceived by the client almost always must be converted into a sequence of problems as understood by the consultant. The perceived question of "How much should I pay for the land," may come to be understood as "Why do I need to invest in land"?

1.610 The feasibility analyst should be the devil's disciple for in order to define what needs doing, he must first discover what has been done, what assumptions have been made, and whether those who made the assumptions knew what they were doing.

1.1611 A useful technique is to reverse the question or the alternative in order to have better perspective on the assumed area of solution. If asked to organize a non-profit partnership to create a counseling facility, approach the problem as how to dissolve a partnership of non-profit contributors. If asked the feasibility of restaurant expansion, investigate the possibility of reducing the size of the kitchen instead.

1.1612 To gain perspective, one creative think system (Synectics) recommends conversion of the familiar to the strange and the strange to the familiar by analogy. Thus any multi-user real estate becomes analagous to a retailing model while any single user real estate decision becomes an industrial location model.

1.1613 Statement of the problem as a "compressed conflict" by describing it in two words which appear to be mutually exclusive or contradictory may be useful in understanding a problem. For example, customer control as "channeled freedom" or land use control has "fixed state of flux" can then lead to discovery of more remote analogies. Analogies serve as reiliminary models suggesting opportunity areas for a solution.

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EXHIBIT 2

Feasibility Assignment and Accountability Worksheet
XYZ Appraisal Company
xxx Street Anywhere U.S.A.

Name of Client _____ Date _____

Assignment Description _____

Feasibility Input	Provided by	Approved by	Sequence and date available
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
(Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group, 210 Michigan Theater Building, Ann Arbor, Michigan, 48108.

1.620 In search of the real problem as opposed to the initial problem perceived by the client, the analyst should retreat to some basic classification and task identification checklists. First there are only three alternative feasibility situations:

1.621 A site or a project owned by a specific client in search of a market.
1.622 An identified market segment or use in search of the site and project to be provided by a specific client.
1.623 A specific client desiring to search for an opportunity in real estate enterprise.

1.630 Next the analyst must know the viewpoint of the audience for his report, written or oral, because the elements considered important by a mortgage lender may be significantly different than those of a general partner or those of a limited partner or those of a large tenant.

1.640 Since there are so many facets to the context of a real estate project and measurement of its success, not to mention the assumptions on which the determination of feasibility depends, it is important to have the client agree on what elements of feasibility are to be provided by which expert or analyst.

1.641 Analyst should be an expert on experts
1.642 It is useful to include a standard checklist of components with a letter or proposal as that checklist later becomes the really significant portion of the statement of limiting conditions (hold harmless agreements) which are part of the final report. A sample of one such checklist is provided in Exhibit 2.

1.650 With a review of which elements are to be provided by which experts it then becomes possible to assist the client in choosing which report title or titles are properly the responsbility of the real estate analyst. (See 1.360)

1.660 With definition of the report expected and the information to be provided by others, the analyst can prepare a budget and a schedule for staging the report so that he and the client can begin to establish priorities both in time and money available for research to define the feasibility assignment on which the analyst is to proceed.

1.670 Despite the necessity of defining the assignment in light of the clients problem, it is necessary for the analyst to recall that he is to remain an independent analyst an advocate of his own opinion:

1.671 There is a difference between a justified feasibility opinion about the total project and the more limited feasibility of justifying a mortgage loan from a credit source not generally known for its analytical ability.

1.672 The analyst must be careful not to be a subcontractor to an architect, engineer, or other service organization where he cannot make his own report directly to the client, critical of his professional associates as it may be. It is recommended that the feasibility analyst as a generalist have a primary contract with his client.

1.680 Correctly defining the context in all its basic dimensions requires a generalist; an appraiser is a generalist. A feasibility study produces a set of parameters, a set of predesigned or preoperational specifications within which a program proposal should work. The analyst and his client should always remember that the second stage of the feasibility study will be confirmation of the feasibility assumptions and parameters by technical analysis and planning by the specialists.

NOON - LUNCH BREAK

FIRST AFTERNOON SESSION

2.000 The Basic Case - A Site In Search of a Market

Feasibilities may begin with a site already owned for which a fitting use is sought; an appraisal always begins with a specific property in search of a most fitting use. While a consumer orientation would preferably select a site after a specific use had been defined, the more common situation is a client whose flexibility and alternative courses of action are greatly reduced to those inherent in a single site.

2.100 To begin with the familiar and to make it strange with more careful identification of attributes than is the appraisal custom does not mean that intensive specialty analysis and its inherent cost is necessary before preliminary economic tests are made; much of the analysis can essentially be defined potential uses and a priority of limiting conditions on the report.

2.200 Site analysis begins with a specific site and structures or stems from the market revenue approach as a set of site specifications which will control the search for alternatives. There is no such thing today as raw land or a vacant lot. A site suitability study recognizes every site has:

- 2.210 Static attributes - physical characteristics of sixe, shape, topography, soils, etc.
- 2.220 Legal attributes - public controls, private agreements and potential legislation defining use.
- 2.230 Linkage attributes - relationships to other sites which may tend to generate movements of goods and people to the subject site.
- 2.240 Dynamic attributes - characteristics which affect behavior such as visibility, prestige, or feeling of fear or anxiety.
- 2.250 Environmental impact attributes on physical, social, or economic factors off-site.

2.300 Static attributes analyzed should include the facts and the implications of the following:

- 2.310 Size, shape, and area
- 2.320 Topography, soils, slope stability, potential for subsidance
- 2.330 Water table, water resources (streams & ponds) and bulkhead lines
- 2.340 All set-back lines and building envelopes
- 2.350 Access routes (proximity is not accessibility)
- 2.360 Concealed utility easements, old foundations, etc.
- 2.370 Flood plains which have been determined by Corp. of Engineers, etc.
- 2.380 Scarce environmental elements which may mean environmental impact litigation
- 2.390 Landmarks or historical structures

2.400 Legal attributes inventory should include both specific controls such as zoning, and identify external public or private controls on use or potential legislation or administrative attitudes and procedures which would impact on owner alternatives for use.

2.410 Legal uses under zoning alternatives and limitations on FAR, parking, signing, etc.

2.420 Special zoning options such as PUD, down zoning alternatives, etc. available at owners option.

2.430 Premises of community master plans still in incubation process

2.440 Tax conservancy commitments

2.450 Extra territorial zoning or subdivision powers

2.460 Attitudes of sewer, water, and highway commissions

2.470 Contractual agreements among previous buyers and sellers which may or may not run with the land

2.480 Planner views of physical barriers to restrict "sprawl"

2.490 Existing or impending legislation should be anticipated relative to:

2.491 Septic tank installation
2.492 Ground water, depth and conservation of high water recharge areas
2.493 Salt water encroachment
2.494 Conservation of environmental edges
2.495 Conservation of prime agricultural land
2.496 Water quality standards
2.497 Air quality standards

2.500 Analysis of the static and legal attributes should be summarized in terms of competitive advantages and disadvantages for costs, pricing, and marketing.

2.510 Some attributes lead to higher cost which the front door approach (See Section 3.000) may reveal as leading to excessive rents or prices.

2.520 Some static or legal attributes can provide monopoly advantages because its suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

2.530 Static attributes will also help identify "best use" or the most probable buyer.

2.540 Lack of fit between static site attributes and merchandising data is a basic cause of unsuccessful projects.

2.600 Linkage attributes have to do with functional relationships or points of interaction with activity centers which may generate users or provide the infrastructure of improvements which support the site.

2.610 Streets, sidewalks, rail, and transit systems serving the site.

2.620 Access points

2.621 Traffic department controls, present and proposed
2.622 Rail switching and truck tariff zones
2.623 Indirect controls imposed by factors affecting behavior. (See dynamic attributes, 5.000)

2.630 Utility services arelinkages, too.

2.631 Sewer and storm water capacities
2.632 Water, gas, and electric hook-ups, availability and capacity
2.633 Community energy supplies and sources
2.634 Implicit resources such as stock of wild game, labor pools, alternatives to the auto, etc.

2.640 Capacity of existing transportation systems to absorb unit volume generated on site and implications for off-site improvements budgets.

2.650 Relationship of subject site to generators of potential needs and uses for the subject site.

2.651 Employment centers
2.652 School system alternatives
2.653 Retail services
2.654 Complimentary existing nearby uses
2.655 Recreational services
2.656 Health care systems
2.657 Security systems
2.658 Waste disposal services

2.660 Neighborhood demographics (population, age, employment, income, etc.)

2.670 Relationship to competitive alternatives and projects and exposure to interception of linkages.

2.700 Dynamic attributes have to do with the mental or emotional responses which a site or project stimulates as it affects decision making behavior. These decision makers may be property buyers, regulators of site use, customers of establishments located on the site, or peer groups which set community attitudes or make decisions for others by proxy (Board of Elderly Care Organization).

2.710 Image conditioning of the approach zone

2.720 Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

2.730 Anxiety factors of access and security

2.740 Noise as a function of traffic count (FHA noise pollution manual).

2.750 Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

2.760 Political images established for a site by the public positions of local politicians or vested interest groups.

2.770 Historical community reputation and values attached to the project site and structures.

2.771 Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.

2.772 Recycling may establish historical roots and images.

2.800 The real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers which represent the community political environment. The landscape builds like a reef, the cumulative bones of thousands of individual decisions. This decade will witness a final transition from relative laissez faire attitudes of land as a commodity to highly democratic regulation of land as a public resource and land use as a privilege granted by the public. If the proposal won't sell at City Hall there will be no opportunity to market the product to individuals. Therefore the project must consider in its feasibility procedures and in constraints imposed by pre-architectural programs the impact on the environment of?

2.810 Physical factors of the environment

2.811 Soil stability and water tables beyond the site boundaries

2.812 Eutrophication of lakes and streams

2.813 Disruption of environmental edges, plant, and wildlife areas
2.814 Impact on energy resources
2.815 Contribution to social disintegration
2.816 Aesthetic and urban design

2.820 Social factors of the environment

2.821 Displacement of existing residents and neighborhood units
2.822 Contribution to social integration or mobility barriers
2.823 Contribution to land use heterogeneity
2.824 Contribution to regional and community master plans

2.830 Economic factors of the environment

2.831 Direct impact on real estate tax revenues
2.832 Direct impact on other governmental revenue
2.833 Direct impact on incremental government
2.834 Secondary contributions to local government revenues
2.835 Secondary cost burdens created for local communities

2.840 Real estate business ethic environment

2.841 Impact on supply equilibrium
2.842 Impact on associated contractors
2.843 Impact on families of project sponsor
2.844 Ligitimacy of financing structure

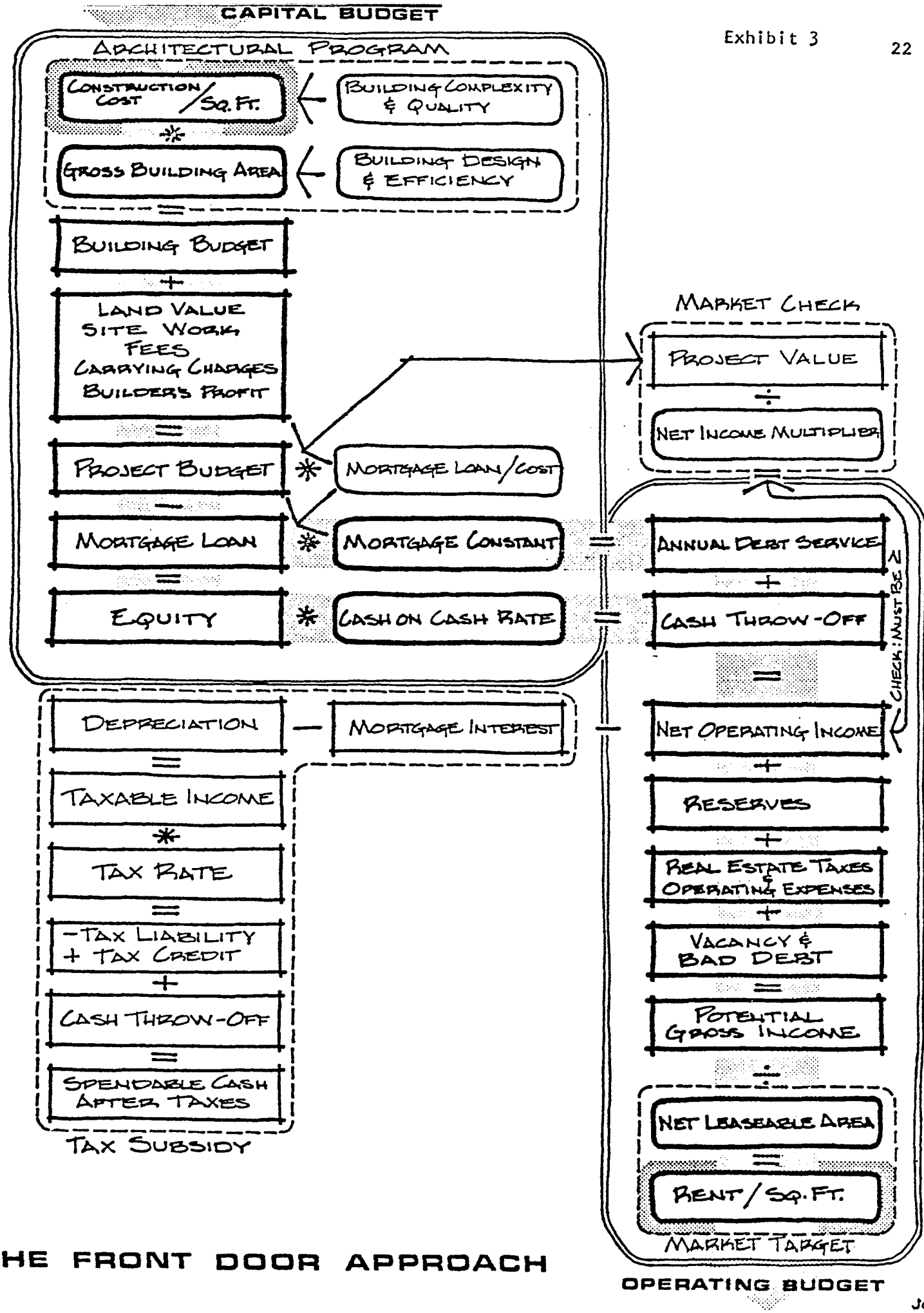
2.850 Silhouette of proposed project in terms of public perception of impact.

2.860 Relationship of impact assessment to:

2.861 Scale of project
2.862 Vulnerability of project sponsor to secondary consequences of political discretion
2.863 Stamina of project sponsor in the face of public pressure

2.900 The attribute analysis will lead to a narrowing of alternative uses to a limited series of alternatives which may be identified by a number of basic questions and then given a preliminary test for the possibility of effective demand using the front door or capital to revenues approach suggested in 3.000.

2.910 Does any set of site attributes suggest a single space-time to money-time configuration? For example, a high floor area ratio but little parking or extensive floor space for a cheap price.



THE FRONT DOOR APPROACH

JCC 2-

2.920 What groups or individual might make best use of the potential space-time or money-time configuration seen as alternatives.

2.930 What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

2.940 What attributes negative to possible alternative uses could be neutralized and at what cost?

2.950 Can potential users afford the required rent or capital budget of site development?

2.960 If so, how many users are there who can afford the price (have effective demand potential) are there, particularly in relation to the unit capacity of the site?

2.970 Proforma costs can lead to a price to the user which will identify a customer segment for market survey research - what we term the front door approach for capital-to-required revenue approach which follows.

3.000 Preliminary Test of Economic Feasibility

Given the two basic two feasibility situations --- a site and project in search of a market or a market in search of a workable site and project --- there are two basic financial approaches to feasibility analysis which provide an initial set of numbers and financial constraints which must be tested against the realities of the marketplace.

3.100 Both these preliminary tests are related to the space-time equals money-time truism and the appraisal concept of the justified investment:

3.110 The capital outlay approach permits conversion of the total cost to acquire to a required rent schedule. (See Exhibit 3 for a flow chart representation). It converts the capital cost of a space-time product to an operating revenue over time equivalent. Somehow it is called the "front door" approach.

3.120 The market revenue approach permits conversion of a desired rent schedule into a detailed budget allocation for justified investment in the project, concluding with net building budget for brick and mortar of various rental components in the project. (See Exhibit 7 at the beginning of tomorrow morning's session). It is called the "back door" approach but is preferable for project design.

3.200 The most commom assignment for the appraiser turned feasibility analyst is to test a full blown project proposal for feasibility. In these cases, the total purchase price or the site and building plans, product mix, and building cost have already been established by a developer or a designer.

3.210 The question is then what income will be necessary to support the project successfully given certain parameters of financing terms, equity dividends, operating expenses, vacancy rates, and breakeven levels of operation required or desired.

3.220 In short, a given capital budget must be converted to a first year proforma income statement.

3.230 It should be noted that this method is not a cash flow projection but only a first year analysis before income tax considerations.

3.240 If the project won't work its first full year of operation, there is little sense in projecting future years of cash flow for the initial analysis.

3.250 When one set of numbers can be made to work, it is then possible to test the specific proposal for its fit to the risk management considerations of the investor, to the public impact constraints in the community, and to the self interest of the space user.

3.300 Both the capital and the market approaches are models which serve several functions at the outset of any feasibility study, for purchase of an existing project or design specification of a proposed one. Like all models they oversimplify the case and ignore income tax considerations and non-quantitative objectives of the client. Nevertheless at the start they perform several useful functions for the analyst:

3.310 The formulas edit the data necessary to specify the space-time product and to convert that product to money-time assumptions.

3.320 The process immediately focuses analysis on the testing of the critical assumptions for success, namely availability of the required rent or possibility of construction within the required budget. If a basic proforma statement cannot be made to work either there is a prima facie case that the project is not feasible or priorities of feasibility study are shifted to discovery of a lower cost building technique or of willingness by the ultimate consumer to pay more for certain unique features.

3.330 It permits the analyst to repeatedly adjust the assumptions in a search to bracket a range of workable solutions (alternative choices) and then seek the relevant market data which may rebut or support the assumption of the capital or market proforma model.

3.340 The capital and the market approach are the two components of a reversible equation which permits sensitivity analysis of the critical variable which are within the control, in part, of the investor-developer.

3.400 The capital or market approach is a concise model for communicating critical relationships to the client and the audience for whom the report is intended. Should the audience disagree with assumptions made by the analyst, the audience can then immediately test their own assumptions by the same logic as the analyst.

The capital outlay approach to feasibilty involves a series of steps to determine rents required, when risk management parameters, and total capital costs are known or can be assumed. (See Exhibit 3)

3.410 The capital outlay approach is best demonstrated by reference to a worksheet which provides a step by step framework for analysis. (See Exhibit 4 for demonstration case; a sample blank set of worksheets is at the back of study kit for later office use).

3.420 Step 1 is to complete the capital outlay budget and determine total hard dollar costs of the project (line 260, Exhibit 4).

3.421 If total dollar cost of acquisition is the only number known, start with line 260.

3.422 Otherwise begin with gross sq. ft. of building costs for residential and multiply by gross area (line 110); repeat the process for commercial or other space and rename the categories if desired.

3.423 The contingency reserve factor (line 200) is a risk allowance for an overrun in the cost of total structure. If you have assumed the highest cost imaginable, set it to 0; if construction costs are from an optimistic architect or contractor, the percentage of contingency reserve might be 10% plus an allowance for inflation if the building will not be built for a year or more.

CAPITAL OUTLAY MODEL WORKSHEET

FHA 221(d)(4) · 90% MTG.

	Structures Cost				
	Residential				
110	Gross sq. ft.	60500			Specify (Sp.) sq. ft.
120	Cost/gross sq. ft.		21.59		Sp. $'s/sq. ft.
130	Total Res. Structures	1306200		(60500×21.59)	Lns. (110 x 120)
	Commercial				
140	Gross sq. ft.	16000			Sp. sq. ft.
150	Cost/gross sq. ft.		18.35		Sp. $'s/sq. ft.
160	Total Comm'l Structures	293600		(16000×18.35)	Lns. (140 x 150)
170	Miscellaneous Structures	0			Sp. $'s
180	Total Structures	1600000		(1306200+293660)	Sum Lns. (130, 160, 170)
190	Contingency Reserve Factor		.03		Sp. %
200	Contingency Reserve	48000		(1600000×.03)	Lns. (130 x 190)
210	Total Structures and Reserves	1648000		(1600000+48000)	Sum Lns. (190 + 200)
220	Land	113500			Sp. $'s
230	Total Structures, Reserves, Land	1761500		(1648000+113500)	Sum Lns. (210 + 220)
240	Consultant/Developers Fee	50000			Sp. $'s
250	Carrying charges (tax, ins.)	25000			Sp. $'s
260	Total Hard Cost	1836500		(1761500+50000+25000)	Sum Lns. (230 + 240 + 250)
270	Mtg. @ % Total Hard Cost		.90		Sp. %
280	Const. Loan @ % Tot. Hard Cost		.90		Sp. %
290	Const. Period in Months	15			Sp. #
300	Const. Interest Rate		.12		Sp. %
310	Const. Interest	123960		(1836500×.90×15/12×.12×1/2)	Lns. (260x280)×(LN .290)/12×(LN 300)×(1,
320	Financing fee @ % Mtg.		.05		Sp. %
330	Financing Fees	91825		(1836500×.05)	Lns. (270 x 320)
340	Total Replacement Cost	2052285		(1836500+123960+91825)	Sum Lns. (260 + 310 + 330)
350	Mortgage Capital Contribution	1652850		(1836500×.90)	Lns (260 x 270)
360	Required Equity Cash	399435		(2052285−399435)	Lns (340 - 350)

Required Revenue Budget

Unit Mix; # & code
(Code: Residential = 1, Commercial = 2)
(If Code 1, give # rooms; Code 2 sq. ft. GLA)

370	RU - 1	1	46		1				Sp., # units & code
380	# Rooms (iff. residential)			35					Sp. # Rooms
390	RU - 2		10		1				Sp., # & Code
400	# Rooms			45					Sp. # Rooms
410	RU - 3	15000			2				Sp., # & Code
420	# Rooms								Sp. # Rooms
430	RU - 4								Sp., # & Code
440	# Rooms								Sp. # Rooms
450	RU - 5								Sp. # & Code
460	# Rooms								Sp. # Rooms
470	Total # Rooms, Res. RU's		206			(46×3.5)+(10×4.5)			Sum Lns [(370x380)+(390x400)+(410x420)+(430x440)+(450x460)
	Expenses & Taxes								
	Residential								
480	Expenses/room/year			140					Sp. $'s
490	Taxes/room/year			160					Sp. $'s
	Commercial								
500	Expenses/sq. ft. GLA/year				50				Sp. $'s
510	Taxes/sq. ft. GLA/year				100				Sp. $'s
520	Total Res. Exp. & Taxes		61800			(140+160)(206)			Ln (470) x Sum Lns (430+490)
530	Total Comm'l Exp. & Taxes		22500			(150)(5000)			Ln (370-460 Code 2 #s) (Sum Lns 50 51
540	Total Exp. & Taxes		84300			(61800+22500)			Sum Lns. (520+530)
550	Mtg. Constant				.0926	FHA			Sp. %
560	Mtg. Debt Service Required		153050			(1652850)(.0926)			Lns. (350 x 550)
570	Equity Cash Dividend Constant				08				Sp. %
580	Equity Dividend Required		31950			(399435)(.08)			Lns. 360 x 570)
585	Cash income required for Exp. & Tax, Mtg. & Equity		269300			(84300+153050+31950)			Sum Lns. (540+560+580)

590	Non-Distributable cash & variance factor		02		Sp. %
600	Non-Dist. cash & Var. Revenue	5385		(269300-269300)(98)	Ln(585)-(Ln[585])(1-Ln[590])
610	Required Annual Effective Gross Revenue	274690			Sum Lns (585 + 600)
615	Vacancy Factor		05		Sp. %
620	Required Annual Gross Revenue	289140		(274690÷.95)	Ln (610)/(1 - Ln 615)
625	Required Monthly Gross Rev.	24095		(289140÷12)	Ln (620)/12 months
630	# Non-allocated Price RU's		45		Sp. #
640	Mo. Income/RU's		15		Sp. $'s
650	Total Non-allocated RU Revenue	675		(45x15)	Lns. (630 x 640)
655	Allocatable Revenue	23420			Lns. (620 - 650)

(Note Factor Calculations: Refer to Unit Mix
Section Lns. (370-470)
If Type 1,(res) multiply # units by rent @ BRU
If Type 2,(comm'l);(Read sq. ft. RU and / by sq. ft. BRU (Ln 665)
x (rent @ % BRU)

660	Base Revenue Unit Type	RU-1			Sp. Type
665	Base Revenue Unit (BRU) sq. ft.	576			Sp. sq. ft.
670	RU - 1 rent @ % BRU		100		Sp. %
680	Factors	46		(46x100)	(See: Note Factor Code)
690	RU - 2 rent @ % BRU		140		Sp %
700	Factors	14		(10x1.40)	
710	RU - 3 rent @ % BRU		160		Sp %
720	Factors	41	67	(15000÷576x1.6)	
730	RU - 4 rent @ % BRU				Sp %
740	Factors				
750	RU - 5 rent @ % BRU				Sp %
760	Factors				
770	Total Factors	101	67	(46+14+41.67)	Sum Lns. (680+700+720+740+760)

Rental Structure

* If type 2 (or Comm'l), divide by Ln (665)

780	BRU rent/mo.	23035		Lns. (655 / 770)
790	RU - 1 rent/mo	23035	(1.00 x 230.35)	Lns. (670 x 780)*
800	RU - 2 rent/mo	322	(1.40 x 230.35)	Lns. (690 x 780)*
810	RU - 3 rent/mo	64	(1.60 x 230) ÷ 576	Lns. (710 x 780)*
820	RU - 4 rent/mo			Lns. (730 x 780)*
830	RU - 5 rent/mo			Lns. (750 x 780)*
840	Total Annual Rev. from RU - 1's	126960	(230 x 46 x 12)	Lns. (370 x 790)
850	Total Annual Rev. from RU - 2's	38640	(322 x 10 x 12)	Lns (390 x 800)
860	Total Annual Rev. from RU - 3's	115200	(.64 x 15000 x 12)	Lns. (410 x 810)
870	Total Annual Rev. from RU - 4's			Lns. (430 x 820)
880	Total Annual Rev. from RU - 5's			Lns. (440 x 830)
890	Total Annual Allocated Rev.	280800		Sum Lns. (840+850+860+870+880)
	(Compare to Ln. 655) x 12			Lns. (890-655)
900	Default Ratio	82	(84300 + 153050 + 289140)	Lns. (540+560)/Ln (620)
910	Default Ratio, upset point			Sp. %

3.424 Consultant and developers fees and carrying charges (line 240, 250) can each be computed separately and summarized as a single number on the form to provide a check list for all of the elements which might be accounted for in a final detailed analysis. Note that construction loan costs are computed separately beginning with line 270.

3.430 To allocate hard dollar costs between mortgage dollars and equity dollars the analyst must assume either a specific number of mortgage dollars or a percent of hard dollar costs which will be available from debt money (line 270). Note there may be a combination of mortgages so that the percentage factor is not a traditional loan ratio but the ratio of debt dollars to total hard dollar requirements.

3.431 Lines 280 to 330 provide an initial estimate of soft dollar costs for construction loan costs and other financing fees for registration, marketing research and points. These costs added to hard costs provide the total replacement costs, the same term used on line 73 of the FHA 2013 form.

3.432 The total replacement cost minus the mortgage amount from permanent financing (line 350) establishes the equity cash (line 360) that will be required once the project goes on stream as operational. Note that total replacement costs less the construction loan in line 280 will reveal the equity cash required during construction if all subcontractors are to be paid before the end of the construction phase. However, cash budgeting of the construction phase at that level of detail is premature at this point in the analysis.

3.500 It is then necessary to define space-time units by some common denominator appropriate to expense accounting as well. If there were only identical one-bedroom apartments in the structure, then the one bedroom apartment is an appropriate avenue unit (RU) as on line 370. However, if the project has a mix of apartment type, it is useful to redefine each type of rental unit in terms of some common denominator such as numberof rooms or number of sq. ft. or in terms of one bedroom units so that average expenses per room or per sq. ft. may be used.

3.510 The total number of common denominator units (line 470) in rooms, sq. ft., dormitory bed or whatever represents the residential units in order to simplify expense calculations on line 480 and 490.

3.520 In most communities it is possible to know the median real estate tax per room, sq. ft., or apartment, etc. and the expenses of roughly similar projects and these appropriate costs on lines 480, 490, 500 and 510, provide a total expense and tax cost for line 520.

3.530 The same process is repeated for commercial or non-residential rental units in the same project, (lines 500 and 510) on a sq. ft. leasable basis to arrive at total cash outlays for expenses and taxes attributable to those commercial areas in line 530.

3.540 Line 540 represents the total cash required annually for cash expenses and real estate taxes attributable to the rental units contemplated by the plan on which the capital budget was estimated.

3.600 The other major cash outlay is the dollar amount required for debt servicing. This dollar amount can be determined by assuming specific terms of interest, term of repayment, or annual mortgage constant which would be appropriate to the permanent financing assumed as a basis for mortgage amount in line 350, and is entered as a dollar amount in line 560.

3.610 Required equity cash on line 360 - if any, may also require an annual cash return (much like the Ellwood cash dividend); even if equity cash was equal to 0 or negative, the owners may require some cash return each year as one of the benefits of ownership so these annual dividend dollars should be included in line 580.

3.620 Cash income required annually for expenses and taxes, mortgages and equity owners is then summarized on line 585.

3.621 The cash income required is subject to some error in estimating and there may be certain cash sinking fund programs which are desirable, such as for replacement of furnishings in a motel or store fronts in a retail project which wise developers actually fund in hard dollars from annual operations.

3.622 These non-distributable cash and allowance for variance (line 590) when added to line 585 provide an estimate of <u>required annual effective gross revenues</u> in line 610.

3.630 Effective gross revenue is revenue which must be collected, after certain vacancy and collection losses. A percentage vacancy allowance must be substracted from 100% and the remainder divided in effective gross to determine the required <u>potential annual gross revenue</u> in line 620.

CAPITAL OUTLAY MODEL WORKSHEET

ALL EQUITY, NO MTG.

	Structures Cost				
	Residential				
110	Gross sq. ft.	60500			Specify (Sp.) sq. ft.
120	Cost/gross sq. ft.	2159			Sp. $'s/sq. ft.
130	Total Res. Structures	1306200		(60500 x 21.59)	Lns. (110 x 120)
	Commercial				
140	Gross sq. ft.	16000			Sp. sq. ft.
150	Cost/gross sq. ft.	1835			Sp. $'s/sq. ft.
160	Total Comm'l Structures	293660		(16000 x 18.35)	Lns. (140 x 150)
170	Miscellaneous Structures	0			Sp. $'s
180	**Total Structures**	1600000		(= 1306200+293660)	Sum Lns. (130, 160, 170)
190	Contingency Reserve Factor		03		Sp. %
200	Contingency Reserve	48000		(1600000 x .03)	Lns. (130 x 190)
210	Total Structures and Reserves	1648000		(1600000+48000)	Sum Lns. (190 + 200)
220	Land	113500			Sp. $'s
230	Total Structures, Reserves, Land	1761500		(1648000+113500)	Sum Lns. (210 + 220)
240	Consultant/Developers Fee	50000			Sp. $'s
250	Carrying charges (tax, ins.)	25000			Sp. $'s
260	**Total Hard Cost**	1836500		(1761500+50000+25000)	Sum Lns. (230 + 240 + 250)
270	Mtg. @ % Total Hard Cost		0		Sp. %
280	Const. Loan @ % Tot. Hard Cost		0		Sp. %
290	Const. Period in Months				Sp. #
300	Const. Interest Rate				Sp. %
310	Const. Interest				Lns. (260x280)x(LN .290/12)x(LN 300) x (1
320	Financing fee @ % Mtg.				Sp. %
330	Financing Fees				Lns. (270 x 320)
340	**Total Replacement Cost**	1836500			Sum Lns. (260 + 310 + 330)
350	Mortgage Capital Contribution	0			Lns (260 x 270)
360	Required Equity Cash	1836500			Lns (340 - 350)

Required Revenue Budget

Unit Mix; # & code
(Code: Residential = 1, Commercial = 2)
(If Code 1, give # rooms; Code 2 sq. ft. GLA)

370	RU - 1		46	1					Sp., # units & code
380	# Rooms (iff. residential)			3.5					Sp. # Rooms
390	RU - 2		10	1					Sp., # & Code
400	# Rooms			4.5					Sp. # Rooms
410	RU - 3	15000		2					Sp., # & Code
420	# Rooms								Sp. # Rooms
430	RU - 4								Sp., # & Code
440	# Rooms								Sp. # Rooms
450	RU - 5								Sp. # & Code
460	# Rooms								Sp. # Rooms
470	Total # Rooms, Res. RU's		206			(46x3.5)+(10x4.5)			Sum Lns [(370x380)+(390x400)+ (410x420)+(430x440)+(450x460)
	Expenses & Taxes								
	Residential								
480	Expenses/room/year			140					Sp. $'s
490	Taxes/room/year			160					Sp. $'s
	Commercial								
500	Expenses/sq. ft. GLA/year				50				Sp. $'s
510	Taxes/sq. ft. GLA/year			1	00				Sp. $'s
520	Total Res. Exp. & Taxes		61800			(140+160)(206)			Ln (470) x Sum Lns (430+490)
530	Total Comm'l Exp. & Taxes		22500			(150)(15000)			Ln (370-460 Code 2 #s)(Sum Lns 50 51
540	Total Exp. & Taxes		84300			(61800+22500)			Sum Lns. (520+530)
550	Mtg. Constant			0					Sp. %
560	Mtg. Debt Service Required								Lns. (350 x 550)
570	Equity Cash Dividend Constant				08				Sp. %
580	Equity Dividend Required		146920			(1836500)(.08)			Lns. 360 x 570)
585	Cash income required for Exp. & Tax, Mtg. & Equity		230220			(84300+146920)			Sum Lns. (540+560+580)

590	Non-Distributable cash & variance factor			02		Sp. %
600	Non-Dist. cash & Var. Revenue		4600		(230220-(230220(.98)	Ln(585)-(Ln[585])(1-Ln[590])
610	Required Annual Effective Gross Revenue		234820		(230220+4600)	Sum Lns (585 + 600)
615	Vacancy Factor			05		Sp. %
620	Required Annual Gross Revenue		247180		(234820÷.95)	Ln (610)/(1 - Ln 615)
625	Required Monthly Gross Rev.		20600		(247180÷12)	Ln (620)/12 months
630	# Non-allocated Price RU's			45		Sp. #
640	Mo. Income/RU's			15		Sp. $'s
650	Total Non-allocated RU Revenue		675		(45x15)	Lns. (630 x 640)
655	Allocatable Revenue		19925		(20600-675)	Lns. (620 - 650)

(Note Factor Calculations: Refer to Unit Mix
Section Lns. (370-470)
If Type 1,(res) multiply # units by rent @ BRU
If Type 2,(comm'l);(Read sq. ft. RU and / by sq. ft. BRU (Ln 665)
x (rent @ % BRU)

660	Base Revenue Unit Type		RU-1			Sp. Type
665	Base Revenue Unit (BRU) sq. ft.		576			Sp. sq. ft.
670	RU - 1 rent @ % BRU			100		Sp. %
680	Factors		46		(46x1.00)	(See: Note Factor Code)
690	RU - 2 rent @ % BRU			140		Sp %
700	Factors		14		(10x1.40)	
710	RU - 3 rent @ % BRU			160		Sp %
720	Factors		41	67	(15000x1.6)÷576	
730	RU - 4 rent @ % BRU					Sp %
740	Factors					
750	RU - 5 rent @ % BRU					Sp %
760	Factors					
770	Total Factors		101	67	(46+14+41.67)	Sum Lns. (680+700+720+740+760)

Rental Structure

* If type 2 (or Comm'l), divide by Ln (665)

780	BRU rent/mo.	196	(19925÷101.67)	Lns.(655 / 770)
790	RU - 1 rent/mo	196	(196×1.00)	Lns.(670 x 780)*
800	RU - 2 rent/mo	274	(196×1.40)	Lns.(690 x 780)*
810	RU - 3 rent/mo	54	(196×1.60)÷576	Lns. (710 x 780)*
820	RU - 4 rent/mo			Lns. (730 x 780)*
830	RU - 5 rent/mo			Lns. (750 x 780)*
840	Total Annual Rev. from RU - 1's	108192	(46×196)×12	Lns. (370 x 790)
850	Total Annual Rev. from RU - 2's	32880	(10×274)×12	Lns (390 x 800)
860	Total Annual Rev. from RU - 3's	97200	(1500×54)×12	Lns. (410 x 810)
870	Total Annual Rev. from RU - 4's			Lns. (430 x 820)
880	Total Annual Rev. from RU - 5's			Lns. (440 x 830)
890	Total Annual Allocated Rev.	238270	(108192+32880+97200)	Sum Lns.(840+850+860+870+880)
	(Compare to Ln. 655)×12			Lns. (890-655)
900	Default Ratio	34	(84300÷247180)	Lns. (540+560)/Ln (620)
910	Default Ratio, upset point			Sp. %

3.631 To reduce the potential annual gross revenue to a period more appropriate to the type of space unit contemplated and market rents, it is then necessary to divide annual gross by some factors such as numbered months to determine monthly rents, number of days for motel prices, or hours during which the business is open for the year for a tennis court or ice arena (see line 625).

3.632 Required period income should be reduced by revenues which are fixed or should not be allocated to the various revenue units previously indentified on page 2 (line 630-650). The analyst then has the allocatable revenue per unit in line 655 from which rents can be determined for each of the remaining mix of rentable units.

3.640 For the example given the base revenue type was the one-bedroom apartment with 576 sq. ft. of space and all other rental units were expressed in terms of this common denominator. It is therefore necessary to determine the equivalent of common denominator units represented by the product mix being tested.

3.641 For example, the two bedroom apartments were expected to rent for 140% of the one-bedroom apartment price and the commercial area was expected to rent at 160% of what was expected of the one-bedroom apartment. (The sq. footage in the one-bedroom provided an arbitrary base for conversion of GLA). If commercial were not a significant part of a project, revenue expected from such miscellaneous sources can be deducted from revenue to be generated from basic revenue units in line 650.

3.642 Given the sum of equivalent revenue unit factors (on line 770) it is then possible to divide the total into total allocatable revenue (line 655) to determine minimum monthly rent required for one-bedroom units. The minimum monthly rent multiplied by the previous common denominator factor in (lines 680, 700, 720, 740, and 760) then provides the monthly rents for each of the other rental unit mix components.

4.000 Feasibility Analysis as an Exercise in Risk Management

At this point the analyst has a set of numbers which are only useful to the degree that they provide a base for a series of "if" statements or "if, then it follows" measurements of fit of the key assumptions to the realities of the physical project and a potential market.

4.100 Since a primary function of the analyst is to provide risk management input to a proposal, it is useful to describe the risk management function in more detail before continuing to test the capital structure approach further. Risk in the business situation is the variance between assumptions about the fact in the planning process and realizations in the execution of the program. The game of "what if" and the consequences of surprise is cheaper to play on paper while designing the project program.

4.110 There are two types of risk for concern:

4.111 Static risks are those contingencies or events which can only cause a loss and which are highly unpredictable in terms of frequency of occurrence and severity of loss. In large part they are beyond control of the risk taker such as fire, death, accident, or world political events. Often these risks can be shifted by insurance devices.

4.112 Dynamic risks are those contingencies or events which can cause a profit or a loss, such as drilling for oil, or selecting a stock of style apparel for a retailing outlet. In these cases success or failure is in a large part dependent on the amount of information, skills, and judgment of the risk taker, who is motivated in varying degrees by the pain of loss or the gains of success.

4.120 The primary objective of risk management is to conserve existing net worth and asset values, and the secondary objective is to realize future expectations of net income. The functions of risk management include:

4.121 Identification of significant exposures to loss.

4.122 Estimation of potential loss frequency and severity.

4.123 Identification of alternative methods to avoid loss.

4.124 Selection of a risk management method.

4.125 Monitoring execution of risk management plan.

4.130 The loss potential of each contingency must be examined in terms of three elements:

4.131 The direct loss is the result of physical destruction of property or cash necessary to correct the damage.

4.132 The consequential loss is the loss of income or opportunity as a result of the direct loss.

4.133 The extra expense loss which includes all additional costs necessary to bring the contingency under control of satisfy claims of third parties adversely affected.

4.133 For example, a fire in a retail store causes direct damage to the property, consequential loss of rental income, and the extra expense of managing the recovery and meeting third party suits for damages.

4.140 The methods available to the risk manager to reduce financial surprises of risk include:

4.141 Avoiding risk (exterior storage of inflammable liquids, no FHA projects, no spec building).

4.142 Reducing frequency of loss (fireproof construction, underwriting selection of mortgagor or tenant).

4.143 Reducing severity of loss (sprinkler system, low ratio mortgage, exculpatory clause for borrower).

4.144 Shifting the risk of future variance by contract (fire insurance, real estate tax escalator clause, fixed price subcontract).

4.145 Limiting liability (corporate shell, limited partnership law, joint venture agreement).

4.146 Hedging (sale and lease-back with option to buy, the mortgage as a straddle position in the real estate futures market).

4.147 Creating compensation incentives for performance (deductibles and experience rating for insurance, graduated commissions or equity participation for management).

4.200 Risk management analysis begins with several basic indices of tolerance for variation in financial assumptions of either the capital structure or market structure approach. These in turn lead to sensitivity analysis of variables within the control of the decision maker.

4.210 The default point is the critical cash break-even point to which operations must adapt expressed as a ratio to potential gross rent.

$$\frac{\text{cash expenses + real estate taxes + debt service + short term loans}}{\text{potential gross rent}}$$

4.211 A default point of 80% means that vacancy could be 20% or rents might be cut by 20% to achieve 100% occupancy or some combination.

4.212 Expressing expenses and real estate taxes as a percent of gross potential allows analysis of variance which might occur in these cash outlays before exceeding cushion provided by defaulty point less normal vacancy.

4.213 A statement of debt service as a percent of gross rent provides a meaningful measure of the amount of debt which may be carried safely by the project or the terms of the loans necessary to maintain solvency in any particular period.

4.214 Default points may be relatively high for an FHA apartment project with subsidized rents, say 85%,or low for a luxury resort - say 55%, but these are judgments which must be made by the analyst or the client.

4.220 The maximum potential loss facing a developer-investor is his net cash investment plus extent of direct liability on project liabilities. This exposure can hopefully be reduced by cash taken out of the project operations, and tax savings through other income. The time it takes to reduce the peak cash exposure to zero is known as the payback period.

4.221 For example, many investors would insist in a payback period of five years or less since they regard the future beyond that point completely unforeseeable and the possible events adverse to their investment almost infinite.

4.222 Payback can be altered by changing the debt ratio, reducing the cost of the project, retaining more pre-operating profit centers, or modification of partner shares and timing of distribution.

4.223 It is important to note that even if the capital structure approach suggests a rent structure which may be acceptable in the market, the default point (line 900) or the payback ratio (line 910) of the capital structure may be unacceptable so that it will be necessary to rework the assumptions about loan ratio or equity dividend rate or cost or variance in operating expenses in order to achieve desired results.

4.230 Not all risks can be given financial perameters and then neatly laid off through one financial device or another but it is useful to make underlying assumptions about the status quo explicit so that the decision maker has some idea about the alternative outcomes which could adversely affect the desired result or possibly, if fully understood, lead to a rejection of present profits because unpredictable future losses:

4.231 Private college dormitories depended on a college administrative rule that students live in supervised housing. If the rule is removed by administrative fiat, what then?

4.231 A key industrial park tenant may require a five year lease with renewal options. If the option is not taken, what then?

4.232 A recent financial forecast about availability of real estate financing in 1976 made the following explicit assumptions:

"Assuming no renewal of Middle East hostilities and a resulting oil embargo."

"Assuming a reduction of the inflation rate to 5% through effective federal government fiscal and monetary programs."

"Assuming only moderate increases for construction labor contracts in the summer of 1975."

4.300 The concept of rate of return has as many variations as there are investors, but essentially it attempts to measure the relationship of cash outlays to cash receipts over time. Essentially it is a corollary of buy low and sell high with an adjustment for elapsed time between the two transactions.

4.310 Perceived risk eventually influences the desired rate of return but risk and investment yield are not directly integrated. A high rate of return may be possible because there is little equity cash and therefore a very small maximum potential loss and short payback period.

4.320 There are two ways of measuring returns, prospectively one year at a time, or retrospectively over the full span of the investment cycle. A cash-on-cash return is a common example of the former while the internal rate of return, discounted cash flow, or the Ellwood approach are examples of the latter.

4.330 A cash dividend or equity cash throw-off approach before adjustment for income tax influence is the most useful approach in the early stages of feasibility analysis. Most people should have learned by now the fallacy of "tax loss only" deals which are not viable on their own.

4.331 An equity dividend constant was built into the rent structure (line 580). This is a cash-on cash prospective return and is also a measure of the strength of the vested interest of the borrower continuing to make mortgage payments on time.

4.332 Cash-on-cash is also the reciprocal of pre-tax payback of equity capital investment. For example, an 8% cash dividend is a 12 1/2 year payback before adjustment for tax savings, future refinancing surplus, profit centers retained, or "funny money" strategies to remove equity cash dollars.

4.340 Sensitivity analysis explores the change in one assumption on the relationships of the capital structure approach to various key assumptions about casot to acquire or operating revenues and expenses. It should be apparent that the repetitive nature of these types of automated computation and sensitivity analysis is best demonstrated by reference to one of the models which are commercially available.

4.341 Exhibit 6 contains a descriptive manual of a computer terminal service call Design Analysis Program, authored by John Nabors of Dallas, Texas. Special variations are available for hotel type or land development type formats.

4.342 Similar types of program are available on high memory capacity electronic calculators. For example, the Monroe Calculator Company offers a series of feasibility programs developed by a real estate consultant-appraiser McCloud B. Hodges, Jr., MAI, of McLean, Virginia.

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PROGRAM SUMMARY
DESIGN ANALYSIS PROGRAM

The Design Analysis Program is basically a method of determining a number of possible annual cash flows from a proposed income property based upon up to five different values of six different cash flow parameters:

1 = Rental Rates e.g. $6.50/sq ft/yr
2 = Vacancy Rates e.g. 10% of potential rental revenue
3 = Expense Rates e.g. $2.50/sq ft/yr
4 = Financing Conditions e.g. 9½% 30 yrs paid monthly
5 = Building Efficiency e.g. 85% of gross space
6 = Loan Ratios e.g. 90% of construction and land costs.

The basic format used is that of a planning format of an annual cash flow proforma: Rental Revenue adjusted for a Vacancy Allowance less Operating Expenses and Debt Service, yielding Annual Cash Flow.

This basic format reflects a single set of conditions that result in a single cash flow quantity. Actual practice reveals that parameter 1, 2, and 3 will constantly vary between years and within the year. Parameters 4 and 6 will be negotiated prior to construction by the developer, while parameter 5 will be established in the design phase and adjusted somewhat with the initial leasing strategy.

During the planning phase of an income property, best estimates of the values of these six parameters are utilized to prepare a cash flow pro forma. The DESIGN ANALYSIS PROGRAM allows the financial analyst to vary each parameter throughout a range of values to study the effect upon the pro forma annual cash flow. With five different values for six parameters, there are exactly 361 different annual cash flows.

The program allows the analyst to produce a 5 by 5 table of annual cash flows by varying one or two of the parameters over a range of values while using a primary or basic value for each of the other parameters. In addition, the breakeven rental rates or the rates of return on initial equity are given for the corresponding cash flows.

The total cost of construction and land can be input to the program or can be calculated through the use of the Construction Cost Estimate subprogram. The total cost of the structure can be computed from per square foot costs, component structure costs, professional fees, and land costs. Interim interest costs for land and construction are both computed.

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Date_____
Run #_____

RJE DATA FORM

Line # in DESRJE	Answer	Question by the Program
350	$_____	IS THERE A CONSTRUCTION DATA FILE? (If Answer is NO, delete lines 360,370,380)
360	$_____	CONSTRUCTION DATA FILE NAME?
370	$_____	LIST THE CONSTRUCTION DATA?
380	$_____	OUTPUT THE CONSTRUCTION COST SCHEDULE?
390	$_____	IS THERE A CASH FLOW DATA FILE? (If answer is NO, no more data is needed.)
400	$_____	NAME OF CASH FLOW DATA FILE?
410	$_____	LIST CASH FLOW DATA?
420	$_____	OUTPUT LOAN AND DEBT SERVICE CALCULATIONS?
430	$_____	OUTPUT ALL CASH FLOW TABLES?
440	$_____	OUTPUT SENSITIVITY TABLE?

EXAMPLES

Example 1: No construction file, do not list data file or debt service data; output all tables.

350	$NO
390	$YES
400	$ (file name)
410	$NO
420	$NO
430	$YES
440	$YES

Example 2: Construction and cash flow data files exist, output all data lists and tables.

350	$YES
360	$(file name)
370	$YES
380	$YES
390	$YES
400	$(file name)
410	$YES
420	$YES
430	$YES
440	$YES

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CONSTRUCTION COST SCHEDULE
DATA INPUT - SHORT FORM

100 _____, _____, _____, _____ Bldg ID#, Mo, Day, Yr
101 _____ 60 character title(ctrd)
102 _____ 60 character title(ctrd)
103 _____ Gross sq ft or Acreage in Tract
104 _____ Run Number

CONSTRUCTION COSTS: (use 201 and 202 or 203)

201 _____, _____ Shell - sq ft, $/sq ft.
202 _____, _____ Interior - sq ft, $/sq ft.
203 _____, _____ Building - sq ft, $/sq ft
204 _____, _____, _____ Grade Parking-sq ft/space, spaces, $/sq ft.
205 _____, _____, _____ Structured Parking " " " "
206 _____ Landscaping/Lighting Costs -$ or $/sq ft.
207 _____ Furniture, Fixture & Equipment " " "
208 _____, _____ Sq ft, $/sq ft or 0,0
(209) _____ Title
210 _____, _____ Sq ft, $/sq ft or 0,0
(211) _____ Title
212 _____, _____ Sq ft, $/sq ft or 0,0
(213) _____ Title
214 _____, _____, _____ 0, $, or % of Shell & Interiors
(215) _____Title
(216) _____Title
(217) _____Title
218 _____ Constr.Contingency-0, $, or % of Shell & Interior

301 _____ Architecture Fees
302 _____ Engineering Fees
303 _____ Loan Origination Fees
304 _____Legal & Closing Fees
305 _____ Taxes & Insurance

Enter 0, $ or % of Subtotal of lines 201 - 218

309 _____, _____, _____
310 _____ Title
311 _____ Title
312 _____ Title

Optionally titled fees and costs: 0, $ or % of Subtotal of line 201-218

401 _____, _____ Constr Interim Int Rt, Constr.Period-Months
402 _____, _____ Other expenses 0, $ or % of Subtotal
(403) _____ Title
(404) _____ Title

500 _____ Zero or $ Cost of Land (or use line 501)
501 _____, _____ Cost of Land -sq ft or Acres, cost/unit
502 _____, _____, _____ Interim Land Cost-% of Land cost Interest rt, months.
503 _____, _____, _____ Interim Land Cost " " " " " "
504 _____, _____ Interim Land Cost - $/month, months
505 _____Other land costs-$ or % of Land Cost

Complete lines with ( ) only if corresponding data is non-zero.

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File Name_____

INPUT FORM
CASH FLOW ANALYSIS

100 _____ 0 or 1 0= lines 101-107 required 1= use constr. data
101 *_____, _____, _____, _____ Building ID#, Mo., Day, Year
102 *_____ Title Line 1
Description Line 1 up to 60 characteristics
103 *_____Title Line 2
104 *_____ Gross Square Footage in Tract
105 *_____ Gross Square Footage in Building
106 *_____ Total Construction Cost
107 *_____ Run Number
*Items are entered only if value is 0 on Line 100

200 _____ Number of Rental Rates (1 to 5)
201 _____, _____, _____, _____, _____ Rental Rates in$/sq ft
202 _____ Number of Vacancy Rates (1 to 5)
203 _____, _____, _____, _____, _____ Vacancy Rates in %
204 _____ Annual Parking Income $ or 0
205 _____ Other Income $ or 0
206 _____ Number of Operating Expenses (1 to 5)
207 _____, _____, _____, _____, _____Operating Expenses in$/sq ft
208 _____ Number of Financing Conditions (1 to 5)
209 _____, _____, _____, _____, _____ Interest Rates (Annual %)
210 _____, _____, _____, _____, _____ Term in Years
212 _____ Number of Building Efficiency Rates (1 to 5)
213 _____, _____, _____, _____, _____ Efficiency Rates (% of Gross)
214 _____ Number of Cash Flow Tables (0 to 10)

215 _____, _____
216 _____, _____
217 _____, _____
218 _____, _____
219 _____, _____
220 _____, _____
221 _____, _____
222 _____, _____
223 _____, _____
224 _____, _____

Enter Parameters to be output
1 Rental Rate
2 Vacancy Rate
3 Operating Expense Rate
4 Financing Conditions
5 Building Efficiency
6 Loan to Cost Ratios

2XX ROW, COLUMN

230 _____ Number of Loan to Cost Ratios (1 to 5)
231 _____, _____, _____, _____, _____ Loan Ratios in %

240 _____ 0 1 or 2 1 = Breakeven Rental Rates 2 = Rates of Return

250 _____ 10000

CONSTRUCTION COST ESTIMATE

150,000 SQ FT BUILDING - 6.333 AC SITE

CONSTRUCTION COST OF $ 30 PER SQ FT

DATE: 8/28/1974
BLDG: 6001
RUN : 1

CONSTRUCTION COSTS			DOLLARS
CONSTRUCTION-SHELL	150000 SQ FT AT $ 26.00	$	3900000
CONSTRUCTION-INTERIOR	150000 SQ FT AT $ 4.00	$	600000
GRADE PARKING	500 SPACES AT $ 525		262500
LANDSCAPING/LIGHTING			100000
SUBTOTAL CONSTRUCTION			4862500
ARCHITECTURE FEES	AT 4.0 PCT		194500
ENGINEERING FEES	AT 1.0 PCT		48625
LOAN ORIGINATION FEES	AT 1.0 PCT		48625
TAXES AND INSURANCE	AT 1.0 PCT		48625
CUMULATIVE SUBTOTAL			5202875
INTERIM INTEREST-CONSTRUCTION			
$ 5202875 AT 12.0 PCT FOR 13 MO X .5			338187
DEVELOPER"S PROFIT	AT 2.0 PCT OF $ 5202875		104057
CONTINGENCY	AT 2.0 PCT OF $ 5202875		104057
TOTAL CONSTRUCTION COSTS			5749177

LAND COSTS		
275865 SQ FT AT $ 3.95		1089669
INTERIM INTEREST-LAND		
100.00 PCT OF $ 1089669 AT 12.00 PCT FOR 13.00 MO		141657
5.00 MONTHS AT $ 7132 PER MONTH		35660
TOTAL LAND COST		1266986
TOTAL LAND AND CONSTRUCTION COST		7016162

LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED $ 5612930 EQUITY $ 1403232

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	566359
8.50	30.0	9.2270	517903
9.00	30.0	9.6555	541955
9.75	30.0	10.3099	578685
10.00	30.0	10.5309	591090

AMOUNT FINANCED $ 4911313 EQUITY $ 2104849

LOAN RATIO 70.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	495564
8.50	30.0	9.2270	453165
9.00	30.0	9.6555	474210
9.75	30.0	10.3099	506349
10.00	30.0	10.5309	517203

AMOUNT FINANCED $ 6314546 EQUITY $ 701616

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	637153
8.50	30.0	9.2270	582641
9.00	30.0	9.6555	609699
9.75	30.0	10.3099	651020
10.00	30.0	10.5309	664976

AMOUNT FINANCED $ 7016162 EQUITY $ 0

LOAN RATIO100.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE
9.50	30.0	10.0903	707948
8.50	30.0	9.2270	647379
9.00	30.0	9.6555	677444
9.75	30.0	10.3099	723356
10.00	30.0	10.5309	738862

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PRØ FØRMA CASH FLØW TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS — PAGE 2 OF 5

SITE	275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	150000 SQUARE FEET	BLDG	4444
EFFICIENCY	85.00 PCT ØF GRØSS		
REVENUE	$ 8.50 PER SQ FT		
VACANCY	10.00 PCT ØF LEASEABLE		
ØTR INCØME	$ 0 ANNUALLY	RUN	1
EXPENSES	$ 2.50 PER SQ FT		

ANNUAL CASH FLØWS

FINANCING	LØAN TØ CØST RATIØ 70.0PCT	80.0PCT	90.0PCT	100.0PCT
30YR 9.50PCF	161061	90266	19472	-51323
30YR 8.50PCF	203460	138722	73984	9246
30YR 9.00PCF	182415	114670	46926	-20819
30YR 9.75PCF	150276	77940	5605	-66731
30YR 10.00PCF	139422	65535	-8351	-82237

BREAKEVEN RENTAL RATES

FINANCING	LØAN TØ CØST RATIØ 70.0PCT	80.0PCT	90.0PCT	100.0PCT
30YR 9.50 PCT	7.10	7.71	8.33	8.95
30YR 8.50 PCT	6.73	7.29	7.86	8.42
30YR 9.00 PCT	6.91	7.50	8.09	8.68
30YR 9.75 PCT	7.19	7.82	8.45	9.08
30YR 10.00 PCT	7.28	7.93	8.57	9.22

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PRO FORMA CASH FLOW TABLE

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

FIXED PARAMETERS — PAGE 1 OF 12

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY:	85.00 PCT OF GROSS		
LOAN RATIO:	80.00 PCT OF $ 7016162		
EQUITY	: $ 1403232		
FINANCING	: 30 YEARS 9.50 PCT		
OTR INCOME:	$ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

ANNUAL CASH FLOWS

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLOWANCE 0. PCT	5.0PCT	10.0PCT	15.0PCT
$ 7.50	71141	23329	-24484	-72296
$ 8.00	134891	83891	32891	-18109
$ 8.50	198641	144454	90266	36079
$ 9.00	262391	205016	147641	90266
$ 9.50	326141	265579	205016	144454

PERCENTAGE CASH FLOW RETURN ON EQUITY

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLOWANCE 0. PCT	5.0PCT	10.0PCT	15.0PCT
$ 7.50	5.07	1.66	-1.74	-5.15
$ 8.00	9.61	5.98	2.34	-1.29
$ 8.50	14.16	10.29	6.43	2.57
$ 9.00	18.70	14.61	10.52	6.43
$ 9.50	23.24	18.93	14.61	10.29

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PRO FORMA CASH FLOW TABLE

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

FIXED PARAMETERS PAGE 4 OF 12

SITE	: 275865 SQUARE FEET	DATE	9- 5-1974
BUILDING	: 150000 SQUARE FEET	BLDG	4444
EFFICIENCY:	85.00 PCT OF GROSS		
LOAN RATIO:	80.00 PCT OF $ 7016162		
EQUITY	: $ 1403232		
VACANCY	: 10.00 PCT OF LEASEABLE		
OTR INCOME:	$ 0 ANNUALLY	RUN	1
EXPENSES	: $ 2.50 PER SQ FT		

ANNUAL CASH FLOWS

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	30 YEARS 9.50 PCT	30 YEARS 8.50 PCT	30 YEARS 9.00 PCT	25 YEARS 9.50 PCT	30 YEARS 10.00 PCT
$ 7.50	-24484	23972	-80	-46605	-49215
$ 8.00	32891	81347	57295	10770	8160
$ 8.50	90266	138722	114670	68145	65535
$ 9.00	147641	196097	172045	125520	122910
$ 9.50	205016	253472	229420	182895	180285

PERCENTAGE CASH FLOW RETURN ON EQUITY

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	30 YEARS 9.50 PCT	30 YEARS 8.50 PCT	30 YEARS 9.00 PCT	25 YEARS 9.50 PCT	30 YEARS 10.00 PCT
$ 7.50	-1.74	1.71	-.01	-3.32	-3.51
$ 8.00	2.34	5.80	4.08	.77	.58
$ 8.50	6.43	9.89	8.17	4.86	4.67
$ 9.00	10.52	13.97	12.26	8.95	8.76
$ 9.50	14.61	18.06	16.35	13.03	12.85

SENSITIVITY ANALYSIS
DESIGN ANALYSIS PROGRAM

Sensitivity testing is generally considered to be the study of the changes in a dependent variable resulting from unit changes in an independent variable. In the case of an income property, the dependent variable will be the annual cash flows from the property and the independent variables could be any one of the many variables that have an effect on the cash flow. If the values of all the variables but one are held constant, the effect of unit changes in the one variable can be reflected in a change in annual cash flow.

The table CASH FLOW PRO FORMA USING PARAMETER NORMS reflects the basic data and assumptions concerning the income property and the resulting Annual Cash Flow and Rate of Return on Equity.

The table entitled SENSITIVITY TABLE reflects three basic sets of information:

1. Basic Parameter Values
2. Effects on Annual Cash Flows of Unit Changes in Fixed Parameters
3. Equivalent Effects to Yield a $10,000 Increase in Annual Cash Flow.

The first set of information lists the values of each parameter as reflected in the CASH FLOW PRO FORMA USING PARAMETER NORMS table.

The second set reflects the effect upon annual cash flow and upon the construction cost total from reasonable unit changes of all of the Basic Parameter Values. This table then can be used to analyze the effect on the annual cash flow by the changes in one or more variables. More detailed uses of this data are discussed on following pages.

The third set of data relates each of the parameters to the arbitrary dollar increase in annual cash flow in order to better equate functions that are not often related in the planning process. Hence, the engineer can relate increases in capital expenditures for building equipment to decreases in operating expenses. The leasing agent can relate rental rates to building efficiency or operating expenses. The developer can relate permanent interest rates to loan terms or to percentage rentals to lenders. Examples of these comparisons are discussed on the following pages.

CASH FLOW PLANNING DURING THE DESIGN STAGE USING THE SENSITIVITY TABLE

The data contained in the table entitled CASH FLOW PRO FORMA USING PARAMETER NORMS and in the table entitled SENSITIVITY TABLE can be used to estimate cash flows under conditions not studied during the computer program analysis.

Using the basic data on the attached example, several problems of the following nature can be solved:

Problem 1

What will be the effect on annual cash flow of decreasing the permanent interest rate by 1/2%?
ANS: Increase annual cash flow by approximately $24,488* to $114,754.

0.25% = $12,244. Therefore, 0.50% = 2($12,244)=$24,488.

Problem 2

What will be the effect of increasing the operating expense by 10%?
ANS: Decrease annual cash flow by $31,875 to $58,391.
10% of $2.50 = 25¢, which is 2.5 x 10¢.
So, 2.5 x $12,750 - $31,875.

Problem 3

What will be the revised annual cash flow resulting from a reduction of the vacancy rate to 5% and a reduction of annual rental rates by 50¢ per square foot?
ANS: Vacancy reduction increases cash flow by $54,190
Rental reduction decreases cash flow by -$57,375.

Pro Forma Cash Flow	$90,266
Vacancy Reduction	54,190
Rental Reduction	-57,375
Estimated New Cash Flow:	$87,081**

* Actual amount taken from other output data is $24,404.
** Actual amount taken from other output data is $83,891.

Problem 4

What will be the net effect on annual cash flow of an increase of $75,000 in construction cost and a reduction of $6000 per year in operating expenses?

ANS:		
	Increase construction cost	$ -8,948
	Decrease operating expense	6,000
	Net Increase in Annual Cash Flw	$ 2,948

Problem 5

What will be the adjusted annual cash flow after a reduction in rental efficiency from 85% to 83% with a decrease in annual rental rates of $1.00 per square foot for half the building and no change for the balance of the building?

ANS:		
	Pro Forma Cash Flow	$ 90,266
	Decrease in Rental Rates by 50¢	-57,375
	Reduction in Efficiency by 2%	-15,450
	Estimated Net Cash Flow	$ 17,441*

Problem 6

What will be the net effect of increasing the loan ratio from 80% to 85%, increasing vacancy by 5%, and increasing building efficiency by 2%?

ANS:		
	Loan Ratio increases by 5%	$ -35,397
	Vacancy Rate increase by 5%	-54,190
	Building Efficiency increased	15,450
	Net Effect on Cash Flow	$ -74,137

Problem 7

What will be the net effect on the total construction cost and on the resulting cash flow from an increase in the construction period by two months?

ANS:		
	Total Construction Cost increases by	$ 73,822
	Annual Cash Flow decreases by	$ 7,448

* Actual Cash Flow taken from other tables is $18,791.

CASH FLOW PRO FORMA USING PARAMETER NORMS

150,000 SQ FT OFFICE BUILDING

6.333 ACRE TRACT - RICHARDSON, TEXAS

DATE: 9/ 5/1974
BLDG: 4444
RUN : 1

GROSS SQUARE FEET IN BUILDING:		150000
BUILDING EFFICIENCY	:	85 PCT
NET LEASEABLE SQUARE FOOTAGE	:	127500
LAND AND CONSTRUCTION COST	: $	7016162
LOAN TO COST RATIO	:	80.0 PCT
ORIGINAL LOAN AMOUNT	: $	5612930
EQUITY REQUIREMENT	: $	1403232
PERMANENT INTEREST RATE	:	9.50 PCT
TERM OF LOAN		30 YEARS
ANNUAL DEBT SERVICE	: $	566359

	ANNUAL DOLLARS
GROSS INCOME : 127500 SQ FT AT $ 8.50	1083750
LESS: VACANCY ALLOWANCE OF 10.00 PCT	108375
GROSS EFFECTIVE INCOME	975375
OPERATING EXPENSES: 127500 SQ FT AT $ 2.50	318750
NET OPERATING INCOME	656625
DEBT SERVICE (10.09 PCT CONSTANT)	566359
PRO FORMA CASH FLOW	90266

RETURN ON EQUITY 6.43 PERCENT

JOHN H. NABORS, JR.

SENSITIVITY TABLE

150,000 SQ FT ØFFICE BUILDING

6.333 ACRE TRACT - RICHARDSØN, TEXAS

FIXED PARAMETERS PAGE 3 OF 4

SITE : 275865 SQUARE FEET DATE 9- 5-1974
BUILDING : 150000 SQUARE FEET BLDG 4444
EFFICIENCY: 85.00 PCT ØF GRØSS
LØAN RATIØ: 80.00 PCT ØF $ 7016162
EQUITY : $ 1403232
FINANCING : 30 YEARS 9.50 PCT
REVENUE : $ 8.50 PER SQ FT
VACANCY : 10.00 PCT ØF LEASEABLE
ØTR INCØME: $ 0 ANNUALLY RUN 1
EXPENSES : $ 2.50 PER SQ FT
CØNSTRUCTIØN AND LAND CØST 7016162
CØNSTRUCTIØN INTERIM RATE 12.000 PCT
CØNSTRUCTIØN PERIØD 13 MØNTHS
LAND INTERIM RATE IS 12.00 PCT

EFFECT ØF UNIT CHANGES IN FIXED PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW	EFFECT ØN CØNSTRUCTIØN
DECREASE CØNSTRUCTIØN CØST $ 100,000	11930	-118235
DECREASE CØNSTRUCTIØN $ 1.00 PER SQ FT	17895	-177352
DECREASE CØNSTRUCTIØN PERIØD 1 MØNTH	3724	-36911
DECREASE CØNST AND LAND INTERIM 1 PCT	4035	-39987
INCREASE BUILDING EFFICIENCY 1 PCT	7725	
DECREASE RENTAL RATE $ .10 PER SQ FT	11475	
DECREASE VACANCY RATE 1PCT	10838	
DECREASE ØPERATING RATE $ .10 PER SQ FT	12750	
DECREASE PERMANENT RATE .25PCT	12244	
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-3514	
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-22121	
DECREASE THE LØAN RATIØ BY 5 PERCENT	35397	

EQUIVALENT EFFECTS TØ YIELD
A $ 10000 INCREASE IN ANNUAL CASH FLØW

DECREASE CØNSTRUCTIØN CØST BY $ .56 PER SQ FT
DECREASE CØNSTRUCTIØN PERIØD BY 2.7 MØNTHS
DECREASE INTERIM INTEREST BY 2.48 PCT
INCREASE BUILDING EFFICIENCY BY 1.29 PCT
INCREASE RENT RATE BY $ .09 PER SQ FT
DECREASE VACANCY BY .92 PCT
DECREASE EXPENSE RATE BY $ .08 PER SQ FT
DECREASE PERMANENT RATE BY .20 PCT
INCREASE PERMANENT LØAN TERM BY 2.3 YEARS
DECREASE LØAN RATIØ BY 1.4 PERCENT

COMMENTS ON THE USE OF THE UNIT CHANGE FACTORS

This technique is often very useful for quick assistance in estimating cash flows without numerous recalculations. Several problems cannot be satisfactorily solved by this method when unit changes of more than one interdependent variable are calculated. The following variables are interdependent:

Rental Rates.....Vacancy Rates
Rental Rates.....Building Efficiency
Expense Rates.....Building Efficiency

There are 15 different pairs of two parameters, three of which are interdependent; thus, 12 sets are independent. As long as the above three parameters are not varied together, the sums of effects on cash flow are correctly additive as in Problem 4 and 6. When these variables are varied together, their interdependency results in an error as in Problems 3 and 5. This error will usually be fairly small unless the parameter is varied by a large multiple of the unit change.

There are 20 sets of three parameters, 10 of which contain interdependent parameters. Therefore, many of the combinations of parameters will yield errors in calculating cash flow in this manner.

When one parameter is varied by unit amounts, the correct annual cash flow can be calculated for all unit changes for all parameters except the financial parameters--rate and term. For this reason, the SENSITIVITY TABLE lists the effect of five-year and one-year reductions in the loan term.

5.000 Market Revenue Model Workshop

The market revenue approach to feasibility involves a series of steps to determine the maximum allowable replacement costs of a project when risk management parameters and gross potential gross rents are known or can be assumed (See Exhibit 7 flow chart).

5.100 The market revenue approach is best demonstrated by reference to a worksheet which provides a step-by-step framework for analysis (see Exhibit 8) for demonstration; a sample blank set of worksheets is at the back of the study kit for later office use).

5.200 Step 1 is to generate total annual revenues from a separate rent schedule, allocating these revenues if necessary between residential units, commercial space, and other revenue not directly related to rental space the capital budget elements to be measured.

5.210 If no allocation is required, provide total potential revenue in line 130 before deduction for vacancy.

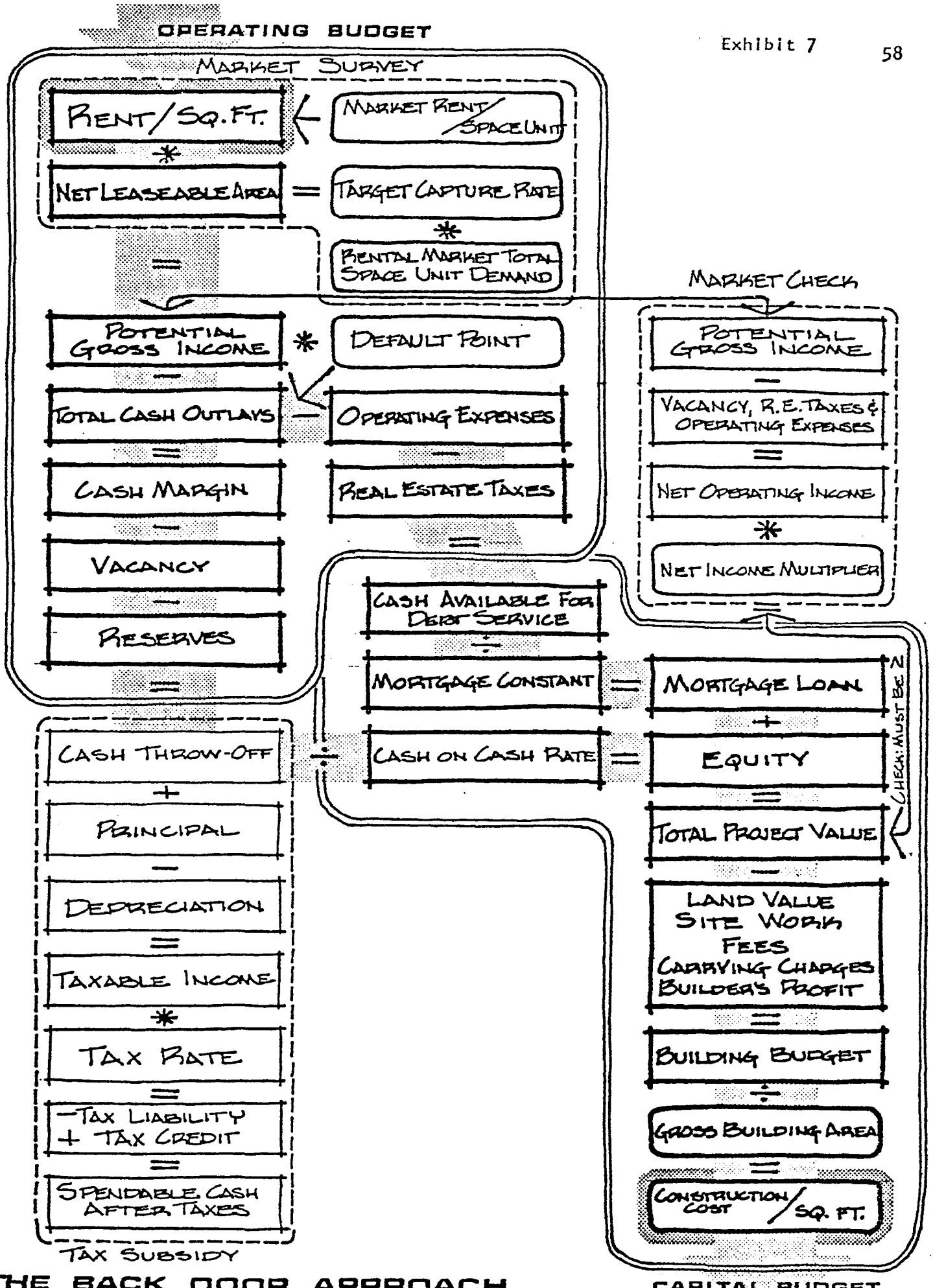
5.220 A more elaborate breakdown of residential units and restatement of commercial income in terms of the same common denominator can be useful in allocating budgets among different types of apartment units or alternative spacing in a mixed use project. Exhibit 8 is a more simplified worksheet.

5.300 Step 2 is to determine the total operating expenses and real estate taxes which might be expected for the rental mix in question. The proper unit is whatever the analyst wishes to use that relates to his expense data information and provides some sensitivity to different possible product mixes in various projects.

5.310 Fixed expenses in line 140 and special expenses in line 150 provide opportunity to distinguish between basic expenses and special services which the developer might like to include (say maid service or special guest rooms) which may not be affordable and would be dropped in subsequent calculations on the worksheet.

5.320 At a preliminary stage it may be possible to assume total expenses and taxes (line 190) to be a specific percentage of line 130 and omit calculations from lines 140-180.

5.400 A default ratio must then be specified (line 220) appropriate to the volatility of revenue or risk capacity desired for the project.


OPERATING BUDGET
MARKET SURVEY
RENT/SQ.FT.
MARKET RENT/SPACE UNIT
NET LEASEABLE AREA
TARGET CAPTURE RATE
RENTAL MARKET TOTAL SPACE UNIT DEMAND
POTENTIAL GROSS INCOME
DEFAULT POINT
TOTAL CASH OUTLAYS
OPERATING EXPENSES
CASH MARGIN
REAL ESTATE TAXES
VACANCY
RESERVES
MARKET CHECK
POTENTIAL GROSS INCOME
VACANCY, R.E. TAXES & OPERATING EXPENSES
NET OPERATING INCOME
NET INCOME MULTIPLIER
CASH AVAILABLE FOR DEBT SERVICE
MORTGAGE CONSTANT
MORTGAGE LOAN
CASH ON CASH RATE
EQUITY
CHECK: MUST BE =
TOTAL PROJECT VALUE
LAND VALUE
SITE WORK
FEES
CARRYING CHARGES
BUILDER'S PROFIT
BUILDING BUDGET
GROSS BUILDING AREA
CONSTRUCTION COST/SQ. FT.
CAPITAL BUDGET
CASH THROW-OFF
PRINCIPAL
DEPRECIATION
TAXABLE INCOME
TAX RATE
-TAX LIABILITY
+ TAX CREDIT
SPENDABLE CASH AFTER TAXES
TAX SUBSIDY
THE BACK DOOR APPROACH

Market Revenue - January 1976

	Rental Structures			
100	Total annual revenue from residential	151200		Sp. $.s
110	Total annual revenue from commmercial	104400		Sp. $'s
120	Potential annual allocated revenue	8100		Sp. $'s
130	Total Potential Revenue from all sources	263700		Sum lns. (100 + 110 + 120)
	Residential Expenses and Taxes			
140	Fixed Expenses/unit/year	130		Sp. $'s
150	Special Expenses/unit/year	10		Sp. $'s
160	Taxes/unit/year	160		Sp. $'s
	Commercial Expenses & taxes			
170	Expenses/sq.ft.GLA/year	.50		Sp. $'s
180	Taxes/sq.ft.GLA/year	1.00		Sp. $'s
190	Total residential exp. & taxes	61800	(130+10+160)(456)	Sum lns (140+150+160) [No. of units]
200	Total commercial exp. & taxes	22500	(.50+1.00)(15000)	Sum lns (170+180) [No. of Sq.ft.GLA]
210	Total expenses & taxes	84300	(61800)+(22500)	Sum lns. (190+200)
220	Default ratio desired	.80		Sp. %
230	Cash available for debt service	126660	[(263700)(.80)]-84300	[Ln 130 x ln.(220)] - Ln 210
240	Land lease payment			Sp. $'s
250	Cash available for mortgage	126660		Ln 230 - 240
	Mortgage Determination			
260	Mtg. constant/$1000	9260		Sp. $'s
270	Mtg. capital contribution	1367820		Lns (250/260) x 1000
280	Rent available for vacancy, variance & profit	52740	(263,700)(.20)	Ln 130 x (1-220)
290	Vacancy factor	.05		Sp. %
300	Vacancy cash loss	13185	(263,700)(.05)	(ln 290)(130)
310	Non-Distributable cash & variance factor	.10		Sp. %
320	Non-Distributable cash reserve	5274	(52,740)(.10)	Ln 280-300)(310)
330	Cash available for equity dividend	34081	(52,740)-[13185+5274]	Ln 280 - (300+320)
340	Equity cash dividend rate	.08		Sp. %

| | | |

5.410 The default ratio times total potential revenue (line 130) then reveals the total cash normally available for expenses, real estate taxes and debt service. Subtracting total expenses in line 210 yields the total cash available for debt service in line 230.

5.420 The total potential revenue minus expenses and debt service indicates cash available for allocation to vacancy losses, potential increases in expenses and taxes, and cash dividends to equity.

5.500 Step 3 of the worksheet is intended to estimate the debt and equity structure which might be supported by the forecasted revenue stream.

5.510 The key is to determine the amount of mortgage money available for permanent financing (line 250).

5.520 Land lease payments (specified in line 240) have priority and are a form of debt service.

5.530 For pre-tax cash flow analysis all that is needed is the annual mortgage debt service constant (line 260) appropriate to financing terms to be sought or available. This constant is 12 times the monthly payment per $1000 divided by 1000 for fixed term loans, as stated by the lender for constant payments loans, as stated by FHA for available insured loans, or can be calculated as a weighted average of the terms for several mortgages combined.

5.540 Dividing the constant (line 260) into cash available for debt service (line 250) will determine the total face amount of mortgage capital which can be supported by the project at an acceptable break-even point.

5.600 Rent available for vacancy and profit is determined as 1 - the default point x the gross rent in line 130.

5.610 A vacancy factor has a % of total potential revenue in line 130 is specified in line 290 and used to compute the vacancy cash loss in line 300. If the analyst has completed a rent roll for a mixed residential and commercial project, it would be preferable to compute cash loss to vacancy by determining the space vacancies for each type of unit and then converting space-time unit vacancy to cash loss.

5.620 A factor for non-distributable cash and an allowance for variance in estimates of potential income or vacancy can be introduced in line 310 to compute a non-distributable cash item in line 320. It is stated as a percentage of available cash after vacancy but could be given a specific dollar amount.

5.630 Potential cash in line 280 is thus reduced to cash available for equity dividends (often called cash on cash return) in line 330.

5.640 Cash available divided by the minimum acceptable cash dividend rate or constant specified in line 340 then determines the maximum equity cash investment justified under the conditions outlined.

5.650 Total replacement costs for total justified investment value (line 360) is the sum of the supportable mortgage capital position in line 270 and the equity cash investment in line 350.

5.700 To reduce the total investment budget to the total hard cost budget, it is necessary to remove indirect costs for construction financing, carrying charges and consultant development fees.

5.710 Construction loan interest requires an estimate of the construction period in months (line 370), the construction loan interest rate (line 380) per year and the assumption that one half of the construction loan would be outstanding on the average during the construction phase. The worksheet further assumes that the construction loan is equal to the permanent mortgage amount determined in line 270 but the analyst could reduce this assumption as appropriate.

5.720 In addition to the construction interest calculated in line 390, financing fees as a percent of the loan amount (or points) can be specified in line 400 and the dollar amount entered on line 410.

5.730 Miscellaneous carrying charges including real estate taxes and insurance can be specified as a dollar amount in line 420.

5.740 Consultant and developer fee can be specified in line 430.

5.750 When these indirect charges are subtracted from total justified replacement cost (line 360) it is possible to state the total hard cash dollar budget available for land, construction, and contingency reserves in line 440.

5.760 Given a specification for a land cost in dollars (line 450) and off site improvements (line 460) it is then possible to determine total budget for structures and contingency reserves in line 470.

5.770 Specification of a contingency reserve percentage for construction costs or a dollar amount in line 480 and specification of architect-engineering commission rate or dollar amount in line 490 then makes it possible to isolate the total hard dollar budget for structural improvements (line 500).

5.800 Structural hard dollar budgets are more meaningful if distributed among various types of space uses for mixed use projects. The worksheet demonstrates one possible allocation between residential and commercial space but the analyst may choose to make his allocations on some other basis such as between site improvements, structure and furnishing - whatever is appropriate to the problem. Remember models must change as the questions requiring answers change.

5.810 Total hard dollar structure budgets should first be reduced by non-allocated costs appropriate for common items such as site improvements or special off-site improvement costs or for spaces producing income that were unallocated in line 510.

5.820 The remaining allocated structures budgets in line 500 can then be distributed by allocating among gross sq. ft. of space of different uses. On the worksheet commercial sq. ft. is adjusted by a factor to make it equivalent to residential sq. ft. For example, unfinished commercial space might cost only 80% of residential space so that in effect one could build 1.25 sq. ft. of commercial area for the same number of dollars required to build one sq. ft. of finished residential. The total adjusted sq. ft. is entered in line 570.

5.830 The dollars per sq. ft. determined in 590 and 600 or the total budgets in 610 and 620 become part of the pre-architectural constraint on the design. If these numbers are obviously unattainable based on the experience of the analyst or other professional advice, there is immediately a problem of examining the assumptions, the rental structure and the product size. Or a return to the capital structure approach could determine what rents might work for the costs in question.

5.900 The input for the market revenue approach and the test of the capital structure approach both depend on a thorough analysis of the market and motivations of the consumer relative to the client. (See 6.000).

5.910 Detailed analysis of a market will permit the analyst to make "if/than" statements based on the result of the market revenue worksheet above.

5.920 Where no site has been selected and general construction costs are known, it would be possible to modify the worksheet slightly to solve for the allowable land cost which would then become a guide for site selection and purchase, a process not unlike the land residual approach in appraisal.

5.930 For existing buildings where market rents are known the market revenue approach produces a justified capital investment which can be subtracted from cost to replace new to determine economic obsolescense of project. It provides a useful support to a tax assessment challenge where the assessor has rightly or wrongly used the cost approach.

6.000 Real Estate Market Analysis

Marketing research provides the key input for the market revenue worksheet and the key tests as to the acceptability of the conclusions based on the capital outlay worksheet. Since there is more plausible but overly general data in most cases than one can use, market and merchandising analysis both require a systematic approach which will discard most of the data as irrelevant at any particular time and focus the remaining information on a specific problem.

6.100 Most feasibility cases require the analyst to create his own models with which to structure the data available and the data which must be researched.

6.110 Remember, models organize the analyst, the report, and the client.

4.411 Models explain what you are going to do
4.412 Models make relationships and key assumptions explicit
4.413 Models permit clients to understand logic of conclusion and to test his own set of assumptions.

6.120 A market research model should be careful to recognize:

6.121 What are the questions?
6.122 What data is available which is relevant?
6.123 What theory is available to focus data on the questions?
6.124 How will the results be communicated?
6.125 What are the abilities of the analyst?
6.126 What is the cost benefit ratio between the model method and the question?

6.130 Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on.

It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

6.140 Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

6.141 Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many sq. ft. of leased office space were occupied.

6.142 Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

6.150 Unlike appraisals the feasibility analyst generally begins with a particular users group in mind and then relates this target to the larger economic scene. As Exhibit #9 suggests, site analysis identifies one or more probable user types or client preference or intuition as focused on a rental range and therefore market segment he may wish to serve.

6.151 The relationships between the determinance the project attributes and market requirements as to product mix, amenities, and price are reversible procedures depending on whether we have a physical property in search of a user group or a user group for which a physical property is sought or is to be designed.

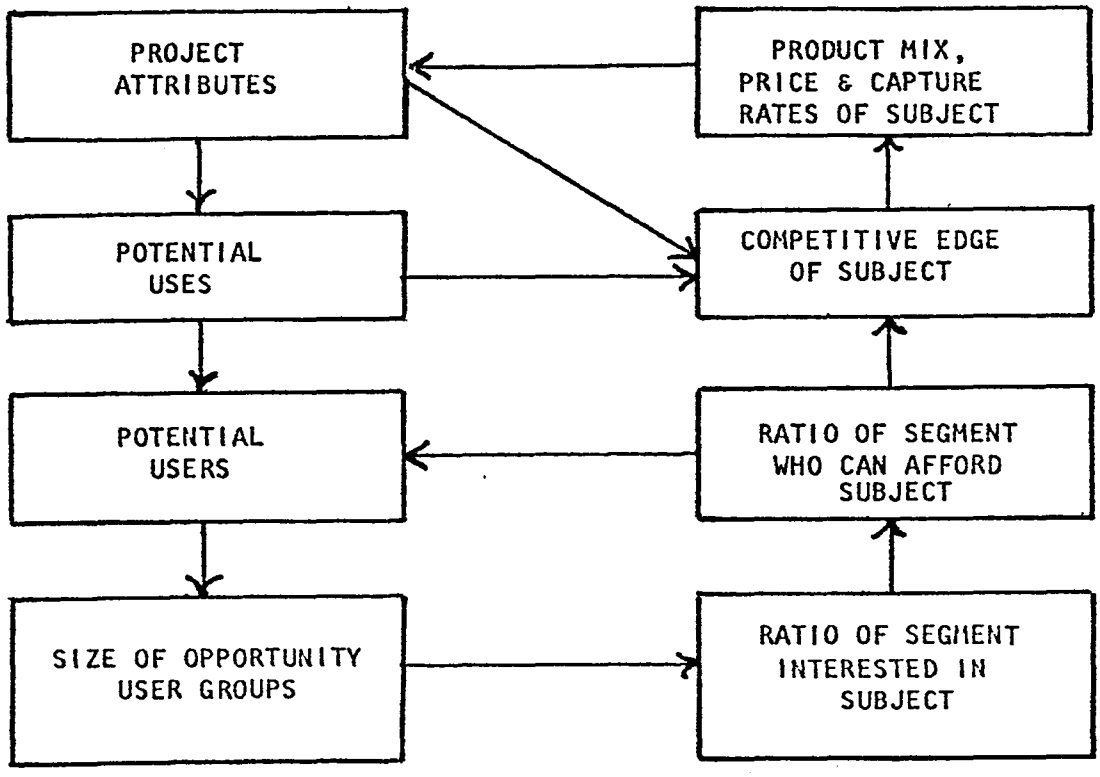
6.152 A more complex flow chart of the market research process is provided in Exhibit 10.

6.160 Before analyzing the relationship between the physical attributes of the site or project and merchandising requirements to reach the potential users of that site, some of the basic market research techniques appropriate to either case will be examined.

COFFEE BREAK

EXHIBIT #9

SEGMENTATION LOGIC TREE



6.200 Either site characteristics or required rent levels begin to suggest editing devices which will permit discarding of much aggregate data. The analyst must begin with a broadly defined scenario or model of the research problem in order to reduce aggregate data to a measure of market opportunities.

6.210 Most multi-tenant or multi-user land uses are susceptible to a retail trade area model. A retail model is a device analogous to establishing a retail trade area perimeter for a super market to segregate households which have a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income. Thus the analyst should establish a preliminary hypothesis for:

6.211 Primary market area to be served
6.212 Secondary market area to be served
6.213 Principal competitors

6.220 Consider Exhibit 10 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

6.221 For lines with asterisks the key ratios for reduction were derived from a survey of the elderly generating primary data for this county.
6.222 For example, while 37% of the elderly were financially qualified, only about 60% of those were interested in considering a residential, minimal care facility or 22% of those in the conventional housing market - hence the reduction from 19,700 to only 4,200. This chart should have showed the ratios from the survey.
6.223 Failure to convert serious interest into action was a round number based on experience of those which had marketed similar developments in the past, as was an allowance for potential customers coming from outside the county to be closer to realtives, etc.

6.230 Consider Exhibits 11-12, extended tabular models to project household growth and bank deposits for a branch bank in a planning district where population and building permit data is integrated with low-level air survey photography on a quarter-quarter section basis.

6.240 Consider Exhibit 13, a flow chart to diagram the relationships by which market data is eventually converted to gross revenue. This chart is placed near the beginning of the report to communicate where tha analyst is going and how he proposes to get there. The answer is given and then the assumptions are documented like footnotes to an accounting statement.

EXHIBIT 10

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
* Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (÷ 1.519 persons per household)		2,811
* Less estimated number who will not convert serious interest into any form of action (50%)		1,406
* Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
* Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
* Plus an allowance for those elderly households coming from outside County to enter the proposed development (10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
* Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise	28.0%	
Garden	49.1	
	77.1%	978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		708

That share of households who said they would be willing to move:

Within 1 year from now	15.6% -	110 households
Within 2 years	31.2% -	220 "
Within 5 years	53.4% -	378 "
		708

A project of 100 units requires a capture rate of:

91% for a 1 - year absorption rate
90% for a 2 year " "
14% for a 5 year " "

HOUSEHOLD GROWTH RATE - PRIMARY TRADE AREA 1970-1972
(Basis for household projection, 1974-1980)

Section	Quarter Section	Households 1970	Increase Households 1970-1972	Households 1972	Increase(%) Household 1970-1972
23	3	13	0	13	0
	4	44	0	45	0
24	1 .25	16	3	19	9 *
	2 .25	10	0	10	0
	3	4	0	4	0
	4	2	0	2	0
25	1	130	50	180	19 *
	2	134	8	142	3 *
	3	36	12	48	17 *
	4	323	104	427	16 * (NG)
26	1	145	4	149	1 *
	2	3	0	3	0
	3	8	0	8	0
	4	1	0	1	0
27	1 .50	0	-	-	-
	4 .67	125	52	177	21 *
34	1	1	0	1	0
	4	5	0	5	0
35	1	28	0	28	0
	2	8	0	8	0
	3	0	0	0	0
	4	25	0	25	0
36	1	23	3	26	7 *
	2	51	5	56	5 *
	3	9	0	9	0
	4	10	0	10	0
19	1 .50	317	4	321	1 * (NG)
	2 .50	240	10	250	2 * (NG)
	3	529	7	536	1 * (NG)
	4	511	1	512	0 (NG)
30	1	273	0	273	0 (NG)
	2	285	40	325	7 *
	3	113	11	124	5 *
	4	19	0	19	0
31	1	20	0	20	0
	2	142	19	161	7 *
	3	10	0	10	0
	4	7	0	7	0
TOTALS		3620	334	3954	4.6%
HGA ('70-'72) *		2609	334	2943	6.4% = G '70-'72
HNG '72 (NG)				2319	
HGA '72				1635	

EXHIBIT 12a

HOUSEHOLD PROJECTION - CALCULATIONS
1974 - 1980

GIVEN:

H	= Number of Households
HGA ('72)	= Total # Households in Growth Areas (*) 1972
HGA ('74)	= Total # Households in Growth Areas (*) 1974
HNG ('72)	= Total # Households No Growth Areas NG - 1972
HI ('72-'74)	= Increase # Households (1972-1974)
HI ('74-'80)	= Increase # Households (1974-1980)
G ('70-'72)	= Annual Projected Increase (%) # Households
Na	= Number of Years/'72-'74 Projection Period = 2
Nb	= Number of Years/'74-'80 Projection Period = 6

THEN: H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)

WHERE: HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na

AND: H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)

WHERE: HI ('74-'80) = [HGA ('74)] [G('70-'72)] Nb

EXHIBIT 12b

I. 1974 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given: G ('70-'72) = 6.4%
HNG ('72) = 2319
HGA ('72) = 1635
HI (72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (1635) (.064) (2)
= 209

Therefore: PTA - H 1974 = HNG ('72) + HGA ('72) + HI ('72-74)
= 2319 + 1635 + 209
= 4163

B. Secondary Trade Area - A

Given: G ('70-'72) = 4.8%
HNG ('72) = 590
HGA ('72) = 390
HI ('72-'84) = [HGA ('72)] [G ('70-'72)] Na
= (390) (.048) (2)
= 37

Therefore: STA (A) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 590 + 390 + 37
= 1017

C. Secondary Trade Area - B

Given: G ('70-'72) = 2.5%
HNG ('72) = 2297
HGA ('72) = 535
HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (535) (.025) (2)
= 27

Therefore: STA (B) - H 1974 = HNG ('72) HGA ('72) + HI ('72-'74)
= 2296 535 + 27
= 2858

D. Secondary Trade Area - C

G ('70-'72) = 8.5%
HNG ('72) = 3574
HGA ('72) = 1326
HI ('72-'74) = [HGA ('72)] [G ('70-'72)] Na
= (1326) (.085) (2)
= 225

Therefore: STA (C) - H 1974 = HNG ('72) + HGA ('72) + HI ('72-'74)
= 3574 + 1326 + 225
= 5125

EXHIBIT 12c

II. 1980 - HOUSEHOLD PROJECTIONS

A. Primary Trade Area (PTA)

Given: G ('70-'72) = 6.4%
HNG ('72) = 2319
HGA ('74) = 1844
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (1844) (.064) (6)
= 708

Therefore: PTA H 1980 = NNG ('72) + HGA ('74) + HI ('74-'80)
= 2319 + 1844 + 708
= 4871

B. Secondary Trade Ares - A

Given: G ('70-'72) = .048
HNG ('70) = 590
HGA ('74) = 427
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (427) (.048) (6)
= 123

Therefore: STA (A) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 590 + 427 + 123
= 1140

C. Secondary Trade Area - B

Given: G ('70-'72) = 2.5%
HNG ('72) = 2296
HGA ('74) = 562
HI ('74-'80) = [HGA ('74)] [G ('70-'72)] Nb
= (562) (025) (6)

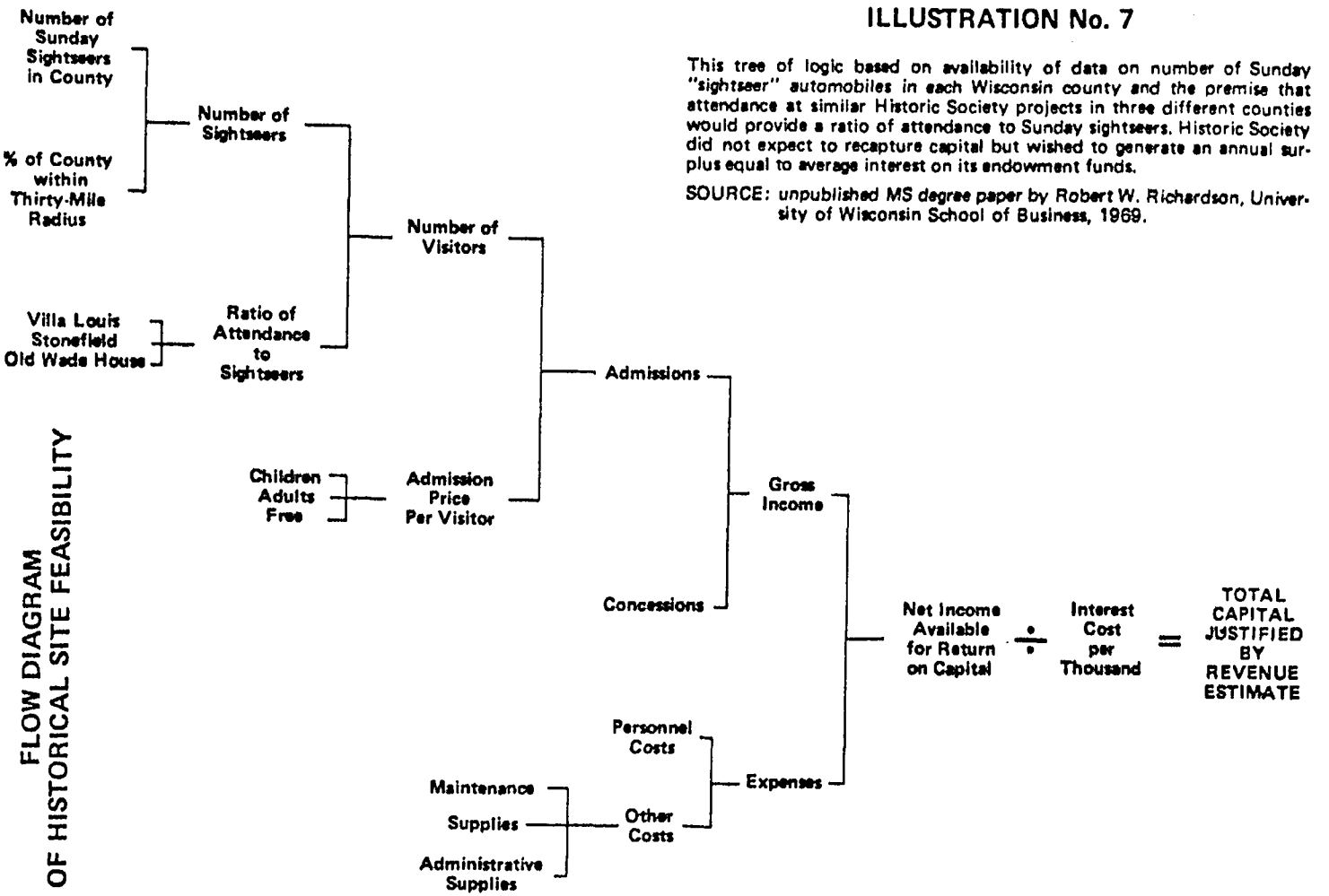
Therefore: STA (B) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 2296 + 562 + 84
= 2942

D. Secondary Trade Area (C)

Given: G ('70-'72) = .085
HNG ('72) = 3574
HGA ('74) = 1551
HI ('74-'80 = [HGA ('74)] [G ('70-'72)] Nb
= (1551) (.085) (6)
= 791

Therefore: STA (C) - H 1980 = HNG ('72) + HGA ('74) + HI ('74-'80)
= 3574 + 1551 + 791
= 5916

EXHIBIT 13



Source: James A. Graaskamp. A Guide to Feasibility Analysis, (Society of Real Estate Appraisers, 1972), p.40.

This approach is just the opposite of many studies which catalog data ad nauseum and then arrive at a conclusion out of the wilderness, leaving no trail to follow.

6.250 Many projects require several different aggregate data models to scale the size of the opportunity or the absorption rate. A building with four types of apartment units implies four different groups of prospect; the same space may be suitable for different prospects; price differentiation may reach different groups; and the seasons may segment different customer groups. Each group requires consideration of a different aggregate demand model and capture rate model.

6.251 For apartments the analyst may need to consider family situation:

Singles:
- unmarried
- divorced
- widowed

Couples:
- roommates
- newly married
- married couples without children
- empty nesters
- retired

Families:
- pre-school age children
- grammar school age children
- high school age children
- children of varied ages
- divorcee with children

6.252 The primary trade area for an apartment building might be defined by the prospects type of current residents, location, husband's occupation, or wife's occupation, not to mention income.

6.253 An office building may appeal to lawyers, accountants, trade associations, and lobbyists but the absorption rate potential will be modified by the average length of their existing lease no matter how superior the proposed new building.

6.254 To construct a market demand base for a northern Wisconsin resort center, there were nine different aggregate demand models and capture rate models required:

Summer Season:
- Vacationers by the week
- Summer travelers by the night
- In-house summer seminars

Off-Season: (Fall & Spring)
- Business seminars
- Weekend mini-vacations for fall color
- Miscellaneous travelers

Winter Season:
- Weekend skiers on ski hill
- Cross-country skiers
- Snowmobilers
- Mini-vacationers
- Business meetings - Monday through Thursday

6.260 The analyst must learn to make the best use of secondary data wherever he can find it by creating his own models and these models must show the client the logical, systematic progression from aggregate data to edited information. True, many of the initial assumptions are common sense and convenience but the error in those may not be significant as further reductions of data are made.

6.261 Those assumptions which are crucial become visibly apparent and become the target of more exacting research expense.

6.262 Those assumptions when shown to be relevant remind the client of data in his own record system which he had not realized would be relevant.

6.263 The initial models become a device for further dialogue with the client.

6.264 Remember that the model should relate to the question, namely delineation of the general group of consumers and not a nose-counting census.

6.265 Remember there is a difference between precision and accuracy and one can have no more accuracy than is implicit in the assumptions. Precision is simply doing the mathematics correctly.

LUNCH

AFTERNOON - SECOND DAY

7.000 Selecting Market Targets or a Market Position Within a Defined Market Opportunity

Notwithstanding the feasibility analyst is a generalist, whose conclusions must be confirmed at a later stage of planning, the analyst is expected to place his major effort on development of a merchandising strategy designed to secure a competitive market position for the project proposal.

7.100 Free enterprise is the art of creating one's own monopoly, if only for a moment, in the mind of the buyer, monopoly characteristics depend on careful market segmentation.

7.110 Site and building characteristics of an existing building already provide a product profile which suggests the market segments.

7.120 Preferably careful identification of the prospect will permit development of a customer profile who will be the source of a product profile that would provide the most satisfaction.

7.200 As a result of merchandising research the analyst should be able to construct a hypothetical marketing program which defines:

7.210 The most probable user groups and their effective demand constraints.

7.220 The timing of their effective demand in the market.

7.230 The competitive standard product minimum.

7.240 The competitive product edge necessary for monopoly advantage

7.250 Basic elements of a required promotion program

7.300 To build these assumptions or marketing hypothesis the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

7.310 Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

7.320 A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

7.330 A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its constribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

7.340 The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hour, or per hour of ice time.

7.350 Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

- 7.351 The salesman or the management paying his travel costs
- 7.352 The doctor or the clinic
- 7.353 The district manager or the corporate real estate manager
- 7.354 The ticket buyer or the promoter
- 7.355 The bowling league, team business manager, travel agency tour guide

7.360 The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

- 7.361 A reverse directory or criss-cross telephone book
- 7.362 Building directories of comparables
- 7.363 Mailing lists of specialty publications
- 7.364 License number spotting
- 7.365 Guest registers
- 7.366 Charge account mailing addresses

7.400 The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations.

7.410 Unlike most consumer markets, the number of prospects is always low; think small!

- 7.411 Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

- 7.412 A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

7.420 A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

7.421 Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

7.422 Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

7.423 Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

7.424 Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

7.430 A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

7.431 A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

7.432 Survey questions to create ratios require previous construction of a market model hypothesis.

7.500 Introduction to Prospect Survey

While a survey analysis appears to be a group of questions, in fact the real product is a table of data unavailable from any other source. The analyst should begin with a written mock-up of the final report logic and the specific tables which lead to a conclusion.

7.510 With a preliminary hypothesis as to the prospect, survey questions may be intended to provide:

7.511 Key ratios necessary for segmentation of market data already broken down by trade area, demographics, employment, etc.

7.512 Key indicators of anxieties or preferences or tradeoffs of the prospect.

Simple Survey Formats for Classification of Subsets & Measurement of Preference

I'd like to ask you a few questions about the place you lived just before you moved into this apartment.

5. About how many years did you live in your former home?

__ less than 1 year
__ 1 year - L.T. 2 years
__ 2 to L.T. 5 years
__ 5 to L.T. 10 years
__ 10 to 15 years
__ more than 15 years, _____

6. Did you live in a house or in an apartment building just before your move here?

__ house
__ apartment
__ other, _____

→ About how many apartments, including yours were there in the building?

__ L.T. 4
__ 4 to 8
__ 9 to 16
__ 17 to 24
__ 24 to 32
__ more than 32

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Did you own or rent the house?

__ own
__ rent

Did you rent a room, a flat or floor, or entire house?

__ room __ flat/floor __ entire

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Now I'd like to ask you some general questions about your decision to move to this apartment.

7. How did you first find out about them?

__ family
__ friends
__ church
__ Housing Authority
__ newspaper
__ radio
__ television
__ other, _____

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

7.513 Key indicators of the anxieties or preferences of non-prospects who feel a vested interest in the impact or have a significant part in the purchase process. (For example - the members of the Public Housing Authority have a different set of needs than the ultimate user, but the product is "bought" by the Board).

7.520 Consider the elderly housing market chart in Exhibit 11. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and overwhelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

7.530 The ratio sought by the survey follow a precise reduction pattern:

7.531 How many will consider moving?
7.532 Of those, how many would consider staying in town?
7.533 Of those, how many would consider an apartment?
7.534 Of those remaining who would consider an apartment in town, how many would consider a specific location?
7.535 Notice the reduction process defines a subset of the elderly market - a micro-market.

7.540 Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

7.541 Confine vocabulary to basic 1000 words; avoid lingo.

7.542 Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 16)

7.543 Always test the questionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

7.544 Questions may take different formats. (See Exhibit #14)

7.550 The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

7.551 Probe for dissatisfaction with existing space or life style.

7.552 Probe for anxieties about uncontrollable trends and events.

7.553 Probe for desired social structure ties, real or imagined.

7.560 The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

7.561 The telephone interview may be less expensive per question and fastest but is limited in the type and amount of questions which can be asked. Rifled to a project known to the analyst, it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself. (See Exhibit 15)

7.562 A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

7.563 Direct mail questionnaires may cost from 5¢ to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

7.564 The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

- Would you be at all uneasy if people of a different religion or race were to move in next to your home?

- As you see it, what are some of the good points and the bad points of the present Governor of this state?

EXHIBIT #15

Telephone Survey Script - Elderly Housing

Prepared and executed by
James R. DeLisle, June, 1974

PRE-SURVEY INFO.

Survey
Turnkey Elderly Housing
Triangle Project
Madison, Wis.

Code of Interviewer ■ 1 __ 2 __ 3 __ 4 __ 5

PROJECT CODE Code of Project ■ Braxton
__ Romnes
__ Tenney Park

Sex of Respondent __ Male ■ Female

****

INTRO.

Hello, my name is _____. We are conducting a survey of residents of elderly housing apartments so that we may identify those features of apartment design and planning that are satisfying to residents, as well as those that are irritations.

The purpose of seeking your responses to these questions, is to provide a base of information from you --the real experts on housing for the elderly-- upon which we can make specific recommendations to developers of the proposed elderly housing project on the Triangle Urban Renewal Area, here in Madison. This information will result in an improved living environment in the proposed housing project. Your responses are confidential and you will not be identified as an individual.

Would you mind answering a few questions ? Thank you.

****

PRIOR LIVING EXPERIENCE

1. When did you move into your present home ?

NOTE: (ead options nly when arrow s shown as in uestion # 2)

1960 to 1965	1971 to 1972
1966 to 1968	1973 to 1974
■ 1969 to 1970	

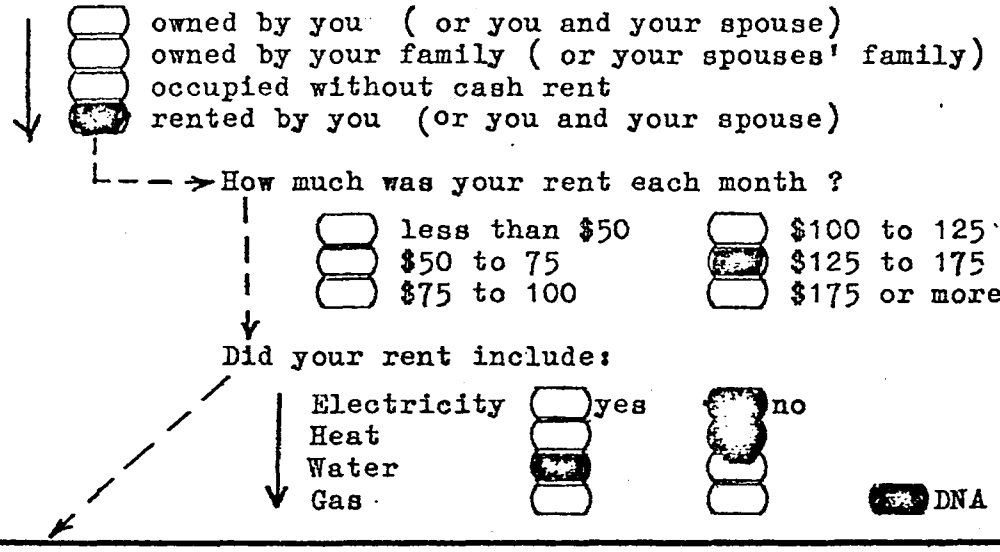
2. What type of home did you live in before moving to your present home ?

■ one family house	1 to 4 unit apartment bldg.
two family house	5 or more unit apt. bldg.
other_____	other_____

3. How long did you live in your former home ?

less than 6 month	■ 2 - 5 years
6 mo. to 1 year	5 -10 years
1 - 2 years	Over 10 years

4. Was your previous home:



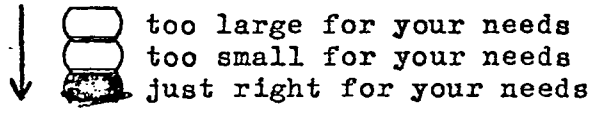
Present Living Experience

YOUR RESPONSES TO THE FOLLOWING QUESTIONS WILL TELL US WHAT YOU FEEL IS IMPORTANT IN AN APARTMENT SPECIFICALLY DESIGNED FOR THE ELDERLY

5. Which of the rooms in the apartment should be the largest, second largest, and third largest ?



6. Is your present home:

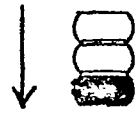


7. How many people live with you in your apartment ?



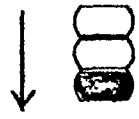
If you could change your present apartment by making one room larger and one room smaller;

8. Would you make your:



LR larger; BR smaller or/
BR larger; LR smaller or/
leave them like they are

9. Would you make your:



LR larger; K-D area smaller or/
K-D area larger; LR smaller or/
leave them like they are

OPTIONAL UNIT FEATURES

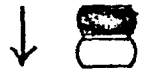
If you had to select one of the following:

10. Would you prefer:



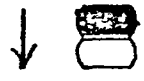
A dining area <u>in</u> the kitchen or/
A dining area next to the kitchen

11. Would you prefer:



A bathroom door opening to bedroom only or/
A bathroom door opening to living room area only

12. Would you prefer:



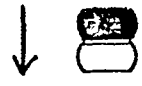
A large closet area in the bedroom or/
A large closet area in the living-dining-kitchen area

13. Would you prefer:



A balcony or
Slightly larger apartment size

14. Would you prefer:



Larger closet space or
More open space in your apartment

Optional Project Features

15. If you had the choice, would you want:

- ( ) A larger apartment and less community space or/
- ( ) A smaller apartment and more community space or/
- (●) make no change

If you had to select one of the following:

16. Would you prefer:

- (●) One large room with a music area, T.V. area, conversation area, and a small library or/
- ( ) Several smaller separate rooms for each of these activities, in addition to a central lounge

17. Would you prefer:

- ( ) A special lounge area for children of guests or/
- (●) A larger main lounge

---

18. Should there be a separate lounge for women only (yes/●No) and a separate lounge for men only (yes/●No)

19. Is there a craft or hobby room in the building you live in now ?

- (●) yes
- ( ) no

20. Would you like (do you like) a crafts room ?

- ( ) no
- (●) yes

21. For what crafts would you (do you) use the craft room ?

- ( ) Pottery
- ( ) knitting and crocheting
- ( ) painting
- (●) weaving
- ( ) photography
- ( ) woodworking
- ( ) sewing
- ( ) copper enamiling
- ( ) other _____
- ( ) other _____

22. How many times a week would you (do you) use the room ?

- ( ) less than once a week
- ( ) once
- ( ) twice
- (●) three
- ( ) More than 3 times
- ( ) Never

23. Should the crafts room be:

- (●) one large room for all crafts or/
- ( ) several smaller rooms for each craft

PROJECT MASS / SCALE MISC.

THE FOLLOWING QUESTIONS WILL PROVIDE US WITH INFORMATION AS TO WHAT YOU FEEL IS ESSENTIAL IN A HIGH RISE BUILDING FOR THE ELDERLY. WHILE WE REALIZE THAT SOME PEOPLE DO NOT LIKE HIGH RISE STRUCTURES IT IS ESSENTIAL THAT WE FIND OUT HOW WE CAN BEST DESIGN SUCH A BUILDING TO MINIMIZE THE IRRITATIONS AND MAXIMIZE THE BENEFITS TO THE RESIDENTS.

If you had to live in a high rise building:

24. Would you prefer:

- (●) A six story building with 16 apartments and neighbors on each floor or/
- ( ) A ten story building with 10 apartments and neighbors on each floor

25. Would you prefer:

- (●) A six story building with less open space outside or/
- ( ) A ten story building with more open space outdoors

26. Would you prefer:

- (●) a large laundry room with adjacent bathrooms on one floor or/
- ( ) smaller laundry facilities (one washer and dryer) on each floor

27. Would you prefer:

- ( ) small lounges on each floor or/
- (●) a larger main lounge

28. Would you prefer:

- ( ) An enclosed roof top sun deck or/
- (●) a larger patio area outdoors

ADDITIONAL COMMENTS

ARE THERE ANY ADDITIONAL SUGGESTIONS YOU WOULD LIKE TO MAKE ?

more exits in case of fire

THANK YOU FOR YOUR HELP. GOODBYE.

7.565 Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked the response should permit some degree of obliqueness by the respondent.

- The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.
- If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

7.566 Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:

EXHIBIT #16

(112) Generally speaking, in politics do you usually think of yourself as a Republican, a Democrat, an Independent, or what?

/Republican/ /Democrat/ /Independent/ /Other/ /No pref./

(112a) Would you say that you are a strong or not so strong (Republican; Democrat)?

/Strong/ /Not so strong/

(112b) Was there ever a time when you thought of yourself as closer to to the other party?

/yes/ /No/

(112c) In general, do you consider yourself closer to the Republican or to the Democratic party?

/Rep./ /Dem./ /Neither/ /No pref/

(112d) Was there ever a time when you thought of yourself as a Republican or Democrat?

/Yes/ /No/

7.568 Personal interviews in depth permit questions using photographs with colors and styles. Expensive and time consuming, it assumes precious qualification of the interviewee as a typical prospect.

7.570 Processing of surveys can involve simple tallies or counts, simple subdividing of responses into subcategories, or preferably organization of the questionnaire to permit key punching or cross tabbing or statistical analysis by computer processing. The problem of identification requires:

7.571 Coding by colored paper, colored return envelope, stamp on self-addressed stamped envelope to reflect geographic area, building address, type of respondent, original mailing list source, etc. Careful organization before mailing solves most processing problems.

7.572 Beware of code numbers if you promised anonymity; give them the option of identifying the respondent, etc.

7.573 Always identify yourself as an analyst (but not the project or the client), providing a phone number or an address where the interviewee can find you. It will generate both presale prospect lists and some primary unexpected political participation by others.

7.600 Telephone Survey to Improve Bidding Position on Turn-Key Elderly Housing Project

As a simple illustration of the relationship of consumer need to pre-architectural programs, consider the survey approach for a turnkey, 160-unit elderly housing project, solicited by the City of Madison Housing and Redevelopment Autnority for a specific urban renewal site. Developers were to compete on both cost and sensitivity of design with an oral presentation to the Board in addition to submission of bid materials.

7.610 The packet of bid instructions included:

7.611 Identification of the 116,549 sq. ft. site (with views of lake, park, and hospital)

7.612 Restriction of access to one side of site, and inclusion of 53 parking stalls, and a drive through portachere.

7.613 A statement that the proposed structure be in harmony with existing buildings.

7.614 Limit of 160 units in three distinct structures inter-connected by an enclosed weatherized corridor system for elderly housing.

7.615 Specification of three structures consist of a one-story building housing 10-15% of total units; a three-story with 25-35% of total units; and a high rise with the remaining 60-70% of the total units.

7.616 Provision of extensive community, recreation, management and maintenance spaces with explicit instructions as to the location and relationship of the latter two space groups.

7.617 Design in accord with HUD Minimum Property Standards.

7.618 Time between solicitation and presentation was four weeks.

7.620 Joint venture proposal was to include experienced design/construction firm from out-of-town, the local broker/developer for financing and community relations, and a team of two graduate students in real estate. After organization of their joint venture three and one half weeks remained; designer required two weeks to prepare materials; estimator two days, etc. and specification and development of a pre-architectural program had to be completed in eight days.

7.621 Four days allocated to data collection and survey design; four days allocated to analysis and development of design program.

7.622 Market researchers read relevant secondary literature (such as Housing the Elderly, Central Mortgage and Housing Corporation of Canada, Second Edition, July 1972, Printed in Canada; or Design of Housing for the Elderly: A checklist, by Marie C. McGuire, NAHRO 1972; items found in The Built Environment For the Elderly and the Handicapped, a bibliography, U. D. Department of Housing & Urban Development, Library and Information Division, June 1971).

7.623 Researchers visited several Madison projects, obtained floor plans, and visited with managers to make a subjective analysis of the relative success or misfit design elements in existing housing.

7.630 During same two day period architect/engineers reviewed information packet and site constraints; then met with market researchers to generate the following basic research questions.

7.631 What are the physical limitations of the prospective residents requiring special features?
7.632 What is the prior living experience of the resident, to minimize disruption of life style through design sensitivity?
7.633 What unit mix would be appropriate?
7.634 How is unit mix allocated between three required structures?
7.635 What should be basic unit size?
7.636 How should space within each unit be allocated?
7.637 What functions and design features should be included in community spaces?
7.638 Are there other wants, needs and anxieties of users unmet by existing Madison elderly housing projects?

7.640 To answer these questions the survey design required specification of survey measurement devices and identification of a respondent group.

7.641 Given the experience of the researchers, their preliminary research to brief themselves, and a two-day time limit, they chose to do a non-probability judgment sample.
7.642 Time schedule required a telephone survey technique with a random sample of residents in elderly housing units in Madison.

7.650 Sampling criteria required:

7.651 Sample be representative of the population of interest
7.652 Persons selected must be able to respond with relevance and validity to the survey
7.653 Population from which sample would be drawn had to be experienced in type of unit to be researched

7.660 In response to these criteria:

7.661 It was reasoned that most likely there would be homogeneity of demand characteristics between present occupants of public elderly housing in Madison and prospective occupants on Housing Authority waiting lists.
7.662 Literature search indicated that continuity theory (habit, pattern, life style) control elderly so that occupant of present comparable units would best be able to relate to design questions and project their future needs and desires relative to their own units and experience.

7.663 A need survey could have been made of Housing Authority management, building managers, or HUD underwriters but developer felt that the best responding group would be the elderly themselves.

7.670 The interview sampling plan consisted of:

7.671 Identification of Madison public housing units for the elderly by street address

7.672 Identification of present occupants by name in existing units from current reverse telephone directory.

7.673 Random sample of residents named and available by phone (potential bias)

7.680 Survey results were to be keypunched and analyzed on a cross tabulation program at the UW School of Business Computer Center to reveal how different persons in different types of units might have differed in their responses.

7.681 For speed, keypunching was to be done directly from completed questionnaire form

7.682 Usable forms were required to have answers to all relevant questions

7.683 Ultimately there were 99 usable responses from a total population of 268 apartment units in the Madison elderly housing program.

7.684 Two persons completed these responses in two twelve hour working days; computer analysis took one day.

7.690 Sample questionnaire provided in Exhibit 15

7.691 Telephone survey very poor technique for measuring attitudes of elderly

7.692 More valid than group meetings conducted by Housing Authority where residents are intimidated by landlord, size of group, or dominant extroverts

7.693 Personal interview more time consuming and more valuable

7.694 Interviews should be conducted in respondent own unit to position questions against current experience and to permit demonstration with more ease than verbal articulation.

7.695 Exhibit 15 should be viewed as demonstrating how standardization is imposed on telephone survey techniques

7.696 Interviewers were women

7.700 The questionnaire was intended to generate a brief consumer profile, identify possible significant and subtle dissatisfactions with unit design, and permit some open-end questions to explore areas not anticipated by researchers.

7.710 The consumer profile of the typical occupant:

7.711 Was female (83%)

7.712 Had previously rented a housing unit (82%) with 91% having paid less than $175 per month and 60% had paid less than $100, indicating most found the public housing unit better in quality and lower in price ($50-$60 per month)

7.713 Long waiting periods before admittance to public housing generally made them most grateful and non-critical.

7.714 Almost all had known low density low rise residential environments over their lifetimes.

7.720 For space allocation and features the survey revealed:

7.721 Satisfaction of present site with living room larger than bedroom, etc.

7.722 99% preferred bathroom to open into bedroom

7.723 Open-end question revealed majority wanted outside window from kitchen

7.724 Desire for indoor walking-exercise area without steps

7.725 Desire for lounges tied to indoor passages and with views of action centers

7.726 Desire for outside space defended from intrusion by strangers, kids, etc.

7.727 Desire for community craft and recreation facilities which were not isolated by stairs, windowless walls, or outside walkways (as was the case in Madison projects).

7.728 Anxiety about high rise among many due to fire hazard dependence on elevators or lifetime unfamiliarity with high rises.

7.729 Preferred more units per floor in low rise to exclusiveness of high rise floor but would take anything they could get.

7.730 The theory on aging elderly behavior patterns also contributed to design constraints, for example, the disengagement theory indicates the elderly gradually lose the energy to maintain a great variety of social contacts, etc., a tendency which leads to isolation and increased depression due to lonliness.

7.731 Physical design must provide a variety of choices as to their withdrawal from the street, the total project, a small group of neighbors, or their own room.

7.732 At the same time heterogeneity of unit mix avoids clustering all handicapped, all married, etc. in one particular zone to give everyone a variety of social contacts.

7.733 Circulation patterns can be designed to encourage random meetings without forcing social involvement.

7.734 Visual elements which are depressants such as views of cemeteries, hospitals, nursing homes, etc. should be avoided.

7.740 With the initial design constraint inputs, the designers worked up a tentative plan which proved to exceed the desired cost estimate at which point estimators, market analysts, and designers met in an all-day session to hammer out final trade-offs. A 165-unit project was the result as described in Exhibits 17, 18, 19 and 20.

7.741 Project had second lowest total cost ($3,397,380 or $26,000 per unit) of the ten proposals submitted.

7.742 Project was turned down by renewal board because they did not like contractors reputation for economy and thought the exterior was less attractive than conventional tower.

7.743 Experience is typical of real estate that is designed to please the investor rather than the ultimate user, particularly when the investor has not properly defined the context in sufficient detail to judge the fit of any proposal submitted.

UNIT CHARACTERISTICS AND DISTRIBUTION

BUILDING	UNIT TYPE	DESCRIPTION	NUMBER	FLOOR	NET SQUARE FOOTAGE	TYPICAL VIEW
One-Story	A	Handicapped 1 Bed	8	1	505	(4) Courtyard (4) Brittingham Park
	B	Handicapped 2 Beds	8	1	524	(2) Courtyard (2) Neighborhood Terrace (4) Brittingham Park
Mid-Rise	C	Handicapped 1 Bed	12	1	504	(7) Brittingham Park West (5) Courtyard
	C	1 Bed	18	2,3	504	(6) Brittingham Park West (12) Brittingham Park East
	D	2 Beds	8	2,3	536	(8) Brittingham Park West
	E	1 Bed	2	2,3	504	(2) Brittingham Park East
High Rise	C	1 Bed	84	2-8	504	(42) Capitol (42) Lake Monona
	D	2 Beds	24	9,10	536	(12) Capitol (12) Lake Monona
Manager's Apartment	F	2 Bedroom	1	1	660	Courtyard

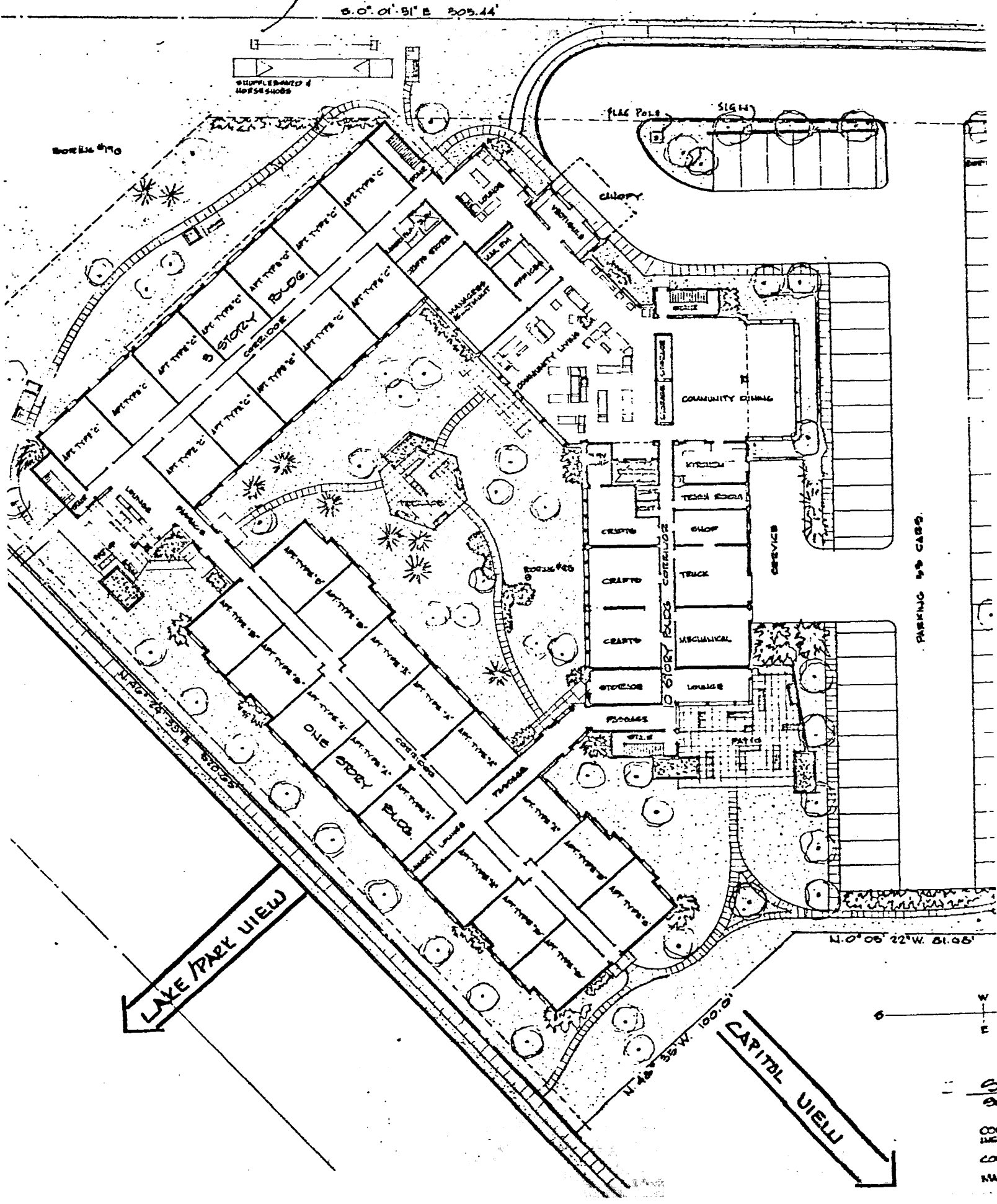
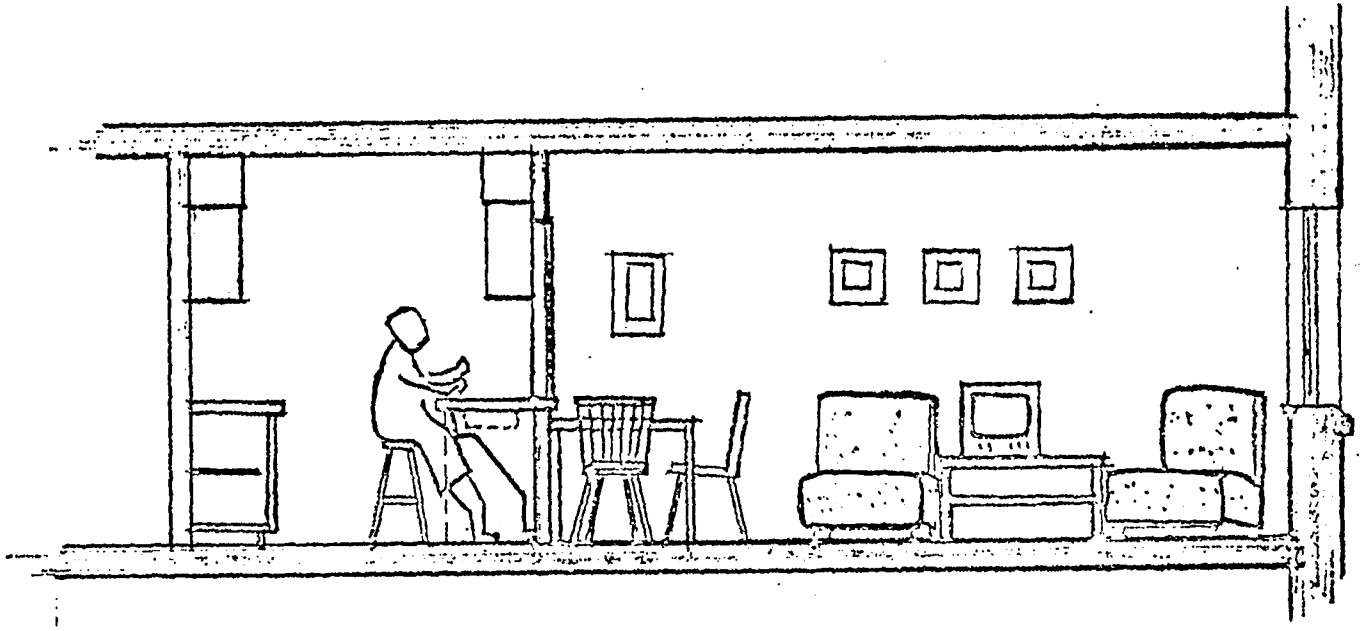

S.0°.01'.51" E 305.44'
SHUFFLEBOARD & HORSESHOES
BORING #190
FLAG POLE
SIGN
CANOPY
VESTIBULE
LOUNGE
MAIL RM
OFFICES
MANAGERS APARTMENT
COMMUNITY LIVING RM
COMMUNITY DINING
STORAGE
KITCHEN
TRASH ROOM
CRAFTS
SHOP
CRAFTS
TRUCK
CRAFTS
MECHANICAL
STORAGE
LOUNGE
PASSAGE
STAIR
PATIO
CORRIDOR
3 STORY BLDG.
CORRIDOR
APT TYPE "C"
APT TYPE "B"
APT TYPE "A"
ONE STORY BLDG.
CORRIDOR
PASSAGE
LOUNGE
TRELLIS
BORING #23
SERVICE
PARKING 33 CARS
N.0°.05'.22" W. 81.08'
N.48°.35' W. 100.0'
LAKE/PARK VIEW
CAPITOL VIEW

EXHIBIT 19

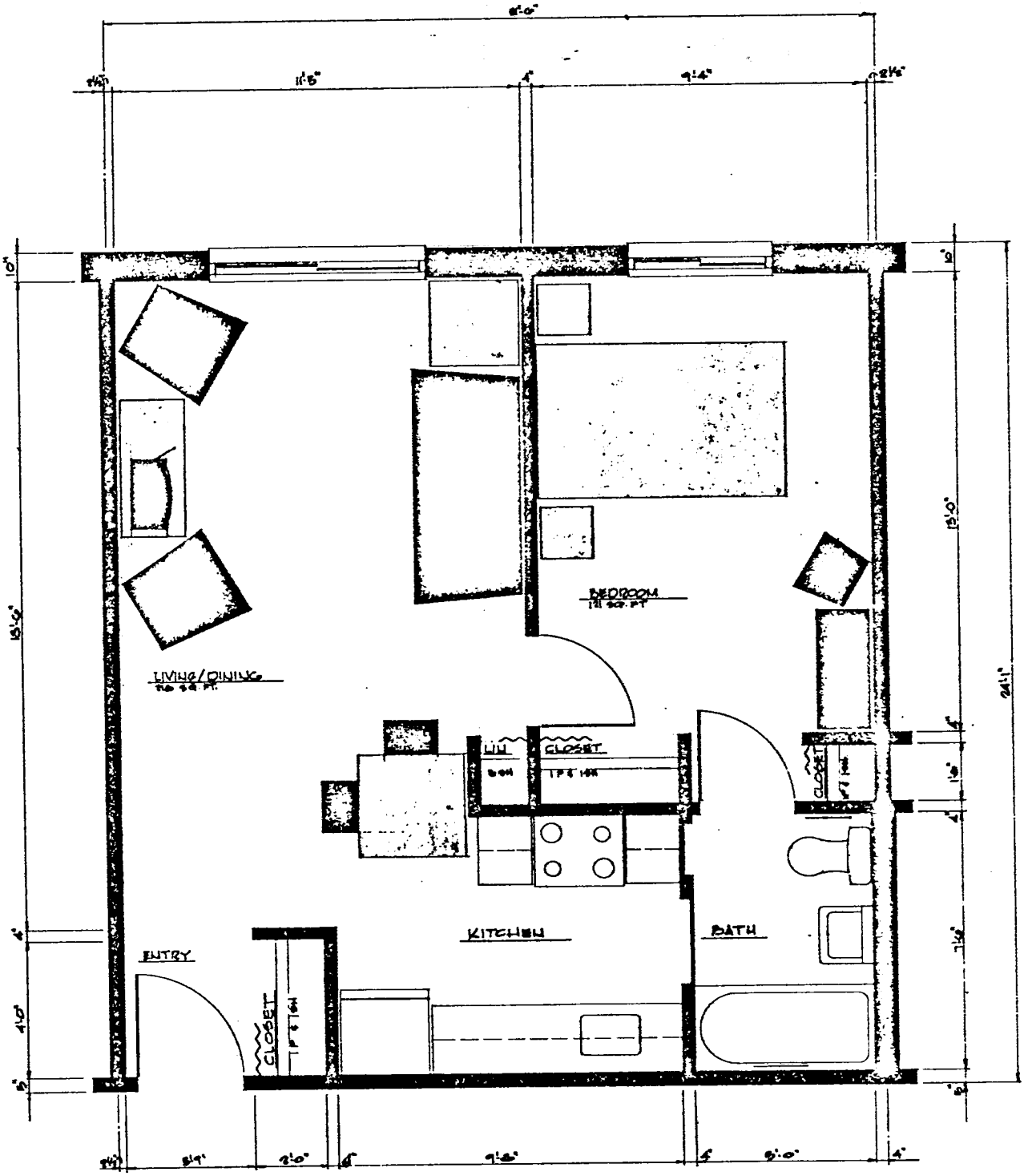


ELEVATION — KITCHEN & LIVING ROOM TYPES C & D

SCALE 1/4" = 1'-0"

TOTAL 146 UNITS

EXHIBIT 20



622 SQ FT. GROSS . 505 SQ FT. NET

ONE STORY BLDG - ONE BEDROOM APT. TYPE "A" . 8 UNITS.

SCALE 1/2" = 1'-0"

KITCHEN SHELF AREA 53 SQ FT.
KITCHEN DRAWERS 8 SQ. FT.
GENERAL STORAGE 179 CU. FT.

7.800 Generalized Format of Merchandising Report Summary

Cash flows ultimately depend on sales or rental revenues and further refinements of the frontdoor-backdoor approaches depend on establishing an explicit set of assumptions about the geographical market area, the user segment within that market area, and so on. All you buy in a real estate investment is a set of assumptions about the market. Therefore, the analyst should provide and identify a marketing assumption checklist for the reader:

7.810 Definition of geographic and demographic market.

- 7.811 Primary trade area to be served.
- 7.812 Profile of prospects by current location, status, income, etc. in primary carefully segmented area.
- 7.813 Secondary trade area to be served.
- 7.814 Profile of prospects by current location, status, income, etc. in secondary carefully segmented area.

7.820 Definition of principal competitors

- 7.821 Esisting supply.
- 7.822 Prospective supply with timeline advantage.
- 7.823 Competitive standard package of project features.
- 7.824 Unique features of successful competitors.
- 7.825 Probable cause of unsuccessful competitors.
- 7.826 Merchandising appeals of competitors.
- 7.827 Definition of market penetration and competitive gap.

7.830 Establishment of merchandising strategy logic

- 7.831 Competition
  - Standard product
  - Price and quality
  - Competitive edge opportunity
- 7.832 Positioning strategy
  - Sales themes
  - Name and byline
  - Site and unit features
  - Strong sales points

7.833 Construction and architecture
- Sales area
- Models
- Entrance and signs
- Project amenities
- Roads and paving
- Site plan
- Construction schedule

7.840 Definition of prospect target for subject property

7.841 Recommendations on site location

7.842 Recommendations on site linkages and dynamics

7.843 Recommendations on building types and numbers

7.844 Recommendations on basic unit features

7.845 Recommendations on basic unit options

7.846 Recommendations on level of quality

7.847 Recommendations on basic price targets

8.000 Structuring the Feasibility Report

Ultimately the budget established for analysis and the need to communicate the findings represent a severe constraint on the feasibility process. Priorities and critical assumptions necessary to achieve the desired outcome must be separated from the great mass of detail and presented tersely.

8.100 Format of the report should rely on three elements:

8.110 An executive summary which tersely identifies alternative courses of action and recommendations as to how client can make the choice.

8.120 A basic reference document which includes all the detail analysis.

8.130 A collection of reports by contributing professionals incorporated by reference.

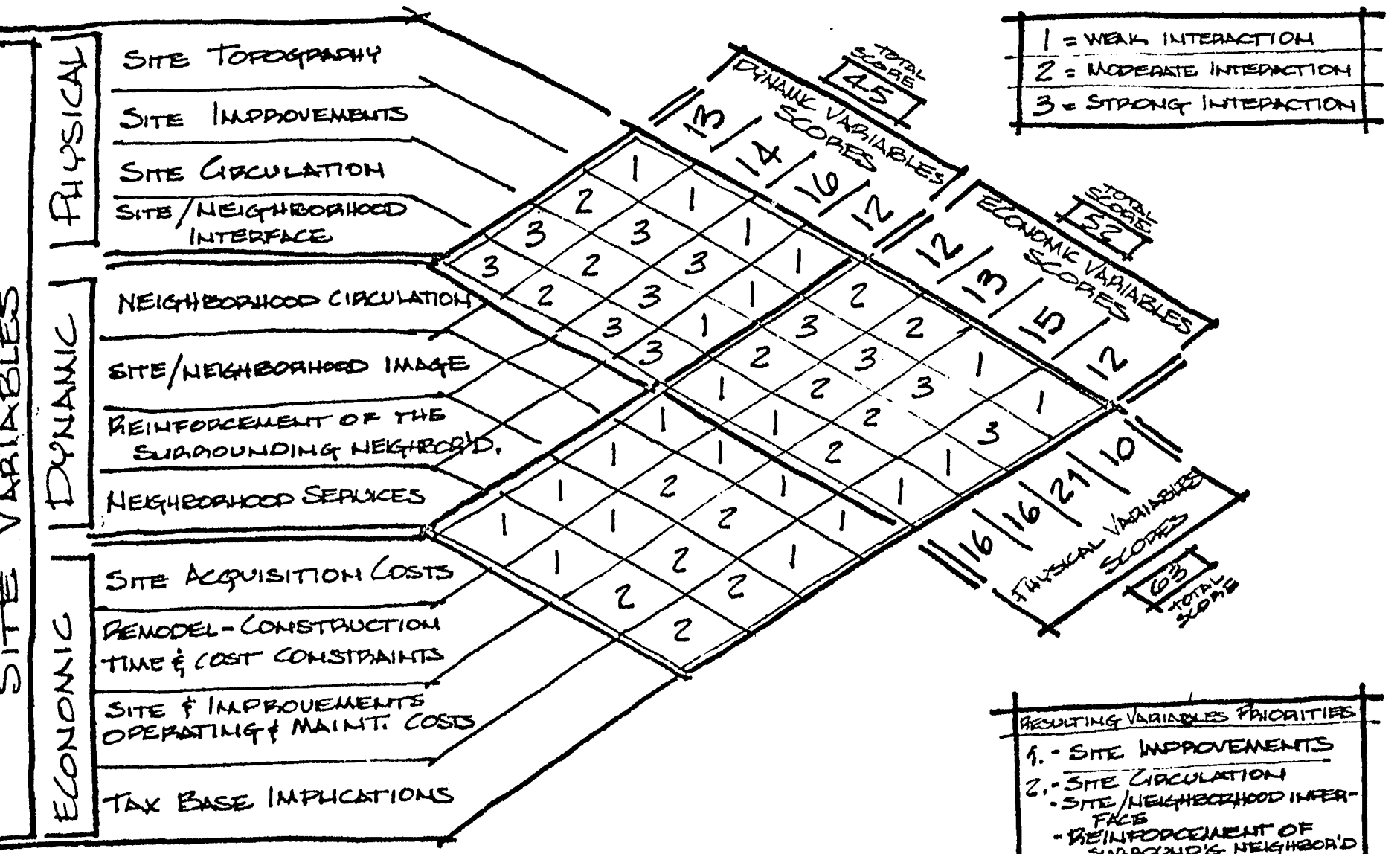
8.200 To be terse the executive summary should depend on:

8.210 Simple charts of choices of alternative outcomes (See Exhibit 21).

8.220 Simple flow charts (Such as Exhibits 3,7,13,22).

8.230 Specific criteria used to measure "liklihood of success"

EXAMPLE OF SITE VARIABLE MATRIX (OR SEMI-LATICE)



RESULTING VARIABLES PRIORITIES

1. - SITE IMPROVEMENTS
2. - SITE CIRCULATION
   - SITE/NEIGHBORHOOD INTERFACE
   - REINFORCEMENT OF SURROUND'G NEIGHBOR'D
3. - SITE IMPROVEMENTS OPERAT'G & MAINT. COSTS
4. - SITE/NEIGHBOR'D IMAGE
5. - REMODEL'G - CONSTRUCTION TIME & COST CONSTRAINTS

EXHIBIT 21

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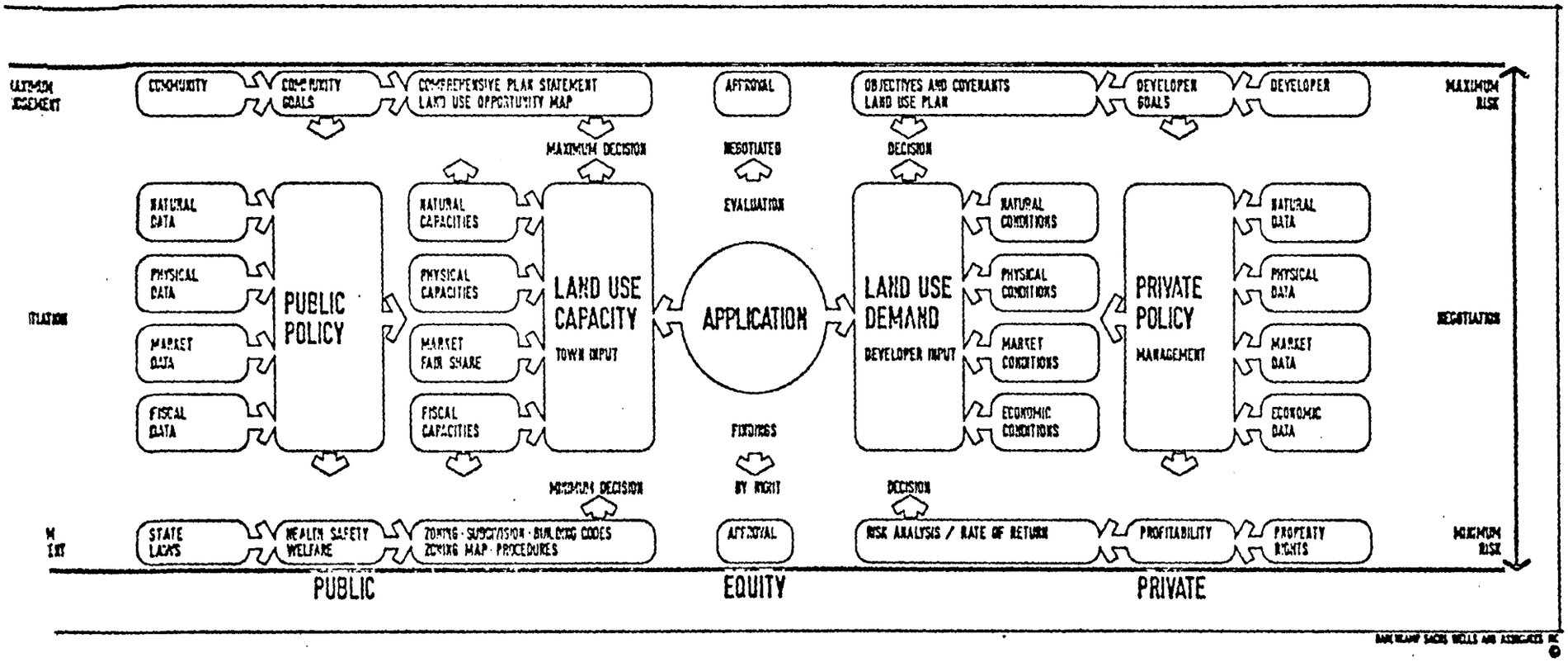


EXHIBIT 22

8.300 Statement of limiting conditions should first begin with a definition of the word "feasible" (as per Institute of Appraisal Terminology Handbook), and then state that it was the purpose of the study to define the context of the situation and the parameters within which a solution might be found to fit the major constraints with a reasonable liklihood of success. It should carefully point out that the generalist has made a series of explicit assumptions which may nevertheless need confirmation by more detailed study best done by specialists. The statement of limiting conditions should further emphasize the constraints and objectives placed on the study by identifying who:

8.310 Defined the constraints

8.320 Defined success

8.330 Provided the data and assumptions

8.340 Permitted key assumptions to remain untested for economy or speed

8.350 Accepted assumptions of conditions of uncertainty

8.360 Assembled proforma financial statements and projections

8.370 Executed feasibility confirmation of key assumptions with aid of specialists.

8.380 Placed limitations on use and confidentiality.

SELECTED BOOK LIST
ON CURRENT FEASIBILITY TOPICS

Behavior Research

The Community Builders, Edward P. Eichler and Marshall Kaplan, Berkeley: University of California Press, 1967.

Defensible Space, Crime Prevention Through Urban Design. Oscar Newman, The MacMillan Co., New York, 1972. (For analysis of residential multi-family)

The Image of the City, Kevin Lynch, The M.I.T. Press, Joint Center for Urban Studies, 1960 (12 Printing 1974). (Good on site dynamics and linkages)

The Hidden Dimension, Edward T. Hall, Doubleday and Co., New York, 1966. (Psychology of space)

People and Buildings, Edited by Robert Gutman, Basic Books, Inc., 1972.

Studies in Social and Economic Process, D. Gordon Bafby, Lexington Books, D.C. Heath & Co., Lexington, Mass.

Finance

Control and Management of Capital Projects, John W. Hackney, John Wiley & Sons, Inc. New York 1965.

Development and Management of Investment Property, Lloyd D. Hanford, Sr., Institute of Real Estate Management of the National Assoc. of Real Estate Boards, 155 E. Superior St., Chicago, Illinois 60611, 1968.

Real Estate Investment Analysis, James R. Cooper, University of Illinois, Urbana-Champaign, Lexington Books, D.C. Heath & Co., Lexington, Mass. 1974.

Real Estate Venture Analysis 1974, Vol. 1, Stephen E. Roulac, Chairman, Real Estate Law and Practice, Course Handbook Series, #99, Practising Law Institute, New York, 1974.

Tax Shelters, Prepared for distribution at the TAX SHELTERS program May-June 1975, Practising Law Institute, New York City, 1975.

Land Planning

Cities and Geology, Robert F. Legget, McGraw-Hill Book Co., 1973.

City Planning and Aerial Information, Melville C. Branch, Harvard City Planning Studies, 17, Harvard University Press, 1971. (Good basic text)

The Community Builders Handbook, J. Ross McKeever, Editor, Washington, D.C., Urban Land Institute, 1968.

Design With Nature, Ian L. McHarg, The Natural History Press, Garden City, New York, 1969.

The Ecological Context, John McHale, George Braziller, New York, 1970.

Ecologic-Economic Analysis for Regional Development, Walter Isard, The Free Press, New York, 1972.

The Fiscal Impat of Residential and Commercial Development: A Case Study, Thomas Muller, Grace Dawson, The Urban Institue, 2100 M St., NW, Washington, D.C. 1972.

A Guide to Site and Environmental Planning, Harvey M. Rubenstein, John Wiley & Sons, Inc, 1969.

Land Development Manual, The National Assoc. of Home Builders, National Housing Center, 1625 L St. NW, Washington, D.C. 20036, 1969.

Land Investment, Maury Seldin, Dow Jones-Irwin, Inc., Homewood, Ill. 60430, 1975. (For beginners)

Manual of Color Aerial Photography (1st Edition), John T. Smith, Jr. (editor-in-chief) and Abraham Anson (assoc. editor), American Society of Photogrammetry, 105 N. Virginia Ave., Falls Church, Virginia 22046, 1968. (Comprehensive reference)

Measuring Impacts of Land Development, An Initial Approach, Philip S. Schaenman, Thomas Muller, The Urban Land Institute, 2100 M St. NW, Washington, D.C. 20037,1974.

Soil Surveys and Land Use Planning, Edited by Bartelli, Klingebiel, Baird, and Heddleson, Soil Science Society of America, and American Society of Agronomy, 1966.

Space Adrift, Landmark Preservation and the Marketplace, John J. Costonis, University of Illinois Press, Urbana, 1974. (A good primer on transferable development rights)

The Use of Land, A Task Force Report Sponsored by the Rockefeller Brothers Fund, Edited by William K. Reilly, Thomas Y. Crowell Co., New York, 1973.

Residential

Apartment and Townhouse Salesmakers' Course, Owens/Corning Fiberglas Corp., National Bank Bldg., Toledo, Ohio 43601.

Low and Moderate Income Housing in the Suburbs, An Analysis for the Dayton, Ohio Region, Gruen & Gruen, in cooperation with the Miami Valley Regional Planning Commission, Praeger Publishers, New York, 1972. (Good example of sophisticated survey research).

Managing Low and Moderate Income Housing, Edwin D. Abrams, Edward B. Blackman, Praeger Publishers, New York, 1973.

Marketing for a Full House, A Complete Guide to Profitable Hotel/Motel Operational Planning, C. Dewitt Coffman, Edited by Helen J. Recknagel, School of Hotel Administration, Cornell University, Ithaca, New York, 1972.

A Marketing Plan for Apartment Builders, William R. Smolkin, Barrett Division, Allied Chemical Corp., 1966. (Strong on survey research and questionnaire techniques for apartment projects).

Planned Residential Environments, John B. Lansing, Robert W. Marans, and Robert B. Zehner, U.S. Dept. of Transportation, Bureau of Public Roads, 1970, Survey Research Center, Institute of Social Research, The University of Michigan, Ann Arbor, Mich. 48106.

Planning and Managing Housing for the Elderly, M. Powell Lawton, John Wiley & Sons, New York, 1975.

A Study of Apartment Residents Reaction to their Apartments - 1969, Owens/Corning Fiberglas, Home Building Products Marketing Division, 1969.

A Study of the Washington, D.C. Area Apartment Residents Reaction to Their Apartments, Owens/Corning Fiberglas, Home Building Products Marketing Division, Toledo, Ohio, 1966.

Specialty Properties

Business and Legal Problems of Shopping Centers, Real Estate Law and Practice Course Handbook Series - Volume 1, Practising Law Institute, 20 Vesey St., New York, N.Y. 10007, 1968.

Case Studies in Shopping Center Development and Operation, William Applebaum and S.O. Kaylin, International Council of Shopping Centers, 445 Park Ave., New York, N.Y. 10022, 1974.

A Guide to Selecting Bank Locations, Dept of Automation & Marketing Research, The American Banker's Assoc., 90 Park Ave., New York, N.Y., 10016 - 1965.

Guide to Store Location Research, William Applebaum et al., Curt Kornblau, Editor, Addison-Wesley Publishing Co. 1968. (The best publication available on techniques)

Handbook on Industrial Development, The American Industrial Development Council, Inc. Executive Offices and Library, 230 Boylston St., Boston, Mass. 02116, June 1969.

The Hotel and Restaurant Business, Donald E. Lundberg, Institutions/Volume Feeding Management Magazine, 5 S. Wabash, Chicago, Ill. 60603, 1970.

How to Build and Operate a Mobile Home Park, L.C. Michelon, Mobile Homes Manufacturers Assoc., Chicago, Ill. 60606, 1955 (2nd Edition).

Motels and Resorts, A Guide to Better Planning, C.A. Gunn, Cooperative Extension Service, Michigan State University, E. Lansing, Michigan 1968.

A New Life for the Abandoned Service Station, A. L. Kerth, a.i.a., 211 Charles Ave., Massapequa Park, N.Y. 11762, 1974.

Office Building and Office Layout Planning, Kenneth H. Ripnen, McGraw-Hill Book Co., Inc. 1960. (Out of print but excellent).

Recreational Properties, An analysis of the markets for privately owned recreational lots and leisure homes, Richard L. Ragatz Associates, Inc., 3660 Donald St., Eugene, Oregon 97405, 1974.

The Selection of Retail Locations, Richard L. Nelson, F.W. Dodge Corp., New York, 1958. (Out of print classic)

A Systematic Guide to Supermarket Location Analysis, Bernard J. Kane, Jr., Fairchild Publications, Inc., New York, 1966. (Author a student of Applebaum, excellent how-to-do-it text)

Shopping Center Management - Principles and Practices, Horace Carpenter, Jr., International Council of Shopping Centers, 445 Park Ave., New York, N.Y. 10022, 1974.

Shopping Center Strategy - A Case Study of the Planning, Location and Development of the Del Monte Center, Monterey, Cal. William Applebaum, International Council of Shopping Centers, New York, 1970.

The Tourist Business, Donald E. Lundberg, Institutions/Volume Feeding Management Magazine, 5 S. Wabash Ave., Chicago, Ill. 60603, 1972.

Technique

Advanced Methods and Models - Vol. 1 & 2 of the Mathematics for Management Series, Clifford H. Springer, Robert E. Herlihy, Robert I. Beggs, Consultants, General Electric Co., Richard D. Irwin, Inc,, Homewood, Illinois 1972.

Development Building: The Team Approach, C.W. Griffin, Halsted Press Division, John Wiley & Sons, Inc., New York, 1972 (2nd Printing 1973).

Elementary Statistics, Robert Johnson, Monroe Community College, Rochester, New York, Duxbury Press, North Scituate, Mass.

General Applied Statistics, Fadil H. Zuwaylif, San Fernando Valley State College, Addison-Wesley Publishing Co., Reading, Mass. 1972.

A Guide to Feasibility Analysis, James A. Graaskamp, Society of Real Estate Appraisers, 7 S. Dearborn St., Chicago, Ill. 60603, 1970 (2nd Printing 1982).

How to Use Census Data in Relation to Housing Needs, UW-Extension Specialists: Hazel Reinhardt, Keith Moyer, Harriett Moyer, Division of Economic & Environmental Development, UW-Extension, University of Wisconsin, 1973.

Junkyards, Geraniums and Jurisprudence: Aesthetics and the Law, Proceedings of a two day National Institute, June 2-3, 1967, Chicago, Ill., Sponsored by Section of Local Government Law, American Bar Association 1967.

Marketing Architectural and Engineering Services, Weld Coxe, Van Nostrand Reinhold Company, New York, 1971. (By analogy it is appropriate to appraisers).

Metropolitan Planning Data From Local Governments: A Demonstration of Land Use Data Compatability, Metropolitan Washington Council of Governments, 1225 Connecticut Ave., NW, Washington, D.C. 20036, 1970.

Notes on the Synthesis of Form, Christopher Alexander, Harvard University Press, 1966.

Survey Research, Charles H. Backstrom and Gerald D. Hursh, Evanston, Northwestern University Press, 1963. ($1.25 paperback which is excellent basic text).

Urban Land Economics

Methods for Land Economics Research, Edited by W.L. Gibson, Jr., R. J. Hildreth, Gene Wunderlich, University of Nebraska Press, Lincoln, Neb. 1966.

Scientific Methods of Urban Analysis, Anthony J. Catanese, University of Illinois Press, Urbana, Ill. 1972.

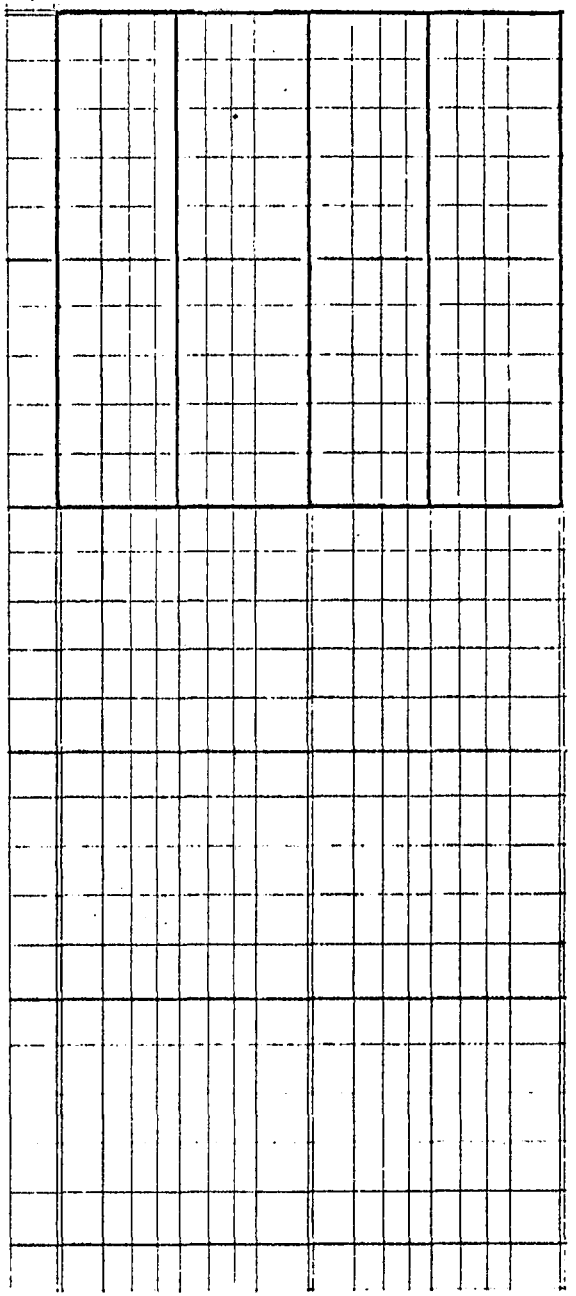
Urban Analysis, Readings in Housing and Urban Development, Alfred N. Page, Warren R. Seyfried, University of Washington, Scott, Foresman & Co., 1970.

CAPITAL OUTLAY MODEL WORKSHEET

	Structures Cost	
	Residential	
110	Gross sq. ft.	Specify (Sp.) sq. ft.
120	Cost/gross sq. ft.	Sp. $'s/sq. ft.
130	Total Res. Structures	Lns. (110 x 120)
	Commercial	
140	Gross sq. ft.	Sp. sq. ft.
150	Cost/gross sq. ft.	Sp. $'s/sq. ft.
160	Total Comm'l Structures	Lns. (140 x 150)
170	Miscellaneous Structures	Sp. $'s
180	**Total Structures**	Sum Lns. (130, 160, 170)
190	Contingency Reserve Factor	Sp. %
200	Contingency Reserve	Lns. (130 x 190)
210	Total Structures and Reserves	Sum Lns. (190 + 200)
220	Land	Sp. $'s
230	Total Structures, Reserves, Land	Sum Lns. (210 + 220)
240	Consultant/Developers Fee	Sp. $'s
250	Carrying charges (tax, ins.)	Sp. $'s
260	**Total Hard Cost**	Sum Lns. (230 + 240 + 250)
270	Mtg. in $ or % Total Hard Cost	Sp. %
280	Const. Loan Amount	Sp. %
290	Const. Period in Months	Sp. #
300	Const. Interest Rate	Sp. %
310	Const. Interest	Lns. $(260 \times 280) \times \frac{(LN\ .290) \times (LN\ 300)}{12} \times (1/2)$
320	Financing fee @ % Mtg.	Sp. %
330	Financing Fees	Lns. (270 x 320)
340	**Total Replacement Cost**	Sum Lns. (260 + 310 + 330)
350	Mortgage Capital Contribution	Lns (260 x 270)
360	Required Equity Cash	Lns (340 - 350)

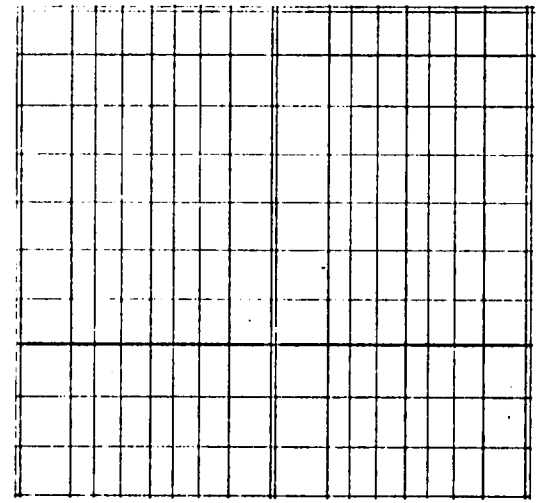
Required Revenue Budget

Unit Mix; # & code
(Code: Residential = 1, Commercial = 2)
(If Code 1, give # rooms; Code 2 sq. ft. GLA)



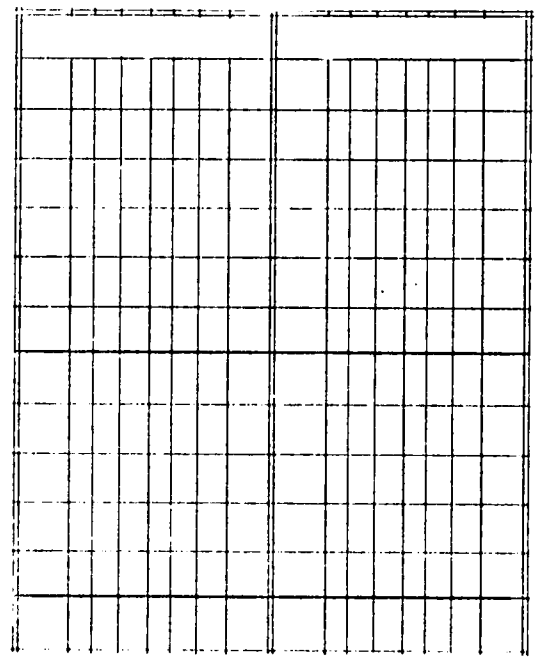
370	RU - 1	Sp., # units & code
380	# Rooms residential)	Sp. # Rooms
390	RU - 2	Sp., # & Code
400	# Rooms	Sp. # Rooms
410	RU - 3	Sp., # & Code
420	# Rooms	Sp. # Rooms
430	RU - 4	Sp., # & Code
440	# Rooms	Sp. # Rooms
450	RU - 5	Sp. # & Code
460	# Rooms	Sp. # Rooms
470	Total # Rooms, Res. RU's	Sum Lns[(370x380)+(390x400)+(410x420)+(430x440)+(450x460)]
	Expenses & Taxes	
	Residential	
480	Expenses/room/year	Sp. $'s
490	Taxes/room/year	Sp. $'s
	Commercial	
500	Expenses/sq. ft.GLA/year	Sp. $'s
510	Taxes/sq. ft. GLA/year	Sp. $'s
520	Total Res. Exp. & Taxes	Ln (470) x Sum Lns (430+490)
530	Total Comm'l Exp. & Taxes	Ln (370-460 Code 2 #s)(Sum Lns 500+510)
540	Total Exp. & Taxes	Sum Lns. (520+530)
550	Mtg. Constant	Sp. %
560	Mtg. Debt Service Required	Lns. (350 x 550)
570	Equity Cash Dividend Constant	Sp. %
580	Equity Dividend Required	Lns. 360 x 570)
585	Cash income required for Exp. & Tax, Mtg. & Equity	Sum Lns.(540+560+580)

590	Non-Distributable cash & variance factor	Sp. %
600	Non-Dist. cash & Var. Revenue	Ln(585)-(Ln[585])(1-Ln[590])
610	Required Annual Effective Gross Revenue	Sum Lns (585 + 600)
615	Vacancy Factor	Sp. %
620	Required Annual Gross Revenue	Ln (610)/(1 - Ln 615)
625	Required Monthly Gross Rev.	Ln (620)/12 months
630	# Non-allocated Price RU's	Sp. #
640	Mo. Income/RU's	Sp. $'s
650	Total Non-allocated RU Revenue	Lns. (630 x 640)
655	Allocatable Revenue	Lns. (620 - 650)



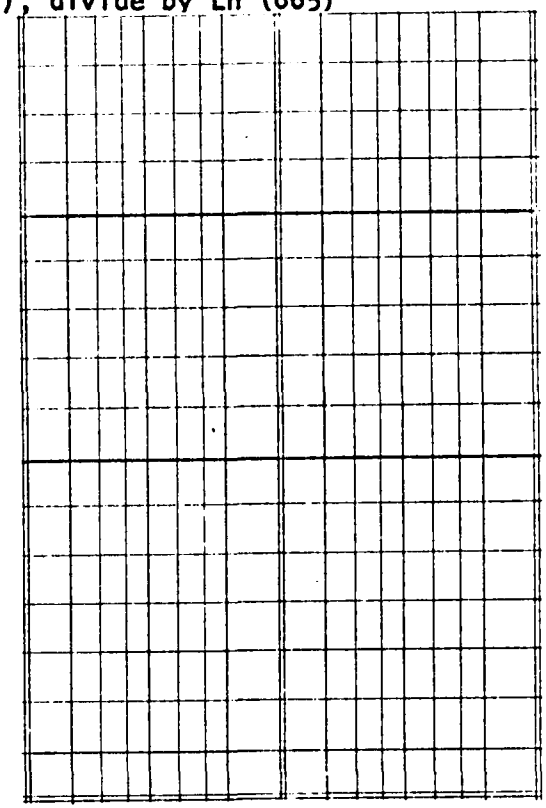
(Note Factor Calculations: Refer to Unit Mix
Section Lns. (370-470)
If Type 1,(res) multiply # units by rent @ BRU
If Type 2,(comm'l);(Read sq. ft. RU and / by sq. ft. BRU (Ln 665)
x (rent @ % BRU)

660	Base Revenue Unit Type	Sp. Type
665	Base Revenue Unit (BRU) sq. ft.	Sp. sq. ft.
670	RU - 1 rent @ % BRU	Sp. %
680	Factors	(See: Note Factor Code)
690	RU - 2 rent @ % BRU	Sp %
700	Factors	
710	RU - 3 rent @ % BRU	Sp %
720	Factors	
730	RU - 4 rent @ % BRU	Sp %
740	Factors	
750	RU - 5 rent @ % BRU	Sp %
760	Factors	
770	Total Factors	Sum Lns. (680+700+720+740+760)



Rental Structure

* If type 2 (or Comm'l), divide by Ln (665)



780	**BRU rent/mo.**	Lns.(655 / 770)
790	RU - 1 rent/mo	Lns.(670 x 780)*
800	RU - 2 rent/mo	Lns.(690 x 780)*
810	RU - 3 rent/mo	Lns. (710 x 780)*
820	RU - 4 rent/mo	Lns. (730 x 780)*
830	RU - 5 rent/mo	Lns. (750 x 780)*
840	Total Annual Rev. from RU - 1's	Lns. (370 x 790)
850	Total Annual Rev. from RU - 2's	Lns (390 x 800)
860	Total Annual Rev. from RU - 3's	Lns. (410 x 810)
870	Total Annual Rev. from RU - 4's	Lns. (430 x 820)
880	Total Annual Rev. from RU - 5's	Lns. (440 x 830)
890	**Total Annual Allocated Rev.**	Sum Lns.(840+850+860+870+880)
	(Compare to Ln. 655) x 12 months	Lns. (890-655)
900	**Default Ratio**	Lns. (540+560)/Ln (620)
910	Payback period	Divide 100% by equity constant line 580

MARKET REVENUE MODEL WORKSHEET

	Rental Structures	
100	Total annual revenue from residential	Sp. $.s
110	Total annual revenue from commmercial	Sp. $'s
120	Potential annual allocated revenue	Sp. $'s
130	Total Potential Revenue from all sources	Sum lns. (100 + 110 + 120)
	Residential Expenses and Taxes	
140	Fixed Expenses/unit/year	Sp. $'s
150	Special Expenses/unit/year	Sp. $'s
160	Taxes/unit/year	Sp. $'s
	Commercial Expenses & taxes	
170	Expenses/sq.ft.GLA/year	Sp. $'s
180	Taxes/sq.ft.GLA/year	Sp. $'s
190	Total residential exp. & taxes	Sum lns (140+150+160) [No. of units]
200	Total commercial exp. & taxes	Sum lns (170+180) [No. of Sq.ft.GLA]
210	Total expenses & taxes	Sum lns. (190+200)
220	Default ratio desired	Sp. %
230	Cash available for debt service	[Ln 130 x ln.(220)] - Ln 210
240	Land lease payment	Sp. $'s
250	Cash available for mortgage	Ln 230 - 240
	Mortgage Determination	
260	Mtg. constant/$1000	Sp. $'s
270	Mtg. capital contribution	Lns (250/260) x 1000
280	Rent available for vacancy, variance & profit	Ln 130 x (1-220)
290	Vacancy factor	Sp. %
300	Vacancy cash loss	(ln 290)(130)
310	Non-Distributable cash & variance factor	Sp. %
320	Non-Distributable cash reserve	Ln 280-300)(310)
330	Cash available for equity dividend	Ln 280 - (300+320)
340	Equity cash dividend rate	Sp. %

350	Equity cash investment	Ln 330/340
360	Total replacement cost (TRC) budget	Lum lns (270+350)
370	Construction period (in months)	Sp. #
380	Construction interest rate	Sp. %
390	Construction interest	[Ln(270)][(1/2)(Ln 370/12 mo.)Ln.380)]
400	Financing fees @ % mtg.	Sp. %
410	Financing fees	Lns (270 x 400)
420	Carrying charges	Sp. $'s
430	Consultant/developers fees	Sp. $'s
440	Total hard dollar budget	Lns (360-(390+410+420+430)
450	Land	Sp. $'s
460	Off-site improvements	Sp. $'s
470	Total structures & reserves	Lns 440-(450+460)
480	Contingency reserve	Sp. $'s
490	Architect-engineering fees	Lns (470x(Sp.% of structure cost)
500	Total hard dollar structures budget	Lns 470-(480+490)
510	Non-allocated budget	Sp. $'s
520	Total allocated structures budget	Lns (500-510)
530	Gross residential sq. ft./unit	Sp. #
540	Gross residential sq. ft.	Ln 530 x Sp. # residential units
550	Gross commercial sq. ft.	Sp. #
560	Cost/commercial sq. ft. @ %/residential, cost/sq.ft.	Sp. %
570	Gross adjusted commercial sq. ft.	Ln 550/560
580	Total adjusted sq. ft.	Ln (540) + 570
590	$'s/residential sq. ft.	Lns (520/580)
600	$'s/commercial sq. ft.	Ln (590x560)
610	Total residential structure budget	Lns (540x590)
620	Total commercial structure budget	Lns (520-610)

THE AMERICAN SOCIETY OF FARM MANAGERS & RURAL APPRAISERS

Presents An

ADVANCED FARM & AGRI-BUSINESS VALUATION WORKSHOP

April 30-May 1, 1976 Chicago, Illinois

Sponsored By The

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IMPORTANCE OF ATTENDING

As the United States shifts from a society based on natural resources to one based on human resources, the importance of training and continued education for all professionals will increase tremendously. Even the highly educated professional can quickly become obsolete!

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The American Society of Farm Managers and Rural Appraisers is an organization of those professionally active in farm management and/or rural appraising. It was founded in 1929 and now has approximately 2000 members.

The titles of Accredited Farm Manager (AFM) and Accredited Rural Appraiser (ARA) are awarded to those members who have had years or experience, are technically trained, have passed rigid examinations and subscribe to a high code of ethics.

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Advanced Farm and Agri-Business Valuation Workshop

April 30 - May 1

O'Hare Inn

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AMERICAN SOCIETY of
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and
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ENROLLMENT FORM

1976 ADVANCED FARM & AGRI-BUSINESS VALUATION WORKSHOP – CHICAGO

(Please Print or Type)

NAME _____ TITLE _____

FIRM _____

P. O. BOX _____
or
MAILING ADDRESS _____

CITY _____ STATE _____ ZIP _____

Telephone: AC _____ / _____

Enclosed is my check for $ _____
(Make payable to A.S.F.M.R.A.)

(State/Federal agencies, please enclose purchase order for processing.)

☐ YES, my spouse will be with me.
☐ YES, Reserve Lunch tickets for spouse:
_____ Friday Lunch – $7.00
_____ Saturday Lunch – $7.00
(Include amount with your enrollment fee)

SCHEDULE

THURSDAY – APRIL 29

7:00 - 9:00 P.M. REGISTRATION – EARLY ARRIVALS

FRIDAY – APRIL 30

7:45 - 8:45 A.M. REGISTRATION

8:45 - 9:00 INTRODUCTION

9:00 - 10:00 SPOUSES COFFEE

9:00 - 10:30 "NEW APPROACHES TO REAL ESTATE APPRAISAL" Professor James A. Graaskamp, Chairman, Real Estate and Land Economics, University of Wisconsin, School of Business, Madison, Wisconsin

10:30 - 10:45 COFFEE BREAK

10:45 - 12:00 Noon "LAND VALUE ENVIRONMENTAL IMPACT ANALYSIS" Professor Daniel Willard, Institute of Environmental Studies, University of Wisconsin, Madison, Wisconsin

12:00 - 1:00 P.M. LUNCH

1:00 - 2:30 "VALUATION ANALYSIS AND AGRI-INDUSTRY LOAN PROGRAMS" Joseph Hanson, Deputy Dir. of Administration for Programs, Farmers Home Administration, Washington, D.C.

2:30 - 2:45 COKE BREAK

2:45 - 4:00 "AN ANALYSIS OF THE INCOME APPROACH IN LOOKING AT PRESENT DAY LAND VALUES" Robert Alexander, Vice President in Charge of Appraisal Studies, Federal Land Bank of St. Louis, St. Louis, Missouri

4:00 - 5:00 "CASH FLOW RATIOS & RATES OF RETURN" Professor James A. Graaskamp

SATURDAY – MAY 1

9:00 - 10:30 A.M. "AGRICULTURAL JOINT VENTURES WITH INSURANCE COMPANIES" George Schwab, Second Vice President, Agricultural Investment Dept., Connecticut Mutual Life Ins. Co., Hartford, Connecticut

10:30 - 10:45 COFFEE BREAK

10:45 - 12:00 Noon "FARM INVESTMENT (SOY BEAN ACREAGE BUY OR LEASE) CASE STUDY PROBLEM" Robert Dow, Research Assistant, Graduate School of Business Administration, Harvard University, Boston, Massachusetts

12:00 - 1:00 P.M. LUNCH

1:00 - 2:30 "URBAN-FARM LAND TRANSITIONS IN BEST USE" Robert DeVoy, Senior Vice President, Real Estate Research Corporation, Chicago, Illinois

2:30 - 4:00 "TRENDS IN PROPERTY RIGHTS & COMPENSATION" Professor James MacDonald, University of Wisconsin Law School, Madison, Wisconsin

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PUBLIC INVITED TO THIS IMPORTANT 2-DAY SEMINAR!

REGISTRATION . . . Thursday – April 29 7:00-9:00 P.M.
Friday – April 30 7:45-8:45 A.M.

ALL SESSIONS WILL BE HELD AT THE O'HARE INN

Registration Fee. . .$115.00 – Includes 2 Luncheons, Handout **Materials and Notebooks. There is no split-fee for a day-by-day enrollment.**

ENROLLMENT LIMITED TO 200!

For cancellations, a charge may be made as follows: Within 15 days, 10%; within 10 days, 20%; within 72 hours, 30%; 40% for "now show"!

SPOUSES. . .are welcome. A Friday A.M. "Get Acquainted" coffee time will be available. Spouses may join their husbands for the Friday and Saturday Luncheons. Tickets are $7.00 each day, for spouses. (See registration form.)

ACCOMMODATIONS. . . Participants will be headquartered at The O'Hare Inn, 6600 N. Mannheim, Des Plaines, Illinois 60018 (at the O'Hare Airport), AC (312) 827-5131.

Other excellent facilities are nearby! Courtesy car is available between O'Hare Airport and the O'Hare Inn. A hotel reservation card will be sent to each enrollee with your acknowledgment of enrollment. Additional information will also be sent to each enrollee, on the faculty, schedule and total program.

MEALS. . .included with registration are the Friday and Saturday Luncheons. Spouses may attend. (See Spouses information above)

PRE-REGISTRATION list will be available on the 20th!

SPECIALIZED APPRAISAL EDUCATION

Presented by
American Society of Farm Managers & Rural Appraisers
April 30 - May 1, 1976, O'Hare Inn, Chicago, Illinois

NEW APPROACHES TO REAL ESTATE APPRAISAL

Presented by
Prof. James A. Graaskamp
School of Business, University of Wisconsin

I. A fundamental premise of real estate appraisal is the concept of highest and best use, a premise that views land as a commodity and potential uses for highest profit not necessarily the socially desirable uses.

A. The term highest and best use presumes the individual appraiser knows better than society what is best by implication although in fact it boils down to what is the most profitable use which is legal, in demand and within the suitability option of the physical site.

B. However, appraisal literature is showing considerable call for redefinition of highest and best use concepts. Consider such key items as:

1. "Highest and Best Use," William Crouch, The Appraisal Journal, April 1966, pp. 166-176. (Appraiser must prove effective demand and reasonable probability of political permission to use the site.)
2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April 1972, pp. 165-174. (Wendt makes the case very well that the opinion of highest and best use must consider so many cash flow variables on an after tax basis that the conclusions must vary with investor type just as judgments and analytical skill must vary by appraiser.)
3. "The Importance of the Highest & Best Use Analysis," Paul Tischler, The Real Estate Appraiser, May-June 1972. (Tischler argues that proposed use must not only consider highest income to owner but also external costs and economic costs and impact.)

C. On a little broader base, the Rockefeller Land Use Commission noted a growing public consensus that land use was central to both environmental balance and social equity and therefore subject to public control first and private development second.

D. The definition of fair market value assumes that the buyer is knowledgeable as to all the uses to which it may be put and yet today we are in transition from viewing land as a commodity to land as a public resource.

1. But the law has always defined private options to use and benefit as those rights which are not preempted by the public since the constitution reserves:
   a. First claim on productivity - the real estate tax
   b. First prerogative on use decisions - the police power
   c. Compensation in cash only for entrenched private rights - eminent domain
2. Court cases in Wisconsin have held that the land owner does not have inherent right to develop marsh land to the damage of the general public by upsetting the natural environment...

... nothing this court has said or held in prior cases indicates that destroying the natural character of a swamp or a wetland so as to make that location available for human habitation is a reasonable use of that land when the new use, although of a more economical value to the owner, causes a harm to the general public. ... While loss of value is to be considered in determining whether a restriction is a constructive taking, value based upon changing character of the land at the expense of harm to public rights is not an essential factor or controlling. The Land belongs to the people... a little of it to those dead... some to those living... but most of it belongs to those yet to be born..." Just vs. Marinette, 56 Wis 2d 7.

3. Wisconsin courts have held that the owner and the appraiser have constructive notice of soils and suitability for septic tank since the Soil Conservation Service is available in the courthouse, same as the Register of Deeds.

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal, i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

Highest and best use concept -
"A valuation concept that can be applied to either the land or imrpovements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements."
P. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appriasers 1971.

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to

be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or community development goals in addition to wealth maximization individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgment and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. A forecast of value or price is a tough decision and any problem which must involve so many variables, must be reduced to a model of the essential relationships. Each of the three approaches to value is a model about how a prudent buyer would determine cost to replace, present value of future income, or comparative value to recent sales of comparable property.

H. No matter what the field, a decision model must be considered in light of how it fits the following constraints:

1. The question to be answered
2. The facts available
3. The theory
4. Credibility with the decision maker
5. Facility of the analyst
6. Cost benefit ratio of method

II. Despite the many assumptions made in an appraisal under conditions of uncertainty, the appraisal report and the appraiser is expected to arrive at a single number or "point" value. There is a hint in the definition of fair market value that there is more than one price for a property but it is not clear whether fair market value is a central tendency or mean of these alternatives or if it is the best possible price.

A. Definition of Market Value: "The highest price estimated in terms of money which a property will bring if exposed for sale in the open market, allowing a reasonable time to find a purchaser who buys with knowledge of all the uses to which it is adapted and for which it is capable of being used." The Appraisal of Real Estate, Sixth Edition, American Institute of Real Estate Appraisers, 155 E. Superior Street, Chicago, Illinois 60611, page 25.

1. Competitive market conditions
2. An informed buyer and seller
3. No undue pressure on either party
4. "Rational" or prudent economic behavior by both buyer and seller
5. A reasonable turnover period
6. Payment consistent with the standards of behavior of the market
7. Market Value looks at the transaction from the point of view of the buyer

B. It should be noted that there is an equal balance between the uses to which it may be put and the viewpoint of the buyer. The element of uncertainty is carefully hedged by a statement of limiting conditions:

1. To hedge the appraisal conclusion with a variety of limiting conditions at a time when the variables for consideration are increasing, is to produce a value conclusion that is almost fictitious.
2. Since the concept of limiting conditions must be used sparingly lest the appraiser support consistency rather than accuracy, better methods must be found to introduce some tolerance for the conditions of uncertainty which surround the appraisal estimate.
3. Given all the variables, a more logical appraisal format is required, at the very least.

C. There may be many questions a client wishes answered, decisions which are the purpose of the appraisal. The appraiser always avoids his clients problem by stating "the purpose of this appraisal is to determine fair market value," thereby redefining the clients problem to the one question the appraiser is prepared to answer.

1. Given all the different applications of an appraisal and the need to broaden the market for appraisal services a more flexible appraisal format is required.
2. Given all the assumptions under conditions of uncertainty, there is great need to dimension the appraisal answer with the range of alternative transaction prices which might occur.

D. Purpose is a critical issue - when appraising for the seller isn't it your function to predict the most probable sales price even if the market depends on dummies and doctors? On the other hand the mortgage lender may be more concerned with income value in terms of cash available to pay off the loan once the dummies have been burned and foreclosed.

E. As a basic premise for reorganization, it can be assumed that the function of the appraisal report is to reflect the clients purposes for which he needs an appraisal:

1. For the mortgage lender, the issue is the liquidating value or probability of future cash returns being adequate to repay the loan, interest, and cost and the distribution of profit centers over time

to maintain repayment incentive to the borrower.

2. For the courts eminent domain or assessment appeal, the statement of function leads to the definition of value as the juridictional market value.
3. A report for a would-be buyer or seller might lead to the definition of value as investment market value.
4. For most cases the appraiser would seek to determine the most probable selling price.

F. Investment market value is a term coined by Mack Hodges for the present value of future income receipts, considering a specific set of assumptions about the after tax cash flow of property and requires some general description of the investment standards and tax status of buyers interested in a specific type of property, specifically income-investment property.

G. Investment value, which requires some detail about motivations of a probable or specific buyer, is a special case of the broader concept of "most probable sales price" (Vp). This approach makes the point conclusion explicitly a statement of the central tendency (mode, mean, or median) around which a transaction price is likely to fall. Thus it generally supplies a valuation as a range of prices within which a transaction would most likely occur, similar to but not necessarily a concept of statistical standard error.

H. Most probable selling price is derivative of the theoretical work of Prof. Richard U. Ratcliff.

1. The quotable definition: "The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."
2. See his article "Is There a 'New School' of Appraisal Thought?", The Appraisal Journal, October 1975.
3. For the full theory: Valuation for Real Estate Decisions, R. U. Ratcliff, available from Democrat Press, P.O. Box 984, Santa Cruz, California 95060.

III. The logic of the approach not only makes economic sense but leads to a superior outline for writing and reading an appraisal report. It gives the appraiser more freedom to use whichever technique seem appropriate but deny the appraiser the escape of convenient limiting assumptions and of the perfect market-prudent investor fictions of classic appraisal.

A. The purpose of the appraisal (assessment, mortgage loan, insurance, etc.) leads to a selection of a value definition.

B. Detailed analysis of the property lead to a statement about most probable productive use.

C. Most probable use leads to inference about the most probably buyer-type, his motivation, and economic logic.

D. Comparability becomes a matter of analyzing a buyer-type rather than only a physical piece of nearby real estate. Buyer-type leads to a choice of valuation for appraisal method. In Ratcliff the basic approaches are:

1. Preferred method is to infer buyer behavior from actual market transactions.
2. In the absence of adequate market data, the method requires simulation of probably buyer investment analysis or enterprise budgeting.
3. Note that one or more of the three approaches may be used or some other technique may be utilized. For the next two days we are going to be looking at ways of analyzing productivity, or simulating investment productivity of agricultural property.
4. Buyer type may be a class of buyers, the property owner next door, or a particular investor with a strong preference for property attributes identified. Past market actions can provide evidence that buyers are not fully informed and that prices are being set by ignorance but it is still probable price. (After all, with the exception of the courts who cares if the price is fair?)

E. The relationship of the report format to the choice of methods can be better understood by moving through a report outline provided in Exhibit 1.

1. It is useful to note that this general appraisal report form is very similar to that of a feasibility analysis of a specific site. An appraisal is a special case of the feasibility problem of a site in search of a use which has a market and a customer.
2. The report provides equal balance between the physical attributes of the site and the investment assumptions of typical buyers.
3. It forces the appraiser to be explicit about what he means in terms of property management, farm management, tree management, recreational property management or whatever. It requires the appraiser to have some professional ability to identify a program for utilization of the land.

EXHIBIT I

SUGGESTED OUTLINE OF A CONTEMPORARY APPRAISAL REPORT
(Following Logic of R. U. Ratcliff)
5/1/75

Suggested by Prof. James A. Graaskamp
University of Wisconsin

I. Letter of Transmittal

II. Table of Contents

III. Salient facts and conclusions (optional and relevant to purpose of appraisal)

IV. Statement of purpose for which appraisal is required:

A. Brief statement of the issue for which the appraisal will serve as a decision benchmark.

B. Special problems implicit in the property which specify definition of value or modify appraisal methodology.

V. Definition of value to be objective of appraisal

A. State selected definition (for example the R. U. Ratcliff definition of probable price):

"The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."

B. Indicate source of definition and applicability to purpose of appraisal

C. Indicate implicit conditions of the definition. (For example, the conditions of a fair sale presumed by fair market value or the implication of the range of error around most probable price implied by the Ratcliff definition.)

D. Special instructions or assumptions provided by others and approved by client (for example, a request to appraise current use rather than best use, or a request for investment value rather than probable sales price, etc., or special assumptions required for cash flow projections by state securities commission).

VI. Definition of the legal interests to be appraised

A. Specify source of legal description

B. Specify fixtures or personalty to be included

C. Specify typical operating assets excluded (such as furniture when doing a motel structure for a real estate tax).

VII. Productivity or potential use analysis of subject property

A. Site analysis

1. Physical (static) site attributes including location, size, shape, slope, soils, etc.
2. Legal constraints on use of site including zoning, easements, or those implied by purpose of appraisal (purpose for use as a bank drive-in teller facility must be a specified distance from main bank building).
3. Linkages of site to neighborhood and community (visual and physical relationships to flows of people, traffic, goods or activity centers).
4. Dynamic attributes of site (behavioral responses of people to site in terms of anxiety, special attractions of water, view, etc., visibility, prestige, etc.).

B. Improvements

1. Physical (static) attributes of improvements listed by type, construction, layout, convertability, condition, etc.
2. Legal-political constraints on use of improvements (including problems of non-conformity, building code violations, zoning, etc.
3. Current uses and tenancies, if any
4. Linkages of current uses to neighborhood and community
5. Potential attributes which could be marketed (feasibility problem of a property in search of a market)
6. Dynamic attributes of improvement (behavioral responses of people to building style, bulk, sentimental history, historical values, etc.).

C. Identification of alternative uses for subject property

D. Comparative analysis to select most probable use as of valuation date considering:

1. Effective market demand
2. Legality and political compatibility
3. Financial feasibility
4. Risk sensitivity

VIII. Specification of most probable buyer type implied by most probable use of subject property.

A. Alternative buyer types and motivations and selection of most probable buyer profile.

B. Specification of essential site, improvement, financial, or other key decision criteria of probable buyer type.

C. Explanation of appraisal methodology for prediction of probable purchase price range consistent for most probable buyer.

1. Preferred method - to infer buyer behavior from actual market transaction and market data available.
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process.
3. The test proposed to indicate the fit of property and probable price prediction to be made to the criteria of the probable buyer profile.

IX. Initial appraisal value estimate

A. Data presentation, analysis, and explanation of market comparison approach.

AND/OR

B. Data presentation, computation, and explanation of simulation approach to value.

C. Determination of initial value estimate for subject property with statement of the range of alternative prices inherent in method or critical assumption.

X. Identification of significant external conditions, economic, political, or otherwise, not considered by past market transactions or investment simulation based on empirical evidence.

A. Identify neighborhood, community, regional, or national factors which would bear directly on marketability of such a property and which were not present in market comparison or simulation assumptions.

B. Identify possible political or other contingent factors which might foreseeably occur to upset normal appraisal assumptions.

C. Specify any violation of conditions in the appraisal methodology of the definition of value.

D. Adjust initial value estimate in IX or indicate no adjustment is necessary.

XI. Demonstrate with test previously indicated how predicted transaction price would permit investor to achieve objectives attributed to him in definition of most probable buyer profile.

XII. Provide value conclusion and certification of appraisal judgment independence.

XIII. Provide statement of limiting conditions which establish:

A. Contributions of other professionals on which report relies
B. Facts and forecasting under conditions of uncertainty
C. Assumptions provided by the client
D. Controls on use of appraisal imposed by the appraiser

XIV. Appendices and Professional Credentials

IV. Each of our speakers has been selected to provide a different viewpoint on farm valuation inputs or value conclusions.

A. Prof. Dan Willard will identify the constraints imposed on "best use" by improved physical impact analysis and expanding regulatory agencies.

B. Joseph Hanson, the Deputy Director of Administration at the Farmers Home Administration, will discuss their analysis for farm valuation as it relates to the mortgage loan decision.

C. Robert Hanson of the Federal Land Bank, will discuss income simulation as an approach to agricultural land value and property comparisons.

D. Later this afternoon I will discuss the significance of cash flow analysis and cash flow ratios for both value simulation analysis and investment decisions, reflecting financial planning for uncertainty rather than fixed values and loan ratios.

E. Tomorrow we will expand on farm investment analysis in the morning. George Schwaab of Connecticut Mutual will review their experience with agricultural joint ventures.

F. Agri-business and farm investment decisions are now a significant area of interest at the Harvard School of Business. Tomorrow morning you should be prepared to discuss the Charles Pullin Case Study with Robert Dew, a research specialist at Harvard in Agri-Business.

G. Following lunch, we will pursue the issue of land use trends with an economist, Robert DeVoy of Real Estate Research Corporation, and then with a lawyer, Prof. James McDonald, who specializes in farm, conservation, and forest lands at the University of Wisconsin Law School.

H. At the closing I will attempt to recap very briefly the implications of our various speakers topics to your application of current appraisal methodologies and to reform trends now underway to modify appraisal function and method.

A CONTEMPORARY APPROACH TO A REAL ESTATE APPRAISAL REPORT

Society of Real Estate Appraisers, Chicago Chapter
May 3, 1977, Chicago Builders Club

Presented by
Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. A fundamental premise of real estate appraisal is the concept of highest and best use, a premise that views land as a commodity and potential uses for highest profit not necessarily the socially desirable uses.

A. The term highest and best use presumes the individual appraiser knows better than society what is best by implication although in fact it boils down to what is the most profitable use which is legal, in demand and within the suitability option of the physical site.

B. However, appraisal literature is showing considerable call for redefinition of highest and best use concepts. Consider such key items as:

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3. "The Importance of the Highest & Best Use Analysis," Paul Tischler, The Real Estate Appraiser, May-June 1972. (Tischler argues that proposed use must not only consider highest income to owner but also external costs and economic costs and impact.)

C. On a little broader base, the Rockefeller Land Use Commission noted a growing public consensus that land use was central to both environmental balance and social equity and therefore subject to public control first and private development second.

D. The definition of fair market value assumes that the buyer is knowledgeable as to all the uses to which it may be put and yet today we are in transition from viewing land as a commodity to land as a public resource.

1. But the law has always defined private options to use and benefit as those rights which are not preempted by the public since the constitution reserves:
   a. First claim on productivity - the real estate tax
   b. First prerogative on use decisions - the police power
   c. Compensation in cash only for entrenched private rights - eminent domain
2. Court cases in Wisconsin have held that the land owner does not have inherent right to develop marsh land to the damage of the general public by upsetting the natural environment...

... nothing this court has said or held in prior cases indicates that destroying the natural character of a swamp or a wetland so as to make that location available for human habitation is a reasonable us of that land when the new use, although of a more economical value to the owner, causes a harm to the general public. ... While loss of value is to be considered in determining whether a restriction is a constructive taking, value based upon changing character of the land at the expense of harm to public rights is not an essential factor or controlling. The Land belongs to the people... a little of it to those dead... some to those living... but most of it belongs to those yet to be born..." Just vs. Marinette, 56 Wis 2d 7.

3. Wisconsin courts have held that the owner and the appraiser have constructive notice of soils and suitability for septic tank since the Soil Conservation Service is available in the courthouse, same as the Register of Deeds.

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, In the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

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"A valuation concept that can be applied to either the land or imrpovements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements."
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"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to

be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgment and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
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F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced by concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.
3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. No matter what the field, a decision model must be considered in light of how it fits the following constraints:

1. The question to be answered
2. The facts available
3. The theory
4. Credibility with the decision maker
5. Facility of the analyst
6. Cost benefit ratio of method

II. Uncertainty, fixed point values, and central tendency.

A. Definition of Market Value: "The highest price estimated in terms of money which a property will bring if exposed for sale in the open market, allowing a reasonable time to find a purchaser who buys with knowledge of all the uses to which it is adapted and for which it is capable of being used." The Appraisal of Real Estate, Sixth Edition, American Institute of Real Estate Appraisers, 155 E. Superior Street, Chicago, Illinois 60611, page 25.

1. Competitive market conditions
2. An informed buyer and seller
3. No undue pressure on either party
4. "Rational" or prudent economic behavior by both buyer and seller
5. A reasonable turnover period
6. Payment consistent with the standards of behavior of the market
7. Market Value looks at the transaction from the point of view of the buyer

B. It should be noted that there is an equal balance between the uses to which it may be put and the viewpoint of the buyer. The element of uncertainty is carefully hedged by a statement of limiting conditions:

1. To hedge the appraisal conclusion with a variety of limiting conditions at a time when the variables for consideration are increasing, is to produce a value conclusion that is almost fictitious.
2. Since the concept of limiting conditions must be used sparingly lest the appraiser support consistency rather than accuracy, better methods must be found to introduce some tolerance for the conditions of uncertainty which surround the appraisal estimate.
3. Given all the variables, a more logical appraisal format is required, at the very least.

C. There may be many questions a client wishes answered, decisions which are the purpose of the appraisal. The appraiser always avoids his clients problem by stating "the purpose of this appraisal is to determine fair market value," thereby redefining the clients problem to the one question the appraiser is prepared to answer.

1. Given all the different applications of an appraisal and the need to broaden the market for appraisal services a more flexible appraisal format is required.
2. Given all the assumptions under conditions of uncertainty, there is great need to dimension the appraisal answer with the range of alternative transaction prices which might occur.

D. Purpose is a critical issue - when appraising for the seller isn't it your function to predict the most probable sales price even if the market depends on dummies and doctors? On the other hand the mortgage lender may be more concerned with income value in terms of cash available to pay off the loan once the dummies have been burned and foreclosed.

E. As a basic premise for reorganization, it can be assumed that the functi of the appraisal report is to reflect the clients purposes for which he needs an appraisal:

1. For the mortgage lender, the issue is the liquidating value or probability of future cash returns being adequate to repay the loan, interest, and cost and the distribution of profit centers over time

to maintain repayment incentive to the borrower.

2. For the courts eminent domain or assessment appeal, the statement of function leads to the definition of value as the juridictional market value.
3. A report for a would-be buyer or seller might lead to the definition of value as investment market value.
4. For most cases the appraiser would seek to determine the most probable selling price.

F. Investment market value is a term coined by Mack Hodges for the present value of future income receipts, considering a specific set of assumptions about the after tax cash flow of property and requires some general description of the investment standards and tax status of buyers interested in a specific type of property, specifically income-investment property.

G. Investment value, which requires some detail about motivations of a probable or specific buyer, is a special case of the broader concept of "most probable sales price" (Vp). This approach makes the point conclusion explicitly a statement of the central tendency (mode, mean, or median) around which a transaction price is likely to fall. Thus it generally supplies a valuation as a range of prices within which a transaction would most likely occur, similar to but not necessarily a concept of statistical standard error.

H. Most probable selling price is derivative of the theoretical work of Prof. Richard U. Ratcliff.

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III. The logic of the approach not only makes economic sense but leads to a superior outline for writing and reading an appraisal report. It gives the appraiser more freedom to use whichever technique seem appropriate but deny the appraiser the escape of convenient limiting assumptions and of the perfect market-prudent investor fictions of classic appraisal.

A. The purpose of the appraisal (assessment, mortgage loan, insurance, etc.) leads to a selection of a value definition.

B. Detailed analysis of the property lead to a statement about most probable productive use.

C. Most probable use leads to inference about the most probably buyer-type, his motivation, and economic logic.

D. Comparability becomes a matter of analyzing a buyer-type rather than only a physical piece of nearby real estate. Buyer-type leads to a choice of valuation for appraisal method. In Ratcliff the basic approaches are:

1. Preferred method is to infer buyer behavior from actual market transactions.
2. In the absence of adequate market data, the method requires simulation of probably buyer investment analysis or enterprise budgeting.
3. Note that one or more of the three approaches may be used or some other technique may be utilized. For the next two days we are going to be looking at ways of analyzing productivity, or simulating investment productivity of agricultural property.
4. Buyer type may be a class of buyers, the property owner next door, or a particular investor with a strong preference for property attributes identified. Past market actions can provide evidence that buyers are not fully informed and that prices are being set by ignorance but it is still probable price.

E. The relationship of the report format to the choice of methods can be better understood by moving through a report outline provided in Exhibit 1.

1. It is useful to note that this general appraisal report form is very similar to that of a feasibility analysis of a specific site. An appraisal is a special case of the feasibility problem of a site in search of a use which has a market and a customer.
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A CONTEMPORARY APPROACH TO A REAL ESTATE APPRAISAL REPORT

American Institute of Real Estate Appraisers, Milwaukee Chapter
Thursday Evening, June 16, 1977

Presented by
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Suggested Outline for
A CONTEMPORARY REAL ESTATE APPRAISAL REPORT
Based on Appraisal Theories of Richard U. Ratcliff
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3/14/77

Letter of Transmittal

1. Brief statement of appraisal issue
2. Value conclusion as most probable price within stated transaction zone
3. Sensitivity of conclusion to critical assumptions
4. Incorporation by reference of limiting assumptions and conditions

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Table of Exhibits

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2. Property location
3. Property ownership pattern
4. Keystone physical attributes
5. Keystone legal attributes
6. Keystone linkage attributes
7. Keystone dynamic attributes
8. Most probable use conclusion
9. Most probable buyer assumption
10. Most probable price prediction and central tendency
11. Correction of preliminary value estimate for external factors or market position of parties
12. Test of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

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B. Special problems implicit in property type or issue which effect appraisal methodology and definition of value

C. Special assumptions or instructions provided by others

D. Definition of value to be the objective of appraisal analysis and discipline of appraisal process

1. State selected definition and source
2. List implicit conditions of the definition
3. Special assumptions required by relevant legal constraints

E. Definition of legal interests to be appraised

1. Legal description and source

2. Permits, political approvals and other public use entitlements included in sale
3. Fixtures or personalty to be included with sale
4. Specific assets excluded as inconsistent with issue or premise of appraisal

II. Property analysis to determine most probable use

A. Site analysis

1. Physical (static) site attributes (including size, shape, geology, slope, soil, hydrology, etc.)
2. Legal-political attributes (including zoning, covenants, easements, special assessments, or other land use codes and ordinances, etc.)
3. Linkages of site (including key relationships to networks, populations, or activity centers which might generate need for subject property)
4. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)

B. Improvement analysis

1. Physical (static) attributes of improvements (cataloged by type, construction, layout, condition, structural flaws, etc.)
2. Special capacities and conditions of site improvements (such as wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics)
3. Legal-political constraints on use of existing improvements (including capacities imposed by utilities, building codes and inspection liens, fire codes, conditional use procedures, or neighborhood planning groups)
4. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
5. Dynamic attributes of existing improvements (affecting how people relate to the property such as historical sentiment, building style, impressions created by bulk, texture, previous uses, or functional efficiency)
6. Current uses and tenancies of improvements, if any

C. Identification of plausible alternative use scenarios for subject property

D. Comparative analysis of alternative uses for fit to constraints and exploitation of marketable attributes

1. Testing and ranking of use strategies for effective demand
2. Testing and ranking alternative use strategies for political compatability
3. Testing alternative use strategies for compatability with physical property attributes within reasonable cost to cure

E. Ranking of remaining alternative use strategies for economic viability

F. Selection of most probable or most fitting use

III. Selection of appraisal methodology appropriate to most probable use

A. Specification of most probable buyer type implied by most probable use

1. Alternative buyer types and motivations
2. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types
3. Selection of most probable buyer type as basis for prediction of a sales transaction with logic for discard of alternatives

B. Explanation of appraisal methodology for prediction of probable purchase price of subject property assuming most probable use and most probable buyer models

1. Preferred method - to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
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3. Evaluation for comparability
4. Definition of predominant terms of sale

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3. Source of comparative adjustments
4. Decision as to adequacy for inference from market transactions

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3. Range of alternative simulation predictions

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G. Correction of preliminary value estimate for external factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies which might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or explicit statement that no adjustment is necessary

H. Test of most probable price or value conclusion by means of:

1. Comparison to a selected alternative appraisal methodology
2. Comparison to decision criteria appropriate to issue (such as financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrate consistency with statement of the issue)

IV. Appraisal conclusion and supporting documentation

A. Definition of value and value conclusion of the report

B. Certification of independent appraisal judgment

C. Statement of limiting conditions which establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Assumptions provided by the client
4. Controls on use of appraisal imposed by the appraiser

D. Appendices and supporting legal documentation of permits, etc.

E. Professional credentials

Program Outline

CONTEMPORARY REAL ESTATE ANALYSIS METHODS

For Presentation at
University of Alaska-Anchorage and SRA Joint Seminar
August 23-24, 1977

FIRST DAY

8:30-10:00 I. Current Re-definition of Fundamental Real Estate and Appraisal Concepts

- A. Keystone concepts to the real estate process
- B. Keystone financial and risk concepts related to appraisal valuation
- C. Keystone legal concepts related to appraisal
- D. Recent re-definition of highest and best use by appraisal professional groups
- E. Relationship between feasibility and appraisal analysis

10:00-10:15 COFFEE BREAK

10:15-12:00 II. Analysis of Client Needs

- A. Definition of decision making format
- B. Identification of client problems
- C. Specification of limiting factors controlling solution

12:00-1:00 LUNCH

1:00-3:00 III. Marketing Analysis

- A. Competitive standard of supply
- B. Competitive edge required for marketing monopoly
- C. Basic approaches to consumer survey research

3:00-3:15 REFRESHMENT BREAK

3:15-4:30 IV. Financial Analysis for the Real Estate Analyst

- A. Basic cash flow analysis
- B. Key financial ratios

SECOND DAY

8:30-10:00 V. Contemporary Format of Appraisal Report

A. Summary of Ratcliff approach to appraisal methods

B. Fair market value and concept of most probable sales price

C. Basic structure of appraisal report

D. Detail of contemporary appraisal report outline

10:00-10:15 COFFEE BREAK

10:15-12:00 VI. Property Analysis to Determine Most Probable Use, Most Probable Buyer

A. Physical attribute definition

B. Legal constraint identification and definition

C. Linkage attributes and evaluation

D. Dynamic attributes identification and evaluation

E. Selection of alternative use strategies (scenarios)

F. Testing and ranking of use strategies for effective demand

G. Testing alternative use strategies for political compatibility

H. Testing alternative use strategies for basic technical feasibility

12:00-1:00 LUNCH

1:00-3:00 VII. Demonstration Appraisal Case

A. Actual appraisal content and form

B. Discussion of methods

3:00-3:15 REFRESHMENT BREAK

3:15-4:30 VIII. Demonstration Appraisal Case Continued

A. Market comparison by means of property point scores

B. Testing appraisal conclusion for financial validity

A CONTEMPORARY APPROACH TO A REAL ESTATE APPRAISAL REPORT

Joint Seminar of the American Institute
and the Society of Real Estate Appraisers
Monday, October 17, 1977

Presented by
Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. A fundamental premise of real estate appraisal is the concept of highest and best use, a premise that views land as a commodity and potential uses for highest profit not necessarily the socially desirable uses.

A. The term highest and best use presumes the individual appraiser knows better than society what is best by implication although in fact it boils down to what is the most profitable use which is legal, in demand and within the suitability option of the physical site.

B. However, appraisal literature is showing considerable call for redefinition of highest and best use concepts. Consider such key items as:

1. "Highest and Best Use," William Crouch, The Appraisal Journal, April 1966, pp. 166-176. (Appraiser must prove effective demand and reasonable probability of political permission to use the site.)
2. "Highest and Best Use - Fact or Fancy," Paul Wendt, The Appraisal Journal, April 1972, pp. 165-174. (Wendt makes the case very well that the opinion of highest and best use must consider so many cash flow variables on an after tax basis that the conclusions must vary with investor type just as judgments and analytical skill must vary by appraiser.)
3. "The Importance of the Highest & Best Use Analysis," Paul Tischler, The Real Estate Appraiser, May-June 1972. (Tischler argues that proposed use must not only consider highest income to owner but also external costs and economic costs and impact.)

C. On a little broader base, the Rockefeller Land Use Commission noted a growing public consensus that land use was central to both environmental balance and social equity and therefore subject to public control first and private development second.

D. The definition of fair market value assumes that the buyer is knowledgeable as to all the uses to which it may be put and yet today we are in transition from viewing land as a commodity to land as a public resource.

1. But the law has always defined private options to use and benefit as those rights which are not preempted by the public since the constitution reserves:
   a. First claim on productivity - the real estate tax
   b. First prerogative on use decisions - the police power
   c. Compensation in cash only for entrenched private rights - eminent domain
2. Court cases in Wisconsin have held that the land owner does not have inherent right to develop marsh land to the damage of the general public by upsetting the natural environment...

... nothing this court has said or held in prior cases indicates that destroying the natural character of a swamp or a wetland so as to make that location available for human habitation is a reasonable us of that land when the new use, although of a more economical value to the owner, causes a harm to the general public. ... While loss of value is to be considered in determining whether a restriction is a constructive taking, value based upon changing character of the land at the expense of harm to public rights is not an essential factor or controlling. The Land belongs to the people... a little of it to those dead... some to those living... but most of it belongs to those yet to be born..." Just vs. Marinette, 56 Wis 2d 7.

3. Wisconsin courts have held that the owner and the appraiser have constructive notice of soils and suitability for septic tank since the Soil Conservation Service is available in the courthouse, same as the Register of Deeds.

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

Highest and best use concept -
"A valuation concept that can be applied to either the land or imrpovements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements."
P. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appriasers 1971.

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to

be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgment and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced by concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.
3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. No matter what the field, a decision model must be considered in light of how it fits the following constraints:

1. The question to be answered
2. The facts available
3. The theory
4. Credibility with the decision maker
5. Facility of the analyst
6. Cost benefit ratio of method

II. Uncertainty, fixed point values, and central tendency.

A. Definition of Market Value: "The highest price estimated in terms of money which a property will bring if exposed for sale in the open market, allowing a reasonable time to find a purchaser who buys with knowledge of all the uses to which it is adapted and for which it is capable of being used." The Appraisal of Real Estate, Sixth Edition, American Institute of Real Estate Appraisers, 155 E. Superior Street, Chicago, Illinois 60611, page 25.

1. Competitive market conditions
2. An informed buyer and seller
3. No undue pressure on either party
4. "Rational" or prudent economic behavior by both buyer and seller
5. A reasonable turnover period
6. Payment consistent with the standards of behavior of the market
7. Market Value looks at the transaction from the point of view of the buyer

B. It should be noted that there is an equal balance between the uses to which it may be put and the viewpoint of the buyer. The element of uncertainty is carefully hedged by a statement of limiting conditions:

1. To hedge the appraisal conclusion with a variety of limiting conditions at a time when the variables for consideration are increasing, is to produce a value conclusion that is almost fictitious.
2. Since the concept of limiting conditions must be used sparingly lest the appraiser support consistency rather than accuracy, better methods must be found to introduce some tolerance for the conditions of uncertainty which surround the appraisal estimate.
3. Given all the variables, a more logical appraisal format is required, at the very least.

C. There may be many questions a client wishes answered, decisions which are the purpose of the appraisal. The appraiser always avoids his clients problem by stating "the purpose of this appraisal is to determine fair market value," thereby redefining the clients problem to the one question the appraiser is prepared to answer.

1. Given all the different applications of an appraisal and the need to broaden the market for appraisal services a more flexible appraisal format is required.
2. Given all the assumptions under conditions of uncertainty, there is great need to dimension the appraisal answer with the range of alternative transaction prices which might occur.

D. Purpose is a critical issue - when appraising for the seller isn't it your function to predict the most probable sales price even if the market depends on dummies and doctors? On the other hand the mortgage lender may be more concerned with income value in terms of cash available to pay off the loan once the dummies have been burned and foreclosed.

E. As a basic premise for reorganization, it can be assumed that the function of the appraisal report is to reflect the clients purposes for which he needs an appraisal:

1. For the mortgage lender, the issue is the liquidating value or probability of future cash returns being adequate to repay the loan, interest, and cost and the distribution of profit centers over time

to maintain repayment incentive to the borrower.

2. For the courts eminent domain or assessment appeal, the statement of function leads to the definition of value as the juridictional market value.
3. A report for a would-be buyer or seller might lead to the definition of value as investment market value.
4. For most cases the appraiser would seek to determine the most probable selling price.

F. Investment market value is a term coined by Mack Hodges for the present value of future income receipts, considering a specific set of assumptions about the after tax cash flow of property and requires some general description of the investment standards and tax status of buyers interested in a specific type of property, specifically income-investment property.

G. Investment value, which requires some detail about motivations of a probable or specific buyer, is a special case of the broader concept of "most probable sales price" (Vp). This approach makes the point conclusion explicitly a statement of the central tendency (mode, mean, or median) around which a transaction price is likely to fall. Thus it generally supplies a valuation as a range of prices within which a transaction would most likely occur, similar to but not necessarily a concept of statistical standard error.

H. Most probable selling price is derivative of the theoretical work of Prof. Richard U. Ratcliff.

1. The quotable definition: "The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."
2. See his article "Is There a 'New School' of Appraisal Thought?", The Appraisal Journal, October 1975.
3. For the full theory: Valuation for Real Estate Decisions, R. U. Ratcliff, available from Democrat Press, P.O. Box 984, Santa Cruz, California 95060.

III. The logic of the approach not only makes economic sense but leads to a superior outline for writing and reading an appraisal report. It gives the appraiser more freedom to use whichever technique seem appropriate but deny the appraiser the escape of convenient limiting assumptions and of the perfect market-prudent investor fictions of classic appraisal.

A. The purpose of the appraisal (assessment, mortgage loan, insurance, etc.) leads to a selection of a value definition.

B. Detailed analysis of the property lead to a statement about most probable productive use.

C. Most probable use leads to inference about the most probably buyer-type, his motivation, and economic logic.

D. Comparability becomes a matter of analyzing a buyer-type rather than only a physical piece of nearby real estate. Buyer-type leads to a choice of valuation for appraisal method. In Ratcliff the basic approaches are:

1. Preferred method is to infer buyer behavior from actual market transactions.
2. In the absence of adequate market data, the method requires simulation of probably buyer investment analysis or enterprise budgeting.
3. Note that one or more of the three approaches may be used or some c ar technique may be utilized. For the next two days we are going to be looking at ways of analyzing productivity, or simulating investment productivity of agricultural property.
4. Buyer type may be a class of buyers, the property owner next door, or a particular investor with a strong preference for property attributes identified. Past market actions can provide evidence that buyers are not fully informed and that prices are being set by ignorance but it is still probable price.

E. The relationship of the report format to the choice of methods can be better understood by moving through a report outline provided in Exhibit 1.

1. It is useful to note that this general appraisal report form is very similar to that of a feasibility analysis of a specific site. An appraisal is a special case of the feasibility problem of a site in search of a use which has a market and a customer.
2. The report provides equal balance between the physical attributes of the site and the investment assumptions of typical buyers.
3. It forces the appraiser to be explicit about what he means in terms of property management, farm management, tree management, recreational property management or whatever. It requires the appraiser to have some professional ability to identify a program for utilization of the land.

Exhibit 3

Vacant Land Market Comparison
Multi-Family Residential Use Land Price
Mean & Standard Deviation

	Comparable	Land Price/ Comparable Unit	$\bar{X}-X$	$(\bar{X}-X)^2$	Mean Deviation $MD=\frac{\leq\bar{X}-X}{n-1}$	Standard Deviation $S=\sqrt{\frac{\leq(\bar{X}-X)^2}{n-1}}$
Land Price Per:						
Sq. Ft. of Land	1	$6.50	.44	.19		
(Row #1, Ex. #6)	2	6.06	0	0	$\frac{.92}{4}$	$\sqrt{\frac{.44}{4}}$
	3	5.60	.46	..21		
	4	6.06	0	0		
	5	6.08	.02	.04	$.23	$.33
Total		$30.30	.92	.44		
Mean (sum $\frac{xi's}{n}$)		$ 6.06				
No. of DU Built	1	1976	53	2809		
(Row #2, Ex. #6)	2	2000	29	841	$\frac{433}{4}$	$\sqrt{\frac{62341}{4}}$
	3	2020	9	81		
	4	2192	163	26569		
	5	2208	179	32041	$108	$249.68
Total		$10396	433	62341		
Mean		$ 2079				
Total Gross Bldg.						
Area Built	1	4.23	.15	.02		
	2	3.79	.29	.08	$\frac{1.87}{4}$	$\sqrt{\frac{.92}{4}}$
	3	3.79	.29	.08		
	4	3.72	.36	.13		
	5	4.86	.78	.61	$.465	$.48
Total		$20.39	1.87	.92		
Mean		$ 4.08				
Total No. Rooms Built	1	1297	9	81		
(Row #3, Ex. #6)	2	1263	25	625	$\frac{172}{4}$	$\sqrt{\frac{7440}{4}}$
	3	1327	39	1521		
	4	1226	62	3844		
	5	1325	37	1369	$43	$43.13
Total		$6438	172	7440		
Mean		$1288				

Landmark Research, Inc.

EXHIBIT #5

Industrial Land Sales Selected as Comparables
to MG & E Subject Parcel

		Date of Sale	Price	Public Record	Square Feet	(Acres)	$/Sq. Ft.
1.	MATC	6/8/67	$108,750	Confirmed by MATC Finance Director	152,460	(3.5)	.71
2.	MATC	1/23/67	75,000	Vol.828,p.280	81,828	(1.88)	.92
3.	Gorman	12/20/65	17,500	Vol.436,p.463	21,060	(.48)	.83
4.	Holfman	6/5/64	15,000	Vol.779,p.558	17,050	(.39)	.88
5.	Garrett	5/31/63	12,000	Vol.758,p.226	13,932	(.32)	.86
6.	Madison Transit	1/4/68	55,000	Vol.4,p.358	211,701	(4.86)	.26
7.	Madison Trust	12/28/66	45,000	Vol.828,p.204	67,900	(1.56)	.66
8.	NW Mutual	9/9/66	117,500	Vol.824,p.144	138,521	(3.18)	.85

EXHIBIT #8

Least Squares Regression

Model $Y = a - b X$

where Y = estimated land value per square foot

X = weighted quality ratings

Comparables	Y	X	Y^2	X^2	XY
1	.71	340	.504	115600	241.400
2	.92	380	.846	114400	349.600
3	.83	380	.689	114400	315.400
4	.88	380	.774	114400	334.400
5	.86	385	.740	148225	331.100
6	.26	235	.068	55225	61.100
7	.66	350	.436	122500	231.000
8	.85	365	.723	133225	310.250
	Σ=5.97	Σ=2815	Σ=4.779	Σ=1007975	Σ=2174.25

Step 2: Compute mean of Y and mean of X

$$\overline{Y} = \frac{\Sigma Y}{n} = \frac{5.97}{8} = .746$$

$$\overline{X} = \frac{2815}{8} = 351.875$$

Step 3: Compute Σy^2, Σx^2 and Σxy

$$\Sigma y^2 = \Sigma Y^2 - n(\overline{Y})^2$$
$$= 4.779 - 8(.746)^2$$
$$= 4.770 - 8(.557)$$
$$= 4.779 - 4.452$$
$$= .327$$

$$\Sigma x^2 = \Sigma X^2 - n(\overline{X})^2$$
$$= 1007975 - 8(351.875)^2$$

$$= 17446.873$$

$$\Sigma xy = \Sigma XY - n\,\overline{XY}$$
$$= 2174.25 - 8(.746)\ (351.875)$$
$$= 2184.25 - 2099.99$$

$$= 74.26$$

Step 4: $b = \frac{\Sigma xy}{x^2} = \frac{74.26}{17446.873} = .04256$

Step 5: $a = \bar{Y} - b\bar{X}$

$= .746 - .004256\ (351.875)$
$= -.7517$

Hence $Y = -.7517 + .004256\ (X)$
$Y_n = -.7517 + .004256\ (310)$

$= .56765$ say .57

Step 6: Computé standard error

$$Sy.x = \sqrt{\frac{\Sigma y^2 - b\Sigma xy}{n-2}}$$

$$= \sqrt{\frac{1327 - .004256\ (74.26)}{8-2}}$$

$$= \sqrt{\frac{.10949}{6}}$$

$$= \sqrt{.001825}$$

$= .042719$ say $.04

Step 7: Compute r^2

$$r^2 = \left[\frac{\Sigma xy}{\Sigma x^2 \Sigma y^2}\right]$$

$$= \left[\frac{74.26}{(17446.873)(.327)}\right]$$

$= .9665$

EXHIBIT #7

Quality Scores & Weight Per Category

		Weight
1.	Size (Marketability Factor) 0 - 1 acre = 5 over 1 - 3 = 4 over 3.5 -10 = 3 over 10 - 20 acre = 2 over 20 acre = 1	20
2.	Accessibility to all areas (in terms of distance and time) 1-5 where 5 = premium + 3 = average	20
3.	Visibility from major artery 1-5	15
4.	Availability of sewer/water at site 1-5	15
5.	Availability of rail 1-5	10
6.	Soils and topography	20
		100%

Exhibit 16

Table of Scores for Comparable Properties

	1	2	3	4	5	6	7	8	Subject
Size	3	4	5	5	5	3	4	4	1
Access	4	4	4	4	4	2	3	3	4
Visibility	5	5	5	5	4	1	1	2	5
Sewer/water	5	5	5	5	5	2	5	5	5
Rail	1	1	1	1	3	1	2	2	4
Soils	2	3	2	2	2	4	5	5	1

Feature	Weight	Weighted Ratings 1	2	3	4	5	6	7	8	Subj
Size	20	60	80	100	100	100	60	80	80	20
Access	20	80	80	80	80	80	40	60	60	80
Visibility	15	75	75	75	75	60	15	15	30	75
Sewer/water	15	75	75	75	75	75	30	75	75	75
Rail	10	10	10	10	10	30	10	20	100	40
Soils	20	40	60	40	40	40	80	100	100	20
Total		340	380	380	380	385	235	350	365	310
Price/Sq. Ft.		.71	.92	.83	.88	.86	.26	.66	.85	

Dinner Meeting
Society of Real Estate Appraisers
Philadelphia Chapter 2
Thursday, February 23, 1978

Marriott Hotel, Philadelphia

Prof. James A. Graaskamp

FAIR MARKET VALUE APPRAISAL AT THE WATERSHED

I. Appraisal of property at fair market value is becoming a part-time profession and for some may regress to a trade of building inspection. Appraisal societies need to face up to the fact that events are pushing them to the necessity of restructuring their procedures and policies or be passed over by a post-industrial society.

   A. A Saturday Evening Post once argued that the dinosaur would come back when it got hungry. Appraisal may come around when it, too, gets hungry.

   B. There are a number of trends which are reducing the market for fair market value appraisal, and employment for independent appraisers.

      1. Clients are asking more specific questions. One of Philadelphia's appraisers, Charles Seymour, said it best with the observation that "more and more of my decisions are valueless."
      2. Real estate appraisers can serve their clients better by signing their analytical work as counselors than as appraisers.
      3. Accounting, engineering and architectural firms are packaging their services from valuation through construction management as real estate consultants. These take the low frequency, high fee items.
      4. The appearance of organized quality data banks such as the SREA data center ultimately means better appraising of class properties (single family, filling station, small industrials, lots) at lower cost on a volume basis.
      5. Historical fee patterns will force the true independent appraiser out of mortgage lending and security registration. He is responsible to one party for objectivity but must be paid by those who do not want objectivity, they want an advocate. The refusal of lending institutions to be responsible for appraisal fees related to loan submissions continues to leave the appraiser in an impossible position. The appraisal societies must correct this glaring structural flaw before moving forward toward professionalism. Their fees should be court costs, mortgage fees, or liens upon the real estate.
      6. As real estate investment becomes institutionalized and accounting is pressured to report fair value as well as historical value, appraisers must bring their terminology and their definitions into a unified financial terminology with the accountants and the security analysts or the latter will establish their own appraisal fraternity.
      7. Careful property analysis requires multiple disciplines leading to partnership with land planners, architectural engineers, or consumer research specialists.

II. The recent action of the federal court attacking appraisal and lending societies for fostering trained incapacity with predilliction for discrimination was perhaps the most unproductive, counter-productive and disastrous blow to appraisal reform that might have been undertaken.

A. The suit setback merger, unification of educational standards and material, and a major overhaul of appraisal theory by ten years because now the appraisers won't work with government, and government must have a role in restructuring since its regulations ultimately define the appraisal functions.

B. Prof. Kahn of Yale has made a strong case in a recent book The Next Two Hundred Years, Kahn, Brown, and Martell. William Morrow & Co., New York, 1976 that the doomsday boys are in error and overstating their case. Resources are available to continue our prosperity so long as we are not guilty of mismanagement of critical issues.

C. Since government is always capable of mismanagement of critical issue it follows that appraisal societies must tend to appraisal with great statesmanship. Personality differences must be submerged in order to merger, but more particularly to advance a restructuring of the appraisal process.

D. Once before appraisal was at the watershed following the disaster of 1928-34. The result was that a group of vested interests, the brokers, the financial institutions, and the government hammered out an agreement on the basic standard for the appraisal philosophy.

E. Once again we have reached that watershed and once again the appraisal societies, the financial institutions, the government including the SEC, and the courts must convene and define contemporary elements of the appraisal structure.

III. As a small actor in the Revolution, I have become the assessor of Maple Bluff, a rich Republican suburb who has allowed a social land exponent in the back door as assessor.

A. The system was designed to be administered by a part-timer in the future. The community is virtually built up with no more than a dozen lots remaining.

B. It is designed to avoid multiple regression valuation and retain market comparison to selected comparables. Major adjustments are based on market data, minor adjustments reflect appraisal judgment. judgment.

C. All of the output can be read by the taxpayer in layman's language.

C. Procedures for updating are simple and for a community of 600 parcels, can be done once a year.

Appears to be missing some parts See V. A. 10 a, for more complete out lines

SITE ANALYSIS AND MARKET FEASIBILITY

Society of Real Estate Appraisers
1978 International Conference, Toronto, Canada
Monday, July 17, 1978

Presented by Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. Basic Concepts

A. Changing Concept of "Highest and Best Use" to "Most Probable Use"

B. Most Probable Use Leads to Most Probable Price

C. Most Probable Use Suggests Most Probable Buyer Profile

D. Project Feasibility Compared to Financial Viability

E. An Appraisal is a Forecast of Property Productivity and Market Behavior

F. An Appraisal is a Feasibility Study for A Stereotyped Client

II. Property Analysis to Determine Alternative Uses

A. Systematic Components of Property Analysis

B. Physical (static) Attribute Analysis

C. Market Implications of Physical Attributes

D. Legal-Political Attributes of Site Use Control

E. Structural Improvements and Building Codes

F. Preliminary Identification of Alternative Uses and Physical and Legal Attributes

G. Linkage Attributes of Site and Structure to Surrounding Features, Social Structure, Economic Structure, etc.

H. Dynamic Attributes of Site and Structure

I. Environmental Impact Attributes of Site and Structure

J. Questions to Focus Appraiser Selection Alternative Uses

K. Determination of Plausible Alternative Uses - Scenarios

L. Ranking of Scenarios for Economic Power

M. Economic Power has to be Qualified in Terms of Marketing Risks and Capital Budgeting Risks of Each of the Alternative Uses Before Alternative Uses Can be Ranked in Summary Fashion as in Exhibit 6.

1. Note that Exhibit 6 integrates the basis elements of preliminary feasibility analysis
2. Remaining discussion will emphasize market risk which is the primary cause of misleading appraisal conclusions

III. Methods of Market Analysis For Appraisal

A. Effective Demand for Real Estate Space

B. Type of Buyer for Property

C. Real Estate Market Analysis Defined

D. Merchandising Data Defined

E. Market Comparison Data

F. Market Segmentation

G. Appraisal and the Competitive Standard vs. Competitive Edge

H. The Front Door Approach for Measuring Entrepreneurial Contribution

I. Basic Concepts

A. The appraiser and the feasibility analyst have recently begun to merge their analytical approaches as revealed by the striking redefinition of the fundamental concept of appraisal, specifically the concept of highest and best use.

1. Highest and best use concept -
"A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements."
P. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971

2. "Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgment and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the coneept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
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   a. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

   b. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency. In short, the appraiser must demonstrate reasonable fit to land use controls, community politics, technical design constraints, effective demand, and viable cash flows for the project.

B. The term "most probable price" avoids the arrogance of "highest and best use" as well as the implication of absolute certainty as to the appraisal conclusion. Moreover it recognizes that pure economic logic for the property owner will be limited by the impact on community as perceived by land use administrators and the impact on investment risk as perceived by potential investors in the market.

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C. Most probable use immediately reduces the market to a particular segment of space users and suggests both the tenancy and the investor group who will be interested.

   1. Proper market segmentation of possible tenants determines the degree of monopoly pricing and stabilized revenues which the project may enjoy.

   2. Proper segmentation of the most probable buyer leads to selection of relevant comparables or in the absence of sales data, relevant assumptions on how the most probable buyer might behave in pricing the property.

D. Feasibility is a non-financial concept of fitting a real estate solution and service package to a context of public priorities and customer needs.

   1. The project must fit the general market, a specific consumer group, the environmental limits of the land, the nature of existing usable improvements, legal and political controls imposed by the public, the need for compatibility with the total and natural man-made environment, and the limits of physical design construction.

2. Correct identification of a space-time unit - a room night, a clinic day, an event day, or a design crowd per day.
3. Identification as to who really signs the check for rent or purchase.
4. Correct identification of linkages to generators of demand or dynamic site attributes.

D. --- For example, consider measuring of demand for an ice hockey arena by a private investor. With a little research one would quickly learn that:

1. 85% of all prime time is used by youth hockey teams
2. Youth hockey teams involve boys aged 6-15
3. Ice time is leased to each team in each age group
4. Most teams have two hours of practice per each 1-hour game
5. There is one game per week average in a 34 week season
6. Hockey equipment costs $100-200 per boy
7. Households with less than $8,000 income cannot often afford to participate

E. The supply of ice hockey time might be 16 hours a day x 360 days or 5,760 ice hours. If the breakeven point is 3,000 hours at $20/hour one can then test the feasibility by determining the number of teams in an area which need indoor ice and the potential for additional teams in the area. If each team need 3 hours a week for 34 weeks, you need about 30 ice hockey teams to break even. Then you can begin to look through marginal revenue from figure skaters, family skating, refreshment sales, and perhaps equipment rental and sales.

F. Many types of real estate require multiple demand models for different segments of the market which require similar facilities, for example, a motel demand model might include sub-models for:

1. Summer vacations
2. Business meetings
3. Transient travelers
4. Snowmobile users
5. Snow skiers, both cross country and schushers
6. The weekend vacationer

G. Several years ago we did a student housing study which made possible the identification of 22 different sub-sections in the student housing market in terms of location, type of facility, and price related to different student classifications.

III. Having identified a sub-market segment the next objective is to survey that group to find out how many would move if there were a product to fit their needs. Even is you have a better mousetrap there are some mice who are too lazy to try it out or are previously committed by lease or purchase to another location.

A. The market analyst will first try to determine how many in a certain market are buying lots or renting apartments or whatever per year and this is called an absorption rate.

B. The second problem is to determine how many of those on the move can be captured for a specific project and this is the capture rate.

1. For example, there may have been 200 single family lot sales in the Madison west side in a given year - which measures the

the absorption of single family lots.

2. If a developer wants to sell 20 lots a year in his subdivision he needs to capture at least 10% of those absorbed, assuming conditions are right to maintain the 200 unit absorption rate.

C. To have people consider his offering he must correctly define the competitive standard of feature expected by all those in a particular market. To be confident of capturing his 10% efficiently, he must look for some particular competitive edge.

D. A competitive edge can be discovered by researching through survey prospective customers to discover:

1. An anxiety or dissatisfaction about their present location which is sufficient to trigger a move if someone can remove the anxiety or element of dissatisfaction.
2. A sub-group not being served at all by existing alternatives - a gap in the supply.
3. By creating a unique product for which there was no demand until it was displayed, such as Disneyland.
4. It is easiest to find a dissatisfaction, more difficult to define a unmet gap in the competitive supply, and very rare to invest something for which there was no real measure of need until demand was created for it.

E. REal estate is just beginning to discover the use of consumer research in the development process and it is appalling how lenders and developers assume a market exists for any product simply because a previous similar building was successfully marketed.

1. Banks will require insurance costing 2-3% of project costs each y year in case it should burn down without spending a dime to discover if it will rent up.
2. A few successful developers employ clinical psychologists to analyze motivation and develop subconscious appeals to different buyer groups.

IV. Soem tof the best market research relative to consumer behavior and real estate psychology is being done for contemporary shopping center development and recreational properties.

A. Consider a shopping center design and the subtleties built into the structure.

1. Ease of approach with a minimum number of left turns all of which are controlled.
2. Perception from a distance of shopping center layout and location of major tenant.
3. Number of lanes needed for moving 2500 cars an hour on and off the premises.
4. Perimeter loop circulation.
5. Traffic lane by buildings is deliberately cornered and otherwise impeded to reduce speed to a minimum and discourage use for circulation.
6. Free standing perimeter structures for traffic generators like drive-in banks, gas stations, and TVA outlets which may also have different hours from those of the center due to regulation or nature of business. (movies, and bars)

B. The change in shopping center materials from industrial to domestic

1. Scale and texture of material
2. Smaller masses of material
3. Softening of floors with carpeting
4. Illumination of claustrophobic low ceilings
5. Auditory gauze of fountains

C. The elimination of psychological barriers inherent in:

1. Store fronts and closed doors
2. Vacant store fronts
3. Closed enterprises (standard hours, minimum staff and minimum inventory requirements
4. Grouping shops to stimulate horizontal and vertical movement

D. Toughest psychological problem in a shopping center is motivating people to move vertically by stair, elevator, ramp, or escalator.

1. Stores used for checkpoints - candy shops
2. Motivators such as live music or the scent of fresh baked cinnamon rolls
3. Softening the change with partial changes in level with ramps and terraces.

V. Marketing is a basic determinant of every time cycle in real estate:

A. Project concepts must be marketed to government planners and legislative groups.

B. Space must be marketed to tenants

C. Complex must be marketed to ultimate consumer

D. Property management must try to hold good tenants and attract new ones

E. As project ages the marketing strategy changes in a constant trade-off between restyling to maintain rents as opposed to price cutting to stabilize occupancy.

CONTEMPORARY APPRAISAL - THEORY AND CASE APPLICATION
Chapter 55 - American Institute of Real Estate Appraisors
1978 Northwest Regional Conference, Sun Valley, Idaho
Friday, July 28, 1978

Presented by Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. Basic Concepts (8:30-10:30)

A. Changing Concept of "Highest and Best Use" to "Most Probable Use"

B. Most Probable Use Leads to Most Probable Price

C. Most Probable Use Suggests Most Probable Buyer Profile

D. Project Feasibility Compared to Financial Viability

E. An Appraisal is a Forecast of Property Productivity and Market Behavior

F. An Appraisal is a Feasibility Study for a Stereotyped Client

COFFEE BREAK

II. Logic and Appraisal Report Format (10:45-12:00)

A. Appraisal Logic Structure

B. Appraisal Report Outline (pages 11-13 of The Appraisal of 25 N. Pinckney)

LUNCH BREAK

III. Property Analysis (1:00-2:00)

A. Static Site Attributes (pages 25-51)

B. Legal/Political Land Use Attributes

C. Physical Improvement Attributes

D. Linkage Attributes

E. Dynamic Attributes

F. Environmental Attributes

G. Alternative Use Scenarios

H. Selection of Most Probable Use (pages 52-61)

IV. Market Data Analysis (2:00-3:15) (pages 63-76 + 116-122)

A. Definition of Most Probable Buyer

B. Selection of Appraisal Method

C. Selection of Data Management Method

D. Initial Estimate of Most Probable Price

E. External Influences on Probable Price Transaction Zone

COKE BREAK

V. Appraisal Test and Conclusions (3:30-5:00) (pages 77-88 + 106-114)

A. Is Testing Normative or Predictive?

B. Value Conclusions and Limiting Conditions

C. Open Discussion

I. Basic Concepts

A. The appraiser and the feasibility analyst have recently begun to merge their analytical approaches as revealed by the striking redefinition of the fundamental concept of appraisal, specifically the concept of highest and best use.

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1. The project must fit the general market, a specific consumer group, the environmental limits of the land, the nature of existing usable improvements, legal and political controls imposed by the public, the need for compatibility with the total and natural man-made environment, and the limits of physical design construction.

2. Financial viability relates to the reasonableness of a set of financial assumptions which may be bought by a knowledgeable investor, relating proforma estimates of the future to justified investment parameters.

3. Investment risk is the variance between assumptions and future realizations and the sensitivity of success or failure to certain key factors which cannot be confirmed as fact by the appraiser as generalist or by the appraiser who is not clairvoyant.

4. The most probable use is one which will fit basic constraints and provide financial viability with a tolerance for surprise (risk) that is acceptable to investors of a certain type.

E. An Appraisal is a forecast of productivity of a property relative to the needs of a certain buyer group and a prediction of the price at which it would sell to the most probable buyer.

1. Anticipation of an economic behavior by the buyer leads to the highest price he would be willing to pay.

2. Anticipation of the behavior of the seller leads to an estimate of the least he would be willing to accept.

3. Analysis of the influence of outside factors affecting price supply and demand leads to an estimate of central tendency between buyer and seller maximum.

4. The upper and lower ranges specify a transaction zone within which a most probable price will occur. The most probable sales price does not need to be at the center of the zone nor do the alternatives need to follow a normal distribution curve. The zone and the distribution most typically are statements of verbal probability.

F. An appriasal is therefore a feasibility study of alternative courses of action and these alternatives are matched to the most probable user/investment group to be seeking such a property opportunity at that time.

The appraisal process as a feasibility study lends itself to the following logical process;

1. What is the problem for which the appraisal is to serve as a benchmark?

2. Which definition of value would best serve the decision process?

3. What does an inventory of site attributes reveal as to the positive and negative contributions of the site to alternative uses?

4. What does an inventory of improvement attributes existing on the site reveal as to the positive and negative contributions of the improvements to alternative uses?

5. What basic alternative use programs or scenarios may be considered as plausible alternatives motivating buyers as of the date of the appraisal?

6. Which alternative use appears to be the most probable use when screened by external factors including effective market demand, political controls, forecasting risk, and potential profitability as percieved by investor/buyers.

7. What is the profile of the most probable buyer/investor for the most probable use to the degree that the profile can define the search for comparable transactions?

8. Could the appraiser simulate the purchase guidelines of a most probable buyer group if there were no sales which were thought to be comparable and appropriate to the subject situation?

9. What is the value to be justified by the appraiser using normative, traditional measures of what a buyer should do, such as the cost approach or conventional income approach?

II. Property analysis to determine alternative uses.

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence:

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B, A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal/political attributes including not only zoning and subdividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site relative to off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal/ political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

1. Size, shape, and lot area

2. Topography, soils, geology, slope stability, and potential for subsidance, etc.

3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, floor plains designations, etc.

4. Environmental attributes of flora and fauna which might cause environmental impact litigation

5. Concealed utility easements, old foundations, etc.

6. Existing utility services and capacity

7. Access points to public thoroughfares or private right-of-ways

8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitudes or future legislation which will affect administration of these ordinances relative to future uses of the site.

1. All alternative setback lines and building envelope interpretations relative to site

2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administration of the law.

8. Existing or impending legislation relative to such matters as:

   a. Septic tank installation
   b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
   c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
   d. Conservation of environmental edges, prime agricultural land, wet lands

E. Static attributes of structures are more intertwined with building codes and ordinances so that physical and legal attributes might be considered together to avoid repetitive discussion.

1. Classification of structure as to type under both economic and engineering jargon (Ex. 3-story retail, ordinary construction with elevator)

2. Computation of square footage and cubage to establish building code jurisdiction level

3. Definition of structural system, bay spaces, ceiling heights, etc.

4. Delineation of foundation system, structural system, exterior wall system, interior wall system and vertical circulation system.

5. Delineation and analysis of HVAC system (including BTU budget)

6. Accessibility to the hadicapped if regulated, to delivery, to customer parking, to fuel delivery points, to solid waste pickup points

7. Penalties for fire insurance rating system, flood plains, sprinklers, et

8. Non-conforming features which create renovation or remodeling

9. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

a. Limitations on sewage processing, storm water retention or runoff constraints
b. Community energy supplies, priorities, and capacity
c. Water processing and chemistry as applicable
d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

a. Employment centers
b. School system alternatives
c. Retail services
d. Complimentary existing nearby uses
e. Recreational services
f. Health care systems
g. Security systems
h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

a. Impact on supply/demand equilibrium
b. Stamina of project sponsor in the face of public pressure
c. Vulnerability of potential project buyers to secondary political pressures and counter attack
d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar. Some examples of scenarios are provided in Exhibit 1.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital are provided in Exhibits 2 and 3 and 4 and 5.

M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 6.

1. Note that Exhibit 6 integrates the basic elements of preliminary feasibility analysis.

2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

III. Market Analysis for Real Estate Appraisal

Market analysis for an appraisal is concerned with two very different actors in the marketplace. To select the most probable use of the property, it is first necessary to define the prospective users in terms of both price and supply of available space. The second level of market analysis is in the selection or most probable buyer and the related problem of identification of comparable sales or the appropriate buyer calculus for comparable properties.

A. It is the responsibility of the appraiser to demonstrate effective demand for the space which he is appraising rather than to follow the practice of recent years of appraising for mortgage loan purposes with the subtle condition that the value is on a if, as, and when completed and rented basis. That burden on the appraiser is clear from the definition quoted previously.

B. Buyers may purchase for use or may purchase the investment income generated by tenant users or buyers of individual units such as lots and condominiums. Correct identification of alternative buyers in the market matched to property attributes will remove some portion of the error inherent in selection of properties which may appear to be similar in locale but represent significantly different user types and price structures.

C. Real estate market analysis is the use of basic aggregate data to scale the enterprise and measure the rate of absorption of specific real estate units overall.

   1. Number of single family lots platted and sold on the west side of a certain city.

   2. The amount of A class office space built, available for rental and rented in a given downtown area (Exhibit 7).

D. Merchandising data is generally primary information or assumptions by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured by a single process.

   1. For example, sales may reveal small buildings bought by users, large buildings bought by developers for conversion and in two blocks under improved parcels were being bought for assemblage.

   2. Office sites might be bought by developers, home office builders, or professional groups for use and tax shelters.

E. Market comparison data has to do with property sales in the local or of the type relevant to the subject property which will allow the appraiser to research the motivation of investors in order to profile alternative buyer groups and price patterns to select the most probable buyer group implied by most probable uses of the subject property.

   1. For example, sales may reveal small buildings bought by users, large buildings bought by developers for conversion and in two blocks under improved parcels were being bought for assemblage.

2. Office sites might be bought by developers, home office builders, or professional groups for use and tax shelters.

F. Market segmentation is key to control of unexplained appraisal error.

G. Appraisal is concerned with the competitive standard and market history; developers are concerned with pricing from a monopoly position achieved by creating a competitive edge.

1. The competitive standard determines the value attributable to the real estate.

2. The competitive edge reflects the value created by entrepreneurship in finding and merchandising to a market gap.

3. The difference represents the fight between real estate value and mortgage loan value when mortgage lenders lend on capacity of the borrower.

H. The front door approach (the cost required rent structure approach) measures the rent required of the entrepreneur and the competitive edge. Thus the appraiser can show the lender the marketing target of the entrepreneur in terms of aggressive value that might be created and use the back door approach to show the defensive position of the project as real estate under average management.

Exhibit I

B. Alternative Uses for the Simpson Property

A combination of the physical characteristics of the property and the general demand characteristics on the Square suggests the following alternative scenarios for use of the subject property (Appendix C):

Scenario #1: The building would be demolished and the site leveled and paved to provide monthly reserved parking for employees of various nearby public and private offices and firms. It is assumed that space for 18 cars could be provided and that the only access would be from the alley; an attractive screening wall with plantings would face Pinckney Street.

Scenario #2: The present building would be demolished and replaced with a new three-story office building, 66' square. There would be two retail stores at the first floor level, an office lobby, a single elevator, required stairwells, and no basement. The structure would use economical masonry-bearing wall construction and provide 8-10 parking spaces at the rear of the building.

Scenario #3: The present building would be retained, except for demolition of a minimum of a one-story space at the rear, which would improve delivery and parking. Only the first floor would be used, subdivided into three retail units. The larger building would provide two stores approximately 20' X 80', while the smaller structure would provide a single gross area of 20' X 75'.

Scenario #4: The present structures would be retained and modified as in Scenario #3, but in addition, the second and third floors would be remodeled to provide five office suites that would take advantage of a renovated atrium area with skylight at the second-floor level.

Scenario #5: The present structures would be retained and modified as in Scenario #3, but in addition, the second and third floors would be modified to create four townhouse suites in the three-story structure. The two-story store building would be modified to create second floor office space of two 700 square feet modules; skylights would relieve the narrow depth of the building.

The Appraisal of 25 N. Pinckney: A Demonstration Case for Contemporary Appraisal Methods, James A. Graaskamp, Landmark Research Inc., 1978, Madison, Wis., pp.56-57.

EXHIBIT 2

Basic Back Door

I.	Justified Mortgage Amount		
	Gross Income		25,034
	Default Ratio	*	.65
		=	16,272
	Real Estate Taxes @ 20 %*	-	5,007
	Expenses @ 0 %*	-	0
	Cash For Debt	=	11,265
	Mortgage Constant	÷	.104832
	Justified Mortgage Amount	=	107,460
II.	Justified Equity Contribution		
	Gross Income		25,034
	1.0 - Default Ratio	*	.35
		=	8,762
	Vacancy @ 0 %*	-	0
	Cash Throw Off	=	8,762
	Before Tax Equity Rate	÷	.15
	Justified Equity Contribution	=	58,413
III.	Justified Project Budget		
	Justified Mortgage Amount		107,460
	Justified Equity Contribution	+	58,413
	Justified Project Budget	=	165,873

* % of Gross Income

Exhibit 3

BACK-DOOR APPROACH

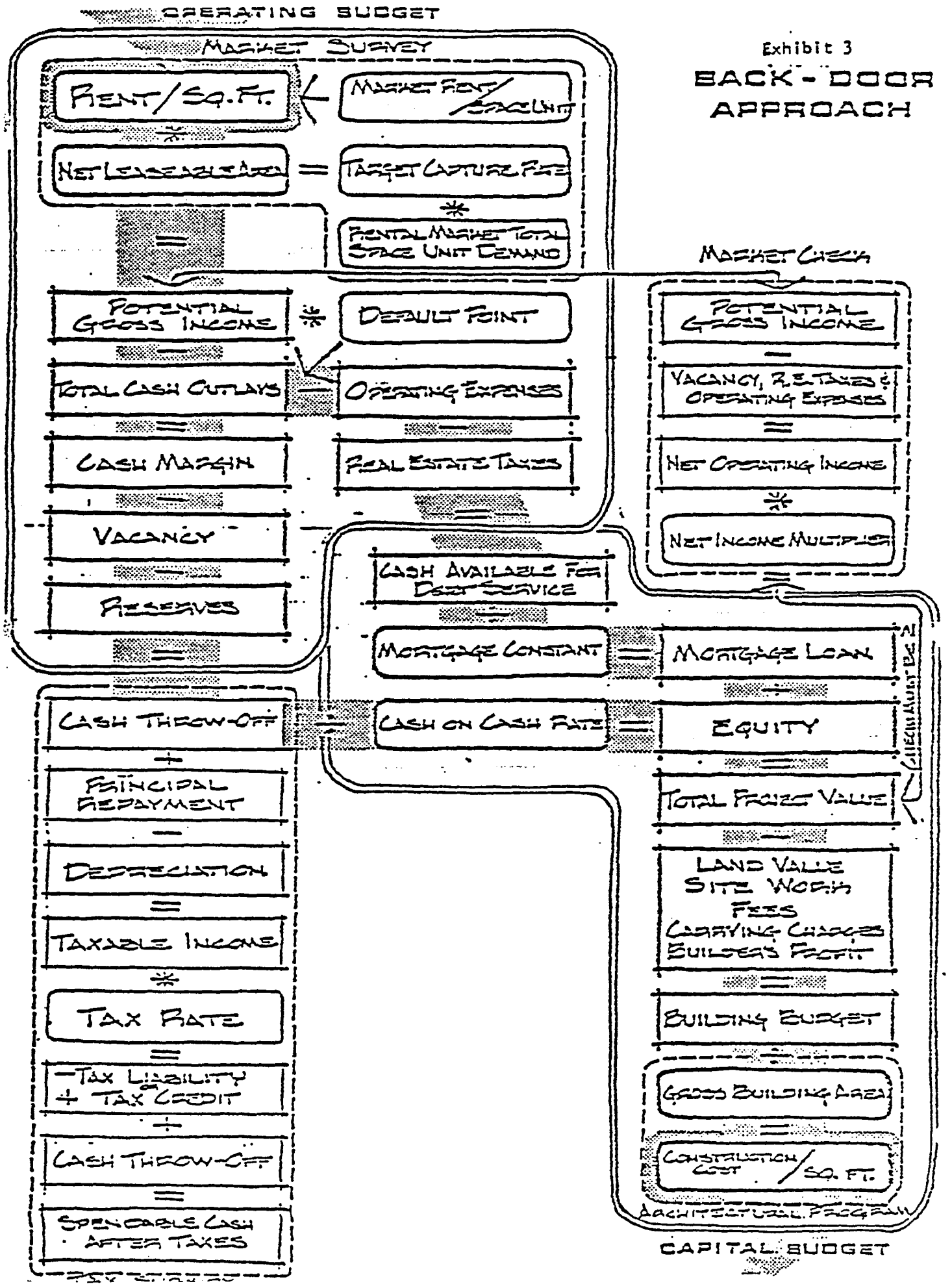
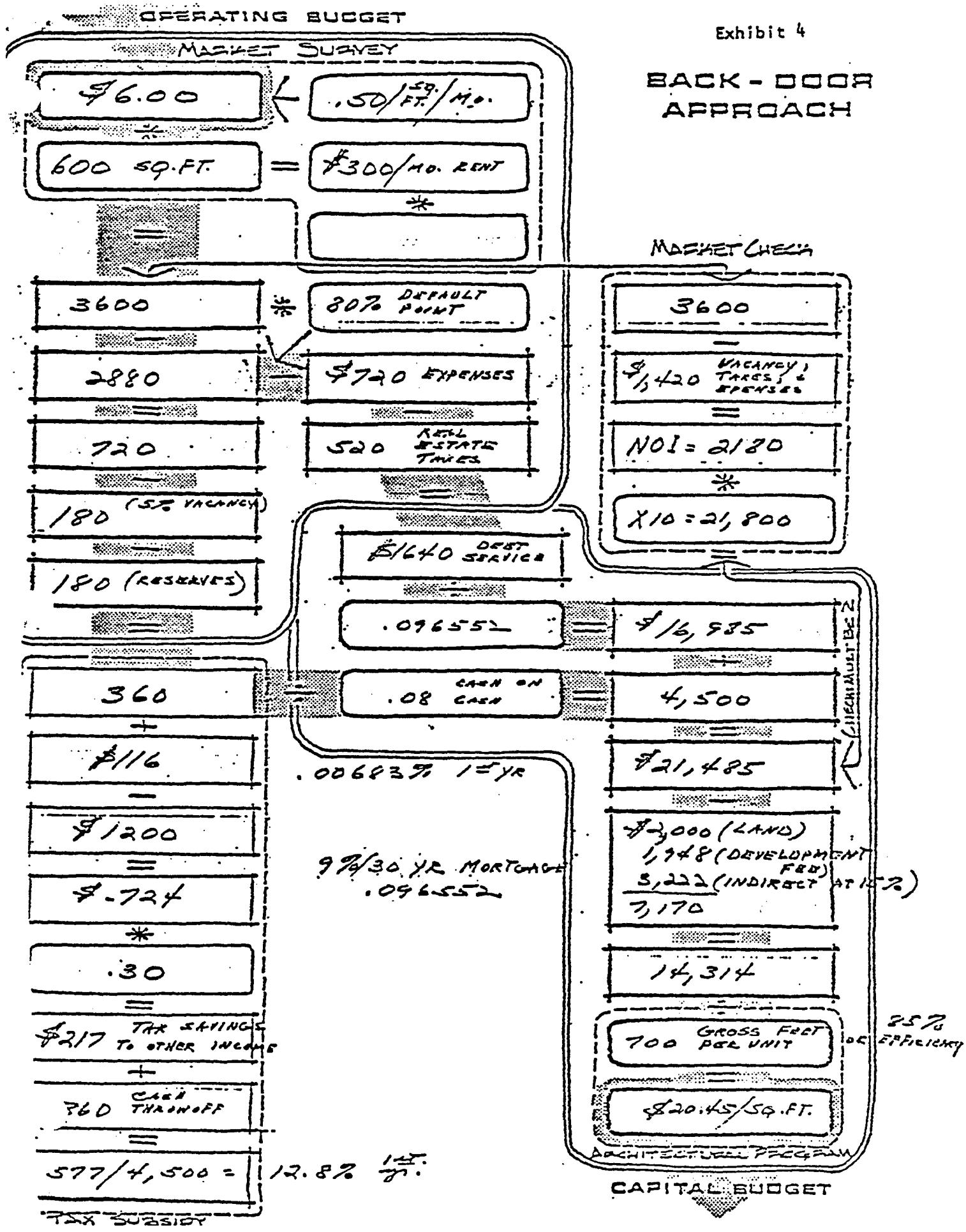


Exhibit 4

BACK-DOOR APPROACH



CASH FLOW MODEL SIMULATION FOR LAND DEVELOPMENT VALUATION
(Tabs for Worksheet Using Quarterly or Six Month Periods)

1. Market absorption in units(Schedule A)
2. Capture rate of subject project (Appraiser assumption)
3. Number of units sold per period (Line 1 x 2)
4. Average price per unit (Appraiser assumption)
5. Gross sales revenue (Line 3 x 4)

    Less: Discounts for bulk purchase (footnote)
    Closing costs (footnote)
    Special assessments paid (footnote)
    Commissions paid (footnote)
    Debt release payments on units sold (footnote)
    Paper taken back by seller (footnote)

6. Net cash from sales

    Plus: Interest income on past period paper (footnote)
    Miscellaneous income (footnote)
    Less: Administration (footnote)
    Professional fees (footnote)
    Interest on outstanding debt (footnote)
    Real estate taxes on vacant land (footnote)
    Real estate taxes on unsold units (footnote)
    Income taxes (optional)

7. Cash available from operations for capital investment

    Plus: Cash available retained from previous period
    Cash principal from previous period credit sales
    Cash from new debt
    Cash from new equity contributions

8. Total cash available for capital improvements and distribution
    Less: Land payments (Schedule B)
    Construction in place (Schedule C)
    Contingency (footnote)

9. Cash available for distribution

    Less: Cash retained for internal financing (and taxes)(footnote)

10. Cash distributed to investors
11. Present value discount factor
12. Present value of periodic distributions
13. Present value of residual properties (end of projection series)

CONTEMPORARY REAL ESTATE APPRAISAL SEMINAR

SECOND AFTERNOON

1:00-2:30 p.m.

I. Inferring Future Price From Sales Data

A. For residential properties there are often many sales of similar properties so that powerful statistical tools can be brought into play, such as multiple regression, factor analysis, etc. However, the simple average can also lend itself to statistical inference.

B. Dispersion is the variation or scatter of a set of values. Measures of dispersion are needed for the following basic purposes:

1. To gauge the descriptive reliability of averages.
2. To serve as a basis for control of the variability itself (such as rejecting a comparable that lies outside a certain range).
3. To summarize facts, both an average and a measure of dispersion should be presented.

C. When dispersion is small, then the selected average is a typical value in that it closely represents the individual values in the set and it is reliable in that it is a good estimate describing the typical case in the population. It is a useful generalization. Conversely, an average with very great dispersion is not very descriptive of the data set and may be a misleading generalization.

D. Measures of dispersion include:

1. A range
2. The quartile deviation
3. The mean deviation
4. The standard deviation

E. Consider the data on some apartment site land sales in Madison provided in Exhibits 1, 2, and 3. The range is the difference between the largest and smallest values of the variable:

1. $5.60 - $6.50 per square foot of land or 90¢
2. $1970 - $2208 per dwelling unit built or $238
3. $3.72 - $4.23 per square foot of gross building area or 51¢
4. $1226 - $1327 per total number of rooms built or $101

F. Exhibit #3 shows the mean and the standard deviation of the mean.

G. Quartile deviation must be applied to group data which are ranked from high to low. First the data is divided at the median and then each half of the data is split in half once again. Consider the net rentals of older supermarkets under existing leases provided in Exhibit #4.

Exhibit #4

CUMULATIVE FREQUENCY DISTRIBUTIONS
Supermarket Net Rents for 214 Stores in Chain X

(1) New Rent per Square Foot	(2) Number in Class with Lower Limit Shown	(3) Number Earning Less	(4) Number Earning as Much or More
$2.25	2	0	214
2.35	23	2	212
2.45	49	25	189
2.55	63	74	140
2.65	45	137	77
2.75	25	182	32
2.85	3	207	7
2.95	4	210	4
3.05	0	214	0
Total	214	1051	875

H. In the full array of data, the value of Q_1 and Q_3 are found to be $2.50 and $2.70, meaning 1/4 of the properties generate less than $2.50 a square foot and 1/4 exceed $2.70 per square foot while the middle half fall between these values. The quartile deviation is then (2.70 - 2.50)/2 or 10¢, or stated another way the range of the second and third quartile is about 10¢ per square foot.

II. When comparable sales have only one dimension, such as net leaseable area or number of rooms, a direct mean and some of the squares dispersion test is possible. However, usually it is necessary to consider a variety of factors and discover how price changes relative to the net differences of each property. Linear regression is one such method.

A. Ratcliff in Chapters 6 and 7 demonstrates a point system which ranks properties and is then weighted by buyers priorities. The weighted points are then compared to unit price. This system may be too elaborate for houses but can be demonstrated on a variety of commercial properties.

B. Consider the evaluation of vacant industrial land in Exhibits 5, 6, and 7.

1. Point system should be kept simple. 1-3-5 indicates below average, average, and above average.
2. If the appraiser is capable of making more careful distinctions between comparable properties, he can use a ten point scale such as 0, 4, 6, 8, 10 for each item, being careful not to change scales.
3. Many small judgments are better than large rough adjustments because of the theory of off-setting errors. Too big a range in scoring implies drastic differences between the worst and the best.

EXHIBIT #1

Basic Information of residential Multi-Family Land Sales Comparables

Factors	420 W. Wilson No. 1	219=N. Frances No. 2	102 N. Franklin No. 3	434 W. Hiffiin No. 4	427 W. Main No. 5
Sales Price	$ 84,950	$48,000	$86,900	$160,000	$53,000
Sales Date	'73	'72	'72	'72	'72
Type of Deed	WD	WD	WD	WD	WD
Volume and Page	403/510	346/561	334/ 23	337/215	342/113
Grantor	R.A. Paape Co.Inc.	Work of God, Inc.	Brown, Emily	Voss, Rob't	Hiller + wife
Grantee	Hillmark,Dev. Corp.	Hillmark Corp.	Courtyard Assoc.	American United Investment	Hillmark Corp.
Land Area	13,068	7,920	15,246	26,400	8,712
Zoning	R-6	R-6	R-6	R-6	R-6

All have city services, sidewalk and street improvements
No adjustment for time required as residential economics would not permit inflation of land prices.

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EXHIBIT #2

Vacant Land Market Comparison
Residential Use Land Price: Mean

Comparable Sales

Factors	420 W. Wilson No. 1	219 N. Frances No. 2	102 N. Franklin N. 3	434 W. Mifflin N. 4	427-31 W.Main No. 5	Mean (X) 1-5
Sales Price	$84950	$48000	$86900	$160000	$53000	$432850
Date of Sale	'73	'72	'72	'72	'72	
Land Area (sq.ft.)	13068	7920	15246	26400	8712	71346
No. of Dwelling Units Built	43	24	43	73	24	207
Total Gross Bldg.	20070	12670	24364	43040	10900	111044
Total # Rms Blt.	65.5	38	65.5	130.5	40	339.5
Mean Land Price - $/per:						
1. Square Ft. of Land	$6.50	$6.06	$5.60	$6.06	$6.08	$6.06
2. Dwelling Unit Blt.	$1976	$2000	$2020	$2192	$2208	$2079
3. Total Gross Bldg. Floor Area	$4.23	$3.79	$3.79	$3.72	$4.86	$4.08
4. Total # Rms Blt.	1297	1263	1327	1226	1325	1288

Landmark Research, Inc.

4. Note that Exhibit 7 provides an objective scale for most factors so that the reader can understand the score. The weights in this case were corroborated in the narrative of the report from a 1968 study by Real Estate Research Corporation.

C. All calculations for establishing the "a" and "b" factors for linear regression appear in Exhibit #8 and are charted in Exhibit #9.

D. An example using restaurant sites in Madison is provided in Exhibits 10, 11, and 12.

E. An example of a single family appraisal is provided in Exhibits 13, 14, 15, and 16.

F. A fourth example comparing old store buildings in downtown Madison will be provided in a demonstration appraisal.

Exhibit 3

Vacant Land Market Comparison
Multi-Family Residential Use Land Price
Mean & Standard Deviation

	Comparable	Land Price/ Comparable Unit	$\bar{X}-X$	$(\bar{X}-X)^2$	Mean Deviation $MD=\frac{\leq\bar{X}-X}{n-1}$	Standard Deviation $S=\sqrt{\frac{\leq(\bar{X}-X)^2}{n-1}}$
Land Price Per:						
Sq. Ft. of Land	1	$6.50	.44	.19		
(Row #1, Ex. #6)	2	6.06	0	0	$\frac{.92}{4}$	$\frac{.44}{4}$
	3	5.60	.46	.21		
	4	6.06	0	0		
	5	6.08	.02	.04	$.23	$.33
Total		$30.30	.92	.44		
Mean (sum $\frac{xi's}{n}$)		$ 6.06				
No. of DU Built	1	1976	53	2809		
(Row #2, Ex. #6)	2	2000	29	841	$\frac{433}{4}$	$\sqrt{\frac{62341}{4}}$
	3	2020	9	81		
	4	2192	163	26569		
	5	2208	179	32041	$108	$249.68
Total		$10396	433	62341		
Mean		$ 2079				
Total Gross Bldg.						
Area Built	1	4.23	.15	.02		
	2	3.79	.29	.08	$\frac{1.87}{4}$	$\frac{.92}{4}$
	3	3.79	.29	.08		
	4	3.72	.36	.13		
	5	4.86	.78	.61	$.465	$.48
Total		$20.39	1.87	.92		
Mean		$ 4.08				
Total No. Rooms Built	1	1297	9	81		
(Row #3, Ex. #6)	2	1263	25	625	$\frac{172}{4}$	$\sqrt{\frac{7440}{4}}$
	3	1327	39	1521		
	4	1226	62	3844		
	5	1325	37	1369	$43	$43.13
Total		$6438	172	7440		
Mean		$1288				

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EXHIBIT #5

Industrial Land Sales Selected as Comparables
to MG & E Subject Parcel

		Date of Sale	Price	Public Record	Square Feet	(Acres)	$/Sq. Ft.
1.	MATC	6/8/67	$108,750	Confirmed by MATC Finance Director	152,460	(3.5)	.71
2.	MATC	1/23/67	75,000	Vol.828,p.280	81,828	(1.88)	.92
3.	Gorman	12/20/65	17,500	Vol.436,p.463	21,060	(.48)	.83
4.	Holfman	6/5/64	15,000	Vol.779,p.558	17,050	(.39)	.88
5.	Garrett	5/31/63	12,000	Vol.758,p.226	13,932	(.32)	.86
6.	Madison Transit	1/4/68	55,000	Vol.4,p.358	211,701	(4.86)	.26
7.	Madison Trust	12/28/66	45,000	Vol.828,p.204	67,900	(1.56)	.66
8.	NW Mutual	9/9/66	117,500	Vol.824,p.144	138,521	(3.18)	.85

Property Location Map

EXHIBIT #6

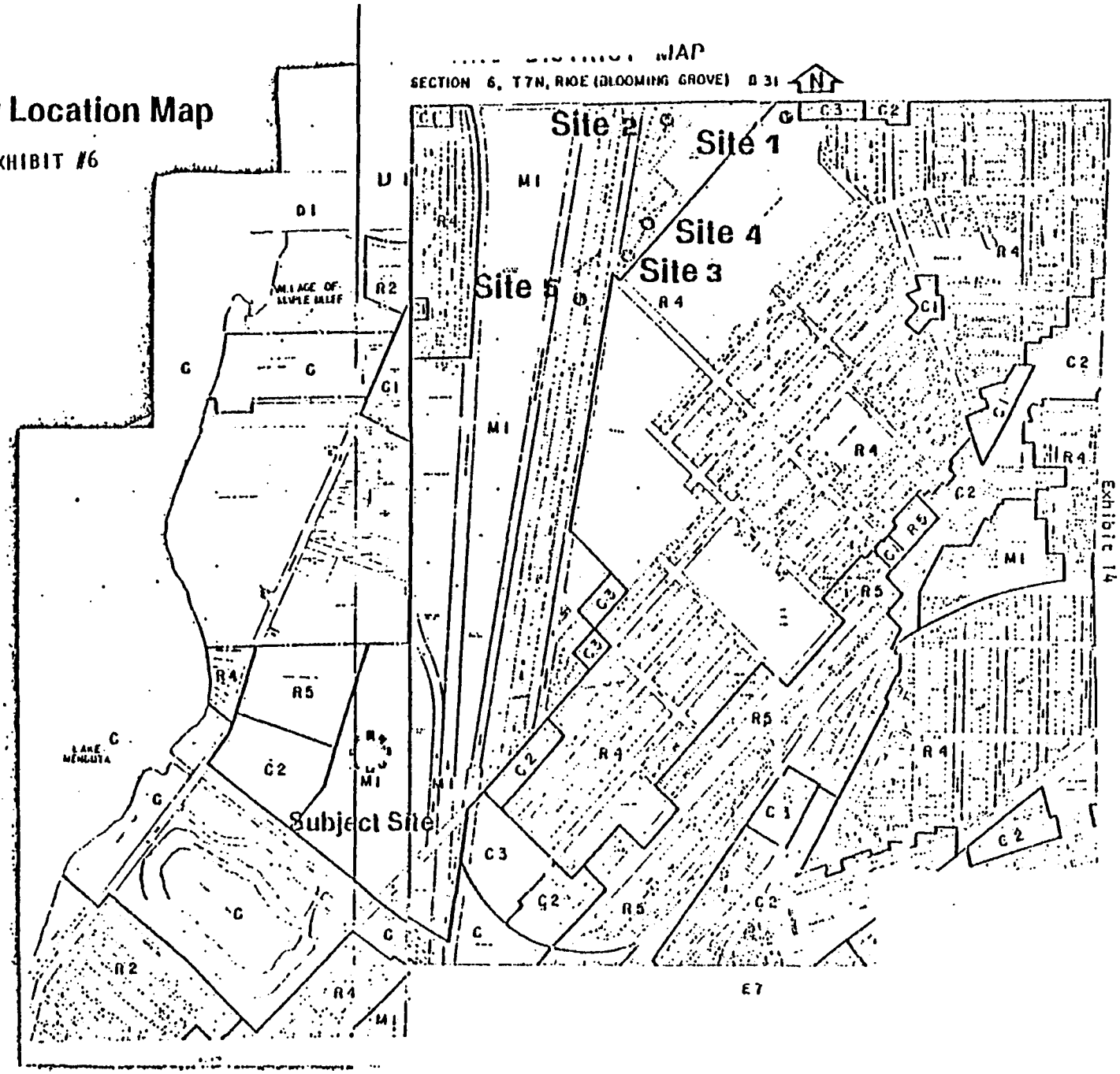

EXHIBIT #6 continued

MADISON WISCONSIN

INDUSTRIAL SITE MAP

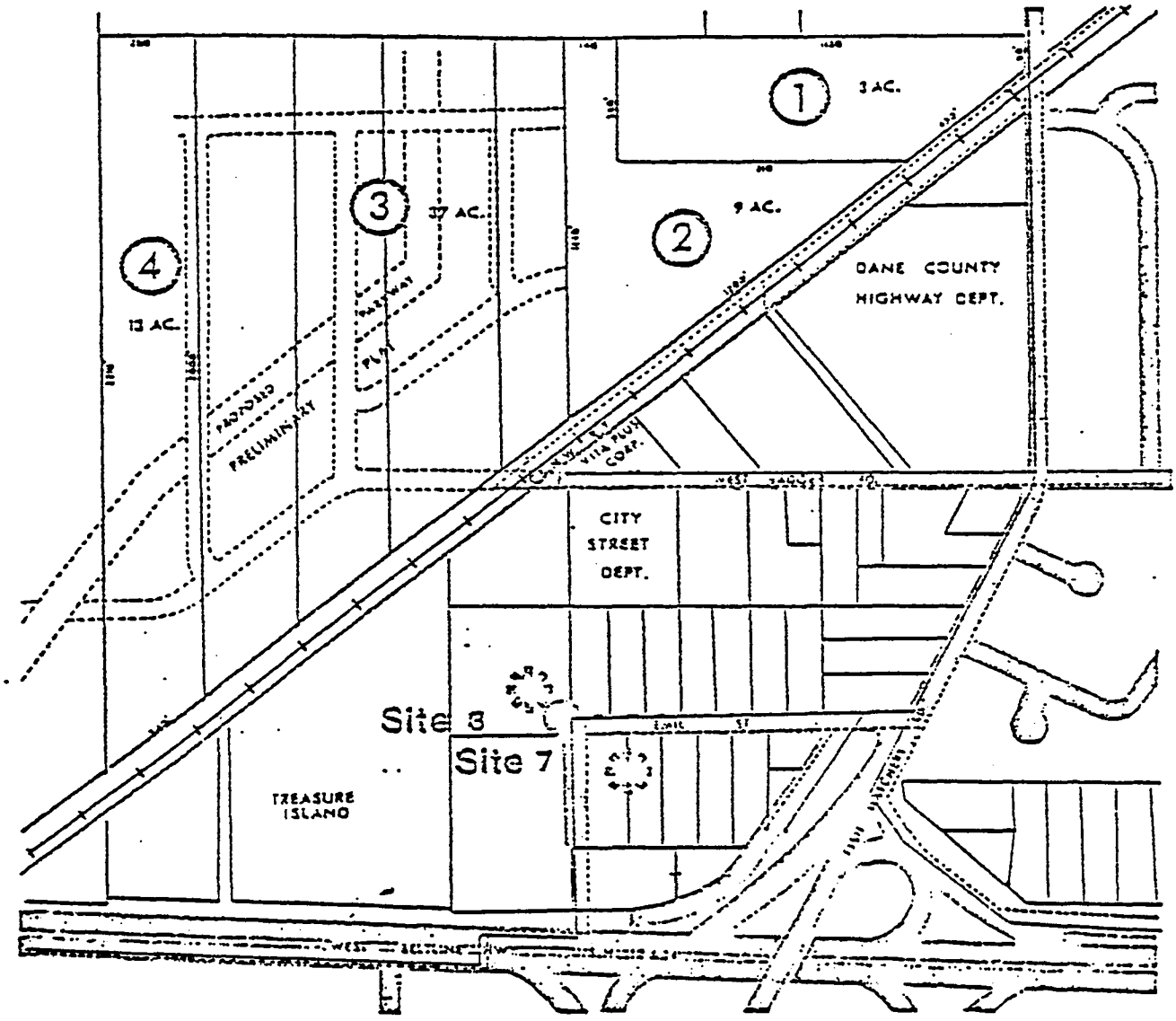

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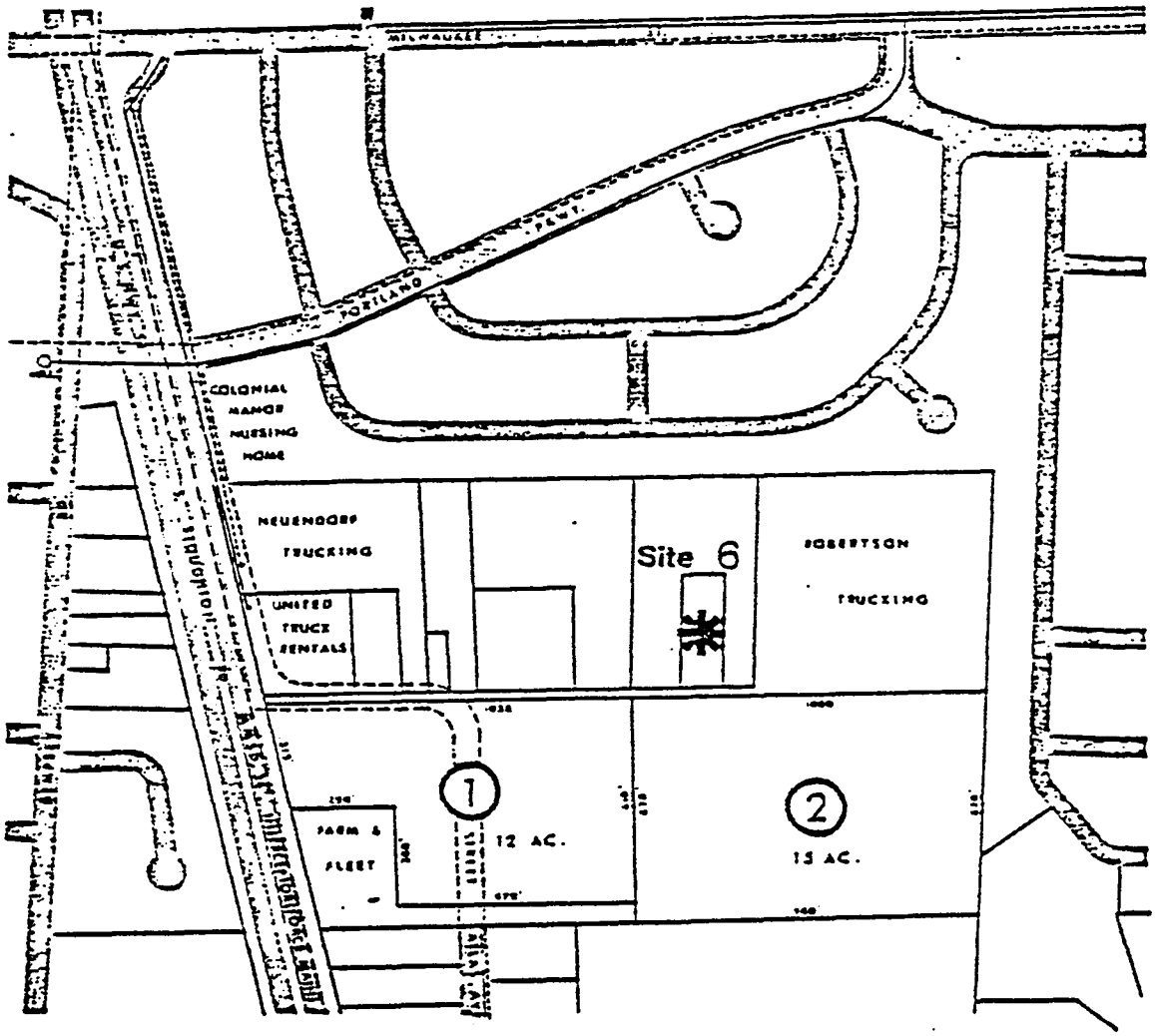
EXHIBIT #6 continued

MADISON WISCONSIN

INDUSTRIAL SITE MAP

SITE C-3



PREPARED BY ECONOMIC DEVELOPMENT SECTION - MADISON CITY PLANNING DEPARTMENT

EXHIBIT #7

Quality Scores & Weight Per Category

		Weight
1.	Size (Marketability Factor) 0 - 1 acre = 5 over 1 - 3 = 4 over 3.5 -10 = 3 over 10 - 20 acre = 2 over 20 acre = 1	20
2.	Accessibility to all areas (in terms of distance and time) 1-5 where 5 = premium + 3 = average	20
3.	Visibility from major artery 1-5	15
4.	Availability of sewer/water at site 1-5	15
5.	Availability of rail 1-5	10
6.	Soils and topography	20
		100%

Exhibit 16

Table of Scores for Comparable Properties

	1	2	3	4	5	6	7	8	Subject
Size	3	4	5	5	5	3	4	4	1
Access	4	4	4	4	4	2	3	3	4
Visibility	5	5	5	5	4	1	1	2	5
Sewer/water	5	5	5	5	5	2	5	5	5
Rail	1	1	1	1	3	1	2	2	4
Soils	2	3	2	2	2	4	5	5	1

Feature	Weight	Weighted Ratings 1	2	3	4	5	6	7	8	Subj
Size	20	60	80	100	100	100	60	80	80	20
Access	20	80	80	80	80	80	40	60	60	80
Visibility	15	75	75	75	75	60	15	15	30	75
Sewer/water	15	75	75	75	75	75	30	75	75	75
Rail	10	10	10	10	10	30	10	20	100	40
Soils	20	40	60	40	40	40	80	100	100	20
Total		340	380	380	380	385	235	350	365	310
Price/Sq. Ft.		.71	.92	.83	.88	.86	.26	.66	.85	

EXHIBIT #8

Least Squares Regression

Model $Y = a - b X$
where Y = estimated land value per square foot
X = weighted quality ratings

Comparables	Y	X	Y^2	X^2	XY
1	.71	340	.504	115600	241.400
2	.92	380	.846	114400	349.600
3	.83	380	.689	114400	315.400
4	.88	380	.774	114400	334.400
5	.86	385	.740	148225	331.100
6	.26	235	.068	55225	61.100
7	.66	350	.436	122500	231.000
8	.85	365	.723	133225	310.250
	Σ=5.97	Σ=2815	Σ=4.779	Σ=1007975	Σ=2174.25

Step 2: Compute mean of Y and mean of X

$$\overline{Y} = \frac{\Sigma Y}{n} = \frac{5.97}{8} = .746$$

$$\overline{X} = \frac{2815}{8} = 351.875$$

Step 3: Compute Σy^2, Σx^2 and Σxy

$$\Sigma y^2 = \Sigma Y^2 - n(\overline{Y})^2$$
$$= 4.779 - 8(.746)^2$$
$$= 4.770 - 8(.557)$$
$$= 4.779 - 4.452$$
$$= .327$$

$$\Sigma x^2 = \Sigma X^2 - n(\overline{X})^2$$
$$= 1007975 - 8(351.875)^2$$
$$= 17446.873$$

$$\Sigma xy = \Sigma XY - n\,\overline{XY}$$
$$= 2174.25 - 8(.746)\ (351.875)$$
$$= 2184.25 - 2099.99$$
$$= 74.26$$

Step 4: $b = \frac{\Sigma xy}{x^2} = \frac{74.26}{17446.873} = .04256$

Step 5: $a = \bar{Y} - b\bar{X}$

$= .746 - .004256\ (351.875)$
$= -.7517$

Hence $Y = -.7517 + .004256\ (X)$
$Y_n = -.7517 + .004256\ (310)$

$= .56765$ say .57

Step 6: Compute standard error

$$Sy.x = \sqrt{\frac{\Sigma y^2 - b\Sigma xy}{n-2}}$$

$$= \sqrt{\frac{1327 - .004256\ (74.26)}{8-2}}$$

$$= \sqrt{\frac{.10949}{6}}$$

$$= \sqrt{.001825}$$

$= .042719$ say $.04

Step 7: Compute r^2

$$r^2 = \left[\frac{\Sigma xy}{\Sigma x^2 \Sigma y^2}\right]$$

$$= \left[\frac{74.26}{(17446.873)(.327)}\right]$$

$= .9665$

EXHIBIT #9

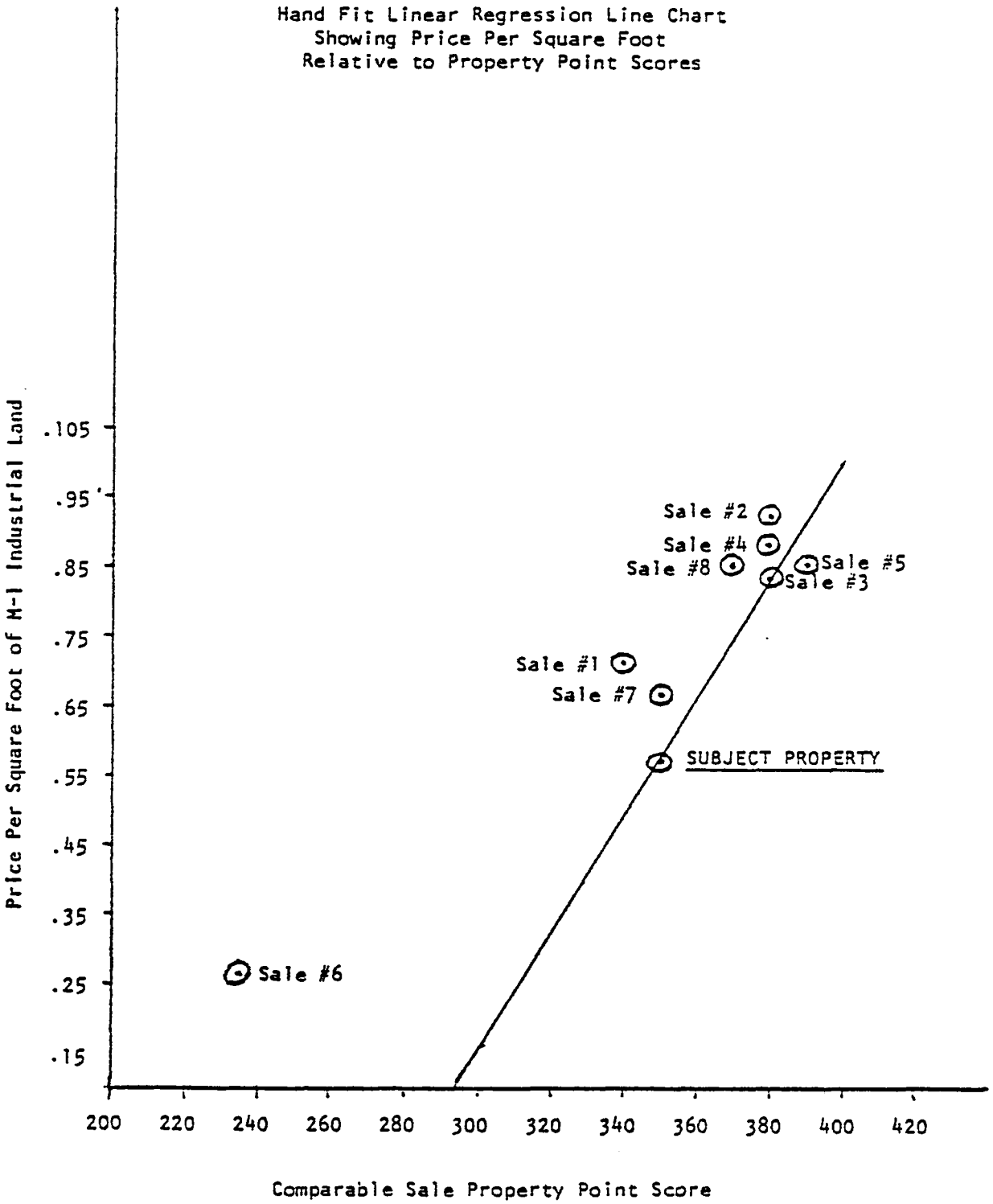

Hand Fit Linear Regression Line Chart
Showing Price Per Square Foot
Relative to Property Point Scores
Price Per Square Foot of M-1 Industrial Land
.105
.95
.85
.75
.65
.55
.45
.35
.25
.15
Sale #2
Sale #4
Sale #8
Sale #5
Sale #3
Sale #1
Sale #7
SUBJECT PROPERTY
Sale #6
200
220
240
260
280
300
320
340
360
380
400
420
Comparable Sale Property Point Score

EXHIBIT #10

Basic Information on Restaurant-Commercial Land Sale Comparables

	Barnaby's East	Barnaby's West	Bud's West	Pigs Ear East	Marc's Big Boy South	Marc's Big Boy East
Sales Price	$92,000*	$89,000	$75,700	$91,000	$87,500	$85,000
Sales Date	10-6-70	6-30-70	6-29-71	5-20-72	9-3-69	3-15-68
Type of Deed	Lease with Option	WD	WD	WD	WD	WD
Volume & Page	209-455	184-75	264-173	344-385	130-463	15-108
Grantee	Barnaby's Inc.	Barnaby's Inc.	Clyde Chamberlain	Poole, Inc.	B & G Realty	B & G Realty
Area	38,211	32,900	45,236	141,570	38,327	30,237
Zoning	C-2	C-3-L	C-3-L	M-1	C-2	C-2
Principal Business Frontage	E. Washington Ave.	Mineral Point & Grand Canyon Roads	Odana Rd.	Cottage Grove Road & Atlas Avenue	S. Park Street	E. Washington Ave.
Position on Block	Inside lot	Corner lot	Inside lot	Corner lot	Corner lot	Inside lot

All have city services, Pigs Ear did not have curb and gutter
No adjustment of time required as restaurant economics would not permit inflation of land prices.

EXHIBIT #11

Attribute Point and Weight Comparison
Of Restaurant-Commercial Land Sales and Subject Property

	(See Exhibit #8)	Barnaby's East		Barnaby's West		Bud's West		Pigs Ear East		Marc's Big Boy South		Marc's Big Boy East		Subject	
30	*Site	Points	Wgt'd Pts												
	Shape	5		1		5		3		5		3		5	
	% Usable	3		3		5		5		5		5		1	
	Site Preparation	3		1		5		5		5		5		5	
	Visibility	3		5		5		3		5		3		3	
	Access														
	Left & Right Turn	5		5		5		3		3		3		1	
	Frontage Road	3		5		5		1		5		5		5	
	Total	18		20		25		20		28		24		20	
	Weight		540		600		750		600		840		720		600
50															
	Linkages														
	Traffic Volume	5		5		3		3		5		5		3	
	Supportive Retail/Serv.	5		5		3		1		1		3		1	
	Proximity to Multi-Family Residential	1		5		5		1		3		3		3	
	Proximity to Employm.	3		3		3		1		1		5		3	
	**Interstate-Beltline	2		1		1		3		2		2		1	
	Total	15		18		15		9		12		18		11	
	Weight														
20	Image														
	Development Activity	5		5		3		1		1		3		1	
	Prestige of Street Address	5		5		3		1		3		5		1	
100	Total	10		10		6		2		4		8		2	
			200		200		120		40		80		160		40
	*Scale 1,3,5 Except **		1490		1700		1620		1090		1520		1780		1190

EXHIBIT #12

Determination of Linear Regression
Weighted Mean Value of Land/sf
Commercial-Restaurant

Comparable	1 Land $/sf Yi	2 Total Wgtd. Pts. Xi	3 (Land $/sf)^2 Yi^2	4 (Wgtd.Pts)^2 Xi^2	5 (3 x 4) XiYi
1	$2.40	1490	5.76	2220100	3575
2	2.73	1700	7.45	2890000	4641
3	1.67	1620	2.79	2624000	2705
4	.64	1090	.41	1881000	698
5	2.28	1520	5.20	2310400	3466
6	2.81	1780	7.90	3168400	5002
TOTAL	$12.53	9200	29.51	15093000	20087
Mean	(Y)=$2.09	(X)=1533			

Calculations of Mean, Standard Deviation

$$\text{Sum } y^2 = Y^2 - n(Y)^2$$

$$= (29.51)^2 - 6(2.09)^2$$

$$= 845$$

$$\text{Sum } x^2 = X^2 - n(X)^2$$

$$= 1509300 - 6(1533)^2$$

$$= 993366$$

$$\text{Sum } xy = XY - n(x)(Y)$$

$$= 20087 - 6(1533)(2.09)$$

$$= 863$$

$$Y' = a + bX_{subject}$$

$$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = \frac{863}{993366} = .00087$$

$$a = (Y) - b(X) = \$2.09 - .00087(1533)$$

SALES PRICE/SUBJECT SITE

$$Y' = a + bX_{subject}$$

$$= -\$.76 = .00087(1190) = \underline{\$1.80}$$

STANDARD DEVIATION

$$S_{xy} = \frac{\text{Sum } y^2 - b(\text{Sum } xy)}{n-2}$$

$$= \$ \underline{.15}$$

10-2-73

EXHIBIT #13

Buyer Characteristics in Dudgeon School Area

1. 636 Crandall Street
Married couple, 27 years old - one year old child - college degrees - salary $10,000 per year
Valued protected play area for child, convenient location on bus line, remodeled kitchen, house with character within price range and possibility to build equity. They are having home rewired and doing minor maintenance required themselves. Financed with a conventional mortgage and second mortgage from state VA
Relative importance of buyer factors reported by interviewer:

Physical condition	10
Interior space	25
Mechanical equipment	10
Location & neighborhood	25
Financial operating burden	25
lot	5
	100

2. 821 Minakwa
26 year old couple, no children - project manager - college degree $10,000 salary.
Primary motivations were: house had more character and value than a new house for the same price, location for bringing up children, mechanicals in good condition and fireplace. Lot was considered a drawback.

3. 3120 Gregory
Man and wife in mid -forties, no children - needed three bedrooms with full dining room and 2-stories high, wanted a two car garage but settled for one, Preferred west side for convenience and more value appreciation.
Purchased house expecting to repaint entire building.
Buyer reported purchase price of $24,000

4. 2455 Mohawk Dr.
Married couple, 27 years old, no children, both work with college educations.
Husband gave major weight to structural soundness, neighborhood appeal, and location near bus line and beltline.
Wife gave preference to wooded neighborhood and outdoor yard, and space utilization inside. Mechanical and storage were given only medium emphasis.

5. 645 Sheldon St.
28 year old married couple, no children, college educated.
They preferred home with garage, fireplace, close to bus line, and on west side between campus, square and Hilldale. Wanted garden.
Physical condition was rated highly, exterior appearance was not important.
Lot size was more important with mechanical and interior condition less important.

6. 1510 Whenona Drive
Married couple (approximately 30) - 2 children, ages 3 and 5 - college degrees - father, $10,000; wife works as a nurse.
Couple emphasized structural soundness as they expected to remain in house more than 10 years and possibly add a room at the rear. They wanted good sized rooms and visual appeal or character of an older home in a stable neighborhood. Valued location for convenience and stability of value and knew other young couples were moving in with plans to fix up their homes, too. They did not expect mechanical equipment to be modern in an old home and expected to update the kitchen eventually.
Off-site factors were taken for granted except for bus which wife used every day for work.

Ratcliff Linear Regression

EXHIBIT #15

$$Y = a + bx$$

$$b = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{n(\Sigma x^2) - \Sigma(x)^2}$$

$$a = \frac{Y - b(\Sigma x)}{n}$$

$n = 7$	The number of comparables.
$\Sigma Y = 164,200$	The sum of the seven actual prices paid for the comparables. ($26,300) + ($24,500) + ($23,800)....
$(\Sigma y) = 164,200$	
$(\Sigma x) = 2840$	The sum of the total weighs for the comparables. (260) + (360) + (400) + (440) + ...
$(\Sigma xy) = 65,916,000$	(260)(26,300) + (360)(24,500) + ...
$(\Sigma x)(\Sigma y) = 465,328,000$	(2840)(164,200)
$\Sigma(x)^2 = 8,065,600$	$(2840)^2$
$(\Sigma x^2) = 1,186,200$	$(260)^2 + (360)^2 + (400)^2 + (440)^2 +$.

$$b = \frac{7(65,916,000) - (465,328,000)}{7(1,186,200) - (8,065,600)} = -16.467619 \simeq -16.5$$

$$a = \frac{164,200 - (-16.5)(2840)}{7} = 30,151.428 \simeq \$30,151.$$

$$Y = a + bx$$

$$Y = 30,151 + (-16.5)(x)$$

'x' for the subject property was 400

$$Y = 30,151 + (-16.5)(400)$$

$$Y = \$23,550$$

APPENDIX II

Vacant Land Market Comparison
Office Use
Subject - Fauerbach Property

Weight Total	Weight Sub Total	Factor	CMI Wgt	CMI Wgt*	VIP Wgt	VIP Wgt*	Doty School Wgt	Doty School Wgt*	WPS-1 Wgt	WPS-1 Wgt*	IBM Wgt	IBM Wgt*	WPS-2 Wgt	WPS-2 Wgt*	Subject Wgt	Subject Wgt*
30		Site														
	10**	Intensity of Land Use	8	80	10	100	6	60	4	40	2	20	2	20	6	60
	10**	Topography	10	100	8	80	6	60	4	40	1	10	4	40	6	60
	10**	Views	8	80	6	60	4	40	8	80	4	40	4	40	6	60
25		Image														
	10**	Lineal Ft Lake/Park	10	100	4	40	4	40	8	80	6	60	1	10	8	80
	5	Lake Exposure	5	25	3	15	3	15	3	15	1	5	1	5	3	15
	10**	Community Recognition	10	100	8	80	8	80	6	60	4	40	2	20	2	20
35		Linkages														
	15**	Downtown	8	120	10	150	8	120	4	60	1	15	1	15	4	60
	5	Auto Approach Zone	5	25	3	15	3	25	2	10	2	10	1	5	3	15
	5	Ancillary Uses	3	15	5	25	3	15	3	15	1	5	2	10	1	5
	5	Employee--Housing & Transportation	3	15	3	15	3	15	1	5	3	15	3	15	3	15
	5	Protection from adverse Contiguous Uses	5	25	4	20	3	15	3	15	4	20	2	10	1	5
10		Construction Suitability														
	5	Depth to Ground water/ Soils	5	25	5	25	3	15	1	5	1	5	2	10	3	15
	5	Drainage	5	25	5	25	3	15	3	15	1	5	3	10	3	15
100	100	Totals		735		650		515		440		225		210		425

* Weight x Scale
** 10 Point Scale

$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = .0249$

$a = Y - bX = -\$5.75$

$Y' = a + bX_{subject}$

$= -\$5.75 + .0249(425)$

$= \underline{\$4.83}$ per sq. ft. ± $ .08 (standard deviation)

APPRAISAL PRACTICE IN THE FUTURE & APPRAISAL EDUCATION

SREA International Convention - Reno, Nevada
Monday, July 30, 1979
Professor James A. Graaskamp, SREA, CRE

I. Precedent and Stress of Changing Times

A. Orthodox methodology finds much of its strenght in the inertia of precedent even though the origins and reasons for the original orthodoxy have been lost. Mack Hodges provided several quotes on the power of precendent worthy of repeating here:

Sam Walter Foss, The Calf Path

> "I will look, your honor, and endeavor to find a precedent if you require it; though it would seem to be a pity that the Court should lose the honor of being the first to establish to just a rule."

Rufus Choate, 1 Brown, Works of Choate 292 (1862)

B. Origin of the three approaches to value found in the politics of brokerage, private lenders, and federal government interference.

1. SRA has avoided brokerage bias.

2. SRA is a source of resistance to government modification of appraisal reality.

3. SRA by itself lacks staff and strength to reform counterproductive value concepts influencing mortgage lending.

C. Obsolete concepts in changing times create stress which appears in loss of professional prestige, difficulty in recruitment, and loss of markets.

D. Loss of markets to:

1. Government subsidized automated appraisal systems

2. Appraisal by national accounting and investment banking firms

3. Valuation engineering by physical design firms

E. All of above have access to and control of customers, data processing technology in place, and credibility of long-term business relationships and trade reputations.

F. Competitive pressure, changing technology, and more sophisticated analysis will change the organization of the profession, the individual firm, and the content and format of professional education.

II. Merger is an idea whose time has come

A. Debate on theory has move from the ivory tower in 1965 into daily practice.

B. Since 1968, EDUCARE has been sponsored as a joint educational effort

C. Since 1975, the new Terminology Handbook has been the standard of the industry

D. Since 1975, there has been intensive discussion and negotiation of merger

E. Since 1975, there have been joint data bank efforts

F. In 1979, recognition of the broader role in the title change <u>The Real Estate Appraiser and Analyst</u>

G. Land use control law, growth management, rent control, reform of mortgage lending debates show need of a unified, objective voice for appraisal.

H. Predict merger of SREA and Institute within two years with immediate result that:

1. A single new contemporary appraisal textbook

2. Consolidation of real estate appraisal education into a single institution with a home campus, educational TV ties, a professional instruction

3. Within five years, the central facility would be accredited to offer a graduate degree in real estate for the part-time student

I. Within five years, the new appraisal organization would absorb The American Society of Appraisal and provide specialties in commercial property, jewelry & art, machinery, public buildings, land and residential

J. Shortly after merger with ASA, the combined appraisal group would withdraw from National Association of Realtors

III. Organizational changes for the appraisal firm

A. The independent appraiser cannot survive and would follow lead of legal and medical professions to group practice as a clinic of specialists sharing a pool of technical support.

1. Competition and complexity require a team combination of expertise

2. Energy, engineering, and environmental sensitivity require technical support in these areas

3. Expanding market and demographic data requires statistical and data processing skills appropriate to courtrooms and boardrooms educated to modern information processing.

4. Clinic practice permits cost sharing in equipment like computers, word processing, and preparation of graphics

B. Fee schedules and compensation formulas and contracts may resemble standard forms in architecture or law

C. Better appraisal products and higher risk real estate decisions will mean significant increases in base fees and profit sharing in the style of group medical and legal practice

D. Group practice provides bargaining power and value added at the expense of brokerage commissions and reduced risk of investment (reduced losses)

E. Group practice means more feasible malpractice insurance

F. Group practice means recapture of high volume appraisal work and low volume high ticket projects taken by other professions

IV. Group practice appraisal requires that the principal partners be able to communicate with many professions which cut across traditional university department lines

A. Business school preparation in accounting, tax law, and marketing

B. Design school preparation in site analysis, volcabulary of structures and schematic design program

C. Civil engineering tools such as surveying, soils, air photo interpretation

D. Mechanical engineering vocabulary for energy systems, HVAC systems, elevator configuration and security systems

E. Law school content in terms of land use control, leases, real estate transactions, evidence, the sociology of juries, and courtroom communication

F. The political science of urban and regional planning and growth management

G. The statistics of description, inference, market measurements, and economics

H. Management forms and techniques of professional practice

V. The only advantage to your present position is that the appraisal societies still have primary claim on the right to define appraisal methodology

1. The right has little strength without merger

2. With merger, appraisal can integrate methodology with current thinking in accounting, investment finance, engineering, and physical site analysis

3. A single organization can update its membership quickly and effectively while clinic practice provides the competitive power to bring the message to the user and market against the encroachments of accounting and finance

More complete outline

APPRAISAL PRACTICE IN THE FUTURE & APPRAISAL EDUCATION

I. Precedent and Stress of Changing Times

A. Orthodox methodology finds much of its strength in the inertia of precedent even though the origins and reasons for the original orthodoxy have been lost. Mack Hodges provided several quotes on the power of precedent worthy of repeating here:

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Rufus Choate, 1 Brown, Works of Choate 292 (1862)

B. Speaking of doubtful precedent the origins of the three approaches can be found in the politics of real estate in mid-1930 - brokerage, the federal government and institutional mortgage lenders.

1. SRA is free of the brokerage bias

2. SRA has provided firm resistance to further government modification of the appraisal process.

3. SRA has failed to attack regulation of banking and its dependency on loan to value regulation. This failure can be excused because a single appraisal organization is neither strong enough or staffed adequately to educate the regulators.

C. As times change the needs of current decision makers are not well served by static and dormant techniques which are not appropriate to the context of modern decision. Stress lines appear in terms of professional prestige, professional morale, and loss of markets.

D. Loss of markets for appraisal profession has already occurred and is increasing at an accelerating rate due to competition from three sources:

1. Development of automated appraisal systems for assessment and for residential mortgage lending and similar class properties such as ranch land and wilderness areas. Heavy R&D expenses in these fields by government agencies will soon be translated into low cost mini-computer processing for local government, local lenders, and private data services.

2. Formation of appraisal divisions by the National Accounting and Investment Firms who see greatly expanding opportunities in market valuation of company real estate, annual valuation of real estate in pension funds and comingled trusts, as well as consulting opportunities where inside information on cost data is critical.

3. Introduction of valuation engineering and feasibility services by physical design firms involved in land planning, architecture, construction management, and engineering.

E. Data processing technology is already well established among the major competitors to the appraisal profession as are contemporary statistical and financial methods. Not only do these competitors have better access and control of the customers for appraisal services, their techniques appear more sophisticated. The fact that their real estate judgment and sensitivity to local conditions may be lacking will be overlooked because of their better form in presentation and credibility from established porfessional image and long term relationships.

F. In response to competitive pressure, changing technology, and the need to serve a diversity of clients, the appraisal profession will change significantly in its organization and educational formats. Organization will change for both the individual firm and the profession; education will change to meet the needs of the firm.

II. Merger Is An Idea Whose Time Has Come

A. Since 1965 there has been widespread debate on orthodox methodology and it has moved from the ivory tower of Kinnard, Wendt, Ratcliff to the arena of professional debate and publication. "The three approaches" is significantly modified in practice by the leading practitioners.

B. Since 1968 to the present the three major appraisal organizations have pursued a joint educational program through EDUCARE to avoid competition in the important area of data processing for the independent appraiser.

C. 1975 - publication of the new terminology handbook as a joint effort of SREA and the MAI organizations with significant revisions in definitions of highest and best use, market value as probable price, and other areas which will redirect the appraisal method.

D. 1975-76 - Serious consideration of merger by the two major appraisal groups.

E. 1977-78 - The appearance of data processing resources such as the SREA Data Center, mini-computers programmed by appraisers for appraisers, and a variety of time-share vendors providing census data, construction data, market sales data, etc. on a national basis.

F. 1979 recognition that appraisal is only one function of real estate analysis with the new amended title to your professional magazine The Real Estate Appraiser and Analyst.

G. The increasing frequency in which major public issues such as reform of mortgage lending, land use control legislation, rent control legislation, real estate tax reform, the environmental hustle, income tax reform, estate tax reform all require input from the appraisal profession. It is imperative that the professional speak with one voice and without fear of legal harrassment by the Justice Department or competitive carping by a segmented group of appraisal organizations.

H. Therefore like the Great Kreskin, I am predicting merger of the SREA and the Institute within two years and further merger with the American Society of Appraiser in five years. Immediate results of such a merger will include:

1. A complete rewriting of the basic appraisal textbook and the theory of appraisal methodology within two years following merger. The new text will reflect the principles of Kinnard, Ratcliff, Wendt and others and reflect the fact that the basic function is that of real estate analysis, from which we can draw an appraisal, a financial feasibility, a market analysis, an investment report, etc.

2. Consolidation of real estate education into a single institution which will have a permanent home on a campus tied to an educational television facility which will produce cassettes and other visual aids for rapid dissemination of contemporary ideas to the profession through Betamax players in your own home or through presentation in continuing education facilities around the country.

3. This American College of Real Estate Analysis would be accredited by all the various State licensing agencies and in addition would establish an MS program in real estate analysis similar to that available from American Life Underwriters.

    1. The Life Underwriters offer an accredited graduate degree in insurance which requires 89 weeks in residence in Philadelphia learning basic tools such as statistics and finance and decision making, a year and a half doing specific application on the job to demonstrate knowledge of the tools, and then six weeks of case analysis and joint experience in the classroom back in Philadelphia.

    2. As an alternative similar programs for the full-time college student would be available at selected universities throughout the United States.

    3. Notice that a central facility producing audio degree of quality control of course presentations at remote points by those professionally trained in education as well as appraisal.

I. Merger and consolidation of dues, educational fees and appraisal method development would provide solidarity. Within five years of merger the appraisers would withdraw from the National Association of Realtors.

1. Constructive state licensing would eliminate the erosion of market and prestige by unqualified in the sales professions.

2. Withdrawal from NAR would improve the appraisers with the opportunity to speak on matters of public policy without some of the unfortunate bias of NAR over the years.

III. The Organizational changes for the firm will be more profound than merger of the professional societies and modernization of professional education efforts.

A. The independent appraiser as a professional must respond to the competitive threats of the financial professions and the physical designer by moving toward group practice (much like medicine and the law). A clinic of real estate analysts would permit specialization of real estate pracitices and pooling of technical support.

1. The appraiser as a generalist cannot survive in an age of specialization. Farm economics, industrial economics, residential patterns, etc are changing too quickly. In group practice, there would be the opportunity for consulting and a team approach.

2. In the near future, an appraiser must be very sensitive to energy, engineering, traffic engineering, and civil engineering for land and water attributes of a site. Land use control law must be closely coordinated with appraisal. The appraisal clinic would have individuals in such fields inhouse or a professional on retainer for inputting to each assignment.

3. Statistical research disciplines on demographics, sales analysis, expense trends, etc. will require quantitative skills which are often found in the same individual who is good with people or with physical property characteristics. Professional statisticians and computer programmers come cheaper than appraisers and are essential to realizing the optimal capacity of data processing equipment and to defending the conclusion to be drawn from the data in the courtroom or the boardroom of bright MBA graduatates.

4. Clinic practice permits sharing in the cost of adequate computer capacity of word processing equipment, and of increasing use of graphic and drafting techniques for communication.

B. Fee schedules and compensation formulas will need to be modeled after the legal or engineering professions.

1. Perhaps real estate analysis needs to be subdivided into a series of steps like a standard architectural contract. This standard contractual form would have the appropriate hold harmless agreements relative to professional liability and a catalog of alternative services which could be available to the client. Indeed,

it would provide a useful device for helping the client to define his real needs for real estate analysis instead of passively accepting the assumption that he really needed an appraisal of fair market value because that is what he asked for.

2. The law firm with a variety of specialties has provided a good prototype for organizing the partnership and creating a base for business continuity.

C. Compensation formulas might involve specification of one of the appraisers as the account executive for a specific client, for which responsibility he might receive 5% of collective billings; in addition, he would maintain a daily sheet on hourly expenses incurred on each account and the technical pool would be treated as an overhead account to be absorbed (under and over) by the various accounts; at the end of each six months, the profit picture for the group could be determined and deposits could be made to profit sharing accounts at some predetermined level of participation. There could be senior partners, junior partners and associates and the seniors might be able to award bonuses for singular efforts by junior partners and associates.

1. Group medical practice probably offers the best parallel for design of group appraisal practice in terms of the combination of individual medical talents and the necessary base of technicians, accountants and equipment.

2. Sophisticated group practice would make possible fee schedules comparable to those of attorneys. After all, appraisal skills are as important as courtroom technique in litigation and in real estate transactions.

3. A group clinic provides the continuity of service and record keeping required to secure and hold business from large business enterprises. That will be critical in obtaining an appropriate share of valuation problems relating to changes in financial reporting by public corporations and real estate funds for pension programs and other investments.

4. Group practice can provide knowledgeable financial input to the formation of public policy, land use planning, growth management proposals, and significant improvements in the process of emminent domain.

D. Group practice and professional real estate analysis will enhance the fee schedules because of its bargaining power with financial institutions and the usefulness of its services in creating or protecting value. Compared to the value added by objective research the significant over-charges of real estate brokerage and investment banking on a cost benefit basis to the property owner.

E. Group practice through the appraisal clinic will improve the economics of maintaining professional malpractice insurance and liability

limits for the practitioner under the security laws and banking laws which will have increasing application to real estate valuation responsibilities.

F. Most important the clinic with data technicians and data processing can recapture the high volume low fee appraisal work from the banks and the assessors. At the same time, they will be able to compete with expertise in land planning and engineering with the design firm for the more infrequent, high price feasibility studies and other real estate reports for the sophisticated client.

IV. Group practice requires the ability to communicate with and respect contributions of many specialties and that will expand the minimum requirements of college preparation for a career as a real estate analyst.

A. A business school preparation in accounting and tax law is required to ask intelligent questions and focus the work of technicians in that area of financial analysis.

B. A design school preparation in site analysis land form, the vocabulary of structures, and architectural programming must be acquired.

C. In the area of civil engineering, some knowledge of surveying, soils, hydrology, air photo interpretation, geology for engineers, and remote sensing techniques are necessary to recognize their applications and potentials.

D. The field of mechanical engineering must provide a basis for energy conservation, HVAC systems, and other devices such as elevator configuration and fire systesm.

E. The law of land use control, leases, and real estate transactions are obvious requirements but equally useful would be matters on forensic appraisal such as the presentation of evidence, the psychology and sociology of juries, and courtroom communication.

F. The process of urban and regional planning and the political science of growth management must be understood by the appraiser.

G. The statistics of description, inference, market measurement and economics are the basic tools of the professional analyst and yet most of us are poorly equipped to structure our own work or critique the research methods of others.

1. An appraisal is a forecast of future behavior by buyer and seller and yet appraisers are seldom taught either economic forecasting or the methods of social research of behavior.

2. Since forecasting inherently has an element of risk and uncertainty, the appraiser must be trained to qualify his judgments as to the degree of the reliability which should be attached to a conclusion under the circumstances.

H. The accounting industry, the investment bankers, and the design professions are already building appraisal capacities into their organizations. Individual appraisal firms have little capital with which to finance and bring a college recruit into their firm. Clinic practice might finance better recruitment of young real estate analysts.

I. The real edge which may save appraisal from extinction is that you have established the right to define appraisal methodology. You have an organization which could communicate and teach the new appraisal process but you cannot afford to waste further time and group energies bickering on merger. Get on with it and then redirect your efforts toward updating the appraisal firm, methods, and marketing abilities.



REAL ESTATE PROJECT
FEASIBILITY ANALYSIS

INSTRUCTOR
PROFESSOR JAMES A. GRAASKAMP, PH.D.

RADISSON-DULUTH HOTEL
5TH AVENUE WEST & SUPERIOR STREET

A TWO DAY SEMINAR

APRIL 10-11, 1981

VOLUME 4, JANUARY 19



SONJA CEKALLA, EXECUTIVE SECRETARY
DULUTH-SUPERIOR CHAPTER No. 183, SREA
216 FIRST FEDERAL SAVINGS BUILDING
DULUTH, MINNESOTA 55802

REAL ESTATE PROJECT FEASIBILITY ANALYSIS

This two-day seminar is intended to provide an understanding of the concept and the process of feasibility analysis as it is related to Real Estate projects. Various components that go into establishing the framework of feasibility studies will be discussed.

Career persons in finance, land development, construction, appraisal, architecture, engineering, real estate marketing, mortgaging, planning and other real estate related professionals will find the material presented in this seminar helpful in analyzing their land use planning objectives against various constraints and in developing courses of action for effective achievement of the established goals.

Conference Location:
Radisson-Duluth Hotel
5th Avenue West & Superior Street, Duluth, Mn.

This course is approved by the Commissioner of Securities pursuant to the Minnesota Statutes, Section 82.22 Subdivision 13, relating to continuing real estate education and is also approved by the Wisconsin Department of Regulation & Licensing, Real Estate Examining Board, and pending approval by Minnesota State Board of Assessors.

Accommodation:
Registrants requiring accommodation are requested to make their own arrangements at the hotel of their choice.

SCOTT A. LINDQUIST
EDUCATION COMMITTEE CHAIRMAN

PROGRAM

FRIDAY, APRIL 10

8:00 Registration, Distribution of Materials and Coffee
8:30 *Welcome and Introductory Remarks*
8:30 **Basic Concepts and Definitions**
- —Real Estate Defined
- —Real Estate Project
- —Real Estate Process
- —Highest and Best Use
- —Real Estate Feasibility Defined

Financial Management
- —An Investment Defined
- —Risk Defined
- —Kinds of Risks
- —Risk Evaluation
- —Significant Exposures to Loss
- —Significant Loss
- —Methods of Avoiding Loss
- —Feasibility as Risk Management

10:15 Coffee
10:30 **Real Estate Decision Models**
- —Alternative Outcomes
- —Flow Chart
- —Real Estate Models
- —Model Requirements
- —Model Constraints
- —Models for Alternative Outcomes
- —Context and Form
- —Concept of Feasibility
- —Defining Objectives
- —Analytical Judgments
- —General Theory
- —Define Limited Resources
- —Basic Elements and Definitions

What is the Problem as Perceived by the Client?
- —Function of Appraisal vs. Feasibility
- —Needs of Client
- —Client Preferences and Assumptions
- —Client Objectives

What is the Problem as Understood by the Consultant?
- —Feasibility Analyst Techniques
- —Basic Classifications
- —Audience Viewpoint
- —Review of Elements
- —Definition of Report
- —Defining the Assignment
- —Estimating Fees

12:00 Luncheon
1:00 **Establishing Project Financial Constraints**
- —Advanced Front Door Approach
- —Advanced Back Door Approach
- —Backdoor Approach Format for Ranking Most Probable Use
- —Cash Flow Pro Forma Using Parameter Norms

3:00 Coffee
3:15 **Testing Financial Flows**
- —Pro Forma Cash Flow Table
- —Sensitivity Table
- —Pro Forma Investment Analysis of MR CAP Demo
- —Partnership Investment Summary for Lean-2 *Homes*
- —Partnership Investment Summary for Jack Jones

IGHLIGHTS

—Partnership Investment Summary for Real Estate Dynamics
—MR CAP Backdoor Demo
5:30 Adjourn

SATURDAY, APRIL 11

8:00 **The Basic Case:**
A Site in Search of a Market
—Identification of Attributes
—Site Analysis
—Static Attributes
—Legal Attributes
—Analysis of Static and Legal Attributes
—Linkage Attributes
—Dynamic Attributes
—The Real Estate Product
10:15 Coffee
10:30 **Selecting Market Targets or a Market Position Within a Defined Market Opportunity**
—Free Enterprise
—Marketing Program
—Marketing Hypothesis—Secondary Data
—Merchandising Target—Primary Consumer Data
—Competitive Standard
—Competitive Edge—Market Gap
12:00 Luncheon
1:00 **Introduction to Prospect Survey**
—Preliminary Hypothesis
—Housing Market Ratios
—Ratios
—Ratio Calculation
—Anxieties or Preferences
—Analyst Systems
—Preparation of Questionnaire
—Processing of Surveys
3:00 Coffee
3:15 **Telephone Survey to Improve Bidding Position on Turnkey Elderly Housing Project**
—Packet of Bid Instructions
—Joint Venture Proposal
—Basic Research Questions
—Survey Measurement Devices
—Sampling Criteria
—Response to Criteria
—Interview Sampling Plan
—Survey Results
—Sample Questionnaire
—Questionnaire as Consumer Profile
Generalized Format of Merchandising Report Summary
—Definition of Geographic and Demographic Market
—Definition of Principal Competitors
—Establishment of Merchandising Strategy Logic
—Definition of Prospect Target
Structuring the Feasibility Report
—Format of the Report
—Executive Summary
The Appraisal Report as an Agenda to Feasibility Analysis
—Suggested Appraisal Concepts
—Suggested Appraisal Report Outline
5:00 Adjourn

RETURN TO:

SONJA CEKALLA, Executive Secretary
Duluth-Superior Chapter No. 183, SREA
216 First Federal Savings Building
Duluth, Minnesota 55802

Enclosed is my check for ($100.00). Please reserve a space for me at the REAL ESTATE PROJECT FEASIBILITY ANALYSIS Seminar. Any registration later than April 3 will be subject to a $10 late surcharge.

Name _____ Telephone _____

Address _____

Note: Space is limited. Reservations accepted in order of receipt.

BUYER'S RIGHT TO CANCEL

Duluth-Superior Chapter No. 183, SREA, in compliance with Minnesota state law, declares the following as the refund policy of the organization:

1. Duluth-Superior Chapter No. 183, SREA will notify each registrant in writing of his or her acceptance or rejection, and if rejected a complete refund will be given.
2. Notwithstanding anything to the contrary, if the registrant gives written notice of cancellation within 5 business days of the date of the notice of acceptance, Duluth-Superior Chapter No. 183, SREA will refund all tuition paid by the registrant regardless of whether the seminar has started. Cancellation shall take effect on the date of delivery of the written notice of cancellation, or if delivered by mail, the postmark date of the written notice of cancellation.
3. If the registrant gives written notice of cancellation after 5 business days of the date of acceptance, but before the start of the seminar, Duluth-Superior Chapter No. 183, SREA will refund all charges, except fifteen percent (15%) of the total tuition charge, but not to exceed $50.00.
4. Duluth-Superior Chapter No. 183, SREA will acknowledge in writing any valid cancellation within 10 business days of receipt, and will make the refund due the registrant within 30 days of receipt of valid notice of cancellation.
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6. The refund policy shall apply for whatever reason the cancellation is made.
7. The word "student" shall be construed to mean the student himself or herself, if he or she is the party to the contract, or his or her parents or guardian or another person, if the parent, guardian or other person is the party to the contract on behalf of the student.

Entrance Requirements
This seminar is open to anyone who is interested.

Attendance
No grades are issued.
Registrants must attend the entire seminar in order to receive credit.
Registrants are expected to comport themselves as professionals.
No credit is granted for previous training.

SEMINAR INSTRUCTOR

Dr. James A. Graaskamp is a Professor of Real Estate at the University of Wisconsin in the School of Business, Madison, Wisconsin, and current Chairman of the Department of Real Estate and Urban Land Economics.

He holds a Ph.D. in Urban Land Economics and Risk Management from the University of Wisconsin, Madison, Wisconsin.

Dr. Graaskamp's university teaching specialties include: Urban Land Economics, Undergraduate and Graduate Appraisal Theory and Method courses, Real Estate Investment and Finance, Real Estate Marketing Research, Residential and Commercial Property Development and Principles of Risk Management.

His research interests include: development of a variety of after-tax flow investment simulation models for real estate, research of innovative tax assessment techniques, recreational real estate development and techniques of feasibility analysis.

Dr. Graaskamp is a co-founder of a general contracting firm in Madison, a land development firm in Madison, and a farm investment corporation. He is a member of the Board of Directors of the Wisconsin Housing Finance Agency. His consulting work includes investment counseling in insurance companies and banks in Wisconsin, court testimony as expert witness, and projects for various Wisconsin municipalities as well as private investors. He is a co-designer and instructor of EDUCARE teaching program for computer terminal applications in real estate.

Dr. Graaskamp's professional designations include: Senior Real Estate Analyst—SREA, American Society of Real Estate Counsellors—CRE, College of Property Underwriters—CPCU.

Dr. Graaskamp has also published a number of monographs, reports and articles on the topics of real estate, land economics, housing, appraisal, real estate investment and development, including "A Guide to Feasibility Analysis" published by the Society of Real Estate Appraisers.

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SEMINAR
REAL ESTATE FEASIBILITY ANALYSIS

Duluth-Superior Chapter No. 183, SREA
216 First Federal Savings Building
Duluth, Minnesota 55802

Radisson-Duluth Hotel
5th Avenue West & Superior Street

April 10-11, 1981

SEMINAR OBJECTIVE

Real estate appraisers and mortgage lenders require a basic understanding of the relationship among appraisal reports, feasibility reports, and real estate counseling. The appraiser can find many opportunities to expand his services and justify more adequate professional fees if he can distinguish between assignments which require standard appraisal and those which require custom research and focus. There is often a wide gap between the probable price at which a property will sell and the price which a specific user should pay or the type of property a specific user should consider. This seminar will distinguish among the various functions and customer relationships which give rise to feasibility work and a systematic approach to inquiry on a feasibility type of assignment. It will also teach the mortgage lender, developer, or investor how to best contract for analytical real estate services.

COURSE SCHEDULE

First Day

8:00-9:00	Registration
9:00-10:15	Basic Concepts and Definitions -Concepts of the Real Estate Process -Concepts of Risk Management -Concepts of Feasibility Analysis
10:15-10:30	Coffee Break
10:30-12:00	Relationship With the Client -Defining the Problem to be Studied -Assigning Responsibility for Various Facts and Assumptions -Focusing the Report Product
12:00-1:00	Lunch
1:00-2:30	Site in Search of a Use -Systematic Site Analysis -Preliminary Definition of Market Alternatives
2:30-2:45	Coke Break
2:45-4:45	Preliminary Financial Analysis -Capital Budget Justified by Rent -Rents Required by Capital Budget -Financial Planning Around Cash Breakeven Point -Sensitivity Analysis

Second Day

9:00-10:30	Market and Merchandising Analysis -Definitions -Description of Alternative Methods Of Market Analysis -Limitations of Market Analysis
10:30-10:45	Coffee Break
10:45-12:00	Merchandising Research -Concepts -Basic Applications -Pitfalls
12:00-1:00	Lunch
1:00-3:00	Case Study Examples -Apartment House and Single Family Area -Mini Warehouse -Elderly Housing
3:00-3:15	Coke Break
3:15-4:00	Preparation of the Feasibility Report -Definition of the Feasibility Parameters -Limitations on Use, Etc. -Liability of the Appraiser -Responsibility for the Client
4:00-5:00	Question and Answer Session

LECTURER

JAMES A. GRAASKAMP is Professor of Real Estate, University of Wisconsin School of Business, and Chairman of the Department of Real Estate and Urban Land Economics. He received his Ph.D. in Urban Land Economics and Risk Management from the University of Wisconsin in 1964. He specializes in Undergraduate and Graduate Appraisal Theory and method courses, Real Estate Investment and Finance, Real Estate Marketing Research, Residential and Commercial Property Development and Principles of Risk Management. He holds professional designations of Senior Real Estate Analyst - SREA; American Society of Real Estate Counselors - CRE; and College of Property Underwriters - CPCU.

REAL ESTATE FEASIBILITY SEMINAR

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and inclues architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital. Money is an energy transfer system.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.
4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

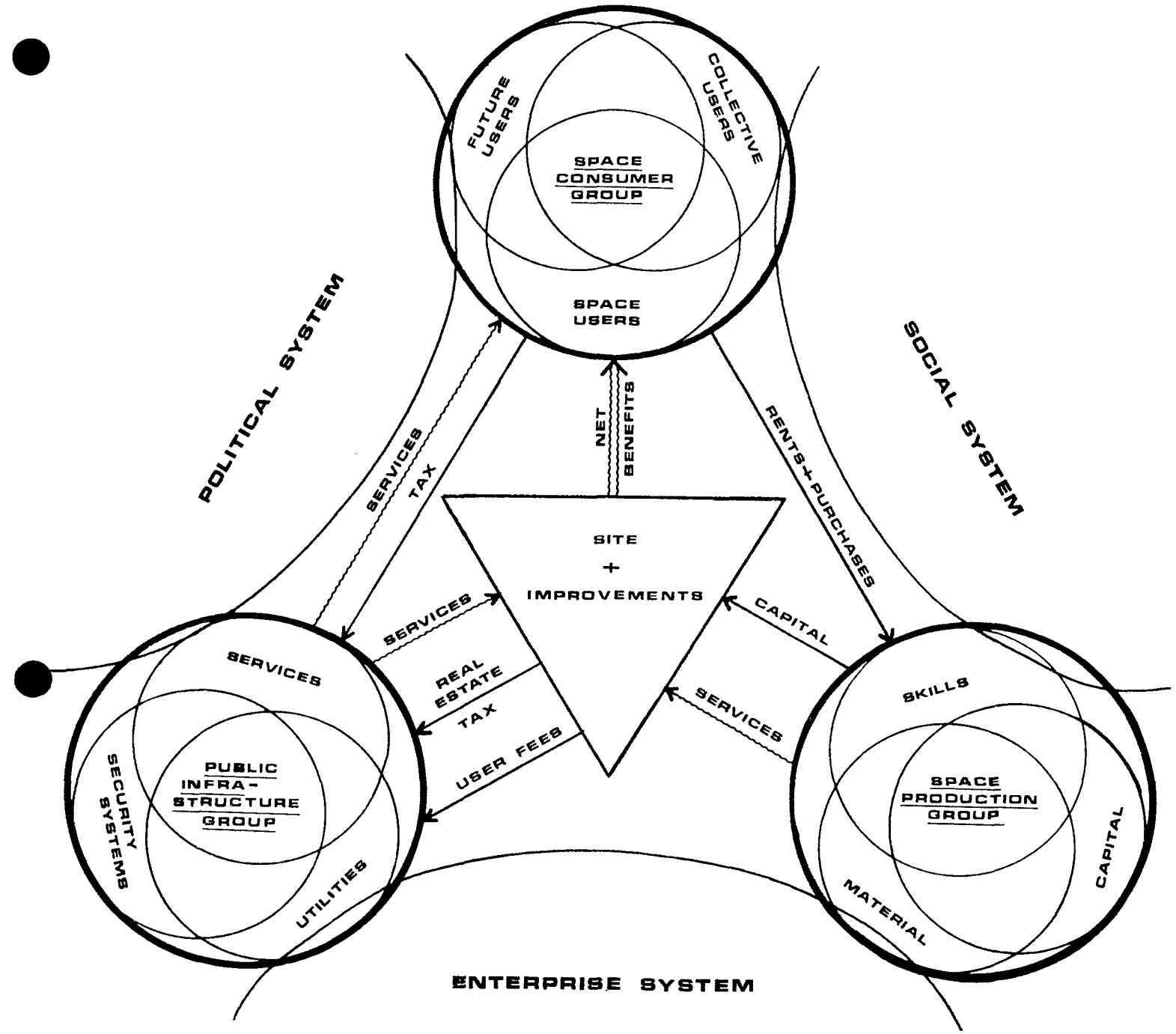
D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:

1. Physical attributes
2. Legal-political attributes
3. Linkage attributes
4. Dynamic attributes
5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

Exhibit 1



THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced be concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.
2. The individual consumer with needs and a budget is the drive wheel.
3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.
4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.
2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.
3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.
4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.
5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. An enterprise is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The system engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form giver.

II. Financial Management and Risk Management

Investment is a real estate enterprise as mortgage lender or equity investor is simply buying a set of financial assumptions about the interaction of the project to its context, of the firm to its environment. Real estate analysis is to control the variance between expectations and realizations, between proforma prospects and historical balance sheets and profit and loss statements.

A. Analysis is risk management, control of variance.
B. There are essentially two types of risk exposures:

1. Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.

2. Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.

C. Risk evaluation or comparison grows out of the function of risk management for an enterprise.

1. Risk management has two objectives:

a. First priority - conservation of existing enterprise assets despite surprise events.
b. Second priority - realization of budgeted expectations despite surprise events.

2. The process of risk management involves systematic and continuous:

a. Identification of significant exposures to loss
b. Estimation of potential loss frequency and severity
c. Identification of alternative methods to avoid loss
d. Selection of a risk management method
e. Monitoring execution of risk management plan

3. The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to anticipate surprise and to provide for a response or adjustment in advance of the contingency.

D. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as:

1. Review of balance sheet accounts
2. Review of profit and loss statement accounts
3. Review of business organization or function chart
4. Review of elements of financial feasibility analysis

E. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

1. Very frequent and minor become expense accounts
2. Less frequent but predicatable and major become reserves or budget allowances.

3. Infrequent, uncertain but very severe become issues of risk management.
4. A 50/50 probability is the most uncertain outcome.

F. The alternative methods of avoiding loss which everyone subconsciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (diversification or mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expense)
4. Shift risk by contract (subcontracts or escalator clauses)
5. Shift risk by combination (diversification) by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and leaseback, options, contingent sales)

G. Risk management concepts leads to understanding of the true essence of a mortgage contract and an equity commitment

1. A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market. The mortgage contract is a risk management agreement to provide coverage of static risks and an imperfect straddle on the dynamic risks. Protection for the lender is revenue to the borrower, negative incentives, and salvage.

2. Equity ownership is the degree to which you can divert cash flow and maintain control within an acceptable level of risk avoidance.

III. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

> "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1. A check list of physical attributes
2. A check list of critical linkage attributes
3. A check list of dynamic behavioral attributes

4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
6. Probability distributions of alternative outcomes and standard error of the estimate
7. Pshychological gratifications
8. Specified legal attributes
9. Measures of impact on environment

C. The definition also implies uncertainty - a reasonable likelihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analystical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

D. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical-aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

E. The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

F. These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

G. Correctly defining the context in all its basic dimensions requires a generalist; an appraiser is a generalist. A feasibility study produces a set of paramters, a set of predesigned or preoperational specifications within which a program proposal should work. The analyst and his client should always remember that the second stage of the feasibility study will be confirmation of the feasibility assumptions and parameters by technical analysis and planning by the specialists.

H. An appraisal is a forecast of productivity of a property relative to the needs of a certain buyer group and a prediction of the price at which it would sell to the most probable buyer.

1. Anticipation of an economic behavior by the buyer leads to the highest price he would be willing to pay.

2. Anticiaption of the behavior of the seller leads to an estimate of the least he would be willing to accept.

3. Analysis of the influence of outside factors affecting price supply and demand leads to an estimate control tendency between buyer and seller maximum.

4. The upper and lower ranges specify a transaction zone within which a most probable price will occur. The most probable sales price does not need to be at the center of the zone nor do the alternatives need to follow a normal distribution curve. The zone and tne distribution most typically are statements of verbal probability.

I. An appraisal is therefore a feasibility study of alternative courses of action and these alternatives are matched to the most probable user/investment group to be seeking such a property opportunity at that time.

The appraisal process as a feasibility study lends itself to the following logical process:

1. What is the problem for which the appraisal is to serve as a benchmark?

2. Which definition of value would best serve the decision process?

3. What does an inventory of site attributes reveal as to the positive and negative contributions of the site to alternative uses?

4. What does an inventory of improvement attributes existing on the site reveal as to the positive and negative contributions of the improvements to alternative uses?

5. What basic alternative use programs or scenarios may be considered as plausible alternatives motivating buyers as of the date of the appraisal?

6. Which alternative use appears to be the most probable use when screened by external factors including effective market demand, political controls, forecasting risk, and potential profitability as perceived by investor/buyers.

7. What is the profile of the most probable buyer/investor for the most probable use to the degree that the profile can define the search for comparable transactions?

8. Could the appraiser simulate the purchase guidelines of a most probable buyer group if there were no sales which were thought to be comparable and appropriate to the subject situation?

9. What is the value to be justified by the appraiser using normative, traditional measures of what a buyer should do, such as the cost approach or conventional income approach?

	Establish Goals	Select, Organize, Analyze, Facts	Understand and Test Concepts	Determine Needs	State Implications and Criteria
Physical (site) Location/Surroundings Landform Ecology Physical Characteristics	Physical Site Characteristics Landform Ecology Physical Impact Location/Surroundings	Roads Slopes Views Vegetation Geology/Soils Climate	"Holding Capacity" Ecological Stability Micro-Climate Food Chains Ecological Succession	Buildable Area Physical Limitations Ecological Analysis	Physical "Fit"
Functional (use) Areas Proximities Utilities/Services Catchments Circulation	Floor Area Utilities/Services Activities Proximity to Other Uses User Population	Area Parameters Catchment Statistics Time-Distance Parameters Traffic Parameters Utility/Service Parameters Vehicular Traffic Pedestrian Traffic	"Connectivity" Catchments Landuse Prototypes: linear superblock star/radial	Area Requirements Traffic Capacity Requirements Parking Requirements Catchment Requirements Utility and Service Capacities Proximity Requirements Access Requirements	Functional "Fit"
Social, Psychological Perception Human Sociology Historic Meaning Symbolic Meaning	Symbolic Image Psychological Effects Sociological Impact	Social Statistics Social Structure Behaviorial Data Perceptual Data Historical Data	"Life-Style" "Behavior-Setting" Sociopetal-Sociofugal "Paths, Nodes, Edges" "Barriers, Linkages"	Required "Behavior-Settings" Sociological Needs Psychological Needs Perceptual Needs	Social/Psychological "Fit"
Legal, Political Real Property Law Codes and Zoning Jurisdictions Power Groups	Ownership Forms Jurisdictions Political Associations Zoning and Covenants Political Strategies & Goals	Surveys Platting Requirements Code Restrictions Zoning Restrictions Deed Restrictions Easements Jurisdictions Power Groups	Co-ops Condominiums Air-Rights Advocacy Leasehold Joint-Venture Eminent Domain	Political Feasibility Legal Feasibility Required Building Envelope Ownership Requirements Required Rulings and Variances	Legal Political "Fit"
Economic Real Estate Economics Markets Funding/Financing Locational Economics	Profit Return Equity Market Characteristics Rents or Sales Volumes Funding and Financing Budget Economic Impact	Interest Rates Capitalization Rates Taxes and Land Costs Rents and Sales PSF Transportation Costs Economic Statistics Financing Ratios Utility Rates	Economic "Return" "Leverage" "Highest-Best Use" "Cost Sensitivity" Absorption Rates	Market Analysis Population Projection Investment Return Analysis Industrial Location Analysis Economic Impact Analysis Traffic Projections Cash Flow Analysis	Economic "Fit"

IV. What is the Problem as Perceived by the Client?

The original problem as perceived by the client is seldom the real issue of feasibility analysis that will need to be examined by the analyst.

A. The appraiser is conditioned to having the client specify the function of the appraisal, such as for fire insurance or eminent domain and then having the client's attorney or the court jurisdiction define the definition of fair market value, the question which the appraiser then begins to answer.

B. However, the client may ask for an appraisal when he needs a feasibility study. He may ask what he should pay for a piece of property before he has determined that his strategic needs are best met by purchase rather than by leasing by avoiding ownership of additional space altogether (by sub-contracting certain functions of others by the way in which he purchases services and supplies).

1. Since everyone is an expert on real estate the client will probably presume that a certain procedure will be followed.
2. The architect will presume that the real estate expert will show the financial implications of a final design, when in fact the real estate expert should first assist in the pre architectural program of design objectives.
3. Almost every client will overlook some of the basic issues because of the natural bias of his position.
4. The consultant must begin by attempting to discover what is taken for granted and that search will continue to condition his relationship ith his client.

C. When the client first contacts the consultant the question provided by the client will conceal some implicit client preferences and assumptions. The consultant will need to interview his client by asking him explicitly about:

1. His concept as to the "essence" of his business
2. His preferred method of meeting entrepreneurial risk
3. His preferred method of personnel compensation
4. His style of value decision trade-offs between qualitative and quantitative issues.
5. His perception of his risk position and his risk utility "curve."
6. His personal non-business objective.
7. His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of indepth preparation by the client).

D. The client is often skeptical of the ability of the consultant to contribute anything new since he may regard the consultant as one "who tells him the time by reading the client's own watch."

1. Moreover, he may be using the consultant to double check another source of information and therefore expects a consultant to begin from scratch as a way of confirming the original source.
2. Nevertheless, the feasibility analyst must eventually extract from the client, preferably in writing, an agreement as to what the stated objectives of the study are and the input which will be provided by others than the analyst.
3. This step will probably only be accomplished after the consultant has come to a better understanding of the real problems faced by the client.

V. What is the Problem as Understood by the Consultant?

The problem as perceived by the client almost always must be converted into a sequence of problems as understood by the consultant. The perceived question of "How much should I pay for the land," may come to be understood as "Why do I need to invest in land"?

A. The feasibility analyst should be the devil's disciple for in order to define what needs doing, he must first discover what has been done, what assumptions have been made, and whether those who made the assumptions knew what they were doing.

1. A useful technique is to reverse the question or the alternative in order to have better perspective on the assumed area of solution. If asked to organize a non-profit partnership to create a counseling facility, approach the problem as how to dissolve a partnership of non-profit contributors. If asked the feasibility of restaurant expansion, investigate the possibility of reducing the size of the kitchen instead.

2. To gain perspective, one creative think system (Synectics) recommends conversion of the familiar to the strange and the strange to the familiar by analogy. Thus any multi-user real estate becomes analagous to a retailing model while any single user real estate decision becomes an industrial location model.

3. Statement of the problem as a "compressed conflict" by describing it in two words which appear to be mutually exclusive or contradictory may be useful in understanding a problem. For example, customer control as "channeled freedom" or land use control has "fixed state of flux" can then lead to discovery of more remote analogies. Analogies serve as reiliminary models suggesting opportunity areas for a solution.

B. In search of the real problem as opposed to the initial problem perceived by the client, the analyst should retreat to some basic classification and task identification checklists. First there are only three alternative feasibility situations:

1. A site or a project owned by a specific client in search of a market.
2. An identified market segment or use in search of the site and project to be provided by a specific client.
3. A specific client desiring to search for an opportunity in real estate enterprise.

C. Next the analyst must know the viewpoint of the audience for his report, written or oral, because the elements considered important by a mortgage lender may be significantly different than those of a general partner or those of a limited partner or those of a large tenant.

D. Since there are so many facets to the context of a real estate project and measurement of its success, not to mention the assumptions on which the determination of feasibility depends, it is important to have the client agree on what elements of feasibility are to be provided by which expert or analyst.

1. Analyst should be an expert on experts
2. It is useful to include a standard checklist of components with a letter or proposal as that checklist later becomes the really significant portion of the statement of limiting conditions (hold harmless agreements) which are part of the final report. A sample of one such checklist is provided in Exhibit 2.

E. With a review of which elements are to be provided by which experts it then becomes possible to assist the client in choosing which report title or titles are properly the responsbility of the real estate analyst. (See 1.360)

F. With definition of the report expected and the information to be provided by others, the analyst can prepare a budget and a schedule for staging the report so that he and the client can begin to establish priorities both in time and money available for research to define the feasibility assignment on which the analyst is to proceed.

G. Despite the necessity of defining the assignment in light of the clients problem, it is necessary for the analyst to recall that he is to remain an independent analyst an advocate of his own opinion:

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EXHIBIT 2 Feasibility Assignment and Accountability Worksheet
XYZ Appraisal Company
xxx Street Anywhere U.S.A.

Name of Client _____ Date _____

Assignment Description _____

Feasibility Input	Provided by	Approved by	Sequence and date available
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
(Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group, 210 Michigan Theater Building, Ann Arbor, Michigan 48108.

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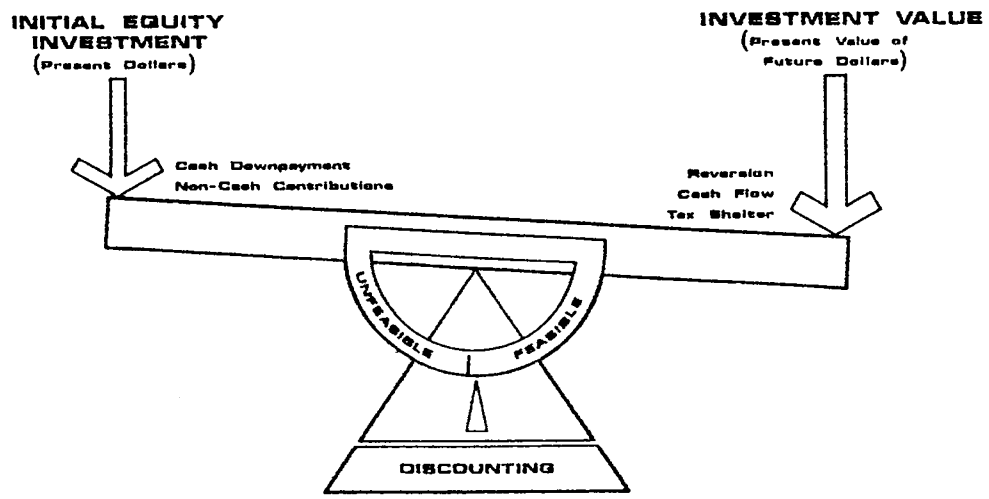

PROJECT INVESTMENT ANALYSIS

PROJECT INVESTMENT ANALYSIS

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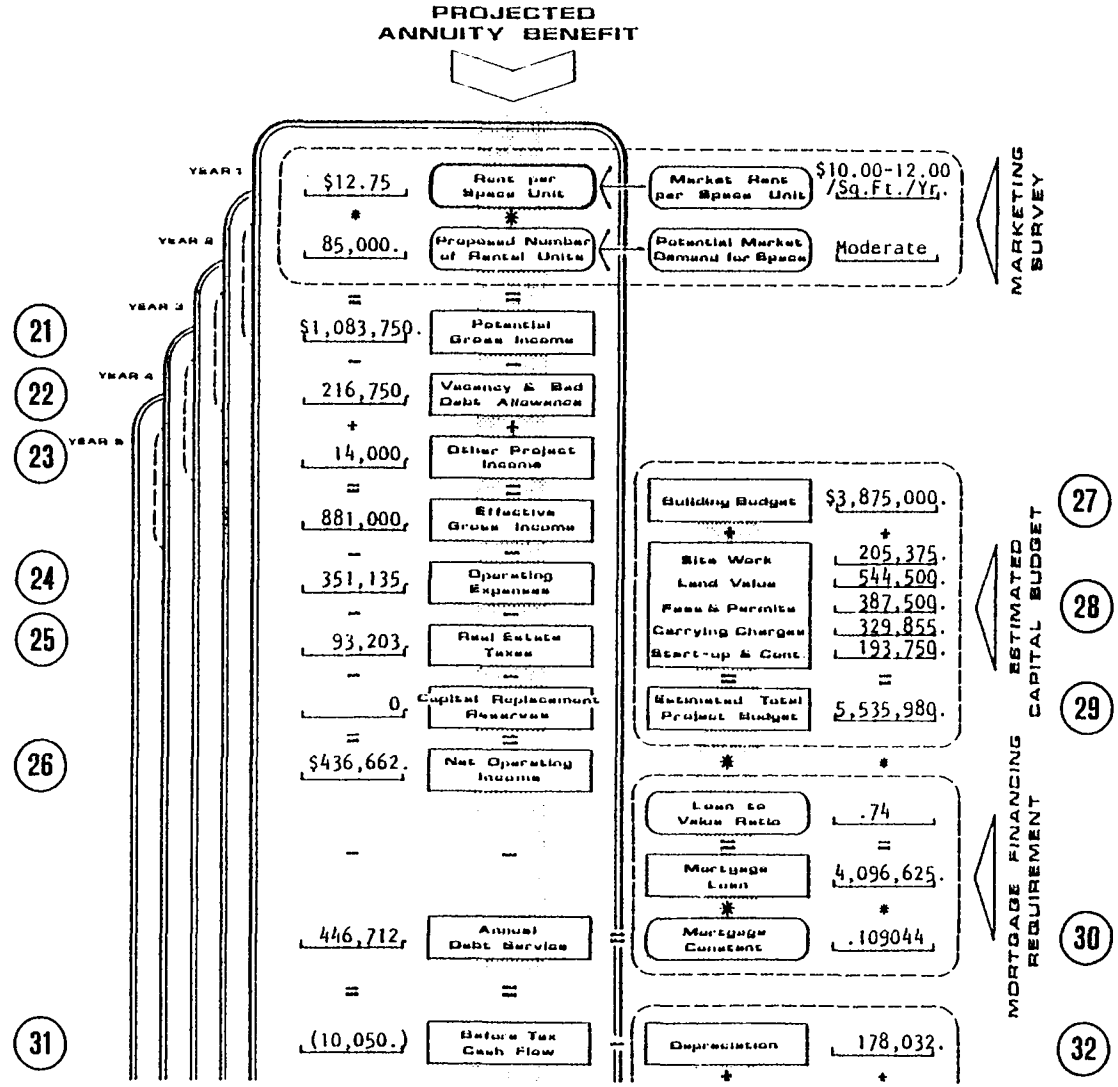
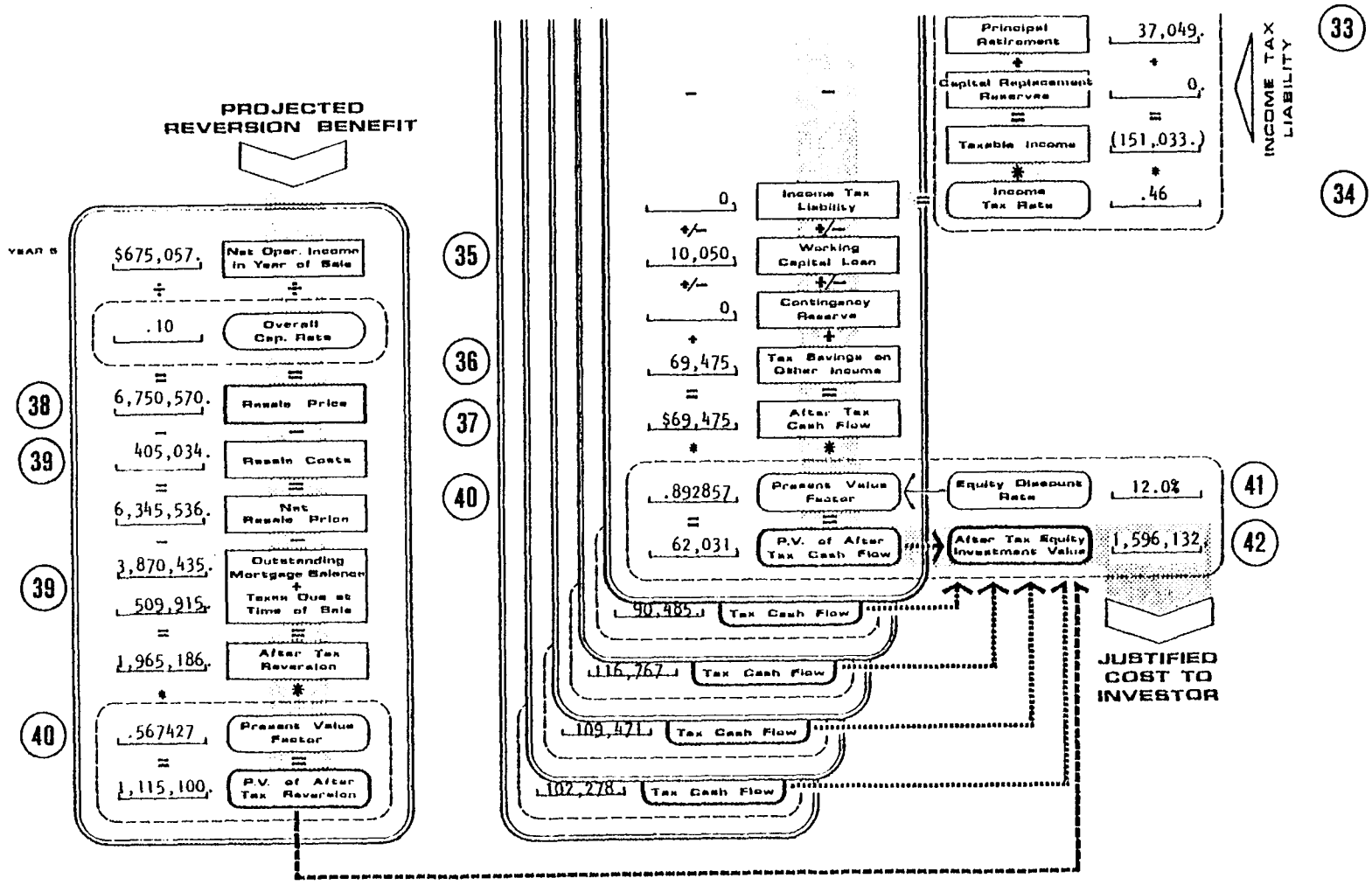
Flow Chart of the "INVESTMENT VALUE" Approach
Case Study





PROJECT INVESTMENT ANALYSIS:

Flow Chart of the "INVESTMENT VALUE" Approach
Case Study

FOOTNOTES

* Introduction: The initial, intermediate, and advanced project analysis models have proven very useful as a quick and effective data screening technique. The answers generated by these three sets of "static" analysis models should not be considered the final answer in the search for a feasible project solution, since they all suffer from a series of short comings, such as:

1. the inability to calculate project annuity benefits over a finite investment holding period.
2. the lack of an estimate of reversion resulting from the sale of the property at the end of the holding period.
3. the lack of any consideration for the influence of income or capital gains taxation on the investment benefits generated by the property.
4. the inability to vary or increase any of the revenue, vacancy, or expense items to account for changing market, management, or inflationary influences.
5. the lack of any credit in the calculations for equity build-up through principal retirement and property appreciation.
6. the limitation of stating the value of the project only in terms of the first year's returns to the investor, rather than by more accurately determining the sum of the present value of all annuity benefits and the present value of the reversion.

The data identified by the "static" project analysis models can now be used as the basis for the project investment analysis, which is capable of over coming all the short comings of the series of previous project analyses.

The Investment Holding Period for this calculation will be five complete calendar years.

Rounding of the calculations will be to the closest dollar figure.

(21) Potential Gross Income: is generated by a series of gross leases signed with a variety of tenants, each with average gross leaseable area allocation of 2,600 square feet. The lease terms are renewable on 3 to 5 year intervals. The average rental rate of $12.75 was established by refering to the results of advanced "front door" calculations.

$12.75/ sq. ft./ year average space rental
× 85,000. sq. ft. of gross leasable area
= $1,083,750. Potential Gross Income in the first year

Revenue Growth Rate: is assumed to be appreciating at a compound annual rate of 5% as a function of lease contract conditions.

FOOTNOTES

(22) Vacancy Allowance: for the project must take into consideration the rate of absorption for 85,000 square feet of project rental space in to the office space market. It is pessimistically assumed that the pre-leasing efforts of the developer will not result in total occupancy of the building by the time of project completion.

	Vacant Gross Leasable Area	Annual Vacancy Rate
Year 1	17,000 square feet	20%
Year 2	8,500 square feet	10%
Year 3 - 5	4,250 square feet	5%

(23) Other Income: may result from extra space rental charges, special fees, or billed building services. Income is expected to be received from the rental of storage space in one half (5,000 sq. ft.) of the unfinished basement of the office building. The 1978 national average of $2.80/sq. ft./year, has been identified in the BOMA 1978 Downtown and Suburban Experience Exchange Report. The growth rate in this space rental income will be 5% compounded annually.

(24) Operating Expenses: have been indentified from the 1978 national data included in Tables #10,11,and 12. It is assumed that this data has been verified by reference to comparable projects in the local market as well as by recommendations of local property managers.

	Expenses expressed as a % of Potential Gross income in the first year	Actual dollar operating expenses in the first yr.
Insurance	.7%	$ 7,586.
Administrative	4.2%	45,518.
Operating expenses	14.3%	154,976.
Maintenance	11.5%	124,631.
Other expenses	1.7%	18,424.
	32.4%	$351,135.

Operating Expense Growth Rate: has been proven, by past trends, to be increasing at a rate greater than the revenue growth rate. It is estimated that the operating expense growth rate is seven and one half percent compounded annually. The type and conditions of the lease agreements, signed with the tenants, will have a strong influence on the project's sensitivity to this inflationary increase in expenses.

(25) Real Estate Tax: is still estimated to be 8.6% of potential gross income. The property taxes of $93,203. will increase at a compound annual rate of 7.5%.

(26) Net Operating Income:

Year 1	$436,662.
Year 2	561,181.
Year 3	637,039.
Year 4	656,054.
Year 5	675,057.

FOOTNOTES

(27) Building Budget: is based on a structure with the following specifications:

Gross building area	100,000 square feet
Unfinished basement	10,000 square feet
Building height	10 stories (120 feet)
Building dimensions	50' x 200'

Reinforced concrete structure
Glass curtain wall w/ 25% aluminum pivot windows

The building construction cost per square foot of $38.75 was estimated by referring to the results of the advanced "Back Door" calculations.

Building Component	Component Cost Expressed as a % of Building budget	Actual Dollar allocation of component costs
Foundations	5.9%	$ 228,625.
Superstructure	16.1%	623,875.
Exterior walls	15.5%	600,625.
Interior partitions	8.0%	310,000.
Roofing	2.2%	85,250.
Interior wall finishes	3.5%	135,625.
Floor finishes	3.2%	124,000.
Suspended ceilings	2.6%	100,750.
Specialities	1.0%	38,750.
Conveying systems & equipment	3.3%	127,875.
Plumbing & fire protection	6.3%	244,125.
HVAC	16.3%	631,625.
Electrical	10.4%	403,000.
General conditions	5.7%	220,875.
	100.0%	$3,875,000.

(28) Non-Building Capital Costs: have been refined from previous estimates used to develop the project to building ratio.

Site Work:

	Site Work Cost Expressed as a % of building budget	Actual dollar allocation of component costs
Excavation	1.2%	$ 46,500.
Parking & Drives	3.1%	120,125.
Landscaping & Exterior Lighting	1.0%	38,750.
	5.3%	$ 205,375.

Land Value: (5 acres: expressed as 14.1% of building budget)

Building ground cover area	10,000 sq. ft.
Parking Area & drives (283 stalls @ 400 sq. ft. each)	113,333 sq. ft.
Landscaped Open Space (2/3 acre)	29,127 sq. ft.
Undeveloped land (1½ acres)	65,340 sq. ft.
Total Site Area	217,800 sq. ft.
Raw land cost/ sq. ft.	x $2.50/sq. ft.
Land Value	$544,500.

Fees & Permits: (expressed as a percent of building budget)

Architect's fees	6.0%	$ 232,500.
Accounting fees	1.0%	38,750.
Legal fees	1.0%	38,750.
Building permits & misc. fees	2.0%	77,500.
	10.0%	$ 387,500.

Carrying Charges: (on Interim construction financing)

Project Construction Cost (Building Budget & Site Work)	$ 4,061,000.
Construction Loan Interest Rate	13.0% annually/ 1.083% monthly
Construction Period	15 months
Construction Cost	$ 4,061,000.
x 50% average balance outstanding	x .5
= average construction loan balance	2,030,500.
x construction interest rate for total construction period	x .16245
= construction loan carrying charges	$ 329,855.

Start-up & Contingency:
Start-up: handled by internal financing through the working capital loan.
Contingency: 5% of Building Budget = $ 193,750.

(29) Estimated Total Project Budget:

Capital Cost Items	Project/Building Ratio	Actual $ Cost
Building Budget	1.000	$ 3,875,000.
Site Work	.053	205,375.
Land Value	.141	544,500.
Fees & Permits	.100	387,500.
Carrying Charges	.085	329,855.
Start-up & Contingency	.050	193,750.
TOTAL	1.429	$ 5,535,980.

(30) Mortgage Constant: was determined by reference to Table #17, page C.8, Annual Mortgage Constant Trends. The mortgage interest rate was then identified for a 100,000 sq. ft. office building in Table #14, page C.6. The average mortgage constant, (.109) was then cross referenced against the mortgage interest rate (.098 rounded to .10) on Table #19, page C.9, Annual Mortgage Constants. This analysis resulted in the mortgage loan parameters:

Mortgage interest rate:	10%
Mortgage amortization term:	25 years
Mortgage constant:	.109044
Annual debt service:	$ 446,712.

(31) Before Tax Cash Flow:

Year 1	$(10,050.)	Year 4	$ 209,342.
Year 2	114,469.	Year 5	228,345.
Year 3	190,327.		
Year 4	209,342.		
Year 5	228,345.		

FOOTNOTES

(32) Depreciation: can be calculated on a composite basis with an accelerated (150%) rate or on a component basis using the straight-line (100%) rate. A comparison of both approaches indicates that the accelerated rate, with its troublesome capital gains recapture provision does not offer benefits equal to a well structured component depreciation schedule for the $4,991,480. in depreciable assets.

	Composite 150% rate	Component 100% rate
Year 1	$ 187,181.	$ 178,032.
Year 2	180,161.	178,032.
Year 3	173,405.	178,032.
Year 4	166,902.	178,032.
Year 5	160,643.	178,032.
TOTAL	$ 868,292.	$ 890,160.

Component Depreciation: breaks down the total depreciable basis into a series of distinct physical building component systems, each with its own basis, useful life, and depreciation rate. This approach may be used only where there is adequate documentation of the cost new and useful life of each of the separate component systems.

Component System	Useful life	% of Building Cost	Component Depreciable Basis
Building Sub & Superstructure			
Exterior & Interior walls	60 yrs.	45.5%	$1,763,125.
Roofing	20 yrs.	2.2%	85,250.
Interior Wall Finishes	15 yrs.	3.5%	135,625.
Floor Finishes	15 yrs.	3.2%	124,000.
Suspended Ceilings	15 yrs.	2.6%	100,750.
Specialities	25 yrs.	1.0%	38,750.
Conveying Systems & Equipment	25 yrs.	3.3%	127,875.
Plumbing & Fireproofing	30 yrs.	6.3%	244,125.
HVAC	25 yrs.	16.3%	631,625.
Electrical	20 yrs.	10.4%	403,000.
Site Work	15 yrs.	5.3%	205,375.
Other Related Capital Costs	60 yrs.	20.7%	802,125.
Construction Interest Costs	10 yrs.	8.5%	329,855.
TOTAL		128.8%	$4,991,480.

Depreciation Rate and Deductions: are the direct result of the previously stated depreciation data. The salvage value on tne component system will set the limit on how much depreciation may be claimed on a component. For example, the salvage value on site work is 50% of initial cost, although the annual depreciation deduction (.0667) may be calculated over 15 years, as if there is depreciation on the full value of the component. Once depreciation claims (50% over 7½ years) and salvage value (50%) equal the initial cost basis of the component system, no further depreciation can be taken on that item.

FOOTNOTES

Component System	Depreciation Rate	Component Depreciable Basis	Depreciation Deduction
Building Sub & Superstructure, Exterior & Interior Walls	.0167	$1,763,125.	$ 29,444.
Roofing	.0500	85,250.	4,263.
Interior Wall Finishes	.0667	135,625.	9,046.
Floor Finishes	.0667	124,000.	8,270.
Suspended Ceilings	.0667	100,750.	6,720.
Specialities	.0400	38,750.	1,550.
Conveying Systems & Equipment	.0400	127,875.	5,115.
Plumbing & Fireproofing	.0333	244,125.	8,129.
HVAC	.0400	631,625.	25,265.
Electrical	.0500	403,000.	20,150.
Site Work	.0667	205,375.	13,699.
Other Related Capital Costs	.0167	802,125.	13,395.
Construction Interest Costs	.1000	329,855.	32,986.
TOTAL		$4,991,480.	$178,032.

(33) Principal Retirement: may be calculated on an annual basis using the Mortgage Amortization Worksheet, page D.10; or by referring to Tables #21 - 24, pages D.16 -19. These tables have been constructed by determining the monthly amortization and then summing to an annual figure. As a result, the two approaches, which may be used to determine principal amortization, will yield slightly different answers.

(34) Income Tax Rate: for a corporate investor is determined by the following schedule:

Taxable Income	Income Tax Rate
Up to $25,000.	17.0%
$25,000. up to $50,000.	20.0%
$50,000. up to $75,000.	30.0%
$75,000. up to $100,000.	40.0%
Greater than $100,000.	46.0%

It is assumed that the corporate owner is generating taxable income, on these investments, of more than $100,000. This will mandate the use of the 46% tax rate for the analysis of tax liability on this project.

(35) Working Capital Loan: calculations are explained fully on pages 6.9 - 10 of the Handbook. The working capital loan will cover an operating deficit of $10,050. in the first year and will then require repayment of $11,457. in loan balance and interest out of the second year's Cash from Operations of $114,469.

(36) Tax Savings on Other Income: results from the tax credit created by the negative taxable income in years one and two. The amount of this

tax credit will be 46.0% of the negative taxable income.

	Taxable Income	Tax Savings on Other Income
Year 1	$(151,033.)	$69,475.
Year 2	(22,809.)	10,492.
Year 3	57,125.	0.
Year 4	80,623.	0.
Year 5	104,557.	0.

(37) After Tax Cash Flow:

Year 1	$ 69,475.
Year 2	113,504.
Year 3	164,049.
Year 4	172,255.
Year 5	180,249.

(38) Resale Price: estimation is very much a "crystal ball" operation if undertaken on an arbitrary basis. The most logical and consistent method of establishing the resale price of a property is to assume the potential purchaser will capitalize the income stream, to determine the market value (in the same manner as the intermediate project analysis models). The same overall cap rate has been used to estimate the future sale price as was used to determine the justified building cost/square foot, earlier in the analysis process.

(39) Liabilities Incurred at the Time of Sale:
Resale Costs: 6% of Resale Price
Outstanding Mortgage Balance: may be calculated on an annual basis using the Mortgage Amortization Worksheet, page D.10; or by referring to Tables #21 - 24, pages D.16 - 19. These tables have been constructed by determining the monthly amortization and then summing to an annual figure. As a result, the two approaches, which may be used to determine Outstanding Mortgage Balance, will yield slightly different answers.
Taxes Due at Time of Sale: can be calculated with the use of the Worksheet on page D.13. A more complete explanation of the calculation process can be found on pages 7.5 - 6 of the Handbook.
The problems of determining the capital gains tax have been greatly simplified by the use of the component straight-line depreciation method. For the purposes of simplicity, a 30.0% capital gains tax rate has been assumed for the corporate owner of the project.

(40) Discounting: of the annuity benefits (years 1 - 5) and the reversion (year 5) are accomplished through the use of the Present Value of a Reversion of One compound interest factors. These present value factors are found in column #4 of the Compound Interest Tables on pages 9.27 - 36 of the Handbook. A complete presentation of the derivation and application presentation of these factors is included in Chapter

3: "Income Capitalization" of the Handbook.

(41) Equity Discount Rate: Is the annual rate of return on equity (down payment) desired by the investor , and justified by yields on other comparable investment opportunities. A 12% equity discount rate has been selected since many major corporations use this figure as the "hurdle rate" for reviewing the investment feasibility of real estate investment properties.
The Internal Rate of Return will be later compared against the equity discount rate ot determine if the actual yield on the equity investment has met or exceeded the equity discount rate requirement.

(42) After Tax Equity Investment Value:

	P.V. of After Tax Cash Flow	P.V. of After Tax Reversion
Year 1	$ 62,031.	
Year 2	90,485.	
Year 3	116,767.	
Year 4	109,471.	
Year 5	102,278.	$1,115,100.
After Tax Equity Investment Value		$1,596,132.
- Initial Equity Contribution		- 1,439,355.
= Net Present Value		$ 156,777.

(2.8% of Total Project Cost, 4.0% of Building Budget)

This long and elaborate project investment analysis has determined that investment will generate at least a 12% return on equity benefits (annuity & reversion) slightly in excess of the original equity contribution of $1,439,355. This marginal value may be considered as an additional contingency against unknown risks, or it may be credited as additional return (beyond the desired 12%) to the investor.

* Internal Rate of Return: Is the equity discount rate which will generate an after tax equity investment value exactly equal to the equity contribution. The process for calculating IRR is presented on pages 8.8 -9 of the Handbook. A 14.6% equity discount rate will create this "exact" balance between the initial cost to the investor and present value of all equity benefits received during the holding period. The project will prove to be slightly more profitable than originally required in the analysis, if all project data input variables remain unchanged during project procurement, operation, and disposition stages. A breakdown of the 14.6% internal rate of return indicates that project relies heavily on profits from resale to guarantee the stated yield on the investment.

	Present Value	% of After Tax Equity Investment Value	Portion of IRR
Cash Flows	$378,082.	26.3%	3.8%
Tax Shelter	68,589.	4.8%	.7%
Reversion	992,684.	68.9%	10.1%
TOTAL	$1,439,355.	100.0%	14.6%

NET OPERATING INCOME STATEMENT

YEAR	1	2	3	4	5
POTENTIAL GROSS INCOME (w/ _____% growth rate/year)					
- VACANCY AND BAD DEBT ALLOWANCE (w/ _____% of P.G.I.)					
+ OTHER PROJECT INCOME					
= EFFECTIVE GROSS INCOME					
- OPERATING EXPENSES (w/ _____% growth rate/year)					
- REAL ESTATE TAXES (w/ _____% growth rate/year)					
- CAPITAL REPLACEMENT RESERVE					
= NET OPERATING INCOME					

Mortgage Amortization Calculations

YEAR	1	2	3	4	5
ESTIMATED PROJECT BUDGET OR TOTAL PROJECT VALUE					
* LOAN TO VALUE RATIO					
= MORTGAGE LOAN					
OUTSTANDING MORTGAGE BALANCE - THIS YR.					
* INTEREST RATE					
= INTEREST PAYMENT					
ORIGINAL MORTGAGE PRINCIPAL					
* MORTGAGE CONSTANT (____% Interest, ____Year Term)					
= ANNUAL DEBT SERVICE					
- INTEREST PAYMENT					
= PRINCIPAL RETIREMENT					
OUTSTANDING MORTGAGE BALANCE - THIS YR.					
- PRINCIPAL RETIREMENT					
= OUTSTANDING MORTGAGE BALANCE - NEXT YR.					

DEPRECIATION CALCULATIONS

YEAR	1	2	3	4	5
COMPOSITE STRAIGHT-LINE DEPRECIATION:					
DEPRECIABLE ASSETS	_____				
* DEPRECIATION RATE[+]	_____				
= ANNUAL DEPRECIATION DEDUCTION	_____	_____	_____	_____	_____
CUMMULATIVE STRAIGHT-LINE DEPRECIATION					_____
DECLINING BALANCE DEPRECIATION:					
DEPRECIABLE ASSET - THIS YEAR	_____	_____	_____	_____	_____
* ACCELERATED DEPRECIATION RATE[++]	_____	_____	_____	_____	_____
= DEPRECIATION DEDUCTION	_____	_____	_____	_____	_____
CUMULATIVE DECLINING BALANCE DEPRECIATION					_____
DEPRECIABLE ASSETS - THIS YEAR	_____	_____	_____	_____	_____
- DEPRECIATION DEDUCTION	_____	_____	_____	_____	_____
= DEPRECIABLE ASSETS - NEXT YEAR	_____	_____	_____	_____	_____

[+] STRAIGHT - LINE DEPRECIATION RATE = $\frac{1 - \%\ \text{SALVAGE VALUE}}{\text{USEFUL LIFE}}$

[++] DECLINING BALANCE DEPRECIATION RATE = $\frac{1 \times \text{ACCELERATED RATE}}{\text{USEFUL LIFE}}$

Income Tax Liability and After Tax Cash Flow

YEAR	1	2	3	4	5
NET OPERATING INCOME					
- ANNUAL DEBT SERVICE					
= BEFORE TAX CASH FLOW					
- DEPRECIATION					
+ PRINCIPAL RETIREMENT					
+ CAPITAL REPLACEMENT RESERVE					
= TAXABLE INCOME					
* TAX RATE @ ____%					
= INCOME TAX LIABILITY					
BEFORE TAX CASH FLOW					
- INCOME TAX LIABILITY					
= CASH FROM OPERATIONS					
+/- WORKING CAPITAL LOAN					
+/- CONTINGENCY RESERVE					
= DISTRIBUTABLE CASH AFTER TAXES					
+ TAX SAVINGS ON OTHER INCOME					
+ REFINANCING SURPLUS					
= AFTER TAX CASH FLOW					

WORKING CAPITAL LOAN CALCULATIONS

YEAR	1	2	3	4	5
CASH FROM OPERATIONS					
BEGINNING YEAR BALANCE					
* WORKING CAPITAL LOAN INTEREST RATE					
= INTEREST DUE					
BEGINNING YEAR BALANCE AND INTEREST					
+ ADDITIONAL LOAN OR (-REPAYMENT)					
= END OF YEAR BALANCE					
DISTRIBUTABLE CASH AFTER TAXES					

TAXES AT THE TIME OF SALE

YEAR 5

PORTION SUBJECT TO CAPITAL GAINS TAX RATE:

NET RESALE PRICE	_____
- INITIAL COST	_____
= INCREASED PROPERTY VALUE	_____
+ CUMULATIVE STRAIGHT-LINE DEPRECIATION	_____
= TOTAL GAIN TAXED AT THE CAPITAL GAINS RATE	_____

PORTION SUBJECT TO ORDINARY INCOME TAX RATE:

TOTAL DEPRECIATION TAKEN	_____
- CUMULATIVE STRAIGHT-LINE DEPRECIATION	_____
= ALLOWABLE EXCESS DEPRECIATION	_____

COMPUTATION OF TAXES DUE:

GAINS SUBJECT TO CAPITAL GAINS TAX	_____
* CAPITAL GAINS TAX RATE	_____
= CAPITAL GAINS TAX DUE	_____
ALLOWABLE EXCESS DEPRECIATION	_____
* ORDINARY INCOME TAX RATE	_____
= ORDINARY INCOME TAX DUE	_____
CAPITAL GAINS TAX DUE	_____
+ ORDINARY INCOME TAX DUE	_____
= TOTAL TAXES DUE AT THE TIME OF SALE	_____

AFTER TAX EQUITY INVESTMENT VALUE

YEAR	1	2	3	4	5
AFTER TAX CASH FLOW					
* PRESENT VALUE FACTOR @ ____%					
= P.V. OF AFTER TAX CASH FLOW					
CUMULATIVE P.V. OF AFTER TAX CASH FLOW					
NET OPERATING INCOME IN YEAR OF SALE					
÷ OVERALL CAP RATE					
= PROPERTY RESALE PRICE					
- RESALE COSTS					
= NET RESALE PRICE					
- OUTSTANDING MORTGAGE BALANCE					
- TAXES DUE AT TIME OF SALE					
= AFTER TAX REVERSION					
* PRESENT VALUE FACTOR @ ____%					
= P.V. OF AFTER TAX REVERSION					
CUMULATIVE P.V. OF AFTER TAX CASH FLOW					
+ P.V. OF AFTER TAX REVERSION					
= AFTER TAX EQUITY INVESTMENT VALUE					

Total Investment Value & Net Present Value

YEAR	1	2	3	4	5
AFTER TAX EQUITY INVESTMENT VALUE					_____
+ MORTGAGE LOAN					_____
= TOTAL INVESTMENT VALUE					_____
TOTAL INVESTMENT VALUE					_____
- INITIAL PROJECT CAPITAL COSTS					_____
= NET PRESENT VALUE					_____

Rate of Return Analysis

YEAR	1	2	3	4	5
RATE OF RETURN ON TOTAL CAPITAL	_____	_____	_____	_____	_____
BEFORE TAX CASH RATE OF RETURN	_____	_____	_____	_____	_____
AFTER TAX CASH RATE OF RETURN	_____	_____	_____	_____	_____
INTERNAL RATE OF RETURN					_____

TABLE #21a: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (8½% interest)

Mortgage Term:	15 Yrs.		20 Yrs.		25 Yrs.		30 Yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.083676	.965512	.084238	.980102	.084536	.987912	.084710	.992442
2	.080629	.927977	.082477	.958443	.083469	.974757	.084042	.984216
3	.077311	.887124	.080563	.934870	.082305	.960438	.083314	.975262
4	.073701	.842661	.078480	.909214	.081038	.944852	.082524	.965518
5	.069771	.794266	.076210	.881288	.079663	.927891	.081662	.954912
6	.065490	.741594	.073743	.850895	.078164	.909431	.080723	.943367
7	.060836	.684266	.071054	.817813	.076530	.889337	.079705	.930804
8	.055769	.621871	.068133	.781810	.074756	.867469	.078595	.917131
9	.050253	.553960	.064951	.742625	.072822	.843667	.077384	.902247
10	.044252	.480048	.061485	.699974	.070717	.817760	.076070	.886049
Monthly Constant:	.009847		.008678		.008052		.007689	
Annual Constant:	.118169		.104139		.096627		.092270	

TABLE #21b: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (9% interest)

Mortgage Term:	15 yrs.		20 yrs.		25 yrs.		30 yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.088658	.966942	.089241	.981277	.089548	.988844	.089723	.993171
2	.085558	.930784	.087484	.960797	.088501	.976641	.089082	.985701
3	.082166	.891234	.085564	.938397	.087357	.963294	.088383	.977532
4	.078456	.847974	.083461	.913894	.086104	.948694	.087614	.968594
5	.074398	.800656	.081163	.887093	.084735	.932725	.086779	.958821
6	.069958	.748898	.078648	.857777	.083234	.915255	.085861	.948130
7	.065104	.692286	.075899	.825712	.081596	.896147	.084857	.936435
8	.059793	.630363	.072891	.790639	.079803	.875246	.083759	.923642
9	.053984	.562631	.069601	.572276	.077846	.852388	.082558	.909648
10	.047630	.488545	.066002	.710314	.075702	.827386	.081247	.894343
Monthly Constant	.010143		.008997		.008392		.008046	
Annual Constant:	.1217112		.1079[illegible]		.100704		.0965515	

TABLE #22a: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (9½% interest)

Mortgage Term:	15 yrs.		20 yrs.		25 yrs.		30 yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.093645	.968341	.094246	.982394	.094559	.989715	.094737	.993829
2	.090502	.933539	.092499	.963041	.093540	.978411	.094124	.987045
3	.087049	.895284	.090579	.941768	.092418	.965985	.093448	.979585
4	.083251	.853231	.088468	.918384	.091184	.952325	.092709	.971386
5	.079079	.807006	.086146	.892678	.089828	.937309	.091894	.962372
6	.074492	.756194	.083594	.864420	.088338	.920803	.091001	.952465
7	.069449	.700339	.080791	.833359	.086700	.902659	.090018	.941575
8	.063902	.638937	.077707	.799214	.084899	.882714	.088939	.929606
9	.057811	.571444	.074318	.761680	.082919	.860789	.087749	.916447
10	.051112	.497252	.070596	.720424	.080742	.836687	.086444	.901983
Monthly Constant:	.010442		.009321		.008737		.008409	
Annual Constant:	.1253017		.1118516		.104844		.1009013	

TABLE #22b: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (10% interest)

Mortgage Term:	15 yrs.		20 yrs.		25 yrs.		30 yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.098636	.969684	.099254	.983454	.099573	.990529	.099750	.994438
2	.095462	.936194	.097522	.965176	.098580	.980065	.099167	.988293
3	.091954	.899196	.095610	.944986	.097486	.968507	.098524	.981505
4	.088079	.858323	.093494	.922680	.096276	.955739	.097813	.974006
5	.083800	.813171	.091160	.898040	.094937	.941632	.097028	.965722
6	.079071	.763290	.088580	.870820	.093463	.926051	.096162	.956572
7	.073849	.708187	.085730	.840750	.091831	.908838	.095201	.946461
8	.068078	.647313	.082579	.807529	.090029	.889823	.094143	.935292
9	.061705	.580066	.079102	.770831	.088036	.868815	.092974	.922954
10	.054662	.505776	.075259	.730290	.085838	.845609	.091681	.909323
Monthly Constant:	.010746		.009650		.009087		.008776	
Annual Constant:	.1289513		.1158013		.109044		.105309	

TABLE #23a: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (10½% interest)

Mortgage Term:	15 yrs.		20 yrs.		25 yrs.		30 yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.103629	.970981	.104265	.984457	.104588	.991284	.104764	.995000
2	.100430	.938763	.102552	.967201	.103627	.981607	.104213	.989449
3	.096882	.902997	.100651	.948044	.102559	.970862	.103600	.983285
4	.092940	.863289	.098543	.926779	.101377	.958935	.102922	.976443
5	.088564	.819205	.096197	.903168	.100063	.945694	.102168	.968847
6	.083706	.770263	.093596	.876956	.098604	.930994	.101331	.960414
7	.078313	.715928	.090705	.847853	.096985	.914675	.100403	.951053
8	.072324	.655604	.087500	.815545	.095184	.896555	.099369	.940658
9	.065676	.588634	.083939	.779676	.093189	.876440	.098226	.929120
10	.058296	.514282	.079983	.739851	.090972	.854108	.096954	.916310
Monthly Constant:	.011054		.009984		.009442		.009147	
Annual Constant:	.132648		.119816		.1133012		.1097619	

TABLE #23b: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (11% interest)

Mortgage Term:	15 yrs.		20 yrs.		25 yrs.		30 yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.108629	.972237	.109280	.985416	.109605	.991993	.109778	.995502
2	.105415	.941260	.107591	.969143	.108679	.983060	.109255	.990481
3	.101830	.906698	.105709	.950988	.107644	.973092	.108675	.984880
4	.097831	.868137	.103608	.930732	.106491	.961971	.108029	.978633
5	.093368	.825113	.101264	.908132	.105204	.949563	.107306	.971663
6	.088392	.777113	.098649	.882917	.103768	.935719	.106498	.963885
7	.082836	.723557	.095730	.854783	.102166	.920273	.105600	.955209
8	.076637	.663802	.092477	.823396	.100378	.903039	.104595	.945528
9	.069724	.597134	.088844	.788376	.098384	.883811	.103475	.934727
10	.062010	.522752	.084791	.749303	.096158	.862357	.102226	.922677
Monthly Constant:	.011366		.010322		.009801		.009523	
Annual Constant:	.136392		.1238613		.1176114		.1142719	

TABLE # 24a: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (11½% interest)

Mortgage Term:	15 Yrs.		20 Yrs.		25 Yrs.		30 Yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year: 1	.113628	.973444	.114295	.986327	.114619	.992639	.114791	.995955
2	.110409	.943669	.112636	.970995	.113728	.984387	.114301	.991420
3	.106798	.910293	.110777	.953804	.112728	.975135	.113748	.986332
4	.102750	.872849	.108691	.934527	.111604	.964759	.113133	.980623
5	.098212	.830877	.106354	.912913	.110348	.953127	.112443	.974236
6	.093123	.783816	.103734	.888679	.108935	.940082	.111668	.967068
7	.087416	.731048	.100796	.861507	.107354	.925456	.110798	.959030
8	.081016	.671880	.097499	.831038	.105582	.909058	.109824	.950018
9	.073843	.605539	.093805	.796875	.103593	.908671	.108729	.939911
10	.065797	.531152	.089664	.758571	.101363	.870054	.107504	.928579
Monthly Constant	.011682		.010664		.010165		.009903	
Annual Constant:	.140183		.127972		..121976		.118835	

TABLE # 24b: ANNUAL INTEREST PAYMENTS & OUTSTANDING MORTGAGE BALANCE (12% interest)

Mortgage Terms:	15 Yrs.		20 Yrs.		25 Yrs.		30 Yrs.	
	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance	Annual Interest Payment	Outstand'g Mortgage Balance
Year 1	.118634	. 974610	.119309	.987177	.119636	.993252	.119802	.996370
2	.115414	. 946000	.117685	.972730	.118781	.985649	.119344	.99282
3	.111786	. 913672	.115850	.956448	.117817	.977082	.118827	.987677
4	.107696	. 877434	.113786	.938102	.116732	.967430	.118242	.982487
5	.103090	. 836500	.111459	.917429	.115506	.956552	.117586	.876641
6	.097897	. 790373	.108838	.894135	.114126	.944294	.116841	.970050
7	.092043	. 738398	.105884	.867887	.112572	.930482	.116009	.962627
8	.085455	. 679829	.102555	.838310	.110820	.914918	.114054	.954260
9	.078028	. 613833	.098802	.804980	.108846	.897380	.114005	.944833
10	.069657	. 539466	.094576	.767424	.106623	.877619	.112808	.934209
Monthly Constant:	.012002		.011011		.010532		.010286	
Annual Constant:	.144020		.132130		.126387		.123434	

LEGEND: EVALUATION OF PROJECT COST & OPERATIONS DATA MANUAL SUITABILITY

	RECOMMENDED:	COMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information which can be utilized to best advantage in the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	COMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information organized into categories which can not be successfully intergrated into the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	INCOMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; but the data categories included can be satisfactorily utilized in the format of the decision models under consideration.
	NOT RECOMMENDED:	INCOMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; and the data categories included can not be successfully intergrated into the format of the decision models under consideration.

APPENDIX TABLE OF CONTENTS

Comparison of PROJECT COST DATA MANUALS: X. 2 - 3

- Boeckh Building Cost Guide: Commercial
- Boeckh Building Cost Guide: Light Industrial
- Boeckh Building Valuation Manual
- Dodge Building Cost Calculator and Valuation Guide
- Dodge Digest of Building Cost and Specifications
- Dodge Construction Systems Costs
- Dodge Manual for Building Construction , Pricing and Scheduling

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 4 - 5

- Marshall Valuation Service
- Residential Cost Handbook
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
- Current Construction Costs

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 6 - 7

- Dollars and Cents of Shopping Centers
- Building Cost File Unit Prices
- Design Cost File
- Engleman's General Construction Cost Guide
- Real Estate Valuation Cost Guide
- Residential Cost Manual

Comparison of PROJECT OPERATIONS DATA MANUALS X. 8 - 9

- Downtown and Suburban Office Building Experience Exchange Report
- Income/Expense Analysis: Apartments
- Expense Analysis: Condominiums, Cooperatives, and Planned Unit Developments
- Income/Expense Analysis: Suburban Office Buildings
- Dollars and Cents of Shopping Centers

Evaluation of PROJECT COST DATA MANUAL Suitability X. 10-11

- Boeckh Building Valuation Manual
- Boeckh Building Cost Guide: Commercial
- Dodge Building Cost Calculator and Valuation Guide
- Dodge Construction Systems Cost Guide
- Dodge Digest of Building Costs and Specifications
- Residential Cost Handbook
- Marshall Valuation Service
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
- Dollars and Cents of Shopping Centers
- Real Estate Valuation Cost File

Evaluation of PROJECT OPERATIONS DATA MANUAL Suitability X. 12-13

- Downtown and Suburban Office Building Experience Exchange Report
- Income/Expense Analysis: Apartments

Evaluation of PROJECT OPERATIONS DATA MANUAL Suitability X. 14-15

- Income/Expense Analysis: Suburban Office Buildings
- Dollars and Cents of Shopping Centers

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method				Uses			
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year 1978-9	Frequency of Publication	Comparative Unit Sq. Ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
BOECKH BUILDING COST GUIDE: COMMERCIAL	Boeckh Publication American Appraisal Associates, Inc. 525 E.Michigan St. Milwaukee, Wisc. 53201	$18.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	Yes (1a)
BOECKH BUILDING COST GUIDE: LIGHT INDUSTRIAL	Boeckh Publication American Appraisal Associates, Inc. 525 E.Michigan St. Milwaukee, Wisc. 53201	$15.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No (2a)
BOECKH BUILDING VALUATION MANUAL	Boeckh Publication American Appraisal Associates, Inc. 525 E.Michigan St. Milwaukee, Wisc. 53201	$88.00 Includes monthly up dating of time-location multipliers	$52.00 Also includes monthly Up-dating	Yes	Yes (3a)	No	Yes	Yes	Yes	No	Yes
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$74.00 Includes three quarterly supplements	$56.00 Also includes quarterly materials	Yes	No (4a)	No	Yes	Yes	No (4a)	No	Yes (4b)
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$122.00 Includes semi-annual supplement	$92.00 Also includes supplement	Yes	No	No	No	Yes	No	No	Yes (5a)
DODGE CONSTRUCTION SYSTEMS COSTS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$38.80	New Edition Published Annually	Yes	Yes (6a)	No	No	Yes	Yes	Yes (6b)	Yes
DODGE MANUAL FOR BUILDING CONSTRUCTION PRICING AND SCHEDULING	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americans New York, N.Y. 10020	$24.80	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (7a)

CONTENT ORGANIZATION								
PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No	Yes (1b)	Yes	No	No	Yes	No	1a. Comparative unit costs are segregated for air-conditioning, fire protection, & elevators only. 1b. A 5% cost for contingencies is included.
No	No	Yes (2b)	Yes	No	No	Yes	No	2a. Comparative unit (sq.ft.) costs are given for air conditioning, fire protection, and elevators only. 2b. A 5% cost for contingencies is included.
No (3b)	No (3c)	Yes (3d)	No (3e)	No	No	Yes	Yes	3a. Unit-in-place costs are given for walls, foundations, framing, floors, floor finish, roof, ceiling finish, partitions, plumbing, HVAC, electrical, fire protection & a large number of miscellaneous equipment and improvements. 3b. Criteria for land valuation is given, but no cost figures are included. 3c. Sitework costs are given for some site improvements. 3d. A 5% cost for contingencies is included. 3e. A separate schedule of architect fees based upon project cost is given.
No	No (4c)	Yes/No (4d)	Yes	No	No	Yes	Yes	4a. Unit-in-place costs are given for a few selected miscellaneous items only. 4b. Component depreciation can be calculated from building systems costs given in case histories. 4c. Sitework costs are included in case histories only. 4d. Builder's profit is not included in cost figures; only builder's administrative overhead & supervision.
No	No (5b)	Yes	No	No	No	Yes	Yes	5a. Comparative unit costs (sq.ft.) are given for structure, plumbing, HVAC, electrical and miscellaneous categories only. Comparative unit costs (sq.ft.) are also given by building sytems in 12 case histories 5b. Segregated sitework costs are included in the case histories only.
No	No (6c)	Yes	No	No	Yes (6d)	Yes	No	6a. Unit-in-Place (systems) costs are given for foundations, superstructures, exterior walls, roofing, partitions, interior wall finish, floor finish, ceilings only; other improvement costs taken from average costs table. 6b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 6c. Sitework costs are included in average cost section through 1978 edition. 6d. Labor/materials are segregated for unit-in-place (systems) costs only.
No	No (7b)	No	No	No	Yes	Yes	No	7a. Component depreciation could be calculated from a detailed quantity survey. 7b. Quantity survey sitework costs are included for drainage, utilities, paving & surfacing, landscaping, and site improvements.

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method				Uses			
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year 1978-9	Frequency of Publication	Comparative Unit Sq. ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
MARSHALL VALUATION SERVICE	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$62.00 (1979) Includes monthly supplement	$55.00 Also includes monthly supplement	Yes	Yes (8a)	No	Yes	Yes	Yes	No	Yes
RESIDENTIAL COST HANDBOOK	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$28.00 (1979) Includes quarterly supplement & up-date services	$25.00 Includes quarterly suppliment & up-date services	Yes	Yes (9a)	No	Yes	Yes	Yes	No	Yes
BUILDING CONSTRUCTION COST DATA	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$19.50	New Edition Annually	Yes	No (10a)	Yes	No	Yes (10b)	No	Yes	Yes (10c)
BUILDING SYSTEMS COST GUIDE	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$27.50	New Edition Annually	Yes	Yes	No	No	Yes	Yes	Yes (11a)	Yes (11b)
CURRENT CONSTRUCTION COSTS	Lee Saylor, Inc. Consulting Cost Engineers 1855 Olympic Blvd., Suite 110 Walnut Creek, California 94596	$21.95	New Edition Annually	No	No	Yes	No	No	No	Yes (12a)	Yes (12b)

CONTENT ORGANIZATION								
PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No (8b)	Yes	Yes (8c)	Yes (8d)	No	Yes	Yes	8a. Unit-in-place costs are given for foundations, framing, floors, interior construction, HVAC, electrical, plumbing, fire protection, roofs, walls, refrigeration, conveyances and miscellaneous equipment. 8b. Sitework costs are given for some site improvements. 8c. Architect's fees are included in compartive units costs (calculator method), but are not included in unit-in-place (segregated cost method) costs. A schedule of architect's fees based upon project cost is given. 8d. Included in construction costs are construction financing costs except for discounts & bonuses paid for financing.
No	No (9b)	Yes	Yes (9c)	Yes (9d)	No	Yes	Yes	9a. Unit-in-place (components) costs are given for roofs, walls, HVAC, ceilings, floors, electrical, plumbing, & fireplaces. 9b. Sitework costs are given for some street, utility, and yard improvements. 9c. Architect's fees are included in comparative unit costs, but are not included in component or unit-in-place costs. A schedule of architect's fees based upon project quality is given. 9d. Included in construction costs are construction financing costs except for discounts and bonuses paid for financing.
No	No (10d)	Yes (10e)	No (10f)	No	Yes (10g)	Yes	Yes (10h)	10a. Selected building components are categorized by trades, with costs given in comparative unit cost section. 10b. Use comparative unit cost section (sq.ft. and cubic ft. building costs) for quick estimates. 10c. Component depreciation could be calculated from a detailed quantity survey. 10d. Quantity survey sitework costs are included for drainage, utilities, roads, walks, fences, playgrounds, fountains, athletic facilites, and landscaping. Segregated sitework costs are given for some building types in comparative unit cost section. 10e. Builder's (general contractor) overhead & profit must be added to quantity survey costs; comparative unit costs include builder's overhead & profit. A schedule is included for builder's overhead & profit as % of project cost. 10f. A schedule of architect's & engineer's fees as % of project cost is given in the manual. 10g. Labor/material costs are segregated in the quantity survey section only. 10h. Historical cost indexes are included to determine quarterly construction cost changes.
No	No (11c)	No	No (11d)	No	No (11e)	Yes	Yes (11f)	11a. An estimate based on detailed assembly cost would be less detailed than a complete quantity survey based estimate. 11b. Component depreciation figures can be compiled from costs given in systems section. In comparative unit cost section, selected building component costs are segregated. 11c. Sitework systems costs are given for roads, parking lots, utilities. Segregated sitework costs are given for some building types in comparative unit cost section. 11d. A schedule of architect's fees is given as a % of project cost by building type in manual. 11e. Installation costs are segregated from material costs for some systems, ie. walls, doors & windows. 11f. Historical cost indexes are included to determine quarterly construction cost changes.
No	No (12c)	No	No (12d)	No	Yes	Yes	Yes	12a. Where a trade requires several types of materials to make a final item (ie. paving) in-place costs as well as detailed breakdown of costs are included. 12b. Component depreciation could be calculated from a detailed quantity survey. 12c. Quantity survey sitework costs are included for utilities, drainage, paving, sidewalks, landscaping, fencing, and athletic facilities. 12d. On-site construction permits are included in a separate section titled General Conditions.

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method					Uses		
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year 1978-9	Frequency of Publication	Comparative Unit Sq.Ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th St, N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Yes	No	No	No	Yes	No	No	No
BUILDING COST FILE UNIT PRICES 4 editions available: Eastern, Central Southern, Western	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$25.95	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (14a)
DESIGN COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	No	Yes	No	No	No (15a)	Yes	Yes (15b)	Yes (15c)
ENGELSMAN'S GENERAL CONSTRUCTION COST GUIDE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$27.50	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (16a)
REAL ESTATE VALUATION COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No
RESIDENTIAL COST MANUAL	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$28.95	New Edition Published Annually	Yes (18a)	No	Yes	Yes (18a)	No	No	Yes	Yes (18b)

CONTENT ORGANIZATION								
PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
Yes	Yes (13a)	Yes	Yes	Yes	No	No	No	13a. The site improvement cost includes both on-site and off-site improvements.
No	No (14b)	No	No	No	Yes	Yes	No	14a. Component depreciation could be calculated from a detailed quantity survey. 14b. Quantity survey sitework costs are given for drainage, utilities, paving, surfacing, fencing, athletic facilities, retaining walls, and landscaping.
No	No	No	No	No	No	Yes	No	15a. An initial estimate can be made by summing system costs if the building design & systems are well defined. 15b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 15c. Component depreciation could be calculated from detailed building system costs.
No	No (16b)	No	No	No	Yes	Yes	Yes	16a. Component depreciation could be calculated from a detailed quantity survey. 16b. Quantity survey sitework costs are given for drainage, utilities, paving, athelitic facilities, paving, fencing, and landscaping.
No	No (17a)	Yes	Yes	No	No	Yes	No	17a. In Miscellaneous Cost Items section, comparative unit sitework costs are given for athelic facilities, parking, fencing, landscaping, incinerators, paving, and retaining walls.
No	Yes	No (18c)	No (18d)	No	Yes	Yes	No	18a. Part 3: Valuation Section includes comparative unit costs for houses and apartments which are adjusted by shape, height, and size factors. 18b. Component depreciation could be calculated from a detailed quantity survey. 18c. General overhead items are included in a seperate schedule for reference. 18d. Architect's and engineer's fees are included as part of general overhead.

SOURCES				CONTENT ORGANIZATION		
NAME OF DATA SOURCE	Publishers' Address	Initial Cost 1st Year 1978-9	Frequency of Publication	Income Categories	Expense Categories	Statistics Used: Median, Range, Average
1978 DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Building Owners and Managers Association International 1221 Massachusetts Avenue, N.W. Washington, D.C. 20005	$95.00	New Edition Published Annually	Office Store Storage Special	Variable Operating Fixed Operating Tenant Improvement Allowance Leasing Expense Depreciation	Average
INCOME/EXPENSE ANALYSIS APARTMENTS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$45.00	New Edition Published Annually	Apartments Garage/Parking Store/Office	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Amenities	Median & Range
EXPENSE ANALYSIS CONDOMINIUMS, COOPERATIVES, AND PLANNED UNIT DEVELOPMENT	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$20.00	New Edition Published Annually	None	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Leased Recrational Facilities	Median & Range
INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$20.00	New Edition Published Annually	Office Storage Retail Parking Escalator Clauses	Administrative Maintenance Utilities R.E. Taxes Insurance	Median & Range
THE DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th, N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Base Rent Overage Common Area Charges	Maintenance Central Utility System Advertising & Promotion R.E. Taxes Insurance Administrative Depreciation Debt Service	Median & Deciles

CONTENT ORGANIZATION									SELECTED SPECIAL FEATURES
Vacancy & Occupancy Data	Trend Analysis	Type of Development	Size in Square Feet	Location Categories	Age of Building	Rental or Price Range	Number of Stories	City Size	
Yes	Detailed 1973-77 compared by several attributes ..... National Values	Offices Downtown Suburban including Government & Medical	Yes	City Region Nation	Yes	None	Yes	Yes	1. Economic analysis of office building industry. 2. Operating cost breakdown by region, size, age & height for suburban & downtown offices. 3. Energy analysis for downtown, suburban, & government offices by size, age, region, age, and height. 4. Data summary & operating ratios by organizational category.
Yes	Detailed 1974-77 by building type ..... National Values	Apartments Lo-Rise 12-24 units Lo-Rise 25+ units Elevator Garden Unfurnished Furnished	No	City Metropolitan Area Region Nation	Yes	Rental Range	No	No	1. Graphic summary of income & expenses by development type. 2. Tenant turnover rates by development type. 3. Summary of distribution of income & expenses by building type expressed in dollars per room & percentage of gross income.
No	No	Condominiums Cooperatives Planned Unit Developments	No	Metropolitan Area Region	Yes	Price Range	No	No	1. Kinds of amenities furnished by owners association. 2. Breakdown of utility expenses between unit and owners' association by unit price range and building age.
Yes	1976 & 1977 by regions ..... Regional Values	Offices Suburban	Yes	Metropolitan Area Region Nation	Yes	Rental Range	Yes	No	1. Energy analysis for suburban offices by region and age. 2. Data summary & operating ratios by organizational category. 3. National & regional graphic summary of income, expenses, & total actual collections.
No	1975 & 1978 by shopping center type ..... National Values	Shopping Centers Super regional Regional Community Neighborhood	Yes	Region Nation	Yes	None	No	No	1. Tenant space needs, base rent, sales, & common area charges for 120 types of tenants in each center type. 2. Center operating receipts, expenses, & net operating income as a % of capital costs. 3. Energy sales & distribution methods by center type. 4. Analysis of Operations of enclosed & non-enclosed malls. 5. Analysis of capital costs by center type.

APPENDIX: Evaluation of PROJECT COST DATA MANUAL Suitability
Legend: Refer to Page X.1

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS SUITABILITY FOR USE IN ANALYSIS Content/Fit	COMPARATIVE COSTS - analyzed on the basis of: BUILDING TYPE & SIZE
BOECKH BUILDING VALUATION MANUAL	Apartmt. Office Retail		The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
BOECKH COMMERCIAL BUILDING COST GUIDE	Apartmt. Office Retail		The data requires design decisions on building exterior and ground floor area to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Apartmt. Office Retail		A limited selection of hisorical case studies are included for each building category which could prove helpful in identifying initial project costs. The data requires design decision on building exterior and quality class to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE CONSTRUCTION SYSTEMS COST GUIDE	Apartmt. Office Retail		The average building cost section provides a range of construction costs for various project types.
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Apartmt. Office Retail Shop.Cntr.		Data requires initial design decisions before comparison with specific case study references. The data applies to intermediate project analysis.
RESIDENTIAL COST HANDBOOK	Apartmt.		The data requires design decisions on building type, size, and quality to select appropriate cost figures. The data applies to intermediate project analysis.
MARSHALL VALUATION SERVICE	Apartmt. Office Retail		The Cost Calculator Method data requires design decisions on building type and quality to select appropriate cost figures.
MEANS BUILDING CONSTRUCTION COST DATA	Apartmt. Office Retail		Section 17 can be very useful for developing initial cost estimates for particular property types.
MEANS BUILDING SYSTEM COST GUIDE	Apartmt. Office Retail		Section 14 can be very useful for developing initial cost estimates for particular property types
DOLLARS AND CENTS OF SHOPPING CENTERS	Shop.Cntr.		A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This manual provides complete project cost data which can be directly used in the Project-to-Building Ratio.
REAL ESTATE VALUATION COST FILE	Apartmt. Office Retail		The data applies to intermediate project analysis. The data requires design decisions on building types, size, and quality to select appropriate cost figures.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	COMPONENT DESCRIPTION AND QUALITY FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, AND QUALITY
	The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
	The data scope is limited because building quality is indicated only by exterior facade and ground floor area. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data allows strong quality typing by exterior facade and quality class description.
	In the Average Building Cost Section, the data includes construction cost ranges that are not related to quality distinctions. The data is most suitable for use in project analysis.
	Data is presented from actual construction contracts for quick reference to similar jobs and specific locations. No definition of building quality is included with case study costs.
	The data allows strong quality typing by floor area and quality class description.
	The cost calculator method data is categorized by structural type and quality characteristics which makes it very appropriate for the intermediate analysis. The segregated cost method requires too many detailed design decisions to be appropriate for the intermediate project analysis models.
	The cost ranges identified in section 17 are not related to quality distinctions. The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in section 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The data allows strong quality typing by component description and quality classification. The data applies to intermediate project analysis.

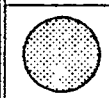
C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	INTER CHANGEABLE COMPONENTS & DESIGN FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, QUALITY, & ALTERNATIVE COMPONENTS/SYSTEMS
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This comprehensive design and cost data best meets the needs of the advanced project analysis models.
	No alternative building components other than building facades are included. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data includes limited alternative component adjustments for selected items. The data applies to intermediate project analysis.
	The systems data is appropriate for estimating alternative components with the exception of HVAC. The data is most suitable for use in initial project analysis.
	Alternative building component decisions are difficult to establish from comparable based case studies. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This data best meets the needs of the advanced project analysis models.
	The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in sections 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The components are arranged into building quality classes and are not individually estimated. This makes the data inappropriate for advanced project analysis.

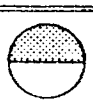
NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
BOMA DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Office Limited Retail		Average Revenue Data (collected during previous calendar year) is provided for selected downtown and suburban metropolitan areas. Revenue data, in the Downtown and Suburban statistical tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area(office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate rental data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. Revenue data should be considered only as an advisory number useful in initiating the first project analysis.
IREM INCOME/EXPENSE ANALYSIS APARTMENTS	Apartmt.		Median revenue data (as well as low and high quartile ranges for large sample sizes) are provided for selected metropolitan areas, regions and age group; as well as organized by furnished and unfurnished apartment buildings. Data is presented for elevator, low rise 12-24 units, low rise 25 or more units, and garden type buildings. The total number of apartment buildings and their cummulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for particular metropolitan areas. Revenue data should be considered only as an advisory number useful in inetating the first project analysis.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Survey of Office Space Occupancy" is collected from a larger sample of buildings than the downtown and suburban statistical tables. The "Office Space Occupancy" survey provides more reliable indications of vacancy than those found in the data charts organized by city, city size, building size, age, and story height. The expense line items are averages that should be analyzed individually and adjusted for local market conditions. The summing of all average expense items without adjustment will generate an inflated project operating expense statement. Expense data, in the Downtown and Suburban Statistical Tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area (office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply /demand forces, current lease terms, or particular project management strategies.
	The vacancy data included in the "Trend Analysis" section provides an indication of vacancy nationwide by building type. The vacancy data found in the metropolitan statistical tables are samples from selected metropolitan areas. Careful attention should be given to sample size and the number of apartment buildings, apartment units, and rentable square feet before making a judgement about apartment vacancy in a specific metropolitan area. Current, locally collected data for competitive rental space should be used in the intermediate models when possible. The expense line items are medians, (with low and high quartile ranges for large sample sizes) atated as a percentage of Gross Possible Income and in dollars per square foot of rentable area. This data should be adjusted for lacal market conditions. The summing of all expense items vertically without adjustment will generate an inflated project operating expense statement. Be aware that expenses are listed as a percentage of Gross Possible Income. This income includes miscellaneous revenue from garage/parking and store/offices rental. If the proposed project is exclusively rental apartment space, then expenses as a percentage of Gross Possible Income must be adjusted to a Rent-Apartments. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/demand forces, current lease terms, or particular project management strategies.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATION EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/ demand forces, current lease terms, or particular project management strategies.
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indication of local market supply/ demand forces, current lease terms, or particular project management strategies.

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
IREM INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Office		Revenue is presented in dollars per square feet of Gross Area of Building, Gross Rentable Office Area, and Net Rentable Office Area. The appropriate revenue data used in the initial models depends on whether floor areas are to be leased by single or multiple tenants. Median revenue data (and low and high quartile ranges for large sample sizes) is provided for selected suburban metropolitan areas and regions according to building size, age group, rental range, and building type. Revenue data appropriate for the initial project analysis is found under the heading "Income" for the "Offices" line item. Miscellaneous income would be excluded when project design calls for exclusive office rental space. Revenue data should be considered only as an advisory number useful as a starting point for the initial project analysis.
ULI DOLLARS & CENTS OF SHOPPING CENTERS	Shopping Centers		Revenue data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The revenue data is presented by dollars per square foot of "Gross Leaseable Area" and as a "Percentage of Total Receipts." The revenue data is reported as medians with lower and upper deciles. All data is presented in dollars per square foot of Gross Leasable Area which includes all areas leased by the center owner. (including department stores owned by the center) "Total Operating Receipts" is the appropriate revenue data to use in the initial project analysis model. It is found in the statistical tables by shopping center type, age, and region. Revenue data from the "Operating Results" table should be considered only as an advisory number useful as a starting point for the initial project analysis. In more advanced analysis models, particular tenant composition and the resulting rent structure will give a more accurate indication of possible revenues for the proposed project.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Trend Analysis" section provides an indication of suburban office building vacancy nationwide for the year. The vacancy data found in the suburban metropolitan statistical tables is reported as of December 31, of preceeding year. Careful attention should be given to sample size and the number of office buildings and their cumulative square feet of rentable area before making a judgement about office building vacancy in the particular suburban metropolitan area. Current local collected vacancy data for competitive rentable space should be used in the intermediate models when possible. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the Gross Rentable Office Area or Net Rentable Office area The total number of buildings and their cumulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for a particular suburban metropolitan area.
	Operating expense data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The expense data is presented by dollars per square foot of "Gross Leasable Area" and as a Percentage of Total Receipts." The expense data is reported as medians, with lower and higher deciles. Vacancy data is not included as a segregated item. Tenant information is given for low and high total rent charges to facilitate estimation of tenant composition and the resulting rent structure for the proposed project in the intermediate analysis. The specific revenue and expense data for the four shopping center categories is summarized in the "Operating Results" tables. Data is analyzed by region and shopping center age groups.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data for suburban office buildings. The size and character of the manual survey sample may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies.
	Debt service is included in the "Operating Results" tables. This data is inappropiate for the advance project analysis models which generate their own annual debt service estimates for the project. "Detailed Tenant Information Tables", for different center categories, indicate the base rental rate, percentage (overage) rent, and common area charges that equal the total revenue expected per square foot of Gross Leaseable Area for each type of possible tenant. The frequency of occupancy and the median size of leased area for different tenants can be found in the "Summary of Tenant Information Tables". This manual of historical operating revenue and expense data can be used to verify estimates of up-to-date local shopping center revenue and expense data. The size and character of the manual may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies. (These factors are considered in the advanced project analysis process when tenant composition for the center has been tentatively identified.)

```
      1=1,CHEN. BANK SEMINAR,CASE PROBLEM - SEPR
      2=10,1979,2,1,1.0,5,43050
      3=20,1,1,.88,.09695,1,5
      4=40,133365,*
      5=60,3054,*
      6=70,16619,*
      7=80,13419,*
      8=100,.12,.50,.07
      9=101,0,.015,6
     10=102,.14,1,.06,0
     11=103,2070,.0,.07,0
     12=200,1,LAND
     13=201,1,215814,.0,0
     14=202,1,1,0,0
     15=200,2,IMPROVEMENTS
     16=201,2,1.0,.90,2
     17=202,2,1,33,0
     18=300,1,FIRST MORTGAGE
     19=301,1,1.0,.09625,0,27
     20=302,1,12,1,27,0
     21=400,1,1,1,0,0,1,1,,
     22=403,1,2,3,5
     23=999,99
     24=20,1,1,.85,.09695,1,5
     25=40,74368,*
     26=60,5114,*
     27=70,5868,*
     28=80,4737,*
     29=103,730,.0,.07,0
     30=201,1,87304,.0,0
     31=201,2,1.0,.90,0
     32=301,1,1.0,.09625,0,27
     33=999,99
     34=20,1,1,.80,.09695,1,5
     35=40,13160,*
     36=60,171,*
     37=70,1610,*
     38=80,1300,*
     39=103,200,.0,.07,0
     40=201,1,29288,.0,0
     41=201,2,1.0,.90,0
     42=301,1,1.0,.09625,0,27
     43=400,1,1,1,
     44=999,99
#LOG
 44 lines

Ready

RUN MRCAX
```

* GROSS RENT	$ 133365.	* RATE OF GROWTH OF GROSS RENT	0.0000
* EXPENSES	$ 13419.	* RATE OF GROWTH OF EXPENSES	0.0000
* R E TAXES	$ 16619.	* RATE OF GROWTH OF R E TAXES	0.0000
* INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	6.0000
* VACANCY RATE	0.0229	WORKING CAPITAL LOAN RATE	0.1400
EQUITY DISCOUNT	0.1200	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0600	REINVESTMENT RATE	0.0700
WKG CAPITAL RS	$ 0.	CAPITAL RESER INTEREST RATE	0.0700
INITIAL COST	$ 972654.	INITIAL EQUITY REQUIRED	$ 133572.

A ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.
INITIAL COST DERIVED THROUGH BACKDOOR TYPE -1 USING 1 MORTGAGES

A COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
LAND	0.00	1	0.	0	$	215814.	0
IMPROVEMENTS	0.90	1	33.	2	$	756840.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$	839082.	0.863

A

CASH FLOW ANALYSIS

		1979	1980	1981	1983
1	GROSS RENT	133365.	133365.	133365.	133365.
2	LESS VACANCY	3054.	3054.	3054.	3054.
3	LESS REAL ESTATE TAXES	16619.	16619.	16619.	16619.
4	LESS EXPENSES	13419.	13419.	13419.	13419.
5	NET INCOME	100273.	100273.	100273.	100273.
6	LESS DEPRECIATION	20641.	20641.	20641.	20641.
7	LESS INTEREST	80464.	79774.	79015.	77259.
8	TAXABLE INCOME	-832.	-142.	617.	2373.
9	PLUS DEPRECIATION	20641.	20641.	20641.	20641.
10	LESS PRINCIPAL PAYMENTS	6859.	7549.	8308.	10064.
11	CASH THROW-OFF	12950.	12950.	12950.	12950.
12	LESS TAXES	0.	0.	309.	1187.
13	LESS RESERVES AT 2070.000	2070.	2070.	2070.	2070.
14	CASH FROM OPERATIONS	10880.	10880.	10571.	9693.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	10880.	10880.	10571.	9693.
17	TAX SAVING ON OTHER INCOME	416.	71.	0.	0.
18	SPENDABLE CASH AFTER TAXES	11296.	10951.	10571.	9693.

REPORT SECTION NUMBER 6 PAGE 1

YEAR OF ANALYSIS

		1979	1980	1981	1983
A	AFTER TAX RATIO ANALYSIS				
35	RETURN ON NEW WORTH AFT TAX	-0.1649	0.3005	0.2380	0.1919
36	CHANGE IN NET WORTH AFT TAX	-33316.	19172.	17853.	20294.
37	CASH RTN ON ORIG CASH EQUIY	0.0846	0.0820	0.0791	0.0726
38	PERCENT ORIG EQUITY PAYBACK	0.0846	0.1666	0.2457	0.3943
39	PRESENT VALUE OF PROJECT	938682.	953106.	963137.	977583.
40	NET INCOME-MARKET VALUE RTO	0.1016	0.1001	0.0986	0.0957
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.8800	0.8800	0.8800	0.8800

REPORT SECTION NUMBER 7 PAGE 1

YEAR OF ANALYSIS

		1979	1980	1981	1983
A	MODIFIED INTERNAL RATE OF RETURN ANALYSIS				
	RETURN ANALYSIS WITHOUT SALE				
41	CUM. AFT TAX SPENDABLE CASH	11296.	23038.	35222.	60883.
44	MOD. I.R.R. ON ORIG EQUITY	-0.9154	-0.5847	-0.3587	-0.1454
45	MOD. I.R.R. ON CUM. EQUITY	-0.9154	-0.5847	-0.3587	-0.1454
	RETURN ANALYSIS WITH SALE				
46	CUM. CASH LESS ORIG EQUITY	-24420.	8894.	38932.	103911.
47	CUM. CASH LESS CUM. EQUITY	-24420.	8894.	38932.	103911.
48	MOD I.R.R. ON ORIG EQUITY	-0.1828	0.0328	0.0890	0.1220
49	MOD I.R.R. ON CUM. EQUITY	-0.1828	0.0328	0.0890	0.1220

VI. Property analysis to determine alternative uses

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence: (See Exhibit 3)

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B. A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal-political attributes include not only zoning and subdividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site concern with off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal-political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

1. Size, shape, and lot area

2. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, flood plain designations, etc.

4. Flora and fauna which enhance marketability or which might cause environmental impact litigation

5. Concealed utility easements, old foundations, etc.

6. Existing on-site utility services and capacity

7. Access points to public thoroughfares or private right-of-ways

8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitues or future legislation which will affect administration of these ordinances relative to future uses of the site.

1. All alternative setback lines and building envelope interpretations relative to site

2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administraion of the law

8. Existing or impending legislation relative to such matters as:

   a. Septic tank installation
   b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
   c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
   d. Conservation of envrionmental edges, prime agricultural land, wet lands

9. Define physical system sub-systems

   a. Foundation system
   b. Structural system
   c. Floor system
   d. Ceiling system
   e. Roof system
   f. Exterior wall system
   g. Interior wall system
   h. Horizontal circulation sytsem (provacy, interaction, congestion, confusion)
   i. Vertical circulation system (handicapped code, cost, economy of scale and height)

10. Delineation of functional systems

   a. Bay spaces
   b. Module unit
   c. Ceiling heights
   d. Visual codes - such as mass, entrance, claustrophobic signals

11. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

SITE IN SEARCH OF A USE

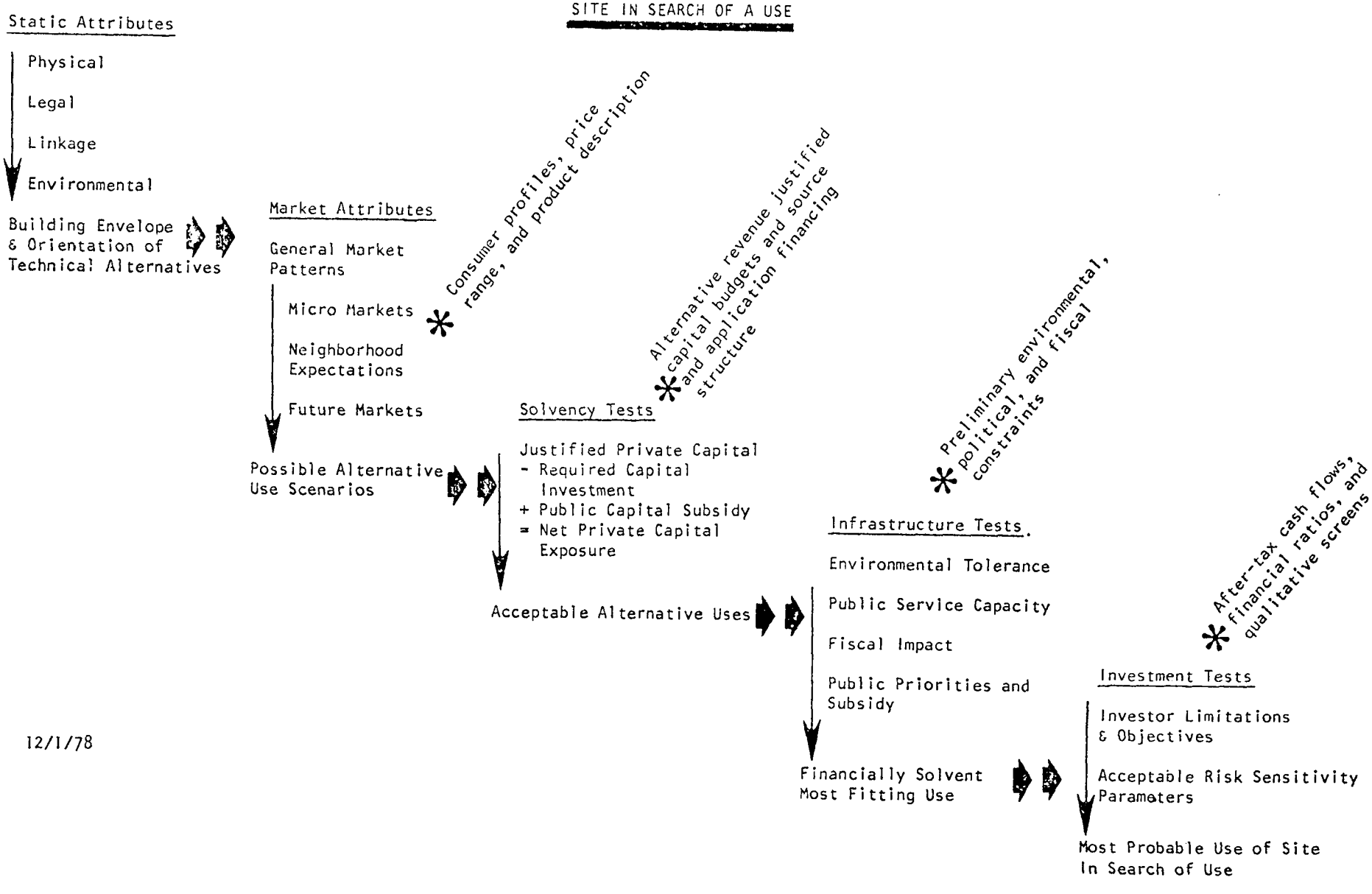


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EXHIBIT 3

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

   a. Limitations on sewage processing, storm water retention or runoff constraints
   b. Community energy supplies, priorities, and capacity
   c. Water processing and chemistry as applicable
   d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

   a. Employment centers
   b. School system alternatives
   c. Retail services
   d. Complimentary existing nearby uses
   e. Recreational services
   f. Health care systems
   g. Security systems
   h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

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FIGURE 1

TEN-YEAR ESTIMATE OF DIRECT EMPLOYMENT, INCOME, AND TAX REVENUE GENERATED FROM PROPOSED OFFICE DEVELOPMENT

	Employment[a]			Income[b]			Tax Revenue[c]		
	Construction	Operation	Total FTE	Construction Costs (in millions)	Operational Payroll	Total	Construction[d]	Operation	Total
1981	300	--	300	$8.7	--	$8.7	52,500	--	52,500
1982	400	779	1,179	8.7	$3.1	11.8	70,000	101,454	171,474
1983	400	779	1,179	5.0	12.4	17.4	70,000	405,812	475,812
1984	400	1,329	1,729	6.9	14.6	21.5	70,000	481,178	544,178
1985	400	1,642	2,042	4.0	26.1	30.1	70,000	692,210	762,210
1986	--	1,642	1,642	--	26.1	26.1	--	855,185	855,185
1987	--	1,642	1,642	--	26.1	26.1	--	855,185	855,185
1988	--	1,642	1,642	--	26.1	26.1	--	855,185	855,185
1989	--	1,642	1,642	--	26.1	26.1	--	855,185	855,185
1990	--	1,642	1,642	--	26.1	26.1	--	855,185	855,185
Ten-Year Total				$33.3	186.7	$220.0	$350,000	$5,956,579	$6,289,099

Source: Midwest Research Institute.

[a] Annual full-time equivalent employment (FTE).
[b] In constant 1980 dollars.
[c] Presumes constant tax rates over the 1980 decade.
[d] Includes earnings tax only; based on an average annual construction salary of $17,680 (U.S. Department of Labor, May 1980).

FIGURE 2

ESTIMATE OF TAX REVENUES GENERATED BY OFFICE DEVELOPMENT, BY TAXING DISTRICT

Taxing District	Average Tax Rate per leasable sq. foot[a]	Estimated Tax Revenue[b]
CITY.		
Employee Earnings Tax	0.53	$ 261,389
Corporate Net Profit and Earnings Tax	0.12	59,182
Merchants Tangible Personal Property Tax	0.029	14,302
Utility Tax	0.31	152,888
Real Estate Property Tax	0.135	66,580
		$ 554,341
COUNTY		
Merchants Tangible Personal Property Tax	0.125	$ 61,648
Gross Real Estate Property Tax	0.119	58,689
		$ 120,337
SCHOOL DISTRICT		
School Levy	0.324	$ 159,793
LIBRARY DISTRICT		
Library Levy	0.015	$ 7,398
JUNIOR COLLEGE		
Junior College Levy	0.02	$ 9,864
OTHER DISTRICTS		
Sheltered Workshop	0.007	$ 3,452
Total Tax Revenues		$855,185

Source: City Finance Department, and County Property Tax Division.

[a] Based on actual taxes paid by comparable office complexes in immediate area.

[b] Estimate of revenue generated from 519,144 leasable square feet at 95 percent occupancy; 493,187 net leasable square feet.

FIGURE 3

INDIRECT IMPACTS OF CONSTRUCTION AND EMPLOYMENT GENERATED BY THE PROPOSED OFFICE DEVELOPMENT

A. IMPACT OF CONSTRUCTION ON AREA INCOME

1.	Construction Cost	= $36 Million
2.	Construction Dollars Spent Within The Local Economy	= $33.3 Million
3.	Construction Multiplier	= .91
4.	Indirect Impact Of Construction = 33.3 x .91	= $30.3 Million
5.	Total Direct And Indirect Impact = 33.3 + 30.3	= $63.6 Million

B. IMPACT OF BUILDING EMPLOYMENT ON AREA INCOME

1.	Payroll Of Building Employment	= $26.1 Million/Yr.
2.	Payroll Multiplier	= 1.31
3.	Indirect Impact Of Building Employment = 26.1 x 1.31	= $34.2 Million/Yr.
4.	Total Direct And Indirect Impact = 26.1 + 34.2	= $60.3 Million/Yr.

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FIGURE 13

THE HUD URBAN DEVELOPMENT ACTION GRANT (UDAG) PROGRAM

The HUD Urban Development Action Grant (UDAG) Program provides grants to local governments for development projects which help revitalize a community's economic base, provide jobs, or assist in improving a deteriorating area. Before an action grant is approved, private developers and investors must make commitments to undertake the private elements of the project. Also, local governments have a great deal of discretion in how the Federal funds are used. They can be used to finance public facilities (parking garages, streets and plazas); to acquire and prepare sites; to assist in relocation of households and businesses; or to provide a part of the equity financing for private facilities.

PROJECT NAME AND CITY	TYPES OF USES	TOTAL DEVELOPMENT COSTS	UDAG	TYPE OF PUBLIC ASSISTANCE
1. LINCOLN PARK PROJECT, DENVER, COLORADO	NEW HOUSING AND HOUSING REHABILITATION	$62.4 MILLION	$13.5 MILLION	LAND ACQUISITION, RELOCATION, CLEARANCE, HOUSING REHABILITATION, STREET IMPROVEMENTS
2. SEVENTH PLACE TOWN SQUARE ST. PAUL, MN.	MIXED USE WITH CONVENTION CENTER	$100 MILLION	$4.8 MILLION	PARKING GARAGE, MALL, PEDESTRIAN WALKWAYS, LAND ACQUISITION
3. SYBRON PROJECT, ROCHESTER, NEW YORK	MANUFACTURING CORPORATION	$27.9 MILLION	$5.15 MILLION	LOAN FOR PLANT RENOVATION AND EXPANSION

SOURCE: URBAN LAND INSTITUTE, UDAG PARTNERSHIPS, NINE CASE STUDIES, 1980.

FIGURE 14

THE UDAG EVALUATION FORMAT

- Sources and Uses of Funds for Project identifies the sources of funds (such as UDAG funds, private mortgage commitments, and local fund monies). It also shows how these funds are to be used (i.e., for site acquisition, streets, parking, capital equipment, etc.).

- Estimated Leverage Ratio identifies the ratio between public and private funds. This ranges from 3 private/ 1 public for neighborhood projects to around 10/1 for downtown commercial projects.

- Other Public Financial Assistance describes other commitments to the project. These usually include CDBG funding, State funds for development or other Federal funds (such as Urban Mass Transit Administration (UMTA), Economic Development Administration (EDA), or Small Business Administration (SBA) funds).

- Alleviation of Physical Distress describes the impact the project will have upon population, dwelling units and/or commercial/industrial projects in the area.

- Alleviation of Economic Distress identifies the project's impact upon economic activity within the municipality in terms of permanent and temporary jobs; and income.

- Fiscal Improvement identifies the net impact of the project on local revenue and provides a ratio comparing dollar net increase in tax collections with dollars injected by the UDAG commitment. This is a basic indicator of return on investment to the municipality as a result of the Federal commitment of funds.

- Relocation Impacts identifies the potential costs created by a project due to relocation of jobs, businesses and residents. Included in this analysis is its effect on minority populations and businesses.

- Provision of Housing describes the mix of housing provided by income levels, in projects which are residential in character.

These eight steps, which each HUD-UDAG applicant must complete, make up a concise impact analysis which identifies both costs and benefits of a potential project.

a. Impact on supply/demand equilibrium
b. Stamina of project sponsor in the face of public pressure
c. Vulnerability of potential project buyers to secondary political pressures and counter attack
d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital are provided in Exhibits 4-10.

M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 6.

1. Note that Exhibit 6 integrates the basic elements of preliminary feasibility analysis.

2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

Exhibit 4

REVENUE REQUIRED BY CAPITAL BUDGET LOAN TO COST RATIO APPROACH

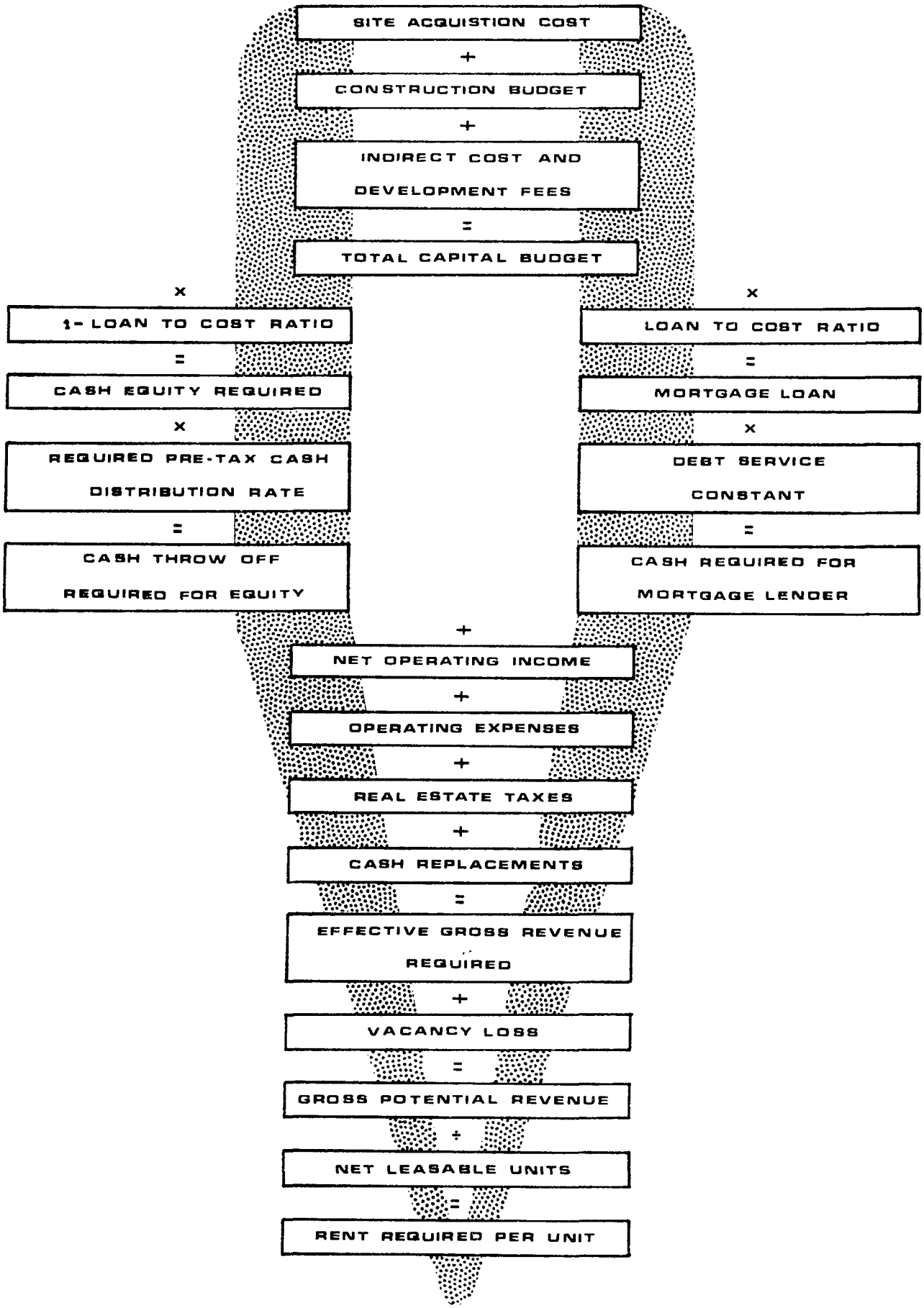


Exhibit 5

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

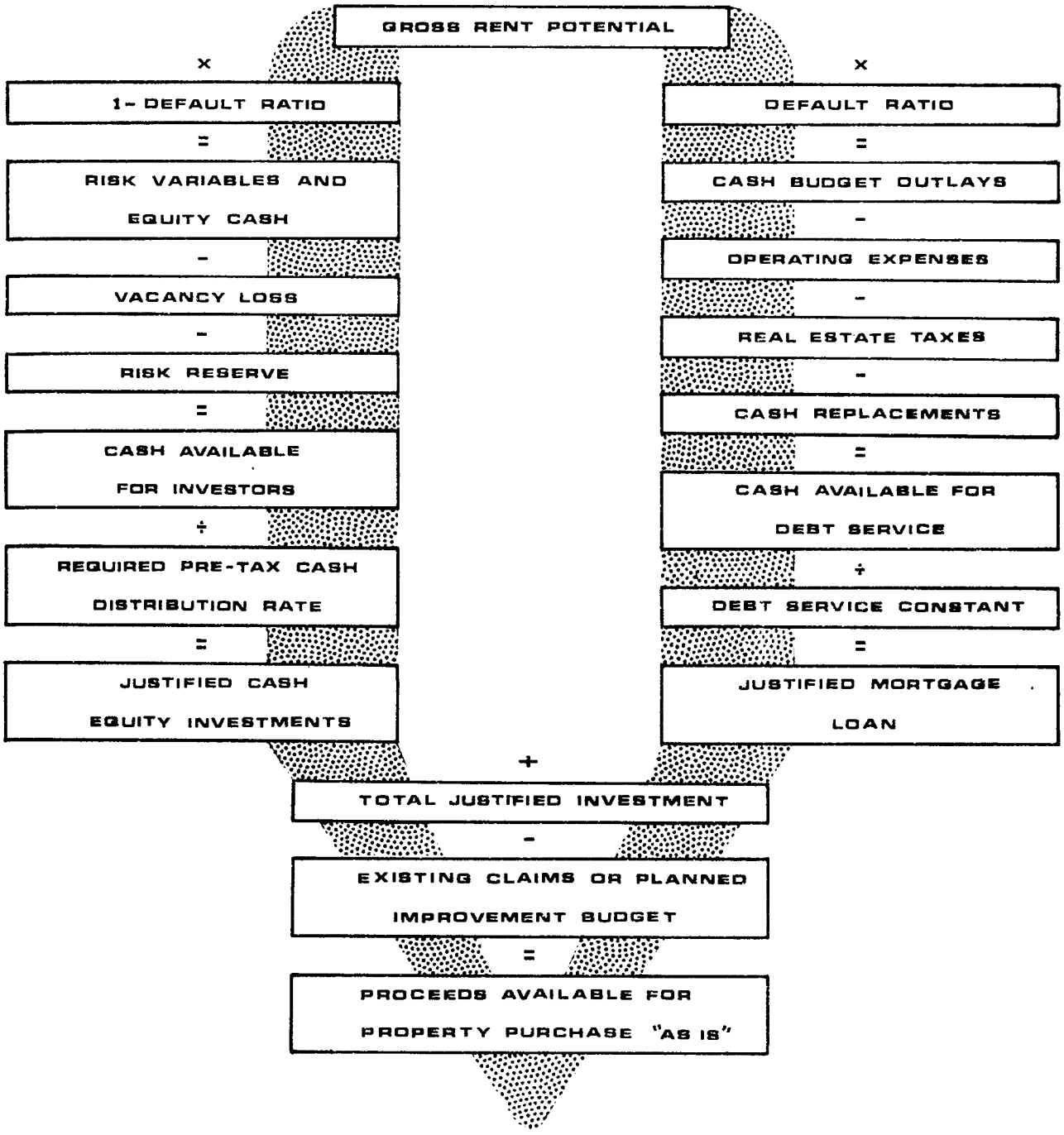
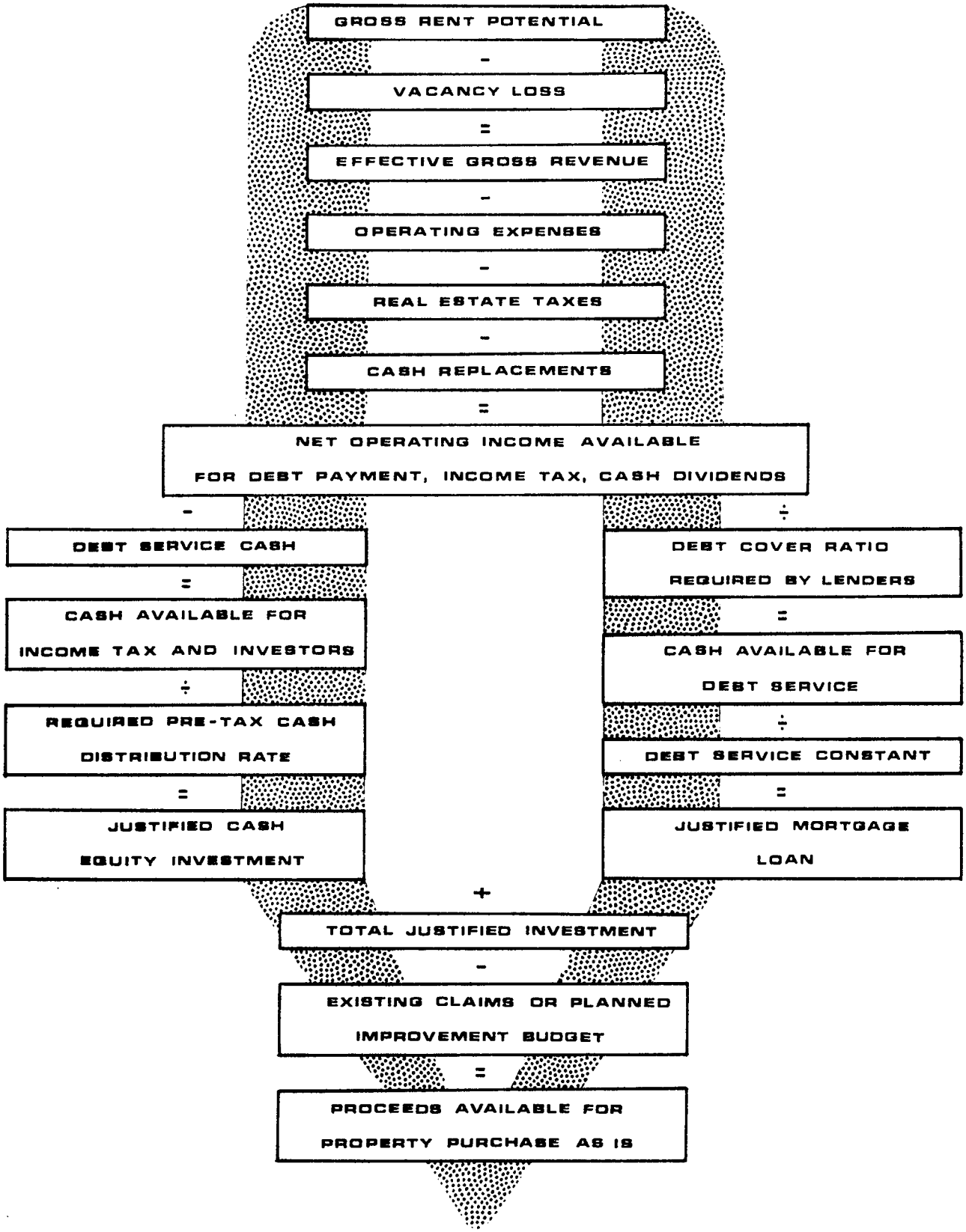


Exhibit 6

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



REAL ESTATE FEASIBILITY SEMINAR

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

2nd Day

I. Consumers - The Drive Wheel of the Urban Development Process

A. The real estate process described yesterday morning is driven by discretionary consumer expenditures for real estate and services but that consumer is not an aggregate group; rather it is a very large number of very small segments in a price system designed to give the consumer democratic choice.

1. Jaquelin Robertson, former director of master planning for the City of New York under Lindsay and now a private planner with Llewelyn-Davies International states that one must build to the strength to the system, and not its weaknesses. "What carries a system forward - build around that."

2. Viable development is carried forward when its product is what certain consumer groups want and are willing to pay for and that is different from what planners want and think people should pay for it.

3. Development begins with hard headed micro-market consumer research in order to profile what motivates the consumer, what turns him off, and what he can afford to pay.

a. With a revenue forecast, it is possible to back down on what the private sector can invest.
b. The amount of the investment converts to real estate tax income which can be backed down to public investment at local level.
c. Balance of cost must be subsidized by grants or shifted to secondary beneficiaries.

4. Redevelopment design must begin with a merchandising strategy designed to secure a competitive market position for the project proposal and then approach physical design with a pre-architectural program defined by consumer research and not be the conceits of the planning school. Where that is done the project succeeds because the cash flows are there and the financial structure has been driven by parameters controlled by rent rather than cost, i.e., the back door approach.

B. The objective today will be to define the general structuring and surveys of consumer research and in the process to provide three examples.

C. Free enterprise is the art of creating ones own monopoly, if only for a moment, in the mind of the buyer. Monopoly characteristics depend on careful market setmentation and catering to the segment.

1. Site and building characteristics of an existing building already provide a product profile which suggests the market segments.

2. Definition of the prospect may reflect family size, business functions and specialties, tax status, life style, an infinite number of subsets of our society. Nevertheless Americans are programable and predictable to a degree that permits product specification.

D. As a result of merchandising research the analyst should be able to construct a hypothetical marketing program which defines:

1. The most probable user groups, their total number, and their effective demand constraints.

2. The timing of their effective demand in the market.

3. The competitive standard product minimum.

4. The competitive product edge necessary for monopoly advantage

5. Basic elements of a required promotion program

II. The first step is to reduce aggregate data about user groups which is plausible but overly general information to a scale which will focus on a sub-segment with a proper rationale or hierarchy. To do that requires an analytical model and in most cases, each situation requires the analyst to create his own model with which to structure the data available and to discover the missing links in the logic diagram which must be researched.

A. Models organize the anlyst, the report, and the client

1. Models explain what you are going to do.

2. Models make relationships and key assumptions explicit.

3. Models permit clients to understand logic of conclusion and to test his own set of assumptions.

B. A market research model should be careful to recognize?

1. What are the questions

2. What data is available which is relevant?

3. What theory is available to focus data on the questions?

4. How will the results be communicated?

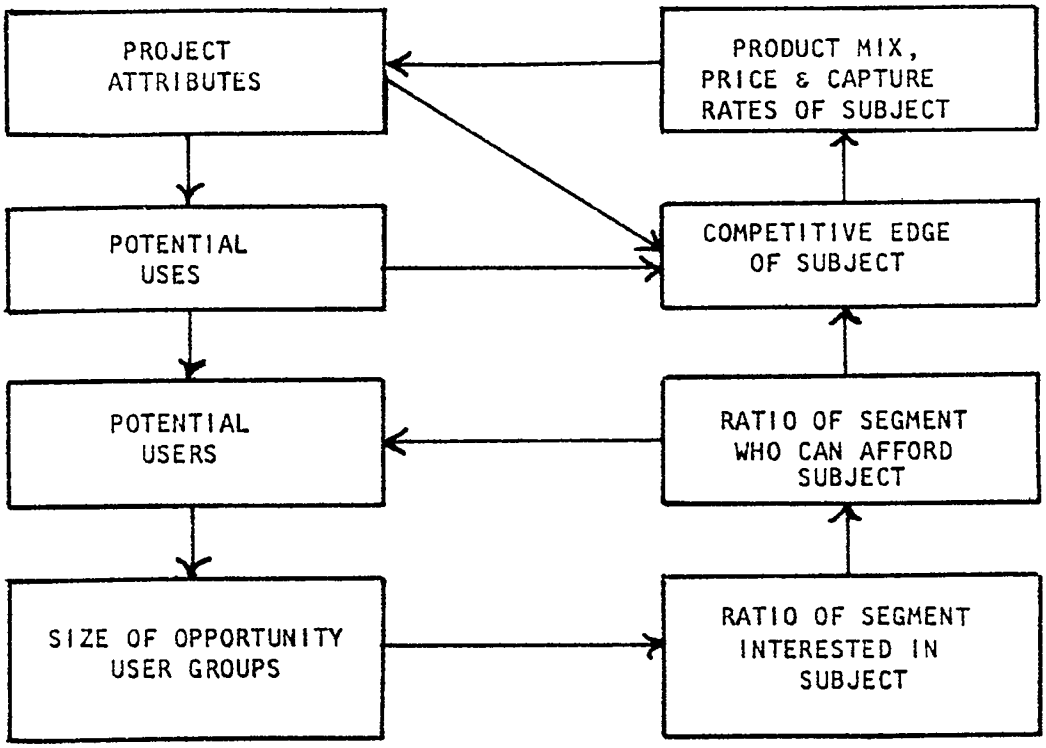
5. What are the abilities of the analyst?

6. What is the cost benefit ratio between the model method and the question?

C. Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on. It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

EXHIBIT I

SEGMENTATION LOGIC TREE



D. Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

1. Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many square feet of leased office space were occupied.

2. Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

E. A flow chart of the market research process is provided in Exhibit 1.

F. Most multi-tenant or multi-user land uses are susceptible to a retail trade area model. A retail model is a device analogous to establishing a retail trade area perimeter for a super market to segregate households which have a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income. Thus the analyst should establish a preliminary hypothesis for:

1. Primary market area to be served.

2. Secondary market area to be served.

3. Principal competitors.

G. Consider Exhibit 2 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

1. For lines with asterisks the key ratios for reduction were derived from a survey of the elderly generating primary data for this county.

2. For example, while 37% of the elderly were financially qualified, only about 60% of those were interested in considering a residential, minimal care facility or 22% of those in the convential housing market - hence the reduction from 19,700 to only 4,200. This chart should have showed the ratios from the survey.

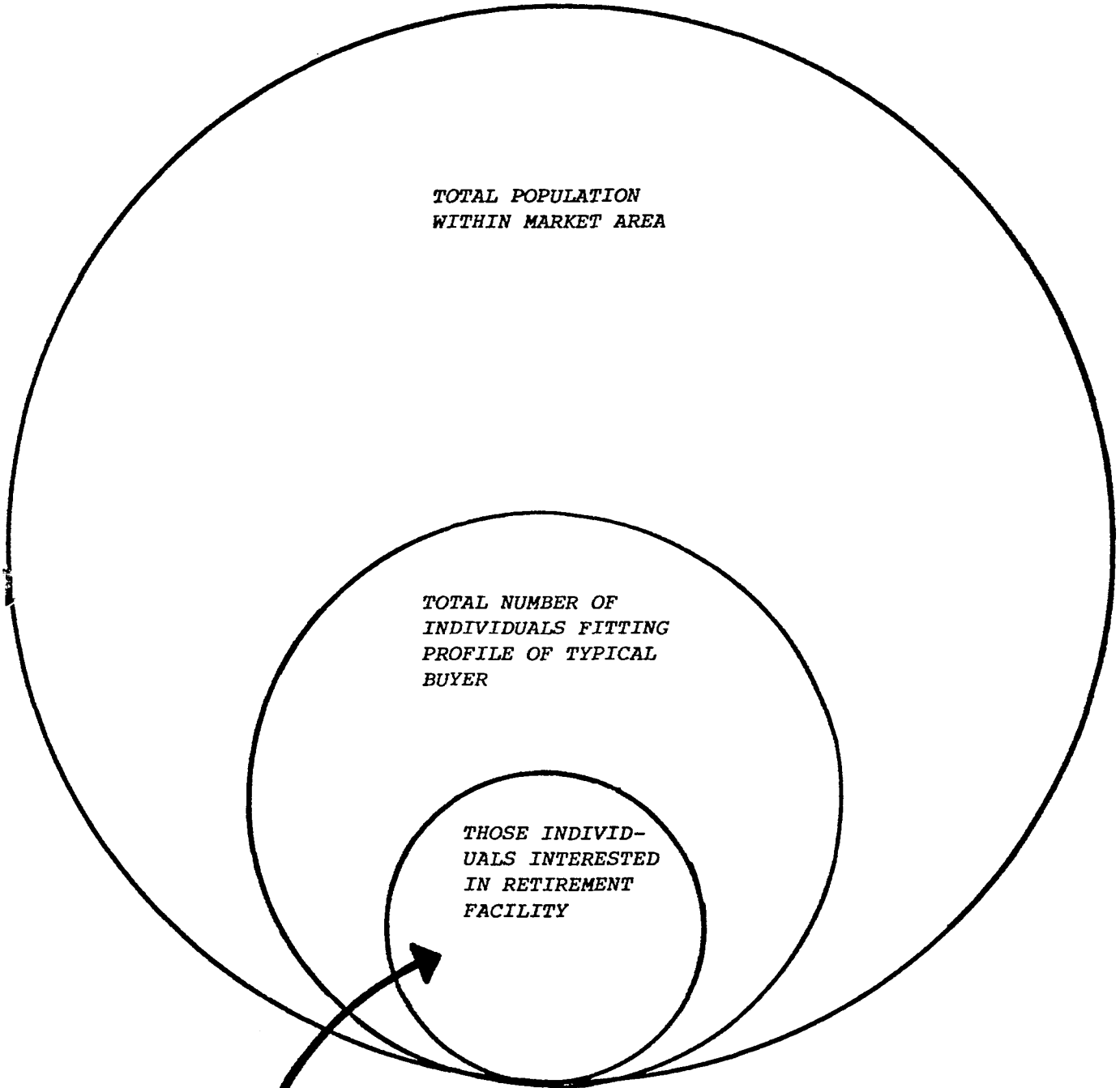
3. Failure to convert serious interest into action was a round number based on experience of those which had marketed similar developments in the past, as was an allowance for potential customers coming from outside the county to be closer to relatives, etc.

III. Market data provides a measure of potential scale of a market opportunity; the most important aspect of market analysis is forecasting the degree of market penetration or capture rate of remedial development.

A. To reduce aggregate market data to a merchandising hypothesis, the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

EXHIBIT 2a

RETIREMENT CENTER MARKET SITUATION ANALYSIS



- WHAT ARE THEIR NEEDS?
- WHEN DO THEY WISH TO MOVE?
- WHAT ARE THEY WILLING & ABLE TO PAY?
- HOW MANY ARE THERE?

EXHIBIT 2b
DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

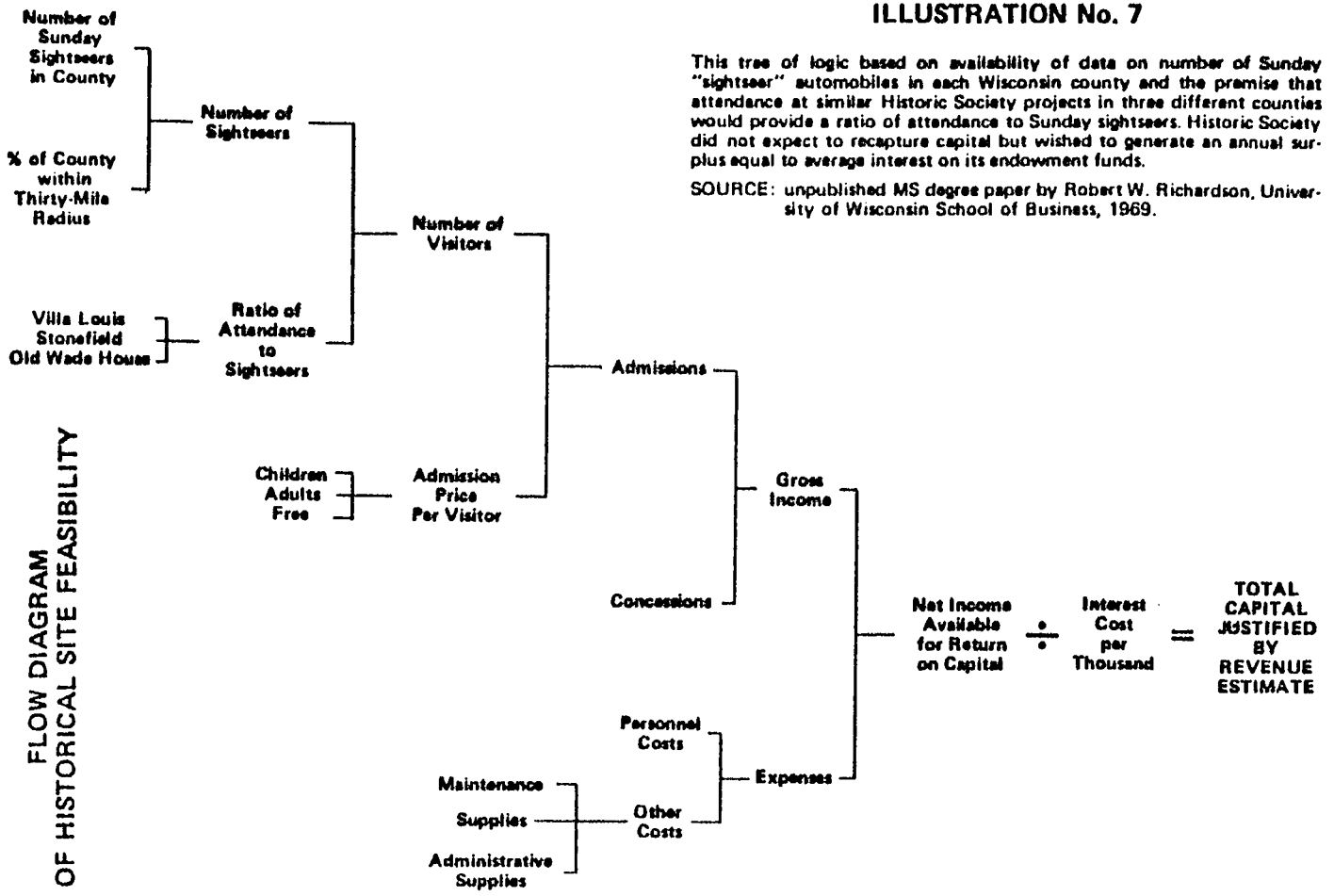
Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Survey percentage of persons financially qualified for $350 a month + $5,000 entry deposit (34%)		6,707
Survey percentage of these qualified who are seriously interested in proposed independent elderly unit (63.6%)		4,270
Household equivalent (+ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3%) from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4%) (from survey)	76	263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development (10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who state in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise	28.0%	
Garden	49.1	
	77.1%	978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		780

EXHIBIT 2C

ILLUSTRATION No. 7

This tree of logic based on availability of data on number of Sunday "sightseer" automobiles in each Wisconsin county and the premise that attendance at similar Historic Society projects in three different counties would provide a ratio of attendance to Sunday sightseers. Historic Society did not expect to recapture capital but wished to generate an annual surplus equal to average interest on its endowment funds.

SOURCE: unpublished MS degree paper by Robert W. Richardson, University of Wisconsin School of Business, 1969.



Source: James A. Graaskamp. A Guide to Feasibility Analysis, (Society of Real Estate Appraisers, 1972), p.40.

1. Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

2. A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

3. A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its contribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

4. The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hours, or per hour of ice time.

5. Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

   a. The salesman or the management paying his travel costs
   b. The doctor or the clinic
   c. The district manager or the corporate real estate manager
   d. The ticket buyer or the promoter
   e. The bowling league, team business manager, travel agency tour guide

6. The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

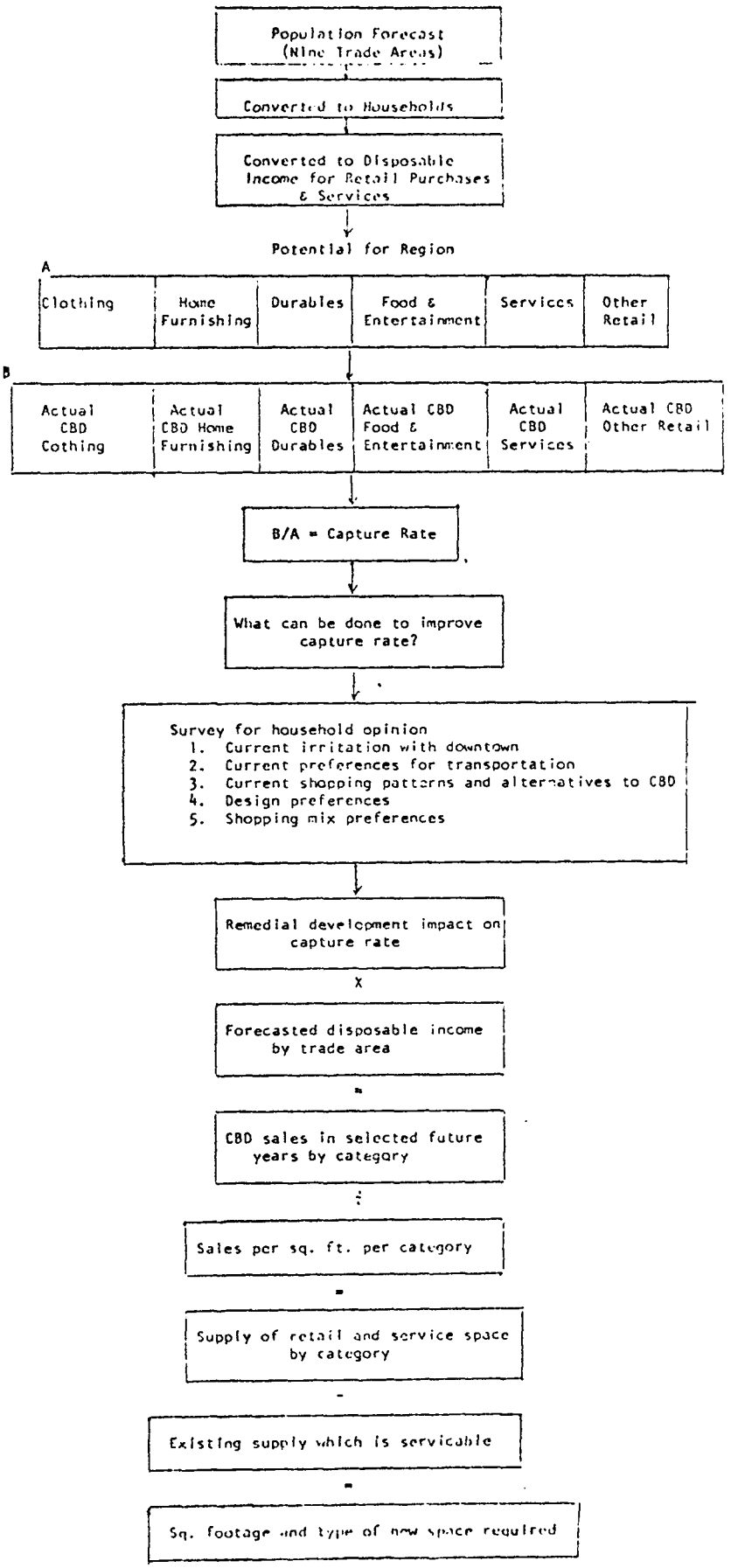
   a. A reverse directory or criss-cross telephone book
   b. Building directories of comparables
   c. Mailing lists of specialty publications
   d. License number spotting
   e. Guest registers
   f. Charge account mailing addresses

B. The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations. Unlike most consumer markets, the number of prospects is always low; think small!

1. Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

2. A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

Exhibit 3


Population Forecast (Nine Trade Areas)
Converted to Households
Converted to Disposable Income for Retail Purchases & Services
Potential for Region
A
Clothing
Home Furnishing
Durables
Food & Entertainment
Services
Other Retail
B
Actual CBD Cothing
Actual CBD Home Furnishing
Actual CBD Durables
Actual CBD Food & Entertainment
Actual CBD Services
Actual CBD Other Retail
B/A = Capture Rate
What can be done to improve capture rate?
Survey for household opinion
1. Current irritation with downtown
2. Current preferences for transportation
3. Current shopping patterns and alternatives to CBD
4. Design preferences
5. Shopping mix preferences
Remedial development impact on capture rate
X
Forecasted disposable income by trade area
=
CBD sales in selected future years by category
÷
Sales per sq. ft. per category
=
Supply of retail and service space by category
-
Existing supply which is servicable
=
Sq. footage and type of new space required

C. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

D. A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

3. Survey questions can discover latent political issues or provide a calm base for citizen input from those who rightfully dislike public hearings.

4. Survey questions and execution should not be done by planners or appraisers.

IV. A good example of modeling market data through segmentation and survey for renovation in a small community is a project by Gruen Gruen + Associates for Santa Maria, California. The study was begun in 1972. Project is operating as the Santa Maria Town Center with retail sales ahead of forecasts.

A. The Gruen's were able to convince the redevelopment agency to avoid any physical planning until a detailed analysis of the demand for alternative services that could attract people back to the downtown area was done. This EMAS study (economic market analysis study) outline is in Exhibit 3 had the following outputs:

1. First, a full analysis of economic data and retail data was utilized to generate information about the type of tenancies that could realistically be expected to penetrate downtown markets. (Table of Contents Exhibit 4)

Reprinted with permission of Dr. Claude Gruen & Nina Gruen of Gruen Gruen + Associates.

Exhibit 4

ECONOMIC AND MARKET ANALYSIS STUDY FOR DOWNTOWN SANTA MARIA

Prepared for: The City of Santa Maria
Redevelopment Agency

George S. Hobbs, Jr., Chairman
Elwin E. Mussell, Vice Chairman
Dan A. Firth
C. Clayton Kyle
Ed J. Zuchelli
Thomas P. Weldon, Jr., Executive Director

Prepared by:

GRUEN GRUEN + ASSOCIATES
Economic and Sociological Consultants

February, 1972



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2. With a lead on tenancies, the Gruen's worked with an architect to provide sketches of alternative architectural styles and concepts to show residence in survey to see what type of treatments might strike the most positive response. (See Exhibit 5)

3. The EMAS should then be able to indicate the kind of tenancies that could survive downtown, suggest their dollar sales potential, and indicate at a preliminary level a design scheme. (See Exhibit 6)

4. At the same time, back door financial studies are done from rents from capital budgets to discover what would be feasible for the private developer and what components may need to be subsidized by the public.

5. Appraisers use the EMAS and suggested tenant mix as the basis for their value estimate in the after condition.

6. Final stage was to write up a series of specifications or profiles on tenants, product design and components, and a cash flow analysis of the entire project from the viewpoint of the developer so he could see how much money there was to make tnd he would know that the city knew the financial aspects of the project. Developers were then asked to bid.

B. In the case of Santa Maria, three developers bid and the city picked Ernest Hahn to build the project. There was no demolition or site acquisition before the start of the EMAS. The entire project was done within a four year period. For the first six months of complete operation, June 1976 through December 1976, sales were approximately 15.6 million and is 70% leased. The Mall did 4.9 million, Sears - 6.9 million, and a local department store - 3.7 million.

C. Before looking at report organization and product, it is useful to observe:

1. Planners are poor market economists and merchandising survey analysts. Use specialist at the start.

2. Most appraisers are equally bad, but are reluctant to use team approach or to accept EMAS by somebody else as a legitimate set of assumptions for appraisal. Moreover, appraisal financial analysis must be on after tax cash flow in the redevelopment game, or he will miss the market completely. The financial analysis must contain extensive sensitivity analysis so that changing times due to a slow pace of such projects does not invalidate a fixed $/date conclusion.

3. The leader of the team should be oriented to empirical observation, be he planner, lawyer or architect, rather than dedicated to purist appraisal or planning dogma and esthetics. The numbers crunch or nothing will be built that should have been built.

Exhibit 5

Excerpt With Permission From
Economic & Market Analysis Study for Downtown Santa Maria

Prepared for City of Santa Maria Redevelopment Agency
by Gruen Gruen + Associates

Thus, the relationship between survey derived indications of satisfaction and current expenditure patterns were sufficiently significant to warrant the use of survey responses to suggest the change in relative preferences that would be caused by an appropriately developed new shopping agglomeration in downtown Santa Maria. However, the rapid deterioration of this relationship with distance suggested that it be used very cautiously in Trade Areas 5 through 9. Therefore, in addition to considering the percentage of respondents who made no complaints, we also analyzed into the following three categories all the comments that were made in response to the interview question concerning the reasons for not shopping in downtown Santa Maria:

1. Complaints about physical deficiencies of the existing downtown that we have assumed the redevelopment will alleviate. (Remediable complaints)

2. Complaints concerning limited selection such as requests for a department store or more stores. (Remediable complaints)

3. Complaints about prices, the lack of a supermarket or other contemporary situations that we do not think the redevelopment programs will alter. (Irremediable complaints)

Table 10 presents the percentage of respondents making remediable complaints. These complaints were used in conjunction with the information about the relationship between the indications of satisfaction discussed above to adjust the present indicators of the proportion of expenditures on various items in downtown Santa Maria (the S variables originally presented in Table 4) to reflect the increase in consumer preferences for downtown Santa Maria that would result from the completion of a sales optimizing redevelopment program. We did not think the evidence warranted using these percentages of remediable complaints (%RC) directly by adding them to the previously revealed preference percentages ($1970) to get a new percentage ($1975, 1980, 1985). Instead, we adopted the following rules to get the new estimates of this preference variable:

	Trade Areas 1 through 4	Trade Areas 5 through 9
For Clothing	$\frac{1}{2}$ RC x .964 + S_{1970}	Use $\frac{1}{2}$ RC instead of S_{1970}
For Home Furnishings	$\frac{1}{2}$ RC x .861 + S_{1970}	Use $\frac{1}{2}$ RC instead of S_{1970}
For Other Retail	$\frac{1}{2}$ RC x .017 + S_{1970}	1% + S_{1970}

Exhibit 5

Table 10

Percentage of Respondents Making Complaints
About Remediable Features of the Present Downtown
(Complaints About Physical Problems
or Inadequate Selection of Stores and Goods)

Trade Area	% Remediable Complaints
1	62.7
2	53.8
3	65.8
4	53.3
5	19.3
6	22.2
7	14.3
8	20.0
9	10.2

Source: Gruen Gruen + Associates telephone survey

Computations following these rules permitted us to develop the estimates of maximum percentage effective preference or penetration presented below in Table 11. The insertion of these percentages in the sales estimate generating equations we have been using throughout permits us to make the forecasts of potential sales summarized in Table 12. The forecast sales potential of almost $42 million in 1975 would have downtown Santa Maria capturing 26.4% of the region's sales. By 1985 potential sales climb to almost $58 million in spite of the fact that our model has downtown Santa Maria's share of the region's sales dropping slightly to 25.4%.

Table 11

Estimated Maximum Effective Preference (S)
or Percentage Penetration Possible
After Appropriate Redevelopment

Trade Area	Clothing	Home Furnishings	Other Retail
1	76.2	74.5	19.9
2	74.3	69.1	10.4
3	76.3	72.2	12.9
4	56.9	53.0	8.6
5	19.3	19.3	2.1
6	22.2	22.2	1.5
7	14.3	14.3	1.6
8	20.0	20.0	2.8
9	10.2	10.2	1.5

Source: Gruen Gruen + Associates

Table 12

Estimated Downtown Santa Maria Future Sales Potential
(In Thousands of Dollars)

Trade Area	$ Available In Region 1975	Potential $ Sales in NDP 1975	$ Available In Region 1980	Potential $ Sales in NDP 1980	$ Available In Region 1985	Potential $ Sales in NDP 1985	% of Regional Sales to NDP
1	21,347	12,520	23,950	14,047	26,764	15,693	58.6
2	9,159	4,940	10,665	5,753	12,369	6,673	53.9
3	15,852	8,916	18,705	10,521	22,956	12,912	56.2
4	6,759	2,806	7,949	3,300	9,473	3,933	41.5
5	19,676	2,756	22,963	3,217	26,613	3,728	14.0
6	18,030	2,854	20,878	3,305	24,042	3,806	15.8
7	9,065	942	10,920	1,135	13,106	1,362	10.4
8.	25,355	3,729	31,043	4,566	38,198	5,618	14.7
9	33,589	2,527	42,857	3,224	53,925	4,057	7.5
Total	158,831	41,990	189,931	49,068	227,447	57,782	

Source: Gruen Gruen + Associates

Exhibit 5

Table 30

Proportion of Expenditures in Downtown

Trade Area	% Clothing	% Home Furnishings	% Other Retail	% Service
1	15.9	20.5	18.8	33.3
2	22.6	22.8	9.5	35.9
3	13.1	15.5	11.8	23.0
4	5.7	7.0	7.7	5.3
5	5.4	4.5	1.1	4.0
6	2.9	0.9	0.5	1.8
7	2.5	1.5	0.6	0.6
8	6.6	5.0	1.3	3.5
9	2.0	0.6	0.5	0.6

Source: Gruen Gruen + Associates telephone survey

Table 31

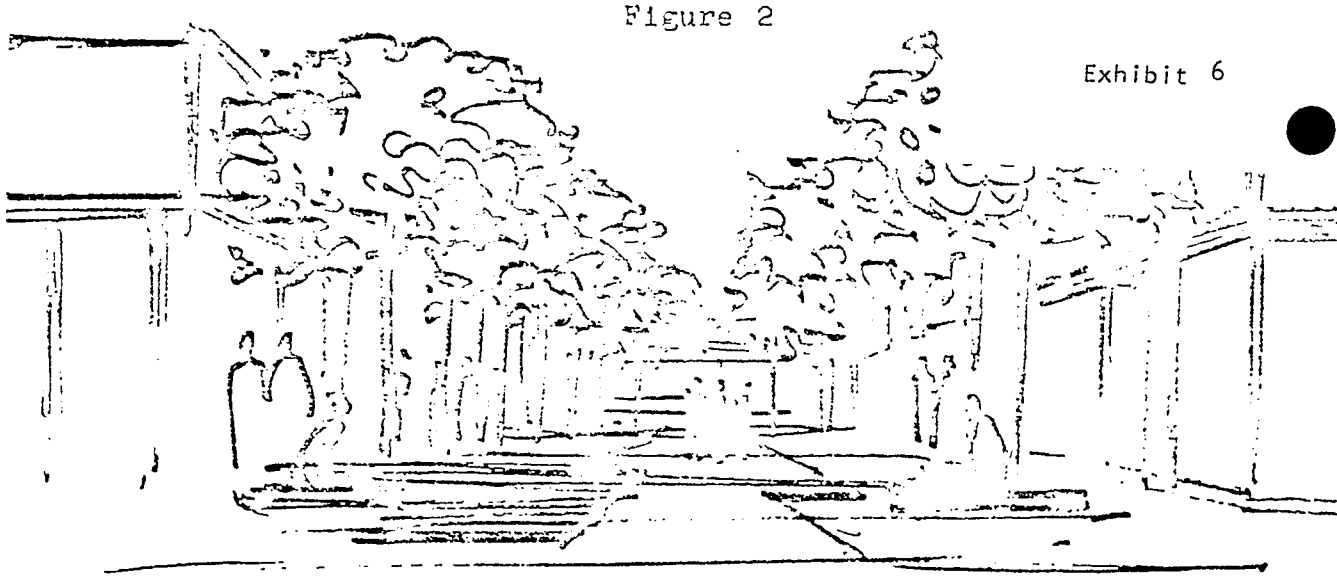
Banking, Repair, Beauty Parlor/Barber Shop and Similar Services Obtained Downtown By Consumers of Differing Incomes

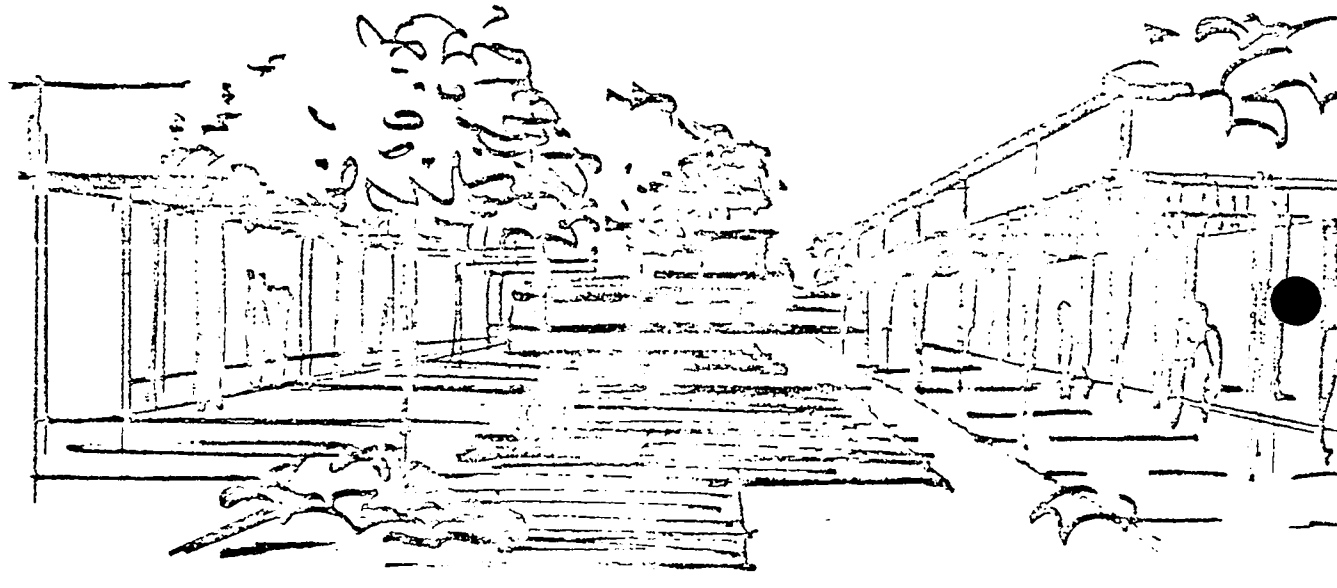
Household Income	% Generally	% Occasionally	% Seldom
Under $7,000	43.7	22.9	16.0
$7,000-10,000	43.3	20.0	36.7
$10,000-15,000	60.7	12.5	26.8
Over $15,000	61.5	21.2	17.3

Source: Gruen Gruen + Associates downtown survey

Figure 2

Exhibit 6





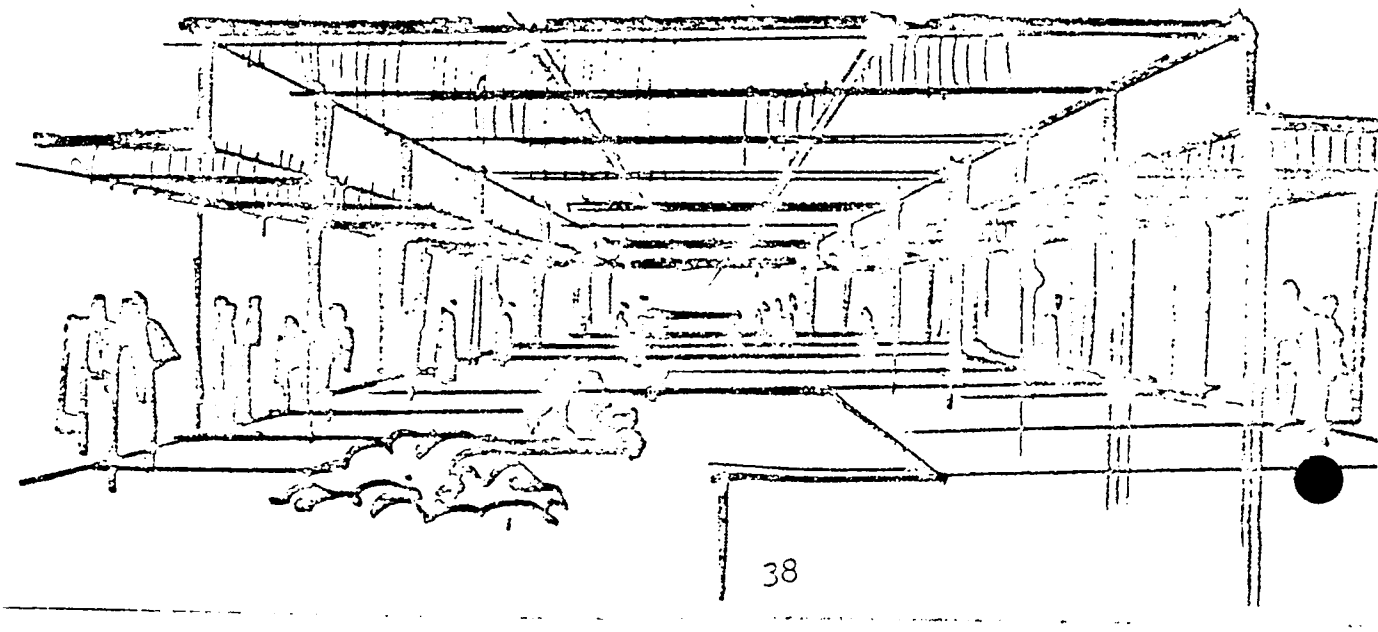
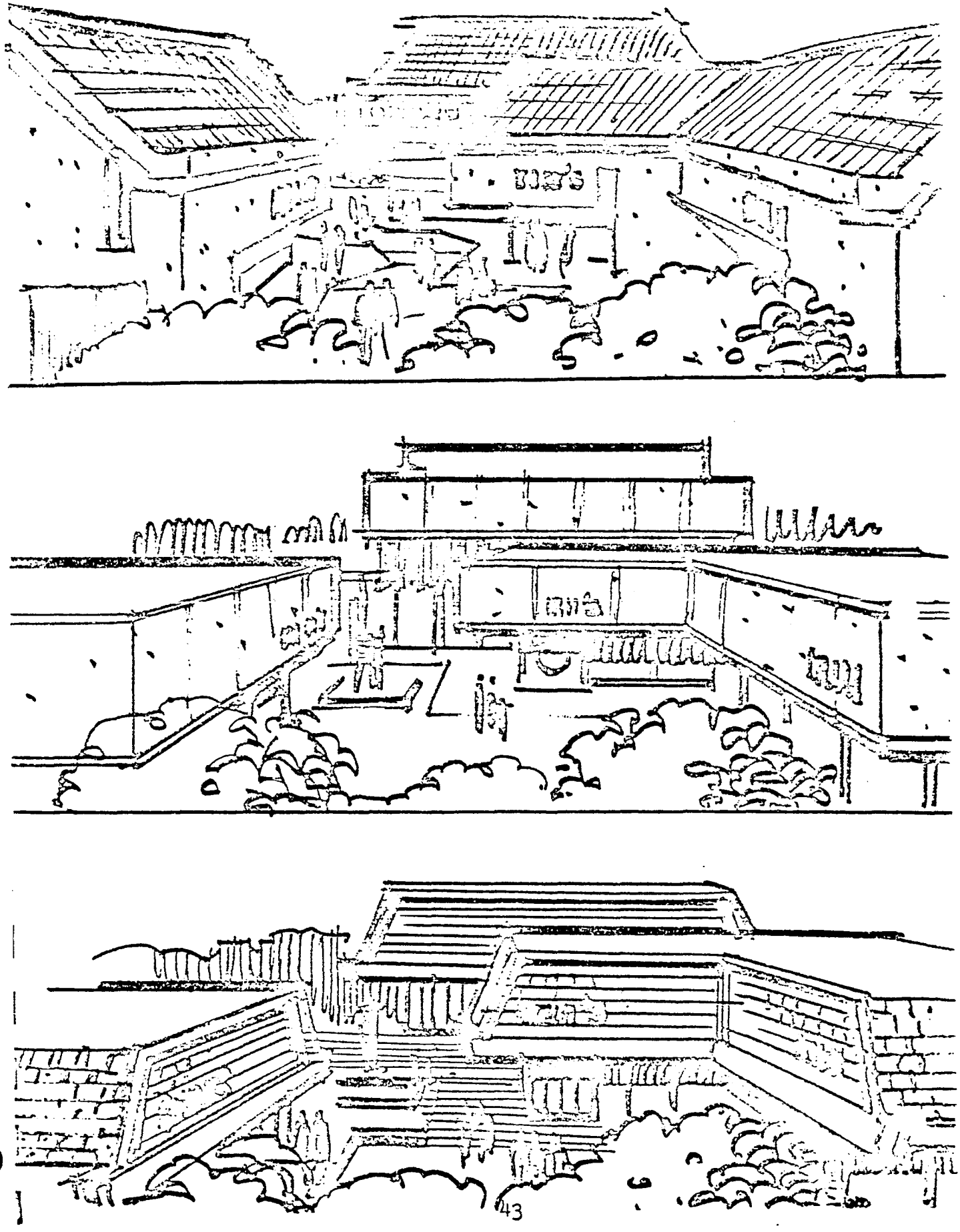


Figure 5



FOR THE RESPONDENTS ONLY

37. If a new and attractive apartment complex were to be built in Downtown Santa Maria, would you be very likely___1 likely___2, or unlikely___3 to consider this location?

38. If a one-bedroom unit were priced from $150-175 and a bedroom unit from $175-250, would you be very likely___ likely___2, or unlikely___3 to consider this location?

39. If a new residential hotel were to be built in Downtown Santa Maria, would you be very likely___1, likely___2, unlikely___3 to consider this location?

We are going to show you four sets of pictures of differing of shopping centers. We would like to get your opinion of

Picture No. 1

40. Which of the two pictures do you like the best?
A___1 B___2

a. Why?

INTERVIEWER: If respondent has not mentioned the width of the walkway ask:

41. Did the different widths of the walkway affect your choice in any way? Yes ___1 No___2

a. If yes, how?

Picture No. 2

42. Which of the three pictures do you like the best?
A___1 B___2 C___3

a. Why?

43. Which of the three pictures do you like the least?
A___1 B___2 C___3

a. Why?

INTERVIEWER: If respondent has not mentioned the openness or closedness of the shopping center ask:

44. Picture A presents an open mall center, B a partly enclosed center and Picture C a completely closed mall. Did this factor influence your choice in any way? Yes___1 No___2

a. How?

Picture No. 3

45. Which of the two pictures do you like the best?
A___1 B___2

a. Why?

46. If Picture A were to contain both apartments and stores while Picture B were to contain only stores, which would you prefer? A___1 B___2

a. Why?

Picture No. 4

47. Which of the three pictures do you like the best?
A___1 B___2 C___3

a. Why?

48. Which of the three pictures do you like the least?
A___1 B___2 C___3

a. Why?

To assist us in better planning for all residents, we would appreciate your answering a few biographical questions.

INTERVIEWER: Fill in sex and race

49. Sex: Male___1 Female___2

50. Race/Ethnic: White___1, Black___2, Spanish Surname___3, Other___4

D. Consider the elderly housing market chart in Exhibit 2a,b. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and overwhelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

E. The ratio sought by the survey follow a precise reduction pattern:

1. How many will consider moving?
2. Of those, how many would consider staying in town?
3. Of those, how many would consider an apartment?
4. Of those remaining who would consider an apartment in town, how many would consider a specific location?
5. Notice the reduction process defines a subset of the elderly market - a micro-market.

F. Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

1. Confine vocabulary to basic 1000 words; avoid lingo.

2. Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 6)

3. Always test the quesionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

4. Questions may take different formats. (See Exhibit 6)

G. The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

1. Probe for dissatisfaction with existing space or life style.
2. Probe for anxieties about uncontrollable trends and events.
3. Probe for desired social structure ties, real or imagined.

H. The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

1. The telephone interview may be less expensive per question and fastest but is limited in the type and amount of questions which can be asked. Rifled to a project known to the analyst,

Simple Survey Formats for Classification of Subsets & Measurement of Preference

I'd like to ask you a few questions about the place you lived just before you moved into this apartment.

5. About how many years did you live in your former home?

__ less than 1 year
__ 1 year - L.T. 2 years
__ 2 to L.T. 5 years
__ 5 to L.T. 10 years
__ 10 to 15 years
__ more than 15 years, _____

6. Did you live in a house or in an apartment building just before your move here?

__ house
__ apartment
__ other, _____

→ About how many apartments, including yours were there in the building?

__ L.T. 4
__ 4 to 8
__ 9 to 16
__ 17 to 24
__ 24 to 32
__ more than 32

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Did you own or rent the house?

__ own
__ rent

Did you rent a room, a flat or floor, or entire house?

__ room __ flat/floor __ entire

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Now I'd like to ask you some general questions about your decision to move to this apartment.

7. How did you first find out about them?

__ family
__ friends
__ church
__ Housing Authority
__ newspaper
__ radio
__ television
__ other, _____

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself. (See Exhibit 7)

2. A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

3. Direct mail questionnaires may cost from 5¢ to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

4. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

   . Would you be at all uneasy if people of a different religion or race were to move in next to your home?

   . As you see it, what are some of the good points and the bad points of the present Governor of this state?

5. Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked, the response should permit some degree of obliqueness by the respondent.

   . The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.

   . If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

6. Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:

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EXHIBIT 7

WE WOULD APPRECIATE YOUR COMMENTS ABOUT APARTMENT LIVING OR ABOUT THIS SURVEY.

YOUR COMMENTS:

I have considered buying a house so that I could have my own washer and dryer. I really dislike running down to the basement to do my laundry and sometimes finding the washer & dryer being used. Also I dislike having to put coins in the machines. I understand that in South Bend, Indiana, apartments have their own washers and dryers in each unit. I realize that moving to a house would bring maintenance & lawn care and snow removal concerns which I do not want. So, I'm still living in an apartments. I would move in an instant if an apartment complex would provide me with a washer & dryer.

THANK YOU FOR YOUR HELP!

Please return the survey in the postage-paid envelope as soon as possible.

FEASIBILITY RESEARCH GROUP
210 Michigan Theater Building
Ann Arbor, Michigan 48108

FEASIBILITY RESEARCH GROUP

Specialists in Consumer Market Research for Decision Makers

JOHN A. RASMUSSEN
Research Coordinator

OCTOBER, 1976

SUBJECT: LANSING APARTMENT RESIDENT SURVEY

DEAR APARTMENT RESIDENT:

YOU CAN HELP PLAN NEW APARTMENTS. YOUR OPINIONS ABOUT YOUR OWN APARTMENT AS WELL AS OTHER APARTMENTS YOU MAY HAVE LOOKED AT OR LIVED IN, CAN HELP DECISION-MAKERS IDENTIFY WHAT APARTMENT RESIDENTS PREFER. THIS WILL HELP THEM IN PLANNING FUTURE APARTMENTS ACCORDING TO THE RESIDENTS' NEEDS AND PREFERENCES.

BY FILLING OUT THE ENCLOSED QUESTIONNAIRE AND RETURNING IT IN THE POSTAGE PAID ENVELOPE PROVIDED, YOU CAN HELP IN MAKING THESE DECISIONS. THIS SURVEY IS BEING CONDUCTED BY FEASIBILITY RESEARCH GROUP, AN INDEPENDENT RESEARCH FIRM.

YOUR REPLY TO THE SURVEY IS CONFIDENTIAL. THE CODE NUMBER IS USED ONLY TO HELP US REMIND PEOPLE WHO MAY BE SLOW TO RESPOND. PLEASE RETURN YOUR SURVEY IN THE POSTAGE PAID RETURN ENVELOPE AS SOON AS POSSIBLE.

VERY TRULY YOURS,

John A. Rasmussen

JOHN A. RASMUSSEN
RESEARCH COORDINATOR

YOUR OPINION COUNTS

210 MICHIGAN THEATER BUILDING • ANN ARBOR, MICHIGAN 48108 • 313/994 6454

LANSING AREA APARTMENT RESIDENTS

WHETHER YOU ARE

* VERY SATISFIED
* NEUTRAL OR
* VERY DISSATISFIED

WITH YOUR APARTMENT,

HERE IS YOUR CHANCE TO BE HEARD!

NOTE: TO BE COUNTED, YOUR SURVEY MUST BE RECIEVED BEFORE THE TABULATION DATE.

WHO RECEIVES A SURVEY?

* SURVEY SAMPLES ARE SELECTED BY A SCIENTIFIC RANDOM NUMBER PROCESS. NOT EVERY HOUSEHOLD WILL BE SURVEYED. THEREFORE, IT IS IMPORTANT THAT SELECTED HOUSEHOLDS DO RESPOND.

IF I DON'T REPLY, WILL YOU SURVEY SOMEONE ELSE?

* NO. ONCE YOUR HOUSEHOLD IS SELECTED FOR THE SAMPLE, WE CANNOT SUBSTITUTE ANOTHER APARTMENT.

WHAT IF I DON'T WANT TO ANSWER SOME OF THE QUESTIONS?

* IF YOU COME TO ANY QUESTIONS YOU DO NOT WISH TO ANSWER, JUST SKIP THAT QUESTION AND GO ON TO THE NEXT ONE.

WILL MY APARTMENT MANAGER SEE MY SURVEY?

* NO. THIS IS AN INDEPENDENT SURVEY OF MANY APARTMENT COMMUNITIES. ONLY THE COMBINED RESPONSES OF ALL APARTMENT RESIDENTS WILL BE TABULATED.

16A. WHO LIVES WITH YOU IN YOUR PRESENT APARTMENT? (Check one)

(1) ____ My spouse
(2) ____ My spouse and children
(3) X I do not share my apartment with anyone.
(4) ____ I share my apartment with roommates
____ Other (Please explain _____)

____ 16B. IF YOU SHARE YOUR APARTMENT WITH ROOMMATES, HOW MANY SHARE YOUR APARTMENT? (INCLUDING YOURSELF)

(1) ____ Two N/A
(2) ____ Three
(3) ____ Four

____ 16C. IF YOU HAVE CHILDREN, PLEASE INDICATE HOW MANY LIVE IN YOUR HOUSEHOLD AND HOW OLD THEY ARE.
How many children? N/A Their ages? _____

____ 17. WHICH OF THE FOLLOWING AGE GROUPS DO YOU AND YOUR SPOUSE OR ROOMMATE(S) FALL INTO?

(1) ____ 18 - 24 (3) ____ 35 - 44 (5) ____ 55 - 64
(2) X 25 - 34 (4) ____ 45 - 54 (6) ____ 65 or over

____ 18. ARE YOU: (1) ____ Male (2) X Female

IN ORDER TO ASSIST FUTURE DEVELOPERS TO MEET THE NEEDS OF INDIVIDUALS LIKE YOU, IT IS IMPORTANT TO UNDERSTAND WHICH EMPLOYERS IN THE AREA ARE ATTRACTING NEW EMPLOYEES. WITH THIS INFORMATION, FUTURE HOUSING NEEDS CAN BE ANTICIPATED AND MET.

____ 19A. HOW MANY INDIVIDUALS IN YOUR HOUSEHOLD ARE NOW EMPLOYED? 1

____ 19B. WHERE DO PERSONS IN YOUR HOUSEHOLD WORK?

Name of Company	Location (City, Street)	Year Employment Began
(Law Firm)	Lansing, MI 48933	1966

____ 20. WHICH OF THE FOLLOWING CORRESPONDS WITH YOUR TOTAL HOUSEHOLD INCOME? (IF YOU SHARE WITH ROOMMATES, DO NOT INCLUDE THEIR INCOME.) [Check one]

(1) ____ Under $6,000 per year (4) X $12,000 to $14,999 per year
(2) ____ $6,000 to $8,999 per year (5) ____ $15,000 to $19,999 per year
(3) ____ $9,000 to $11,999 per year (6) ____ $20,000 or more per year

THANK YOU FOR YOUR HELP!

PLEASE RETURN YOUR SURVEY RIGHT AWAY IN THE POSTAGE PAID ENVELOPE.

____ 1. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR PREVIOUS RESIDENCE? (Check one)

(1) X Apartment 0157
(2) ____ Single family house which I/we rented
(3) ____ Single family house which I/we owned
(4) ____ Lived with parents
____ Other (Please explain _____)

____ 2A. WHERE WAS YOUR PREVIOUS RESIDENCE LOCATED? (Check one)

(1) ____ Lansing
(2) X East Lansing
(3) ____ Grand Ledge
(4) ____ DeWitt
(5) ____ Outside the state of Michigan
____ Other (Where? _____)

____ 2B. WHAT WAS THE NAME OF THE STREET WHERE YOUR PREVIOUS RESIDENCE WAS LOCATED? (IF YOUR PREVIOUS RESIDENCE WAS LOCATED IN AN APARTMENT DEVELOPMENT, WHAT IS THE NAME OF THE DEVELOPMENT?)

Street Name West Saginaw Apartment Development Name Horizon House

____ 3. FOR HOW MANY YEARS DID YOU LIVE AT YOUR PREVIOUS RESIDENCE? 4 Years

____ 4. WHAT WERE YOUR MAJOR REASONS FOR DECIDING TO MOVE FROM YOUR PREVIOUS RESIDENCE?
From one-bedroom to two-bedroom
From no dishwasher to a dishwasher
For a change after 4 years

____ 5. BEFORE YOU DECIDED TO MOVE TO THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE, WHICH OTHER DEVELOPMENTS DID YOU CONSIDER? WHAT WERE THEIR NAMES?
Names of Other Apartment Developments Considered
Others considered from outside appearance and reputation only — also location — did not seriously look at any other

____ 6. WHY DID YOU DECIDE TO LIVE HERE RATHER THAN IN ONE OF THE OTHER DEVELOPMENTS YOU CONSIDERED? (Looked at complex 3 times before decided to move)
Decided to live here because knew owners; liked apartment; and ready for a change - especially to a 2-bedroom

____ 7A. IF THERE HAD BEEN NO VACANCY AT THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE, WHICH OF THE OTHERS WOULD YOU HAVE SELECTED AS YOUR SECOND CHOICE?
N/A

____ 7B. WHY WOULD YOU HAVE CONSIDERED THIS AS YOUR SECOND CHOICE OVER THE OTHERS?
N/A

8. WHAT MONTH AND YEAR DID YOU MOVE INTO THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE? Apr. Month 75 Year

9. WHY DID YOU SELECT THE PARTICULAR APARTMENT UNIT YOU LIVE IN?
2-bedroom unit.
Close to community building.
Gold carpeting and gold appliances

10. HOW MANY BEDROOMS DO YOU HAVE IN YOUR PRESENT APARTMENT? 2

11. HOW MANY BATHROOMS DO YOU HAVE IN YOUR PRESENT APARTMENT? 1

12A. HOW MUCH DO YOU PAY MONTHLY FOR RENT FOR YOUR APARTMENT? $ 225

12B. PLEASE CHECK THOSE UTILITIES THAT ARE INCLUDED IN YOUR MONTHLY RENTAL PAYMENT.

(1) X Water
(2) X Heat
(3) ____ Electricity

12C. PLEASE CHECK THOSE ITEMS FOR WHICH YOU PAY EXTRA IN YOUR MONTHLY RENT?

	ITEM	HOW MUCH EXTRA PER MONTH?
(1) ____	Carport	$ N/A (no carports)
(2) ____	Pet	$ N/A (no pets allowed)
X	Other (What? top floor)	$ [redacted] unsure

13. PLEASE RATE YOUR PRESENT RESIDENCE IN THE FOLLOWING AREAS BY PLACING A CHECK (✓) IN THE SPACE BELOW THE PHRASE THAT BEST DESCRIBES YOUR FEELINGS ABOUT YOUR RESIDENCE.

	(1) VERY SATISFIED	(2) SOMEWHAT SATISFIED	(3) NEUTRAL	(4) SOMEWHAT DISSATISFIED	(5) VERY DISSATISFIED
A. RENTAL MANAGEMENT SERVICE	(✓)	( )	( )	( )	( )
COMMENTS					
B. MAINTENANCE SERVICE	(✓)	( )	( )	( )	( )
COMMENTS	Not 100% pleased at all times but cannot say only somewhat satisfied.				
C. GENERAL ATTITUDE OF MANAGEMENT	(✓)	( )	( )	( )	( )
COMMENTS					
D. RENT LEVEL	(✓)	( )	( )	( )	( )
COMMENTS	Naturally I would be more satisfied if it were lower				

13. CONTINUED PLEASE RATE YOUR PRESENT RESIDENCE IN THE FOLLOWING AREAS BY PLACING A CHECK (✓) IN THE SPACE BELOW THE PHRASE THAT BEST DESCRIBES YOUR FEELINGS ABOUT YOUR RESIDENCE.

	(1) VERY SATISFIED	(2) SOMEWHAT SATISFIED	(3) NEUTRAL	(4) SOMEWHAT DISSATISFIED	(5) VERY DISSATISFIED
E. GENERAL APPEARANCE OF DEVELOPMENT	(✓)	( )	( )	( )	( )
COMMENTS	Good landscaping and good general upkeep				
F. SOUNDPROOFING BETWEEN UNITS	( )	(✓)	( )	( )	( )
COMMENTS	I would only be satisfied when I could not hear (muted) voices + garbage disposals + showers/plumbing, etc.				
G. APPLIANCES AND FIXTURES	( )	(✓)	( )	( )	( )
COMMENTS	I would like an apt. size washer + dryer in the unit + would be willing to pay extra for one. Strong desire →				
H. ADEQUACY OF RECREATIONAL FACILITIES	(✓)	( )	( )	( )	( )
COMMENTS					

Soundproofing could be improved upon.

ABOUT YOUR HOUSEHOLD

14. HOW MANY PASSENGER VEHICLES (CARS, TRUCKS, VANS, ETC.) ARE OWNED BY MEMBERS OF YOUR HOUSEHOLD? (Check one)

(1) ____ None
(2) X One
(3) ____ Two
(4) ____ Three

15. WHAT IS YOUR MARITAL STATUS? (Check one)

(1) X Single
(2) ____ Married
(3) ____ Widowed
(4) ____ Divorced or separated
____ Other

V. Introduction to Prospect Survey

While a survey analysis appears to be a group of questions, in fact the real product is a table of data unavailable from any other source. The analyst should begin with a written mock-up of the final report logic and the specific tables which lead to a conclusion.

A. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankruptcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

B. A survey of users, is designed to reveal or to identify the competitive differential attributes which whould provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

C. With a preliminary hypothesis as to the prospect, survey questions may be inteded to provide:

1. Key ratios necessary for segmentation of market data already broken down by trade area, demographics, employment, etc.

2. Key indicators of anxieties or preferences or tradeoffs of the prospect.

3. Key indicators of the anxieties or preferences of non-prospects who feel a vested interest in the impact or have a significant part in the purchase process. (For example - the members of the Public Housing Authority have a different set of needs than the ultimate user, but the product is "bought" by the Board).

Exhibit 8

SURVEY RESEARCH PROCESS--MAIL SURVEY

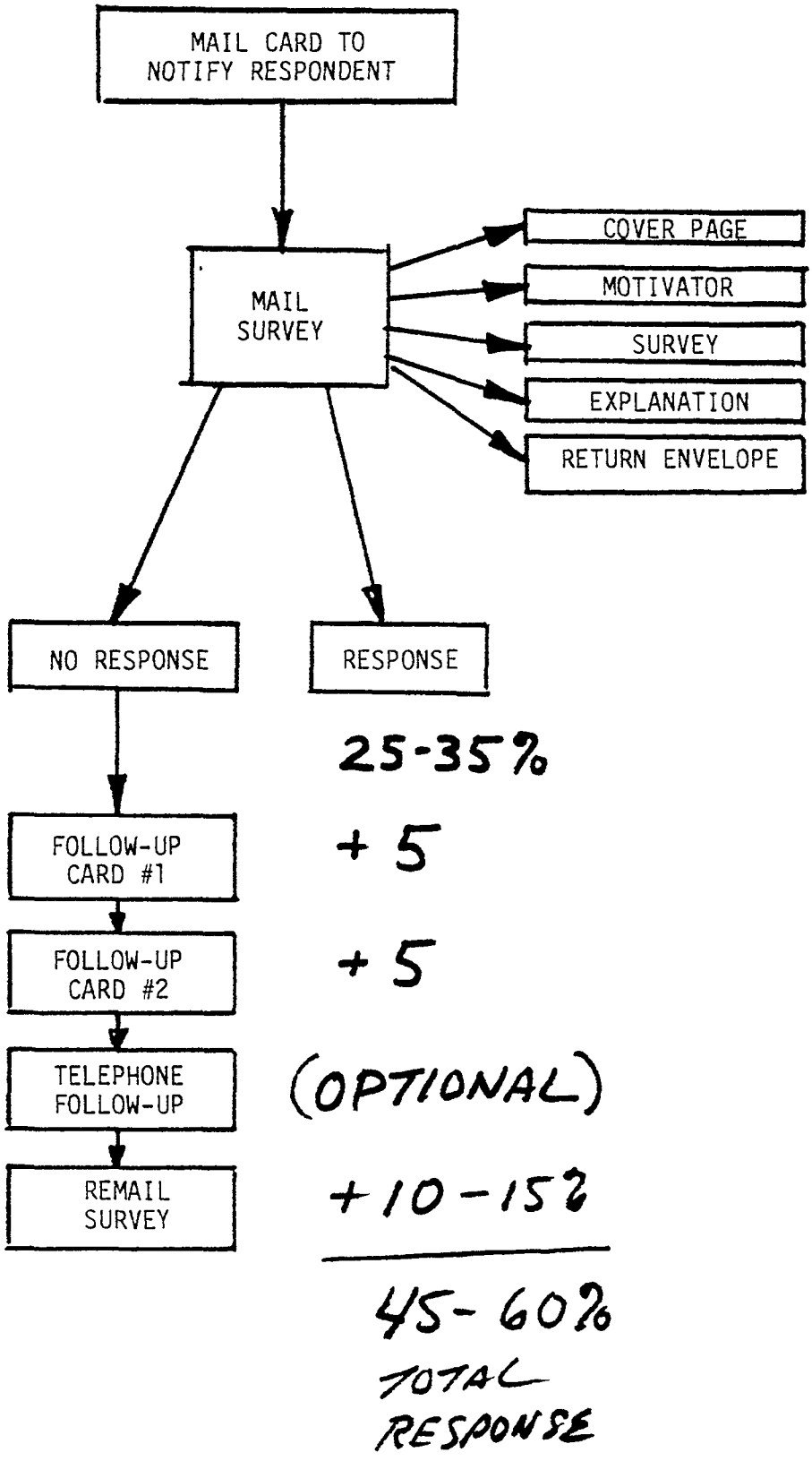

Exhibit 9

FEASIBILITY RESEARCH GROUP

SAMPLE QUALITY CONTROL

SAMPLING ERROR

DEFINITION: Sampling error occurs when sample data is not representative of the total population of households from which the sample is drawn.

HOW CONTROLLED: FRG's sample of the population reflects updated 1977 household data. Using our source of Washtenaw County Household addresses, which is updated for new apartments and homes built in 1977 and applying a computer-generated random sample, we can hold sample error to a minimum.

SAMPLE BIAS

DEFINITION: Sample bias occurs when respondents drawn in the sample refuse to be interviewed for the survey or do not reply to certain questions in the survey.

HOW CONTROLLED: At FRG the following steps are taken to reduce possible sample bias:

(1) Pretesting of the survey questions and survey format to:
   (a) enable the respondent to understand the question
   (b) reduce respondent fatigue by creating a natural flow in the question sequence

(2) Monitoring interviewer performance by Head Interviewer to:
   (a) review completed surveys for completion and editing
   (b) review respondent's perception of interviewer through calling of 5% of respondents to learn consumers' opinion of interviewer

MAIL SURVEY RESPONSE RATES

	DATE	DAILY RESPONSE	TOTAL RESPONSE	POSTAGE DUE	UNDELIVERED	POSTAGE DUE FRG
SURVEY MAILED →	7/7/75					
	7/10/75	1	1	$0.22	1	$.10
	7/11/75	7	8	$0.84		
1st FOLLOW-UP MAILED →	7/12/75					
	7/12/75	11	19	$0.82		
	7/14/75	1+41+30	91	$8.62	(1 FRG stamp used)	
	7/15/75	63	154	$7.76	1	$.10
	7/16/75	1+2, 1+90	247	$10.90	1(3 FRG stamps)	
	7/17/75	1+115	363	$11.60	1 (1 FRG stamp)	
2nd FOLLOW-UP MAILED →	7/18/75					
	7/18/75	247	610	$34.14	5	
	7/21/75	165	775	$21.10	3	
	7/22/75	233	1,008	$28.36	4	
				(+$.20 remail)		
	7/23/75	1+2, 138	1,149	$15.66	2	
				(+$.20 remail)		
	7/24/75	153	1,302	$14.02 (+$.20 remail)		
	7/25/75	114	1,416	$13.68	1	
	7/28/75	49	1,465	$ 5.88		
	7/29/75	143	1,608	$17.16 (+$.40 remail)		
	7/30/75	53	1,661	$ 6.56	2	
	7/31/75	37	1,698	$ 4.54	1	
				(+$.40 for 2-1st class)		
MAILED →	8/1/75					
FOLLOW-UP	8/1/75	11	1,709	$ 1.52	2	
(52.7%)	8/4/75	48	1,757	$ 5.86	1(25)	
response	8/5/75	31	1,788	$ 3.72 (+$.40 postage)		
rate to date	8/6/75	1+22	1,811	$ 2.64 (+$.40 postage)		
	8/7/75	25	1,836	$ 3.00?		
	8/8/75	34	1,870	$ 4.20	1	

DATE	DAILY RESPONSE	TOTAL RESPONSE	POSTAGE DUE	UNDELIVERED	POSTAGE DUE FRG
8/11/75	33+6	1,906	$ 3.96		
8/12/75	3+1	1,910	$ .36 (+$1.20 remail postage)		
8/13/75	18	1,928	$ 2.16		
8/14/75	10	1,938	$ 1.20	1(27)	
8/15/75	5	1,943	$ .60		
8/18/75	10	1,953	$ 1.20		
8/19/75	4	1,957	$ .40		
8/20/75	2	1,959	$ .34	1	
8/21/75	1	1,960	$ .12		
8/22/75	1	1,961	$ .12 (+1 mailed to MEHA = 1,962)		
8/25/75	1	1,963	$ .12 (+$.40 remail)		
8/26/75	3	1,966	$ .36		
8/27/75	2	1,968	$ .24		
8/28/75	3	1,971	$ .36		
8/29/75	1	1,972	$ .12		
9/2/75	2	1,974	$ .24 (+1 mailed to MEHA = 1,975)		
9/8/75	2	1,977	$ .24		
9/9/75	1	1,978	$ .12		
9/18/75	4	1,982	$ .55	(28)	
(3,331-28 = 1,982/3,303 = 60% response rate to date)					
9/22/75	1	1,983	$ .15		
9/30/75	1	1,984	$ .15		
10/6/75	1	1,985	$ .15		
10/22/75	1	1,986	$ .15		
11/12/75	1	1,987	$ .15		
11/24/75	1	1,988	$ .15		

Exhibit 10

7. Personal interviews in depth permit questions using photographs with colors and styles. Expensive and time consuming, it assumes precious qualification of the interviewee as a typical prospect.

I. Processing of surveys can involve simple tallies or counts, simple subdividing of responses into subcategories, or preferably organization of the questionnaire to permit key punching or cross tabbing or statistical analysis by computer processing. The problem of identification requires:

1. Coding by colored paper, colored return envelope, stamp on self-addressed stamped envelope to reflect geographic area, building address, type of respondent, original mailing list solves most processing problems.

2. Beware of code numbers if you promised anonymity; give them the option of identifying the respondent, etc.

3. Always identify yourself as an analyst (but not the project or the client), providing a phone number or an address where the interviewee can find you. It will generate both presale prospect lists and some primary unexpected political participation by others.

J. Comparative cost and comparative merits and disadvantages of alternative survey research methods for appraisers is suggested in EXHIBIT 11.

1. These were prepared in 1978 by John Rasmussen for a conference at the University of Wisconsin.

2. Many appraisers worry about the size of the sample and degree of reliability of the results. In many cases, market segmentation and correct identification of the customer group will allow survey of virtually the entire universe of 20-40 users.

3. A sample is used to infer facts about a larger universe. EXHIBIT 12 provides an indication of sample size and range of error. Note that if you are going to subdivide responses between homeowners and renters, for example, it is important to have the desired sample size in the subcategory. Hence, it is important to refine your list of names as sharply as possible.

SURVEY RESEARCH FOR APPRAISERS

Survey Format	Advantages	Disadvantages	Response Rates	Typcial Cost Per Response	Typical Time
Personal Interviews	1. Permits longer surveys 2. Opportunity to probe 3. Can use flash cards, floor plans, etc.	1. Higher cost than phone phone or mail survey 2. More time required than telephone 3. Training and field supervision required	60 - 75% Call Backs-3	$3 to $6 per response	30 - 60 days
Telephone Survey	1. Faster than personal interviews or mail surveys 2. Opportunity to probe 3. Less pretesting required	1. Shorter questionnaire required 2. High turnover results in lower completion rate 3. Unlisted and disconnected phones may bias sample	30 - 50% Call Backs-3	$2 to $2.50	15 - 30 days
Mail Questionnaires	1. Lowest cost 2. Larger survey sample	1. Longest time for turn around 2. Questions as well as layout require design	40 -60 % Follow ups 3 or 4	$.55 to $1.00	60 - 90 days

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Exhibit 11

THE RELATIONSHIP OF SAMPLE SIZE TO SURVEY ACCURACY

Sample or subsample size	With this size sample, we are X% certain the obtained percentage is within Y% of the true percentage[1].		
	95% certain	90% certain	50% certain
50	± 13.8%[2]	± 11.6%	± 4.8%
100	9.8	8.2	3.4
150	8.0	6.7	2.8
200	6.9	5.8	2.4
250	6.2	5.2	2.1
300	5.7	4.7	1.9
350	5.2	4.4	1.8
400	4.9	4.1	1.7
450	4.6	3.9	1.6
500	4.4	3.7	1.5
600	4.0	3.4	1.4
700	3.7	3.1	1.3
800	3.5	2.9	1.2
900	3.3	2.7	1.1
1000	± 3.1%	± 2.6%	± 1.1%

[1] The percentage that would be obtained if everyone in the sampling list had been sent a survey. The figures given are accurate if the true percentage is from 30% to 70%. The obtained percentage and true percentage are likely to be closer if the true percentage is less than 30% or greater than 70%.

[2] For example, if the obtained percentage is 50% the true percentage will be between 36.2% and 63.8% (±13.8%), nineteen times out of twenty (95% certain).

Exhibit 12

CHECKLIST FOR INTERVIEWERS

Exhibit 13

1. BE NEUTRAL -- DON'T ATTEMPT TO INFLUENCE RESPONDENT IN ANY WAY.
   BE INFORMAL.
   BE COURTEOUS.
   BE CONSCIENTIOUS.

2. FIRST ANSWERS ARE USUALLY THE MOST MEANINGFUL. DO NOT CHANGE ANY ANSWERS TO A PAST QUESTION.

3. DO NOT RECORD A "DON'T KNOW" ANSWER TOO QUICKLY -- GIVE RESPONDENT TIME TO THINK.

4. RECORD ANSWERS JUST AS THEY ARE GIVEN. IF LENGTHY, TRY TO SUMMARIZE IN RESPONDENT'S OWN WORDS, NOT YOURS.

5. TRY TO OBTAIN AS SPECIFIC INFORMATION AS POSSIBLE. IF RESPONDENT ANSWERS, "IT'S O.K.," ASK WHY. IF NECESSARY, DO A LITTLE PROBING.

6. KEEP TALKING AS YOU WRITE. ASK NEXT QUESTION WHILE WRITING FIRST ANSWER. DON'T LET RESPONDENT GET DISTRACTED OR BORED.

7. STICK TO THE SUBJECT. DON'T LET YOURSELF OR THE RESPONDENT DIGRESS.

8. BE SURE YOU'VE ASKED EVERY QUESTION AS IT IS WRITTEN IN THE ORDER THEY APPEAR ON THE QUESTIONNAIRE FORM.

9. CHECK OVER QUESTIONNAIRE BEFORE TERMINATING THE INTERVIEW TO MAKE SURE IT IS COMPLETE.

10. THANK RESPONDENT FOR PARTICIPATING!

FEASIBILITY RESEARCH GROUP LTD.
210 MICHIGAN THEATER BUILDING
ANN ARBOR, MICHIGAN 48108
(313) 994-4454

PROJECT NO: _____

PROJECT NAME: _____

Exhibit 14

INTERVIEW VALIDATION

CONTRACTOR NAME: _____ _____

INTERVIEWER NO: _____

	INTERVIEWER TO FILL IN (1) ADDRESS AND PHONE NUMBER OR (2) NAME AND ADDRESS (IF NO PHONE OR REFUSAL)									FIELD SUPERVISOR TO COMPLETE. (VALIDATE WITHIN 2-7 DAYS.)				
	ADDRESS	ZIP	NAME	MR, MRS, MS, MISS	PHONE #	INTERVIEW DATE	START TIME	FINISH TIME	TOTAL TIME	VALIDATED BY	PHONE OR IN PERSON	QUESTIONS VALIDATED	COMMENTS	
1														1
2														2
3														3
4														4
5														5
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19														19
20														20

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ANN ARBOR, MICHIGAN 48104

Pink - INTERVIEWER'S COPY
Yellow - FIELD SUPERVISOR
White - OFFICE

KEY: YES = X
NO = —
DK = DON'T KNOW
NA = NOT APPROPRIATE
REF = REFUSED

I CERTIFY THE ABOVE LISTED ITEMS ARE TRUE AND CORRECT.

CONTRACTOR SIGNATURE _____ DATE _____

FIELD SUPERVISOR SIGNATURE _____ DATE _____

COMMENTS: _____

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REAL ESTATE FINANCIAL FEASIBILITY ANALYSIS WORKBOOK

AN OPERATIONAL GUIDE TO PROJECT COST-BENEFIT EVALUATION

JAMES CANESTARO AIA

DEPARTMENT OF REAL ESTATE AND URBAN LAND ECONOMICS

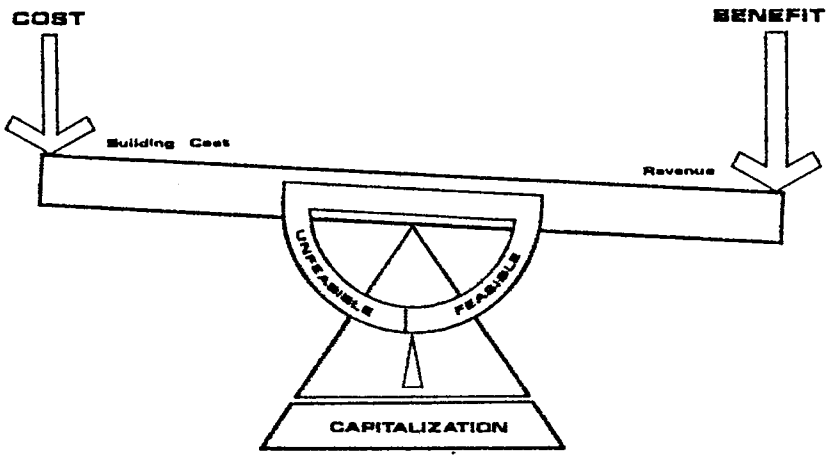
UNIVERSITY OF WISCONSIN-MADISON

Revised September 1979

FORWARD

The Real Estate Financial Feasibility Analysis Workbook has been developed to provided an operational manual for Project Cost-Benefit Analysis studies. The Workbook is not intended to stand alone, but rather to be used in conjunction with the 200 page Real Estate Financial Feasibility Analysis Handbook. Together, these two books provide a comprehensive introduction to the often confusing interaction of project cost estimation and financial feasibility studies.

The objective of these two books is to present the reader with a series of analytic techniques which can be easily applied in a staged process. This process ultimately leads to the identification and testing of all the essential physical and financial variables that make up a project proposal. The presentation of this analysis process can be best described as a balance of initial project costs against future ownership benefits. It is the measurement of this balance between the cost of the physical product, and the benefits generated by the economic utility of the project, that establishes the fundamental logic of the analysis process.



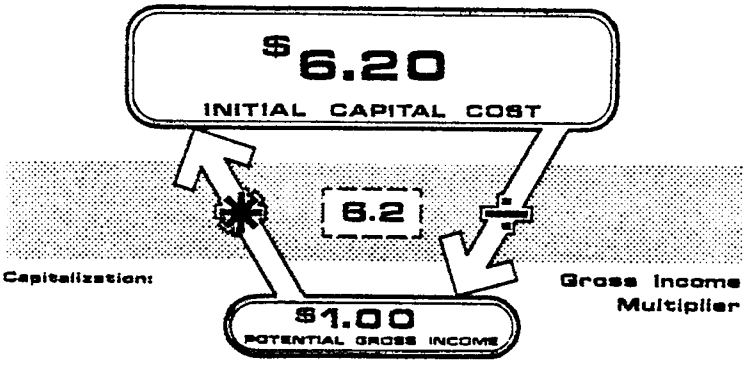
Initial, Intermediate, and Advanced Project Cost-Benefit Analysis

The Workbook provides a series of coordinated project Cost-Benefit Analysis models in both a graphic and numeric format. A representative case study, augmented by descriptive footnotes, clearly presents the sequence of steps necessary to complete each stage in the analysis process. Worksheets are also provided to aid in repetitive calculations undertaken by the reader. Reference tables and charts are included to present 1978 national data which may be helpful in completing the calculations. Finally, the appendix provides a review and evaluation of the project cost and operations data manuals useful in undertaking a Cost-Benefit Analysis.

The Handbook presents a more detailed description of the Project Cost-Benefit models and the concepts that underlie the process. The terminology used in the analysis has been clearly defined, often with illustrations or examples, to help the unindoctrinated reader. An elaborate presentation of the case

study calculation has been included to show the mechanics of each fundamental step in the analysis process. Finally, the appendix includes two project analysis problems, compound interest tables, and a complete glossary and index.

It must be noted that the reference data included in the Workbook should be used with a degree of caution when attempting a Cost-Benefit analysis in a specific market area. This 1978 national data may not be directly transferalbe into an analysis of a local market situation. The eccentricities of the local supply-demand factors, exaggerated construction costs created by local material or labor shortages, and special requirements of local lenders will all act to modify data presented in these reference tables. Where local market data may not be available or where it's validity may be challenged, these reference tables can provide an indication of "average and typical" data inputs for the calculations.



INITIAL PROJECT ANALYSIS

Flow Chart of the "BACK DOOR" Approach — A. 2
Case Study with Footnotes

Flow Chart of the "FRONT DOOR" Approach — A. 3
Case Study with Footnotes

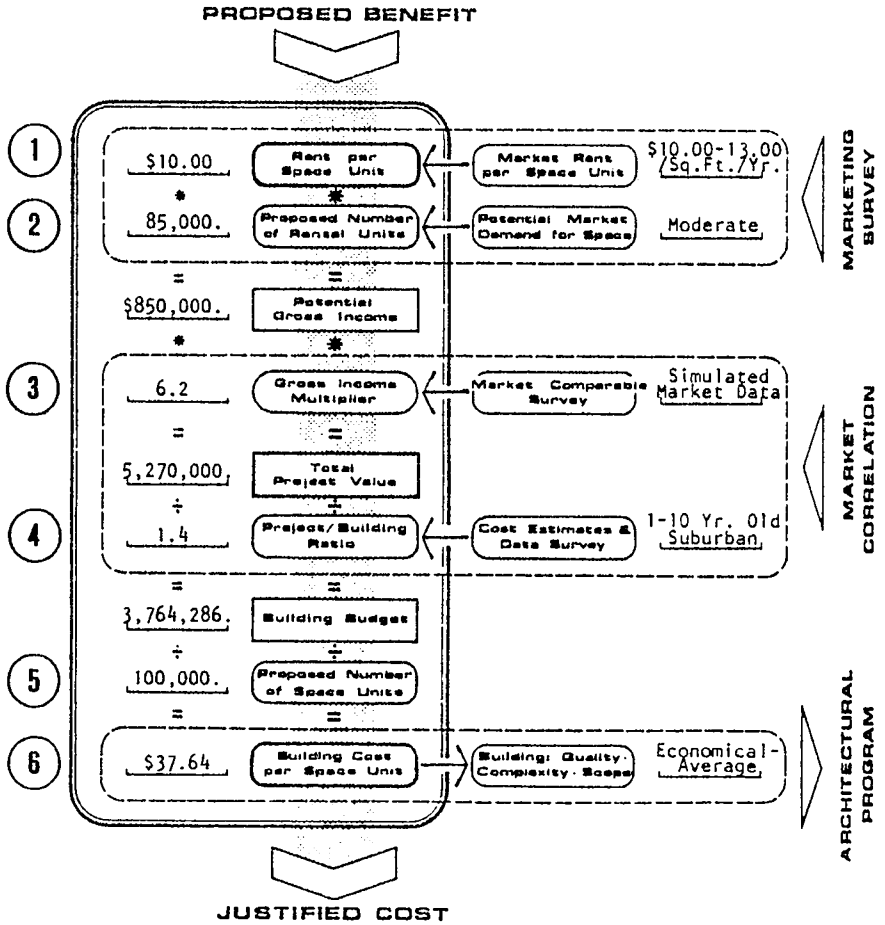
Worksheet — A. 4

Comparable Unit Building Construction Costs (table #1) — A. 5

Building Efficiency Ratios (table #2) — A. 6
Project ot Building Ratios (table #3)

Gross Income Multiplier Simulations (table #4) — A. 7

"BACK DOOR" APPROACH



FOOTNOTES

(1) Rent per Sapce Unit: is determined by analyzing the market rents charged by competitive income producing properties in the same real estate sub-market. This rent figure is the average of all rental rate agreements signed for the project under analysis and is usually expressed in dollars per sq. ft. per year.

The "back door" calculation of the initial project analysis was run using an average contract project rent at the bottom end of the real estate sub-market rental range. This answer will be compared to the results of the "front door" calculation to determine the rental variance.

(2) Proposed Number of Rental Units: is the gross leaseable area of a building, which is calculated by multiplying gross building area by the building efficiency ratio. (Table #2, p. A.6)

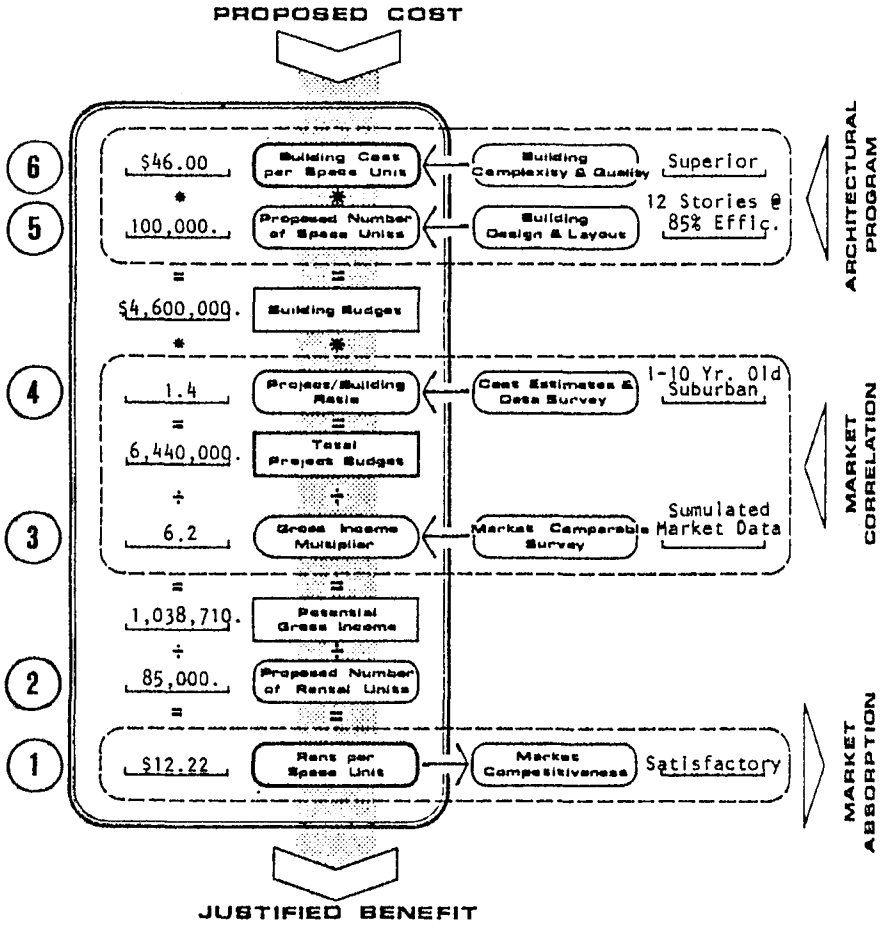
The case study is initially designed to be a high-rise general office building of 100,000 sq. ft. The building efficiency ratio of 85% is at the meager end of the space efficiency range for speculative office space.

(3) Gross Income Multiplier (GIM): is often used in appraisal to determine the value of an income property. The GIM is calculated for each of the comparable income properties in the sub-market, by dividing the potential gross income of each into its most recent sales price. The average GIM establishes the number of purchase dollars the market will spend to obtain a dollar of project revenue.

A very reliable sales price indicator can be calculated, if a sufficient number of comparable properties is available in the sub-market. Unfortunately, this data was not available for this case study,so the GIM was constructed through the use of the advanced project analysis models. These GIM figures, included in Table #4, p. A.7, should not be mistaken as market comparable data. GIM's identified from the market will always be higher since they include a consideration from return achieved on reversion, tax shelter benefits, and special financial arrangements.

(4) Project/ Building Ratio: is the multiplier which is created by dividing the Building Cost into the Total Capital Cost for the project. This factor can be a very effective tool in quickly generating an estimate of Total Project Cost. The Project/ Building Ratios, in Table #3, p. A.6, have been developed from a limited statistical survey of an wide range of income producing projects. This table should be used only during the Initial Project Analysis.

"FRONT DOOR" APPROACH



FOOTNOTES

(5) Proposed Number of Space Units: Is determined by combining the conclusions of a building envelope analysis and a real estate sub-market survey. The subject site will present certain legal, physical and aesthetic limitations which are used to define the "most probable" building envelope. The "most feasible" amount of rental space that a project can successfully introduce into the sub-market will be defined by a survey of market absorption rates and vacancy rates for competing projects, and an estimate of the expected percentage of space demand captured by the subject property.

(6) Building Cost per Space Unit: is the projected construction cost per square foot of gross building area (GBA). Comparable Unit Building Construction Costs are included in Table #1, p. A.5. A complete analysis of all Project Cost Data Manuals is included in the Appendix: p. X. 2 - 7. A detailed evaluation of Project Cost Data Manual's suitability level for the initial project analysis is included in the Appendix: p. X. 10 - 11.

The "front door" calculation for the initital project analysis was completed using the building construction cost at the top end of the 1978 Dodge Construction Systems Cost estimates for general office buildings. The resulting justified rent per sq. ft. per year will be compared to the results of the "back door" calculation, to determine the project's rent and cost variance.

* Conclusions: At the completion of the initial set of "front door - back door" calculations the following results were noted:

	LOW	HIGH	VARIANCE
Rent per sq. ft. per year:	$10.00*	$12.22	$2.22
Building cost per sq. ft.:	$37.64	$46.00*	$8.36

*Data used to initiate the calculations.

"Back Door" Approach

	RENT PER SPACE UNIT	_____
*	PROPOSED NUMBER OF RENTAL UNITS	_____
=	POTENTIAL GROSS INCOME	_____
*	GROSS INCOME MULTIPLIER	_____
=	TOTAL PROJECT VALUE	_____
÷	PROJECT/ BUILDING RATIO	_____
=	BUILDING BUDGET	_____
÷	PROPOSED NUMBER OF SPACE UNITS	_____
=	BUILDING COST PER SPACE UNIT	_____

"Front Door" Approach

	BUILDING COST PER SPACE UNIT	_____
*	PROPOSED NUMBER OF SPACE UNITS	_____
=	BUILDING BUDGET	_____
*	PROJECT/ BUILDING RATIO	_____
=	TOTAL PROJECT BUDGET	_____
÷	GROSS INCOME MULTIPLIER	_____
=	POTENTIAL GROSS INCOME	_____
÷	PROPOSED NUMBER OF RENTAL UNITS	_____
=	RENT PER SPACE UNIT	_____

TABLE #1: COMPARABLE UNIT BUILDING CONSTRUCTION COSTS

SOURCE	APARTMENTS		OFFICE BUILDINGS		RETAIL BUILDINGS	
	1978	1979	1978	1979	1978	1979
MEANS BUILDING CONSTRUCTION COST DATA	17.20 - 31.50 21.75	18.35 - 33.60 23.50	28.00 - 49.05 37.75	29.45 - 52.65 40.65	stores/shops 16.15 - 29.70 22.20	17.60 - 32.00 24.25
MEANS BUILDING SYSTEMS COST GUIDE		18.35 - 33.60 23.50		29.45 - 52.65 40.65	stores/shops	17.60 - 32.00 24.25
DODGE CONSTRUCTION SYSTEMS COSTS	low rise 16.98 - 26.37 22.14	18.67 - 27.95 25.18	general office 32.81 - 45.48 38.33	37.38 - 48.20 39.98	stores/shops 22.94 - 39.59 30.76	25.23 - 41.96 33.22
	high rise 22.29 - 27.81 24.83	24.51- 30.76 27.16	corporate office 41.00 - 52.37 45.58		shopping centers 18.31 - 26.48 21.95	20.14 - 28.06 23.54
DOLLARS AND CENTS OF SHOPPING CENTERS					regional s.c. 21.75 - 56.00 29.06	
					community s.c. 9.28 - 24.29 18.05	
					neighborhood s.c. 11.18 - 26.51 16.24	
REAL ESTATE VALUATION COST FILE		walk-up (2 - 3 stories) 21.68 - 36.37 medium rise (6 stories) 35.47 - 49.20 42.10 high rise 38.54 - 61.32 49.84				

TABLE #2: BUILDING EFFICIENCY RATIOS

Common & Service Space Allocation	Space Efficiency (Gross Leasable Space)	Property & Development Type
Minimal	Above 90%	- Industrial buildings - One story Office buildings - One tenant shops/stores - Row house apartments
Meager	85% to 90%	- One tenant low rise office buildings - Strip shops/stores - Low rise walk-up apartment buildings
Moderate	80% to 85%	- Multi-tenant mid-rise office buildings - Neighborhood shopping centers - Mid rise apartment buildings
Significant	75% to 80%	- Multi tenant mid-rise office office buildings - Commercial shopping centers - High rise apartment buildings
Grand	Below 75%	- Multi tenant and corporate office buildings - Regional shopping centers - Hotels & dormitories - Hospitals & health service centers - Public buildings

TABLE #3: PROJECT TO BUILDING RATIOS*

PROPERTY TYPE	Low	Mean	High	Reliability of Estimate
Apartments: **		Mean		
36 units & less	1.02	1.60	2.18	Poor
36 - 180 units	1.20	1.31	1.42	Poor
180 units & more	1.16	1.29	1.41	Fair
Office Buildings: **		Mean		
25,000 sq. ft. & less	1.26	1.68	2.10	Fair
25,000-100,000 sq. ft.	1.11	1.29	1.48	Good
100,000 sq. ft. & more	1.12	1.41	1.71	Fair
Shopping Centers: ***		Median		
Neighborhood	1.33	1.66	1.80	Poor
Community	1.09	1.61	2.20	Good
Regional	1.14	1.36	1.43	Very Good

Notes:

* The Project/Building Ratio has been developed from a statistical sample of 130 projects. The nature of the survey does not guarantee a balanced sample size for each property sub-category. As a result, some Project/Building Ratio estimates are more reliable than others.

** Apartment Project/Building ratio ranges are established as one and a half standard deviations on either side of their respective means.

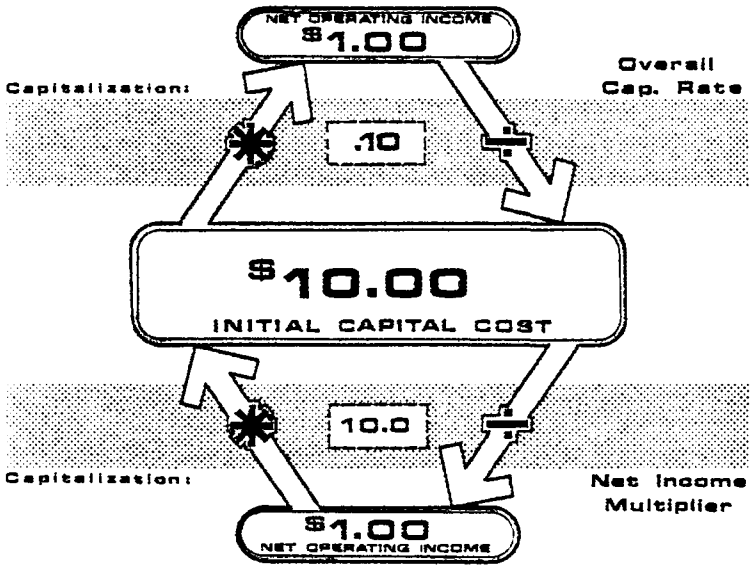
*** The Project/Building ratio for this category has been derived from Dollars and Cents of Shopping Centers. The range has been identified as the low and high ends of the center 80% of the survey sample; which is comparable to a three standard deviation range.

TABLE #4: GROSS INCOME MULTIPLIER SIMULATIONS

PROPERTY TYPE	Project Low Operating Expense Ratio		Project High Operating Expense Ratio	
	Expected Low Investor Cash Return on Equity	Expected High Investor Cash Return on Equity	Expected Low Investor Cash Return on Equity	Expected High Investor Cash Return on Equity
Apartments:				
36 units & less	6.5	6.0	5.1	4.5
36 - 180 units	6.3	5.8	5.0	4.5
180 units & more	6.4	5.9	5.1	4.6
Office Buildings:				
25,000 sq. ft. & less	6.6	6.1	5.5	5.1
25,000-100,000 sq. ft.	6.5	6.0	5.4	4.9
100,000 sq. ft. & more	6.2	5.7	4.7	4.2
Shopping Centers:				
Neighborhood	8.7	8.2	7.3	6.8
Community	8.9	8.5	7.4	6.9
Regional	8.2	7.8	6.5	6.1

Notes:

- Gross Income Multipliers have to be constructed through the use of the advanced project analysis models. These Gross Income Multiplier's should not be mistaken as market comparable data. Gross Income Multipliers identified from the market will always be higher since they include a consideration of return achieved on reversion, tax shelter benefits, and special financing arrangements.
- Calculations are based on average 1978 data unless otherwise noted.
- The source for the low and high Operating Expense Ratios are the indicated ranges noted on the "Operating Expense Data Charts."
- Expected low (4%) and high (8%) investor cash return on equity have been arbitrarily established.



INTERMEDIATE PROJECT ANALYSIS

Flow Chart or the "BACK DOOR" Approach — B. 2
Case Study with Footnotes

Flow Chart of the "FRONT DOOR" Approach — B. 3
Case Study with Footnotes

Worksheet — B. 4

Capital Cost Breakdown (table #5) — B. 5

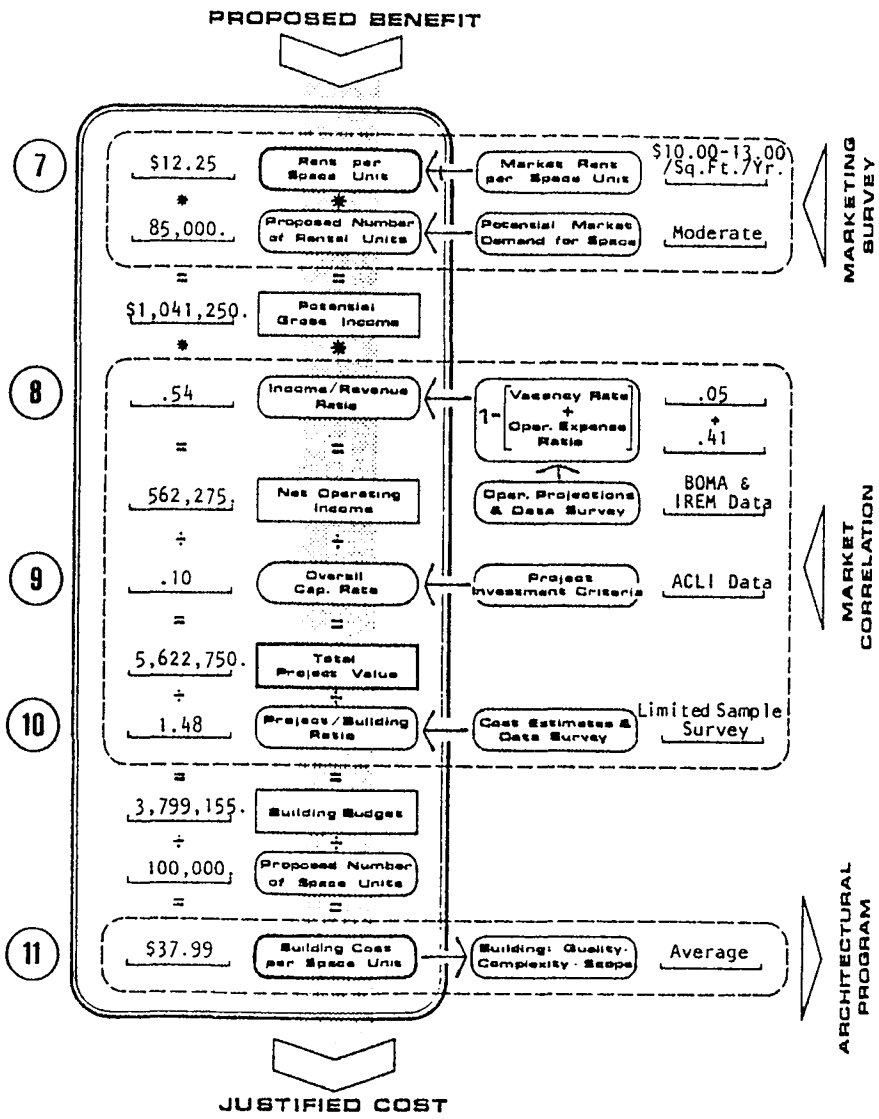
Apartment Building Component Cost Breakdown (table #6) — B. 6
Shopping Center Component Cost Breakdown (table# 7)

Office Building Component Cost Breakdown (table# 8) — B. 7

Capitalization Rate Trends (table #9) — B. 8
Apartment Building Operating Expense Breakdown (table #10)

Office Building Operating Expense Breakdown (table #11) — B. 9
Shopping Center Operating Expense Breakdown (table #12)

"BACK DOOR" APPROACH



FOOTNOTES

(7) Rent per Space Unit: for the intermediate "back door" approach has been established by referring to the conclusions of the initial "front door" calculations that generated a justified rent per sq. ft. per year of $12.22. The answer from the new intermediate "back door" calculation will be compared to the results of the intermediate "front door" analysis to determine the adjusted rental variance.

(8) Income/ Revenue Ratio: is determined by subtracting the sum of the projected Vacancy rate and operating Expense Ratio from one hundred percent.

Vacancy Rate: has been established in the initial real estate submarket survey. The vacancy rates incurred by competing income producing properties provides an indicator of market space demand for the subject property. An arbitrary five percent figure has been used for the case study. A more accurate means of identifying the vacancy rate would be by determining the amount of rental space remaining unleased and multiplying it by the contract rental rates. This would then be divided by the Potential Gross Income.

Operating Expense Ratio: is the sum of all project operations expenses, expressed as a percentage of Potential Gross Income. Operating expense breakdowns can be found in Tables #10, 11, & 12; pp. B. 8 - 9. A complete analysis of all Project Operations Data Manuals is included in the Appendix: pp. X. 8 - 9. A detailed evaluation of Project Cost Data Manual suitability for the three levels of project analysis is included in the Appendix: pp. X. 12 - 15.

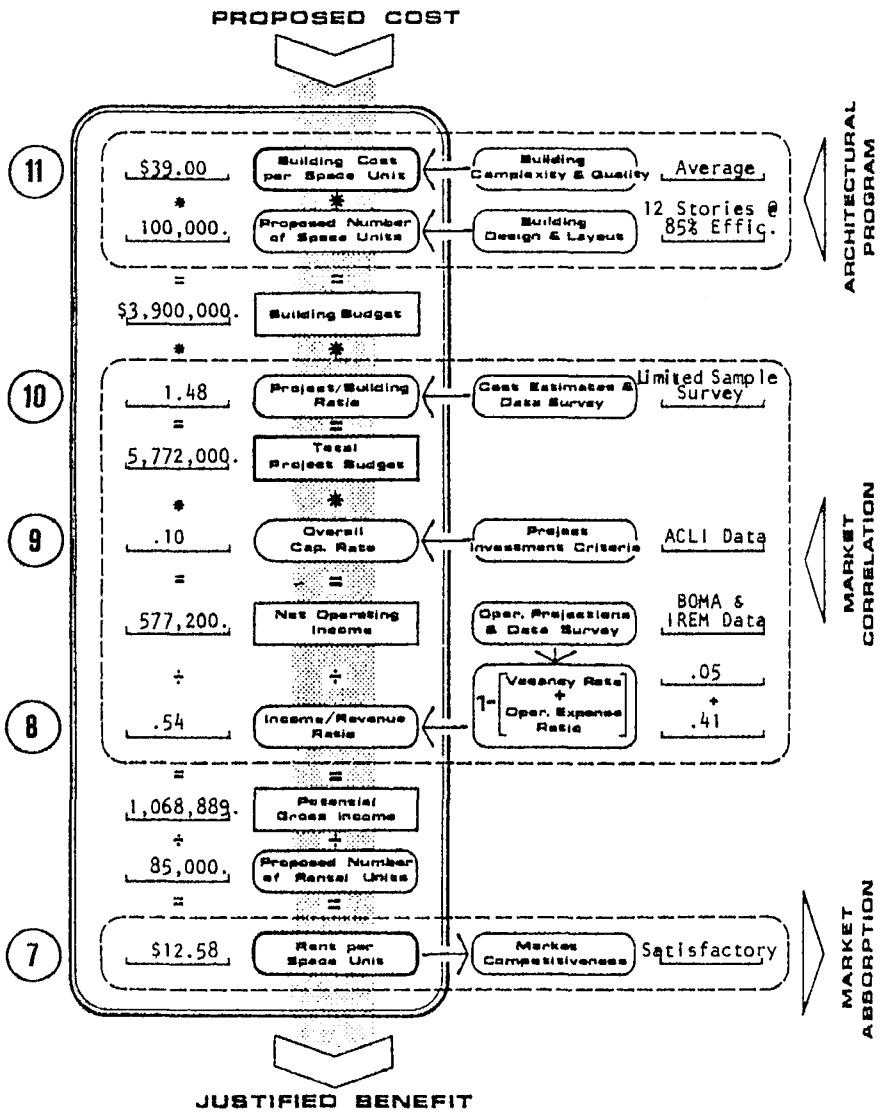
The operating expenses, expressed as a percentage of Potential Gross Income, for this 100,000 sq. ft. high rise office building are as follows:

Insurance	.7%
Real Estate Taxes	8.6%
Administrative	4.2%
Operating Expenses	14.3%
Maintenance	11.5%
Other Expenses	1.7%
Operating Expense Ratio:	41.0%

(9) Overall Capitalization Rate (OCR): is one of the most commonly used factors in income property appraisal. The OCR can be derived from market comparable sales data divided into their Net Operating Incomes at the time of sale. A variation of the historical market data approach is to divide the Net Operating Income of a newly constructed comparable project by the lender's original appraisal value of the property; as tabulated by the American Council of Life Insurance and documented in Table #9, p. B 8.

The OCR can also be constructed from a set of investor expectations by using any one of several approaches, refer to the Handbook, pp. 3.5 - 3.6.

"FRONT DOOR" APPROACH



FOOTNOTES

(10) Project/ Building Ratio: is determined by breaking down the Project's Total Capital Cost into the categories of: Building Cost, Land Value, Site Work, Fees and Permits, Carrying Charges, as well as Start-up and Contingency. The individual component costs, expressed as a percentage of Building cost, can either be collected from comparables in the local market or taken from Table #5, p. B.5. The project capital cost component percentages noted in this table have been developed from a limited statistical survey. These figures should always be checked against comparables to verify the validity of the data.

The Project/ Building Component Costs, expressed as a percentage of building cost, for this case study are as follows:

Building Cost	1.00 (100%)
Land Value	.19
Site Work	.04
Fees & Permits	.08
Carrying Charges	.10
Start-up & Contingency	.07
Project/ Building Ratio:	1.48 (148%)

(11) Building Cost per Space Unit: is the projected construction cost per square foot of gross building area (GBA). Building Component Cost Breakdowns are included in Tables # 6 - 8, p. B. 6.7. A complete analysis of all Project Cost Data Manuals is included in the Appendix: p. X. 2 - 7. A detailed evaluation of Project Cost Data Manual Suitability for intermediate project analysis is included in the Appendix: p. X. 10 - 11.

The "front door" calculations of the intermediate project analysis were completed using the building construction cost influenced strongly by the results of the initial "back door" analysis. The resulting justified rent per sq. ft. per year will also be compared to the conclusions of the intermediate "back door" calculation, to determine the project's rent and cost variance.

* Conclusions: At the completion of the intermediate set of "front door - back door" calculations the following results were noted:

	LOW	HIGH	VARIANCE
Rent per sq. ft. per year:	$12.25*	$12.58	$.33
Building cost per sq. ft.	$37.99	$39.00*	$1.01

* Data used to initiate the calcuations.

"Back Door" Approach

RENT PER SPACE UNIT _____
* PROPOSED NUMBER OF RENTAL UNITS _____
= POTENTIAL GROSS INCOME _____
* INCOME / REVENUE RATIO _____
= NET OPERATING INCOME _____
÷ OVERALL CAP RATE _____
= TOTAL PROJECT VALUE _____
÷ PROJECT / BUILDING RATIO _____
= BUILDING BUDGET _____
÷ PROPOSED NUMBER OF SPACE UNITS _____
= BUILDING COST PER SPACE UNIT _____

"Front Door" Approach

BUILDING COST PER SPACE UNIT _____
* PROPOSED NUMBER OF SPACE UNITS _____
= BUILDING BUDGET _____
* PROJECT / BUILDING RATIO _____
= TOTAL PROJECT BUDGET _____
* OVERALL CAP RATE _____
= NET OPERATING INCOME _____
÷ INCOME / REVENUE RATIO _____
= POTENTIAL GROSS INCOME _____
÷ PROPOSED NUMBER OF RENTAL UNITS _____
= RENT PER SPACE UNIT _____

OVERALL CAP RATE:

MORTGAGE CONSTANT _____ * LOAN TO VALUE RATIO _____ = MORTGAGE WEIGHTED RATE _____
\+ BEFORE TAX CASH RATE OF RETURN _____ * PERCENT DOWNPAYMENT _____ = EQUITY WEIGHTED RATE _____
= OVERALL CAP RATE _____

OPERATING EXPENSE RATIO:

% INSURANCE _____
\+ % REAL ESTATE TAXES _____
\+ % ADMINISTRATIVE _____
\+ % OPERATING EXPENSES _____
\+ % MAINTENANCE _____
\+ % OTHER _____
= OPERATING EXPENSE RATIO _____

PROJECT / BUILDING RATIO:

% BUILDING BUDGET 1.00
\+ % SITE WORK _____
\+ % LAND VALUE _____
\+ % FEES & PERMITS _____
\+ % CARRYING CHARGES _____
\+ % START-UP & CONTINGENCY _____
= PROJECT / BUILDING RATIO _____

TABLE #5: CAPITAL COST BREAKDOWN

PROPERTY TYPE	Building Cost	Land Value	Site Work	Fees & Permits	Carry'g Costs	Start-up & Contingency	Reliability of Estimate
Apartments:							
36 units & less	1.00	.63*	.06	.07	.19*	.20	Poor
36 - 180 units	1.00	.14	.03	.04	.05	.32	Poor
180 units	1.00	.11	.07	.06	.08	.35	Fair
Correlation to Building Cost:		Very Good	Poor	Good	Very Good	Fair	
Office Buildings:							
25,000 sq. ft. & less	1.00	.45*	.06	.08	.08	.09	Fair
25,000-100,000 sq. ft.	1.00	.19	.04	.04	.06	.07	Good
100,000 sq. ft. & more	1.00	.19	.04	.08	.10	.07	Fair
Correlation to Building Cost:		Fair	Fair	Very Good	Very Good	Very Good	
Shopping Centers:**							
Neighborhood	1.00	.27	.20	.06	.09	.01	Poor
Community	1.00	.18	.18	.07	.08	.03	Good
Regional	1.00	.05	.13	.10	.10	.03	Very Good
Correlation to Building Cost:		N/A	N/A	N/A	N/A	N/A	

Notes:

* The Project Capital Cost Component Percent Breakdown has been developed from a statistical sample of 130 projects. The nature of the survey does not guarantee a balanced sample size for each property sub-category. In some specific cases eccentric characteristics of specific projects will adversely influence the results.

** The Component Cost Breakdown has been derived from Dollars and Cents of Shopping Centers. Specific data was not available to calculate the components correlation to building cash.

TABLE #6: APARTMENT BUILDING COMPONENT COST BREAKDOWN

1978 Building Component Cost Breakdown
(expressed as a percentage of total building cost)

	Low Rise Building	High Rise Building
Foundations	3.7	4.8
Superstructure	13.0	22.2
Exterior Walls	16.3	12.2
Roofing	1.7	0.8
Partitions	12.3	11.3
Int. Wall Finish	4.7	3.0
Floor Finishes	6.5	3.6
Ceilings	4.3	3.1
Specialties	1.2	1.6
Conveying Systems	---	3.0
Plumbing	10.5	8.5
Fire Protection	0.3	1.0
HVAC	7.2	6.5
Electrical	9.3	8.1
General Conditions	5.4	5.1
Equipment	3.6	5.2
	100. %	100. %

TABLE #7: SHOPPING CENTER COMPONENT COST BREAKDOWN

1978 Building Component Cost Breakdown
(expressed as a percentage of total building cost)

	Shopping Center	Stores/Shops	Supermarket
Foundations	5.3%	8.5%	6.0%
Superstructure	22.2	18.4	21.4
Exterior Walls	14.3	25.5	13.6
Roofing	2.6	3.2	5.0
Partitions	3.1	5.9	6.1
Int. Wall Finish	2.2	3.3	2.4
Floor Finishes	4.0	3.4	3.2
Ceilings	4.3	4.4	4.2
Specialties	1.6	0.4	1.1
Conveying Systems	0.8	0.8	0.0
Plumbing	6.6	4.6	4.1
Fire Protection	3.5	0.4	0.7
HVAC	10.7	6.1	11.5
Electrical	13.8	9.8	10.9
General Conditions	5.1	4.7	5.1
Equipment	0.0	0.6	4.7
	100.0%	100.0%	100.0%

1978 Construction Costs ($/sq.ft.)

	Low	Avg.	High	Low	Avg.	High	Low	Ave.	High	Low	Ave.	High	Low	Avg.	High
Gross Building Cost	$16.98	22.14	26.37	22.29	24.83	27.81	$18.31	$21.95	$26.48	$22.94	$30.76	$39.59	$23.17	$31.64	$34.67
Site Work	$ 0.47	0.48	0.95	0.46	0.48	0.48	1.19	1.42	1.72	1.00	1.13	1.22	1.36	2.20	2.68

Source: From 1978 Dodge Construction Systems Costs, Copyright, 1977, McGraw-Hill Incorporated.
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TABLE #8: OFFICE BUILDING
COMPONENT COST BREAKDOWN

(expressed as a percentage of total building cost)

Building System	Office Buildings	Corporate Head Office Buildings	Main Banks	Branch Banks
Foundations	5.9%	5.6%	7.0%	4.6%
Superstructure	16.1	23.8	12.4	10.1
Exterior Walls	15.5	10.9	12.9	13.6
Roofing	2.2	0.5	1.3	3.3
Partitions	8.0	8.3	5.9	5.2
Int. Wall Finish	3.5	3.0	1.8	2.7
Floor Finishes	3.2	1.6	3.1	3.5
Ceilings	2.6	1.7	1.1	2.5
Specialities	1.0	0.6	0.7	0.6
Conveying Systems	1.5	5.8	1.0	0.8
Plumbing	5.6	3.6	3.9	4.3
Fire Protection	0.7	0.9	0.3	0.2
HVAC	16.3	12.9	10.7	11.8
Electrical	10.4	11.3	7.5	7.4
General Conditions	5.7	5.0	5.1	6.3
Equipment	1.8	4.5	25.3	23.1
	100.0%	100.0%	100.0%	100.0%

1978 CONSTRUCTION COSTS ($/sq.ft.)

	Low	Avg.	High	Low	Avg.	High	Low	Avg.	High	Low	Avg.	High
Gross Building Cost	$34.30	40.33	47.65	42.99	47.81	55.04	59.69	67.00	79.76	45.50	59.99	73.23
Site Work	1.49	2.00	2.17	1.99	2.23	2.67	1.51	1.84	2.06	1.72	2.88	3.28

Source: From 1978 Dodge Construction Systems Costs, Copyright, 1977, McGraw-Hill Incorporated. With permission of McGraw-Hill Information Systems Company.

TABLE #9: CAPITALIZATION RATE TRENDS

Year as of 4th QUARTER	APARTMENTS			RETAIL BUILDINGS			OFFICE BUILDINGS		
	36 Units of Less	36 to 180	180 or more	Shopping Ceters			25,000 or Less	25,000 to 100,000	100,000 to 200,000
				Neighb.	Comm.	Regional			
1969	.099	.099	.108	.099	.105	.105	.103	.098	.098
1970	.109	1103	.100	.108	.114	.107	.105	.107	.108
1971	.098	.097	.094	.100	.098	.101	.099	.096	.095
1972	.098	.094	.093	.095	.096	.099	.095	.095	.093
1973	.098	.094	.098	.095	.092	.097	.092	.094	.094
1974	.111	.105	N/A	.112	.109	.103	.107	.106	.106
1975	N/A	.107	.105	.106	.106	.104	.106	.105	.104
1976	.105	.102	.101	.107	.101	.098	.099	.101	.098
1977	.102	.098	.098	.098	.098	.098	.097	.097	.098
1978	.105	.102	.103	.100	.101	.104	.102	.101	.100

Source: Mortgage Loan Statistics: 1969-1978, American Council of Life Insurance.

TABLE #10: APARTMENT BUILDING OPERATING EXPENSE BREAKDOWN

(expressed as a % of Potential Apartment Revenue)

	Low Rise Apartments (12 - 24 units)		Low Rise Apartments (25 or more units)		Elevator Apartments	
	Low	High	Low	High	Low	High
FIXED EXPENSES:						
Insurance	2.4%	2.6%	1.5%	1.9%	1.3%	1.9%
Real Estate Taxes	11.4%	14.6%	10.3%	12.9%	10.5%	13.2%
VARIABLE EXPENSES:						
Administrative	5.5%	6.5%	6.5%	7.9%	6.9%	7.7%
Operating	9.0%	12.6%	11.0%	12.9%	15.4%	17.5%
Maintenance	6.7%	8.7%	7.2%	9.1%	7.5%	9.6%
Other	4.7%	6.1%	3.0%	5.3%	5.0%	7.2%
INDICATED RANGE:	39.7% - 51.1%		39.5% - 50.0%		46.6% - 57.1%	

Source:
Institute of Real Estate Management

TABLE #11: OFFICE BUILDING OPERATING EXPENSE BREAKDOWN

(expressed as a % of Potential Office Revenue)

	5,000 - 20,000 sq. ft.		20,000 - 50,000 sq. ft.		50,000 - 100,000 sq. ft.	
	Low	High	Low	High	Low	High
FIXED EXPENSES:						
Insurance	1.6%	1.8%	.7%	1.0%	.7%	1.0%
Real Estate Taxes	10.5%	11.5%	7.8%	10.4%	8.6%	12.2%
VARIABLE EXPENSES:						
Administrative	4.6%	5.1%	3.5%	4.9%	4.2%	5.2%
Operating	7.8%	13.4%	14.2%	15.7%	14.3%	16.4%
Maintenance	11.1%	11.9%	10.7%	13.5%	11.5%	16.3%
Other	1.8%	2.0%	1.1%	1.6%	1.7%	2.0%
INDICATED RANGE:	37.4% - 45.7%		38.0% - 47.1%		41.0% - 53.1%	

Source:
Institute of Real Estate Management, Regional Data put into National format.

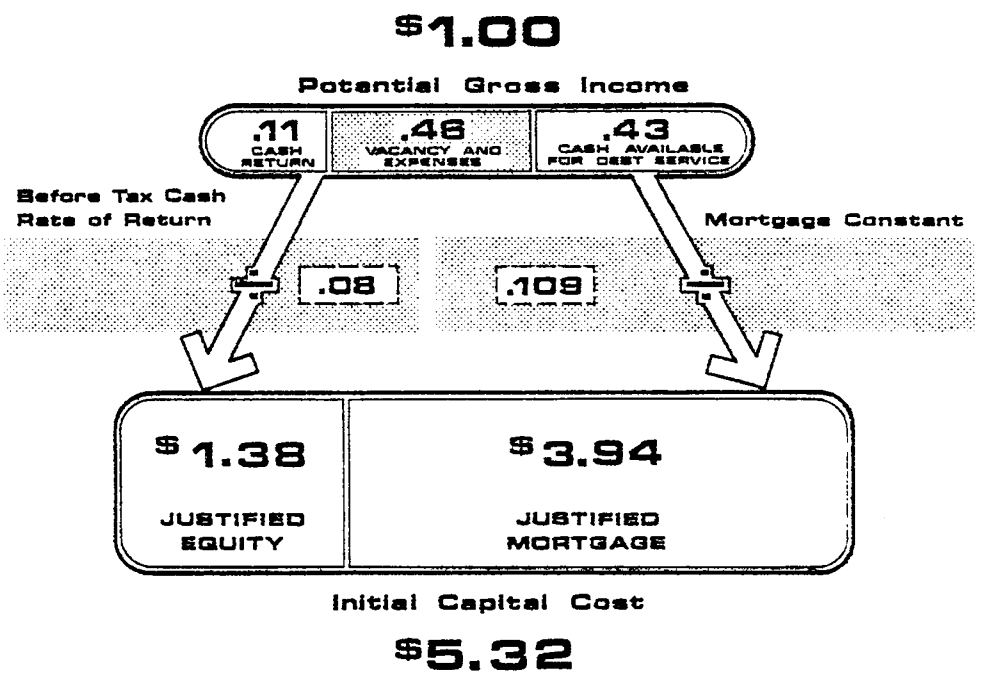
TABLE #12: SHOPPING CENTER OPERATING EXPENSE BREAKDOWN

(expressed as a % of Total Operating Receipts)

	Neighborhood		Community		Regional	
	Low	High	Low	High	Low	High
FIXED EXPENSES:						
Insurance	1.2%	2.0%	1.0%	2.0%	1.2%	2.0%
Real Estate Taxes	8.9%	11.4%	7.5%	10.0%	8.9%	11.4%
VARIABLE EXPENSES:						
Administrative	2.4%	5.0%	3.2%	5.7%	2.4%	5.0%
Operating	1.2%	2.7%	1.6%	3.0%	1.2%	2.7%
Maintenance	3.6%	7.7%	4.3%	8.8%	3.6%	7.7%
Other	.6%	1.0%	.5%	1.0%	.6%	1.0%
INDICATED RANGE:	17.9% - 29.8%		18.0% - 30.5%		19.4% - 34.1%	

Source:

Dollars and Cents of Shopping Centers, Urban Land Institute, pages 53,101, and 149.



ADVANCED PROJECT ANALYSIS

Flow Chart of the " BACK DOOR" Approach — C. 2
Case Study with Footnotes

Flow Chart of the "FRONT DOOR" Approach — C. 3
Case Study with Footnotes

Worksheet — C. 4

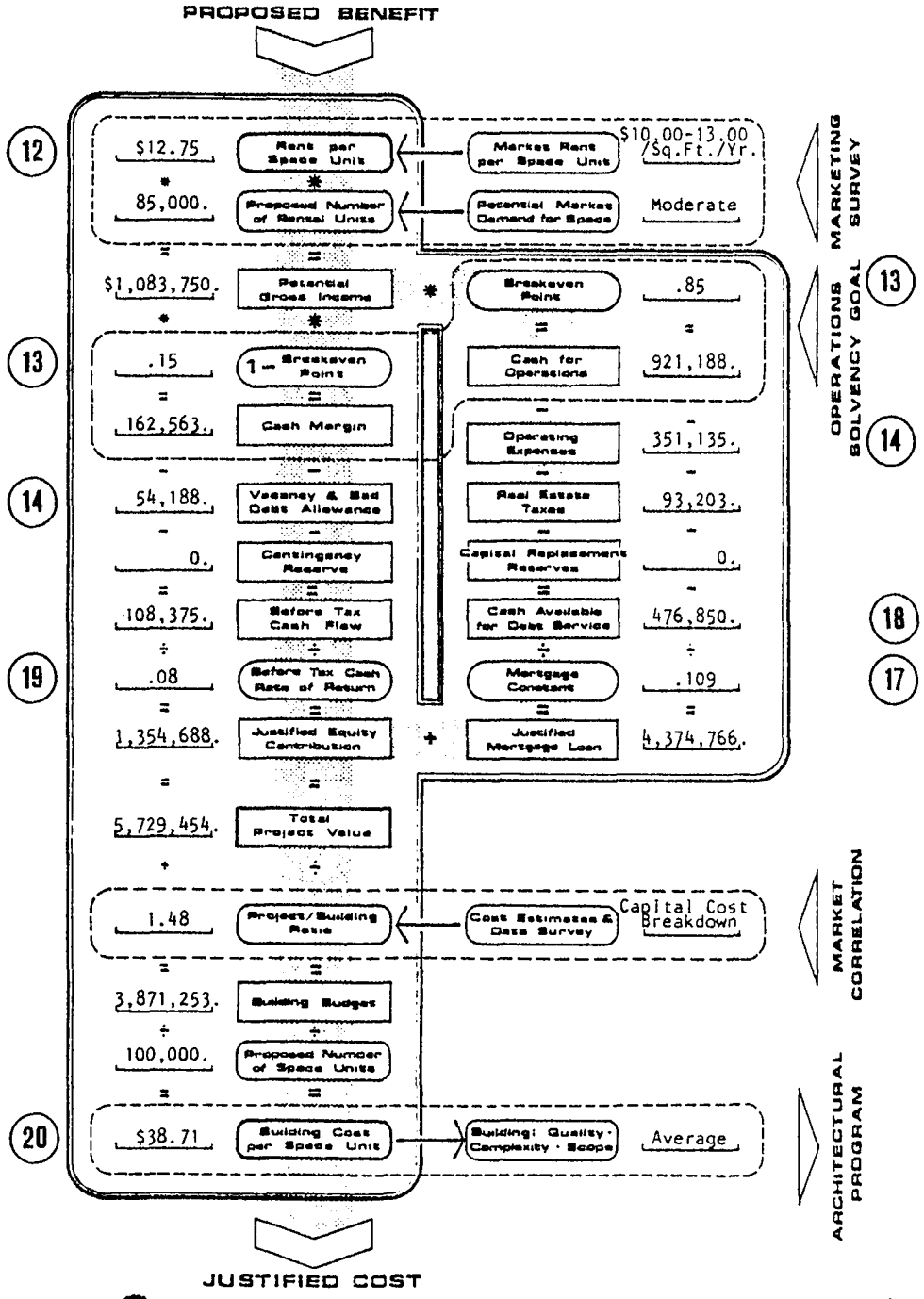
Worksheet — C. 5

Comparable Before Tax CASH Rates of Return (table #13) — C. 6
Mortgage Interest Rate Trends (table #14)

Loan to Value Ratio Trends (table #15) — C. 7
Debt Coverage Ratio Trends (table #16)

Annual Mortgage Constant Trends (table #17) — C. 8
Annual Mortgage Constants: 8 1/2-9 1/2% interest (table #18)

Annual Mortgage Constants: 9 3/4-10 3/4% interest (table #19) — C. 9
Annual Mortgage Constants: 11 - 12% interest (table #20)



FOOTNOTES

(12) Rent per Space Unit: for the advanced "back door" approach has been established by referring to the conclusions of the intermediate "front door" calculations that generated a justified rent per sq. ft. per year of $12.58. The answer from the new advanced "back door" calculation will be compared to the results of the advanced "front door" analysis to determine the final rental variance.

(13) Breakeven Point: is the percentage of potential gross income which is claimed by the liabilities of annual debt service and operating expenses. Breakeven point is customarily set no higher than 85%. The lower the breakeven point, the greater the project's ability to absorb unexpectedly high vacancies and still provide a reasonable cash return to the investor. This return would come out of the cash remaining after the annual obligations have been subtracted from potential gross income.

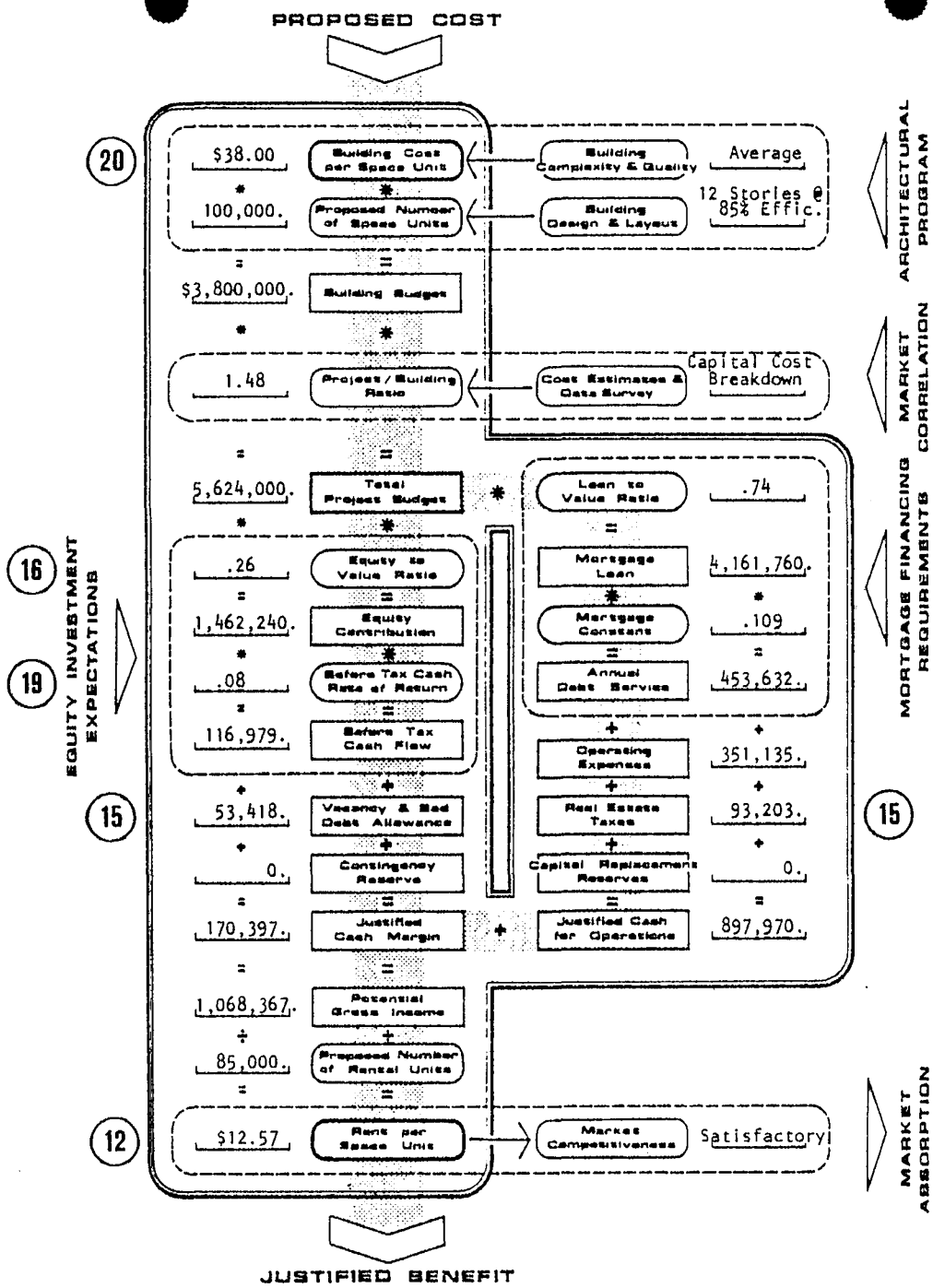
(14) Vacancy and Operating Expenses: have been determined by the use of the percentage estimates calculated in the intermediate approach. In actual practice, detailed dollar estimates would be developed from comparable operating data collected in the local market, or by referring to the B.O.M.A or I.R.E.M. Project Operations Data Manuals. These are analyzed in Appendix: pp. X. 8 - 9 & X. 12 - 15.

(15) Operating Expenses for the Advanced "Front Door" Approach: must be introduced into the calculations as actual dollar figures and not as a percentage of Potential Gross Income. The expense figures generated for the advanced "back door" case study calculation have been directly transferred into this calculation, for the sake of simplicity.

Vacancy and Bad Debt Allowance: is determined by:

Annual Debt Service
+ Operating Expenses
+ Real Estate Taxes
+ Capital Replacement reserves
+ Before Tax Cash Flow
= Effective Gross Income
÷ (1 - vacancy rate)
= Potential Gross Income
* Vacancy rate
= Vacancy and Bad Debt Allowance

(16) Loan to Value Ratio: is the factor which defines the portion of the Total Project Cost which will be financed by the mortgage. The American Council of Life Insurance tabulates this data for a variety of property types on a quarterly basis, and the results have been documented in Table #15, p. C.7.



FOOTNOTES

(17) Mortgage Constant: is the ratio of original mortgage principal to the annual debt service; refer to the Handbook, p. 5.5 - 5.9. The ACLI also tabulates this data for a variety of property types on a quarterly basis, and the results have been documented in Table #17, p. C.8.

Tables #18 - 21, pp. C. 8 - 9, have organized the mortgage constants on the basis of 1 - 30 year mortgage terms and 8½% - 12% interest rates.

(18) Debt Coverage Ratio Check: is essential to ensure that the advanced project analysis has not created a financing package which exceeds the limits of normal lending practice. The Debt Coverage Ratio is calculated by dividing Net Operating Income by Annual Debt Service. The higher the risk or uncertainty inherent for a project, the higher will be the Debt Coverage Ratio. The ACLI includes this data in its quarterly analysis, for a variety of property types, and the results have been documented in Table #16, p. C.7.

(16)

Results of Debt Coverage Ratio Check for the case study determined:

	"back door"	"front door"
(17) Annual Debt Service: (indicated by calculation)	$476,850.	$453,632.
(18) Justified Annual Debt Service: (using a 1.26 D.C.Ratio)	$464,463.	$452,395.
% Variance over lending limit:	+ 2.7%	+ .3%

Both of these solution are within an acceptable deviation from the "average" financing arrangements.

(19) Before Tax Cash Rate of Return: is the ratio of the project's annual cash return to the original equity contribution. This cash return does not include any cash profits from tax shelter or reversion. As a result, the annual cash return to the investor will usually be less than final project yield. Comparable before tax cash rates of return are included in Table #13, p. C.6.

(20) Building Cost per Space Unit: in the "front door" advanced project analysis is influenced by the results of the intermediate "back door" analysis. The resulting justified rent per sq. ft. per year will also be compared to the conclusions of the advanced "back door" calculations to determine the project's rent and cost variance.

(15) * Conclusions: At the completion of the advanced set of "front door - back door" calculations, the following results were noted:

	LOW	HIGH	VARIANCE
Rent per sq. ft. per year:	$12.75*	$12.57	$.23
Building cost per sq. ft.:	$38.71	$38.00*	$.71

*Data used to initiate the calculations.

ADVANCED PROJECT ANALYSIS: Flow Chart of the "FRONT DOOR" Approach
Case Study with Footnotes

"Back Door" Approach

RENT PER SPACE UNIT _____
* PROPOSED NUMBER OF RENTAL UNITS _____
= POTENTIAL GROSS INCOME _____

POTENTIAL GROSS INCOME _____
* 1 - BREAKEVEN POINT _____
= CASH MARGIN _____
- VACANCY & BAD DEBT ALLOWANCE _____
- CONTINGENCY RESERVE _____
= BEFORE TAX CASH FLOW _____
÷ BEFORE TAX CASH RATE OF RETURN _____
= JUSTIFIED EQUITY CONTRIBUTION _____

JUSTIFIED EQUITY CONTRIBUTION _____
+ JUSTIFIED MORTGAGE LOAN _____
= TOTAL PROJECT VALUE _____
÷ PROJECT/ BUILDING RATIO _____
= BUILDING BUDGET _____
÷ PROPOSED NUMBER OF SPACE UNITS _____
= BUILDING COST PER SPACE UNIT _____

POTENTIAL GROSS INCOME _____
* BREAKEVEN POINT _____
= CASH FOR OPERATIONS _____
- OPERATING EXPENSES _____
- REAL ESTATE TAXES _____
- CAPITAL REPLACEMENT RESERVES _____
= CASH AVAILABLE FOR DEBT SERVICE** _____
÷ MORTGAGE CONSTANT _____
= JUSTIFIED MORTGAGE LOAN _____

** DEBT COVERAGE RATIO CHECK:

POTENTIAL GROSS INCOME _____
- VACANCY & BAD DEBT ALLOWANCE _____
- OPERATING EXPENSES _____
- REAL ESTATE TAXES _____
- CAPITAL REPLACEMENT RESERVES _____
= NET OPERATING INCOME _____
÷ DEBT COVERAGE RATIO _____
= JUSTIFIED ANNUAL DEBT SERVICE _____

"Front Door" Approach

BUILDING COST PER SPACE UNIT _____
* PROPOSED NUMBER OF SPACE UNITS _____
= BUILDING BUDGET _____
* PROJECT/ BUILDING RATIO _____

TOTAL PROJECT BUDGET _____
* EQUITY TO VALUE RATIO _____
= EQUITY CONTRIBUTION _____
* BEFORE TAX CASH RATE OF RETURN _____
= BEFORE TAX CASH FLOW _____
+ VACANCY & BAD DEBT ALLOWANCE _____
+ CONTINGENCY RESERVE _____
= JUSTIFIED CASH MARGIN _____

JUSTIFIED CASH MARGIN _____
+ JUSTIFIED CASH FOR OPERATIONS _____
= POTENTIAL GROSS INCOME _____
÷ PROPOSED NUMBER OF RENTAL UNITS _____
= RENT PER SPACE UNIT _____

TOTAL PROJECT BUDGET _____
* LOAN TO VALUE RATIO _____
= MORTGAGE LOAN _____
* MORTGAGE CONSTANT _____
= ANNUAL DEBT SERVICE** _____
+ OPERATING EXPENSES _____
+ REAL ESTATE TAXES _____
+ CAPITAL REPLACEMENT RESERVES _____
= JUSTIFIED CASH FOR OPERATIONS _____

** DEBT COVERAGE RATIO CHECK:

POTENTIAL GROSS INCOME _____
- VACANCY & BAD DEBT ALLOWANCE _____
- OPERATING EXPENSES _____
- REAL ESTATE TAXES _____
- CAPITAL REPLACEMENT RESERVES _____
= NET OPERATING INCOME _____
÷ DEBT COVERAGE RATIO _____
= JUSTIFIED ANNUAL DEBT SERVICE _____

TABLE #13: COMPARABLE BEFORE TAX CASH RATES OF RETURN

Year:	1976	1977	1978	1979**
Interest Rates:				
Prime Interest Rate * (monthly average as of the 4th quarter)	6.50	7.75	10.94	11.75
Treasury Bills (1 year)	5.52	5.71	7.74	8.87
U.S. Treasury Bond Yields:				
5 years	7.18	6.99	8.32	8.90
10 years	7.61	7.42	8.41	8.95
20 years	7.86	7.67	8.48	8.92
Corporate Bond Yield:				
Aaa	8.43	8.02	8.73	9.20
Baa	9.75	8.97	9.45	10.29
Common Stock Yields:	3.77	4.56	5.28	5.5

Sources: Federal Reserve Bulletin, August, 1979 for all but Prime Interest Rate Data

* The Appraiser, June 1979 Volume 35, Number 6, published by American Institute of Real Estate Appraisers, Chicago, Illinois

** Mid year estimates based on July data.

TABLE #14: MORTGAGE INTEREST RATE TRENDS

	APARTMENTS			RETAIL BUILDINGS			OFFICE BUILDINGS		
Year as of 4th QUARTER	36 Units or Less	36 to 100	180 or more	Shopping Centers Neighb.	Comm.	Regional	25,000 or Less	25,000 to 100,000	100,000 to 200,000
1969	.0922	.0925	.0932	.0975	.0952	.0952	.0947	.0933	.0856
1970	.1006	.0983	.0980	.1025	.1020	.1016	.1010	.1008	.1016
1971	.0907	.0899	.0883	.0909	.0886	.0899	.0915	.0906	.0878
1972	.0870	.0857	.0849	.0854	.0841	.0854	.0860	.0854	.0859
1973	.0907	.0907	.0906	.0910	.0905	.0882	.0903	.0912	.0903
1974	.1034	.1010	.1010	.1035	.1038	.1042	.1029	.1029	.1015
1975	N/A	.1017	.1040	.1015	.1011	.1045	.1031	.1009	.1059
1976	.0974	.0963	.0958	.0974	.0962	.0956	.0966	.0967	.0947
1977	.0914	.0932	.0921	.0923	.0919	.0923	.0928	.0916	.0914
1978	.0990	.0990	.0995	.0980	.0990	.0984	.0982	.0982	.0981

Source: Mortgage Loan Statistics: 1969-1978, Amercian Council of Life Insurance.

TABLE #15: LOAN TO VALUE RATIO TRENDS

Year as of 4th QUARTER	APARTMENTS			RETAIL BUILDINGS			OFFICE BUILDINGS		
	36 Units or Less	36 to 180	180 or more	Shopping Centers Neighb.	Comm.	Regional	25,000 or Less	25,000 to 100,000	100,000 to 200,000
1969	.732	.747	.747	.723	.759	.759	.713	.749	.769
1970	.735	.761	.770	.734	.743	.743	.730	.745	.757
1971	.735	.754	.762	.744	.748	.748	.744	.756	.790
1972	,734	.756	.754	.712	.756	.756	.746	.748	.773
1973	,750	.747	.745	.740	.733	.733	.747	.737	.747
1974	.739	.745	.745	.706	.770	.770	.763	.747	.744
1975	N/A	.744	.789	.743	.756	.756	.679	.749	.761
1976	.74.8	.747	.749	.726	.738	.738	.750	.748	.711
1977	.70.8	.756	.771	.743	.740	.740	.735	.737	.742
1978	.73.9	.753	.742	.738	.749	.749	.751	.745	.740

Source: Mortgage Loan Statistics: 1969-1978, American Council of Life Insurance.

TABLE #16: DEBT COVERAGE RATIO TRENDS

Year as of 4th QUARTER	APARTMENTS			RETAIL BUILDINGS			OFFICE BUILDINGS		
	36 Units or Less	36 to 180	180 or more	Shopping Centers Neighb.	Comm.	Regional	25,000 or Less	25,000 to. 100,000	100,000 to 200,000
1969	1.31	1.29	1.50	1.19	1.29	1.29	1.33	1.28	1.30
1970	1.35	1.26	1.20	1.28	1.38	1.30	1.29	1.30	1.28
1971	1.33	1.28	12.5	1.21	1.30	1.41	1.28	1.30	1.29
1972	1.40	1.29	1.33	1.27	1.33	1.30	1.28	1.35	1.26
1973	1.32	1.26	1.34	1.18	1.21	1.17	1.20	1.29	1.18
1974	1.27	N/A	N/A	1.33	1.25	1.24	1.24	1.25	1.37
1975	N/A	1.33	1.29	1.26	1.25	1.28	1.51	1.30	1.25
1976	1.32	1.31	1.32	1.29	1.31	1.27	1.25	1.28	1.28
1977	1.34	1.27	1.27	1.28	1.32	1.37	1.29	1.33	1.34
1978	1.27	1.23	1.26	1.20	1.24	1.12	1.26	1.24	1.26

Source: Mortgage Loan Statistics: 1969-1978, American Council of Life Insurance.

TABLE #17: ANNUAL MORTGAGE CONSTANT TRENDS

	APARTMENTS			RETAIL BUILDINGS			OFFICE BUILDINGS		
Year as of 4th Quarter	36 Units or Less	36 to 180	180 or more	Shopping Centers Neighb.	Comm.	Regional	25,000 or Less	25,000 to 100,000	100,000 to 200,000
1969	.103	.101	.101	.113	.107	.107	.108	.112	.098
1970	.109	.106	.105	.115	.112	.111	.112	.110	.113
1971	.102	.100	.098	.109	.100	.100	.106	.101	.092
1972	.100	.096	.095	.106	.097	.99	.100	.096	.092
1973	.100	.099	.098	.105	.105	.97	.101	.100	.100
1974	.118	N/A	N/A	.126	.114	.112	.113	.113	.109
1975	N/A	.109	.108	.113	.112	.114	.119	.109	.108
1976	.107	.105	.103	.113	.107	.103	.107	.105	.103
1977	.110	.102	.100	.105	.100	.101	.104	.100	.099
1978	.107	.109	.109	.114	.109	.111	.109	.109	.109

Source: Mortgage Loan Statistics: 1969-1978, American Council of Life Insurance.

TABLE #18: ANNUAL MORTGAGE CONSTANTS: 8 1/2 - 9 1/2% interest

(For monthly compounded mortgage payments)

Interest Rate:	8-1/2%	8-3/4%	9%	9-1/4%	9-1/2%	Interest Rates:
TERM						TERM
1	1.046640	1.048030	1.049410	1.050820	1.052200	1
2	.545471	.546841	.548212	.549598	.550971	2
3	.378812	.380202	.381596	.382996	.384394	3
4	.295781	.297198	.298620	.300048	.301477	4
5	.246200	.247647	.249100	.250559	.252022	5
6	.213342	.214821	.216306	.217799	.219296	6
7	.190039	.191550	.193069	.194595	.196127	7
8	.172706	.174250	.175802	.177363	.178930	8
9	.159353	.160929	.162515	.164110	.165712	9
10	.148783	.150392	.152011	.153640	.155277	10
11	.140237	.141878	.143529	.145192	.146864	11
12	.133207	.134880	.136563	.138259	.139965	12
13	.127342	.129046	.130761	.132490	.134228	13
14	.122391	.124125	.125872	.127632	.129404	14
15	.118169	.119934	.121712	.123503	.125307	15
16	.114539	.116334	.118142	.119964	.121799	16
17	.111395	.113219	.115056	.116908	.118774	17
18	.108655	.110507	.112373	.114254	.116149	18
19	.106254	.108133	.110027	.111937	.113861	19
20	.104139	.106045	.107967	.109904	.111856	20
21	.102269	.104201	.106150	.108114	.110092	21
22	.100609	.102567	.104541	.106531	.108535	22
23	.099130	.101113	.103112	.105127	.107157	23
24	.097810	.099816	.101840	.103879	.105933	24
25	.096627	.098657	.100703	.102766	.104844	25
26	.095565	.097618	.099686	.101772	.103872	26
27	.094610	.096684	.098775	.100882	.103003	27
28	.093749	.095844	.097955	.100083	.102226	28
28	.092972	.095087	.097218	.099366	.101529	29
30	.092269	.094404	.096554	.098721	.100902	30

TABLE #19: ANNUAL MORTGAGE CONSTANTS: 9 3/4 - 10 3/4% interest

(For monthly compounded mortgage payments)

Interest Rate: / TERM	9-3/4%	10%	10-1/4%	10-1/2%	10-3/4%	Interest Rate: / TERM
1	1.05360	1.054990	1.056380	1.057790	1.059180	1
2	.552358	.553737	.555123	.556515	.557903	2
3	.385802	.387206	.388616	.390030	.391445	3
4	.302914	.304351	.305793	.307241	.308691	4
5	.253492	.254964	.256443	.257927	.259415	5
6	.220801	.222310	.223826	.225348	.226875	6
7	.197669	.199214	.200768	.202328	.203895	7
8	.180507	.182090	.183681	.185280	.186887	8
9	.167325	.168944	.170573	.172210	.173856	9
10	.156925	.158581	.160247	.161922	.163606	10
11	.148547	.150238	.151941	.153654	.155376	11
12	.141682	.143409	.145148	.146897	.148656	12
13	.135980	.137742	.139515	.141300	.143096	13
14	.131189	.132984	.134792	.136612	.138443	14
15	.127124	.128953	.130794	.132648	.134514	15
16	.123647	.125508	.127382	.129269	.131168	16
17	.120653	.122545	.124451	.126370	.128301	17
18	.118059	.119981	.121918	.123867	.125830	18
19	.115799	.117751	.119717	.121697	.123690	19
20	.113822	.115803	.117797	.119806	.121827	20
21	.112086	.114094	.116116	.118152	.120201	21
22	.110555	.112589	.114638	.116701	.118777	22
23	.109202	.111262	.113336	.115424	.117526	23
24	.108003	.110087	.112185	.114298	.116424	24
25	.106937	.109044	.111166	.113302	.115451	25
26	.105987	.108117	.110261	.112420	.114591	26
27	.105140	.107292	.109457	.111646	.113829	27
28	.104383	.106555	.108741	.110940	.113153	28
29	.103706	.105897	.108102	.110321	.112552	29
30	.103099	.105309	.107532	.109769	.112018	30

TABLE #20: ANNUAL MORTGAGE CONSTANTS: 11 - 12% interest

(For monthly compounded mortgage payments)

Interest Rates: / TERM	11%	11-1/4%	11-1/2%	11-3/4%	12%	TERM
1	1.060580	1.061980	1.063380	1.064790	1.066190	1
2	.559292	.560689	.562084	.563485	.564992	2
3	.392861	.394286	.395710	.397142	.398571	3
4	.310144	.311605	.313067	.314536	.316006	4
5	.260907	.262407	.263910	.265421	.266933	5
6	.228407	.229948	.231493	.233046	.234602	6
7	.205468	.207050	.208637	.210233	.211833	7
8	.188500	.190123	.191752	.193390	.195034	8
9	.175509	.177173	.178843	.180524	.182211	9
10	.165299	.167003	.168714	.170436	.172165	10
11	.157107	.158850	.160602	.162364	.164134	11
12	.150426	.152207	.153998	.155799	.157610	12
13	.144903	.146721	.148550	.150390	.152240	13
14	.140286	.142141	.144006	.145884	.147771	14
15	.136391	.138281	.140183	.142096	.144020	15
16	.133080	.135004	.136940	.138888	.140948	16
17	.130245	.132202	.134171	.136153	.138146	17
18	.127806	.129794	.131795	.133809	.135834	18
19	.125695	.127715	.129746	.131790	.133846	19
20	.123862	.125911	.127971	.130045	.132130	20
21	.122264	.124340	.126429	.128531	.130644	21
22	.120867	.122969	.125085	.127213	.129353	22
23	.119641	.121769	.123910	.126063	.128228	23
24	.118563	.120715	.122880	.125057	.127246	24
25	.117613	.119789	.121976	.124176	.126387	25
26	.116775	.118972	.121181	.123402	.125634	26
27	.116034	.118251	.120481	.122722	.124974	27
28	.115377	.117615	.198630	.122123	.124394	28
29	.114795	.117051	.119317	.121595	.123883	29
30	.114279	.116551	.118835	.121129	.123433	30

VI. Relationship of Marketing Research to Financial Analysis

The relationship of a space-time product to financial parameters is an ongoing process which is repeated and refined as initial research justifies further feasibility analysis.

A. At the preliminary stage financial analysis does not involve present value theory or the income tax laws. Instead it begins with basic relationships (called algorythms when stated as fromulas). These relationships express a variety of ratios of land, building, revenue, expenses, and other risk constraints generated from knowledge of consumers, producers, and the public infrastructure.

B. There are three points of departure for establishing financial parameters:

1. Given the capital budget, it is necessary to convert to the required rents necessary to support the project and cash return objectives. Specified budgets converted to required rents is often called the front door approach. (Exhibit 4)
2. Given market rent per unit, it is necessary to establish the maximum justified capital budget. Targeted market rents converted to justified investment can be allocated to various development budgets and is called the back door approach.(Exhibit 5&6)
3. Given the site, zoning and building type desired there may be a useful algorythm which converts space-time to money-time. (Exhibit 8, 9, and 10)

C. At the University of Wisconsin we try to sensitize our students to key relationships with a work book prepared by Prof. James Canestaro which involves three levels of analysis:

1. Initial project analysis
2. Intermediate project analysis
3. Advanced project analysis
4. All of the above depend on development of key ratios for given communities and building types and work book ratios included here are for demonstration purposes.

D. Refer to Exhibit 7 which includes the entire real estate financial workbook as a guide to project cost-benefit evaluation.

1. A particularly valuable portion of the workbook is the Appendix (Section X) where sources of project cost and operational data are evaluated in terms of suitability for various stages of feasibility decision modeling.
2. These basic relationships lend themselves to adaptation as an algorythm for a programable calculator. For example;

$$\text{Gross rent} = \frac{TRC * LTV * MC + (1 - LTV * CC)}{1 - (ER + RET + VR + RR)}$$

$$\text{Justified project budget} = \frac{GR}{\frac{LTV * MC + (1 - LTV * CC)}{1 - (ER + RET + VR + RR)}}$$

Where:
TRC = Total replacement cost; LTV = loan to value ratio
MC = mortgage constant; CC = Cash on cash for equity cash
ER = expense ratio; RET = real estate tax ratio
VR = Vacancy ratio; RR = reserve ratio

VII. Preliminary financial analysis can be sued to study sensitivity of investment to changing physical parameters, to define acceptable levels of risk, or to dimension the scale of any particular design program.

A. As an example of sensitivity analysis, consider output of a program called design analysis program on the EDUCARE network. It was authored by John Nabors of Anchorage, Alaska. Exhibits 8 and 9 provide output from this program, testing a proposed one-bedroom apartment proposal for downtown Madison back in 1977.

B. Definition of basic ratios for risk analysis are provided below:

1. Absorption rate:

$$\frac{\text{Units sold or leased per period}}{\text{Total supply of units available for sale or lease}} = \text{Absorption rate}$$

2. Capture rate:

$$\frac{\text{Units in specific project sold or leased per period}}{\text{Total competitive units sold or leased per period}} = \text{Capture rate}$$

3. Vacancy ratio:

$$\frac{\text{Space unit} \times \#\text{ of units} \times \text{rental payment periods per year} \times \text{turnover rate} \times \text{rental payments lost} \times \text{rent}}{\#\text{ of units} \times \#\text{ of payments} \times \text{rent per period}} = \text{(gross rent)}$$

1-bedroom apartments x 20 x 50% turnover x 1 month lost 1 $200/mo.

$$\frac{20 \times 50\% \times 1 \times 200}{20 \times 12 \times 200}$$

$$\frac{2000}{48000} = \frac{1}{24} = 4.2\%$$

4. Expense ratio:

$$\frac{\text{Expenses}}{\text{Gross rent}}$$

5. Net income ratio:

$$\frac{\text{Net income}}{\text{Purchase price + additional costs}} = \text{Overall rate or cap rate (should be = to debt service constant or higher)}$$

6. Debt cover ratio:

$$\frac{\text{Net operating income}}{\text{Debt service}}$$

7. Default ratio:

$$\frac{\text{Operating expenses + real estate taxes + short term debt + interest + principal payments}}{\text{Gross rent}}$$

8. Loan to value ratio:

$$\frac{\text{Mortgage loan balance}}{\text{Purchase price}}$$

9. Cash on cash:

$$\frac{\text{Net income - debt service - reserves + refinancing surplus}}{\text{Total capital budget - original mortgage balance}}$$

C. If a project makes sense before the income tax, it is then useful to refine analysis for projection over time on an after tax basis. Useful after-tax cash ratios include: (See the new textbook, The Real Estate Investment Decision, Gaylon E. Greer, Lexington Books, Lexington, Mass. 1979.)

1. Distributable cash from operations:

Cash throwoff
- income taxes
Cash from operations
- reserves
- repayment of working capital loans
= Distributable cash

2. Spendable cash attributable to real estate:

Distributable cash
+ tax savings to other income
+ surplus from refinancing
= Spendable cash

3. After tax sale proceeds:

+ return of working capital
+ liquidation of sinking funds
= cash reversion

4. Return on net worth B/4 tax:

$$\frac{\text{Cash throwoff + change in net worth}}{\text{Net worth at end of previous period}}$$

5. Return on net worth after tax?

$$\frac{\text{Spendable cash + (change in net worth - change in taxes on sale)}}{\text{Net worth at end of previous period - taxes on sale}}$$

6. Payback ratio:

$$\frac{\text{Cumulative spendable cash}}{\text{Original budget - original debt + amount of personal guarantees}}$$

EXHIBIT 11

CASH FLØW PRØ FØRMA USING PARAMETER NØRMS

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

DATE: 2/14/1977
BLDG: 1
RUN : 1

GRØSS SQUARE FEET IN BUILDING:		700.
BUILDING EFFICIENCY	:	85.0 PCT
NET LEASEABLE SQUARE FØØTAGE	:	595.
LAND AND CØNSTRUCTIØN CØST	: $	19500.
LØAN TØ CØST RATIØ	:	75.0 PCT
ØRIGINAL LØAN AMØUNT	: $	14625.
EQUITY REQUIREMENT	: $	4875.
PERMANENT INTEREST RATE	:	9.000 PCT
TERM ØF LØAN		30. YEARS
ANNUAL DEBT SERVICE	: $	1412.

	ANNUAL DØLLARS
GRØSS INCØME : 595. SQ FT AT $ 6.00	3570.
LESS: VACANCY ØF 5.00 PCT	179.
GRØSS ADJUSTED INCØME	3392.
PLUS: PARKING INCOME	150.
PLUS: ØTHER INCØME	24.
GRØSS EFFECTIVE INCØME	3566.
LAND LEASE EXPENSE	100.
ØPERATING EXPENSES: 595. SØ FT AT $ 2.76	1642.
NET ØPERATING INCØME	1823.
DEBT SERVICE (9.66 PCT CØNSTANT)	1412.
PRØ FØRMA CASH FLØW	411.

RETURN ØN EQUITY 8.43 PERCENT

DEBT SERVICE CØVERAGE: 1.291

DEFAULT RATIØ : 83.48 PERCENT

Exhibit 11 continued

SENSITIVITY TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 12 OF 12

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
EFFICIENCY:		85.00 PCT ØF GRØSS	
LØAN RATIØ:		75.00 PCT ØF $ 19500.	
EQUITY	:	$ 4875.	
FINANCING	:	30. YEARS 9.000 PCT	
REVENUE	:	$ 6.00 PER SQ FT	
VACANCY	:	5.00 PCT ØF LEASEABLE	
PARK/ØTHER:		$ 174. ANNUALLY	RUN 1
EXPENSES	:	$ 2.76 PER SQ FT	
LAND LEASE:		$ 100. ANNUALLY	

CØNSTRUCTIØN AND LAND CØST 19500.

EFFECT ØF SELECTED CHANGES IN PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW
INCREASE BUILDING EFFICIENCY 1 PCT	21.
INCREASE RENTAL RATE $ .10 PER SQ FT	57.
DECREASE VACANCY RATE 1PCT	36.
DECREASE ØPERATING RATE $ .10 PER SQ FT	60.
DECREASE PERMANENT RATE .25PCT	31.
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-10.
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-61.
DECREASE THE LØAN RATIØ BY 5 PERCENT	94.
DECREASE LAND LEASE BY 10%	100.

EQUIVALENT EFFECT TØ YIELD
A $ 100. INCREASE IN ANNUAL CASH FLØW

INCREASE BUILDING EFFICIENCY BY		4.86 PCT
INCREASE RENT RATE BY	$	0.18 PER SQ FT
DECREASE VACANCY BY		2.80 PCT
DECREASE EXPENSE RATE BY	$	0.17 PER SQ FT
DECREASE PERMANENT RATE BY		0.79 PCT
INCREASE PERMANENT LØAN TERM BY		8.2 YEARS
DECREASE LØAN RATIØ BY		5.3 PERCENT
DECREASE LAND LEASE BY	$	100.

Exhibit 11 continued

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 1 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

VACANCY ALLØWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
$ 4.80	-210.	-239.	-267.	-324.	-410.
$ 5.40	136.	104.	72.	8.	-89.
$ 6.00	483.	447.	411.	340.	233.
$ 6.60	829.	790.	750.	672.	554.
$ 7.20	1175.	1132.	1089.	1004.	875.

BREAKEVEN RENTAL RATES

VACANCY ALLØWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
	5.16	5.22	5.27	5.39	5.57

Contemporary Financing Methods and the Effect on Market Value

A One Day Seminar For
The Society of Real Estate Appraisers
Philadelphia Chapter #2

April 30, 1981
The Barclay Hotel

Presented By
Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. Introduction

It is generally recognized that the real estate market is dependent on substantial amounts of credit to support effective demand so that real estate prices and perhaps values vary with the terms and supply of credit generally available in the marketplace. Indeed the old timers have seen the definition of fair market value gradually move away from the firm premise of cash to the seller to a somewhat more subjective condition of terms generally available in the market.

A. The pressure of double digit inflation is eroding many of the appraisers' favorite simplifications of the market model:

1. The long term fixed interest mortgage, amortized from property productivity is gone.
2. The simple division of income between the mortgage and the equity component is smothered in participating mortgages, limited partnerships, convertible mortgages and seller financing.
3. As the government had removed general subsidies to real estate finance such as regulation Q, it has made greater use of specific interest subsidies to selected special groups.
4. Real estate markets must be defined not only in terms of use, age, income, but also access to capital.
5. Moreover, most properties exist in a 3-tier market, utility to house an activity, commodity and money speculation, and as part of a going concern.
6. The 3-tier market can be further subdivided by the nature of permits or other entitlements that are site specific and define risk of a vested or non-vested opportunity.

B. Volatile money market conditions and the widespread use of creative financing leave the appraiser in considerable difficulty in defining typical market terms, cash equivalent prices or the relationship of

fair market value to transaction price. Does the client want fair market price, most probable price, going concern value, contributory value, investment value, or liquidating value in event of delinquency and foreclosure.

C. The impact of these elements is significantly different for problems involving:

1. Income investment properties
2. Economic development properties
3. Multi-family residential properties
4. Single family residential properties

D. The impact of financing in each situation requires that we go back to basics. The appraiser or his clinet must define:

1. What is the function of the appraisal?
2. Which rights are to be appraised? (Those that run with the establishment on the site, with the ownership position, or with fee simple title).
3. Which definition of value is appropriate?
4. How is productivity allocated to the agents of production?

E. Reference to Exhibit 1

F. Reference to definition of fee simple title in Exhibit 2

G. Reference to definition of fair market value in Exhibit 3 and compare to most probable price in Exhibit 4

II. The Games People Play With Income Investment Property makes it very difficult to apply any one of the three appraoches to value.

A. Sales prices are engineered by accountants to some degree to shift asset values among various classifications for land, structure, personalty, intangibles, capital gains and losses and ordinary gains and losses, making market comparison anything but objective (not to mention adjustments for non-market financing discussed in Section III).

B. Similarly, the income approach has great difficulty in applying the truism that income value is the present value of income plus the present value of reversion.

1. There is the problem of defining net operating income in terms of what is attributable to the real estate (aside from financing effect on cash throwoff).
2. There is the problem of defining the net reversion to equity in an uncertain future (aside from financing effect on mortgage balance).

Reprinted from Black's Law Dictionary, Fifth Edition with permission.

Fee simple.

Absolute. A fee simple absolute is an estate limited absolutely to a man and his heirs and assigns forever without limitation or condition. An absolute or fee-simple estate is one in which the owner is entitled to the entire property, with unconditional power of disposition during his life, and descending to his heirs and legal representatives upon his death intestate. Such estate is unlimited as to duration, disposition, and descendibility. Slayden v. Hardin, 257 Ky. 685, 79 S.W.2d 11, 12.

The estate which a man has where lands are given to him and to his heirs absolutely without any end or limit put to his estate. 2 Bl.Comm. 106. The word "fee," used alone, is a sufficient designation of this species of estate, and hence "simple" is not a necessary part of the title, but it is added as a means of clearly distinguishing this estate from a fee-tail or from any variety of conditional estates. Fee-simple signifies a pure fee; an absolute estate of inheritance clear of any condition or restriction to particular heirs, being descendible to the heirs general, whether male or female, lineal or collateral. It is the largest estate and most extensive interest that can be enjoyed in land.

Conditional. Type of transfer in which grantor conveys fee simply on condition that something be done or not done. A defeasible fee which leaves grantor with right of entry for condition broken, which right may be exercised by some action on part of grantor when condition is breached.

At common law an estate in fee simple conditional was a fee limited or restrained to some particular heirs, exclusive of others. But the statute "De donis" converted all such estates into estates tail. 2 Bl. Comm. 110.

Defeasible. Type of fee grant which may be defeated on the happening of an event. An estate which may last forever, but which may end upon the happening of a specified event, is a "fee simple defeasible". Newbern v. Barnes, 3 N.C.App. 521, 165 S.E.2d 526, 530.

Determinable. A "fee simple determinable" is created by conveyance which contains words effective to create a fee simple and, in addition, a provision for automatic expiration of estate on occurrence of stated event. Selectmen of Town of Nahant v. U. S., D.C.Mass., 293 F.Supp. 1076, 1978.

Fee simple title. See **Fee simple.**

From: Henry Campbell Black, Black's Law Dictionary, Fifth Edition, West Publishing Co., St. Paul, 1979, p. 554.

Exhibit I

Critical Issues Which Define Appraisal Process

Function of the Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee simple private rights unencumbered	Fair market value	Income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (non-participating)	Encumbered fee simple private rights plus additional rights pledged	Regulations - fair market value Underwriting - solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus non-vested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business start-up plus monopolistic market controls	Most probable price within perceived costs of alternative	Land, structure, personalty, and intangible assets and good will plus profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

EXHIBIT 3

FAIR MARKET VALUE - The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated.
2. both parties are well informed or well advised, and each acting in what he considers his own best interest.
3. a reasonable time is allowed for exposure in the open market.
4. payment is made in cash or its equivalent.
5. financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale.
6. the price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction.

Source: P. 137, Real Estate Appraisal Terminology, Editor Byrl Boyce.

EXHIBIT 4

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.

Source: P. 8, The Appraisal of 25 N. Pinckney, Editor James A. Graaskamp.

Exhibit 2

CONTEMPORARY REAL ESTATE APPRAISAL REPORT

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value applied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12. Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

C. Special assumptions or instructions that are provided by others

D. Definition of value, which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals, and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief statement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)
3. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
4. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
5. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
6. Current uses and tenancies of improvements, if any
7. Environmental impact attributes of improvements on environs

C. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternative tenancies and uses
4. Replacement of existing improvements or program with new uses

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative-use strategies for legal-political compatibility
2. Testing alternative-use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction of a sales transaction with logic for ranking of alternatives
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
3. Explanation of search parameters
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of alternative valuation method and reasoning
3. Conclusion leads to E or F

E. Simulation of Probable Buyer Decision Process If Market Comparison Approach is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report

B. Certification of Independent Appraisal Judgment

C. Statement of Limiting Conditions That Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

3. There is the problem of selecting a conversion process which reduces income cash flows and reversionary cash flows to a single present value.

C. Neither revenue, nor expenses nor debt service are constant over timeranymore so that NOI/OAR is no longer a useful valuation model. Instead rents, vacancies, expenses, and financing must be staged using a spread sheet for both income and the reversion. Lenders may share in appreciation and owner and lender may share the risk of variable interest and the first principal payment.

D. The definition of economic rent attributable to the real estate

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?
   a. For example - does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?
2. Is the real estate income from retailing of space or from wholesaling space?
   a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.
3. Is the income for extraordinary services or intangible assets rather than customary?
   a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.
4. Ancillary to rather than integral with the project.
   a. Can services be acquired off premises such as janitorial or utilities?
5. IRS classification as 1250 property (real) or 1231 property (personalty) or Section 38 (tangible) or Section (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

E. Problem of defining or forecasting a reversion

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships of long term commodity/money ratios.
2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?
   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested and excluded from fair market value?
4. Can the appraiser simulate alternative speculative gains for most probable price?
5. When a premium is paid anticipating syndication of condominium conversion, should there be an adjustment for purchase of a business opportunity? Does fair market value include management fees for conversion?

III. Case Study of an appraisal of a 50-year old high rise office building in the CBD with vacancy problems, utility problems and management problems.

A. Revenues reflected loss of a major tenant (State of Wisconsin), lack of demand for retail space on the first floor, a soft market for B-class space, and a reluctance of management and tenants to use pass-throughs for operating costs.

B. It was necessary to do a spread sheet indicating a gradual reduction of vacancy loss, a gradual updating of existing leases with pass-through clauses, and investment in critical energy conservation.

C. Resale price is tied to projected net income and gross with a debt cover ratio and a cash-on-cash yield. Loan-to-value ratio is irrelevant. (See The Appraisal Journal, January 1981, DCR/R_e Cap Rate Tables for Today's Financing, p. 15.)

D. Our firm makes heavy use of the backdoor approach on MRCAP for valuation.

LUNCH BREAK

CASE STUDY - EXHIBITS 4-29 - SEMINAR

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WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE/ WEIGHT	#1 30 W. Mifflin	#2 50 E. Mifflin	#3 16 N. Carroll	#4 123 W. Washington	#5 102 N. Hamilton	#6 212 E. Washington	Subject 110 E. Main
	Rating/Weighted Rating						
Parking 25%	5/1.25	3/.75	0/0	0/0	3/.75	3/.75	3/.75
Location 20%	5/1.00	5/1.00	5/1.00	3/.60	1/.20	3/.60	3/.60
First Floor Retail Lease In Place 15%	5/.75	5/.75	0/0	3/.45	3/.45	0/0	1/.15
Need for Renovation 15%	5/.75	1/.15	3/.45	5/.75	1/.15	1/.15	3/.45
Visual Quality of Office Entrance 10%	5/.50	3/.30	3/.30	5/.50	3/.30	3/.30	1/.10
Vacancies in Existing Office Space 15%	5/.75	0/0	5/.75	5/.75	0/0	0/0	1/.15
Total Weighted Score	5.00	2.95	2.50	3.05	1.85	1.80	2.20
Selling Price	$2,555,500	$850,000	$615,270	$2,896,000	$330,000	$472,000	X
Total Net Rentable Area (NRA)	65,000 sq. ft.	38,500 sq. ft.	35,725 sq. ft.	138,000 sq. ft.	28,000 sq. ft.	38,000 sq. ft.	74,000 sq. ft.
Price Per Square Foot (NRA)	$39.30	$22.10	$17.20	$21.00	$11.80	$12.40	
Price Per Square Foot of NRA / Total Weighted Score	7.86	7.49	6.88	6.89	6.38	6.89	

EXHIBIT 22

EXHIBIT 23

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Selling Price/ per NRA	Point Score	Price per NRA per Total Weighted Score (x)
1	$39.30	5.00	7.86
2	22.10	3.45	7.49
3	17.20	2.50	6.88
4	21.00	3.05	6.89
5	11.80	1.85	6.38
6	12.40	1.80	6.89
		TOTAL	42.39

Mean Value ($\bar{x}$) = 42.39 ÷ 6 = 7.07

Standard Deviation = $\dfrac{\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}}{\sqrt{n}}$ = .214

where:

x	$\bar{x}$	$(x-\bar{x})$	$\Sigma(x-\bar{x})^2$	n	$n-1$
7.86	- 7.07 =	.79	.62	6	5
7.49	- 7.07 =	.42	.18		
6.88	- 7.07 =	.19	.04		
6.89	- 7.07 =	.18	.03		
6.38	- 7.07 =	.69	.48		
6.89	- 7.07 =	.18	.03		
			1.38		

Value Range: 7.07 ± .21

High Estimate: 7.28 = (X/74,000[1] sq. ft.) ÷ 2.2[2], ∴ X = 1,185,184 or $1,200,000

Central Tendency: 7.07 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,150,996 or $1,150,000

Low Estimate: 6.86 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,116,808 or $1,120,000

[1] 74,000 sq. ft. = NRA of subject property
[2] 2.2 = Weighted point score for subject property

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof								
B Level Vault-Vacant	700	3.00	--	$ 2,100	$ 2,100	$ 2,270	$ 2,270	$ 2,450
B Level-Showroom & Office	4000	3.00	--	12,000	12,000	12,960	12,960	14,000
A Level-Storage	400	4.00	6/30/80	1,600	2,400	2,600	2,800	3,000
Honeywell Phone Box	--	--	--	600	600	600	650	650
Total-Lower Level	5100			$16,300	$17,100	$18,430	$18,680	$20,100
First Floor								
Chez Vous-112	454	4.80	10/1/76 - 9/30/81	$ 2,180	$ 2,290	$ 2,360	$ 2,360	$ 2,360
Chez Vous-114	1000	4.80	10/1/76 - 9/30/81	4,810	5,030	5,200	5,200	5,200
North Entry	2000	9.00	--	18,000	19,500	21,000	22,500	24,000
South Entry-Leaf & Ladle[4]	3500	9.00	1/1/80 - 12/30/84	31,500	33,130	33,950	36,670	39,600
Total-First Floor	6954			$56,490	$59,950	$62,510	$66,730	$71,160
Second Floor								
201 Vacant	150	6.50	--	$ 970	$ 970	$ 1,050	$ 1,050	$ 1,140
202 State[5]	600	6.70	7/1/79 - 6/30/80	4,020	4,320	4,320	4,670	4,670
203-4 Vacant[5]	543	6.20	9/1/78 - 8/31/79	3,370	3,640	3,640	3,640	3,930
205-6 State	506	7.00	3/1/78 - 5/31/80	3,540	3,820	3,820	4,120	4,120
207-8 Homecrafts	386	7.20	1/1/79 - 12/31/81	2,780	2,850	3,000	3,000	3,080
209-10 State[5]	451	6.25	11/1/79 - 5/31/80	2,820	3,040	3,040	3,280	3,280
211 Dr. Regez	219	7.00	--	1,600	1,730	1,730	1,870	1,870
212-14 Dr. Wierwill	700	6.50	4/1/78 - 3/31/81	4,570	4,900	4,900	4,900	5,210
215 Vacant	415	6.75	7/1/78 - 6/30/79	2,800	3,020	3,020	3,270	3,270
216 UPI	500	7.50	5/1/80 - 4/30/81	3,750	4,050	4,050	4,370	4,370
218-19 Rape Crisis Center	816	7.00	1/1/80 - 12/31/81	5,840	6,120	6,260	6,530	6,690
220-21 State[5]	1400	6.25	12/1/79 - 5/31/80	8,750	9,450	9,450	10,200	10,200
Total-Second Floor	6686			$44,810	$47,910	$48,280	$50,900	$51,830

EXHIBIT 24

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor								
301 Vacant	150	5.75	--	$ 860	$ 860	$ 930	$ 930	$ 1,000
302-3 State[5]	1179	5.75	--	6,780	7,320	7,320	7,900	7,900
304 State[5]	230	6.70	--	1,540	1,660	1,660	1,800	1,800
305-8 State[5]	942	6.70	--	6,300	6,800	6,800	7,360	7,360
309 The Journal Co.	232	7.20	9/1/79 - 8/31/80	1,810	1,880	1,970	2,030	2,120
310-11 State[5]	456	6.70	--	3,050	3,300	3,300	3,560	3,560
312 Vacant	234	5.75	--	1,340	1,450	1,450	1,570	1,570
313-14 Dr. R. Meng	482	7.20	6/1/79 - 5/31/80	3,490	3,730	3,750	4,000	4,030
315 Vacant	731	6.70	10/1/79 - 9/30/80	5,000	5,080	5,310	5,480	5,630
316-19 Wisc. Builders Assoc.	1091	7.00	1/1/80 - 12/31/80	7,810	8,180	8,360	8,730	8,940
320-24 Vacant	1363	7.00	--	9,540	10,300	10,300	11,130	11,130
Total-Third Floor	7090			$47,520	$50,560	$51,150	$54,490	$55,040
Fourth Floor								
401 Vacant	150	6.40	--	$ 960	$ 960	$ 1,040	$ 1,040	$ 1,120
402 Furst, Carlson Inc.	648	6.40	5/1/79 - 4/30/80	4,350	4,370	4,700	4,730	5,090
403-11 State	2147	6.75	1/1/80 - 12/31/81	14,500	14,880	15,670	16,100	16,960
412 Vacant	202	6.40	--	1,290	1,290	1,400	1,400	1,500
413-14 Wisconsin Alliance of Cities	679	6.80	--	4,980	5,020	5,420	5,420	5,850
415 State[5]	259	7.00	3/1/79 - 2/28/81	1,830	1,940	1,970	2,100	2,130
416-19 State[5]	1370	6.00	vacated 6/30/80	8,220	8,880	8,880	9,590	9,590
420-20a State[5]	560	6.70	vacated 6/30/80	3,750	3,750	4,050	4,050	4,370
421-22 State	300	6.70	vacated 6/30/80	2,010	2,010	2,170	2,170	2,340
423-24 Ed Konkol	340	6.60	9/1/79 - 8/31/80	2,240	2,240	2,420	2,420	2,620
Total-Fourth Floor	6655			$44,130	$45,340	$47,720	$49,020	$51,570

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fifth Floor								
501 E. C. Barton	150	7.60	--	$ 1,240	$ 1,270	$ 1,270	$ 1,380	$ 1,380
502 Vacant	842	7.50	--	6,310	6,820	6,820	7,360	7,360
503-5 Vacant	810	7.50	--	6,070	6,070	6,440	6,800	6,800
506-19 State	3922	6.25	11/1/79 - 10/31/83	24,500	24,500	24,500	30,590	31,770
520 State-Bd. of Aging	555	6.70	7/1/79 - 6/30/81	3,950	4,000	4,270	4,330	4,940
521-22 Dr. Coryell	339	7.20	7/1/79 - 6/30/80	2,440	2,690	2,740	2,920	2,950
523-24 Green Bay Press Gazette	337	7.60	9/1/79 - 8/31/82	2,560	2,690	2,760	2,760	2,760
Total-Fifth Floor	6955			$47,070	$48,040	$48,800	$56,140	$57,960
Sixth Floor								
601 Vacant	150	6.70	--	$ 1,000	$ 1,000	$ 1,080	$ 1,080	$ 1,170
602-4 State[5]	1473	6.00	vacated 6/30/80	8,840	9,540	9,540	10,300	10,300
605 Vacant	204	6.40	-- to 6/30/80 then mo. - mo.	1,300	1,300	1,410	1,410	1,520
606-10 State	1000	6.70		7,370	7,500	7,500	8,100	8,100
611 The Evjue Foundation	286	7.00	vacated 11/30/80	2,000	2,000	2,160	2,160	2,330
612-14 State	647	7.50	11/1/79 - 10/31/83	4,850	4,850	4,850	5,080	5,240
615 Tenney Bldg.	344	7.00	--	2,400	2,400	2,600	2,600	2,800
616 John Barsness	850	6.00	3/1/79 - 2/28/81	5,170	5,520	5,590	5,950	6,020
617 Bill Ward	250	6.70	vacated 5/31/80	1,940	2,120	2,120	2,300	2,300
618-19 State	494	8.00	vacated 5/31/79	3,950	3,950	4,270	4,270	4,610
620-24 Vacant	1262	6.70	--	8,450	9,130	9,130	9,860	9,860
Total-Sixth Floor	6960			$47,270	$49,310	$50,250	$53,110	$54,250
Seventh Floor								
701 Lawton & Cates	150	5.75	6/1/79 - 5/31/83	$ 930	$ 970	$ 1,100	$ 1,050	$ 1,090
702-19 Lawton & Cates	5417	5.75	6/1/79 - 5/31/83	33,600	35,100	36,450	37,850	39,160
720-24 Vacant	1106	7.00	--	7,740	7,740	8,360	8,360	9,030
Total-Seventh Floor	6673			$42,270	$43,810	$45,910	$47,260	$49,280

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Eighth Floor								
801 Wisconsin Radio News	150	7.00	to 6/30/80	$ 1,050	$ 1,050	$ 1,130	$ 1,130	$ 1,220
802-5 State	1536	7.55	to 10/31/83	11,600	11,600	11,600	12,060	12,520
806-7 Dr. Mannis	470	7.50	9/1/79 - 8/31/80	3,840	4,000	4,000	4,210	4,320
808-22 State	4580	6.00	7/1/79 - 6/30/80	27,480	36,620	37,100	37,100	39,580
823-24 Dr. Boyle	339	7.60	9/1/79 - 8/31/80	2,780	2,880	3,040	3,120	3,120
Total-Eighth Floor	7075			$46,750	$56,150	$56,870	$57,620	$60,760
Ninth Floor								
901 Millman & Robertson	150	8.00	1/1/80 - 12/31/80	$ 1,230	$ 1,300	$ 1,340	$ 1,400	$ 1,400
902 Wisc. Ins. Alliance	864	7.00	6/1/79 - 5/31/80	6,400	6,480	6,910	7,000	7,000
903-6 Mulcahy & Wherry	980	8.00	1/1/79 - 12/31/81	8,070	8,530	8,750	9,210	9,210
907 Robert Uehling	225	8.00	4/1/80 - 3/31/81	1,810	1,960	1,980	2,110	2,110
909-10 Larry Hall	700	6.00	6/1/79 - 5/31/80	4,520	4,550	4,870	4,900	4,900
911 Dr. Schmitz	248	7.75	1/1/79 - 12/31/80	1,920	1,970	2,060	2,140	2,230
912-19 Devine Insurance	2580	7.00	4/1/80 - 3/31/83	18,060	18,060	18,180	19,350	19,350
921 State	575	7.00	vacated 7/1/80	4,020	4,350	4,350	4,700	4,700
922-23 Judicial Commission	355	6.50	5/1/79 - 4/30/81	2,300	2,500	2,500	2,700	2,700
924-25 Dr. Rundell	339	7.20	6/1/79 - 5/31/80	2,650	2,680	2,860	2,880	2,880
Total-Ninth Floor	7016			$50,980	$52,380	$53,800	$56,390	$56,480
Tenth Floor								
1001 Victor Lind	150	6.80	11/1/79 - 10/31/80	$ 1,050	$ 1,200	$ 1,250	$ 1,300	$ 1,350
1002 Wisc. Assoc. of Indep. Colleges	864	6.50	1/1/80 - 12/31/80	5,760	6,050	6,190	6,480	6,650
1003-4 Wisc. Canners & Freezers	756	8.00	5/1/79 - 4/30/80	6,050	6,050	6,530	6,530	7,050
1005-8 Boelter Co.	911	6.80	12/1/79 - 11/30/80	6,370	6,650	6,880	7,200	7,400
1009-10 Vacant	455	6.50	--	2,950	3,190	3,190	3,450	3,450
1011-13 Dr. Doll	727	6.65	6/1/79 - 5/31/80	5,230	5,270	5,640	5,670	6,100
1014 Vacant	229	6.25	--	1,430	1,430	1,540	1,540	1,670
1015-18 State	1616	7.50	11/1/79 - 10/31/83	12,120	12,120	12,120	12,600	13,090
1019-21 Vacant	680	6.70	vacated 2/29/80	5,380	5,440	5,870	5,910	6,350
1022 Herb Walsh	171	8.00	12/1/79 - 11/30/80	1,420	1,490	1,490	1,540	1,600
1023-24 Dane Co. Advocate for Battered Women	331	7.20	8/1/79 - 7/31/80	2,610	2,680	2,840	2,900	3,070
Total-Tenth Floor	6890			$50,370	$51,570	$53,540	$55,120	$57,780
Annual Totals for	74,054 sq. ft.			$493,960	$522,120	$537,260	$565,460	$586,210

EXHIBIT 24 -- Continued

Notes to Schedule of Rental Revenues for the
Period of April 30, 1980 Through April 29, 1985

[1]The annualized gross rental revenue for the period from April 30, 1980 through April 29, 1981 is consistent with the actual lease terms, if at market rents, as of April 30, 1980. Increases in rents are assumed to take place according to lease terms and conditions; an increase of 8 percent is used at lease renewal dates. This factor was taken from a survey of office rent increases in Class B buildings on and near the Capitol Square in Madison and is the current rate used by the Tenney Building manager.

[2]The annual rental market rate is given as of April 30, 1980. Only one tenant in Rooms 909-10 is considered to be below market rent at $4.73/square foot; therefore the rent for this space is calculated at a market rate of $6.00/square foot. Market rents are also imputed to spaces used by the building owner.

[3]Of the 87 rental space units in the Tenney Building as of April 30, 1980, there are 62 leases in place, but 54 of those terminate between 1980 and 1982. Only eight have leases that extend beyond April 30, 1982.

[4]The Leaf and Ladle Restaurant began its lease of 3500 sq. ft. of the first floor retail space on January 1, 1980. The restaurant had closed its door by October 1, 1980, and the remodeled space is once again on the market. The rental rate of $9.00 with an annual escalator of 8% per year commencing in the second year is considered comparable for the area. A most probable investor might consider an escalator based upon a percentage of gross sales to encourage rental of this space if restaurant use is most likely; the projected revenues probably would not increase as rapidly as forecast.

[5]The state has given notice that it will vacate these spaces by June 30, 1980.

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per. Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof[1]									
B Level - Vault	700	100	3.00	12	$ 2,100				
	700	100	3.00	12		$ 2,100			
	700	100	3.25	12			$ 2,270		
	700	50	3.25	6				$ 1,140	
	700	50	3.50	6					$ 1,140
B Level									
Showroom and Office	4,000	100	3.00	12	12,000				
	4,000	100	3.00	6		6,000			
	4,000	50	3.25	6			3,250		
	4,000	50	3.25	6				3,250	
	4,000	50	3.50	3					1,750
A Level - Storage	400	100	7.00	6				1,400	
	400	100	7.50	9					2,250
Total - Lower Level					$14,100	$ 8,100	$ 5,520	$ 5,790	$ 5,140
First Floor									
112 East Main	454	100	5.20	8		$ 1,570			
	454	100	5.20	12			$ 2,360		
	454	100	5.20	4				$ 780	
114 East Main	1,000	100	5.20	8		3,480			
	1,000	50	5.20	12			2,600		
	1,000	50	5.20	4				860	
Leaf & Ladle	3,500	100	9.00	7	18,370				
	3,500	100	9.50	3		8,310			
	3,500	100	10.50	3				9,190	
	3,500	100	11.30	3					$ 9,890
North Entry	2,000	100	9.00	9	13,500				
Total - First Floor					$31,870	$13,360	$ 4,960	$10,830	$ 9,890

EXHIBIT 25

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Second Floor[3]									
201	150	100	6.50	12	$ 900				
	150	100	6.50	12		$ 900			
	150	100	7.00	12			$ 1,050		
	150	100	7.00	12				$ 1,050	
	150	100	7.60	12					$ 1,140
202	600	100	6.70	6	2,010				
	600	50	7.20	12		2,160			
	600	50	7.20	12			2,160		
	600	50	7.80	6				1,170	
	600	50	7.80	3					580
203-4	543	100	6.20	12	3,370				
	543	50	6.70	12		1,820			
	543	50	6.70	12			1,820		
	543	50	6.70	9				1,360	
205-6	506	100	7.00	6	1,770				
	506	50	7.50	12		1,900			
	506	50	7.50	12			1,900		
	506	50	8.15	9				1,550	
	506	50	8.15	6					1,030
209-10	451	100	6.25	6	1,410				
	451	50	6.75	12		1,520			
	451	50	6.75	12			1,520		
	451	50	7.30	9				1,230	
215	415	100	6.75	12	2,800				
	415	100	7.30	6		1,510			
	415	100	7.30	3			760		
218-19	816	100	8.00	8				4,370	
	816	100	8.20	12					6,690
220-21	1,400	100	6.25	6	4,370				
	1,400	50	6.75	12		4,720			
	1,400	50	6.75	6			2,360		
	1,400	50	7.30	6				2,560	
Total - Second Floor					$16,630	$14,530	$11,570	$13,290	$ 9,440

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor[3]									
301	150	100	5.75	12	$ 860				
	150	100	5.75	12		$ 860			
	150	100	6.20	12			$ 930		
	150	100	6.20	12				$ 930	
	150	100	6.70	12					$ 1,000
302-3	1,179	100	5.75	6	3,390				
	1,179	50	6.20	12		3,650			
	1,179	50	6.20	12			3,650		
	1,179	50	6.70	6				3,950	
304	230	100	6.70	6	770				
	230	100	7.20	12		1,660			
	230	100	7.80	6					900
305-8	942	100	6.70	6	3,150				
	942	50	7.20	12		3,390			
	942	50	7.20	12			3,390		
	942	50	7.80	3					1,830
310-11	456	100	6.70	6	1,530				
	456	50	7.20	12		1,640			
	456	50	7.20	12			1,640		
312	234	100	5.75	12	1,340				
	234	100	6.20	12		1,450			
	234	100	6.20	12			1,450		
	234	100	6.70	12				1,570	
	234	100	6.70	12					1,570
315	731	100	6.70	4	1,610				
320-24	1,363	100	7.00	12	9,540				
	1,363	100	7.60	6		5,150			
Total - Third Floor					$22,190	$17,800	$11,060	$ 6,450	$ 5,300

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fourth Floor									
401	150	100	6.40	12	$ 960				
	150	100	6.40	12		$ 960			
	150	100	6.90	12			$ 1,040		
	150	100	6.90	12				$ 1,040	
	150	100	7.45	12					$ 1,120
412	202	100	6.40	12	1,290				
	202	100	6.40	12		1,290			
	202	100	6.90	12			1,400		
	202	100	6.90	12				1,400	
	202	100	7.40	12					1,500
416-19	1,370	100	6.00	6	4,110				
	1,370	50	6.50	12		4,450			
	1,370	50	6.50	12			4,450		
	1,370	50	7.00	12				4,800	
	1,370	50	7.00	6					2,400
420-20a	560	100	6.70	6	1,880				
	560	50	6.70	12		1,870			
	560	50	7.20	9			1,520		
Total - Fourth Floor					$ 8,240	$ 8,570	$ 8,410	$ 7,240	$ 5,020
Fifth Floor									
502	842	100	7.50	12	$ 6,310				
	842	50	8.00	12		$ 3,410			
	842	50	8.00	12			$ 3,410		
	842	50	8.75	6				$ 3,410	
520	555	100	7.70	6			2,130		
	555	50	7.80	12				2,160	
	555	50	8.90	9					$ 1,850
Total - Fifth Floor					$ 6,310	$ 3,410	$ 5,540	$ 5,570	$ 1,850

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Sixth Floor									
601	150	100	6.70	12	$ 1,000				
	150	100	6.70	12		$ 1,000			
	150	100	7.20	9			$ 810		
602-4	1,473	100	6.00	6	4,420				
	1,473	50	6.50	12		4,770			
	1,473	50	6.50	12			4,770		
	1,473	50	7.00	9				$ 3,870	
	1,473	50	7.00	6					$ 2,580
605	204	100	6.40	12	1,300				
	204	100	6.40	12		1,300			
	204	100	6.90	12			1,410		
	204	100	6.90	9				1,060	
617	250	100	7.75	4	640				
620-24	1,262	100	6.70	12	8,450				
	1,262	100	7.20	6		4,540			
	1,262	100	7.20	6			4,540		
	1,262	50	7.80	9				3,690	
Total - Sixth Floor					$15,810	$11,610	$11,530	$ 8,620	$ 2,580
Seventh Floor									
No Vacancies Projected									
Eighth Floor									
801	150	100	7.00	10	$ 880				
	150	100	7.00	12		$ 1,050			
	150	100	7.50	6			$ 560		
Total - Eighth Floor					$ 880	$ 1,050	$ 560	0	0

EXHIBIT 25 -- Continued

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Ninth Floor									
909-10	700	100	6.50	6		$ 2,280			
	700	100	7.00	6			$ 2,440		
922-23	355	100	7.00	12			2,500		
	355	100	7.60	6				$ 1,350	
Total - Ninth Floor					0	$ 2,280	$ 4,940	$ 1,350	0
Tenth Floor									
1009-10	455	100	6.50	12	$ 2,950				
	455	100	7.00	12		$ 3,190			
	455	100	7.00	9			$ 2,390		
1014	229	100	6.25	12	1,430				
	229	100	6.25	12		1,430			
	229	100	6.70	6				770	
1019-20	680	100	6.70	1	380				
Total - Tenth Floor					$ 4,760	$ 4,620	$ 2,390	$ 770	0
TENNEY BUILDING TOTALS[4]					$120,790	$85,330	$66,480	$59,910	$39,220

Notes to Schedule of Vacancies by Floor and by Lease Terms
For the Period of April 30, 1980 Through April 29, 1985

[1]The lower level space has a continued record of vacancy; it is assumed that until the space is made more marketable by remodeling, rents will not keep pace with the market. Uses other than a showroom for the 4000 sq. ft. will need to be explored; subdividing the larger space for office space and/or storage space are possibilities.

[2]It is assumed that the smaller office spaces from 200-500 square feet will experience less overall vacancy than the larger spaces. There appears to be a trend toward several small independent businessmen sharing a common secretarial staff; some of the larger vacant suites could be remodeled for this type of use.

[3]The second and third floors have the greatest amount of vacancy due to the exodus of State tenants. By the end of June, 1980, the State's move alone will cause 44% of the second floor vacancies; the third floor will experience a vacancy rate of 39.5% due to loss of State tenants; the State related vacancy rates on the fourth and sixth floors will be 29% and 21% respectively. A most probable buyer will have to anticipate a large capital investment in 1980 to remodel and refurbish the Building to make it competitive in the Class B office market that already has a large supply of space available on and near the Square.

[4]Vacancies are assumed to gradually decrease between 1981 and 1983; a most probable buyer will institute a vigorous marketing program which will involve research of space needs in the area and remodeling which will be targeted to those needs.

Schedule of Projected Revenues and Expenses From
April 30, 1980 Through April 29, 1985

	4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Revenues:					
Gross Income	$493,960	$522,120	$537,260	$565,460	$586,210
Less: Vacancies	(120,790) (24.5%)	(85,330) (16.3%)	(66,480) (12.4%)	(59,910) (10.6%)	(39,220) (6.7%)
Effective Gross	373,170	436,790	470,780	505,550	546,990
Parking Rentals	12,960	12,960	12,960	14,000	14,000
Total Revenues	$386,130	$449,750	$483,740	$519,550	$560,990
Expenses:[1]					
Accounting & Legal	4,200	4,640	5,120	5,650	6,240
Building Security[2]	21,840	24,100	26,620	29,390	32,440
Insurance	7,000	7,730	8,530	9,420	10,400
Maintenance[3]	28,850	31,850	35,160	38,820	42,860
Wage & Salaries	60,000	66,240	73,130	80,730	89,130
Payroll Taxes	11,500	12,700	14,020	15,470	17,080
Repairs	14,880	16,430	18,130	20,020	22,100
Telephone	1,600	1,770	1,950	2,150	2,380
Utilities[4]	90,600	101,470	107,560	114,380	122,020
Office Expenses[5]	7,040	7,520	8,250	8,840	9,690
Management[6]	22,390	26,320	27,540	30,280	32,570
Concourse Special Assessment	2,360	2,410	2,630	2,550	2,480
Total Operating Expenses Before R.E. Taxes[7]	($272,260)	($303,180)	($328,640)	($357,700)	($389,390)
Net Operating Income Before R.E. Taxes	$113,870	$146,570	$155,100	$161,850	$171,600
Real Estate Taxes[8]	(26,680)	(28,000)	(29,400)	(30,880)	(32,420)
Net Operating Income	$ 87,190	$118,570	$125,700	$130,970	$139,180

EXHIBIT 27

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[1] Expenses

In general, expenses are projected to increase according to the average annual change of 10.4% in the All Item Consumer Price Index over the past five years. (See amended Exhibit 27).

[2] Building Security

Security personnel is hired from 10 P.M. to 6 A.M. on weekdays with 24 hour coverage on the weekends. The building is open to the public from 6 A.M. to 6 P.M. each weekday. The continuing problems created by the presence of bars and adult entertainment places across the street make this security protection mandatory.

[3] Maintenance

This account includes an elevator maintenance contract at $9,060 a year.

[4] Utilities

At present the Tenney Building consumes approximately 55,000 to 70,000 gallons of No. 2 fuel oil per year depending upon the weather. The cost of fuel has increased as follows:

January 12, 1979	.43/gallon
October 1, 1979	.77/gallon
February 1, 1980	.95/gallon

In thirteen months the cost has risen 121%. Though the Tenney Building is converting to natural gas on its primary boiler, the cost of natural gas is also volatile. Over the past five years natural gas has had an average annual increase of 17.6% for the commercial time-of-use consumer, according to Milton Spiros, Madison Gas & Electric Co.

The installation of combination storm windows throughout the building should help to conserve fuel costs. To stabilize utility costs it is assumed management will place energy cost escalators in renewed leases; therefore in the pro forma income statement utility costs are escalated at 12 percent annually with 50 percent of the increase passed through to the tenant after year 2.

[5] Office expenses include rental of space in the Tenney Building for management operations.

[6] Management costs are computed as 6% of effective gross office revenue with 4% allowed for management and 2% for leasing commissions for space turnover.

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[7]Total operating expenses are calculated before including real estate taxes for ease in using the MRCAP discounted cash flow program.

[8]Real estate taxes are calculated as 5.4% of gross revenues in the first year and increased at 5% per annum thereafter. These calculations are based on the following fact and assumptions:

1. The assessed value as of 1/1/80 is $1,200,000.
2. The mill rate is assumed to increase slightly (approximately 1%) after several years of decrease.
3. Taxes will continue to increase due to inflated city budgets and decreasing state aids.

end of the second year when the leases have been renegotiated.

4. Conversion of Net Income to Present Value

The MRCAP program from the National EDUCARE library of programs, previously described, is used to convert net income to a present value after taxes as of April 30, 1980, for the Tenney Building at the end of a five-year holding period.

C. Assumptions Used in MRCAP

The MRCAP discounted cash flow program can solve for a justified project value by specifying the ratio of net income to debt service acceptable to an institutional mortgage lender. Given the interest rate and term available as of April 30, 1980, the program will solve for the justified amount of mortgage and for justified cash equity, assuming typical before-tax cash-on-cash investor requirements for office buildings, with potential for inflation sensitive rents. Exhibit 28 is a simplified flow chart depicting the steps in solving for the justified project budget.

On April 30, 1980, prudent lenders will require a minimum debt cover ratio of 1.3 and equity investors expect no less than 6 percent cash-on-cash.

1. Inputs into MRCAP Program

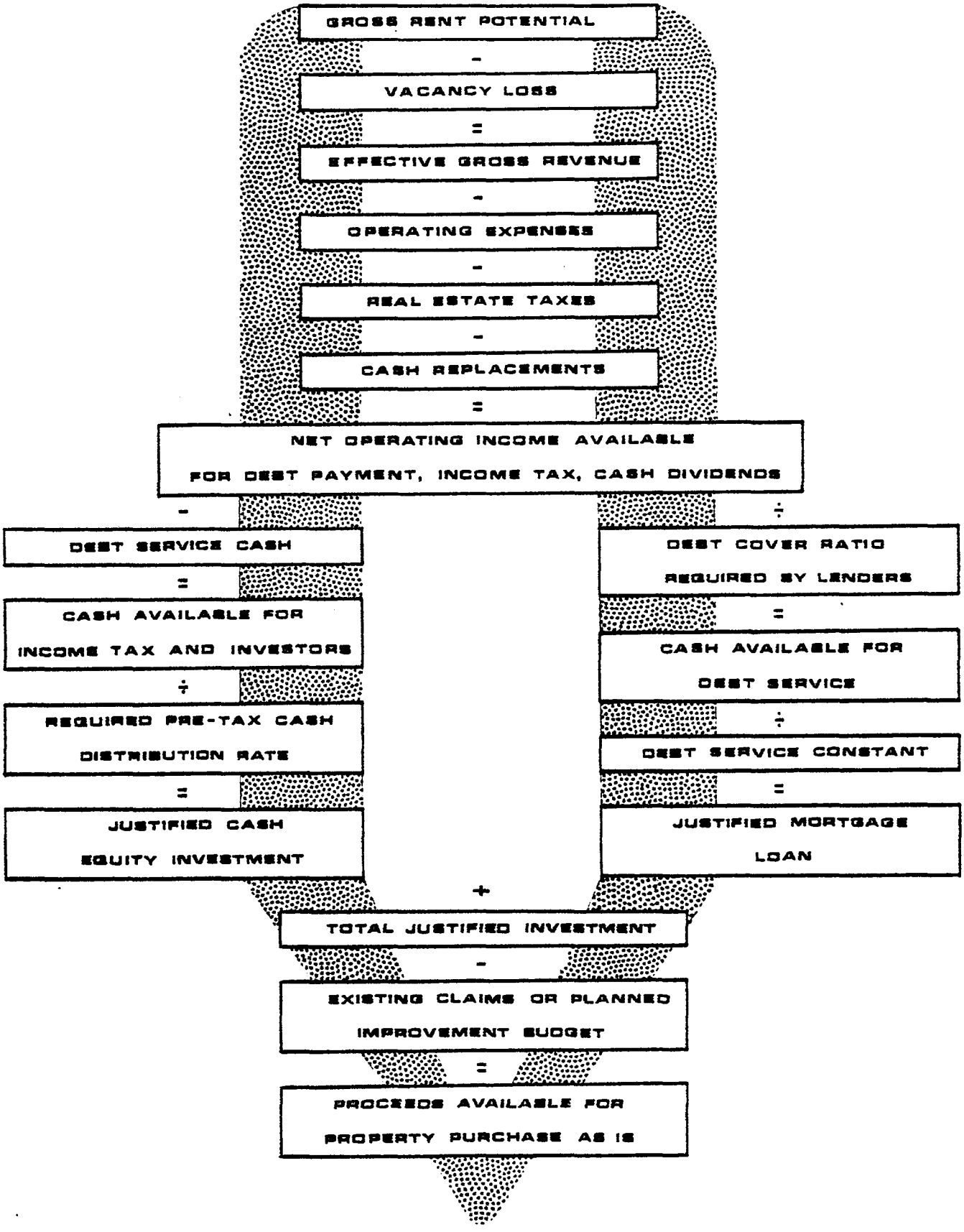
   a. Debt cover ratio = 1.3

   b. Before tax cash-on-cash requirements = 6%

   c. Project holding period = 5 years

EXHIBIT 28

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



d. Real estate taxes = historical pattern suggests real estate taxes at 5.4 percent of first year's gross with an annual inflation factor of 5% (see assumptions discussed below)

e. Discount rate = 13% (present value factor used to discount cash flow)

f. Reinvestment rate = 6% after tax rate applied to after tax cash flow

g. Resale price = 10 times net operating income in year of sale

h. Resale cost rate = 4%

i. Working capital reserves from equity to cover one month's expenses = $30,000

j. Investor marginal income tax rate = 50%

k. Land = $340,000, as of most recent appraisal for IRS

l. Buildings = 60% of total improvement value

m. Mechanicals and site improvements = 40% of total improvement value

n. Elevators = remaining book value of $73,000

o. Improvements for Energy Conservation = a total of $54,000 which includes $43,000 for storm windows and $11,000 for natural gas conversion unit.

p. Tenant Improvements = $50,000 for carpeting and partitions as needed to upgrade vacant office space

q. Investment Credit Dummy = to allow for tax benefit of investment credit in first year for capital improvement for energy conservation

r. Mortgage = principal amount determined by debt cover ratio; interest rate a minimum of 12% with a 20-year term, paid monthly, on the first mortgage and 13% interest and an 8-year term for the second mortgage

2. Real Estate Tax Assumptions

Real estate taxes are a function of assessed value (or fair market value when assessed value is 100 percent of market value) and the net mill rate; therefore, real estate taxes are estimated as a function of gross rental income. During the past two years, real estate taxes have been between 5 percent and 6 percent of the Building's potential gross rental income. As a result of tests of several values between 5 percent and 6 percent, it is determined that 5.4 percent of gross rental revenues best represents the historical pattern of the Building's real estate taxes. MRCAP is programmed to use 5.4 percent of the first year's gross rental income to compute the first year's real estate taxes and then provides for a growth factor of 5 percent to increase the taxes each year thereafter.

D. Analysis of Test Results

Four runs of the MRCAP program were done using different assumptions about the amount of real estate taxes that would be paid on the subject property. Taxes and net mill rates for the past three years on the subject property have been:

Year	1977	1978	1979
Real Estate Taxes	$33,118.75	$29,951.95	$25,340.93
Net Mill Rate	.026495	.024153	.022036

Real estate taxes estimated at various percentages of the first year's projected gross and inflated 5 percent a year gave these results in the MRCAP runs:

Percentage of First Year's Gross Rental Revenue	Real Estate Taxes				
	1980	1981	1982	1983	1984
5.0	$24,698	$25,933	$27,230	$28,591	$30,021
5.4	$26,674	$28,008	$29,408	$30,878	$32,422
5.8	$28,650	$30,082	$31,586	$33,166	$34,824
6.0	$29,638	$31,119	$32,675	$34,309	$36,025

The real estate taxes estimated at 5.4 percent of the first year's gross rent best approximates the shift from a decreasing to an increasing net mill rate that can now be expected due to an anticipated decrease in state aids to cities. Rising costs of local government can be expected to be borne by the local taxpayer.

The input and output for the MRCAP program using real estate taxes estimated at 5.4 percent of gross rental revenue are found in Exhibit 29.

If taxes are a conservative 5.4 percent of gross rental revenue, MRCAP substantiates the fair market value of $1,150,000 estimated by the market comparison approach to value.

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EXHIBIT 29

MRCAP INPUT AND OUTPUT--
JUSTIFIED CAPITAL BUDGET WITH
REAL ESTATE TAXES AT 5.4% OF
FIRST YEAR'S GROSS RENT

```
MRCAP       09:49CST    12/20/80

ENTER INPUT FILE NAME?TENNEY


THE PROGRAM MRCAP IS THE PROPERTY OF
MICHAEL L. ROBBINS
C/O REAL ESTATE DYNAMICS INC.
4701 WINNEQUAH RD.
MONONA, WISC.

USER NO. 66

(608)-221-1120


NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS OR
COMPUTATIONAL FORMAT USED IN THIS PROJECTION WILL
BE ACCEPTABLE TO TAXING AUTHORITIES.

**$10.00 LIB CHG APPLIED
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R E P O R T S E C T I O N N U M B E R 1 PAGE 1

* GROSS RENT	$ 554378.	* RATE OF GROWTH OF GROSS RENT	0.0432
* EXPENSES	$ 330234.	* RATE OF GROWTH OF EXPENSES	0.0936
* R E TAXES	$ 29478.	* RATE OF GROWTH OF R E TAXES	0.0500
INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	2.0000
* VACANCY RATE	0.1375	WORKING CAPITAL LOAN RATE	0.1400
EQUITY DISCOUNT	0.1300	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0400	REINVESTMENT RATE	0.0600
WKG CAPITAL RS	$ 30000.	CAPITAL RESER INTEREST RATE	0.
INITIAL COST	$ 1091502.	INITIAL EQUITY REQUIRED	$ 486009.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

INITIAL COST DERIVED THROUGH BACKDOOR TYPE 3 USING 2 MORTGAGES

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

REPORT SECTION NUMBER 2 PAGE 1

C O M P O N E N T S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
1LAND	0.	1	25.	0	$	340000.	0
BUILDING	0.80	1	29.	2	$	338221.	0
HVAC	0.90	1	9.	2	$	225481.	0
ELEVATORS	0.90	1	4.	2	$	23000.	0
ENERGY CONSERVATION	0.90	1	5.	2	$	54000.	0
TENANT IMPROVEMENTS	0.90	1	10.	4	$	50000.	0
INVESTMENT CREDIT DU	1.00	1	1.	2	$	10800.	0

M O R T G A G E S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.1200	1	20	20	$	531493.	0.487
SECOND MORTGAGE	0.1300	1	8	8	$	104000.	0.095

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
1	GROSS INCOME	506920.	535080.	550220.	579460.	600210.
2	LESS VACANCY	120790.	85330.	66480.	59910.	39220.
3	LESS REAL ESTATE TAXES	26674.	28008.	29408.	30878.	32422.
4	LESS EXPENSES	272260.	303180.	328640.	357700.	389390.
5	NET INCOME	87196.	118562.	125692.	130972.	139178.
6	LESS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
7	LESS INTEREST	76472.	74515.	72298.	69785.	66938.
8	TAXABLE INCOME	-65599.	-20351.	-10048.	-1443.	26726.
9	PLUS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
10	LESS PRINCIPAL PAYMENTS	14730.	16687.	18904.	21417.	24263.
11	CASH THROW-OFF	-4006.	27361.	34490.	39770.	47976.
12	LESS TAXES	0.	0.	0.	0.	13363.
13	LESS RESERVES	0.	0.	0.	0.	0.
14	CASH FROM OPERATIONS	0.	27361.	34490.	39770.	34613.
15	WORKING CAPITAL LOAN	0.	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	27361.	34490.	39770.	34613.
17	TAX SAVING ON OTHER INCOME	32799.	10175.	5024.	721.	0.
18	SPENDABLE CASH AFTER TAX	32799.	37536.	39514.	40491.	34613.

MARKET VALUE & REVERSION

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
19	END OF YEAR MARKET VALUE	871962.	1185625.	1256921.	1309717.	1391778.
20	LESS RESALE COST	34878.	47425.	50277.	52389.	55671.
21	LESS LOAN BALANCES	620764.	604077.	585173.	563756.	539493.
22	PLUS CUM. CASH RESERVES	25994.	25994.	25994.	25994.	25994.
23	BEFORE TAX NET WORTH	242314.	560117.	647466.	719566.	822608.
24	CAPITAL GAIN (IF SOLD)	-181096.	182544.	313511.	426719.	551596.
25	CAPITAL GAINS TAX	-36219.	36509.	62702.	85344.	110319.
26	MINIMUM PREF. TAX	0.	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP.	1500.	2438.	2897.	2950.	2657.
28	TOTAL TAX ON SALE	-16610.	38946.	65599.	88294.	112977.
29	AFTER TAX NET WORTH	258924.	521171.	581867.	631273.	709632.

BEFORE TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
30	RETURN ON NET WORTH B/4 TAX	-0.5014	1.4245	0.2175	0.1728	0.2099
31	CHANGE IN NET WORTH B/4 TAX	-243696.	317803.	87349.	72100.	103042.
32	ORIG EQUITY CASH RTNB/4 TAX	-0.0082	0.0563	0.0710	0.0818	0.0987
33	ORIG EQUITY PAYBACK B/4 TAX	0.0000	0.0563	0.1273	0.2091	0.2803
34	B/4 TAX PRESENT VALUE	846386.	1092030.	1126006.	1142995.	1174189.

AFTER TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
35	RETURN ON NET WORTH AFR TAX	-0.3998	1.1578	0.1923	0.1545	0.1790
36	CHANGE IN NET WORTH AFR TAX	-227086.	262248.	60696.	49406.	78359.
37	ORIG EQUITY CASH RTNAFR TAX	0.0675	0.0772	0.0813	0.0833	0.0712
38	ORIG EQUITY PAYBACK AFR TAX	0.0675	0.1447	0.2260	0.3093	0.3806
39	AFTER TAX PRESENT VALUE	893655.	1102069.	1124564.	1133307.	1150082.

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
40	NET INCOME-MARKET VALUE RTO	0.1000	0.1000	0.1000	0.1000	0.1000
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7696	0.7894	0.8165	0.8280	0.8547

EXHIBIT 29 -- Continued

INPUT FILE

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170 70,.054,.05,*
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380 200,6,TENANT IMPROVEMENTS
390 201,6,50000,.90,4
400 202,6,1,10,0
410 200,7,INVESTMENT CREDIT DUMMY
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480 300,2,SECOND MORTGAGE
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540 999,99
```

IV. Aside from the problem of defining and allocating income and reversion to the real estate interest, income property appraisal is at C. with the problem of cash equivalency adjustments for both comparable sales and the subject property. Many of the issues on how to appraise properties with economic development loans, state-subsidized housing loans, or seller financed property relate to when and how cash equivalency rules should be applied.

A. Fair market value seems to call for cash to the seller (Exhibit 3) but then provides an exception where market practice may be different. The Institute textbook says,

> "Unusual financing or other factors that might result in a price deviation from market value are also excluded. However, if the availability of other than conventional financing (such as FHA or VA loan terms) is sufficiently extensive to constitute a market within which the property being appraised is expected to sell, the typical purchaser may be expected to take advantage of this available financing, and the market value of the property reflects the probable sale price in this market. In market valuation assignments the appraiser first identifies the market in which the property being appraised will be exposed and sold. The market value of the property is then identified within parameters that reflect conditions in this market." Source: <u>The Appraisal of Real Estate</u>, Seventh Edition.

B. In addition to market characteristics, we need to know the purpose of the appraisal before determining where their fair market value based on fee simple title or most probable price or going concern value is appropriate.

1. For example, the assessor is required by law to look at fee simple title; he does not recognize contract rents when they are below market rent nor can he look at premium rents and going concern values over and above market or economic rents. Cash equivalency is a must.

2. However, in a Section 8 loan from a state housing authority, it is typical to take an assignment of the general partnership position which can be exercised by the Housing Authority in the event of default on the mortgage terms or the related property management agreement. Control of the property can pass through subsequent assignment without disturbing the tax position or the special non-market interest rate of the deal. Moreover, the rights transfered include existing reserve funds. Therefore, fair market value is not relevant relative to the security of the loan. The investor purchases a fee simple title encumbered by transfers of owner prerogatives to the government in exchange for tax privileges and minimum income guarantees for 20-40 years. That is the question of most probable price or going concern value.

3. Going concern value may be more relevant to an economic development loan. The public purpose of the loan subsidy is to create employment, improved physical environment, and the seeds of an economic base appropriate to redevelopment. In appraising the property for loan purposes the cash equivalency of fee simple title is not relevant if eventual delinquency on the loan gives the lender several options other than foreclosure. For example:

   a. assignment of business ownership as collateral permits transfer and sale of the going concern to better management.

   b. It could permit a change of use within constraints of the economic development program as a workout.

   c. It could look to additional forms of subsidy, such as applied to Section 8 rehab money as a deep subsidy applied to rescue of a delinquent moderate 236 subsidy program.

   d. Public purposes may create a monopoly for the facility to be appraised which provides a market price superior to fee simple title where it is not directly encumbered by long-term public priorities and commitments.

C. If the appraisal is for loan security, then the issue is whether similar nonmarket credit terms would be available to the next buyer. VA loans are assignable; economic development loans may be transferable with a change in management; subsidized rental housing loans may be undisturbed by default because of the assignability of control via transfer of partnership interests.

   1. The appraiser does not discount a purchase price of a home purchased with a shared appreciation mortgage. That is contingent interest for the lender.

   2. If a builder of condominiums buys down the loan of his customer, what are those points really worth? It depends on how long the buyer owns the property and is really an oblique form of a shared appreciation mortgage, is it not? Contingent interest for the borrower as well as the lender.

   3. Appraisers have generally overlooked cash equivalency arguments relative to the seller paying the points to buy down the loan for the buyer in VA loans. Similarly, it should be disregarded on financing through prior builders' commitments. Do you discount project unit values because he bought a FNMA commitment or hedged in the GNMA certificates market? After all, these costs are also included in the price and may be included in the resale price.

D. What is a point really worth? Refer to Exhibit 30.

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WHAT IS A POINT REALLY WORTH?

Daniel J. O'Connell

Many real estate professionals compile lists of personal rules of thumb. Ideally these rules of thumb serve to reduce effort and raise productivity in daily decision making—with minimal sacrifice in accuracy and quality.

One rule-of-thumb that seems to have made a lasting impression is that the payment of one loan point[1] should equate to an ⅛ percent reduction in the loan interest rate. For example, a borrower choosing between a 12-¾ percent loan with 2 points from ABC Mortgage Company and a 13 percent loan without points from the XYZ Mortgage Company would be indifferent as to the choice.[2] According to the rule-of-thumb, the two-point charge supposedly equates to the ¼ percent (⅛ percent per point) difference in interest rates. However, that may not be a valid rule, as can be seen when comparing the points and no-points alternatives.

A purchaser buys a house to be financed with a $100,000, 30-year loan. Financing is available from ABC Mortgage at 12-¾ percent plus 2 points ($2,000), and is also available from XYZ Mortgage at 13 percent with no points. This is illustrated in Table 1.

Assume the borrower plans to hold the property for a period of only two years at which point the balance of the loan will be paid. The difference in payments between the two loans is $468.00 for the two-year period, favoring the lower interest rate loan:

2-year payments @ 13%	$26,548.80
2-year payments @ 12-¾%	−26,080.80
Payment savings with 12-¾% loan	$ 468.00

The difference in remaining balances upon the loan pay-off must also be taken into account. Because the 12-¾ percent loan will amortize faster, it will have a remaining balance that is $34.71 lower than the 13 percent loan at the end of the two years. Adding this balance to the $468.00 in reduced payments results in a savings of $502.71 over the two-year life of the loan:

Payment savings with 12-¾% loan	$468.00
Additional loan reduction	+ 34.71
Total savings with 12-¾% loan	$502.71

The borrower, if choosing the 12-¾ percent loan, saves $502.71 in payments and additional amortization over the 13 percent loan, but has paid $2,000 to do so. Obviously, the two-point fee does not always equate to the corresponding ¼

Table 1

	ABC Mortgage Co.	XYZ Mortgage Co.
Loan	$100,000	$100,000
Interest rate	12-¾%	13%
Monthly payments	$1,086.70	$1,106.20
Annual payments	$13,040.40	$13,274.40
Points	2	0
$ Point charge	$2,000	0

[1]As used here, a point is defined as an additional, up-front charge made by a lender and paid by a borrower, that enables a loan to be made at a lower interest rate. A point is computed as 1% of the loan amount. More than one point may be charged, with each point creating a corresponding decrease in the interest rate.

[2]Assuming the borrower has the available funds to pay the points.

Table 3

Discounted, after-tax payment savings with 12¾% loan

	1	2	3	4	5
Year	Payment Difference	Tax Savings On 13% Loan	Annual After-Tax Payment Savings	Column 3 Discounted @ 8%	Cumulative Payment Savings
1	$234.00	$92.74	$141.26	$130.80	$ 130.80
2	234.00	93.26	140.74	120.66	251.46
3	234.00	93.82	140.18	111.28	362.74
4	234.00	94.41	139.59	102.60	465.34
5	234.00	95.02	138.98	94.59	559.93
6	234.00	95.56	138.44	87.24	647.17
7	234.00	96.31	137.69	80.34	727.51
8	234.00	96.95	137.05	74.04	801.55
9	234.00	97.62	136.38	68.22	869.77
10	234.00	98.25	135.75	62.88	932.65
15	234.00	100.49	133.51	57.26	1,180.99
20	234.00	97.34	136.66	54.27	1,350.33
25	234.00	77.38	156.62	22.87	1,475.26
30	234.00	12.91	221.09	21.97	1,584.75

Column 1 is the annual difference in payments between the two loans with the advantage to the 12¾% loan.

Column 2 is the annual savings in taxes attributable to the 13% loan due to additional interest payments.

Column 3 is the combined effects of the first two columns: Column 1 minus Column 2 = Column 3.

Column 4 is Column 3 discounted to the present at 8% per annum.

Column 5 is the cumulative total of Column 4.

Table 4

Discounted, after-tax pay-off and combined savings with 12¾% loan

	1	2	3	4
Year	Pay-Off Difference	Column 1 Discounted @ 8%	Cumulative Payment Savings (Table 3, Col. 5)	Combined Savings
1	$ 16.65	$ 15.42	$ 130.80	$ 146.22
2	34.71	29.76	251.46	281.22
3	54.29	43.10	362.74	405.84
4	75.44	55.45	465.34	520.79
5	98.26	66.87	559.93	626.80
6	122.80	77.38	647.17	724.55
7	149.09	86.99	727.51	814.50
8	177.13	95.70	801.55	897.25
9	206.96	103.59	869.77	973.30
10	238.51	110.48	932.65	1,043.13
11	271.70	116.53	990.61	1,107.14
12	306.38	121.67	1,044.06	1,165.73
13	342.37	125.89	1,093.37	1,219.26
14	379.38	129.16	1,138.90	1,268.06
15	416.98	131.45	1,180.99	1,312.44
20	589.40	126.45	1,350.33	1,476.78
25	601.55	87.84	1,475.26	1,563.10
30	0	0	1,584.75	1,584.75

Figure A

Present value of borrower's after-tax savings with up-front point deduction (TABLE 4)

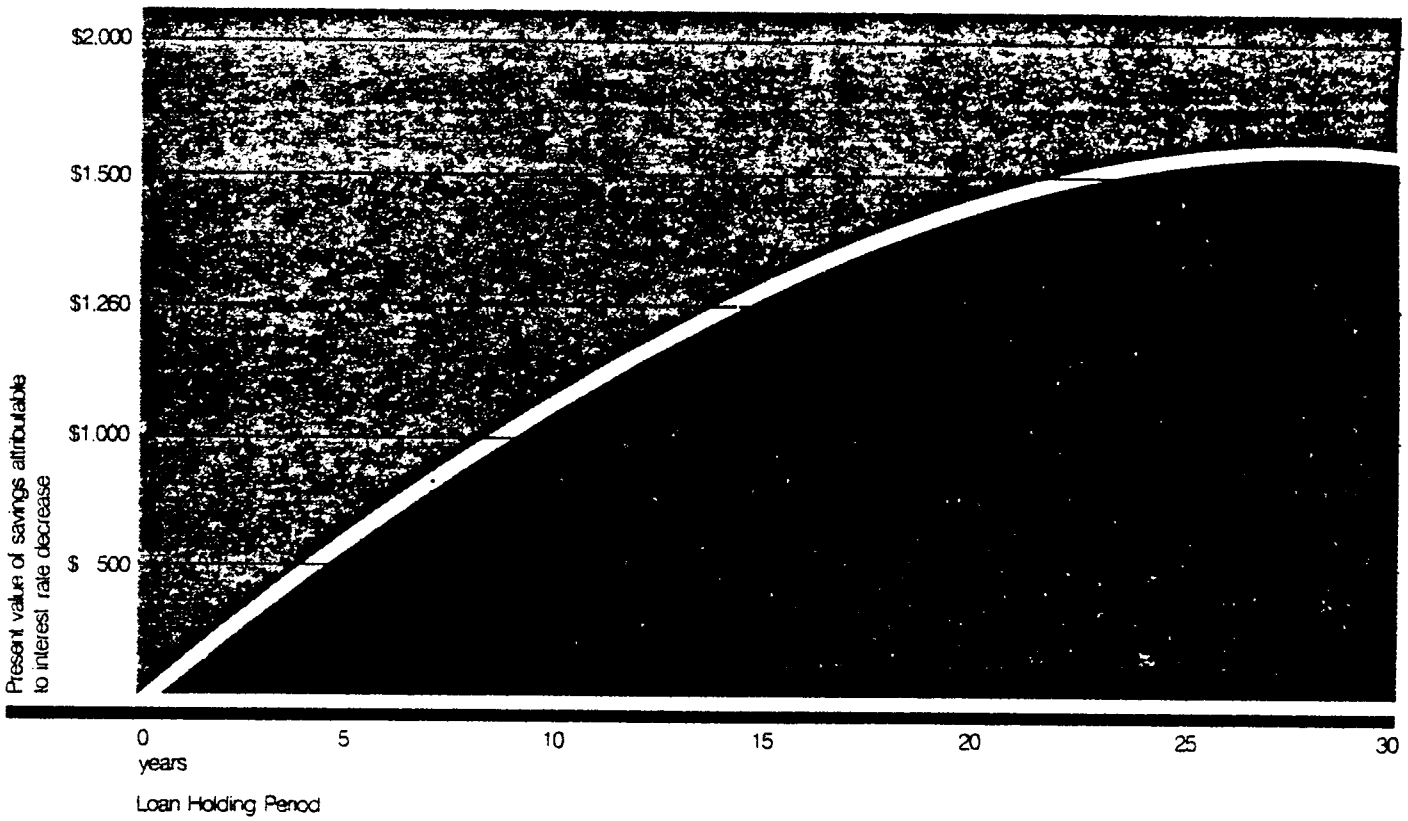

Figure B

Present value of borrower's after-tax savings with point charge added to basis

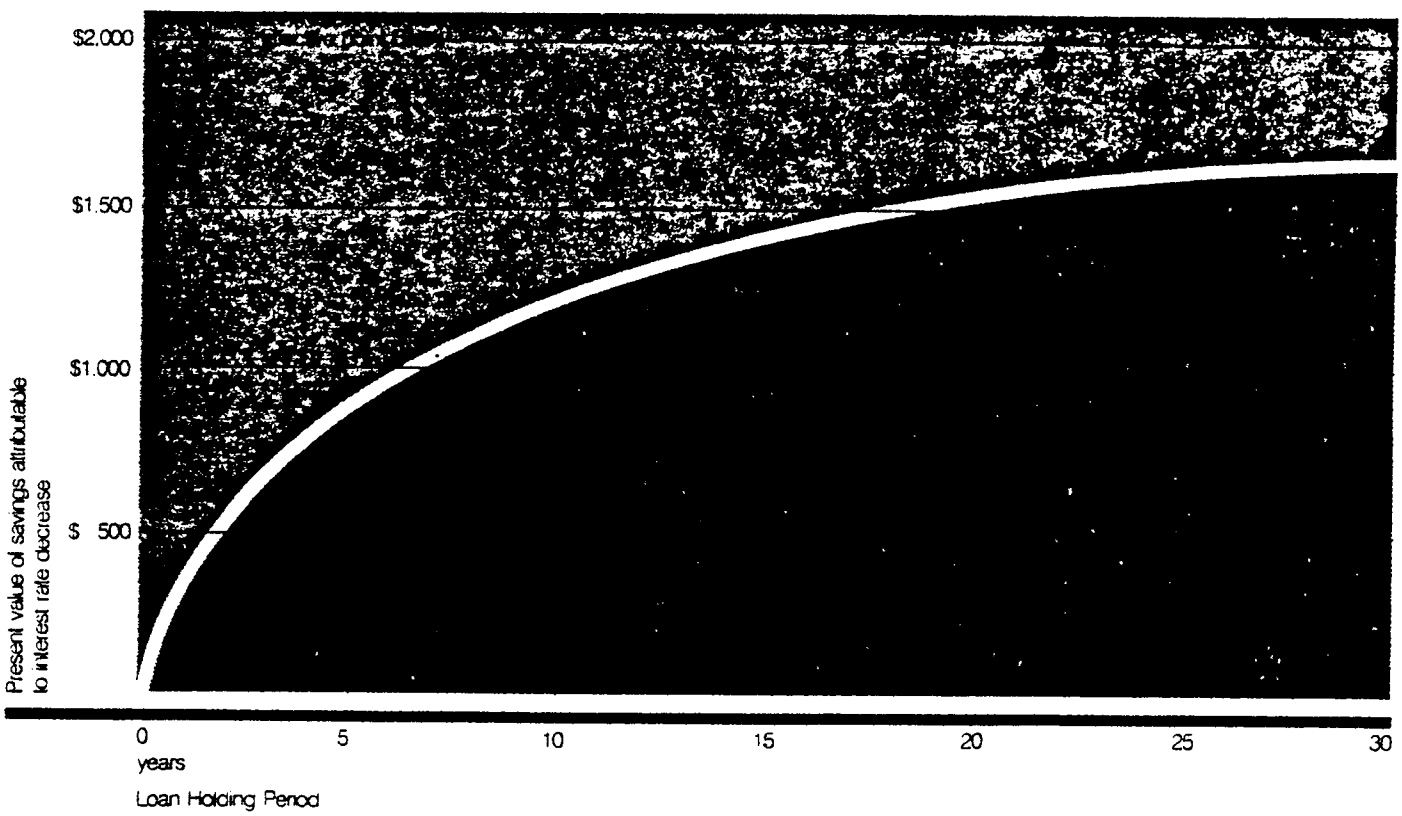

EXHIBIT 31

Example Problem: Cash Equivalent Price - Existing Mortgage plus Purchase Money Mortgage

Given the following information, determine the cash equivalent price of the transaction:

Sale Price	$1,000,000
Existing Mortgage (assumed)	Balance $682,052 Mo. Pmt. $6,039.20 Contract rate 8.5% Expired Term 6 years Remaining Term 19 years
Purchase Money Mortgage	$200,000 @ 10% Amortization over 20 years, balloon in 10 years
Current Financing	14,5%, 20 year amortization with 10 year balloon

A. What is the equity investment?
B. What is the balance outstanding on the existing (assumed) mortgage in 10 years?
C. What is the payment on the PMM?
   What is the balance outstanding EOY 10?
D. What is the cash equivalent price of the transaction?

Suggested Solution - II
Existing Mortgage plus PMM

A. $117,948

B. $454,781

C. $ 1,930
   $146,049

D.	Equity	$117,948
	Assumed Existing Mortgage PW $6,039.20, 120 mos. @ 14.5% PW $454,781, EOY 10 @ 14.5%	$381,535
	Purchase Money Mortgage PW $1,930, 120 mos. @ 14.5% PW $146,049, EOY 10 @ 14.5%	$121,931 $ 34,558
	Total (Cash Equivalent Price)	$763,581

* Courtesy of Byrl Boyce

IX. PROBLEM (CASH EQUIVALENCY)*
*Courtesy of A. Robert Parente, SREA, MAI.

An income producing property (special purpose) was resold by the Midland National Bank on a "workout." The terms of the sale were as follows:

Sale Price:	$1,178,808, no cash by purchaser, i.e., 100% debt financing
Terms of Financing:	First year - interest only at a rate of 4-1/2% and payable monthly
	Second year - interest only at a rate of 6% and payable monthly
	For the next 23 years - principal and interest at 8-1/2%, payable monthly

The property (a 12,000 sq. ft., 3-year old restaurant building) was purchased on November 10, 1977 for $1,178,808. Typical terms of financing at that time (11/77) were 9-3/4% interest for 25 years on a 75% loan-to-value ratio. It is estimated that equity required a 12-15% return.

Questions:

A. What are the monthly interest costs in years 1 and 2?

B. What is the constant on the amortized portion of the mortgage?

C. What is the monthly payment on the mortgage?

D. What is the unadjusted sales price per square foot for use in the DSC approach?

E. What is the cash equivalent price assuming 100% financing were typical in the market?

F. What is the cash equivalent price assuming an equity yield requirement of 12% 15%?

G. What is the adjusted sales price per square foot under each of the conditions set forth above?

Suggested Solution - IX
Problem (Cash Equivalency)

A. Year 1: $4,420.53
Year 2: $5,894.04

B. f = .09913

C. $9,737.97

D. $1,178,808 ÷ 12,000 = $98.23/sq. ft.

E. PW i Costs Year 1 @ 9-3/4% = $ 50,347.92
PW i Costs Year 2 @ 9-3/4% = 60,918.28
PW Amortization payments
Years 3-25 @ 9-3/4% = 881,198.63

Cash Equivalent Price
(100% Financing) = $992,464.83*

*$186,343.17 less than face value of note

$992,464.83 ÷ 12,000 = $82.71/sq. ft.

F. Discount Rates given Y = 12%, Y = 15%, m = 75% i = 9.75%

	Y = 12%		Y = 15%	
Mortgage	.75 x .0975	= .073125	.75 x .0975	= .073125
Equity	.25 x .12	= .03	.25 x .15	= .0375
Discount Rate (r)		= .103125	Discount rate (r)	= .110625

	PWCF @ 10.3125%	PWCF @ 11.0625%
Year 1	$ 50,198.33	$ 49,999.88
Year 2	60,399.42	59,715.07
Years 3-25	835,796.73	780,188.86
	$946,394.48**	$889,903.81***

$232,413.52 below face *$288,904.19 below face

G. $946,394.48 ÷ 12,000 = $78.87/sq. ft.

$889,903.81 ÷ 12,000 = $74.16/sq. ft.

* Courtesy of Byrl Boyce

EXHIBIT 33

CASH EQUIVALENCY EXAMPLE

NAKOMA HEIGHTS
168 APARTMENT UNITS
SOLD NOVEMBER 1, 1979
NOMINAL SALES PRICE $3,450,000

A. One appraisal reviewed recently contained the following summary analysis. It is used as it probably parallels the Madison Assessor's Office perception of the transaction:

Date	Price	Gross	Net	GIM	Income Expense	S.P. Unit	OAR
7/79	$3,450,000	$449,249	$196,548	7.68	56.3	$20,536	5.7

B. Cash Equivalency - Monthly payment differential

If 25% down with 75% L/V at 10.55 for 25 years

Down	862,000
Mortgage	$2,588,000
	$3,450,000

Monthly payment $24,528; Annual payment $294,335

1979 - 4/80 Conv. Mortgage $294,335
L.C. (9.25) 272,875
$ 21,460/12 = $1,788 (A)

4/80 - 4/81

$2,950,000
250,000
$2,700,000 X L.C. .0925 = Conv. Mortgage $294,335
249,750
$ 44,585/12 = $3,715 (B)

4/81

$2,700,000
250,000
$2,450,000 X .0125

$294,335
226,625
$ 67,710/12 = $5,643 (C)

NET PRESENT VALUE UNDER
L.C. FINANCING AND BALLOON PAYOUT
ACCORDING TO CONTRACT ON 12/31/85

	1979	1980	1981	1982 - 84 4 years
Down Payment	$500,000	$250,000	$250,000	
	3,576 (2A)	5,364 (3A)	11,145 (3B)	$ 67,710 (12C)
	$503,576	33,435 (9B)	50,787 (9C)	
		$288,799	$311,932	
			Balance	2,450,000
				$2,517,710

NET PRESENT VALUE CONVENTIONAL LOAN

	1979				
Down Payment	$862,000				
	--			Balance	2,404,022

Cash year 1	$503,576	$288,799	$311,932		
		.884666	.796455		
Cash year 2	255,491	$255,491			
Cash year 3	248,440		248,440		
Cash year 4	48,551			$67,710	
Cash year 5	43,710			67,710	
Cash year 6	39,351			67,710	
Cash year 7	$1,317,332				$2,517.710
	$2,456,451	Total Cash Equivalency			
		(Versus $3,450,000 nominal selling price)			

INCOME PREPORTED (Contract)	GROSS INCOME	$499,249
	NET INCOME	196,548

MARKET RENT LEVELS

At least gross	$450,000
Less 40% expense	180,000
NOI	$270,000

$$OAR = \frac{270,000}{2,456,451} = .109915$$

$$SP/Unit = \frac{2,456,451}{168} = 14,622$$

1. Most probable price always requires a statement as to the financial terms which are a condition of effective demand at that price. Fair market value definition is sufficiently ambiguous to require a statement of financial terms as a qualification on conclusion.

2. In practice you ignore points paid by the seller in a VA loan. To predict the most probable price, why not ignore points paid by the seller for a conventional loan? For loan security the lender is interested in the most probable price at which it will sell or whether the spread between probable price and fair market value will be covered by private mortgage insurance. In the latter case the appraiser could provide both numbers if asked.

3. Only the assessor is locked into cash equivalent fair market value!

E. The mechanics of cash equivalency values come into play where income properties are sold subject to non-market financing or for purposes other than income investment, such as syndication or condominium conversion. Professors Byrl Boyce and William Kinnard have prepared an excellent half-day presentation on cash equivalencies. The cases in Exhibits 31 and 32 are from their seminar and are suggestive of the mechanics of cash equivalency due to non-market financing.

V. The fair market value appraisal for tax assessment of subsidized, rental housing is a very frustrating experience for both the assessor and the ownership position. None of the components of value are what they seem to be.

A. It should be noted that 221 d3 and d4 and 236 projects involve subsidy of the interest rate only, while Section 8 recognize the damage done by inflati-n to cost to construct and operating expenses, so that it subsidizes the total project.

1. Section 8 was intended to subsidize conventionally financed apartments within a larger project, thus avoiding a ghetto of subsidized projects and permitting the depth of subsidy to vary; government would pay the difference between fair market rents and 25% of eligible tenants income.

2. The legislation included instructions that the subsidy would cover full taxes and utilities, presuming taxes would be similar to non-subsidized development pegged at prevailing market rents. It was an operating subsidy program with no specific relationship to financing.

3. The 1974 legislation did say that if the Section 8 contract was used as collateral to obtain financing, HUD had the right to approve financing and refinancing.

4. Three factors precluded the original concept - rising interest rates in the conventional market, the evolution of HUD prerogatives for auditing, management, and tenant selection or eviction, and finally the operating procedures of state housing finance agencies and GNMA tandem plans which provide virtually all of the financing.

B. Fair market rent (FMR) has nothing to do with rents from the marketplace for the specific units in question. Instead, they are established by HUD at a level which is expected to justify construction costs in a particular locale; if the FMR's don't work, deviations as high as 10% upward are premitted, but they are indexed to HUD estimates of cost to construct rather than community norms.

C. Using the FMR's for the unit mix of a proposed project, the developer works through the 2013 form (See WHFA, Exhibit 34) backwards to arrive at a capital budget available for hard construction costs; he typically buys his land at a value not to exceed 90% of the HUD acceptable unit cost of land. The 2013 budget is then a tentative maximum but actual project costs are audited and any savings are used to adjust the maximum mortgage commitment. The 2013 does not recognize points paid for the permanent loan or overruns on cost, but the audit doesn't recognize rents collected prior to the audit certification date. With adroit phasing these costs may be offset with revenues during a period when most operating costs are funded as indirect costs of construction.

D. The cost approach to value is distorted by HUD's specifications, lengthy procedures, hidden profit centers in fixed allowances for design, supervision, bonding, overhead, etc. Space allocations within the project may reflect social purposes such as meeting rooms, medical centers, craft shops, and infirmary. Moreover most projects are multiple site, multiple buildings, mixed units where perhaps the FMR on elderly will subsidize inadequate FMR's on family units.

E. Comparative operating budgets for 100-unit one bedroom project is provided in Exhibit 35.

F. The market comparison approach is inoperative because of constraints on resale inherent in the mortgage and management contracts, the tax trap of accelerated depreciation, the loss of depreciation benefits to the second owner, the emphasis on profit centers for construction rather than management, the rent controls following construction, and the fact that conversion to a conventional market rent structure in the early years would mean rents below the government level with interest rates higher than government level, thus forcing a resale price at a capital loss to the sellers.

G. In short, it will be almost impossible to find or simulate a sale at fee simple title. Rather a transfer would come with all the liens and contractual obligations because the owners are not the controlling powers; HUD and the finance authorities are. Owners may change but the contractual pyramid will remain in place.

1. The Legislature recognized higher costs and higher risks could not be funded up front by direct subsidy so what has emerged is a series of mandatory management and operational reform and a series of initial and delayed profit centers, augmented by favorable tax rules, and automatically guaranteed.

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WISCONSIN HOUSING FINANCE AUTHORITY

WHFA Form No.

Date: 5/12/77

Mortgagor: Mung Woodview Park Assoc.

CONTRACTOR'S and/or MORTGAGOR'S COST BREAKDOWN
(SCHEDULES OF VALUES)

Project No.: 214

Name of Project: Woodview Park

Location: Delavan Wis

This form represents the Contractors and/or Mortgagors firm costs and services as a basis for disbursing dollar amounts when advances are requested.

DV	TRADE ITEM	COST	TRADE DESCRIPTION
2	Excavating & Backfill	43438	
3	Concrete	95457	
4	Masonry	147825	
5	Metals	10638	
6	Rough Carpentry	143688	
6	Rough Carpentry Labor	94282	
6	Finish Carpentry	23157	
6	Finish Carpentry Labor	40094	
7	Waterproofing	54007	
7	Insulation	24400	
7	Roofing	20032	
7	Sheet Metal	16175	
8	Doors	47500	
8	Windows	13063	
8	Glass	12282	
9	Lath & Plaster	—	
9	Drywall	93050	
9	Tile Work	7250	
9	Acoustical	4600	
9	Wood Flooring	—	
9	Resilient Flooring	4025	
9	Painting & Decorating	17625	
10	Specialities	5938	
11	Special Equipment	6563	
11	Cabinets	38157	
11	Appliances	42900	
12	Blinds & Shades, Artwork	9325	
12	Carpets	45600	
13	Special Construction	—	
14	Elevators	24911	
15	Plumbing & Hot Water	122000	
15	Heat & Ventilation	125073	
15	Air Conditioning	1000	
16	Electrical	149777	
	Accessory Structures	4000	
	TOTAL STRUCTURE(S)	1428623	
2	Earth Work	11250	
2	Site Utilities	16406	
2	Roads & Walks	30720	
2	Site Improvements	4000	
2	Lawns & Planting	34964	
2	Unusual Site Condition	55260	
	TOTAL LAND IMPRVTS.	152.600	
	TOT. STRUCT. & LAND IMPRVTS.	1581223	
1	GENERAL REQUIREMENTS	35500	
	SUBTOTAL (Lines 41 and 42)	1616723	
	BUILDER'S OVERHEAD	28935	
	BUILDER'S PROFIT	—	
	SUBTOTAL (Lines 43 thru 45)	1645658	
	OTHER FEES		
	BOND PREMIUM	16123	
	TOTAL FOR ALL IMPROVEMENTS	1668.781	
	Builder's Profit paid by means other than cash		
	TOTAL FOR ALL IMPROVEMENTS LESS LINE 52		

NONRESIDENTIAL AND SPECIAL EXTERIOR LAND IMPROVEMENT (costs included in trade item breakdown)

DESCRIPTION	EST. COST
TOTAL $	

OFFSITE COSTS (costs not included in trade item breakdown)

DESCRIPTION	EST. COST
TOTAL $	

DEMOLITION (costs not included in trade item breakdown)

DESCRIPTION	EST. COST
TOTAL $	

Mortgagor: Mung Woodview Park Assoc By _____ Date 5/12/77

Contractor: Mung Investment Bell Estate Inc. By _____ Date 5/12/77

WHFA _____ Date _____

3/6/75

Wisconsin Housing Finance Authority

I. GENERAL INFORMATION

1. Development Name: Woodview Park
2. Development Sponsor: Munz Investment Real Estate, Inc.
3. Development Location: Tyrell Ave. & Geneva St. (Street)
   Delavan, (City) Walworth (County)
4. (x) Feasibility
   ( ) Firm
5. Type of Mortgagor:
   (X) L.D.
   ( ) N.P.
6. (X) New Construction
   ( ) Rehabilitation
7. Permanent Mtg. Interest Rate 7.5%
8. Construction Financing: (X) WHFA
   ( ) Conventional

9. Type of Development	No. of Units	No. of Stories
(X) Low Rise (1-3 stories)	84 Apt. Units; 6 T.H. Units; ____ Duplex Units; ____ S.F. Units	E - 3 Story; F - 2 Story
( ) Mid Rise (4-6 stories)	____ No. of Units	____
( ) High Rise (7 stories and over)	____ No. of Units	____

10. Accessory Buildings: (No. and type) None
11. Total Number of Buildings: Three
12. Total Number of Units: 90 (Family 22; Elderly 68; Handicap ____)
13. Total Number of Units: 90 Revenue; ____ Non-Revenue
14. Density: 20 Units Per Acre
15. Building Information: Structural System Wood frame w/exterior & interior masonry
    Exterior Finish Masonry /bearing walls
    Floor System Wood
16. Gross Floor Area (Including Basement and Common Areas) 85,600 Sq. Ft.
17. Net Rentable Floor Area: 53,396 Sq. Ft.
18. Number of Parking Spaces:
    34 Elderly
    44 Family
19. Parking Ratio:
    1/.87

II. AMENITIES

- X Range (~~Gas~~ Electric)
- X Refrigerator
- X Air Conditioning (Sleeve Only)
- ____ Air Conditioning (Sleeve Unit)
- ____ Central Air Conditioning
- X Kitchen Exhaust Fan
- X Central Laundry Facilities
- X Unit Laundry Facilities
- X Disposal
- ____ Dishwasher
- X Carpet
- X Drapes
- X Shades
- X Rods
- X Common Area Furnishings
- X Tot Lot
- ____ Other (Specify)

III. SERVICES

Included in Rent	Yes	No
Heat		
Gas/Hot Water	(X)	( )
Gas/Forced Air	(X) 3Bdr.	( )
Electric	( )	( )
Hot Water		
Gas	(X)	( )
Electric	( )	( )
Unit Electric (Lights, Cooking, etc.)	(X)	( )
Water	(X)	( )
Other Fuel (Specify)		
_____	( )	( )
_____	( )	( )
_____	( )	( )

IV. RENT SCHEDULE

No. of Units	Type	Bdrms	Size by Sq. Ft. Net	Gross	FMR	Contract Rent	Utility Allowance
67	E -L.R.	1	500	546	$271	$258.10	$14G, $4E
1	E -L.R.	2	800	860	$348	$278.84	$20G, $8E
16	W- L.R.	2	820	875	$293	$278.84	$20G, $8E
6	T.H.	3	996	1080	$381	$372.21	$35G,$12E

Gross Annual Contract Rent - $ 291,194

Gross Annual Contract Rent & Utility Allowance - - - - - - - - - - - - - - - - $ 314,762

V. EQUITY CALCULATION

1. Total Replacement Cost - - - $ 2,212,267
2. Mortgage Amount- - - - - - - $ 1,991,040
3. BSPRA - - - - - - - - - - - - $ 192,737
4. BSPRA & Mtg. Amount - - - - $ 2,183,777
5. Equity Cash (Line 1 minus Line 4) - - - - $ 28,490

VI. INCOME COMPUTATION

1. Gross Annual Income (Contract Rent) - - - - - - $ 314,762
2. Vacancy (5 %) - - - - - - - $ 15,738
3. Effective Gross Income - - $ 299,024
4. Debt Service (7½ %) - - - $ 157,229
5. MHFA Service Fee (½ %)- - $ 9,955
6. Total Operating Expenses & Taxes - - - - - $ 118,568
7. Return on Equity- - - - - - $ 13,274

VII. SETTLEMENT REQUIREMENTS - INITIAL CLOSING

1. Cash
   Equity Cash - - - - - - - - $
   Construction Adjustments- - $
   Off-Site- - - - - - - - - - $
   Completion Assurance- - - - $
   Total Cash Requirement - - $

2. Letter of Credit
   Construction Adjustments- - $
   Off-Site- - - - - - - - - - $
   Completion Assurance- - - - $
   Total Letter of Credit Requirement - - - - - - - - $
3. Total Cash & Letter of Credit Requirement - - - - $
4. Bonds
   Completion Assurance- - - - $
   Off-Site- - - - - - - - - - $

VIII. RECONCILIATION

1. ACC Authorization - - - - - - - - - $
2. Tenant Payments - - - - - - - - - - $
3. Expected HUD Contributions- - - - - $
4. Total Revenue - - - - - - - - - - - $
5. Total Expenses- - - - - - - - - - - $

IX. REPLACEMENT COST AND MORTGAGE

A. CONSTRUCTION CONTRACT

		Per Unit	Total	
1.	STRUCTURES:			
	1a. Apartments	$ 15,162	$ 1,273,600	
	1b. Townhouses	$ 23,000	$ 138,000	
	1c. Duplexes	$	$	
	1d. Single Family	$	$	
	1e. Other Buildings	$	$	
	1f. TOTAL STRUCTURES	$ 15,684	$ 1,411,600	$ 1,411,600
2.	LAND IMPROVEMENTS:			
	2a. Usual (landscaping paving, etc)	$ 1,433	$ 129,000	
	2b. Unusual	$	$	
	2c. TOTAL LAND IMPROVEMENTS	$ 1,433	$ 129,000	$ 129,000
3.	GENERAL REQUIREMENTS (%)			$ 35,550
4.	GENERAL OVERHEAD (%)			$ 28,935
5.	BOND PREMIUM/LETTER OF CREDIT FEE			$ 16,123
6.	OTHER Tyrell Ave. Improvements-Eng. Est. $70$75000÷122 D.U.'s=$614 per D.U. X 90 =			$ 55,260
7.	TOTAL CONSTRUCTION CONTRACT			$ 1,676,468
	7a. Per Unit Construction Contract	$ 18,627		
8.	ARCHITECTURAL FEES			
	8a. Design (%)		$ 46,000	
	8b. Supervision (%)		$ 14,000	
	8c. TOTAL ARCHITECTURAL FEES			$ 60,000
	8d. Per Unit Architectural Fees	$ 666.67		
9.	TOTAL CONSTRUCTION CONTRACT & ARCHITECTURAL FEES			$ 1,736,468
10.	CONSTRUCTION INTEREST (10 mo.@ 8 %) 8 mo. @ 8% for 3 Bdrms. for 1 & 2 Bdrms.		$ 65,139	
11.	CONSTRUCTION TAXES		$ 13,875	
12.	CONSTRUCTION INSURANCE		$ 3,020	
13.	TITLE & RECORDING		$ 2,366	
14.	WHFA PROCESSING FEE (2.5 %)		$ 49,776	
15.	LOAN LOSS RESERVE (2.5%)		$ 49,776	
16.	LEGAL ($ 4950) & COST CERTIFICATION ($ 2,000)		$ 6,950	
17.	TOTAL CARRYING CHARGES & FINANCING FEES			$ 190,902
	17a. Per Unit Carrying Chgs. & Fin. Fees	$ 2,121		
18.	TOTAL (Lines 9 + 17)			$ 1,927,370
19.	BSPRA			$ 192,737
20.	LAND			$ 92,160
21.	TOTAL REPLACEMENT COST (Lines 18 + 19 + 20)			$ 2,212,267
	21a. Per Unit Replacement Cost	$ 24,581		
22.	MORTGAGE (90 %)			$ 1,991,040
	22a. Per Unit Mortgage	$ 22,123		

X. OPERATING EXPENSES

		Est. assessed Mkt. value	Per Unit	Sub-Total
1.	REAL ESTATE TAXES:	E	$17,000 x 68 x 67% =	$774,520
		2 Br	$19,000 x 16 x 67% =	$203,680
	1a. Est. Assessed Val. 67 %	3 Br	$26,000 x 6 x 67% =	$104,520
	@ $ 33.37 per $1000		X	$1,082,720 $ 36,672
	1b. Per Unit R.E. Taxes		$ 408	
2.	SERVICE ACCOUNTS:			
	2a. Fuel (Htg. & Dom. Hot Water)		$ 198.40	$ 17,856
	2b. Electric		$ 63.47	$ 5,712
	2c. Water - Sewer		$ 45.07	$ 4,056
	2d. Garbage & Trash Removal		$ 27.00	$ 2,430
	2e. Other - Advertising		$ 3.00	$ 270
	2f. TOTAL SERVICE ACCOUNTS			$ 30,324
	2g. Per Unit Service Accounts		$ 336.94	
3.	INSURANCE			$ 4,062
4.	AUDIT			$ 1,080
5.	LEGAL			$ 540
6.	MANAGEMENT:			
	6a. Fees			
	6b. Central		-$ 6,756	
	6c. On-Site		-$ 9,192	
	6d. Administrative		-$	
	6e. TOTAL MANAGEMENT			$ 15,948
	6f. Per Unit Management		$ 177.20	
7.	MAINTENANCE:			
	7a. Caretaker Salary		-$ 6,480	
	7b. Other Salaries-		-$	
	7c. Contract Services		-$ 4,998	
	7d. Supplies-		-$ 2,700	
	7e. Other - Repair Services		-$ 7,170	
	7f. TOTAL MAINTENANCE			$ 21,348
	7g. Per Unit Maintenance-		-$ 237.20	
8.	REPLACEMENT RESERVE			$ 8,594
9.	TOTAL OPERATING EXPENSES (Lines 1a + 2f + 3 + 4 + 5 + 6e + 7f + 8)			$ 118,568
10.	DEBT SERVICE-			$ 167,183
	10a. Per Unit Debt Service		-$ 1,857.59	
11.	RETURN ON EQUITY			$ 13,274
12.	TOTAL OPERATING EXPENSES, DEBT SERVICE & RETURN ON EQUITY (Lines 9 + 10 + 11)-			$ 299,025

COMPARATIVE OPERATING BUDGETS FOR 100 ONE-BEDROOM UNITS

	Section 8		Conventional High Range		Conventional Low Range	
Rent	342,000	285/U	276,000	230/mo	240,000	200/mo
Management	15,800	158/yr	16,200 6%	162/yr	12,000 5%	120/yr
Maintenance	20,300	203/yr	18,000	180/yr	10,000	100/yr
Services/ Heat	27,000	270/yr	24,000	240/yr	22,000	220/yr
Insurance	6,850	68/yr	6,000	60/yr	4,000	40/yr
Audit/Legal	900	9/yr				-0-
Replacement Reserve	9,200	92/yr				-0-
Equity Return	14,000	140/yr	-0-	-0-		
Taxes*	51,600		42,960		37,200	
Mortgage	2,150,000		1,532,567		1,405,125	
Debt Service	184,834		168,840		154,800	
Total Replacement Cost	2,391,000		1,803,020		1,653,088	

*Based Upon Unadjusted Total Costs

2. Three groups of restrictions are the 1974 Act, complimentary administrative rules, and financing restrictions.

3. Section 8 developments are built to conform to the regulatory mold rather than market or merchandising feasibility. Size 10-15% less, finishes are utilitarian, secondary locations, etc. for inferior products.

4. The inferior product may cost more because of mandatory union wages, mandatory bonding and escrows, and non-competitive bidding to the degree that FMR's permit capital cost inflation. These costs can only be amortized by maintaining Section 8 agreements or conversion to tenant ownership. HUD is not encouraging the latter and there is no financing available that would place the tenants as owners at the same level of occupancy costs.

H. As a practical matter revenue could be subsidy payments plus actual payments from the tenants. But the subsidy payment includes a payment for the right to set rents, tenant eligibility standards and cash dividends to the investor - in short, a defeasible partial transfer of the fee to the public. Is that parallel to a lease or an easement in gross to the public?

1. As a practical matter the assessor can use the annual audited financial statement of the Section 8 project.

2. Gross rent equals 1/5 the ACC contract amount plus actual receipts from tenants.

3. Operating expenses should be used for the actual operations because they are different for subsidized projects (See Exhibit 36).

Exhibit 36

Assessment Valuation of Section 8
Using Income Approach

Gross Receipts =	$142,000	Collected from tenants
	190,000	Collected from ACC contract for five years totalling $950,000
Net Revenue	$332,000	
Vacancy deduction - none		ACC pays up to 60 days of vacancy and tenants pay only when occupying unit
Management fee	$ 15,800	
Maintenance	20,300	
Services/heat*	27,000	
Insurance	6,850	
Audit-legal	900	
Replacement reserve	9,200	
Net operating exp	$80,050	

Net operating income
B/4 real estate taxes $251,950/.1374264 = $1,833,344

Capitalization rate = .126384 (25 year 12% mortgage)

(.126384 x .85) + (.15 x .05) + (.75 x .03 mill rate)

.1074264 .0075 .02225 =

Cap rate .1374264

*Be sure gross receipts include utility allowance; in some cases the tenant contribution is less than the utility bill.

VI. Until now, cash equivalent prices have made adjustment for differences in fixed mortgage constants and predictable mortgage balances due at some future point in time. However, today we are faced with variable rate mortgages and a subsector of those called mortgage participation loans.

A. Variable rate mortgages should offer the appraiser little problem; indeed, it should help in that tricky allocation problem in terms of the source of value. Adjusting a sale price subject to an existing favorable mortgage is simply attributing value to the intangible element of finance rather than the productive asset of real estate.

1. To the degree that the variable rate mortgage removes the commodity speculation in money from the benefits of ownership, the more likely the price represents the value of the real estate rather than real estate plus an option on cheap money.

2. The form of the variable rate mortgage may cause cash throwoff to vary or net reversion on sale to vary. Hence, the necessity of doing a spread sheet if the appraiser has reason to believe rates will be adjusted upward or downward within the foreseeable future. In the absence of a rate notification or in the presence of a maximum rate limit, the appraiser does not have to speculate (capital budgeting theory would hold that the cap rate should be loaded for the third moment of the maximum interest variance to reflect the risk of alternative financial outcomes, but I doubt if appraisers are ready for that).

3. Lenders may modify debt cover ratios or mortgage investment guides like default points or loan-per-unit.

B. Various forms of equity participation represent contingent interest payments to the lender. The appraiser has no alternative but to do a spread sheet forecast year by year for five or ten years of the proforma income and resale possibilities of the property. Participation takes on a variety of forms:

1. Participation in gross rent, generally above a floor of normalized gross. (May reduce value for mortgage loan-to-ratio value purposes).

2. Participation in effective gross rent (set at a minimum level so that excessive vacancy penalizes the borrower; may exclude certain rental units or percentage rents or rents for services not funded by mortgage, i.e., a defined base effective rent).

3. Percentage of net operating income (certain expenses allowed in full while other discretionary expenses and vacancy allowance may be defined in amount or percentage of effective gross). Sometimes found on land leases and reduces net income available for debt service if land lease is unsubordinated.

4. Percentage of cash throwoff, after debt service and with defined priorities and allowable debt limits. Other restrictions may include mandatory reserves to be set aside before participation.

5. One of the above plus participation in refinancing surplus, net resale proceeds, or other capital transactions subject to a floor permitting recapture of equity capital and a ceiling for good fortune.

C. Some forms of equity participation are more subtle, such as the convertible mortgage which takes several forms:

1. A community shopping center costing $6 million to build and with a million in runaway construction interests can be sold for $7.3 million for $800-850,000 net operating income in the first five years. Lender provides $7.3 million for 11% interest only ten-year mortgage; in addition, he receives 50% of cash throwoff and whatever percentage of ownership is needed in the tenth year to provide overall 18% return.

2. An office building in San Francisco received 100% financing for construction and eight year balloon. In addition, the developer-borrower becomes a general partner with two limited partners, the land owner and the lender, each receiving some percentage of tax shelter, cash dividends, refinancing surplus or resale value and perhaps retaining first right of refusal as well.

3. In each case, the mortgage loan represents fee simple title while the interests above that represent entitlements to tax shelter, nonvested future interests, management and contracting fees and marketing skills.

CONTEMPORARY ISSUES IN THE USE OF THE INCOME APPROACH

AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS
ILLINOIS CHAPTER NO. 6

The Covenant Club

May 19, 1981

Presented By
Prof. James A. Graaskamp, CRE, SREA
School of Business, University of Wisconsin

I. Introduction

It is generally recognized that the real estate market is dependent on substantial amounts of credit to support effective demand so that real estate prices and perhaps values vary with the terms and supply of credit generally available in the marketplace. Indeed the old timers have seen the definition of fair market value gradually move away from the firm premise of cash to the seller to a somewhat more subjective condition of terms generally available in the market.

A. The pressure of double digit inflation is eroding many of the appraisers' favorite simplifications of the market model:

1. The long term fixed interest mortgage, amortized from property productivity is gone.
2. The simple division of income between the mortgage and the equity component is smothered in participating mortgages, limited partnerships, convertible mortgages and seller financing.
3. As the government had removed general subsidies to real estate finance such as regulation Q, it has made greater use of specific interest subsidies to selected special groups.
4. Real estate markets must be defined not only in terms of use, age, income, but also access to capital.
5. Moreover, most properties exist in a 3-tier market, utility to house an activity, commodity and money speculation, and as part of a going concern.
6. The 3-tier market can be further subdivided by the nature of permits or other entitlements that are site specific and define risk of a vested or non-vested opportunity.

B. Volatile money market conditions and the widespread use of creative financing leave the appraiser in considerable difficulty in defining typical market terms, cash equivalent prices or the relationship of

fair market value to transaction price. Does the client want fair market price, most probable price, going concern value, contributory value, investment value, or liquidating value in event of delinquency and foreclosure.

C. The impact of these elements is significantly different for problems involving:

1. Income investment properties
2. Economic development properties
3. Multi-family residential properties
4. Single family residential properties

D. The impact of financing in each situation requires that we go back to basics. The appraiser or his clinet must define:

1. What is the function of the appraisal?
2. Which rights are to be appraised? (Those that run with the establishment on the site, with the ownership position, or with fee simple title).
3. Which definition of value is appropriate?
4. How is productivity allocated to the agents of production?

E. Reference to Exhibit 1

F. Reference to definition of fee simple title in Exhibit 2

G. Reference to definition of fair market value in Exhibit 3 and compare to most probable price in Exhibit 4

II. The Games People Play With Income Investment Property makes it very difficult to apply any one of the three appraoches to value.

A. Sales prices are engineered by accountants to some degree to shift asset values among various classifications for land, structure, personalty, intangibles, capital gains and losses and ordinary gains and losses, making market comparison anything but objective (not to mention adjustments for non-market financing discussed in Section III).

B. Similarly, the income approach has great difficulty in applying the truism that income value is the present value of income plus the present value of reversion.

1. There is the problem of defining net operating income in terms of what is attributable to the real estate (aside from financing effect on cash throwoff).
2. There is the problem of defining the net reversion to equity in an uncertain future (aside from financing effect on mortgage balance).

Exhibit 1

Critical Issues Which Define Appraisal Process

Function of the Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee simple private rights unencumbered	Fair market value	Income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (non-participating)	Encumbered fee simple private rights plus additional rights pledged	Regulations - fair market value Underwriting - solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus non-vested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business start-up plus monopolistic market controls	Most probable price within perceived costs of alternative	Land, structure, personalty, and intangible assets and good will plus profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

EXHIBIT 3

FAIR MARKET VALUE - The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated.
2. both parties are well informed or well advised, and each acting in what he considers his own best interest.
3. a reasonable time is allowed for exposure in the open market.
4. payment is made in cash or its equivalent.
5. financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale.
6. the price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction.

Source: P. 137, Real Estate Appraisal Terminology, Editor Byrl Boyce.

EXHIBIT 4

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.

Source: P. 8, The Appraisal of 25 N. Pinckney, Editor James A. Graaskamp.

Reprinted from Black's Law Dictionary, Fifth Edition with permission.

FEE SIMPLE – An absolute fee; a fee without limitations to any particular class of heirs or restrictions, but subject to the limitations of eminent domain, escheat, police power, and taxation. An inheritable estate.

From: Byrl N. Boyce, Real Estate Appraisal Terminology, Revised Edition, Ballinger Publishing Company, Cambridge, 1981, p. 102.

Fee simple.

Absolute. A fee simple absolute is an estate limited absolutely to a man and his heirs and assigns forever without limitation or condition. An absolute or fee-simple estate is one in which the owner is entitled to the entire property, with unconditional power of disposition during his life, and descending to his heirs and legal representatives upon his death intestate. Such estate is unlimited as to duration, disposition, and descendibility. Slayden v. Hardin, 257 Ky. 685, 79 S.W.2d 11, 12.

The estate which a man has where lands are given to him and to his heirs absolutely without any end or limit put to his estate. 2 Bl.Comm. 106. The word "fee," used alone, is a sufficient designation of this species of estate, and hence "simple" is not a necessary part of the title, but it is added as a means of clearly distinguishing this estate from a fee-tail or from any variety of conditional estates. Fee-simple signifies a pure fee; an absolute estate of inheritance clear of any condition or restriction to particular heirs, being descendible to the heirs general, whether male or female, lineal or collateral. It is the largest estate and most extensive interest that can be enjoyed in land.

Conditional. Type of transfer in which grantor conveys fee simply on condition that something be done or not done. A defeasible fee which leaves grantor with right of entry for condition broken, which right may be exercised by some action on part of grantor when condition is breached.

At common law an estate in fee simple conditional was a fee limited or restrained to some particular heirs, exclusive of others. But the statute "De donis" converted all such estates into estates tail. 2 Bl. Comm. 110.

Defeasible. Type of fee grant which may be defeated on the happening of an event. An estate which may last forever, but which may end upon the happening of a specified event, is a "fee simple defeasible". Newbern v. Barnes, 3 N.C.App. 521, 165 S.E.2d 526, 530.

Determinable. A "fee simple determinable" is created by conveyance which contains words effective to create a fee simple and, in addition, a provision for automatic expiration of estate on occurrence of stated event. Selectmen of Town of Nahant v. U. S., D.C.Mass., 293 F.Supp. 1076, 1978.

Fee simple title. See **Fee simple.**

From: Henry Campbell Black, Black's Law Dictionary, Fifth Edition, West Publishing Co., St. Paul, 1979, p. 554.

3. There is the problem of selecting a conversion process which reduces income cash flows and reversionary cash flows to a single present value.

C. Neither revenue, nor expenses nor debt service are constant over timeranymore so that NOI/OAR is no longer a useful valuation model. Instead rents, vacancies, expenses, and financing must be staged using a spread sheet for both income and the reversion. Lenders may share in appreciation and owner and lender may share the risk of variable interest and the first principal payment.

D. The definition of economic rent attributable to the real estate

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?
   a. For example - does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?
2. Is the real estate income from retailing of space or from wholesaling space?
   a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.
3. Is the income for extraordinary services or intangible assets rather than customary?
   a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.
4. Ancillary to rather than integral with the project.
   a. Can services be acquired off premises such as janitorial or utilities?
5. IRS classification as 1250 property (real) or 1231 property (personalty) or Section 38 (tangible) or Section (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

E. Problem of defining or forecasting a reversion

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships of long term commodity/money ratios.
2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?
   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested and excluded from fair market value?
4. Can the appraiser simulate alternative speculative gains for most probable price?
5. When a premium is paid anticipating syndication of condominium conversion, should there be an adjustment for purchase of a business opportunity? Does fair market value include management fees for conversion?

III. Case Study of an appraisal of a 50-year old high rise office building in the CBD with vacancy problems, utility problems and management problems.

A. Revenues reflected loss of a major tenant (State of Wisconsin), lack of demand for retail space on the first floor, a soft market for B-class space, and a reluctance of management and tenants to use pass-throughs for operating costs.

B. It was necessary to do a spread sheet indicating a gradual reduction of vacancy loss, a gradual updating of existing leases with pass-through clauses, and investment in critical energy conservation.

C. Resale price is tied to projected net income and gross with a debt cover ratio and a cash-on-cash yield. Loan-to-value ratio is irrelevant. (See The Appraisal Journal, January 1981, DCR/R_e Cap Rate Tables for Today's Financing, p. 15.)

D. Our firm makes heavy use of the backdoor approach on MRCAP for valuation.

LUNCH BREAK

V. Aside from the problem of defining and allocating income and reversion to the real estate interest, income property appraisal is at C. with the problem of cash equivalency adjustments for both comparable sales and the subject property. Many of the issues on how to appraise properties with economic development loans, state-subsidized housing loans, or seller financed property relate to when and how cash equivalency rules should be applied.

A. Fair market value seems to call for cash to the seller (Exhibit 3) but then provides an exception where market practice may be different. The Institute textbook says,

> "Unusual financing or other factors that might result in a price deviation from market value are also excluded. However, if the availability of other than conventional financing (such as FHA or VA loan terms) is sufficiently extensive to constitute a market within which the property being appraised is expected to sell, the typical purchaser may be expected to take advantage of this available financing, and the market value of the property reflects the probable sale price in this market. In market valuation assignments the appraiser first identifies the market in which the property being appraised will be exposed and sold. The market value of the property is then identified within parameters that reflect conditions in this market." Source: The Appraisal of Real Estate, Seventh Edition.

B. In addition to market characteristics, we need to know the purpose of the appraisal before determining where their fair market value based on fee simple title or most probable price or going concern value is appropriate.

1. For example, the assessor is required by law to look at fee simple title; he does not recognize contract rents when they are below market rent nor can he look at premium rents and going concern values over and above market or economic rents. Cash equivalency is a must.

2. However, in a Section 8 loan from a state housing authority, it is typical to take an assignment of the general partnership position which can be exercised by the Housing Authority in the event of default on the mortgage terms or the related property management agreement. Control of the property can pass through subsequent assignment without disturbing the tax position or the special non-market interest rate of the deal. Moreover, the rights transfered include existing reserve funds. Therefore, fair market value is not relevant relative to the security of the loan. The investor purchases a fee simple title encumbered by transfers of owner prerogatives to the government in exchange for tax privileges and minimum income guarantees for 20-40 years. That is the question of most probable price or going concern value.

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE/ WEIGHT	#1 30 W. Mifflin	#2 50 E. Mifflin	#3 16 N. Carroll	#4 123 W. Washington	#5 102 N. Hamilton	#6 212 E. Washington	Subject 110 E. Main
	Rating/Weighted Rating						
Parking 25%	5/1.25	3/.75	0/0	0/0	3/.75	3/.75	3/.75
Location 20%	5/1.00	5/1.00	5/1.00	3/.60	1/.20	3/.60	3/.60
First Floor Retail Lease in Place 15%	5/.75	5/.75	0/0	3/.45	3/.45	0/0	1/.15
Need for Renovation 15%	5/.75	1/.15	3/.45	5/.75	1/.15	1/.15	3/.45
Visual Quality of Office Entrance 10%	5/.50	3/.30	3/.30	5/.50	3/.30	3/.30	1/.10
Vacancies in Existing Office Space 15%	5/.75	0/0	5/.75	5/.75	0/0	0/0	1/.15
Total Weighted Score	5.00	2.95	2.50	3.05	1.85	1.80	2.20
Selling Price	$2,555,500	$850,000	$615,270	$2,896,000	$330,000	$472,000	X
Total Net Rentable Area (NRA)	65,000 sq. ft.	38,500 sq. ft.	35,725 sq. ft.	138,000 sq. ft.	28,000 sq. ft.	38,000 sq. ft.	74,000 sq. ft.
Price Per Square Foot (NRA)	$39.30	$22.10	$17.20	$21.00	$11.80	$12.40	
Price Per Square Foot of NRA / Total Weighted Score	7.86	7.49	6.88	6.89	6.38	6.89	

EXHIBIT 22

EXHIBIT 23

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Selling Price/ per NRA	Point Score	Price per NRA per Total Weighted Score (x)
1	$39.30	5.00	7.86
2	22.10	3.45	7.49
3	17.20	2.50	6.88
4	21.00	3.05	6.89
5	11.80	1.85	6.38
6	12.40	1.80	6.89
		TOTAL	42.39

Mean Value ($\bar{x}$) = 42.39 ÷ 6 = 7.07

Standard Deviation = $\frac{\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}}{\sqrt{n}}$ = .214

where:

x	$\bar{x}$	$(x-\bar{x})$	$\Sigma(x-\bar{x})^2$	$\frac{n}{6}$	$\frac{n-1}{5}$
7.86	7.07 =	.79	.62		
7.49	7.07 =	.42	.18		
6.88	7.07 =	.19	.04		
6.89	7.07 =	.18	.03		
6.38	7.07 =	.69	.48		
6.89	7.07 =	.18	.03		
			1.38		

Value Range: 7.07 ± .21

High Estimate: 7.28 = (X/74,000[1] sq. ft.) ÷ 2.2[2], ∴ X = 1,185,184 or $1,200,000

Central Tendency: 7.07 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,150,996 or $1,150,000

Low Estimate: 6.86 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,116,808 or $1,120,000

[1] 74,000 sq. ft. = NRA of subject property
[2] 2.2 = Weighted point score for subject property

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof								
B Level Vault-Vacant	700	3.00	--	$ 2,100	$ 2,100	$ 2,270	$ 2,270	$ 2,450
B Level-Showroom & Office	4000	3.00	--	12,000	12,000	12,960	12,960	14,000
A Level-Storage	400	4.00	6/30/80	1,600	2,400	2,600	2,800	3,000
Honeywell Phone Box	--	--	--	600	600	600	650	650
Total-Lower Level	5100			$16,300	$17,100	$18,430	$18,680	$20,100
First Floor								
Chez Vous-112	454	4.80	10/1/76 - 9/30/81	$ 2,180	$ 2,290	$ 2,360	$ 2,360	$ 2,360
Chez Vous-114	1000	4.80	10/1/76 - 9/30/81	4,810	5,030	5,200	5,200	5,200
North Entry	2000	9.00	--	18,000	19,500	21,000	22,500	24,000
South Entry-Leaf & Ladle[4]	3500	9.00	1/1/80 - 12/30/84	31,500	33,130	33,950	36,670	39,600
Total-First Floor	6954			$56,490	$59,950	$62,510	$66,730	$71,160
Second Floor								
201 Vacant	150	6.50	--	$ 970	$ 970	$ 1,050	$ 1,050	$ 1,140
202 State[5]	600	6.70	7/1/79 - 6/30/80	4,020	4,320	4,320	4,670	4,670
203-4 Vacant[5]	543	6.20	9/1/78 - 8/31/79	3,370	3,640	3,640	3,640	3,930
205-6 State	506	7.00	3/1/78 - 5/31/80	3,540	3,820	3,820	4,120	4,120
207-8 Homecrafts	386	7.20	1/1/79 - 12/31/81	2,780	2,850	3,000	3,000	3,080
209-10 State[5]	451	6.25	11/1/79 - 5/31/80	2,820	3,040	3,040	3,280	3,280
211 Dr. Regez	219	7.00	--	1,600	1,730	1,730	1,870	1,870
212-14 Dr. Wierwill	700	6.50	4/1/78 - 3/31/81	4,570	4,900	4,900	4,900	5,210
215 Vacant	415	6.75	7/1/78 - 6/30/79	2,800	3,020	3,020	3,270	3,270
216 UPI	500	7.50	5/1/80 - 4/30/81	3,750	4,050	4,050	4,370	4,370
218-19 Rape Crisis Center	816	7.00	1/1/80 - 12/31/81	5,840	6,120	6,260	6,530	6,690
220-21 State[5]	1400	6.25	12/1/79 - 5/31/80	8,750	9,450	9,450	10,200	10,200
Total-Second Floor	6686			$44,810	$47,910	$48,280	$50,900	$51,830

EXHIBIT 24

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor								
01 Vacant	150	5.75	--	$ 860	$ 860	$ 930	$ 930	$ 1,000
02-3 State[5]	1179	5.75	--	6,780	7,320	7,320	7,900	7,900
04 State[5]	230	6.70	--	1,540	1,660	1,660	1,800	1,800
05-8 State[5]	942	6.70	--	6,300	6,800	6,800	7,360	7,360
09 The Journal Co.	232	7.20	9/1/79 - 8/31/80	1,810	1,880	1,970	2,030	2,120
10-11 State[5]	456	6.70	--	3,050	3,300	3,300	3,560	3,560
12 Vacant	234	5.75	--	1,340	1,450	1,450	1,570	1,570
13-14 Dr. R. Meng	482	7.20	6/1/79 - 5/31/80	3,490	3,730	3,750	4,000	4,030
15 Vacant	731	6.70	10/1/79 - 9/30/80	5,000	5,080	5,310	5,480	5,630
16-19 Wisc. Builders Assoc.	1091	7.00	1/1/80 - 12/31/80	7,810	8,180	8,360	8,730	8,940
20-24 Vacant	1363	7.00	--	9,540	10,300	10,300	11,130	11,130
Total-Third Floor	7090			$47,520	$50,560	$51,150	$54,490	$55,040
Fourth Floor								
01 Vacant	150	6.40	--	$ 960	$ 960	$ 1,040	$ 1,040	$ 1,120
02 Furst, Carlson Inc.	648	6.40	5/1/79 - 4/30/80	4,350	4,370	4,700	4,730	5,090
03-11 State	2147	6.75	1/1/80 - 12/31/81	14,500	14,880	15,670	16,100	16,960
12 Vacant	202	6.40	--	1,290	1,290	1,400	1,400	1,500
13-14 Wisconsin Alliance of Cities	679	6.80	--	4,980	5,020	5,420	5,420	5,850
15 State[5]	259	7.00	3/1/79 - 2/28/81	1,830	1,940	1,970	2,100	2,130
16-19 State[5]	1370	6.00	vacated 6/30/80	8,220	8,880	8,880	9,590	9,590
20-20a State[5]	560	6.70	vacated 6/30/80	3,750	3,750	4,050	4,050	4,370
21-22 State	300	6.70	vacated 6/30/80	2,010	2,010	2,170	2,170	2,340
23-24 Ed Konkol	340	6.60	9/1/79 - 8/31/80	2,240	2,240	2,420	2,420	2,620
Total-Fourth Floor	6655			$44,130	$45,340	$47,720	$49,020	$51,570

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Eighth Floor								
801 Wisconsin Radio News	150	7.00	to 6/30/80	$ 1,050	$ 1,050	$ 1,130	$ 1,130	$ 1,220
802-5 State	1536	7.55	to 10/31/83	11,600	11,600	11,600	12,060	12,520
806-7 Dr. Hannis	470	7.50	9/1/79 - 8/31/80	3,840	4,000	4,000	4,210	4,320
808-22 State	4580	6.00	7/1/79 - 6/30/80	27,480	36,620	37,100	37,100	39,580
823-24 Dr. Boyle	339	7.60	9/1/79 - 8/31/80	2,780	2,880	3,040	3,120	3,120
Total-Eighth Floor	7075			$46,750	$56,150	$56,870	$57,620	$60,760
Ninth Floor								
901 Hillman & Robertson	150	8.00	1/1/80 - 12/31/80	$ 1,230	$ 1,300	$ 1,340	$ 1,400	$ 1,400
902 Wisc. Ins. Alliance	864	7.00	6/1/79 - 5/31/80	6,400	6,480	6,910	7,000	7,000
903-6 Mulcahy & Wherry	980	8.00	1/1/79 - 12/31/81	8,070	8,530	8,750	9,210	9,210
907 Robert Uehling	225	8.00	4/1/80 - 3/31/81	1,810	1,960	1,980	2,110	2,110
909-10 Larry Hall	700	6.00	6/1/79 - 5/31/80	4,520	4,550	4,870	4,900	4,900
911 Dr. Schmitz	248	7.75	1/1/79 - 12/31/80	1,920	1,970	2,060	2,140	2,230
912-19 Devine Insurance	2580	7.00	4/1/80 - 3/31/83	18,060	18,060	18,180	19,350	19,350
921 State	575	7.00	vacated 7/1/80	4,020	4,350	4,350	4,700	4,700
922-23 Judicial Commission	355	6.50	5/1/79 - 4/30/81	2,300	2,500	2,500	2,700	2,700
924-25 Dr. Rundell	339	7.20	6/1/79 - 5/31/80	2,650	2,680	2,860	2,880	2,880
Total-Ninth Floor	7016			$50,980	$52,380	$53,800	$56,390	$56,480
Tenth Floor								
1001 Victor Lind	150	6.80	11/1/79 - 10/31/80	$ 1,050	$ 1,200	$ 1,250	$ 1,300	$ 1,350
1002 Wisc. Assoc. of Indep. Colleges	864	6.50	1/1/80 - 12/31/80	5,760	6,050	6,190	6,480	6,650
1003-4 Wisc. Canners & Freezers	756	8.00	5/1/79 - 4/30/80	6,050	6,050	6,530	6,530	7,050
1005-8 Boelter Co.	911	6.80	12/1/79 - 11/30/80	6,370	6,650	6,880	7,200	7,400
1009-10 Vacant	455	6.50	--	2,950	3,190	3,190	3,450	3,450
1011-13 Dr. Doll	727	6.65	6/1/79 - 5/31/80	5,230	5,270	5,640	5,670	6,100
1014 Vacant	229	6.25	--	1,430	1,430	1,540	1,540	1,670
1015-18 State	1616	7.50	11/1/79 - 10/31/83	12,120	12,120	12,120	12,600	13,090
1019-21 Vacant	680	6.70	vacated 2/29/80	5,380	5,440	5,870	5,910	6,350
1022 Herb Walsh	171	8.00	12/1/79 - 11/30/80	1,420	1,490	1,490	1,540	1,600
1023-24 Dane Co. Advocate for Battered Women	331	7.20	8/1/79 - 7/31/80	2,610	2,680	2,840	2,900	3,070
Total-Tenth Floor	6890			$50,370	$51,570	$53,540	$55,120	$57,780
Annual Totals for	74,054 sq. ft.			$493,960	$522,120	$537,260	$565,460	$586,210

EXHIBIT 24 - Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fifth Floor								
501 E. C. Barton	150	7.60	--	$ 1,240	$ 1,270	$ 1,270	$ 1,380	$ 1,380
502 Vacant	842	7.50	--	6,310	6,820	6,820	7,360	7,360
503-5 Vacant	810	7.50	--	6,070	6,070	6,440	6,800	6,800
506-19 State	3922	6.25	11/1/79 - 10/31/83	24,500	24,500	24,500	30,590	31,770
520 State-Bd. of Aging	555	6.70	7/1/79 - 6/30/81	3,950	4,000	4,270	4,330	4,940
521-22 Dr. Coryell	339	7.20	7/1/79 - 6/30/80	2,440	2,690	2,740	2,920	2,950
523-24 Green Bay Press Gazette	337	7.60	9/1/79 - 8/31/82	2,560	2,690	2,760	2,760	2,760
Total-Fifth Floor	6955			$47,070	$48,040	$48,800	$56,140	$57,960
Sixth Floor								
601 Vacant	150	6.70	--	$ 1,000	$ 1,000	$ 1,080	$ 1,080	$ 1,170
602-4 State[5]	1473	6.00	vacated 6/30/80	8,840	9,540	9,540	10,300	10,300
605 Vacant	204	6.40	-- to 6/30/80 then mo. - mo.	1,300	1,300	1,410	1,410	1,520
606-10 State	1000	6.70	vacated 11/30/80	7,370	7,500	7,500	8,100	8,100
611 The Evjue Foundation	286	7.00	11/1/79 - 10/31/83	2,000	2,000	2,160	2,160	2,330
612-14 State	647	7.50	--	4,850	4,850	4,850	5,080	5,240
615 Tenney Bldg.	344	7.00	3/1/79 - 2/28/81	2,400	2,400	2,600	2,600	2,800
616 John Barsness	850	6.00	vacated 5/31/80	5,170	5,520	5,590	5,950	6,020
617 Bill Ward	250	6.70	vacated 5/31/79	1,940	2,120	2,120	2,300	2,300
618-19 State	494	8.00	--	3,950	3,950	4,270	4,270	4,610
620-24 Vacant	1262	6.70		8,450	9,130	9,130	9,860	9,860
Total-Sixth Floor	6960			$47,270	$49,310	$50,250	$53,110	$54,250
Seventh Floor								
701 Lawton & Cates	150	5.75	6/1/79 - 5/31/83	$ 930	$ 970	$ 1,100	$ 1,050	$ 1,090
702-19 Lawton & Cates	5417	5.75	6/1/79 - 5/31/83	33,600	35,100	36,450	37,850	39,160
720-24 Vacant	1106	7.00	--	7,740	7,740	8,360	8,360	9,030
Total-Seventh Floor	6673			$42,270	$43,810	$45,910	$47,260	$49,280

EXHIBIT 24 -- Continued

Notes to Schedule of Rental Revenues for the
Period of April 30, 1980 Through April 29, 1985

[1]The annualized gross rental revenue for the period from April 30, 1980 through April 29, 1981 is consistent with the actual lease terms, if at market rents, as of April 30, 1980. Increases in rents are assumed to take place according to lease terms and conditions; an increase of 8 percent is used at lease renewal dates. This factor was taken from a survey of office rent increases in Class B buildings on and near the Capitol Square in Madison and is the current rate used by the Tenney Building manager.

[2]The annual rental market rate is given as of April 30, 1980. Only one tenant in Rooms 909-10 is considered to be below market rent at $4.73/square foot; therefore the rent for this space is calculated at a market rate of $6.00/square foot. Market rents are also imputed to spaces used by the building owner.

[3]Of the 87 rental space units in the Tenney Building as of April 30, 1980, there are 62 leases in place, but 54 of those terminate between 1980 and 1982. Only eight have leases that extend beyond April 30, 1982.

[4]The Leaf and Ladle Restaurant began its lease of 3500 sq. ft. of the first floor retail space on January 1, 1980. The restaurant had closed its door by October 1, 1980, and the remodeled space is once again on the market. The rental rate of $9.00 with an annual escalator of 8% per year commencing in the second year is considered comparable for the area. A most probable investor might consider an escalator based upon a percentage of gross sales to encourage rental of this space if restaurant use is most likely; the projected revenues probably would not increase as rapidly as forecast.

[5]The state has given notice that it will vacate these spaces by June 30, 1980.

EXHIBIT 24 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per. Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
er Level & Roof[1]									
evel - Vault	700	100	3.00	12	$ 2,100				
	700	100	3.00	12		$ 2,100			
	700	100	3.25	12			$ 2,270		
	700	50	3.25	6				$ 1,140	
	700	50	3.50	6					$ 1,140
evel									
wroom and Office	4,000	100	3.00	12	12,000				
	4,000	100	3.00	6		6,000			
	4,000	50	3.25	6			3,250		
	4,000	50	3.25	6				3,250	
	4,000	50	3.50	3					1,750
Level - Storage	400	100	7.00	6				1,400	
	400	100	7.50	9					2,250
tal - Lower Level					$14,100	$ 8,100	$ 5,520	$ 5,790	$ 5,140
rst Floor									
2 East Main	454	100	5.20	8		$ 1,570			
	454	100	5.20	12			$ 2,360		
	454	100	5.20	4				$ 780	
4 East Main	1,000	100	5.20	8		3,480			
	1,000	50	5.20	12			2,600		
	1,000	50	5.20	4				860	
af & Ladle	3,500	100	9.00	7	18,370				
	3,500	100	9.50	3		8,310			
	3,500	100	10.50	3				9,190	
	3,500	100	11.30	3					$ 9,890
rth Entry	2,000	100	9.00	9	13,500				
otal - First Floor					$31,870	$13,360	$ 4,960	$10,830	$ 9,890

EXHIBIT 25

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Ninth Floor									
909-10	700	100	6.50	6		$ 2,280			
	700	100	7.00	6			$ 2,440		
922-23	355	100	7.00	12			2,500		
	355	100	7.60	6				$ 1,350	
Total - Ninth Floor					0	$ 2,280	$ 4,940	$ 1,350	0
Tenth Floor									
1009-10	455	100	6.50	12	$ 2,950				
	455	100	7.00	12		$ 3,190			
	455	100	7.00	9			$ 2,390		
1014	229	100	6.25	12	1,430				
	229	100	6.25	12		1,430			
	229	100	6.70	6				770	
1019-20	680	100	6.70	1	380				
Total - Tenth Floor					$ 4,760	$ 4,620	$ 2,390	$ 770	0
TENNEY BUILDING TOTALS[4]					$120,790	$85,330	$66,480	$59,910	$39,220

EXHIBIT 25 -- Continued

Notes to Schedule of Vacancies by Floor and by Lease Terms
For the Period of April 30, 1980 Through April 29, 1985

[1]The lower level space has a continued record of vacancy; it is assumed that until the space is made more marketable by remodeling, rents will not keep pace with the market. Uses other than a showroom for the 4000 sq. ft. will need to be explored; subdividing the larger space for office space and/or storage space are possibilities.

[2]It is assumed that the smaller office spaces from 200-500 square feet will experience less overall vacancy than the larger spaces. There appears to be a trend toward several small independent businessmen sharing a common secretarial staff; some of the larger vacant suites could be remodeled for this type of use.

[3]The second and third floors have the greatest amount of vacancy due to the exodus of State tenants. By the end of June, 1980, the State's move alone will cause 44% of the second floor vacancies; the third floor will experience a vacancy rate of 39.5% due to loss of State tenants; the State related vacancy rates on the fourth and sixth floors will be 29% and 21% respectively. A most probable buyer will have to anticipate a large capital investment in 1980 to remodel and refurbish the Building to make it competitive in the Class B office market that already has a large supply of space available on and near the Square.

[4]Vacancies are assumed to gradually decrease between 1981 and 1983; a most probable buyer will institute a vigorous marketing program which will involve research of space needs in the area and remodeling which will be targeted to those needs.

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Sixth Floor									
601	150	100	6.70	12	$ 1,000				
	150	100	6.70	12		$ 1,000			
	150	100	7.20	9			$ 810		
602-4	1,473	100	6.00	6	4,420				
	1,473	50	6.50	12		4,770			
	1,473	50	6.50	12			4,770		
	1,473	50	7.00	9				$ 3,870	
	1,473	50	7.00	6					$ 2,580
605	204	100	6.40	12	1,300				
	204	100	6.40	12		1,300			
	204	100	6.90	12			1,410		
	204	100	6.90	9				1,060	
617	250	100	7.75	4	640				
620-24	1,262	100	6.70	12	8,450				
	1,262	100	7.20	6		4,540			
	1,262	100	7.20	6			4,540		
	1,262	50	7.80	9				3,690	
Total - Sixth Floor					$15,810	$11,610	$11,530	$ 8,620	$ 2,580
Seventh Floor									
No Vacancies Projected									
Eighth Floor									
801	150	100	7.00	10	$ 880				
	150	100	7.00	12		$ 1,050			
	150	100	7.50	6			$ 560		
Total - Eighth Floor					$ 880	$ 1,050	$ 560	0	0

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fourth Floor									
401	150	100	6.40	12	$ 960				
	150	100	6.40	12		$ 960			
	150	100	6.90	12			$ 1,040		
	150	100	6.90	12				$ 1,040	
	150	100	7.45	12					$ 1,120
412	202	100	6.40	12	1,290				
	202	100	6.40	12		1,290			
	202	100	6.90	12			1,400		
	202	100	6.90	12				1,400	
	202	100	7.40	12					1,500
416-19	1,370	100	6.00	6	4,110				
	1,370	50	6.50	12		4,450			
	1,370	50	6.50	12			4,450		
	1,370	50	7.00	12				4,800	
	1,370	50	7.00	6					2,400
420-20a	560	100	6.70	6	1,880				
	560	50	6.70	12		1,870			
	560	50	7.20	9			1,520		
Total - Fourth Floor					$ 8,240	$ 8,570	$ 8,410	$ 7,240	$ 5,020
Fifth Floor									
502	842	100	7.50	12	$ 6,310				
	842	50	8.00	12		$ 3,410			
	842	50	8.00	12			$ 3,410		
	842	50	8.75	6				$ 3,410	
520	555	100	7.70	6			2,130		
	555	50	7.80	12				2,160	
	555	50	8.90	9					$ 1,850
Total - Fifth Floor					$ 6,310	$ 3,410	$ 5,540	$ 5,570	$ 1,850

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
3rd Floor[3]									
	150	100	5.75	12	$ 860				
	150	100	5.75	12		$ 860			
	150	100	6.20	12			$ 930		
	150	100	6.20	12				$ 930	
	150	100	6.70	12					$ 1,000
2-3	1,179	100	5.75	6	3,390				
	1,179	50	6.20	12		3,650			
	1,179	50	6.20	12			3,650		
	1,179	50	6.70	6				3,950	
4	230	100	6.70	6	770				
	230	100	7.20	12		1,660			
	230	100	7.80	6					900
5-8	942	100	6.70	6	3,150				
	942	50	7.20	12		3,390			
	942	50	7.20	12			3,390		
	942	50	7.80	3					1,830
10-11	456	100	6.70	6	1,530				
	456	50	7.20	12		1,640			
	456	50	7.20	12			1,640		
12	234	100	5.75	12	1,340				
	234	100	6.20	12		1,450			
	234	100	6.20	12			1,450		
	234	100	6.70	12				1,570	
	234	100	6.70	12					1,570
315	731	100	6.70	4	1,610				
320-24	1,363	100	7.00	12	9,540				
	1,363	100	7.60	6		5,150			
Total - Third Floor					$22,190	$17,800	$11,060	$ 6,450	$ 5,300

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Second Floor[3]									
201	150	100	6.50	12	$ 900				
	150	100	6.50	12		$ 900			
	150	100	7.00	12			$ 1,050		
	150	100	7.00	12				$ 1,050	
	150	100	7.60	12					$ 1,140
202	600	100	6.70	6	2,010				
	600	50	7.20	12		2,160			
	600	50	7.20	12			2,160		
	600	50	7.80	6				1,170	
	600	50	7.80	3					580
203-4	543	100	6.20	12	3,370				
	543	50	6.70	12		1,820			
	543	50	6.70	12			1,820		
	543	50	6.70	9				1,360	
205-6	506	100	7.00	6	1,770				
	506	50	7.50	12		1,900			
	506	50	7.50	12			1,900		
	506	50	8.15	9				1,550	
	506	50	8.15	6					1,030
209-10	451	100	6.25	6	1,410				
	451	50	6.75	12		1,520			
	451	50	6.75	12			1,520		
	451	50	7.30	9				1,230	
215	415	100	6.75	12	2,800				
	415	100	7.30	6		1,510			
	415	100	7.30	3			760		
218-19	816	100	8.00	8				4,370	
	816	100	8.20	12					6,690
220-21	1,400	100	6.25	6	4,370				
	1,400	50	6.75	12		4,720			
	1,400	50	6.75	6			2,360		
	1,400	50	7.30	6				2,560	
Total - Second Floor					$16,630	$14,530	$11,570	$13,290	$ 9,440

EXHIBIT 25 -- Continued

EXHIBIT 27

Schedule of Projected Revenues and Expenses From April 30, 1980 Through April 29, 1985

	4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Revenues:					
Gross Income	$493,960	$522,120	$537,260	$565,460	$586,210
Less: Vacancies	(120,790) (24.5%)	(85,330) (16.3%)	(66,480) (12.4%)	(59,910) (10.6%)	(39,220) (6.7%)
Effective Gross	373,170	436,790	470,780	505,550	546,990
Parking Rentals	12,960	12,960	12,960	14,000	14,000
Total Revenues	$386,130	$449,750	$483,740	$519,550	$560,990
Expenses:[1]					
Accounting & Legal	4,200	4,640	5,120	5,650	6,240
Building Security[2]	21,840	24,100	26,620	29,390	32,440
Insurance	7,000	7,730	8,530	9,420	10,400
Maintenance[3]	28,850	31,850	35,160	38,820	42,860
Wage & Salaries	60,000	66,240	73,130	80,730	89,130
Payroll Taxes	11,500	12,700	14,020	15,470	17,080
Repairs	14,880	16,430	18,130	20,020	22,100
Telephone	1,600	1,770	1,950	2,150	2,380
Utilities[4]	90,600	101,470	107,560	114,380	122,020
Office Expenses[5]	7,040	7,520	8,250	8,840	9,690
Management[6]	22,390	26,320	27,540	30,280	32,570
Concourse Special Assessment	2,360	2,410	2,630	2,550	2,480
Total Operating Expenses Before R.E. Taxes[7]	($272,260)	($303,180)	($328,640)	($357,700)	($389,390)
Net Operating Income Before R.E. Taxes	$113,870	$146,570	$155,100	$161,850	$171,600
Real Estate Taxes[8]	(26,680)	(28,000)	(29,400)	(30,880)	(32,420)
Net Operating Income	$ 87,190	$118,570	$125,700	$130,970	$139,180

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

EXHIBIT 27 -- Continued

Expenses

In general, expenses are projected to increase according to the average annual change of 10.4% in the All Item Consumer Price Index over the past five years. (See amended Exhibit 27).

Building Security

Security personnel is hired from 10 P.M. to 6 A.M. on weekdays with 24 hour coverage on the weekends. The building is open to the public from 6 A.M. to 6 P.M. each weekday. The continuing problems created by the presence of bars and adult entertainment places across the street make this security protection mandatory.

Maintenance

This account includes an elevator maintenance contract at $9,060 a year.

Utilities

At present the Tenney Building consumes approximately 55,000 to 70,000 gallons of No. 2 fuel oil per year depending upon the weather. The cost of fuel has increased as follows:

January 12, 1979	.43/gallon
October 1, 1979	.77/gallon
February 1, 1980	.95/gallon

In thirteen months the cost has risen 121%. Though the Tenney Building is converting to natural gas on its primary boiler, the cost of natural gas is also volatile. Over the past five years natural gas has had an average annual increase of 17.6% for the commercial time-of-use consumer, according to Milton Spiros, Madison Gas & Electric Co.

The installation of combination storm windows throughout the building should help to conserve fuel costs. To stabilize utility costs it is assumed management will place energy cost escalators in renewed leases; therefore in the pro forma income statement utility costs are escalated at 12 percent annually with 50 percent of the increase passed through to the tenant after year 2.

[5]Office expenses include rental of space in the Tenney Building for management operations.

[6]Management costs are computed as 6% of effective gross office revenue with 4% allowed for management and 2% for leasing commissions for space turnover.

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[7]Total operating expenses are calculated before including real estate taxes for ease in using the HRCAP discounted cash flow program.

[8]Real estate taxes are calculated as 5.4% of gross revenues in the first year and increased at 5% per annum thereafter. These calculations are based on the following fact and assumptions:

1. The assessed value as of 1/1/80 is $1,200,000.
2. The mill rate is assumed to increase slightly (approximately 1%) after several years of decrease.
3. Taxes will continue to increase due to inflated city budgets and decreasing state aids.

EXHIBIT 27 -- Continued

end of the second year when the leases have been renegotiated.

4. Conversion of Net Income to Present Value

The MRCAP program from the National EDUCARE library of programs, previously described, is used to convert net income to a present value after taxes as of April 30, 1980, for the Tenney Building at the end of a five-year holding period.

C. Assumptions Used in MRCAP

The MRCAP discounted cash flow program can solve for a justified project value by specifying the ratio of net income to debt service acceptable to an institutional mortgage lender. Given the interest rate and term available as of April 30, 1980, the program will solve for the justified amount of mortgage and for justified cash equity, assuming typical before-tax cash-on-cash investor requirements for office buildings, with potential for inflation sensitive rents. Exhibit 28 is a simplified flow chart depicting the steps in solving for the justified project budget.

On April 30, 1980, prudent lenders will require a minimum debt cover ratio of 1.3 and equity investors expect no less than 6 percent cash-on-cash.

1. Inputs into MRCAP Program

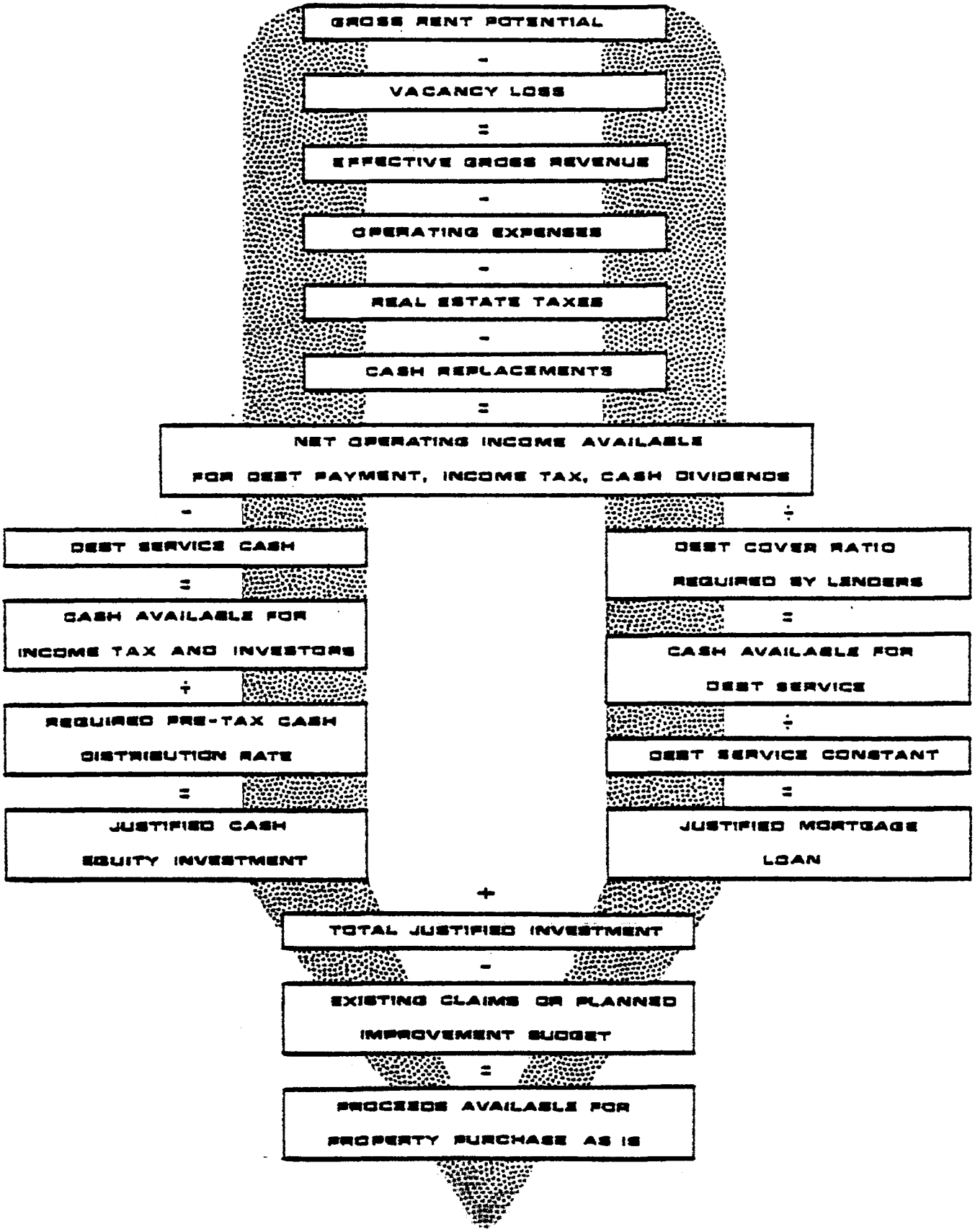
   a. Debt cover ratio = 1.3

   b. Before tax cash-on-cash requirements = 6%

   c. Project holding period = 5 years

EXHIBIT 28

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



d. Real estate taxes = historical pattern suggests real estate taxes at 5.4 percent of first year's gross with an annual inflation factor of 5% (see assumptions discussed below)

e. Discount rate = 13% (present value factor used to discount cash flow)

f. Reinvestment rate = 6% after tax rate applied to after tax cash flow

g. Resale price = 10 times net operating income in year of sale

h. Resale cost rate = 4%

i. Working capital reserves from equity to cover one month's expenses = $30,000

j. Investor marginal income tax rate = 50%

k. Land = $340,000, as of most recent appraisal for IRS

l. Buildings = 60% of total improvement value

m. Mechanicals and site improvements = 40% of total improvement value

n. Elevators = remaining book value of $73,000

o. Improvements for Energy Conservation = a total of $54,000 which includes $43,000 for storm windows and $11,000 for natural gas conversion unit.

p. Tenant Improvements = $50,000 for carpeting and partitions as needed to upgrade vacant office space

q. Investment Credit Dummy = to allow for tax benefit of investment credit in first year for capital improvement for energy conservation

r. Mortgage = principal amount determined by debt cover ratio; interest rate a minimum of 12% with a 20-year term, paid monthly, on the first mortgage and 13% interest and an 8-year term for the second mortgage

2. Real Estate Tax Assumptions

Real estate taxes are a function of assessed value (or fair market value when assessed value is 100 percent of market value) and the net mill rate; therefore, real estate taxes are estimated as a function of gross rental income. During the past two years, real estate taxes have been between 5 percent and 6 percent of the Building's potential gross rental income. As a result of tests of several values between 5 percent and 6 percent, it is determined that 5.4 percent of gross rental revenues best represents the historical pattern of the Building's real estate taxes. MRCAP is programmed to use 5.4 percent of the first year's gross rental income to compute the first year's real estate taxes and then provides for a growth factor of 5 percent to increase the taxes each year thereafter.

D. Analysis of Test Results

Four runs of the MRCAP program were done using different assumptions about the amount of real estate taxes that would be paid on the subject property. Taxes and net mill rates for the past three years on the subject property have been:

Year	1977	1978	1979
Real Estate Taxes	$33,118.75	$29,951.95	$25,340.93
Net Mill Rate	.026495	.024153	.022036

Real estate taxes estimated at various percentages of the first year's projected gross and inflated 5 percent a year gave these results in the MRCAP runs:

Percentage of First Year's Gross Rental Revenue	Real Estate Taxes				
	1980	1981	1982	1983	1984
5.0	$24,698	$25,933	$27,230	$28,591	$30,021
5.4	$26,674	$28,008	$29,408	$30,878	$32,422
5.8	$28,650	$30,082	$31,586	$33,166	$34,824
6.0	$29,638	$31,119	$32,675	$34,309	$36,025

The real estate taxes estimated at 5.4 percent of the first year's gross rent best approximates the shift from a decreasing to an increasing net mill rate that can now be expected due to an anticipated decrease in state aids to cities. Rising costs of local government can be expected to be borne by the local taxpayer.

The input and output for the MRCAP program using real estate taxes estimated at 5.4 percent of gross rental revenue are found in Exhibit 29.

If taxes are a conservative 5.4 percent of gross rental revenue, MRCAP substantiates the fair market value of $1,150,000 estimated by the market comparison approach to value.

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EXHIBIT 29

MRCAP INPUT AND OUTPUT-- JUSTIFIED CAPITAL BUDGET WITH REAL ESTATE TAXES AT 5.4% OF FIRST YEAR'S GROSS RENT

```
MRCAP       09:49CST    12/20/80

ENTER INPUT FILE NAME?TENNEY


THE PROGRAM MRCAP IS THE PROPERTY OF
MICHAEL L. ROBBINS
C/O REAL ESTATE DYNAMICS INC.
4701 WINNEQUAH RD.
MONONA, WISC.

USER NO. 66

(608)-221-1120


NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS OR
COMPUTATIONAL FORMAT USED IN THIS PROJECTION WILL
BE ACCEPTABLE TO TAXING AUTHORITIES.

**$10.00 LIB CHG APPLIED
```

R E P O R T S E C T I O N N U M B E R 1 PAGE 1

* GROSS RENT	$ 554378.	* RATE OF GROWTH OF GROSS RENT	0.0432
* EXPENSES	$ 330234.	* RATE OF GROWTH OF EXPENSES	0.0936
* R E TAXES	$ 29478.	* RATE OF GROWTH OF R E TAXES	0.0500
INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	2.0000
* VACANCY RATE	0.1375	WORKING CAPITAL LOAN RATE	0.1400
EQUITY DISCOUNT	0.1300	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0400	REINVESTMENT RATE	0.0600
WKG CAPITAL RS	$ 30000.	CAPITAL RESER INTEREST RATE	0.
INITIAL COST	$ 1091502.	INITIAL EQUITY REQUIRED	$ 486009.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

INITIAL COST DERIVED THROUGH BACKDOOR TYPE 3 USING 2 MORTGAGES

EXHIBIT 29 -- Continued

PRO FORMA

INVESTMENT ANALYSIS OF

BUILDING

FOR

REPORT SECTION NUMBER 2 PAGE 1

COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
1LAND	0.	1	25.	0	$	340000.	0
BUILDING	0.80	1	29.	2	$	338221.	0
HVAC	0.90	1	9.	2	$	225481.	0
ELEVATORS	0.90	1	4.	2	$	73000.	0
ENERGY CONSERVATION	0.90	1	5.	2	$	54000.	0
TENANT IMPROVEMENTS	0.90	1	10.	4	$	50000.	0
INVESTMENT CREDIT DU	1.00	1	1.	2	$	10800.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.1200	1	20	20	$	531493.	0.487
SECOND MORTGAGE	0.1300	1	8	8	$	104000.	0.095

EXHIBIT 29 -- Continued

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
1	GROSS INCOME	506920.	535080.	550220.	579460.	600210.
2	LESS VACANCY	120790.	85330.	66480.	59910.	39220.
3	LESS REAL ESTATE TAXES	26674.	28008.	29408.	30878.	32422.
4	LESS EXPENSES	272260.	303180.	328640.	357700.	389390.
5	NET INCOME	87196.	118562.	125692.	130972.	139178.
6	LESS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
7	LESS INTEREST	76472.	74515.	72298.	69785.	66938.
8	TAXABLE INCOME	-65599.	-20351.	-10048.	-1443.	26726.
9	PLUS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
10	LESS PRINCIPAL PAYMENTS	14730.	16687.	18904.	21417.	24263.
11	CASH THROW-OFF	-4006.	27361.	34490.	39770.	47976.
12	LESS TAXES	0.	0.	0.	0.	13363.
13	LESS RESERVES	0.	0.	0.	0.	0.
14	CASH FROM OPERATIONS	0.	27361.	34490.	39770.	34613.
15	WORKING CAPITAL LOAN	0.	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	27361.	34490.	39770.	34613.
17	TAX SAVING ON OTHER INCOME	32799.	10175.	5024.	721.	0.
18	SPENDABLE CASH AFTER TAX	32799.	37536.	39514.	40491.	34613.

EXHIBIT 29 -- Continued

MARKET VALUE & REVERSION

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
19	END OF YEAR MARKET VALUE	871962.	1185625.	1256921.	1309717.	1391778.
20	LESS RESALE COST	34878.	47425.	50277.	52389.	55671.
21	LESS LOAN BALANCES	620764.	604077.	585173.	563756.	539493.
22	PLUS CUM. CASH RESERVES	25994.	25994.	25994.	25994.	25994.
23	BEFORE TAX NET WORTH	242314.	560117.	647466.	719566.	822608.
24	CAPITAL GAIN (IF SOLD)	-181096.	182544.	313511.	426719.	551596.
25	CAPITAL GAINS TAX	-36219.	36509.	62702.	85344.	110319.
26	MINIMUM PREF. TAX	0.	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP.	1500.	2438.	2897.	2950.	2657.
28	TOTAL TAX ON SALE	-16610.	38946.	65599.	88294.	112977.
29	AFTER TAX NET WORTH	258924.	521171.	581867.	631273.	709632.

BEFORE TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
30	RETURN ON NET WORTH B/4 TAX	-0.5014	1.4245	0.2175	0.1728	0.2099
31	CHANGE IN NET WORTH B/4 TAX	-243696.	317803.	87349.	72100.	103042.
32	ORIG EQUITY CASH RTNB/4 TAX	-0.0082	0.0563	0.0710	0.0818	0.0987
33	ORIG EQUITY PAYBACK B/4 TAX	0.0000	0.0563	0.1273	0.2091	0.2803
34	B/4 TAX PRESENT VALUE	846386.	1092030.	1126006.	1142995.	1174189.

AFTER TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
35	RETURN ON NET WORTH AFR TAX	-0.3998	1.1578	0.1923	0.1545	0.1790
36	CHANGE IN NET WORTH AFR TAX	-227086.	262248.	60696.	49406.	78359.
37	ORIG EQUITY CASH RTNAFR TAX	0.0675	0.0772	0.0813	0.0833	0.0912
38	ORIG EQUITY PAYBACK AFR TAX	0.0675	0.1447	0.2260	0.3093	0.3806
39	AFTER TAX PRESENT VALUE	893655.	1102069.	1124564.	1133307.	1150082.

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
40	NET INCOME-MARKET VALUE RTO	0.1000	0.1000	0.1000	0.1000	0.1000
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7696	0.7894	0.8165	0.8280	0.8547

EXHIBIT 29 -- Continued

INPUT FILE

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500 302,2,12,1,8,0
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530 403,99,1,2,3,4,5
540 999,99
```

3. Going concern value may be more relevant to an economic development loan. The public purpose of the loan subsidy is to create employment, improved physical environment, and the seeds of an economic base appropriate to redevelopment. In appraising the property for loan purposes the cash equivalency of fee simple title is not relevant if eventual delinquency on the loan gives the lender several options other than foreclosure. For example:

   a. assignment of business ownership as collateral permits transfer and sale of the going concern to better management.

   b. It could permit a change of use within constraints of the economic development program as a workout.

   c. It could look to additional forms of subsidy, such as applied to Section 8 rehab money as a deep subsidy applied to rescue of a delinquent moderate 236 subsidy program.

   d. Public purposes may create a monopoly for the facility to be appraised which provides a market price superior to fee simple title where it is not directly encumbered by long-term public priorities and commitments.

C. If the appraisal is for loan security, then the issue is whether similar nonmarket credit terms would be available to the next buyer. VA loans are assignable; economic development loans may be transferable with a change in management; subsidized rental housing loans may be undisturbed by default because of the assignability of control via transfer of partnership interests.

   1. The appraiser does not discount a purchase price of a home purchased with a shared appreciation mortgage. That is contingent interest for the lender.

   2. If a builder of condominiums buys down the loan of his customer, what are those points really worth? It depends on how long the buyer owns the property and is really an oblique form of a shared appreciation mortgage, is it not? Contingent interest for the borrower as well as the lender.

   3. Appraisers have generally overlooked cash equivalency arguments relative to the seller paying the points to buy down the loan for the buyer in VA loans. Similarly, it should be disregarded on financing through prior builders' commitments. Do you discount project unit values because he bought a FNMA commitment or hedged in the GNMA certificates market? After all, these costs are also included in the price and may be included in the resale price.

D. What is a point really worth? Refer to Exhibit 30.

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EXHIBIT 30

WHAT IS A POINT REALLY WORTH?

Daniel J. O'Connell

Many real estate professionals compile lists of personal rules of thumb. Ideally these rules of thumb serve to reduce effort and raise productivity in daily decision making—with minimal sacrifice in accuracy and quality.

One rule-of-thumb that seems to have made a lasting impression is that the payment of one loan point[1] should equate to an ⅛ percent reduction in the loan interest rate. For example, a borrower choosing between a 12-¾ percent loan with 2 points from ABC Mortgage Company and a 13 percent loan without points from the XYZ Mortgage Company would be indifferent as to the choice.[2] According to the rule-of-thumb, the two-point charge supposedly equates to the ¼ percent (⅛ percent per point) difference in interest rates. However, that may not be a valid rule, as can be seen when comparing the points and no-points alternatives.

A purchaser buys a house to be financed with a $100,000, 30-year loan. Financing is available from ABC Mortgage at 12-¾ percent plus 2 points ($2,000), and is also available from XYZ Mortgage at 13 percent with no points. This is illustrated in Table 1.

Assume the borrower plans to hold the property for a period of only two years at which point the balance of the loan will be paid. The difference in payments between the two loans is $468.00 for the two-year period, favoring the lower interest rate loan:

2-year payments @ 13%	$26,548.80
2-year payments @ 12-¾%	−26,080.80
Payment savings with 12-¾% loan	$ 468.00

The difference in remaining balances upon the loan pay-off must also be taken into account. Because the 12-¾ percent loan will amortize faster, it will have a remaining balance that is $34.71 lower than the 13 percent loan at the end of the two years. Adding this balance to the $468.00 in reduced payments results in a savings of $502.71 over the two-year life of the loan:

Payment savings with 12-¾% loan	$468.00
Additional loan reduction	+ 34.71
Total savings with 12-¾% loan	$502.71

The borrower, if choosing the 12-¾ percent loan, saves $502.71 in payments and additional amortization over the 13 percent loan, but has paid $2,000 to do so. Obviously, the two-point fee does not always equate to the corresponding ¼

Table 1

	ABC Mortgage Co.	XYZ Mortgage Co.
Loan	$100,000	$100,000
Interest rate	12-¾%	13%
Monthly payments	$1,086.70	$1,106.20
Annual payments	$13,040.40	$13,274.40
Points	2	0
$ Point charge	$2,000	0

[1]As used here, a point is defined as an additional, up-front charge made by a lender and paid by a borrower, that enables a loan to be made at a lower interest rate. A point is computed as 1% of the loan amount. More than one point may be charged, with each point creating a corresponding decrease in the interest rate.

[2]Assuming the borrower has the available funds to pay the points.

Table 3

Discounted, after-tax payment savings with 12¾% loan

	1	2	3	4	5
Year	Payment Difference	Tax Savings On 13% Loan	Annual After-Tax Payment Savings	Column 3 Discounted @ 8%	Cumulative Payment Savings
1	$234.00	$92.74	$141.26	$130.80	$ 130.80
2	234.00	93.26	140.74	120.66	251.46
3	234.00	93.82	140.18	111.28	362.74
4	234.00	94.41	139.59	102.60	465.34
5	234.00	95.02	138.98	94.59	559.93
6	234.00	95.56	138.44	87.24	647.17
7	234.00	96.31	137.69	80.34	727.51
8	234.00	96.95	137.05	74.04	801.55
9	234.00	97.62	136.38	68.22	869.77
10	234.00	98.25	135.75	62.88	932.65
15	234.00	100.49	133.51	57.26	1,180.99
20	234.00	97.34	136.66	54.27	1,350.33
25	234.00	77.38	156.62	22.87	1,475.26
30	234.00	12.91	221.09	21.97	1,584.75

Column 1 is the annual difference in payments between the two loans with the advantage to the 12¾% loan.

Column 2 is the annual savings in taxes attributable to the 13% loan due to additional interest payments.

Column 3 is the combined effects of the first two columns: Column 1 minus Column 2 = Column 3.

Column 4 is Column 3 discounted to the present at 8% per annum.

Column 5 is the cumulative total of Column 4.

Table 4

Discounted, after-tax pay-off and combined savings with 12¾% loan

	1	2	3	4
Year	Pay-Off Difference	Column 1 Discounted @ 8%	Cumulative Payment Savings (Table 3, Col. 5)	Combined Savings
1	$ 16.65	$ 15.42	$ 130.80	$ 146.22
2	34.71	29.76	251.46	281.22
3	54.29	43.10	362.74	405.84
4	75.44	55.45	465.34	520.79
5	98.26	66.87	559.93	626.80
6	122.80	77.38	647.17	724.55
7	149.09	86.99	727.51	814.50
8	177.13	95.70	801.55	897.25
9	206.96	103.59	869.77	973.30
10	238.51	110.48	932.65	1,043.13
11	271.70	116.53	990.61	1,107.14
12	306.38	121.67	1,044.06	1,165.73
13	342.37	125.89	1,093.37	1,219.26
14	379.38	129.16	1,138.90	1,268.06
15	416.98	131.45	1,180.99	1,312.44
20	569.40	126.45	1,350.33	1,476.78
25	601.55	87.84	1,475.26	1,563.10
30	0	0	1,584.75	1,584.75

Figure A

Present value of borrower's after-tax savings with up-front point deduction (TABLE 4)

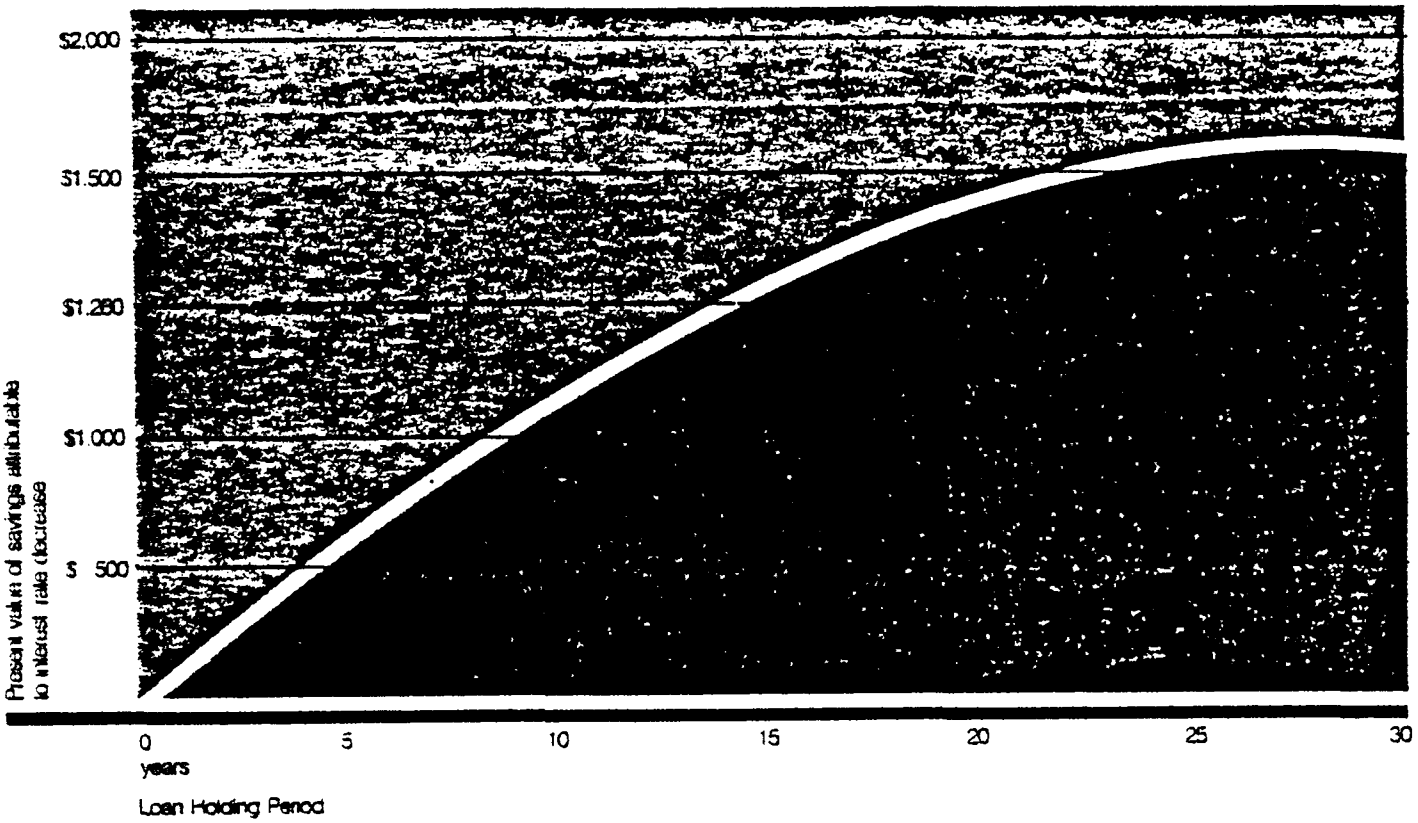

Figure B

Present value of borrower's after-tax savings with point charge added to basis

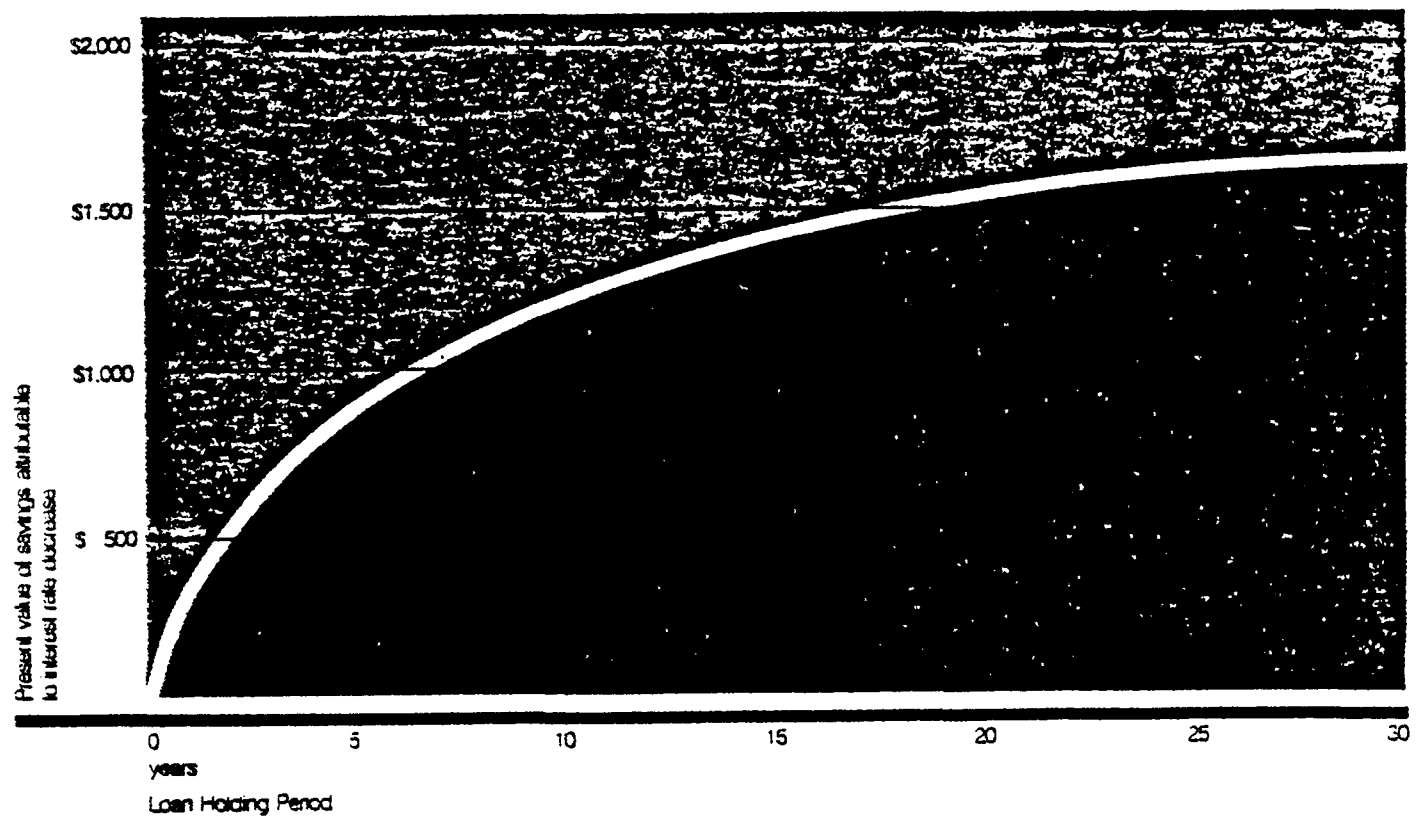

EXHIBIT 31

Example Problem: Cash Equivalent Price - Existing Mortgage plus Purchase Money Mortgage

Given the following information, determine the cash equivalent price of the transaction:

Sale Price	$1,000,000
Existing Mortgage (assumed)	Balance $682,052 Mo. Pmt. $6,039.20 Contract rate 8.5% Expired Term 6 years Remaining Term 19 years
Purchase Money Mortgage	$200,000 @ 10% Amortization over 20 years, balloon in 10 years
Current Financing	14,5%, 20 year amortization with 10 year balloon

A. What is the equity investment?
B. What is the balance outstanding on the existing (assumed) mortgage in 10 years?
C. What is the payment on the PMM?
   What is the balance outstanding EOY 10?
D. What is the cash equivalent price of the transaction?

Suggested Solution - II
Existing Mortgage plus PMM

A. $117,948

B. $454,781

C. $ 1,930
   $146,049

D.	Equity	$117,948
	Assumed Existing Mortgage PW $6,039.20, 120 mos. @ 14.5%	$381,535
	PW $454,781, EOY 10 @ 14.5%	
	Purchase Money Mortgage PW $1,930, 120 mos. @ 14.5%	$121,931
	PW $146,049, EOY 10 @ 14.5%	$ 34,558
	Total (Cash Equivalent Price)	$763,581

* Courtesy of Byrl Boyce

EXHIBIT 32

IX. PROBLEM (CASH EQUIVALENCY)*
*Courtesy of A. Robert Parente, SREA, MAI.

An income producing property (special purpose) was resold by the Midland National Bank on a "workout." The terms of the sale were as follows:

Sale Price:	$1,178,808, no cash by purchaser, i.e., 100% debt financing
Terms of Financing:	First year - interest only at a rate of 4-1/2% and payable monthly
	Second year - interest only at a rate of 6% and payable monthly
	For the next 23 years - principal and interest at 8-1/2%, payable monthly

The property (a 12,000 sq. ft., 3-year old restaurant building) was purchased on November 10, 1977 for $1,178,808. Typical terms of financing at that time (11/77) were 9-3/4% interest for 25 years on a 75% loan-to-value ratio. It is estimated that equity required a 12-15% return.

Questions:

A. What are the monthly interest costs in years 1 and 2?

B. What is the constant on the amortized portion of the mortgage?

C. What is the monthly payment on the mortgage?

D. What is the unadjusted sales price per square foot for use in the DSC approach?

E. What is the cash equivalent price assuming 100% financing were typical in the market?

F. What is the cash equivalent price assuming an equity yield requirement of 12% 15%?

G. What is the adjusted sales price per square foot under each of the conditions set forth above?

Suggested Solution - IX
Problem (Cash Equivalency)

A. Year 1: $4,420.53
Year 2: $5,894.04

B. f = .09913

C. $9,737.97

D. $1,178,808 ÷ 12,000 = $98.23/sq. ft.

E. PW i Costs Year 1 @ 9-3/4% = $ 50,347.92
PW i Costs Year 2 @ 9-3/4% = 60,918.28
PW Amortization payments
Years 3-25 @ 9-3/4% = 881,198.63

Cash Equivalent Price
(100% Financing) = $992,464.83*

*$186,343.17 less than face value of note

$992,464.83 ÷ 12,000 = $82.71/sq. ft.

F. Discount Rates given Y = 12%, Y = 15%, m = 75% i = 9.75%

	Y = 12%		Y = 15%	
Mortgage	.75 x .0975	= .073125	.75 x .0975	= .073125
Equity	.25 x .12	= .03	.25 x .15	= .0375
Discount Rate (r)		= .103125	Discount rate (r)	= .110625

	PWCF @ 10.3125%	PWCF @ 11.0625%
Year 1	$ 50,198.33	$ 49,999.88
Year 2	60,399.42	59,715.07
Years 3-25	835,796.73	780,188.86
	$946,394.48**	$889,903.81***

$232,413.52 below face *$288,904.19 below face

G. $946,394.48 ÷ 12,000 = $78.87/sq. ft.

$889,903.81 ÷ 12,000 = $74.16/sq. ft.

* Courtesy of Byrl Boyce

EXHIBIT 33

CASH EQUIVALENCY EXAMPLE

NAKOMA HEIGHTS
168 APARTMENT UNITS
SOLD NOVEMBER 1, 1979
NOMINAL SALES PRICE $3,450,000

A. One appraisal reviewed recently contained the following summary analysis. It is used as it probably parallels the Madison Assessor's Office perception of the transaction:

Date	Price	Gross	Net	GIM	Income Expense	S.P. Unit	OAR
7/79	$3,450,000	$449,249	$196,548	7.68	56.3	$20,536	5.7

B. Cash Equivalency - Monthly payment differential

If 25% down with 75% L/V at 10.55 for 25 years

Down	862,000
Mortgage	$2,588,000
	$3,450,000

Monthly payment $24,528; Annual payment $294,335

1979 - 4/80 Conv. Mortgage $294,335
L.C. (9.25) 272,875
$ 21,460/12 = $1,788 (A)

4/80 - 4/81

$2,950,000
250,000
$2,700,000 X L.C. .0925 = Conv. Mortgage $294,335
249,750
$ 44,585/12 = $3,715 (B)

4/81

$2,700,000
250,000
$2,450,000 X .0125 $294,335
226,625
$ 67,710/12 = $5,643 (C)

NET PRESENT VALUE UNDER
L.C. FINANCING AND BALLOON PAYOUT
ACCORDING TO CONTRACT ON 12/31/85

	1979		1980		1981		1982 - 84 4 years	
Down Payment	$500,000		$250,000		$250,000			
	3,576	(2A)	5,364	(3A)	11,145	(3B)	$ 67,710	(12C)
	$503,576		33,435	(9B)	50,787	(9C)		
			$288,799		$311,932			
						Balance	2,450,000	
							$2,517,710	

NET PRESENT VALUE CONVENTIONAL LOAN

	1979				
Down Payment	$862,000				
	--			Balance	2,404,022
Cash year 1	$503,576	$288,799	$311,932		
		.884666	.796455		
Cash year 2	255,491	$255,491			
Cash year 3	248,440		248,440		
Cash year 4	48,551			$67,710	
Cash year 5	43,710			67,710	
Cash year 6	39,351			67,710	
Cash year 7	$1,317,332				$2,517.710
	$2,456,451	Total Cash Equivalency			
		(Versus $3,450,000 nominal selling price)			

INCOME PREPORTED (Contract)	GROSS INCOME	$499,249
	NET INCOME	196,548

MARKET RENT LEVELS

At least gross	$450,000
Less 40% expense	180,000
NOI	$270,000

$$OAR = \frac{270,000}{2,456,451} = .109915$$

$$SP/Unit = \frac{2,456,451}{168} = 14,622$$

1. Most probable price always requires a statement as to the financial terms which are a condition of effective demand at that price. Fair market value definition is sufficiently ambiguous to require a statement of financial terms as a qualification on conclusion.

2. In practice you ignore points paid by the seller in a VA loan. To predict the most probable price, why not ignore points paid by the seller for a conventional loan? For loan security the lender is interested in the most probable price at which it will sell or whether the spread between probable price and fair market value will be covered by private mortgage insurance. In the latter case the appraiser could provide both numbers if asked.

3. Only the assessor is locked into cash equivalent fair market value!

E. The mechanics of cash equivalency values come into play where income properties are sold subject to non-market financing or for purposes other than income investment, such as syndication or condominium conversion. Professors Byrl Boyce and William Kinnard have prepared an excellent half-day presentation on cash equivalencies. The cases in Exhibits 31 and 32 are from their seminar and are suggestive of the mechanics of cash equivalency due to non-market financing.

V. The fair market value appraisal for tax assessment of subsidized, rental housing is a very frustrating experience for both the assessor and the ownership position. None of the components of value are what they seem to be.

A. It should be noted that 221 d3 and d4 and 236 projects involve subsidy of the interest rate only, while Section 8 recognize the damage done by inflati-n to cost to construct and operating expenses, so that it subsidizes the total project.

1. Section 8 was intended to subsidize conventionally financed apartments within a larger project, thus avoiding a ghetto of subsidized projects and permitting the depth of subsidy to vary; government would pay the difference between fair market rents and 25% of eligible tenants income.

2. The legislation included instructions that the subsidy would cover full taxes and utilities, presuming taxes would be similar to non-subsidized development pegged at prevailing market rents. It was an operating subsidy program with no specific relationship to financing.

3. The 1974 legislation did say that if the Section 8 contract was used as collateral to obtain financing, HUD had the right to approve financing and refinancing.

4. Three factors precluded the original concept - rising interest rates in the conventional market, the evolution of HUD prerogatives for auditing, management, and tenant selection or eviction, and finally the operating procedures of state housing finance agencies and GNMA tandem plans which provide virtually all of the financing.

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Wisconsin Housing Finance Authority

I. GENERAL INFORMATION

1. Development Name: Woodview Park
2. Development Sponsor: Munz Investment Estate, Inc. Real
3. Development Location: Tyrell Ave. & Geneva St. (Street)
   Delavan, (City) Walworth (County)
4. (x) Feasibility
   ( ) Firm
5. Type of Mortgagor:
   (X) L.D.
   ( ) N.P.
6. (X) New Construction
   ( ) Rehabilitation
7. Permanent Mtg. Interest Rate 7.5%
8. Construction Financing: (X) WHFA ( ) Conventional

9. Type of Development	No. of Units		No. of Stories
(X) Low Rise (1-3 stories)	84 Apt. Units Duplex Units	6 T.H. Units S.F. Units	E - 3 Story F - 2 Story
( ) Mid Rise (4-6 stories)	No. of Units		
( ) High Rise (7 stories and over)	No. of Units		

10. Accessory Buildings: (No. and type) None
11. Total Number of Buildings: Three
12. Total Number of Units: 90 (Family 22 ; Elderly 68 ; Handicap)
13. Total Number of Units: 90 Revenue; Non-Revenue
14. Density: 20 Units Per Acre
15. Building Information: Structural System Wood frame w/exterior & interior masonry
    Exterior Finish Masonry /bearing walls
    Floor System Wood
16. Gross Floor Area (Including Basement and Common Areas) 85,600 Sq. Ft.
17. Net Rentable Floor Area: 53,396 Sq. Ft.
18. Number of Parking Spaces:
    34 Elderly
    44 Family
19. Parking Ratio:
    1/.87

II. AMENITIES

- X Range ([redacted] Electric)
- X Refrigerator
- X Air Conditioning (Sleeve Only)
- ___ Air Conditioning (Sleeve Unit)
- ___ Central Air Conditioning
- X Kitchen Exhaust Fan
- X Central Laundry Facilities
- X Unit Laundry Facilities
- X Disposal
- ___ Dishwasher
- X Carpet
- X Drapes
- X Shades
- X Rods
- X Common Area Furnishings
- X Tot Lot
- ___ Other (Specify)

III. SERVICES

Included in Rent	Yes	No
Heat		
Gas/Hot Water	(X)	( )
Gas/Forced Air	(X) 3Bdr.	( )
Electric	( )	( )
Hot Water		
Gas	(X)	( )
Electric	( )	( )
Unit Electric (Lights, Cooking, etc.)	(X)	( )
Water	(X)	( )
Other Fuel (Specify)		
_____	( )	( )
_____	( )	( )
_____	( )	( )

IV. RENT SCHEDULE

No. of Units	Type	Bdrms	Size by Sq. Ft. Net	Size by Sq. Ft. Gross	FMR	Contract Rent	Utility Allowance
67	E -L.R.	1	500	546	$271	$258.10	$14G, $4E
1	E -L.R.	2	800	860	$348	$278.84	$20G, $8E
16	W- L.R.	2	820	875	$293	$278.84	$20G, $8E
6	T.H.	3	996	1080	$381	$372.21	$35G,$12E

Gross Annual Contract Rent - $ 291,194

Gross Annual Contract Rent & Utility Allowance - - - - - - - - - - - - - - - - - $ 314,762

V. EQUITY CALCULATION

1. Total Replacement Cost - - - $ 2,212,267
2. Mortgage Amount- - - - - - - $ 1,991,040
3. BSPRA - - - - - - - - - - - - $ 192,737
4. BSPRA & Mtg. Amount - - - - $ 2,183,777
5. Equity Cash (Line 1 minus Line 4) - - - - $ 28,490

VI. INCOME COMPUTATION

1. Gross Annual Income (Contract Rent) - - - - - - $ 314,762
2. Vacancy (5 %) - - - - - - - $ 15,738
3. Effective Gross Income - - $ 299,024
4. Debt Service (7½ %) - - - $ 157,229
5. MHFA Service Fee (½ %)- - $ 9,955
6. Total Operating Expenses & Taxes - - - - - - $ 118,568
7. Return on Equity- - - - - - $ 13,274

VII. SETTLEMENT REQUIREMENTS - INITIAL CLOSING

1. Cash
   Equity Cash - - - - - - - - $ _____
   Construction Adjustments- - $ _____
   Off-Site- - - - - - - - - - $ _____
   Completion Assurance- - - - $ _____
   Total Cash Requirement - - $ _____

2. Letter of Credit
   Construction Adjustments- - $ _____
   Off-Site- - - - - - - - - - $ _____
   Completion Assurance- - - - $ _____
   Total Letter of Credit Requirement - - - - - - - - $ _____

3. Total Cash & Letter of Credit Requirement - - - - $ _____

4. Bonds
   Completion Assurance- - - - $ _____
   Off-Site- - - - - - - - - - $ _____

VIII. RECONCILIATION

1. ACC Authorization - - - - - - - - - $ _____
2. Tenant Payments - - - - - - - - - - $ _____
3. Expected HUD Contributions- - - - - $ _____
4. Total Revenue - - - - - - - - - - - $ _____
5. Total Expenses- - - - - - - - - - - $ _____

IX. REPLACEMENT COST AND MORTGAGE

A. CONSTRUCTION CONTRACT

		Per Unit	Total	
1.	STRUCTURES:			
	1a. Apartments	$ 15,162	$ 1,273,600	
	1b. Townhouses	$ 23,000	$ 138,000	
	1c. Duplexes	$	$	
	1d. Single Family	$	$	
	1e. Other Buildings	$	$	
	1f. TOTAL STRUCTURES	$ 15,684	$ 1,411,600	$ 1,411,600
2.	LAND IMPROVEMENTS:			
	2a. Usual (landscaping paving, etc)	$ 1,433	$ 129,000	
	2b. Unusual	$	$	
	2c. TOTAL LAND IMPROVEMENTS	$ 1,433	$ 129,000	$ 129,000
3.	GENERAL REQUIREMENTS (___ %)			$ 35,550
4.	GENERAL OVERHEAD (___ %)			$ 28,935
5.	BOND PREMIUM/LETTER OF CREDIT FEE			$ 16,123
6.	OTHER- Tyrell Ave. Improvements-Eng. Est. $70 $75000÷122 D.U.'s=$614 per D.U. X 90 =			$ 55,260
7.	TOTAL CONSTRUCTION CONTRACT			$ 1,676,468
	7a. Per Unit Construction Contract	$ 18,627		
8.	ARCHITECTURAL FEES			
	8a. Design (___ %)		$ 46,000	
	8b. Supervision (___ %)		$ 14,000	
	8c. TOTAL ARCHITECTURAL FEES			$ 60,000
	8d. Per Unit Architectural Fees	$ 666.67		
9.	TOTAL CONSTRUCTION CONTRACT & ARCHITECTURAL FEES			$ 1,736,468
10.	CONSTRUCTION INTEREST (10 mo. @ 8 %) 8 mo. @ 8% for 3 Bdrms. for 1 & 2 Bdrms.		$ 65,139	
11.	CONSTRUCTION TAXES		$ 13,875	
12.	CONSTRUCTION INSURANCE		$ 3,020	
13.	TITLE & RECORDING		$ 2,366	
14.	WHFA PROCESSING FEE (2.5 %)		$ 49,776	
15.	LOAN LOSS RESERVE (2.5%)		$ 49,776	
16.	LEGAL ($ 4950) & COST CERTIFICATION ($ 2,000)		$ 6,950	
17.	TOTAL CARRYING CHARGES & FINANCING FEES			$ 190,902
	17a. Per Unit Carrying Chgs. & Fin. Fees	$ 2,121		
18.	TOTAL (Lines 9 + 17)			$ 1,927,370
19.	BSPRA			$ 192,737
20.	LAND			$ 92,160
21.	TOTAL REPLACEMENT COST (Lines 18 + 19 + 20)			$ 2,212,267
	21a. Per Unit Replacement Cost	$ 24,581		
22.	MORTGAGE (90 %)			$ 1,991,040
	22a. Per Unit Mortgage	$ 22,123		

X. OPERATING EXPENSES

		Est. assessed Mkt. value	Per Unit	Sub-Total
1.	REAL ESTATE TAXES:	E	$17,000 x 68 x 67% =	$774,520
		2 Br	$19,000 x 16 x 67% =	$203,680
	1a. Est. Assessed Val. 67 %	3 Br	$26,000 x 6 x 67% =	$104,520
			X	$1,082,720
	@ $ 33.37 per $1000			$ 36,672
	1b. Per Unit R.E. Taxes	$ 408		
2.	SERVICE ACCOUNTS:			
	2a. Fuel (Htg. & Dom. Hot Water)	$ 198.40		$ 17,856
	2b. Electric	$ 63.47		$ 5,712
	2c. Water - Sewer	$ 45.07		$ 4,056
	2d. Garbage & Trash Removal	$ 27.00		$ 2,430
	2e. Other - Advertising	$ 3.00		$ 270
	2f. TOTAL SERVICE ACCOUNTS			$ 30,324
	2g. Per Unit Service Accounts	$ 336.94		
3.	INSURANCE			$ 4,062
4.	AUDIT			$ 1,080
5.	LEGAL			$ 540
6.	MANAGEMENT:			
	6a. Fees			
	6b. Central		-$ 6,756	
	6c. On-Site		-$ 9,192	
	6d. Administrative		-$	
	6e. TOTAL MANAGEMENT			$ 15,948
	6f. Per Unit Management	$ 177.20		
7.	MAINTENANCE:			
	7a. Caretaker Salary		-$ 6,480	
	7b. Other Salaries-		-$	
	7c. Contract Services		-$ 4,998	
	7d. Supplies-		-$ 2,700	
	7e. Other - Repair Services		-$ 7,170	
	7f. TOTAL MAINTENANCE			$ 21,348
	7g. Per Unit Maintenance-	-$ 237.20		
8.	REPLACEMENT RESERVE			$ 8,594
9.	TOTAL OPERATING EXPENSES (Lines 1a + 2f + 3 + 4 + 5 + 6e + 7f + 8)			$ 118,568
10.	DEBT SERVICE-			$ 167,183
	10a. Per Unit Debt Service	-$ 1,857.59		
11.	RETURN ON EQUITY			$ 13,274
12.	TOTAL OPERATING EXPENSES, DEBT SERVICE & RETURN ON EQUITY (Lines 9 + 10 + 11)-			$ 299,025

WISCONSIN HOUSING FINANCE AUTHORITY

WHFA Form No.
Page 1 of 1

Date 5/12/77	CONTRACTOR'S and/or MORTGAGOR'S COST BREAKDOWN (SCHEDULES OF VALUES)	Project No. 214
Sponsor Munz Woodview Park assoc.		
Name of Project Woodview Park	Location Delavan Wis	

This form represents the Contractors and/or Mortgagors firm costs and services as a basis for disbursing dollar amounts when advances are requested.

DV	TRADE ITEM	COST	TRADE DESCRIPTION
2	Excavating & Backfill	43438	
3	Concrete	95657	
4	Masonry	147825	
5	Metals	10638	
6	Rough Carpentry	143688	
6	Rough Carpentry Labor	94282	
6	Finish Carpentry	23157	
6	Finish Carpentry Labor	40094	
7	Waterproofing	54007	
7	Insulation	24400	
7	Roofing	20032	
7	Sheet Metal	16175	
8	Doors	47500	
8	Windows	13063	
8	Glass	12282	
9	Lath & Plaster	—	
9	Drywall	93050	
9	Tile Work	7250	
9	Acoustical	4600	
9	Wood Flooring	—	
9	Resilient Flooring	4025	
9	Painting & Decorating	17625	
10	Specialities	5938	
11	Special Equipment	6563	
11	Cabinets	38157	
11	Appliances	42900	
12	Blinds & Shades, Artwork	9325	
12	Carpets	45600	
13	Special Construction	—	
14	Elevators	24911	
15	Plumbing & Hot Water	122000	
15	Heat & Ventilation	125073	
15	Air Conditioning	1000	
16	Electrical	149777	
	Accessory Structures	4000	
	TOTAL STRUCTURE(S)	1428623	
2	Earth Work	11250	
2	Site Utilities	16406	
2	Roads & Walks	30720	
2	Site Improvements	4000	
2	Lawns & Planting	34964	
2	Unusual Site Condition	55260	
	TOTAL LAND IMPRVTS.	152600	
	TOT. STRUCT. & LAND IMPRVTS.	1581223	
1	GENERAL REQUIREMENTS	35500	
	SUBTOTAL (Lines 41 and 42)	1616723	
	BUILDER'S OVERHEAD	28935	
	BUILDER'S PROFIT	—	
	SUBTOTAL (Lines 43 thru 45)	1645658	
	OTHER FEES		
	BOND PREMIUM	16123	
	TOTAL FOR ALL IMPROVEMENTS	1668.781	
	Builder's Profit paid by means other than cash		
	TOTAL FOR ALL IMPROVEMENTS LESS LINE 52		

NONRESIDENTIAL AND SPECIAL EXTERIOR LAND IMPROVEMENT (costs included in trade item breakdown)		OFFSITE COSTS (costs not included in trade item breakdown)	
DESCRIPTION	EST. COST	DESCRIPTION	EST. COST
		TOTAL $	
		DEMOLITION (costs not included in trade item breakdown)	
		DESCRIPTION	EST. COST
TOTAL $		TOTAL $	

Mortgagor Munz Woodview Park Assoc By _____ Date 5/12/77

Contractor Munz Investment Bell Estate Inc. By _____ Date 5/12/77

WHFA _____ Date _____

3/6/75

B. Fair market rent (FMR) has nothing to do with rents from the marketplace for the specific units in question. Instead, they are established by HUD at a level which is expected to justify construction costs in a particular locale; if the FMR's don't work, deviations as high as 10% upward are premitted, but they are indexed to HUD estimates of cost to construct rather than community norms.

C. Using the FMR's for the unit mix of a proposed project, the developer works through the 2013 form (See WHFA, Exhibit 34) backwards to arrive at a capital budget available for hard construction costs; he typically buys his land at a value not to exceed 90% of the HUD acceptable unit cost of land. The 2013 budget is then a tentative maximum but actual project costs are audited and any savings are used to adjust the maximum mortgage commitment. The 2013 does not recognize points paid for the permanent loan or overruns on cost, but the audit doesn't recognize rents collected prior to the audit certification date. With adroit phasing these costs may be offset with revenues during a period when most operating costs are funded as indirect costs of construction.

D. The cost approach to value is distorted by HUD's specifications, lengthy procedures, hidden profit centers in fixed allowances for design, supervision, bonding, overhead, etc. Space allocations within the project may reflect social purposes such as meeting rooms, medical centers, craft shops, and infirmary. Moreover most projects are multiple site, multiple buildings, mixed units where perhaps the FMR on elderly will subsidize inadequate FMR's on family units.

E. Comparative operating budgets for 100-unit one bedroom project is provided in Exhibit 35.

F. The market comparison approach is inoperative because of constraints on resale inherent in the mortgage and management contracts, the tax trap of accelerated depreciation, the loss of depreciation benefits to the second owner, the emphasis on profit centers for construction rather than management, the rent controls following construction, and the fact that conversion to a conventional market rent structure in the early years would mean rents below the government level with interest rates higher than government level, thus forcing a resale price at a capital loss to the sellers.

G. In short, it will be almost impossible to find or simulate a sale at fee simple title. Rather a transfer would come with all the liens and contractual obligations because the owners are not the controlling powers; HUD and the finance authorities are. Owners may change but the contractual pyramid will remain in place.

1. The Legislature recognized higher costs and higher risks could not be funded up front by direct subsidy so what has emerged is a series of mandatory management and operational reform and a series of initial and delayed profit centers, augmented by favorable tax rules, and automatically guaranteed.

2. Three groups of restrictions are the 1974 Act, complimentary administrative rules, and financing restrictions.

3. Section 8 developments are built to conform to the regulatory mold rather than market or merchandising feasibility. Size 10-15% less, finishes are utilitarian, secondary locations, etc. for inferior products.

4. The inferior product may cost more because of mandatory union wages, mandatory bonding and escrows, and non-competitive bidding to the degree that FMR's permit capital cost inflation. These costs can only be amortized by maintaining Section 8 agreements or conversion to tenant ownership. HUD is not encouraging the latter and there is no financing available that would place the tenants as owners at the same level of occupancy costs.

H. As a practical matter revenue could be subsidy payments plus actual payments from the tenants. But the subsidy payment includes a payment for the right to set rents, tenant eligibility standards and cash dividends to the investor - in short, a defeasible partial transfer of the fee to the public. Is that parallel to a lease or an easement in gross to the public?

1. As a practical matter the assessor can use the annual audited financial statement of the Section 8 project.

2. Gross rent equals 1/5 the ACC contract amount plus actual receipts from tenants.

3. Operating expenses should be used for the actual operations because they are different for subsidized projects (See Exhibit 36).

Exhi. 35

COMPARATIVE OPERATING BUDGETS FOR 100 ONE-BEDROOM UNITS

			Conventional			
	Section 8		High Range		Low Range	
Rent	342,000	285/U	276,000	230/mo	240,000	200/mo
Management	15,800	158/yr	16,200 6%	162/yr	12,000 5%	120/yr
Maintenance	20,300	203/yr	18,000	180/yr	10,000	100/yr
Services/ Heat	27,000	270/yr	24,000	240/yr	22,000	220/yr
Insurance	6,850	68/yr	6,000	60/yr	4,000	40/yr
Audit/Legal	900	9/yr				-0-
Replacement Reserve	9,200	92/yr				-0-
Equity Return	14,000	140/yr	-0-	-0-		
Taxes*	51,600		42,960		37,200	
Mortgage	2,150,000		1,532,567		1,405,125	
Debt Service	184,834		168,840		154,800	
Total Replacement Cost	2,391,000		1,803,020		1,653,088	

*Based Upon Unadjusted Total Costs

VI. Until now, cash equivalent prices have made adjustment for differences in fixed mortgage constants and predictable mortgage balances due at some future point in time. However, today we are faced with variable rate mortgages and a subsector of those called mortgage participation loans.

A. Variable rate mortgages should offer the appraiser little problem; indeed, it should help in that tricky allocation problem in terms of the source of value. Adjusting a sale price subject to an existing favorable mortgage is simply attributing value to the intangible element of finance rather than the productive asset of real estate.

1. To the degree that the variable rate mortgage removes the commodity speculation in money from the benefits of ownership, the more likely the price represents the value of the real estate rather than real estate plus an option on cheap money.

2. The form of the variable rate mortgage may cause cash throwoff to vary or net reversion on sale to vary. Hence, the necessity of doing a spread sheet if the appraiser has reason to believe rates will be adjusted upward or downward within the foreseeable future. In the absence of a rate notification or in the presence of a maximum rate limit, the appraiser does not have to speculate (capital budgeting theory would hold that the cap rate should be loaded for the third moment of the maximum interest variance to reflect the risk of alternative financial outcomes, but I doubt if appraisers are ready for that).

3. Lenders may modify debt cover ratios or mortgage investment guides like default points or loan-per-unit.

B. Various forms of equity participation represent contingent interest payments to the lender. The appraiser has no alternative but to do a spread sheet forecast year by year for five or ten years of the proforma income and resale possibilities of the property. Participation takes on a variety of forms:

1. Participation in gross rent, generally above a floor of normalized gross. (May reduce value for mortgage loan-to-ratio value purposes).

2. Participation in effective gross rent (set at a minimum level so that excessive vacancy penalizes the borrower; may exclude certain rental units or percentage rents or rents for services not funded by mortgage, i.e., a defined base effective rent).

3. Percentage of net operating income (certain expenses allowed in full while other discretionary expenses and vacancy allowance may be defined in amount or percentage of effective gross). Sometimes found on land leases and reduces net income available for debt service if land lease is unsubordinated.

Exhibit 36

Assessment Valuation of Section 8
Using Income Approach

Gross Receipts =	$142,000	Collected from tenants
	190,000	Collected from ACC contract for five years totalling $950,000
Net Revenue	$332,000	
Vacancy deduction - none		ACC pays up to 60 days of vacancy and tenants pay only when occupying unit
Management fee	$ 15,800	
Maintenance	20,300	
Services/heat*	27,000	
Insurance	6,850	
Audit-legal	900	
Replacement reserve	9,200	
Net operating exp	$80,050	

Net operating income
B/4 real estate taxes $251,950/.1374264 = $1,833,344

Capitalization rate = .126384 (25 year 12% mortgage)

(.126384 x .85) + (.15 x .05) + (.75 x .03 mill rate)

.1074264 .0075 .02225 =

Cap rate .1374264

*Be sure gross receipts include utility allowance; in some cases the tenant contribution is less than the utility bill.

4. Percentage of cash throwoff, after debt service and with defined priorities and allowable debt limits. Other restrictions may include mandatory reserves to be set aside before participation.

5. One of the above plus participation in refinancing surplus, net resale proceeds, or other capital transactions subject to a floor permitting recapture of equity capital and a ceiling for good fortune.

C. Some forms of equity participation are more subtle, such as the convertible mortgage which takes several forms:

1. A community shopping center costing $6 million to build and with a million in runaway construction interests can be sold for $7.3 million for $800-850,000 net operating income in the first five years. Lender provides $7.3 million for 11% interest only ten-year mortgage; in addition, he receives 50% of cash throwoff and whatever percentage of ownership is needed in the tenth year to provide overall 18% return.

2. An office building in San Francisco received 100% financing for construction and eight year balloon. In addition, the developer-borrower becomes a general partner with two limited partners, the land owner and the lender, each receiving some percentage of tax shelter, cash dividends, refinancing surplus or resale value and perhaps retaining first right of refusal as well.

3. In each case, the mortgage loan represents fee simple title while the interests above that represent entitlements to tax shelter, nonvested future interests, managementsand contracting fees and marketing skills.

APPRAISAL FOR PENSION FUND REAL ESTATE INVESTMENT
A Three-Hour Seminar Prepared For:
ILLINOIS CHAPTER NO. 6
American Institute of Real Estate Appraisers
Presented by James A. Graaskamp
Chairman, Real Estate and Urban Land Economics
University of Wisconsin-Madison
October 19, 1982

I. Appraisal Process and Pension Fund Administration

A. The Role of Real Estate Appraisal in the Measurement of Pension Fund Performance

1. There's an underlying need to measure the difference between current liabilities for vested pension benefits and the present value of assets available to pay benefits in order to establish current funding requirements.

a. Pension fund administrators want assets to appreciate to reduce unfunded deficit and thereby reduce annual contributions from the sponsor.
b. General securities like stocks and bonds are priced in the market beyond administrative control with a presumption of efficient markets.
c. Mortgages may be carried at face value as in savings and loan situations until they prove uncollectable or in default at which time reserves must be established for direct and indirect losses.
d. Equity owned real estate is not only perceived as outperforming inflation factors but also as an asset of very stable pricing and growth characteristics so that a portfolio of real estate should not create unexpected needs for sponsor funding.

2. Where pension funds own real estate directly, there is the opportunity for administrative bias for unnatural stability and overstated growth.

3. Nowhere is the propensity for control of asset value stability and growth in excess of inflation greater than in the management of open-end and closed-end real estate funds.

a. Co-mingled funds compete for new money by reporting quarterly earnings as a combination of cash income returns capital appreciation. An independent appraiser is expected to value each property annually while the appraisal and audit committee of the fund management group must review each property quarterly to determine the liquidating value of each unit in the fund.

b. Consistent increases in income and growth in resale value is the base for selling more units for additional capital as well as liquidating by repurchase the unit investment of any investor requesting to withdraw all or part of their investment.

B. The ERISA Act of 1974 represents powerful concern that these funds are managed with absolute financial integrity. In effect, the common law of trusts is made applicable to pension plans, and those involved in their administration have a fiduciary role and therefore personal liability for imprudent action.

1. Although the legal, accounting, and appraisal professions have persistently sought to minimize their accountability, and hence their liability, the broad language of ERISA in the definition of fiduciary is a positive step forward in requiring those who engage in offering professional services to be accountable for their work.

2. Many believe the fiduciary's duties in Section 404.(a)(1)(B) has elevated the prudent man rule to the level of prudent expert. In a competitive technical field like real estate, a prudent man would not seek to participate unless he possessed a high level of expertise, experience and judgment. If not, prudence dictates he retain a specialist. Therefore, by definition the prudent man must either be a prudent expert or retain one.

3. Consider the text of Section 404.(a)(1):

Subject to sections 403(c) and (d), 4042, and 4044, a fiduciary shall discharge his duties with respect to a plan solely in the interest of the participants and beneficiaries and--
(A) for the exclusive purpose of:
(i) providing benefits to participants and their beneficiaries; and
(ii) defraying reasonable expenses of administering the plan;
(B) with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims;
(C) by diversifying the investments of the plan so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so; and
(D) in accordance with the documents and instruments governing the plan insofar as such documents and instruments are consistent with the provisions of this title.

4. Any person who is a fiduciary or breaches duties placed upon fiduciaries shall be personally liable.

C. Ultimately, the appraiser is expected to be that prudent expert retained for the measurement of exit values on the real estate as well as unit values.

D. Since ERISA provides insurance against plan determination with inadequate funding through the federal Pension Benefit Guaranty Corporation, the feds will have opportunity to take action where appraisals have overstated assets and permitted inadequate funding just as the FDIC and FSLIC have done in the past.

E. The real estate appraisal for pension fund purposes will serve to:

1. Provide a physical inspection of the asset regularly.
2. Provide an economic audit of a particular investment in comparison to the market.
3. Predict the orderly exit value of the assets in the event of liquidation.
4. Measure yield on a long-term asset using short-term techniques.
5. Estimate value as a going concern and allocate income to asset types.
6. Facilitate full disclosure so that investment managers have the opportunity to supervise the delegation of investment decisions to fund managers.

II. There is a major gap between the expectations of fund managers in terms of their need for instructions to the accounting profession and the appraisal profession.

A. The accounting profession is attempting to implement procedures which permit standardization, for purposes of comparison, replication, realism, ease of interpretation, and recognition of bias or error.

B. Accounting recognizes that choices or judgments must be made at two levels. At one level is the Financial Accounting Standards Board (FASB) or other agencies such as the SEC, or perhaps in the future ERISA. At the other level, accounting choices must be made at the level of individual enterprise.

C. Reference to Exhibit 1 will indicate how the accountants distinguish between focus (the purpose of the accounting measurement), values to be sought, and the necessary events to be researched or assumptions to be made.

D. There is a similar effort to provide direction and control of the same choices for appraisers and yet the appraisal of income investment properties is first and foremost a series of accounting choices by appraisers who are untrained in accounting and operating without direction from their professional societies.

E. To proceed with an appraisal valuation two critical choices at the primary agency level must be made:

1. The unit of measure to be used.
2. The particular attribute of financial statement elements to be measured.

F. Appraisal states as does accounting that the unit of measure is money, but as Professor Paton noted in 1922:

> the value of the dollar - its general purchasing power - is subject to serious change over a period of years...Accountants...deal with an unstable, variable unit; and comparisons of unadjusted accounting statements prepared at intervals are accordingly always more or less unsatisfactory and are often positively misleading.

The problem was more forcefully stated by Henry Whitcomb Sweeney:

> Now, the success of the whole system of business depends upon the truthfulness of reports. The truthfulness of reports depends mainly on the truthfulness of accounting. The truthfulness of accounting depends largely on the truthfulness of the dollar - and the dollar is a liar! For it says one thing and means another.

As a result, there is increasing interest in measuring financial statement dollars in terms of equal purchasing power (called constant dollar accounting) and for identifying and separating out the effects of general inflation on management performance of business enterprises.

G. Various proposals have recently emerged that call for accounting measures of attributes that are different from those measured and presented in traditional financial statements. The FASB Discussion Memorandum entitled Conceptual Framework for Financial Accounting and Reporting: Elements of Financial Statements and Their Measurements indentifies five attributes that could be used in measuring and presenting financial statement elements. They are:

(1) historical cost/historical proceeds
(2) current cost/current proceeds
(3) current exit value in orderly liquidation (current market value)
(4) expected exit value in due course of business (net realization value)
(5) present value of expected cash flows.

H. Historical costs are based on actual transactions, and revenues are not recognized until assets are sold or exchanged. It reveals how management has met its responsibilities, but is inconsistent with appraisal concern for the future.

I. Current costs is the amount of cash required to obtain the same asset or its equivalent today and represents receipts or obligations currently. Appraisal uses market rent as current entry costs. If the tenant were to compare contract rent with economic rent, he would be able to allocate current operating profit versus cost savings, thus evaluating management's operating effectiveness without mingling gains from holding activities and gains from operating activities. Pension funds which report only net values after deducting leasehold values conceal the degree to which future gains are from recovery of lost opportunity as compared to management skill. Earnings result only after capital value has been maintained or recovered. Reporting leasehold values is consistent with financial capital concepts; however, traditional appraisal mixes its accounting theory by subscribing to the physical concept argument which requires a capital maintenance adjustment in the form of reserves for short-lived items before describing NOI as distributable profits.

J. Current exit value in an orderly liquidation is that amount of cash that could be obtained by selling the asset or required to eliminate an obligation. Appraisal handles the resale price correctly, but seldom correctly values the mortgage to include the prepayment penalty. The distinguishing characteristics of using current exit values are that assets are continually revalued to current exit values each period and that all gains and losses are recognized prior to the time assets are sold. The significance of this to appraisers, can be shown in a moment.

K. Expected exit value in due course of business (net realizable value) is the amount of cash into which that asset is expected to be converted in the due course of business less direct cost expected to be incurred in converting it to cash (trade accounts are net of bad debts, but the expected exit value of a liability is the non-discounted amount of cash expected to be paid to eliminate a liability):

   1. Expected exit value differs from current exit value in that it is based on expected future sales proceeds whereas current exit value is based on immediate sale.
   2. For example, the measurement of expected exit value of real estate under development is based on the expected ultimate sales price less expected costs of completing construction. Measurement of current exit value is based on the amount for which the project, in its current state of completion, could be sold. These values could differ significantly. Another example is inventories valued at the lower cost or market-exit value.

L. Present value of expected cash flows is the ideal if each receipt or outlay is known in amount, time, and appropriate rate.

FASB Discussion Memorandum, 'Conceptual Framework for Financial Accounting and Reporting: Elements of Financial Statements and Their Measurement' is a copyrighted by the Financial Accounting Standards Board, 401 Merritt 7, P.O. Box 5116, Norwalk, Connecticut 06856-5226, U.S.A. Portions are included with permission. Complete copies of this document are available from the FASB.

EXHIBIT -1

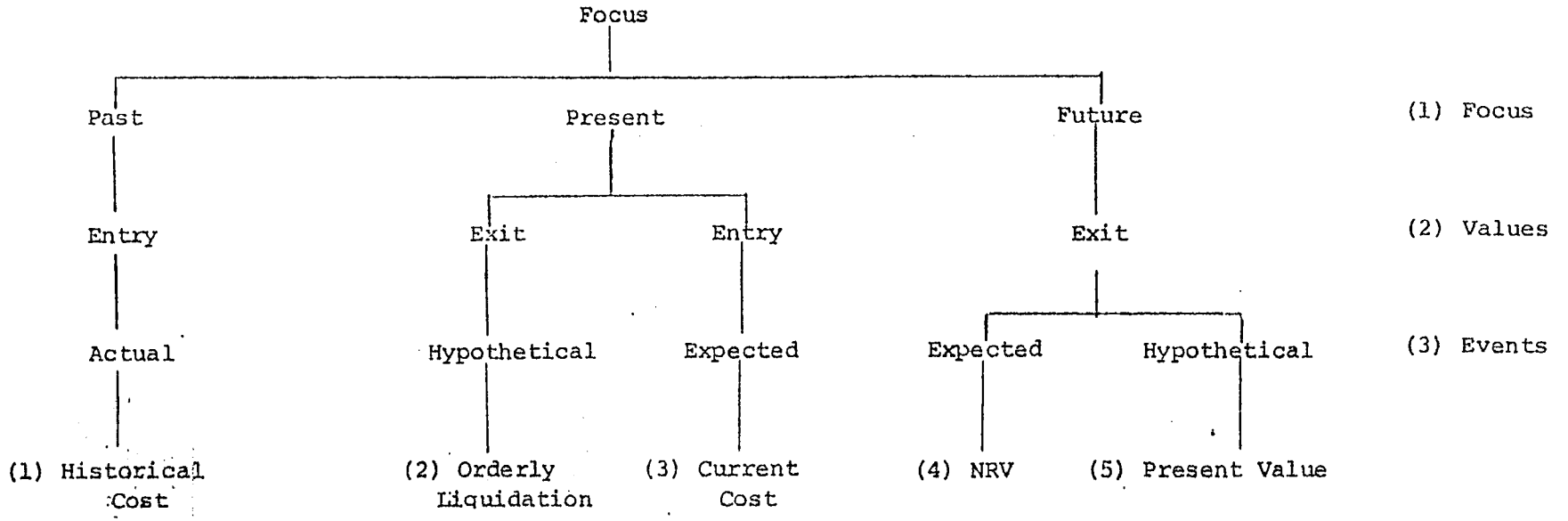
ATTRIBUTES OF ASSETS AND LIABILITIES

Attribute	Assets	Liabilities
1. Historical cost/historical proceeds	Initially, the amount of cash (or its equivalent) paid to acquire an asset (historical cost); subsequent to acquisition, the historical amount may be adjusted for amortization.	Initially, the amount of cash (or its equivalent) received when an obligation was incurred (historical proceeds); subsequent to incurrence, the historical amount may be adjusted for amortization.
2. Current cost/current proceeds	Amount of cash (or its equivalent) that would have to be paid if the same asset were acquired currently (current cost) 2.1 The "same asset" may be an identical asset ("current reproduction cost" or "current cost of replacement in kind") 2.2 The "same asset" may be an asset with equivalent productive capacity ("current replacement cost")	Amount of proceeds that would be obtained if the same obligation were incurred currently (current proceeds)
3. Current exit value in orderly liquidation	Amount of cash that could be obtained currently by selling the asset in orderly liquidation (current market value)	Cash outlay that would be required currently to eliminate the liability (current market value)
4. Expected exit value in due course of business	Amount of cash (or its equivalent) into which asset is expected to be converted in due course of business less direct costs necessary to make that conversion (this attribute of accounts receivable and inventories has customarily been referred to as "net realizable value")	Amount of cash (or its equivalent) expected to be paid to eliminate liability in due course of business including direct costs necessary to make those payments (nondiscounted amount of expected cash outlays)
5. Present value of expected cash flows	Present value of future cash inflows into which asset is expected to be converted in due course of business less present value of cash outflows necessary to obtain those inflows. Rate of discount may be: 5.1 Historical rate 5.2 Current rate 5.3 Other rate (for example, average expected rate or weighted average cost of capital)	Present value of future cash outflows to eliminate liability in due course of business including cash outflows necessary to make those payments. Rate of discount may be: 5.1 Historical rate 5.2 Current rate 5.3 Other rate (for example, average expected rate or incremental borrowing rate)

Source: Financial Accounting Standards Board, Conceptual Framework for Financial Accounting and Reporting: Elements of Financial Statements and Their Measurement, FASB Discussion Memorandum (Stamford, Conn.: Financial Accounting Standards Board, December 1976), P. 193, Table A.

EXHIBIT -2

COMPARISON OF ATTRIBUTES



1. Several discount rates might be appropriate. There is the historical rate implicit in the purchase price.
2. There is the current rate of discount which is implicit in the price paid if the same asset were acquired currently. The current market rate.
3. Another possibility is the average expected rate (seen in recent appraisals).
4. In corporate finance, Ellwood, and investment band, it is the weighted average cost of capital.
5. Investment bankers often talk of the incremental borrowing rate which could be the marginal cost of additional capital.

M. The five attributes fall into three different classes from the perspective of time: one attribute relates to the past, two relate to the present, and two relate to the future.

Past
Historical cost/historical proceeds

Present (Pension Liquidation)
Current cost/current proceeds
Current exit value in orderly liquidation

Future (Pension Purchase)
Expected exit value in due course of business
Present value of expected cash flows

N. The five attributes also differ from the perspective of the nature of the events on which their measurement is based: one is based on an actual event - an exchange transaction in which the enterprise was a party; two are based on an expected event - a flow of cash that the enterprise expects to occur; and two are based on a hypothetical event - the flow of cash that would occur if the enterprise were to enter into a particular transaction.

Actual
Historical cost/ historical proceeds

Expected
Expected exit value in due course of business
Present value of expected cash flows

Hypothetical
Current cost/current proceeds
Current exit value in orderly liquidation

III. Since the financial statements of a pension fund will be a combination of accounting procedures for non-real estate assets and accounting conventions improvised by appraisers for real estate assets, some coordination and standardization of viewpoint seems necessary.

V. Another major problem in pension fund accounting is recognition of prices paid or proceeds from entitlements.

A. Purchase and sale of development rights

B. Purchase and sale of going concerns with goodwill values, franchise values, or detachable permits for liquor licenses.

C. In the coming year, pension funds, particularly closed-end funds will demonstrate methods for selling tax shelter by means of structuring

D. Refer to Exhibit 5 for a checklist of special tax entitlements prepared by Richard A. Hanson, Coopers & Lybrand, Chicago, Illinois.

Rent Roll and Lease Summaries
June 30, 1982

Space No.	Tenant	No. of Twin City Stores	Tenant Rating	GLA Sq.Ft.	Lease Term From	To	Year		Base Rental	Base Rental/ Sq.Ft.	% Rent Formula	/Sq.Ft.
14.	Total Sports	1	National	10,000	11/1/78	1/31/94	15 yrs. 3 mo.	Yr. 1-3	$50,000	$5.00	4% over $1,250,000	($125)
								Yr. 4-7	$60,000	$6.00	4% over $1,500,000	($150)
								Yr. 8-10	$70,000	$7.00	4% over $1,750,000	($175)
								Yr. 11-15	$80,000	$8.00	4% over $3,000,000	($200)
17.	Oriental Arts, Inc.	1	Local	1,066	2/1/81	1/31/83	2 yrs.	Yr. 1	$ 8,925	$8.37	6% over $148,750	($140)
								Yr. 2	$ 9,975	$9.35	1% over $161,250	($151)
18.	Unassigned	--	--	(1,232)	--	--	--	--	$ 9,856	$8.00	1% over $166,250	($156)
											6% over $164,267	($133)
19.	Unassigned	--	--	(449)	--	--	--	--	$ 7,000	$15.59	10% over $70,000	($156)
20.	Unassigned	--	--	(873)	--	--	--	--	$12,000	$13.75	5% over $240,000	($275)
21.	Photomill (3)	5	Local	1,536	10/1/78	1/31/89	10 yrs. 3 mos.	Yr. 1-3	$ 6,144	$4.00	6% over $102,400	($671)
								Yr. 4-7	$12,288	$8.00	6% over $204,800	($133)
								Yr. 8-10	$18,432	$12.00	6% over $307,200	($200)
22.	Murrah	8	National	1,632	2/1/79	1/31/89	10 yrs.	--	$11,424	$7.00	6% over $190,400	($177)
23.		24	Reg.	4,966	11/1/78	1/31/94	15 yrs. 3 mos.	--	$32,279	$6.50	6% over $537,983	($108)
24.	Great	5	National	1,037	10/1/78	1/31/84	5 yrs. 3 mos.	Yr. 1	$10,000	$9.64	8% over $125,000	($121)
								Yr. 2-5	$15,000	$14.46	8% over $187,500	($181)
25.	The Book Center	1	Reg.	1,201	6/1/79	1/31/87	7 yrs. 8 mos.	Yr. 1-2	$ 9,608	$8.00	6% over $160,133	($100)
								Yr. 3-8	$12,010	$10.00	6% over $200,167	($167)
27.	Imports	1	Local	788	12/1/80	1/31/84	3 yrs. 2 mos.	--	$10,200	$12.00	6% over $170,000	($261)
	Total			66,142								

(3) Assigned to Photomill as of April 1, 1981

Rental Summary

	G.L.A. - S.F.	
Leased Space	56,364	(85.2%)
Unassigned Space	9,778	(14.8%)
Totals	66,142	(100.0%)

Exhibit 4

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1), and Reletting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
1.	Footwear	5,745	$ 19,964	$ 39,927	$ 39,927	$ 39,927	$ 39,927	$ 45,816	$ 51,705	$ 51,705	$ 51,705	$ 51,705	$ 25,835
2.	Fabric	10,179	$ 27,993	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 27,993
3.	Unassigned	813	$ 3,862	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 9,858	$ 9,858	$ 9,858	$ 9,858	$ 4,929
4.	Cedrics	1,586	$ 5,155	$ 10,309	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 18,083	$ 18,083	$ 18,083	$ 9,042
5.	Unassigned	2,100	$ 7,875	$ 15,750	$ 15,750	$ 15,750	$ 15,750	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 12,827
6.	Unassigned	4,288	$ 11,528	$ 23,056	$ 23,056	$ 23,056	$ 23,056	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 19,717
7.	Northwestern Book	5,495	$ 13,738	$ 27,475	$ 27,475	$ 27,475	$ 33,068	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 24,670
8.	Body Shoppe	1,795	$ 14,360	$ 14,360	$ 17,950	$ 17,950	$ 17,950	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 13,238
9.	Richards	1,612	$ 6,045	$ 12,090	$ 12,090	$ 12,090	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 19,693	$ 9,846
10.	Unassigned	1,255	$ 4,993	$ 8,785	$ 8,785	$ 8,785	$ 8,785	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 7,512
11.	House of Large Sizes	1,332	$ 4,329	$ 8,658	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 11,322	$ 11,322	$ 11,322	$ 5,661
12.	Video	2,186	$ 8,744	$ 17,488	$ 19,674	$ 19,674	$ 19,674	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 16,824
13.	Pizza	2,976	$ 8,793	$ 17,586	$ 17,586	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 33,856	$ 16,928
14.	Total Sports	10,000	$ 30,000	$ 60,000	$ 60,000	$ 60,000	$ 70,000	$ 70,000	$ 70,000	$ 80,000	$ 80,000	$ 80,000	$ 40,000
17.	Oriental	1,066	$ 4,988	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 13,290	$ 13,290	$ 13,290	$ 13,290	$ 6,645
18.	Unassigned	1,232	$ 4,928	$ 9,856	$ 9,856	$ 9,856	$ 9,856	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 8,428
19.	Shirt	449	$ 3,500	$ 7,000	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 11,402	$ 11,402	$ 11,402	$ 5,701

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1) and Releting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
20.	Diamond Center	873	$ 6,000	$ 12,000	$ 12,000	$ 12,000	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 23,759	$ 11,880
21.	Photomill	1,536	$ 6,144	$ 12,288	$ 12,288	$ 12,288	$ 12,288	$ 18,432	$ 18,432	$ 20,016	$ 20,016	$ 20,016	$ 10,008
22.	Hurrah	1,632	$ 5,712	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 18,608	$ 18,608	$ 18,608	$ 9,304
23.		4,966	$ 16,140	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 16,140
24.	Great [illegible]	1,037	$ 7,500	$ 15,000	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 22,804	$ 22,804	$ 22,804	$ 11,400
25.	Book Center	1,201	$ 6,005	$ 12,010	$ 12,010	$ 12,010	$ 12,010	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 11,700
27.	[illegible] Imports	788	$ 5,100	$ 10,200	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 13,669	$ 13,669	$ 13,669	$ 6,835
		66,142	$233,396	$451,662	$466,765	$470,011	$493,829	$545,698	$556,599	$592,153	$592,153	$616,314	$333,063

(1) Most lease anniversaries end 1/31 of any particular year. For cash flow projection purposes, we've assumed lease anniversary dates to be 12/31 of the preceding year. No material change results from this minor timing adjustment.

(2) Relet rental rates assume a 5% annual growth over the average rent currently generated from the existing tenant.

MALL

% Rent Computations

Tenant	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Fabrics	$40	--	622	3,192	5,967	8,965	7,703	11,198	14,975	19,052	23,546
Northwestern Book	--	--	--	551	1,396	--	--	--	2,500	5,813	--
Pizza	--	--	1,309	--	1,207	2,971	4,875	6,931	--	--	1,119
House of Large Sizes	--	--	--	--	--	578	1,424	2,337	1,991	3,056	4,206
Hurrah	--	--	707	1,678	2,726	3,858	5,081	--	643	2,183	3,846
	--	--	1,793	4,518	7,462	10,642	14,075	17,784	21,789	26,114	30,785
Great	3,420	4,894	3,617	5,337	7,193	9,197	11,363	13,701	16,227	18,955	22,296

evenues	7/1 to 12/31 1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1/1 to 6/30 1992
ase Rents (1)	$233,396	$451,662	$466,765	$470,011	$493,829	$545,698	$556,599	$592,153	$ 592,153	$ 616,314	$ 333,063
round Rent (2)	$ 14,453	$ 28,907	$ 28,907	$ 33,243	$ 33,243	$ 33,243	$ 38,229	$ 38,229	$ 38,229	$ 43,964	$ 21,982
Rent (3)	$ 10,593	$ 13,660	$ 19,116	$ 28,830	$ 34,046	$ 47,074	$ 58,515	$ 67,783	$ 77,572	$ 98,565	$ 56,681
eal Estate Tax ecovery (4)	$ 69,741	$115,300	$121,400	$133,000	$139,800	$146,300	$157,300	$165,200	$ 173,300	$ 182,000	$ 95,600
ecovered Exp. (5)	$ 45,310	$ 95,100	$ 99,800	$104,800	$110,000	$115,600	$121,300	$127,400	$ 133,700	$ 140,400	$ 73,700
otal Gross Revenue	$373,493	$704,629	$735,988	$769,884	$810,918	$887,915	$931,943	$990,765	$1,014,954	$1,081,243	$ 581,026
ess Vacancy (6)	$ 43,935	$ 59,307	$ 61,775	$ 42,566	$ 44,889	$ 50,081	$ 39,200	$ 41,900	$ 44,500	$ 45,500	$ 24,700
Percentage	(11%)	(12%)	(12%)	(8%)	(8%)	(8%)	(6%)	(6%)	(6%)	(6%)	(6%)
ffective Gross evenue	$329,558	$645,322	$674,213	$727,318	$766,029	$837,834	$892,743	$948,865	$ 970,454	$1,035,743	$ 556,326
Expenses											
eal Estate Taxes (7)	$ 84,000*	$153,000**	$138,000	$144,500	$152,000	$159,000	$167,300	$175,700	$ 184,400	$ 193,700	$ 101,700
ecoverable Exp. (8)	$ 39,400	$ 82,700	$ 86,800	$ 91,100	$ 95,700	$100,500	$105,500	$110,800	$ 116,300	$ 122,100	$ 64,100
gmt. (5%) (9)	$ 12,900	$ 24,700	$ 25,700	$ 26,600	$ 28,000	$ 31,300	$ 32,700	$ 34,900	$ 35,400	$ 37,900	$ 20,600
eserves for enant Work (12)	0	$ 3,300	$ 1,500	0	$ 6,700	$ 4,600	$ 800	$ 6,600	0	$ 3,200	$ 7,500
eserves for epairs (10)	$ 3,500	$ 7,300	$ 7,700	$ 8,000	$ 8,400	$ 8,900	$ 9,300	$ 9,800	$ 10,300	$ 10,800	$ 17,500
easing Fees (11)	0	$ 10,300	$ 4,500	0	$ 20,800	$ 14,200	$ 2,200	$ 19,700	0	$ 9,000	$ 21,200
otal Expenses	$139,800	$281,300	$264,200	$270,200	$311,600	$318,500	$317,800	$357,500	$ 346,400	$ 376,700	$ 232,600
et Operating Income	$189,758	$364,022	$410,013	$457,118	$454,429	$519,334	$574,943	$591,365	$ 624,054	$ 659,043	$ 323,726

* Includes specials of $21,604.82
** Includes specials of $22,000.00

BASIC ASSUMPTIONS TO CASH FLOW PROJECTIONS

Revenues

1. In completing the financial analysis, we projected a ten-year (from July 1, 1982 to July 1, 1992) cash flow projection. Rental revenues are based upon actual leases giving full recognition to all step-up rental provisions. For vacant space, economic rents were estimated based upon rent levels at competitive properties. Upon reletting, rental rates are projected as increasing 5% per year over current levels. A five-year term was assumed for all new leases.

2. The ground rent is adjusted according to the CPI change for all cities every three years. For example, the 1982 rent is based upon the CPI change from February 1978 to February 1981 (see Exhibit D in addenda). A 5% annual rate of inflation is assumed for each subsequent rental adjustment.

3. For tenants in occupancy for a year or more, historical sales were used as a benchmark for projected sales. For tenants, the calendar years 1982 through 1992 sales volumes were escalated at 8% per year. Percentage rent was calculated on a tenant-by-tenant and year-by-year basis using the percentage rent formula outlined in each lease.

4. The standard lease provides for all tenants to pay their pro-rata share of taxes. Since the projected vacancy allowance varies, tenant reimbursement is as follows:

	Vacancy	Tax Reimbursement
1982 (6 mos)	17	83%
1983-84	12	88%
1984-87	8	92%
1988-91	6	94%

5. The standard lease provides for 100% of all recoverable expenses to be reimbursed to the landlord by the tenants, collectively. Unlike the tax clause, the pro-rata share each tenant contributes is allocated between the gross leased and occupied space; consequently 100% of all recoverable expenses are paid collectively by the existing tenants. A 15% administrative charge is added to all reimbursable expenses (per the leases). Furthermore, based upon experience, 75% of the "Reserves for Structural Repairs" are reimbursable expenses.

6. A discussion for vacancy allowance is detailed in Item #4.

Basic Assumptions to Cash Flow Projections - Continued

Expenses

7. Real estate taxes for 1982 are detailed on page 1 of this report. For 1983 and thereafter, taxes have been escalated at a 5% annual rate of increase.

   Finally, in 1982 about $43,000 of special assessments will be billed to Burnhaven, including interest payable at 8%. Approximately one-half of the $43,000 is to be paid in 1982 and the balance in 1983 as scheduled in the cash flow projection.

8. Recoverable expenses for 1982 are shown in the 1982 annualized budget on the following page.

9. Property management expense is 5% of base, ground and percentage rents.

10. As per our discussions with properties, reserves for structural repairs are estimated at $.10 per square foot for the first three years and are increased at 5% per year thereafter.

11. For 1982, leasing fees are $2.25 per square foot of leased space. The fee is increased 5% per year, consistent with the increase in base rents. Leasing fees are expensed in the year incurred.

12. According to properties, tenant work is minimal for this type of mall. The cost is estimated at $.70 per square foot for 1982 and escalated at 8% per year thereafter. Tenant work is expensed in the year incurred.

1982 RECOVERABLE EXPENSES ANNUALIZED

For Mall,

Recoverable expenses for 1982 are shown below in the 1982 annualized budget:

Recoverable Expenses

Insurance		$ 8,400
Utilities		
Electric	$19,900	
Water and Sewer	$ 3,200	
Gas	$ 3,200	
		$26,300
Maintenance Services		
Snow Removal	$10,500	
Janitorial	$12,600	
Parking Lot Sweep	$ 3,000	
Trash	$ 400	
Rodent Control	$ 1,100	
Landscaping	$ 3,800	
Mall Music	$ 300	
		$31,700
Overload Security		$ 1,300
Supplies		
Maintenance	$ 3,000	
Electric	$ 600	
Landscaping	$ 1,300	
		$ 4,900
Repairs		
Electricity	$ 3,100	
Equipment	$ 2,500	
Plumbing	$ 600	
		$ 6,200
TOTAL RECOVERABLES		$78,800

Recoverable expenses have been increased at 5% per year, compounded.

Discounted Cash Flow Analysis - Continued

		Annual Cash Flow		Discount @ 17%		Present Worth
Last 6 mos.	1982	$ 189,758	x	.924500	=	$ 175,431
	1983	$ 364,022	x	.790171	=	$ 287,640
	1984	$ 410,013	x	.675360	=	$ 276,906
	1985	$ 457,118	x	.577230	=	$ 263,862
	1986	$ 454,429	x	.493359	=	$ 224,197
	1987	$ 579,334	x	.421674	=	$ 244,290
	1988	$ 574,943	x	.360405	=	$ 207,212
	1989	$ 591,365	x	.308039	=	$ 182,163
	1990	$ 624,054	x	.263281	=	$ 164,302
	1991	$ 659,043	x	.225026	=	$ 148,302
1st 6 mos.	1992	$ 323,726	x	.208037	=	$ 67,347
	*Rev.	$4,839,000	x	.208037	=	$1,006,000
						$3,247,652
						Rounded to
						$3,200,000

* Projected 1992 Resale Price

The 1992 resale price was estimated by adding the last six months income of 1991 and the first six months income of 1992 and capitalizing the total income at 13-1/2%.

$329,522	-	1991 (last six months)	
$323,726	-	1992 (first six months)	
$653,248	-	Capitalized @ 13-1/2%	$4,838,866
		Estimated 1992 Sale Price	$4,838,900

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Exhibit 5

REAL ESTATE INVESTMENT RETURNS OF TAXABLE AND NON-TAXABLE INVESTORS

By

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Pension Fund Real Estate Investment and Management
New York, New York
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SHELTER AVAILABLE AT VARIOUS PHASES OF OWNERSHIP

PRE-PRODUCTION PHASE

- Market Research
- Site Selection and Acquisition
- Joint Venture Partner Feasibility Determination
- Local Approvals - Zoning, Utilities, Building Permits
- Financing Feasibility - Application, Analysis, Conference, Feasibility Letter
- Preliminary Architectural Drawings
- Contract with Builder
- Arrangements for Construction and Permanent Loans
- Issuance of Commitment
- Management Plan-Covers Staffing, Publicity, Tenant Selection, Maintenance, Rent Collection and Tenant Relations
- Firm Commitment - Application, Review, Issuance of Commitment

PRODUCTION PHASE

- Execution of Construction Loan, Performance Bond, if any
  Off-Site Facilities Completion Assurances
  Working Capital Requirements
- Construction Inspections
  Disbursement of Construction Loan Funds
- Certificate of Occupancy
- Permanent Mortgage Loan
- Final Endorsement

RENTAL PHASE

- Marketing
- Tenant Selection
- Initial Leasing

MANAGEMENT PHASE

- Maintenance
- Repairs
- Tenant Selection and Leasing
- Rent Collections
- Tenant Relations
- Project Refinancing
- Sale of Project

TAX EXEMPT STATUS OF PENSION FUNDS

A plan created to act as fiduciary for a qualified pension or profit sharing trust (Code Sec. 401(a)) is exempt from income tax under Section 501(a). The 501(a) exemption is elective.

However, such plan is still subject to tax on its "unrelated business taxable income". Sec. 514(c)(9).

Until December 31, 1980, income from debt financed property was considered acquisition indebtedness, which is unrelated business taxable income. However, after that date, qualified retirement plans were, with certain exceptions, exempted from the definition of acquisition indebtedness when incurring debt to finance real estate investments. The exceptions which create acquisition indebtedness, and therefore unrelated business taxable income on real estate held for investment include:

- When the purchase price is not fixed and determinable on the date of purchase, or
- either the purchase price or the debt repayment is timed or dependent upon future revenues or profits of the financed real estate, or
- the property is leased back to either the seller or a related party (Code Section 267(b)), or
- the property is purchased from or leased to certain parties-in-interest who are disqualified from dealing with that plan, or
- the seller provides non-recourse debt which either bears interest significantly below market rates or is subordinated to other debt on the property.

OFFICE BUILDING PARTNERSHIP

SCHEDULE OF CASH REQUIREMENTS

Requirements:		
Land		$ 1,550,000
Land improvements		250,000
Buildings:		
Hard costs ($59 sq.ft.)	$6,254,000	
Architect fees	110,000	
Engineering fees	30,000	
Furniture and equipment	20,000	
Security system	15,000	
Development fee	420,000	
Other building costs (Note 1)	91,500	6,940,500
Other:		
Capitalized construction period interest	1,079,455	
Capitalized construction period real estate taxes	12,888	1,092,343
Organization costs:		
Accounting	$ 6,666	
Legal	6,667	13,333
Lease costs:		
Legal	$ 10,000	
Space planners	60,000	
Commissions	430,000	
Marketing	35,000	
Printing	5,000	540,000
Construction period expenses (Note 2)		208,077
Total Developer requirements		10,594,253
Excess of purchase price over cost		1,905,747
Purchase price		$12,500,000

Notes:

1. Other building costs:

Title costs	$10,000
Legal	10,000
Survey	7,500
Soil and concrete testing	7,500
Sound and steel testing	2,500
Legal - Village	4,000
Insurance	15,000
Watchman	20,000
Permits	15,000
Total	$91,500

2. Expenses during construction:

	81	82	Total
Accounting	$10,000	$ 10,000	$ 20,000
Legal	10,000		10,000
Construction period interest	28,112	126,186	154,298
Construction period real estate taxes	556	1,556	2,112
Utilities	3,000	12,000	15,000
Organization costs	2,667	4,000	6,667
Total	$54,335	$153,742	$208,077

STRUCTURING REAL ESTATE INVESTMENTS

Returns to tax-exempt and taxable investors in a $12,500,000 office building are summarized below. Using a singular property as an economic constant, with alternative investment structures, the effect of varying the investment structure is highlighted. Returns to the tax-exempt investor are composed of operating cash flows and gain on disposition. Returns to the taxable investor also include tax shelter generated by the investment.

	Returns	
Investment Structure	Tax-Exempt	Taxable
100% Equity	12.9%	9.9%
$9,000,000 mortgage @14%	16.3%	18.6%
Tax Exempt makes $9,000,000 mortgage @ 14%, convertible in 5 years for 75% interest in property.	15.5%	10.7%
Joint Venture:		
a) Tax Exempt Ltd. Partner hold 99% interest in Net Income; Taxable General Partner holds 1% interest in Net Income. Special allocation of 90% of depreciation to General Partner. Ltd. Partner contributes $6,250,000; $6,250,000 mortgage.	13.5%	Infinite
b) Same as above, except: Limited Partner contributes $5,250,000. General Partner contributes $1,000,000.	16.0%	18.4%

ECONOMIC RECOVERY TAX ACT OF 1981

Update on the Effect of ERTA on Real Estate

The September, 1981 issue of the Real Estate Newsletter discussed the attractive incentives that the Economic Recovery Tax Act of 1981 (ERTA) provided for real estate investment. Since September, there have been several clarifications of the new law discussed below which will be of importance to real estate investors.

Real Property Recovery Tables and Short Taxable Years

In September, 1981, the Treasury released the real property and low-income housing accelerated cost recovery system ("ACRS") tables. A footnote in the tables appears to indicate that the tables are not applicable in short taxable years. This raised the possibility that Treasury interpreted ERTA to provide for a reduction of the cost recovery percentage shown in the same manner provided for personal property. Thus, for example, a calendar year real estate partnership beginning business on July 1, 1982 would be limited to ½ of the cost recovery amount shown on the ACRS real estate tables for 1982.

It is our understanding, from informal discussions with Treasury and IRS officials, that there is no intention to prorate the real estate cost recovery amount shown on the ACRS real estate tables in the owner's year of acquisition or disposition of the property. The footnote is apparently intended to provide for a proration where the owner subsequently has a short taxable year caused by a partnership termination, adoption of a different taxable year or other similar circumstance.

Lessor Improvements

Under pre-ERTA law, a lessor who made an improvement to real property to accommodate the needs of a lessee could often justify using a useful life for the improvement which was much shorter than the improvement's life without respect to the lease term. As useful life was determined by reference to the particular use of the taxpayer, these improvements were generally depreciated over the term of the lease to which they related where it was doubtful that future tenants would use or want the improvement.

However, under the new law lessor improvements to real property are depreciated over the ACRS recovery period (at least 15 years) regardless of the term of the lease. When the lease term expires and the improvement is removed, the taxpayer can deduct the remaining adjusted basis as a demolition or abandonment type loss or, where there is a sale or exchange, recognize the gain or loss in accordance with other generally applicable Code provisions. It is important to note that ACRS does not change the distinction between whether an asset is real or personal property.

It should be noted that the lessee recovers the cost of improvements over the shorter of the lease term or the ACRS recovery period (including elected extended recovery periods).

A Component Placed in Service Before or After the Building to Which it Relates

A building's recovery period begins when a building is placed in service. Where a component is added to a building after the building has been placed in service, the component's recovery period (whether the improvement is substantial or insubstantial) begins when the component is placed in service. Where a component is placed in service prior to the building to which it relates, the recovery period for the component begins when the building is placed in service.

Disposition for Purposes of Recovery Deductions

Recovery deductions for real property in the year of disposition are allowed on a monthly basis. In addition to a sale or exchange, abandonment or retirement is considered a disposition for this purpose. The General Explanation by the Staff of the Joint Committee on Taxation indicates that the retirement of a structural component of a building is not intended to be a disposition requiring recognition of gain or loss. Consequently, if a component is wornout, there is no recognition of gain or loss and the cost continues to be deducted over the recovery period. If the component is replaced, the new component is depreciated over a new recovery period beginning from the time it is placed in service.

Real Property Accelerated Depreciation Tax Preference for Corporations

The Treasury has indicated that ERTA inadvertently excluded accelerated depreciation on real property as an item of tax preference for the corporate "add-on" minimum tax. The add-on minimum tax imposes a 15% tax on tax preference items. The Treasury will seek to correct this error in the upcoming technical corrections act. It should be noted that the Administration is proposing to replace the corporate "add-on" minimum tax with an "alternative" minimum tax effective for taxable years beginning after 1982. The real property accelerated depreciation tax preference item would be part of the proposed alternative tax base.

Anti-Churning Rules

The ACRS provisions allowed property owned prior to 1981 to qualify for ACRS where the property is placed in service after 1980. The focus of this rule was to allow taxpayers, who began construction of property before 1981 and completed it after 1980, to use ACRS. However, due to the rule's focus on when the property was placed in service, many taxpayers have taken the position that conversion of a pre-1981 personal residence to rental use after 1980 would allow the property to qualify for ACRS.

The General Explanation indicates the property is considered placed in service when it is placed in a condition of readiness for a specifically assigned function, whether in a taxpayer's trade or business or for the production of income, in a tax-exempt activity, or in a personal activity.

Thus, under this standard, ACRS would not apply to a home the taxpayer used as a personal residence prior to 1981. This position is based upon the investment tax credit regulations.

Sale/Leaseback of Real Property

The anti-churning provisions exclude from ACRS real property which is leased back to a person who owned the property in 1980 or person related to the 1980 owner. The General Explanation states that this restriction was intended to apply to only the portion of the property, determined on a relative fair market value basis, that is leased by the prior owner. It would seem that where the 1980 owner leased the first floor of a three story building for use as a store, and the first floor represents 60% of the value of the building, only 40% of the owner's basis would qualify for ACRS. This would presumably be the case even if the new owner sold the property to an unrelated third party.

Like-Kind and Similar Exchanges of Real Property

Real property acquired in like-kind exchanges, roll-overs of low-income housing, involuntary conversions, or repossessions is subject to the ACRS anti-churning provisions. However, this provision only applies to the extent there is a carry-over basis of the property exchanged. Any increase in the basis will qualify for ACRS.

It is interesting that no similar provision exists for personal property. It is currently unclear whether Congress intended personal property to be subject to the anti-churning rules or whether this was an oversight.

Rehabilitation Credit - Use of Accelerated Depreciation

The rehabilitation credit under ERTA is available only if the straight-line method of cost recovery is elected with respect to the rehabilitation expenditure. However, accelerated rates may be used for the shell where the rehabilitation qualifies as a substantial improvement, which is treated as a separate property under ACRS for purposes of the straight-line extended recovery period ("flexibility") elections.

It seems that a rehabilitation which qualifies for the new credit should always qualify as a substantial improvement. If this is correct, the accelerated cost recovery percentages can be elected for the shell.

Rehabilitated Buildings Leased to Exempt Organizations or Governmental Units

Under the investment credit rules, property leased to a tax-exempt organization or a governmental unit does not generally qualify for the investment credit. Under ERTA, an exemption from these rules has been created to allow the rehabilitation credit for such uses after July 29, 1980. This exception applies to the old and new rehabilitation credit. Qualification of the old rehabilitation credit (for uses after July 29, 1980) arose due to an uncorrected clerical error in the Miscellaneous Revenue Act of 1980.

ACCELERATED DEPRECIATION RARELY DESIRABLE FOR COMMERCIAL PROPERTY

The Economic Recovery Tax Act of 1981 implemented several changes to encourage capital investment. These incentives include a faster recovery of the cost of the newly acquired assets. Depreciable real estate acquired after 1980 may now generally be written off over a 15-year period using either an accelerated method (175% declining balance) or the straight-line method. While on the surface these changes appear beneficial, the provision for increased recapture of writeoffs on non-residential property, if accelerated depreciation is elected, creates a potential trap for the investor in real estate.

Under the old law, ordinary income was converted to capital gain upon sale, to the extent of straight-line depreciation. If accelerated depreciation was elected, the excess deduction (accelerated write-off in excess of the deduction allowable using straight-line depreciation) was recaptured at ordinary rates, to the extent the sales price exceeded the adjusted basis plus straight-line depreciation. Consequently, the tax benefit of the excess depreciation was effectively borrowed interest-free from the Government, and was paid back when the property was sold. Ignoring the interplay between tax preference items and the earned income maximum tax, or a change in the investor's marginal tax rate, the investor was in a "no lose" position under the old law.

For residential real estate, the above is still the case. However, for non-residential real estate, a new variable has been established which must be considered before accelerated writeoffs are elected. If accelerated writeoffs are utilized, the gain on sale is treated as ordinary gain up to the *total* amount of prior writeoffs and only the remaining gain, if any, is given favorable capital gain treatment. The impact of this change is, in effect, a hidden interest cost.

The investor effectively borrows from the government by using accelerated writeoffs. The amount borrowed is the tax savings on the excess of accelerated writeoffs over straight-line writeoffs.

The investor repays the amount borrowed plus "interest" when the property is sold. The "interest" paid is the increased tax liability created by taxing the gain created by the straight-line write-offs at ordinary income rates instead of at lower capital gains rates. See Chart I for an analysis of this effective interest cost.

As with any investment made using borrowed funds, the investor must earn a higher rate of return than the interest rate he pays the lender in order to profit. In no other case does the loan make economic sense. The above example illustrates the hidden cost of borrowing from the U.S. Government by using accelerated depreciation on non-resdiential real estate.

Chart II below demonstrates the required rate of return for both individuals and corporations to break even when borrowing in this manner. The longer the property is held (e.g., the longer the funds are borrowed) the lower the required rate of return needed on alternative investments is to justify such loans.

From a decision-making standpoint, several implications result from the previous data:

1. Given two investment options, one in residential real estate and one in non-residential real estate, all other factors being equal, residential real estate is a better investment because accelerated depreciation still results in an interest-free loan.

2. Before selecting a depreciation method, the investor must consider the rates of return required to justify borrowing and the probable holding period of the real estate.

3. Accelerated depreciation on non-residential real estate is still a good tax planning tool where the investor is elderly and a step-up in basis will result upon death (e.g. the loan is never repaid).

Also to be noted is that non-residential real estate using 15-year straight-line depreciation is still a better investment now than under prior law.

CHART I
Effective Interest Cost of Electing Accelerated Depreciation

An individual owns an office building with a cost of $1,500,000 which is placed in service January 1, 1982 and is sold for cost on January 3, 1983:

	Depreciation Method		
	Straight-Line	Accelerated	
1982 Depreciation	$100,000	$175,000	
1982 Tax Benefit (50% rate)	50,000	87,500[1]	
Amount "Borrowed"			$37,500
1983 Gain on Sale (for cost)	100,000	175,000	
1983 Tax Cost	20,000[2]	87,500[3]	
Amount to Repay Loan (Principal and "Interest")			($67,500)
Cost of Loan for One Year			($30,000)
After-tax earnings rate on borrowed funds required to break even			80%

[1]Assuming no minimum tax liability [2]Capital gain rate = 20% [3]Ordinary income rate = 50%

CHART II
After Tax Rate of Return Required to Justify Accelerated Depreciation on Non-Residential Real Estate

Years Held	Individuals	Corps.
1	80.0%	52.2%
2	49.6%	34.0%
3	37.1%	26.2%
4	30.4%	21.8%
5	26.2%	19.2%
6	23.4%	17.4%
7	21.4%	16.1%
8	19.9%	15.2%
9	18.8%	14.5%
10	17.8%	13.9%
15	14.7%	12.1%
20	11.4%	9.5%
25	9.4%	8.0%
30	8.1%	6.9%
35	7.1%	6.1%

Assumes Disposition Is in a Taxable Transaction

INVESTMENT TAX CREDIT

Internal Revenue Code Section 48 allows a 10% Investment Tax Credit on specific types of eligible property. In defining eligible property, Section 48 and regulations thereunder describe basically three classes of property which are relevant to the construction of a new office building.

1. Tangible personal property - all of which is eligible,
2. Buildings and their structural components - none of which are eligible, and
3. Elevators - which are eligible.

In addition, in order to be eligible, the property must be subject to the allowance for depreciation (or amortization in lieu of depreciation) and have an estimated useful life of three or more years.

For example, an office building with a $20,000,000 construction cost has been analyzed for ITC eligible property on the following pages. That analysis is summarized below:

Classification	Total Cost	Investment Tax Credit
Building Components		
Section 1250	$17,673,429	Ineligible
Section 1245 (elevators)	1,874,994	Eligible
Office Fixtures and Equipment		
Section 1245 (other)	301,445	Eligible
Land Improvements		
Section 1250	150,223	Ineligible
	$20,000,000	

List of Items Eligible for the Investment Tax Credit That Are Included in the Construction Contract

Description	Contractor Cost	Indirect Cost Allocation	Total Construction Contract Cost
Mail boxes - including collectors, doors, frames and any related hardware	$ 2,147	$ 271	$ 2,418
Directory - including glass covers, solar gray glass panel, header strip, removable cartridge, acrylic plastic light diffuser, interchangeable name strips carrier, external aluminum case and related hardware, light fixture and including wiring and conduit	8,795	1,110	9,905
Safety Carpet	2,698	341	3,039
Davit arm and socket	2,900	366	3,266
Concrete life out slab in high rise elevator machine room	310	39	349
Guardrail	350	44	394
Wire mesh (removable)	2,300	290	2,590
Telephone equipment - including all panels, switchboards, backboards, outlet boxes, junction boxes, pull boxes, floor boxes, wiring and conduit, etc. installed by contractor	3,900	492	4,392
Toilet accessories - including soap dispensers, carpeting, grab bars, toilet and urinal partitions, paper towel dispensers, toilet paper dispensers, mirrors, napkin dispenser/disposal, robe hook, stainless steel mop and broom holder - shower curtain and rod with adjustable holder	63,399	8,003	71,402
Rolling steel door including wiring and conduit	14,337	1,810	16,147
Toilet exhaust duct up to main duct	21,000	2,651	23,651
Kitchen exhaust duct	9,463	1,194	10,657

List of Items Eligible for the Investment Tax Credit That Are Included in the Construction Contract, Continued

Description	Contractor Cost	Indirect Cost Allocation	Total Construction Contract Cost
Elevator (13 passenger/freight) - 13 elevator systems all inclusive with lobby doors, door frames, carpeting, plastic laminate walls and jambs, call buttons, hall position indicator, hall lanterns, electrical distribution panel "#1 and PH" and wiring and conduit to elevator controls - elevator annunciator and panel - elevator controller including wiring and conduit - elevator buffers, rail and machine beams, steel ladder, pit light and drain with related piping (if any) - elevator cab and machinery, plunger and counterweight - telephone cabinet and frames for inspection certificate - elevator shaft exhaust systems including fan, ductwork, and all related electrical equipment - discharge louver with birdscreen and mortised dampers in high and low rise elevator machine room - high voltage risers	$1,664,848	$210,146	$1,874,994
Exit signs including wiring, conduit and emergency battery packs (if any)	8,450	1,067	9,517
Smoke detector	6,000	757	6,757
Speaker system - including speakers, sound system equipment, wiring and conduit	22,500	2,840	25,340
Compactor wiring and conduit to panel PP-B	200	25	225
Special purpose outlets for window washing machine, wiring and conduit to and including circuit breaker in panel RB-1	1,000	126	1,126
Lobby light dimmer switches	3,500	442	3,942
Fire, ejector, and house pumps including wiring and conduit	68,366	8,630	76,996
HVAC for computer	19,500	2,461	21,961
Wall urns	2,995	378	3,373
Signs	3,550	448	3,998
	$1,932,508	$243,931	176,439

OFFICE BUILDING PARTNERSHIP

RENTAL INCOME AND EXPENSE PROJECTION

	1982(1)	1983(3)	1984	1985	1986	1987	1988	1989	1990
Rental income (3)	-	$1,258,851	$1,836,885	$1,836,885	$1,836,885	$1,836,885	$1,836,885	$1,836,885	$1,836,885
Consumer Price Index - 25% (No cap.) = 3% (6)		- (4)	55,100	109,527	149,521	176,339	219,642	218,143	246,584
Consumer Price Index - Advance payment (7)		- (4)	54,427	39,994	26,818	43,303	(1,499)	28,441	74,733
Turnover leases - incremental (8)				6,739	158,382	218,179	451,260	494,620	536,479
Other income	$ 6,000	14,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000
Total income	6,000	1,272,851	1,961,412	2,011,145	2,192,606	2,298,706	2,533,288	2,608,089	2,727,681
Vacancy allowance - 5%			97,321	99,657	108,580	113,735	125,314	128,904	134,734
Operating expenses and taxes (12)	30,000	300,000	400,000	500,000	515,000	545,900	578,654	613,373	650,175
Leasing commissions (2)	-	-	-	28,913	96,159	75,822	292,486	116,765	-
Tenant improvements	-	-	-	22,201	71,361	25,373	107,838	85,633	-
Total expenses	30,000	300,000	497,321	650,771	791,100	760,830	1,104,292	944,675	784,909
Net operating income	$(24,000)	$ 972,851	$1,464,091	$1,360,374	$1,401,506	$1,537,876	$1,428,996	$1,663,414	$1,942,772

(See Notes attached)

OFFICE BUILDING PARTNERSHIP

RENTAL INCOME AND EXPENSE PROJECTION

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Net operating income		$ (24,000)	$972,851	$1,464,091	$1,360,374	$1,401,506	$1,537,876	$1,428,996	$1,663,414	$1,942,772
Add leasing commissions and tenant improvements		-	-	-	51,114	167,520	101,195	400,324	202,398	-
Less depreciation and amortization		88,236	772,259	826,017	824,778	825,314	829,732	803,084	809,656	783,842
Taxable income (loss)		$(112,236)	$200,592	$ 638,074	$ 586,710	$ 743,712	$ 809,339	$1,026,236	$1,056,156	$1,158,930
Losses during construction	$(54,335)	(153,742)								
Taxable income (loss)	$(54,335)	$(265,978)								

Notes:

1. Assumes: a) 105,000 sf office building
   b) Construction begins June 1, 1981
   c) Substantial completion of core and shell within 15 months (October 31, 1982)
   d) Initial occupancy of 25% with two months rent concession (December 31, 1982)
   e) Initial rental rate of $17.00 psf.
2. Initial leasing commissions (1982 and 1983) are included in construction costs.
3. Rental rate = $17.50 psf. average
   1983 rent up at 8,810 sf. per month with one month rent concession.
4. Assumes all initial leases (1982 occupancy) are 1983 base year leases (for CPI and O.E. & T).
5. Cash basis real estate taxes.
6. Presumes 25% CAP x CPI (12.00%) = 3.0% Chicago - all urban consumers.
7. CPI/advance payment is included at 3.0% per year.
8. 30% x 25% x $22.10 (130% of $17.00) for 2 months (only).
9. 2 year cumulative, less turnover deduction of 3.75%.
10. 1 year less turnover deduction of 3.75%.
11. Computed at 1/2 current cost of asset tenant standard and increase of 10% per year.
12. Increases in operating expense and tax escalation are netted against expenses.

OFFICE BUILDING PARTNERSHIP

DEPRECIATION EXPENSE

		Total	Real Property 15 Yr. S.L.	Personal Property 5 yr.
Hard costs		$4,754,000		
Soft costs:				
Architect		110,000		
Engineer		30,000		
Development fee		420,000		
Other bldg. costs		91,500		
Subtotal		5,405,500	$5,135,000	$270,500
Furniture		20,000		20,000
Security system		15,000	15,000	
Building cost		5,440,500		
Tenant improvements		1,500,000	1,500,000	
Dotal development costs		6,940,500		
Excess purchase price	$1,909,747			
Less amount necessary to fund negative cash flow	(550,578)			
Additional basis created by purchase		1,359,169	1,291,211	67,958
Total depreciable basis		$8,299,669	$7,941,211	$358,458

Note:

1982 2 months depreciation
no amortization

1982 Full year depreciation
6 months amortization

OFFICE BUILDING PARTNERSHIP

SCHEDULE OF AMORTIZATION AND DEPRECIATION

	Total to be Amortized	Period of Amortization	1983	1984	1985	1986	1987	1988	1989	1990
Amortizations:										
Organization expenses:										
Accounting	$ 6,666	3 years 4 months	$ 2,000	$ 2,000	$ 2,000	$ 666				
Legal	6,667	3 years 4 months	2,000	2,000	2,000	667				
Construction period interest incurred in:										
1981	196,785	7 years	28,112	28,112	28,112	28,112	$ 28,112	$ 28,112	$ 28,113	
1982	882,670	9 years	98,074	98,074	98,074	98,074	98,074	98,074	98,074	$ 98,074
Construction period real estate taxes incurred:										
1981	3,888	7 years	556	556	556	555	555	555	555	
1982	9,000	9 years	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Leasing commissions:										
3-year leasees	129,000	3 years	28,667	43,000	44,606	44,691	44,691	42,061	50,783	50,783
5-year leases	129,000	5 years	17,200	25,800	25,800	25,800	28,327	75,144	66,544	66,544
10-year leases	172,000	10 years	11,467	17,200	17,200	17,200	17,200	17,200	17,200	17,200
Total amortization			$189,076	$217,742	$219,348	$216,765	$217,959	$262,146	$262,269	$233,601
Plus depreciation:										
Real property ($7,941,211; 15 yr. S.L.)			529,414	529,414	529,414	529,414	529,414	529,414	529,414	529,414
Personal property ($358,458; 5 yr.)			53,769	78,861	75,276	75,276	75,276			
Subsequent tenant improvements:										
1985	22,201				740	1,480	1,480	1,480	1,480	1,480
1986	71,361					2,379	4,757	4,758	4,757	4,758
1987	25,373						846	1,691	1,692	1,691
1988	107,838							3,595	7,189	7,189
1989	85,636								2,855	5,709
Total depreciation			$583,183	$608,275	$605,430	$608,549	$611,773	$540,938	$547,387	$550,241
Total depreciation and amortization			$772,259	$826,017	$824,778	$825,314	$829,732	$803,084	$809,656	$783,842

OFFICE BUILDING PARTNERSHIP

CASH FLOW PROJECTION - TAXABLE INVESTOR

100% EQUITY

Year	Cash Flow Before Taxes	Taxable Income (Loss)	Cash Effect of Taxable Income	Total Cash to Investors
82	$ (24,000)	$ (112,236)	$ 56,118	$ 32,118
83	972,851	200,592	(100,296)	872,855
84	1,464,091	638,074	(319,031)	1,145,060
85	1,360,374	586,710	(293,355)	1,067,019
86	1,401,506	743,712	(371,856)	1,029,650
87	1,537,876	809,339	(404,670)	1,133,206
88	1,428,996	1,026,236	(513,118)	915,878
89	1,663,414	1,056,156	(528,078)	1,135,336
90	1,942,772	1,158,930	(479,465)	1,463,309
Proceeds from sale				16,971,943
Total	$11,747,880	$ 6,107,513	$(2,953,751)	$25,666,366
Sale in 1990 at 10 x cash flow:			$19,500,000	$19,500,000
Original		$ 12,500,000		
Less cash distribution		(11,747,800)		
Plus taxable income		6,107,513		
Adjusted basis			(6,859,713)	
Tax on gain			$12,640,287 x .20	$(2,528,057
Net cash on disposition				$16,971,943

Internal Rate of Return = 9.9%

Northern California Chapter 11
American Institute of Real Estate Appraisers
22 Battery, Suite 914
San Francisco, CA 94111
(415) 398-2876

SPECIAL PROBLEMS IN THE CONTEMPORARY APPRAISAL OF MAJOR INCOME PROPERTIES

A SEMINAR

Northern California Chapter No. 11

The American Institute of Real Estate Appraisers
National Association of Realtors



JAMES A. GRAASKAMP,
Ph.D., SREA, CRE
Instructor

A SPECIAL TWO-DAY SEMINAR
Sheraton-Palace Hotel
San Francisco

SEPTEMBER 16-17, 1982

ABOUT THE SEMINAR

Contemporary Appraising of Income Properties is a two-day seminar featuring the controversial and highly respected appraiser, Dr. James A. Graaskamp, Chairman of the Department of Real Estate and Urban Economics at the University of Wisconsin.

Today's real estate investors perceive a gap between the questions they wish to research and the language and rigidity of traditional appraisal techniques. As investors have become more sophisticated in the selection of real estate portfolios by using capital budgeting techniques, computer simulation, statistical inference, and survey research, many have turned to accountants, investment bankers, engineers and marketing firms for analysis and determination of justified prices.

In order to meet these needs, Dr. Graaskamp has developed a contemporary approach which provides flexibility in the selection of technique and at the same time provides built-in control on the reliability and suitability of valuation conclusions. Furthermore, contemporary appraisal also matches technique with the issue for which an appraisal is sought; expresses its conclusions to reflect the uncertainty of any transaction forecast; and moves from the facts to more general conclusion in an inductive and empirical manner.

ABOUT THE INSTRUCTOR

JAMES A. GRAASKAMP, Ph.D., SREA, CRE

James A. Graaskamp, Ph.D., SREA, CRE, is a highly respected and acclaimed expert in real estate analysis. He is Chairman of the Department of Real Estate and Urban Land Economics at the University of Wisconsin where he has developed a real estate program acknowledged in the industry for its advanced appraisal techniques and feasibility studies curriculum.

Dr. Graaskamp is the President and Founder of Landmark Research, Inc., a real estate research and appraisal firm. He is also co-founder of a general contracting firm, a land development company, and a real estate investment corporation. He is the co-designer and instructor of the EDUCARE teaching program for computer applications in the real estate industry. His work includes substantial and varied consulting and valuation assignments to include investment counseling to insurance companies, banks, and other financial institutions, plus feasibility and financial analysis of major real estate development projects for a wide variety of clients.

GRAASKAMP/INCOME PROPERTIES SEMINAR

For Further Information Call:
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TO: Northern California Chapter 11
American Institute of Real Estate Appraisers
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San Francisco, CA 94111

I hereby apply for enrollment in the Graaskamp Seminar. ☐ I enclose a check in the amount of $175 (☐ $195 after September 8) covering tuition, seminar material and lunch. (Payable to Northern California Chapter 11, A.I.R.E.A.)

Name _____ Phone _____

Home Address _____

City _____ State _____ Zip _____

Firm _____ Present Position _____

Firm Address _____ Phone _____

City _____ State _____ Zip _____

Guest _____ ☐ (Guest Tuition $175, $195 after Sept. 8)

No Confirmation Will Be Sent. No Refunds After September 8, 1982

"SPECIAL PROBLEMS IN THE CONTEMPORARY APPRAISAL OF MAJOR INCOME PROPERTIES"

A Two-Day Seminar at the Sheraton-Palace Hotel
September 16 & 17, 1982

THURSDAY PROGRAM

8:00 A.M. Registration

8:30 A.M. —Introduction to Basic Concepts and Definitions

8:45 A.M. —Dynamics of the Real Estate Decision Process
—Real Estate Appraisal—A Business Forecast as a Bench Mark for a Decision

10:00 A.M. Break

10:15 A.M. —Modeling of a Decision Process
—Redefinition of Value and Price for Contemporary Appraisal
—Principals of Contemporary Appraisal Derived from Valuation Objectives

12:00 P.M. Lunch

1:00 P.M. —Outline of a Contempary Appraisal Report
—Outline continues
—Annotated Demonstration Appraisal Report
—*The Appraisal of 25 N. Pinckney*

2:30 P.M. Break

2:45 P.M. —Discussion of Physical Property Analysis of Demonstration Property
—Discussion of Most Probable Use and Buyer Type
—Discussion of Innovative Market Comparison Approach (market segmentation and point scoring for property differentials)
—Testing Value Conclusions with the Income Approach using After Tax Cash Flow
—Use of Limiting Conditions and Other Devices Relative to Professional Liability

5:00 P.M. *End of Program*

FRIDAY PROGRAM

8:30 A.M. —Impact of Inflation on Appraisal Theory for Large Income Property

8:45 A.M. —The Necessity to Define the Legal Interest to be Appraised
—The Growing Confusion of Real Estate Values with Going Concern Values

10:00 A.M. Break

10:15 A.M. —Market Comparison of Income Properties Given Engineered Prices
—Intangible Values Contributed by Financing Marketing Agreements, and Monopoly Through Regulation
—Selecting Units For Basis of Market Comparison
—Dollars per Point per Unit of Comparison
—Examples (Industrial land, fast food site, old office buildings)

12:00 P.M. Lunch

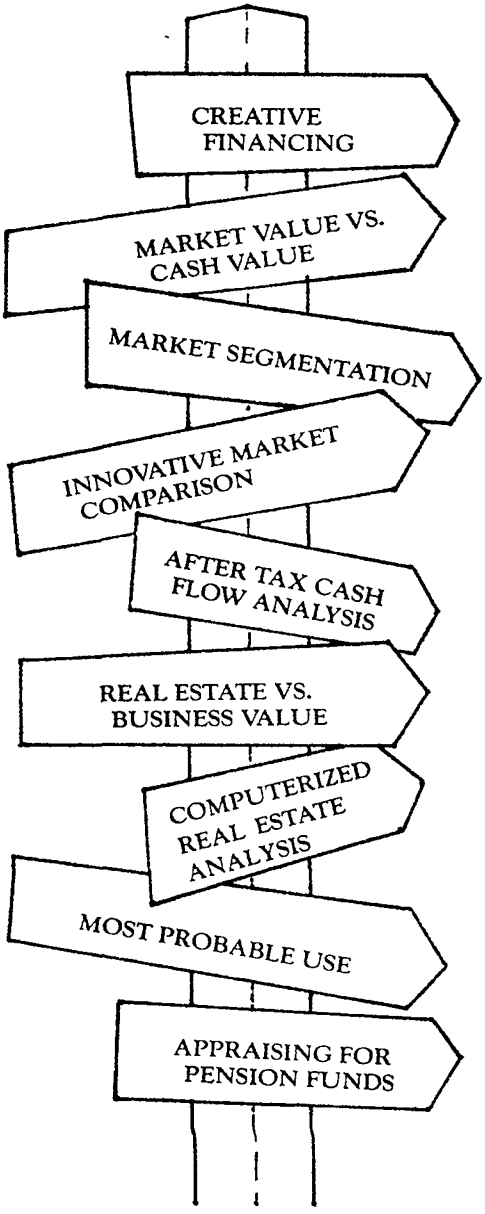
1:00 P.M. —Case Study of B-Class Office Buildings
—Accounting Schedules for Every Leased Unit
—Computer Software for Valuing Income Properties
—Techniques for Cash Equivalancy Adjustment

2:30 P.M. Break

2:45 P.M. —Valuation of Subsidized Multi-Family and Industrial Properties
—Valuation of Property Subject to Participation for Contingent Interest Rate Financing
—Valuation of Property Through Pension Funds
—Questions and Answers

5:00 P.M. End of Program

SPECIAL PROBLEMS IN THE CONTEMPORARY APPRAISAL OF MAJOR INCOME PROPERTIES



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This seminar is open to anyone who is interested.

Time:
Program will begin promptly at 8:30 a.m. and end at 5:00 p.m.

Attendance:
Registrants must attend the entire seminar in order to receive continuing certification/DRE accreditation.

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14 Hours Credit for Department of Real Estate (Pending)

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$175 Includes Seminar Materials and Luncheons on the 16th & 17th.
$195 (Late Registration) Includes Seminar Materials and Luncheons on the 16th & 17th.

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Parking:
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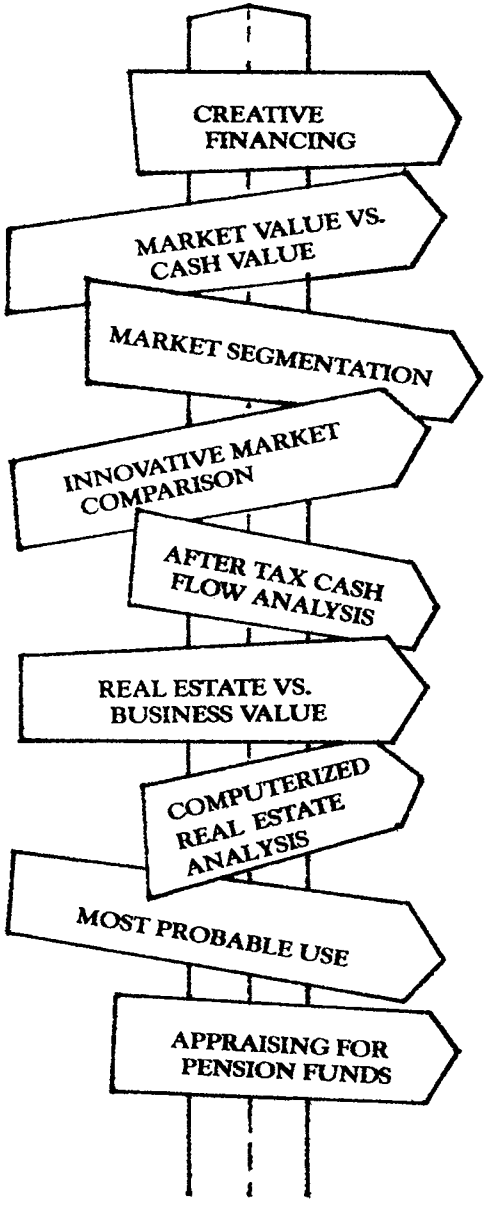
SPECIAL PROBLEMS IN THE CONTEMPORARY APPRAISAL OF MAJOR INCOME PROPERTIES



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SEMINAR
REAL ESTATE FEASIBILITY ANALYSIS

Presented By:

Professor James A. Graaskamp, CRE, SREA
University of Wisconsin, School of Business

For

Houston Chapter 33
American Institute of Real Estate Appraisers
Houston Grand Hotel

February 18-19, 1983

REAL ESTATE FEASIBILITY SEMINAR

Houston Chapter 33
February 18-19, 1983
Houston Grand Hotel

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and inclues architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital. Money is an energy transfer system.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.
4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

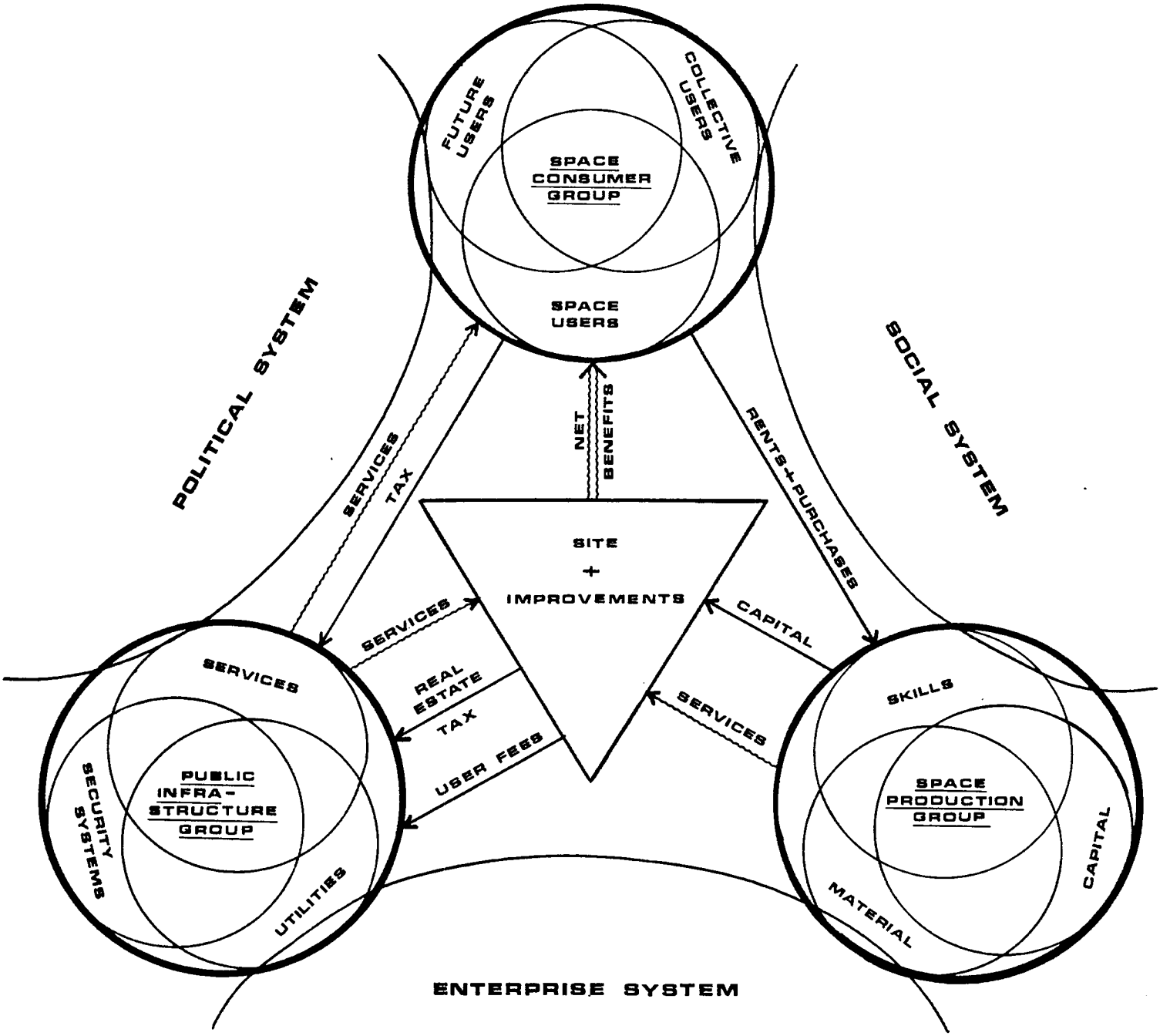
D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:

1. Physical attributes
2. Legal-political attributes
3. Linkage attributes
4. Dynamic attributes
5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

Exhibit 1



THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. 'In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced be concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.
2. The individual consumer with needs and a budget is the drive wheel.
3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.
4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.
2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.
3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.
4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.
5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. An enterprise is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The system engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form giver.

II. Financial Management and Risk Management

Investment is a real estate enterprise as mortgage lender or equity investor is simply buying a set of financial assumptions about the interaction of the project to its context, of the firm to its environment. Real estate analysis is to control the variance between expectations and realizations, between proforma prospects and historical balance sheets and profit and loss statements.

A. Analysis is risk management, control of variance.
B. There are essentially two types of risk exposures:

   1. Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.

   2. Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.

C. Risk evaluation or comparison grows out of the function of risk management for an enterprise.

   1. Risk management has two objectives:

      a. First priority - conservation of existing enterprise assets despite surprise events.
      b. Second priority - realization of budgeted expectations despite surprise events.

   2. The process of risk management involves systematic and continuous:

      a. Identification of significant exposures to loss
      b. Estimation of potential loss frequency and severity
      c. Identification of alternative methods to avoid loss
      d. Selection of a risk management method
      e. Monitoring execution of risk management plan

   3. The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to anticipate surprise and to provide for a response or adjustment in advance of the contingency.

D. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as:

   1. Review of balance sheet accounts
   2. Review of profit and loss statement accounts
   3. Review of business organization or function chart
   4. Review of elements of financial feasibility analysis

E. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

   1. Very frequent and minor become expense accounts
   2. Less frequent but predicatable and major become reserves or budget allowances.

3. Infrequent, uncertain but very severe become issues of risk management.
4. A 50/50 probability is the most uncertain outcome.

F. The alternative methods of avoiding loss which everyone subconsciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (diversification or mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expense)
4. Shift risk by contract (subcontracts or escalator clauses)
5. Shift risk by combination (diversification) by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and leaseback, options, contingent sales)

G. Risk management concepts leads to understanding of the true essence of a mortgage contract and an equity commitment

1. A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market. The mortgage contract is a risk management agreement to provide coverage of static risks and an imperfect straddle on the dynamic risks. Protection for the lender is revenue to the borrower, negative incentives, and salvage.

2. Equity ownership is the degree to which you can divert cash flow and maintain control within an acceptable level of risk avoidance.

III. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

> "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1. A check list of physical attributes
2. A check list of critical linkage attributes
3. A check list of dynamic behavioral attributes

4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
6. Probability distributions of alternative outcomes and standard error of the estimate
7. Pshychological gratifications
8. Specified legal attributes
9. Measures of impact on environment

C. The definition also implies uncertainty - a reasonable likelihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analystical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

D. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical-aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

E. The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

F. These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

H. Feasibility analysis is a sub-topic within the generally expanding litura ture of problem solving. Any Counselor or problem solver is urged to read the following:

1. The Art of Problem Solving, Russell L. Ackoff, John Wiley & Sons, New York, 1978
2. The Complete Problem Solver, John R. Hayes, The Franklin Institute Press, Philadelphia, 1981
3. Strategic Planning in Emerging Companies, Steven C. Brandt, Addison-Wesley Publishing Company, 1981

I. Ackoff subdivides any problem into five types of components:

1. The decision maker--the person or persons faced with the problem, as a group or individual.

2. The controllable variables--those aspects of the problem situation the decision maker can control.

3. The uncontrolled variables--those aspects of the problem situation the decison maker cannot control but those which, together with the controlled variables can effect the outcome of his choice. The uncontrolled variables may be quantitative or qualitative, but together they define the problem environment, in the language of Ackoff, or the context in the language of Christopher Alexander.

4. Constraints imposed from within or without on the values of the controlled and uncontrolled variables. For example, the consumer places a limit on how much he is willing to pay for rent, although rent levels themselves are often set by cost factors byond his control.

5. The possible outcomes produced jointly by the decision makers choice and the uncontrolled variable.

Ackoff further refines problem solving:

> A problem is said to be solved when the decision maker selects those values of the controlled variables which maximize the value of the outcome; that is, when he has optimized. If he selects values of the controlled variables that do not maximize the value of the outcome but produce an outcome that is good enough, he has resolved the problem by satisficing. There is a third possibility: he may dissolve the problem. This is accomplished by changing his values so that the choices available are no longer menaingful. For example, the problem of selecting a new car may be dissolved by deciding that the use of public transportation is better than driving oneself. It may also be dissolved by moving to within walking distance from work so that driving is no longer required. We use "solving" loosely to cover all three alternatives.

Ackoff also points that many problem solvers are reactive responding to the immediate irritation which leads us "to walk into the future facing the past - we move away from, rather than toward something. This often results in unforseen consequences that are more distasteful than the dificiencies removed." Recall D.D.T. Problem should be proactive by specifying the ideal outcome and looking for ways to move in that direction. "The chances of overlooking relevant consequences are minimized when we formulate a problem in terms of approaching ideals

... focusing on an ideal reveals the relationships between things that can be done in the future and tends to make us feel simultaneously with sets of interacting threats and opportunities, to treat them as a whole, as a system of problems.

From that it is important to learn that:
Planning is dealing with sets of interacting problems
Problem solving is finding alternative routes to approach an ideal solution
Feasibility analysis is testing a specified course of action for its liklihood of fulfilling the ideal
An appraisal is a ficticious feasibility study in which human behavior is assumed to be normative

J. The Hayes text is a rich collection of problem solving and decision making methods. Hayes believes that problems should be represented with doodles, flow charts, simple diagrams, or other graphics. He sees the problem solving process as correctly representing the goal, correctly specifying the initial state of affairs, correctly specifying the differences between the current state of affairs and the goal, the restrictions in moving toward the goal and operators available to advance affairs to the goal. He defines decision technique for conditions of certainty, uncertainty, or competitive conflict Hayes develops for strategic viewpoints:

1. The minimax strategy which assumes that "nature is against us" so that the ob ject is to choose the strategy that will minimize the disaster, although it has the unfortunate property that may also eliminate the best possible outcome.

2. The maxi-max strategy chooses the course of action which could provide the best of the best possible outcomes, but it does not defend you against the possibility of enjoying the worst possible outcome.

3. The Hurwitz strategy allows a compromise between the pessimistic and the very optimistic strategies above while allowing one to modify the probabilities with a factor for the level of optimism or pessimism of the decision maker.

4. Minimizing maximum regret strategy may be most significant for real estate investors as in phasing the project or buying standby credit at an exhorbitant rate.

K. Among the strategies discussed by Brandt are those involving in the search for competitive advantage. These are technical superiority, the premium for quality, the ploy of convenient inventory and service, the ploy of price and particularly in real estate the strategy of pace.

L. Finally in urging you to move toward the literature of problem solving and decision theory, Ackhoff pointed out that educators generally produce only competence, communicativeness, and concern while the characteristics that makes for outstanding managers are courage and creativity. Hayes goes on to define creativity as "A special kind of problem solving, that is the act of solving an ill-defined problem. Ill defined problems are those which require problem solvers to contribute to the definition of the problem from their own resources."

IV. What is the Problem as Perceived by the Client?

The original problem as perceived by the client is seldom the real issue of feasibility analysis that will need to be examined by the analyst.

A. The appraiser is conditioned to having the client specify the function of the appraisal, such as for fire insurance or eminent domain and then having the client's attorney or the court jurisdiction define the definition of fair market value, the question which the appraiser then begins to answer.

B. However, the client may ask for an appraisal when he needs a feasibility study. He may ask what he should pay for a piece of property before he has determined that his strategic needs are best met by purchase rather than by leasing by avoiding ownership of additional space altogether (by sub-contracting certain functions of others by the way in which he purchases services and supplies).

1. Since everyone is an expert on real estate the client will probably presume that a certain procedure will be followed.
2. The architect will presume that the real estate expert will show the financial implications of a final design, when in fact the real estate expert should first assist in the pre architectural program of design objectives.
3. Almost every client will overlook some of the basic issues because of the natural bias of his position.
4. The consultant must begin by attempting to discover what is taken for granted and that search will continue to condition his relationship ith his client.

C. When the client first contacts the consultant the question provided by the client will conceal some implicit client preferences and assumptions. The consultant will need to interview his client by asking him explicitly about:

1. His concept as to the "essence" of his business
2. His preferred method of meeting entrepreneurial risk
3. His preferred method of personnel compensation
4. His style of value decision trade-offs between qualitative and quantitative issues.
5. His perception of his risk position and his risk utility "curve."
6. His personal non-business objective.
7. His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of indepth preparation by the client).

D. The client is often skeptical of the ability of the consultant to contribute anything new since he may regard the consultant as one "who tells him the time by reading the client's own watch."

1. Moreover, he may be using the consultant to double check another source of information and therefore expects a consultant to begin from scratch as a way of confirming the original source.
2. Nevertheless, the feasibility analyst must eventually extract from the client, preferably in writing, an agreement as to what the stated objectives of the study are and the input which will be provided by others than the analyst.
3. This step will probably only be accomplished after the consultant has come to a better understanding of the real problems faced by the client.

V. What is the Problem as Understood by the Consultant?

The problem as perceived by the client almost always must be converted into a sequence of problems as understood by the consultant. The perceived question of "How much should I pay for the land," may come to be understood as "Why do I need to invest in land"?

A. The feasibility analyst should be the devil's disciple for in order to define what needs doing, he must first discover what has been done, what assumptions have been made, and whether those who made the assumptions knew what they were doing.

1. A useful technique is to reverse the question or the alternative in order to have better perspective on the assumed area of solution. If asked to organize a non-profit partnership to create a counseling facility, approach the problem as how to dissolve a partnership of non-profit contributors. If asked the feasibility of restaurant expansion, investigate the possibility of reducing the size of the kitchen instead.

2. To gain perspective, one creative think system (Synectics) recommends conversion of the familiar to the strange and the strange to the familiar by analogy. Thus any multi-user real estate becomes analagous to a retailing model while any single user real estate decision becomes an industrial location model.

3. Statement of the problem as a "compressed conflict" by describing it in two words which appear to be mutually exclusive or contradictory may be useful in understanding a problem. For example, customer control as "channeled freedom" or land use control has "fixed state of flux" can then lead to discovery of more remote analogies. Analogies serve as reiliminary models suggesting opportunity areas for a solution.

B. In search of the real problem as opposed to the initial problem perceived by the client, the analyst should retreat to some basic classification and task identification checklists. First there are only three alternative feasibility situations:

1. A site or a project owned by a specific client in search of a market.
2. An identified market segment or use in search of the site and project to be provided by a specific client.
3. A specific client desiring to search for an opportunity in real estate enterprise.

C. Next the analyst must know the viewpoint of the audience for his report, written or oral, because the elements considered important by a mortgage lender may be significantly different than those of a general partner or those of a limited partner or those of a large tenant.

D. Since there are so many facets to the context of a real estate project and measurement of its success, not to mention the assumptions on which the determination of feasibility depends, it is important to have the client agree on what elements of feasibility are to be provided by which expert or analyst.

1. Analyst should be an expert on experts
2. It is useful to include a standard checklist of components with a letter or proposal as that checklist later becomes the really significant portion of the statement of limiting conditions (hold harmless agreements) which are part of the final report. A sample of one such checklist is provided in Exhibit 2.

E. With a review of which elements are to be provided by which experts it then becomes possible to assist the client in choosing which report title or titles are properly the responsbility of the real estate analyst. (See 1.360)

F. With definition of the report expected and the information to be provided by others, the analyst can prepare a budget and a schedule for staging the report so that he and the client can begin to establish priorities both in time and money available for research to define the feasibility assignment on which the analyst is to proceed.

G. Despite the necessity of defining the assignment in light of the clients problem, it is necessary for the analyst to recall that he is to remain an independent analyst an advocate of his own opinion:

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EXHIBIT 2 Feasibility Assignment and Accountability Worksheet
XYZ Appraisal Company
xxx Street Anywhere U.S.A.

Name of Client _____ Date _____

Assignment Description _____

Feasibility Input	Provided by	Approved by	Sequence and date available
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
(Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group, 210 Michigan Theater Building, Ann Arbor, Michigan 48108.

VI. Property analysis to determine alternative uses

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence: (See Exhibit 3)

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B. A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal-political attributes include not only zoning and subdividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site concern with off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal-political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

1. Size, shape, and lot area

2. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, flood plain designations, etc.

4. Flora and fauna which enhance marketability or which might cause environmental impact litigation

5. Concealed utility easements, old foundations, etc.

6. Existing on-site utility services and capacity

7. Access points to public thoroughfares or private right-of-ways

8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitues or future legislation which will affect administration of these ordinances relative to future uses of the site.

1. All alternative setback lines and building envelope interpretations relative to site

2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administraion of the law

8. Existing or impending legislation relative to such matters as:

   a. Septic tank installation
   b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
   c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
   d. Conservation of envrionmental edges, prime agricultural land, wet lands

9. Define physical system sub-systems

   a. Foundation system
   b. Structural system
   c. Floor system
   d. Ceiling system
   e. Roof system
   f. Exterior wall system
   g. Interior wall system
   h. Horizontal circulation sytsem (provacy, interaction, congestion, confusion)
   i. Vertical circulation system (handicapped code, cost, economy of scale and height)

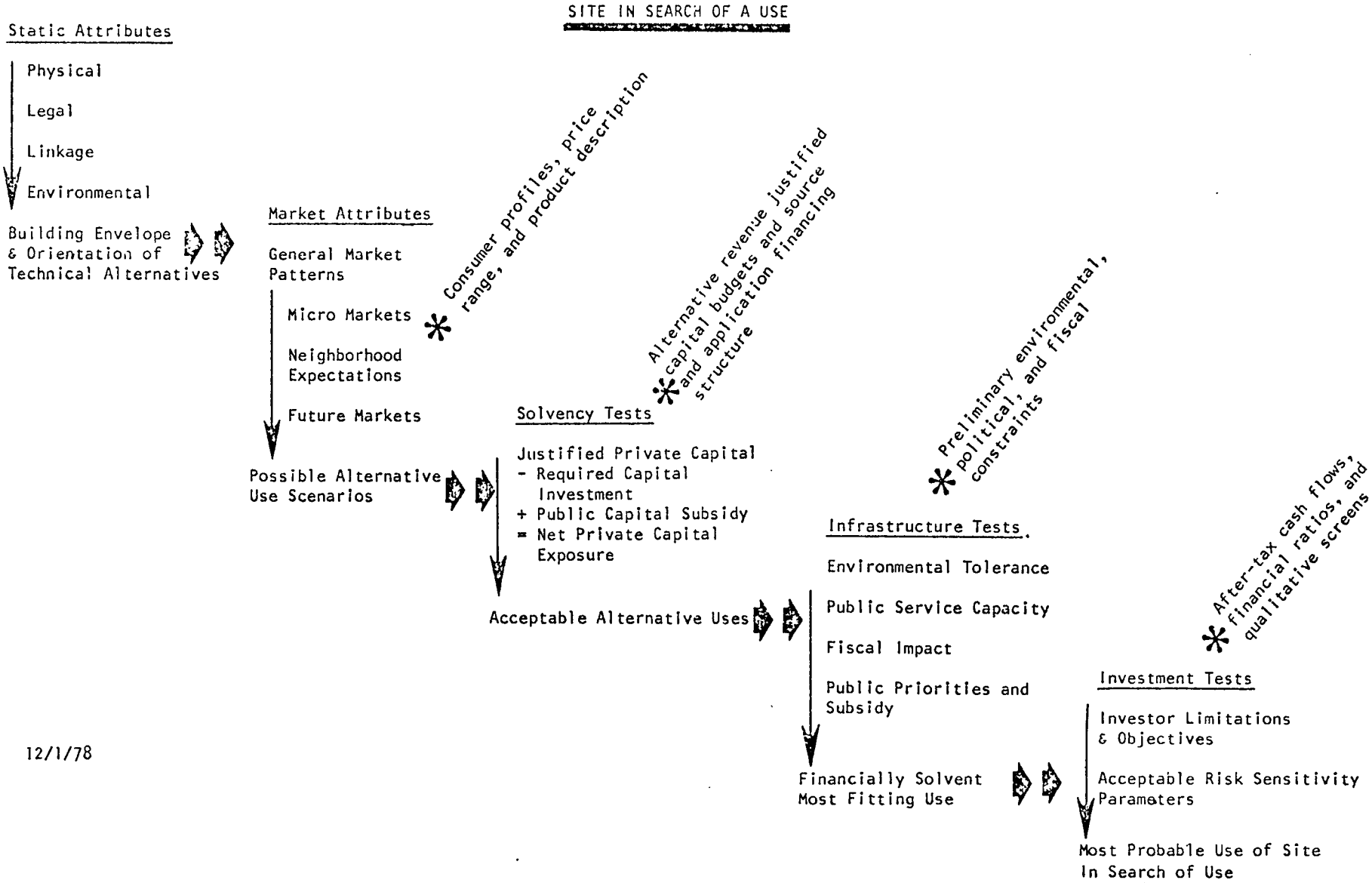
10. Delineation of functional systems

   a. Bay spaces
   b. Module unit
   c. Ceiling heights
   d. Visual codes - such as mass, entrance, claustrophobic signals

11. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

EXHIBIT 3

SITE IN SEARCH OF A USE



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FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by elderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered non-conforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio--housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation--smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 3A

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

   a. Limitations on sewage processing, storm water retention or runoff constraints
   b. Community energy supplies, priorities, and capacity
   c. Water processing and chemistry as applicable
   d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

   a. Employment centers
   b. School system alternatives
   c. Retail services
   d. Complimentary existing nearby uses
   e. Recreational services
   f. Health care systems
   g. Security systems
   h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

a. Impact on supply/demand equilibrium
b. Stamina of project sponsor in the face of public pressure
c. Vulnerability of potential project buyers to secondary political pressures and counter attack
d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital are provided in Exhibits 4-10.

M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 6.

1. Note that Exhibit 6 integrates the basic elements of preliminary feasibility analysis.

2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

Exhibit 4

REVENUE REQUIRED BY CAPITAL BUDGET
LOAN TO COST RATIO APPROACH

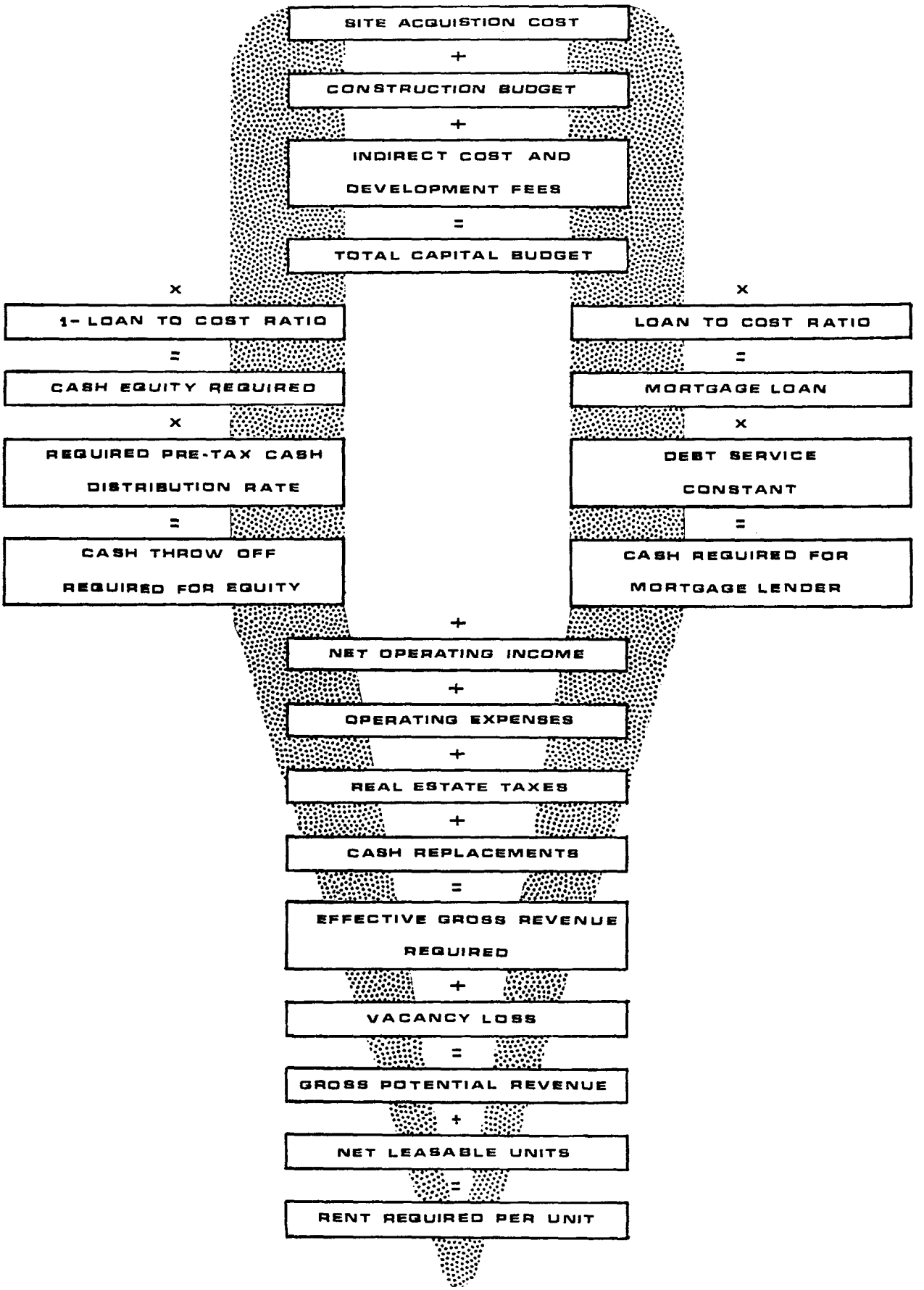


Exhibit 5

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

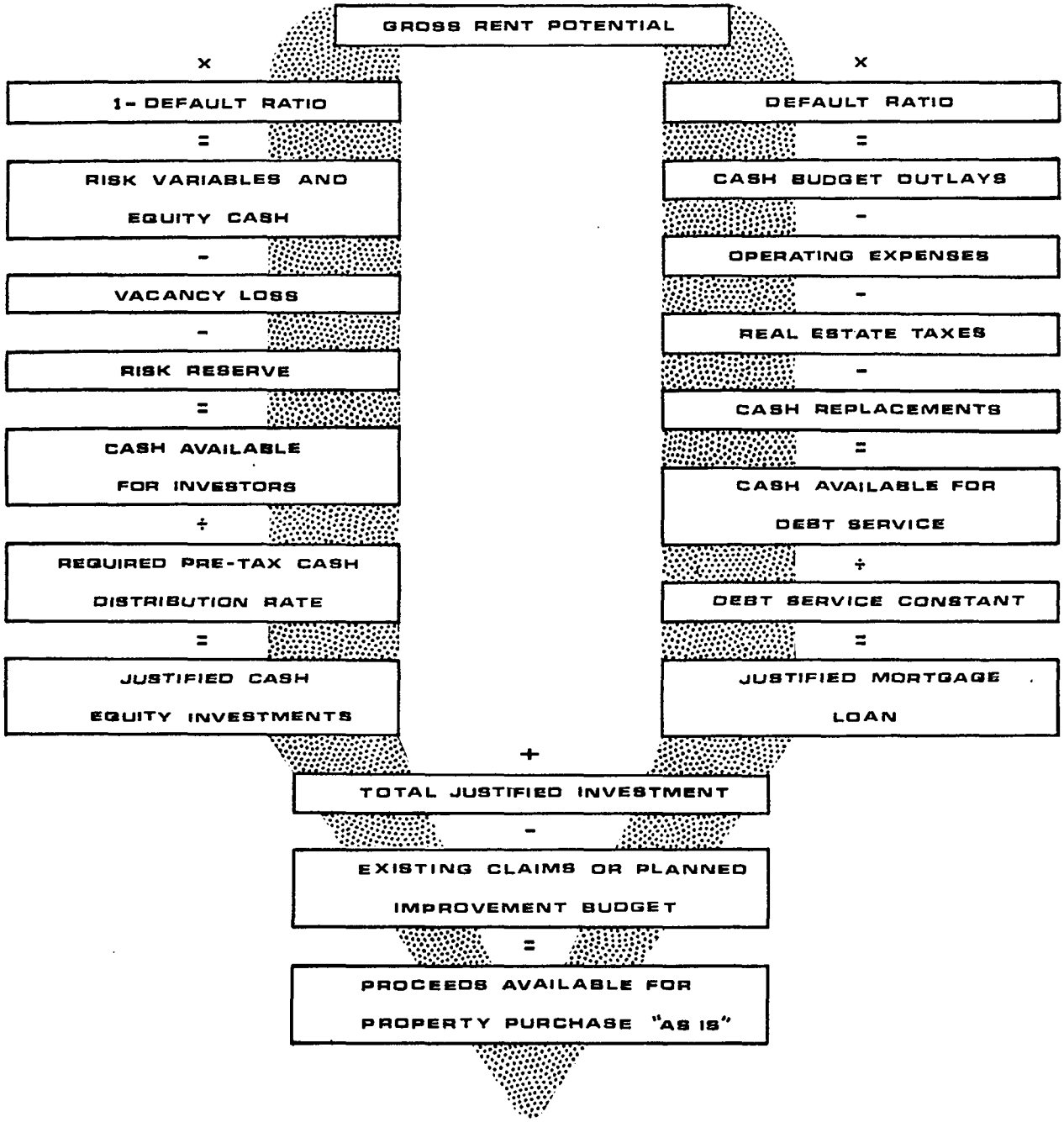


Exhibit 6

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH

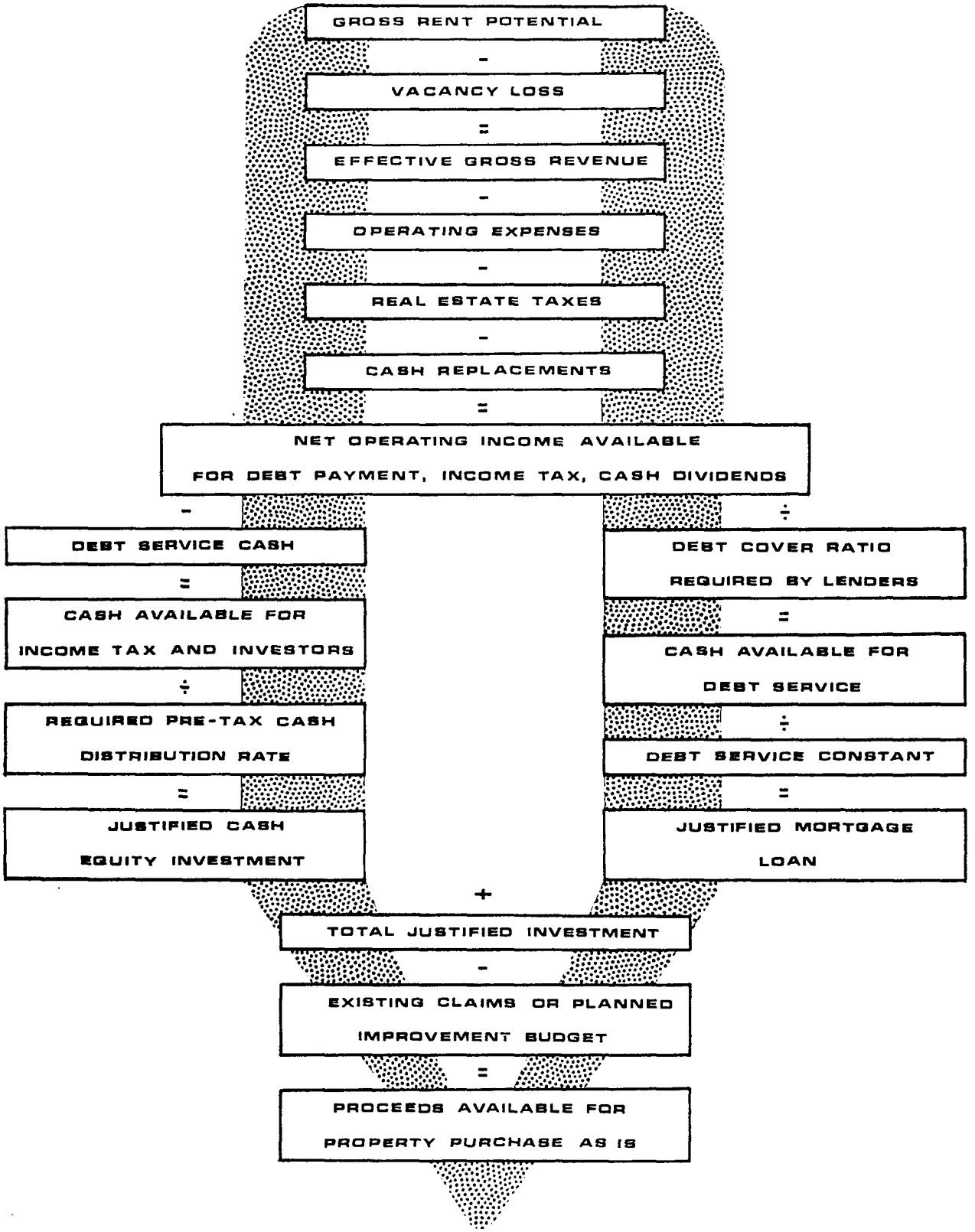


Exhibit 7

FRONT DOOR APPROACH

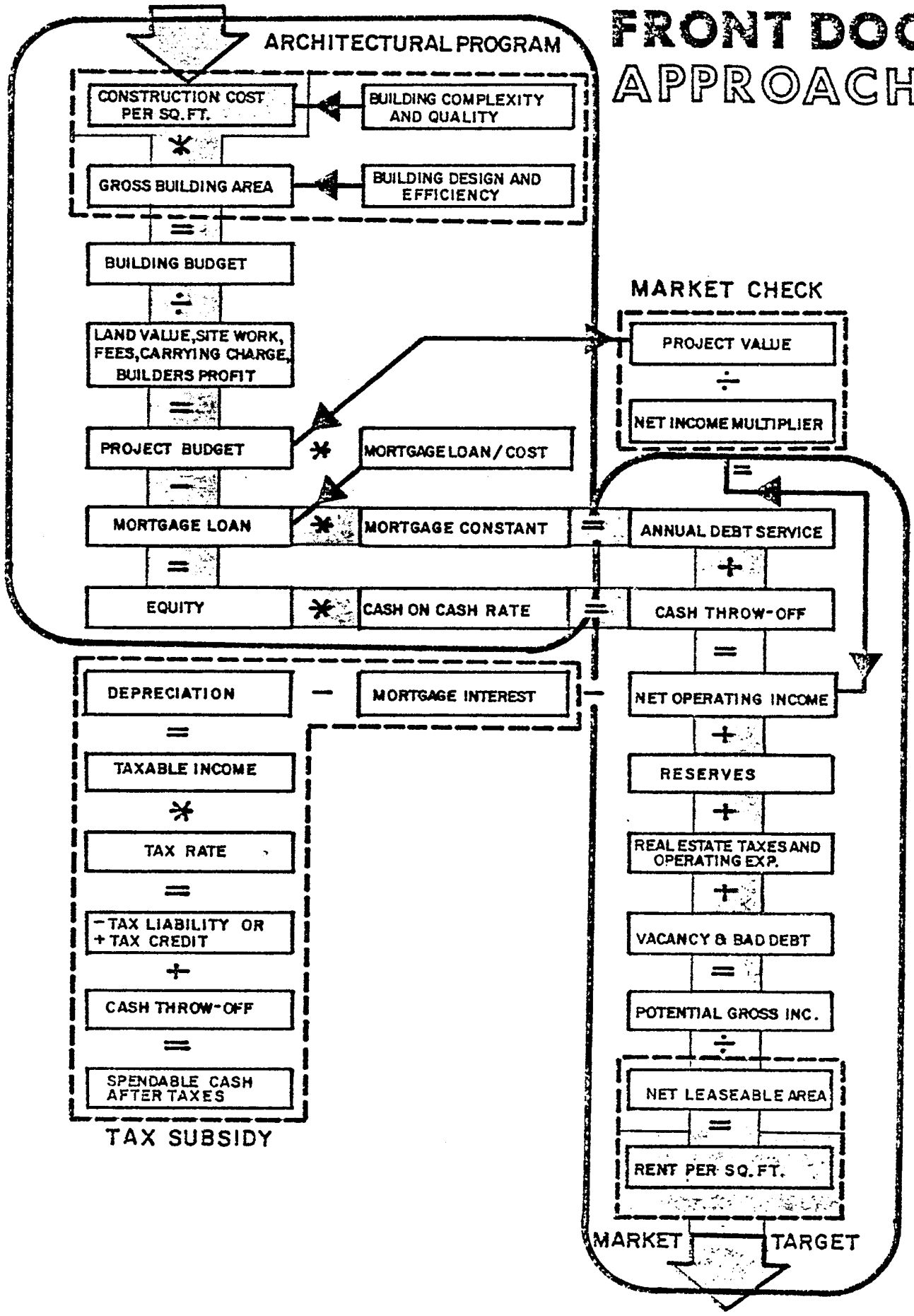
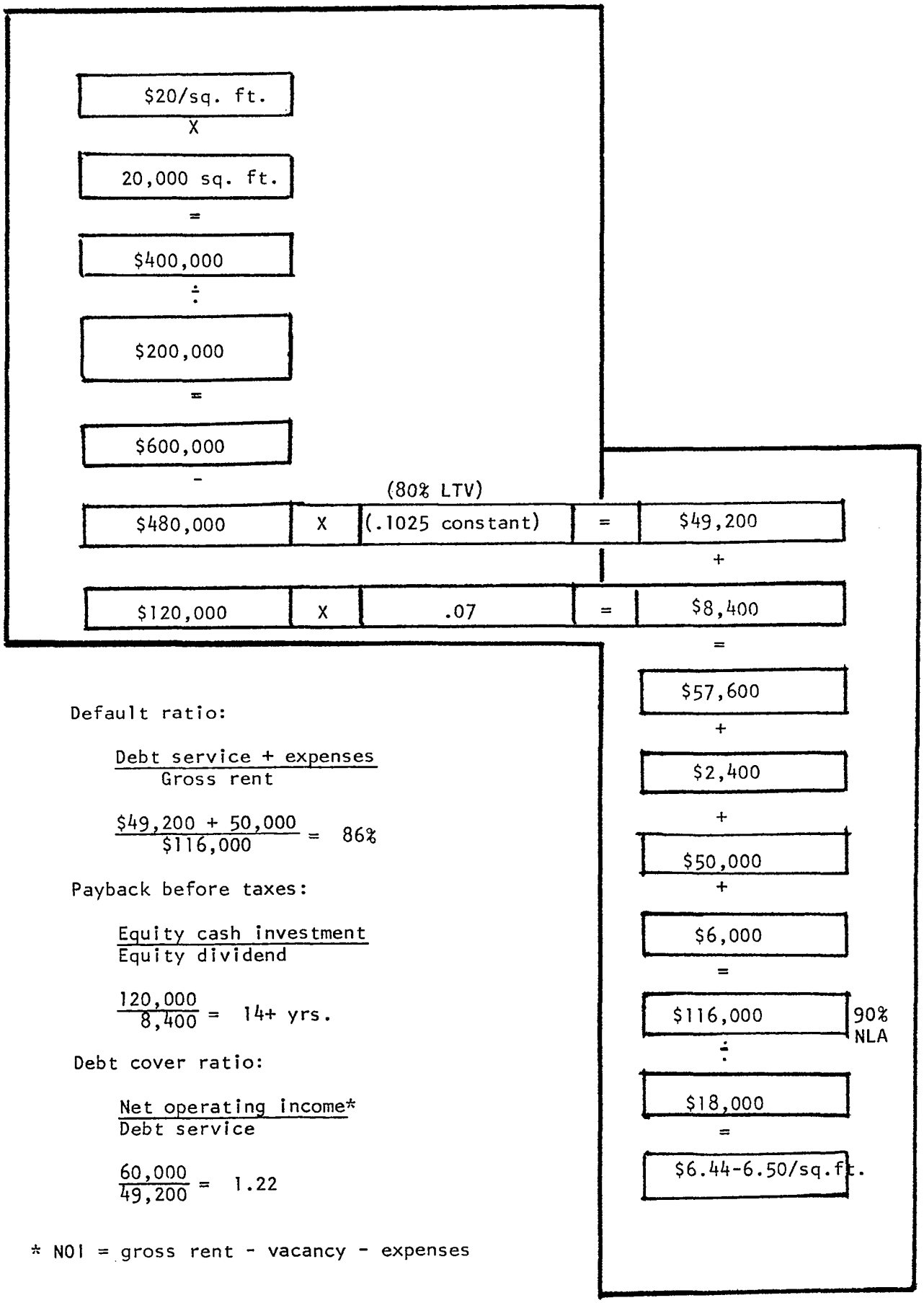


Exhibit 8

FRONT DOOR - MINIMUM RENT REQUIRED



Default ratio:

$$\frac{\text{Debt service + expenses}}{\text{Gross rent}}$$

$$\frac{\$49,200 + 50,000}{\$116,000} = 86\%$$

Payback before taxes:

$$\frac{\text{Equity cash investment}}{\text{Equity dividend}}$$

$$\frac{120,000}{8,400} = 14+ \text{ yrs.}$$

Debt cover ratio:

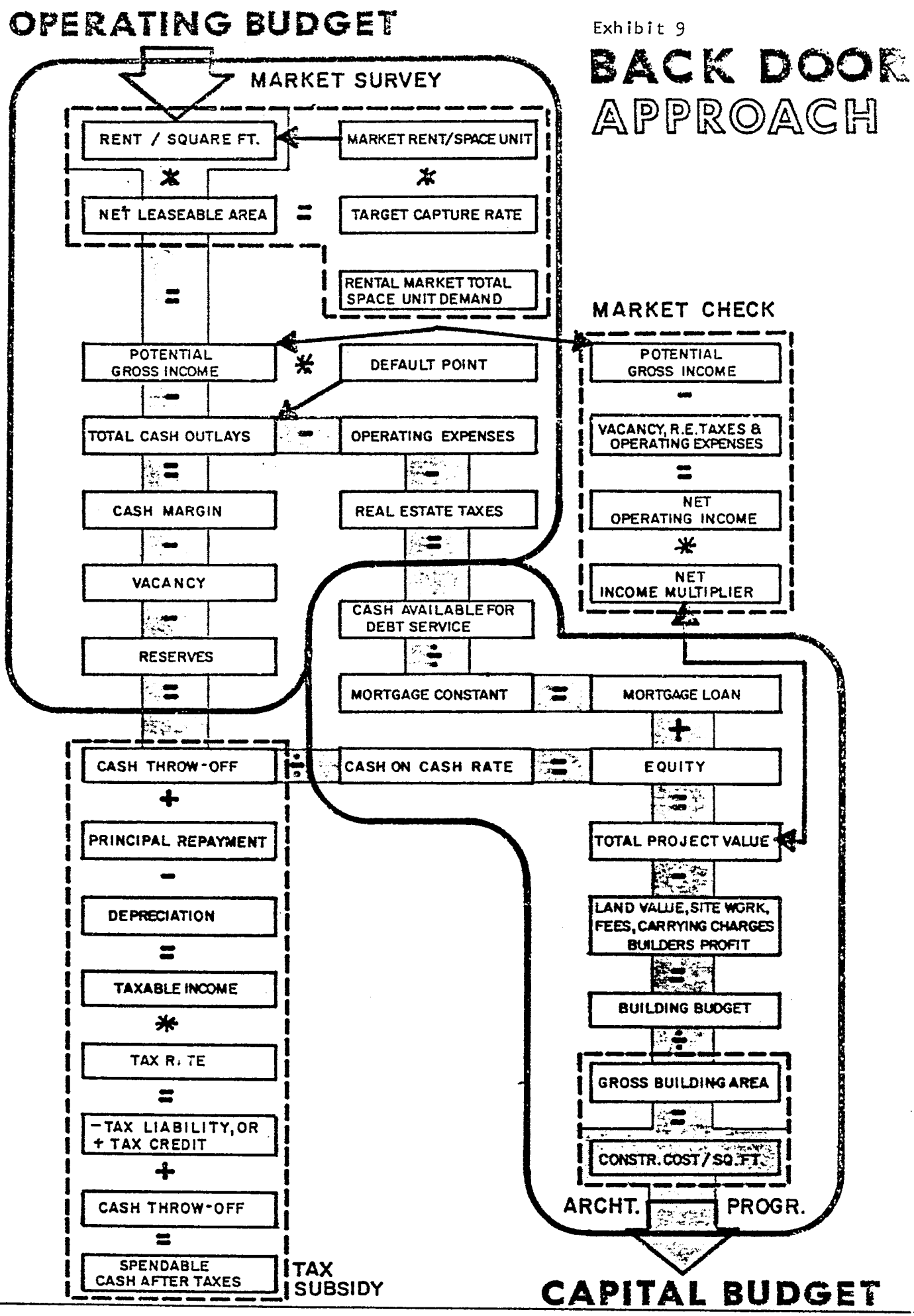
$$\frac{\text{Net operating income*}}{\text{Debt service}}$$

$$\frac{60,000}{49,200} = 1.22$$

* NOI = gross rent - vacancy - expenses

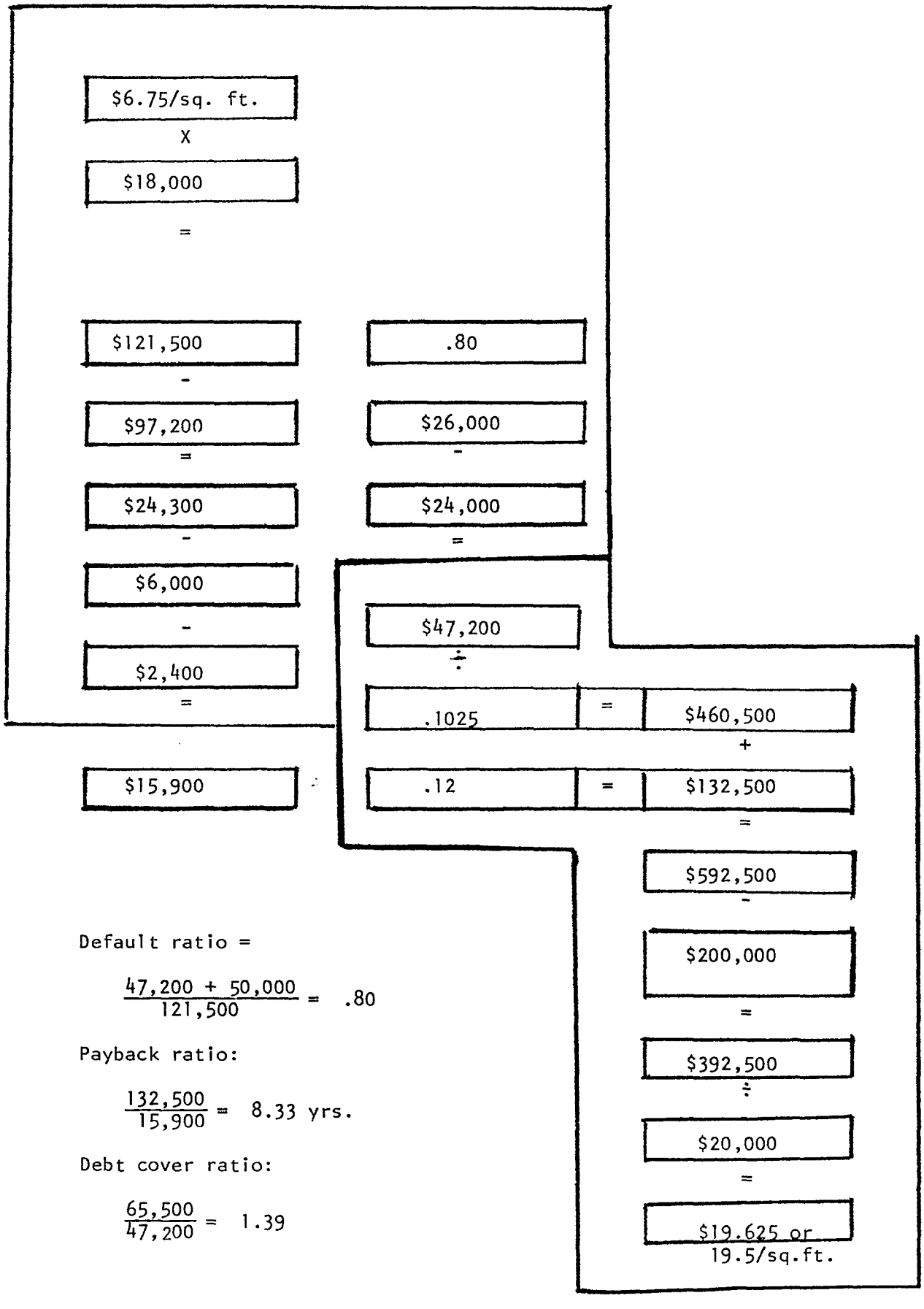
Exhibit 9

BACK DOOR APPROACH



BACK DOOR - MAXIMUM JUSTIFIED BUDGET

Exhibit 10



Default ratio =

$$\frac{47,200 + 50,000}{121,500} = .80$$

Payback ratio:

$$\frac{132,500}{15,900} = 8.33 \text{ yrs.}$$

Debt cover ratio:

$$\frac{65,500}{47,200} = 1.39$$

X. Introduction to Financial Analysis

Review of property attributes and identification of alternative uses which have potential for effective demand typically narrows the alternative for further consideration to those where potential revenue can support reasonable capital budget parameters. Initial financial analysis does not involve present value theory but rather progressive refinement of ratios and risk characterisitcs for consumers, producers, and the public infrastructure. Analysis which follows is concerned with only the private production and finance side of the equation.

A. There are two points of departure for analysis:

1. Given the capital budget, it is necessary to convert to the required rents necessary to support the project and cash return objectives. Specified budgets converted to required rents is often called the front door approach.
2. Given market rent per unit, it is necessary to establish the maximum justified capital budget. Targeted market rents converted to justified investment can be allocated to various development budgets and is called the back door approach.

B. Refer to the front door approach exhibit and example, oversimplified for purposes of illustration.

C. Refer to the back door approach exhibit and example

1. The back door approach is the preferred response to the market although lenders typically enter the scene after the capital budget is set.
2. Note that the back door approach can be driven by a default ratio or a debt cover ratio which are dynamic risk concepts rather than loan to value ratio which is a static regulatory concept.

C. The back door approach is the essence of the FHA 2013 form, state housing finance approach to projects where revenue is defined by the FMR rules, or even purchase of an existing property subject to long term rents, renovation, etc.

1. It is possible to detail the back door approach for any type of project by simply setting up tabs in a flow chart fashion as suggested by the example for a 236 project.
2. Another way to view the flow charts is in the nature of two basic programmable formulas:

$$\text{Gross rent} = \frac{TRC * LTV * MC + (1 - LTV * CC)}{1 - (ER + RET + VR + RR)}$$

$$\text{Justified project budget} = \frac{GR}{\frac{LTV * MC + (1 - LTV * CC)}{1 - (ER + RET + VR + RR)}}$$

Where:
TRC = Total replacement cost; LTV = loan to value ratio
MC = mortgage constant; CC = Cash on cash for equity cash
ER = expense ratio; RET = real estate tax ratio
VR = Vacancy ratio; RR = reserve ratio

C. Preliminary financial analysis begins with a variety of ratios which are intended to reveal the tolerance of the project for variance in key assumptions, the ability absorb surprise, as well as dynamic risk. These ratios become the objective of further refinement through sensitivity analysis. Among the important ratios we have used so far are:

1. Absorption rate:

$$\frac{\text{Units sold or leased per period}}{\text{Total supply of units available for sale or lease}} = \text{Absorption rate}$$

2. Capture rate:

$$\frac{\text{Units in specific project sold or leased per period}}{\text{Total competitive units sold or leased per period}} = \text{Capture rate}$$

3. Vacancy ratio:

$$\frac{\text{Space unit} \times \#\text{ of units} \times \text{rental payment periods per year} \times \text{turnover rate} \times \text{rental payments lost} \times \text{rent}}{\#\text{ of units} \times \#\text{ of payments} \times \text{rent per period}} = \text{(gross rent)}$$

1-bedroom apartments x 20 x 50% turnover x 1 month lost 1 $200/mo.

$$\frac{20 \times 50\% \times 1 \times 200}{20 \times 12 \times 200}$$

$$\frac{2000}{48000} = \frac{1}{24} = 4.2\%$$

4. Expense ratio:

$$\frac{\text{Expenses}}{\text{Gross rent}}$$

5. Net income ratio:

$$\frac{\text{Net income}}{\text{Purchase price + additional costs}} = \text{Overall rate or cap rate (should be = to debt service constant or higher)}$$

6. Debt cover ratio:

$$\frac{\text{Net operating income}}{\text{Debt service}}$$

7. Default ratio:

$$\frac{\text{Operating expenses + real estate taxes + short term debt + interest + principal payments}}{\text{Gross rent}}$$

Exhibit 11

CASH FLØW PRØ FØRMA USING PARAMETER NØRMS

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

DATE: 2/14/1977
BLDG: 1
RUN : 1

GRØSS SQUARE FEET IN BUILDING:		700.
BUILDING EFFICIENCY	:	85.0 PCT
NET LEASEABLE SQUARE FØØTAGE	:	595.
LAND AND CØNSTRUCTIØN CØST	: $	19500.
LØAN TØ CØST RATIØ	:	75.0 PCT
ØRIGINAL LØAN AMØUNT	: $	14625.
EQUITY REQUIREMENT	: $	4875.
PERMANENT INTEREST RATE	:	9.000 PCT
TERM ØF LØAN		30. YEARS
ANNUAL DEBT SERVICE	: $	1412.

	ANNUAL DØLLARS
GRØSS INCØME : 595. SQ FT AT $ 6.00	3570.
LESS: VACANCY ØF 5.00 PCT	179.
GRØSS ADJUSTED INCØME	3392.
PLUS: PARKING INCØME	150.
PLUS: ØTHER INCØME	24.
GRØSS EFFECTIVE INCØME	3566.
LAND LEASE EXPENSE	100.
ØPERATING EXPENSES: 595. SQ FT AT $ 2.76	1642.
NET ØPERATING INCØME	1823.
DEBT SERVICE (9.66 PCT CØNSTANT)	1412.
PRØ FØRMA CASH FLØW	411.

RETURN ØN EQUITY 8.43 PERCENT

DEBT SERVICE CØVERAGE: 1.291

DEFAULT RATIØ : 83.48 PERCENT

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 1 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

VACANCY ALLØWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
$ 4.80	-210.	-239.	-267.	-324.	-410.
$ 5.40	136.	104.	72.	8.	-89.
$ 6.00	483.	447.	411.	340.	233.
$ 6.60	829.	790.	750.	672.	554.
$ 7.20	1175.	1132.	1089.	1004.	875.

BREAKEVEN RENTAL RATES

VACANCY ALLØWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
	5.16	5.22	5.27	5.39	5.57

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 2 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
$ 4.80	-53.	-196.	-267.	-410.	-624.
$ 5.40	286.	143.	72.	-71.	-285.
$ 6.00	625.	483.	411.	268.	54.
$ 6.60	965.	822.	750.	608.	393.
$ 7.20	1304.	1161.	1089.	947.	732.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
	4.89	5.15	5.27	5.53	5.90

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

FINANCING PARAMETERS

		30. YEARS	30. YEARS	30. YEARS	30. YEARS	30. YEA
S T		9.00 PCT	9.25 PCT (R C)	9.50 PCT	8.50 PCT	8.00 P
RENTAL RATES ANNUAL $/SQ FT						
$	4.80	-267.	-299.	-331.	-204.	-143.
$	5.40	72.	40.	8.	135.	196.
$	6.00	411.	380.	348.	474.	536.
$	6.60	750.	719.	687.	813.	875.
$	7.20	1089.	1058.	1026.	1152.	1214.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

		30. YEARS	30. YEARS	30. YEARS	30. YEARS	30. YEA
S T		9.00 PCT	9.25 PCT (R C)	9.50 PCT	8.50 PCT	8.00 P
RENTAL RATES ANNUAL $/SQ FT						
		5.27	5.33	5.39	5.16	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 4 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

RENTAL RATES ANNUAL $/SQ FT		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
		LØAN TØ CØST RATIØ				
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$	4.80	-393.	-355.	-330.	-305.	-267.
$	5.40	-94.	-44.	-11.	22.	72.
$	6.00	205.	267.	308.	349.	411.
$	6.60	505.	578.	627.	677.	750.
$	7.20	804.	890.	947.	1004.	1089.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
	LØAN TØ CØST RATIØ				
	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
	5.59	5.49	5.42	5.36	5.27

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

LØAN TØ CØST RATIØ

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$ 4.80	-267.	-361.	-455.	-550.	-644.
$ 5.40	72.	-22.	-116.	-210.	-305.
$ 6.00	411.	317.	223.	129	35.
$ 6.60	750.	656.	562.	468.	374.
$ 7.20	1089.	995.	901.	807.	713.

BREAKEVEN RENTAL RATES

LØAN TØ CØST RATIØ

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
	5.27	5.44	5.61	5.77	5.94

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 6 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT OF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

ANNUAL EXPENSE RATES PER SQ FT

	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
VACANCY RATES					
3.00 PCT	697.	554.	483.	340.	126.
4.00 PCT	661.	518.	447.	304.	90.
5.00 PCT	625.	483.	411.	268.	54.
7.00 PCT	554.	411.	340.	197.	-17.
10.00 PCT	447.	304.	233.	90.	-124.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
VACANCY RATES					
3.00 PCT	4.79	5.04	5.16	5.41	5.78
4.00 PCT	4.84	5.09	5.22	5.47	5.84
5.00 PCT	4.89	5.15	5.27	5.53	5.90
7.00 PCT	5.00	5.26	5.39	5.64	6.03
10.00 PCT	5.17	5.43	5.57	5.83	6.23

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 7 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY	: 85.00 PCT(595. SQ FT)		
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
REVENUE	: $ 6.00 PER SQ FT		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

FINANCING PARAMETERS

S T	30. YEARS 9.00 PCT	30. YEARS 9.25 PCT R C	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
VACANCY RATES					
3.00 PCT	483.	451.	419.	545.	607.
4.00 PCT	447.	415.	383.	510.	571.
5.00 PCT	411.	380.	348.	474.	536.
7.00 PCT	340.	308.	276.	402.	464.
10.00 PCT	233.	201.	169.	295.	357.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

S T	30. YEARS 9.00 PCT	30. YEARS 9.25 PCT R C	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
VACANCY RATES					
3.00 PCT	5.16	5.22	5.27	5.06	4.95
4.00 PCT	5.22	5.27	5.33	5.11	5.00
5.00 PCT	5.27	5.33	5.39	5.16	5.05
7.00 PCT	5.39	5.44	5.50	5.27	5.16
10.00 PCT	5.57	5.62	5.68	5.45	5.33

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 8 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

	75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
LØAN TØ CØST RATIØ	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
EXPENSE RATES ANNUAL $/SQ FT					
$ 2.40	394.	464.	510.	556.	625.
$ 2.64	268.	333.	375.	418.	483.
$ 2.76	205.	267.	308.	349.	411.
$ 3.00	79.	136.	174.	212.	268.
$ 3.36	-110.	-60.	-28.	5.	54.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

	75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
LØAN TØ CØST RATIØ	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
EXPENSE RATES ANNUAL $/SQ FT					
$ 2.40	5.21	5.11	5.04	4.98	4.89
$ 2.64	5.46	5.36	5.29	5.23	5.15
$ 2.76	5.59	5.49	5.42	5.36	5.27
$ 3.00	5.84	5.74	5.67	5.61	5.53
$ 3.36	6.22	6.12	6.05	5.99	5.90

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

FINANCING		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
LØAN TØ CØST RATIØ						
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
30.YR	9.00PCT	205.	267.	308.	349.	411.
30.YR	9.25PCT	174.	235.	277.	318.	380.
30.YR	9.50PCT	142.	204.	245.	286.	348.
30.YR	8.50PCT	268.	330.	371.	412.	474.
30.YR	8.00PCT	330.	391.	433.	474.	536.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

FINANCING		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
LØAN TØ CØST RATIØ						
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
30.YR	9.00 PCT	5.59	5.49	5.42	5.36	5.27
30.YR	9.25 PCT	5.65	5.55	5.48	5.42	5.33
30.YR	9.50 PCT	5.72	5.61	5.54	5.48	5.39
30.YR	8.50 PCT	5.46	5.36	5.30	5.24	5.16
30.YR	8.00 PCT	5.34	5.25	5.19	5.13	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 10 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		

ANNUAL CASH FLØWS

LAND LEASE CØST

RENTAL RATES ANNUAL $/SQ FT		$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$	4.80	-267.	-317.	-367.	-417.	-467.
$	5.40	72.	22.	-28.	-78.	-128.
$	6.00	411.	361.	311.	261.	211.
$	6.60	750.	700.	650.	600.	550.
$	7.20	1089.	1039.	989.	939.	889.

BREAKEVEN RENTAL RATES

LAND LEASE CØST

RENTAL RATES ANNUAL $/SQ FT	$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
	5.27	5.36	5.45	5.54	5.63

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
EFFICIENCY:		85.00 PCT(595. SQ FT)	
LØAN RATIØ:		75.00 PCT ØF $ 19500.	
LØAN	:	$ 14625.	
EQUITY	:	$ 4875.	
FINANCING	:	30. YEARS 9.000 PCT	
REVENUE	:	$ 6.00 PER SQ FT	
VACANCY	:	5.00 PCT ØF LEASEABLE	
ØTR INCØME:		$ 174. ANNUALLY	RUN 1

ANNUAL CASH FLØWS

LAND LEASE CØST

EXPENSE RATES ANNUAL $/SQ FT		$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$	2.40	625.	575.	525.	475.	425.
$	2.64	483.	433.	383.	333.	283.
$	2.76	411.	361.	311.	261.	211.
$	3.00	268.	218.	168.	118.	68.
$	3.36	54.	4.	-46.	-96.	-146.

BREAKEVEN RENTAL RATES

LAND LEASE CØST

EXPENSE RATES ANNUAL $/SQ FT		$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$	2.40	4.89	4.98	5.07	5.16	5.25
$	2.64	5.15	5.23	5.32	5.41	5.50
$	2.76	5.27	5.36	5.45	5.54	5.63
$	3.00	5.53	5.61	5.70	5.79	5.88
$	3.36	5.90	5.99	6.08	6.17	6.26

SENSITIVITY TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 12 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT ØF GRØSS		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
PARK/ØTHER:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100. ANNUALLY		

CØNSTRUCTIØN AND LAND CØST 19500.

EFFECT ØF SELECTED CHANGES IN PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW
INCREASE BUILDING EFFICIENCY 1 PCT	21.
INCREASE RENTAL RATE $ .10 PER SQ FT	57.
DECREASE VACANCY RATE 1PCT	36.
DECREASE ØPERATING RATE $ .10 PER SQ FT	60.
DECREASE PERMANENT RATE .25PCT	31.
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-10.
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-61.
DECREASE THE LØAN RATIØ BY 5 PERCENT	94.
DECREASE LAND LEASE BY 10% 100.	

EQUIVALENT EFFECT TØ YIELD
A $ 100. INCREASE IN ANNUAL CASH FLØW

INCREASE BUILDING EFFICIENCY BY		4.86 PCT
INCREASE RENT RATE BY	$	0.18 PER SQ FT
DECREASE VACANCY BY		2.80 PCT
DECREASE EXPENSE RATE BY	$	0.17 PER SQ FT
DECREASE PERMANENT RATE BY		0.79 PCT
INCREASE PERMANENT LØAN TERM BY		8.2 YEARS
DECREASE LØAN RATIØ BY		5.3 PERCENT
DECREASE LAND LEASE BY	$	100.

8. Loan to value ratio:

$$\frac{\text{Mortgage loan balance}}{\text{Purchase price}}$$

9. Cash on cash:

$$\frac{\text{Net income - debt service - reserves + refinancing surplus}}{\text{Total capital budget - original mortgage balance}}$$

D. Understanding the basic ratios leads to manual or data processing of sensitivity ratios; it is important to remember that projecting specific returns is not a forecast for the future; it is intended to be a basis for measuring the tolerance of the financial parameters for variance from the initial assumptions and identifying the thresholds of insolvency or incompatibility with competitive markets. Refer to John Nabors model in Exhibit

E. If project makes sense before tax, then it is useful to refine analysis for projections over time on an after tax basis.

1. Accounting tabs for after tax income (See Exhibit)
2. Accounting tabs for after tax sale proceeds (See Exhibit)
3. Basic pattern of after tax financial analysis requires a pattern of assumptions (See Exhibit)

F. After tax spendable cash ratios include:

1. Distributable cash from operations:

Cash throwoff
- income taxes
Cash from operations
- reserves
- repayment of working capital loans
= Distributable cash

2. Spendable cash attributable to real estate:

Distributable cash
+ tax savings to other income
+ surplus from refinancing
= Spendable cash

3. After tax sale proceeds:

+ return of working capital
+ liquidation of sinking funds
= cash reversion

4. Return on net worth B/4 tax:

$$\frac{\text{Cash throwoff + change in net worth}}{\text{Net worth at end of previous period}}$$

5. Return on net worth after tax:

$$\frac{\text{Spendable cash + (change in net worth - change in taxes on sale)}}{\text{Net worth at end of previous period - taxes on sale}}$$

6. Payback ratio:

$$\frac{\text{Cumulative spendable cash}}{\text{Original budget - original debt + amount of personal guarantees}}$$

G. Precise definition of cash returns is critical in the negotiation of participating loans and partnerships

1. Defining effective gross, net income or cash throwoff with a participation loan

2. Defining base number in which general partner will share

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HANDBOOK: ORDER FORM

Now that you have had the opportunity to use and evaluate the Real Estate Financial Feasibility Analysis WORKBOOK, you may wish to explore more comprehensively the topic of Project INVESTMENT ANALYSIS. The Real Estate Financial Feasibility Analysis HANDBOOK has been written specifically to quickly and accurately present the steps necessary to complete a Project INVESTMENT ANALYSIS. This 200 page text has been written in the terminology that both a novice and practitioner can easily understand. The HANDBOOK is designed to compliment, reinforce, and elaborates on the COST-BENEFIT analysis systems presented in the WORKBOOK. In addition, a comprehensive index, glossary, and set of compound interest tables are provided for reference. Topics presented in the HANDBOOK include:

1. PROCESS INTRODUCTION:
   - The Real Estate Development System
   - The Feasibility Analysis Process
   - The Analysis Framework
   - The Project Cost-Benefit Analysis Process
   - Market Justified Cost-Benefit Analysis
   - Project Solvency & Financing Justified Cost - Benefit Analysis
   - The Transition
   - Cash Flow Analysis
   - Investment Value Analysis

2. THE OPERATING INCOME STATEMENT:
   - Real Estate Market Analysis
   - Revenue Generation
   - The Lease Commitment
   - Operating Expenses

3. INCOME CAPITALIZATION:
   - Capitalization in Perpetuity
   - Investment Value
   - Compound Interest
   - Determination of the Discount Rate
   - Standard Compound Interest Factors

4. THE CAPITAL BUDGET:
   - The Procurement Process
   - Capital Cost Components
   - Interim Financing
   - Life Cycle Cost Analysis
   - Total Present Value Cost Approach
   - Equivalent Uniform Annual Cost Approach

5. THE MORTGAGE-EQUITY FINANCING PACKAGE:
   - Straight Term Mortgage
   - Chattel Mortgage
   - Amortized Mortgage
   - Refinancing Surplus
   - Mortgage Debt Service
   - Mortgage Constant
   - Equity
   - Leverage

6. BEFORE AND AFTER TAX CASH FLOWS:
   - Cash Throw-off
   - Taxable Income Deductions
   - Income Tax Liability
   - Cash from Operations
   - Working Capital Loan
   - Distrbutive Cash After Taxes
   - Tax Savings on other Taxable Income
   - Refinancing Surplus
   - Spendable Cash After Taxes

7. PROCEEDS FROM RESALE & TOTAL INVESTMENT VALUE:
   - Resale Price
   - Reversion
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LEGEND: EVALUATION OF PROJECT COST AND OPERATIONS DATA MANUAL SUITABILITY

LEGEND

	RECOMMENDED:	COMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information which can be utilized to best advantage in the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	COMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information organized into categories which can not be successfully intergrated into the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	INCOMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; but the data categories included can be satisfactorily utilized in the format of the decision models under consideration.
	NOT RECOMMENDED:	INCOMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; and the data categories included can not be successfully intergrated into the format of the decision models under consideration.

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- Boeckh Building Cost Guide: Commercial
- Boeckh Building Cost Guide: Light Industrial
- Boeckh Building Valuation Manual, Second Edition
- Dodge Building Cost Calculator and Valuation Guide
- Dodge Digest of Building Cost and Specifications
- Dodge Construction Systems Costs
- Dodge Manual for Building Construction , Pricing and Scheduling

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 4 - 5

- Marshall Valuation Service
- Residential Cost Handbook
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
- Current Construction Costs

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 6 - 7

- Dollars and Cents of Shopping Centers
- Building Cost File Unit Prices
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- Downtown and Suburban Office Building Experience Exchange Report
- Income/Expense Analysis: Apartments
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- Dodge Building Cost Calculator and Valuation Guide
- Dodge Construction Systems Cost Guide
- Dodge Digest of Building Costs and Specifications
- Residential Cost Handbook
- Marshall Valuation Service
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
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- Income/Expense Analysis: Apartments

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- Income/Expense Analysis: Suburban Office Buildings
- Dollars and Cents of Shopping Centers

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method			Uses				
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq. Ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
BOECKH BUILDING COST GUIDE: COMMERCIAL	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$18.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	Yes (1a)
BOECKH BUILDING COST GUIDE: LIGHT INDUSTRIAL	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$15.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No (2a)
BOECKH BUILDING VALUATION MANUAL SECOND ED.	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$88.00 Includes quarterly up dating of time-location multipliers	$52.00 Also includes quarterly Up-dating	Yes	Yes (3a)	No	Yes	Yes	Yes	No	Yes
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$82.00 Includes three quarterly supplements	$62.00 Also includes quarterly materials	Yes	No (4a)	No	Yes	Yes	No (4a)	No	Yes (4b)
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$122.00 Includes semi-annual supplement	$92.00 Also includes supplement	Yes	No	No	No	Yes	No	No	Yes (5a)
DODGE CONSTRUCTION SYSTEMS COSTS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$39.80	New Edition Published Annually	Yes	Yes (6a)	No	No	Yes	Yes	Yes (6b)	Yes
DODGE MANUAL FOR BUILDING CONSTRUCTION PRICING AND SCHEDULING	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americans New York, N.Y. 10020	$28.80	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (7a)

PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No	Yes (1b)	Yes	No	No	Yes	No	1a. Comparative unit costs are segregated for air-conditioning, fire protection, & elevators only. 1b. A 5% cost for contingencies is included.
No	No	Yes (2b)	Yes	No	No	Yes	No	2a. Comparative unit (sq.ft.) costs are given for air conditioning, fire protection, and elevators only. 2b. A 5% cost for contingencies is included.
No (3b)	No (3c)	Yes (3d)	No (3e)	No	No	Yes	Yes	3a. Unit-in-place costs are given for walls, foundations, framing, floors, floor finish, roof, ceiling finish, partitions, plumbing, HVAC, electrical, fire protection & a large number of miscellaneous equipment and improvements. 3b. Criteria for land valuation is given, but no cost figures are included. 3c. Sitework costs are given for some site improvements. 3d. A 5% cost for contingencies is included. 3e. A separate schedule of architect fees based upon project cost is given.
No	No (4c)	Yes/No (4d)	Yes	No	No	Yes	Yes	4a. Unit-in-place costs are given for a few selected miscellaneous items only. 4b. Component depreciation can be calculated from building systems costs given in case histories. 4c. Sitework costs are included in case histories only. 4d. Builder's profit is not included in cost figures; only builder's administrative overhead & supervision.
No	No (5b)	Yes	No	No	No	Yes	Yes	5a. Comparative unit costs (sq.ft.) are given for structure, plumbing, HVAC, electrical and miscellaneous categories only. Comparative unit costs (sq.ft.) are also given by building sytems in 12 case histories 5b. Segregated sitework costs are included in the case histories only.
No	No (6c)	Yes	No	No	Yes (6d)	Yes	No	6a. Unit-in-Place (systems) costs are given for foundations, superstructures, exterior walls, roofing, partitions, interior wall finish, floor finish, ceilings only; other improvement costs taken from average costs table. 6b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 6c. Sitework costs are included in average cost section through 1978 edition. 6d. Labor/materials are segregated for unit-in-place (systems) costs only.
No	No (7b)	No	No	No	Yes	Yes	No	7a. Component depreciation could be calculated from a detailed quantity survey. 7b. Quantity survey sitework costs are included for drainage, utilities, paving & surfacing, landscaping, and site improvements.

APPENDIX: Comparison of PROJECT COST DATA MANUALS (cont.)

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method			Uses				
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq. ft. + Cu.ft.	Unit (Component System)-In-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
MARSHALL VALUATION SERVICE	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$75.00 Includes monthly supplement	$65.00 Also includes monthly supplement	Yes	Yes (8a)	No	Yes	Yes	Yes	No	Yes
RESIDENTIAL COST HANDBOOK	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$33.00 Includes quarterly supplement & up-date services	$29.00 Includes quarterly suppliment & up-date services	Yes	Yes (9a)	No	Yes	Yes	Yes	No	Yes
BUILDING CONSTRUCTION COST DATA	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$22.50	New Edition Annually	Yes	No (10a)	Yes	No	Yes (10b)	No	Yes	Yes (10c)
BUILDING SYSTEMS COST GUIDE	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$27.50	New Edition Annually	Yes	Yes	No	No	Yes	Yes	Yes (11a)	Yes (11b)
CURRENT CONSTRUCTION COSTS	Lee Saylor, Inc. Consulting Cost Engineers 1855 Olympic Blvd., Suite 110 Walnut Creek, California 94596	$23.95	New Edition Annually	No	No	Yes	No	No	No	Yes (12a)	Yes (12b)

PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No (8b)	Yes	Yes (8c)	Yes (8d)	No	Yes	Yes	8a. Unit-in-place costs are given for foundations, framing, floors, interior construction, HVAC, electrical, plumbing, fire protection, roofs, walls, refrigeration, conveyances and miscellaneous equipment. 8b. Sitework costs are given for some site improvements. 8c. Architect's fees are included in compartive units costs (calculator method),but are not included in unit-in-place (segregated cost method) costs. A schedule of architect's fees based upon project cost is given. 8d. Included in construction costs are construction financing costs except for discounts & bonuses paid for financing.
No	No (9b)	Yes	Yes (9c)	Yes (9d)	No	Yes	Yes	9a. Unit-in-place (components)costs are given for roofs, walls, HVAC, ceilings, floors,electrical, plumbing, & fireplaces. 9b. Sitework costs are given for some street, utility, and yard improvements. 9c. Architect's fees are included in comparative unit costs, but are not included in component or unit-in-place costs. A schedule of architect's fees based upon project quality is given. 9d. Included in construction costs are construction financing costs except for discounts and bonuses paid for financing.
No	No (10d)	Yes (10e)	No (10f)	No	Yes (10g)	Yes	Yes (10h)	10a. Selected building components are categorized by trades, with costs given in comparative unit cost section. 10b. Use comparative unit cost section (sq.ft. and cubic ft.building costs)for quick estimates. 10c. Component depreciation could be calculated from a detailed quantity survey. 10d. Quantity survey sitework costs are included for drainage,utilities,roads,walks,fences,playgrounds, fountains,athletic facilites, and landscaping. Segregated sitework costs are given for some building types in comparative unit cost section. 10e. Builder's (general contractor) overhead & profit must be added to quantity survey costs; comparative unit costs include builder's overhead & profit. A schedule is included for builder's overhead & profit as % of project cost. 10f. A schedule of architect's & engineer's fees as % of project cost is given in the manual. 10g. Labor/material costs are segregated in the quantity survey section only. 10h. Historical cost indexes are included to determine quarterly construction cost changes.
No	No (11c)	No	No (11d)	No	No (11e)	Yes	Yes (11f)	11a. An estimate based on detailed assembly cost would be less detailed than a complete quantity survey based estimate. 11b. Component depreciation figures can be compiled from costs given in systems section. In comparative unit cost section, selected building component costs are segregated. 11c. Sitework systems costs are given for roads, parking lots,utilities. Segregated sitework costs are given for some building types in comparative unit cost section. 11d. A schedule of architect's fees is given as a % of project cost by building type in manual. 11e. Installation costs are segregated from material costs for some systems,ie.walls,doors & windows. 11f. Historical cost indexes are included to determine quarterly construction cost changes.
No	Yes (12c)	Yes	No (12d)	No	Yes	Yes	Yes	12a. Where a trade requires several types of materials to make a final item (ie. paving) in-place costs as well as detailed breakdown of costs are included. 12b. Component depreciation could be calculated from a detailed quantity survey. 12c. Quantity survey sitework costs are included for utilities, drainage, paving, sidewalks,landscaping, fencing, and athletic facilities. 12d. On-site construction permits are included in a separate section titled General Conditions.

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method						Uses	
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq.Ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th St., N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Yes	No	No	No	Yes	No	No	No
BUILDING COST FILE UNIT PRICES 4 editions available: Eastern, Central Southern, Western	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$25.95	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (14a)
DESIGN COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	No	Yes	No	No	No (15a)	Yes	Yes (15b)	Yes (15c)
ENGELSMAN'S GENERAL CONSTRUCTION COST GUIDE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$27.50	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (16a)
REAL ESTATE VALUATION COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No
RESIDENTIAL COST MANUAL	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$28.95	New Edition Published Annually	Yes (18a)	No	Yes	Yes (18a)	No	No	Yes	Yes (18b)

PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
Yes	Yes (13a)	Yes	Yes	Yes	No	No	No	13a. The site improvement cost includes both on-site and off-site improvements.
No	No (14b)	No	No	No	Yes	Yes	No	14a. Component depreciation could be calculated from a detailed quantity survey. 14b. Quantity survey sitework costs are given for drainage, utilities, paving, surfacing, fencing, athletic facilities, retaining walls, and landscaping.
No	No	No	No	No	No	Yes	No	15a. An initial estimate can be made by summing system costs if the building design & systems are well defined. 15b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 15c. Component depreciation could be calculated from detailed building system costs.
No	No (16b)	No	No	No	Yes	Yes	Yes	16a. Component depreciation could be calculated from a detailed quantity survey. 16b. Quantity survey sitework costs are given for drainage, utilities, paving, athelitic facilities, paving, fencing, and landscaping.
No	No (17a)	Yes	Yes	No	No	Yes	No	17a. In Miscellaneous Cost Items section, comparative unit sitework costs are given for athelic facilities, parking, fencing, landscaping, incinerators, paving, and retaining walls.
No	Yes	No (18c)	No (18d)	No	Yes	Yes	No	18a. Part 3: Valuation Section includes comparative unit costs for houses and apartments which are adjusted by shape, height, and size factors. 18b. Component depreciation cou.d be calculated from a detailed quantity survey. 18c. General overhead items are included in a seperate schedule for reference. 18d. Architect's and engineer's fees are included as part of general overhead.

SOURCES						
NAME OF DATA SOURCE	Publishers' Address	Initial Cost 1st Year	Frequency of Publication	Income Categories	Expense Categories	Statistics Used: Median, Range, Average
DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Building Owners and Managers Association International 1221 Massachusetts Avenue, N.W. Washington, D.C. 20005	$95.00	New Edition Published Annually	Office Store Storage Special	Variable Operating Fixed Operating Tenant Improvement Allowance Leasing Expense Depreciation	Average
INCOME/EXPENSE ANALYSIS APARTMENTS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$45.00	New Edition Published Annually	Apartments Garage/Parking Store/Office	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Amenities	Median & Range
EXPENSE ANALYSIS CONDOMINIUMS, COOPERATIVES, AND PLANNED UNIT DEVELOPMENT	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$20.00	New Edition Published Annually	None	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Leased Recrational Facilities	Median & Range
INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$30.00	New Edition Published Annually	Office Storage Retail Parking Escalator Clauses	Administrative Maintenance Utilities R.E. Taxes Insurance	Median & Range
THE DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th, N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Base Rent Overage Common Area Charges	Maintenance Central Utility System Advertising & Promotion R.E. Taxes Insurance Administrative Depreciation Debt Service	Median & Deciles

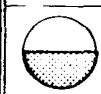
CONTENT ORGANIZATION									SELECTED SPECIAL FEATURES
Vacancy & Occupancy Data	Trend Analysis	Type of Development	Size in Square Feet	Location Categories	Age of Building	Rental or Price Range	Number of Stories	City Size	
Yes	Detailed 1973-77 compared by several attributes ..... National Values	Offices Downtown Suburban including Government & Medical	Yes	City Region Nation	Yes	None	Yes	Yes	1. Economic analysis of office building industry. 2. Operating cost breakdown by region, size, age & height for suburban & downtown offices. 3. Energy analysis for downtown, suburban, & government offices by size, age, region, age, and height. 4. Data summary & operating ratios by organizational category.
Yes	Detailed 1974-77 by building type ..... National Values	Apartments Lo-Rise 12-24 units Lo-Rise 25+ units Elevator Garden Unfurnished Furnished	No	City Metropolitan Area Region Nation	Yes	Rental Range	No	No	1. Graphic summary of income & expenses by development type. 2. Tenant turnover rates by development type. 3. Summary of distribution of income & expenses by building type expressed in dollars per room & percentage of gross income.
No	No	Condominiums Cooperatives Planned Unit Developments	No	Metropolitan Area Region	Yes	Price Range	No	No	1. Kinds of amenities furnished by owners association. 2. Breakdown of utility expenses between unit and owners' association by unit price range and building age.
Yes	1976 & 1977 by regions ..... Regional Values	Offices Suburban	Yes	Metropolitan Area Region Nation	Yes	Rental Range	Yes	No	1. Energy analysis for suburban offices by region and age. 2. Data summary & operating ratios by organizational category. 3. National & regional graphic summary of income, expenses, & total actual collections.
No	1975 & 1978 by shopping center type ..... National Values	Shopping Centers Super regional Regional Community Neighborhood	Yes	Region Nation	Yes	Yes	No	No	1. Tenant space needs, base rent, sales, & common area charges for 120 types of tenants in each center type. 2. Center operating receipts, expenses, & net operating income as a % of capital costs. 3. Energy sales & distribution methods by center type. 4. Analysis of Operations of enclosed & non-enclosed malls. 5. Analysis of capital costs by center type.

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	COMPARATIVE COSTS - analyzed on the basis of: BUILDING TYPE & SIZE
BOECKH BUILDING VALUATION MANUAL	Apartmt. Office Retail		The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
BOECKH COMMERCIAL BUILDING COST GUIDE	Apartmt. Office Retail		The data requires design decisions on building exterior and ground floor area to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Apartmt. Office Retail		A limited selection of hisorical case studies are included for each building category which could prove helpful in identifying initial project costs. The data requires design decision on building exterior and quality class to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE CONSTRUCTION SYSTEMS COST GUIDE	Apartmt. Office Retail		The average building cost section provides a range of construction costs for various project types.
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Apartmt. Office Retail Shop.Cntr.		Data requires initial design decisions before comparison with specific case study references. The data applies to intermediate project analysis.
RESIDENTIAL COST HANDBOOK	Apartmt.		The data requires design decisions on building type, size, and quality to select appropriate cost figures. The data applies to intermediate project analysis.
MARSHALL VALUATION SERVICE	Apartmt. Office Retail		The Cost Calculator Method data requires design decisions on building type and quality to select appropriate cost figures.
MEANS BUILDING CONSTRUCTION COST DATA	Apartmt. Office Retail		Section 17 can be very useful for developing initial cost estimates for particular property types.
MEANS BUILDING SYSTEM COST GUIDE	Apartmt. Office Retail		Section 14 can be very useful for developing initial cost estimates for particular property types
DOLLARS AND CENTS OF SHOPPING CENTERS	Shop.Cntr.		A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This manual provides complete project cost data which can be directly used in the Project-to-Building Ratio.
REAL ESTATE VALUATION COST FILE	Apartmt. Office Retail		The data applies to intermediate project analysis. The data requires design decisions on building types, size, and quality to select appropriate cost figures.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS

SUITABILITY FOR USE IN ANALYSIS Content/Fit	COMPONENT DESCRIPTION AND QUALITY FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, AND QUALITY
	The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
	The data scope is limited because building quality is indicated only by exterior facade and ground floor area. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data allows strong quality typing by exterior facade and quality class description.
	In the Average Building Cost Section, the data includes construction cost ranges that are not related to quality distinctions. The data is most suitable for use in project analysis.
	Data is presented from actual construction contracts for quick reference to similar jobs and specific locations. No definition of building quality is included with case study costs.
	The data allows strong quality typing by floor area and quality class description.
	The cost calculator method data is categorized by structural type and quality characteristics which makes it very appropriate for the intermediate analysis. The segregated cost method requires too many detailed design decisions to be appropriate for the intermediate project analysis models.
	The cost ranges identified in section 17 are not related to quality distinctions. The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in section 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The data allows strong quality typing by component description and quality classification. The data applies to intermediate project analysis.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS

SUITABILITY FOR USE IN ANALYSIS Content/Fit	INTER CHANGEABLE COMPONENTS & DESIGN FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, QUALITY, & ALTERNATIVE COMPONENTS/SYSTEMS
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This comprehensive design and cost data best meets the needs of the advanced project analysis models.
	No alternative building components other than building facades are included. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data includes limited alternative component adjustments for selected items. The data applies to intermediate project analysis.
	The systems data is appropriate for estimating alternative components with the exception of HVAC. The data is most suitable for use in initial project analysis.
	Alternative building component decisions are difficult to establish from comparable based case studies. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This data best meets the needs of the advanced project analysis models.
	The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in sections 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The components are arranged into building quality classes and are not individually estimated. This makes the data inappropriate for advanced project analysis.

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
BOMA DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Office Limited Retail		Average Revenue Data (collected during previous calendar year) is provided for selected downtown and suburban metropolitan areas. Revenue data, in the Downtown and Suburban statistical tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area(office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate rental data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. Revenue data should be considered only as an advisory number useful in initiating the first project analysis.
IREM INCOME/EXPENSE ANALYSIS APARTMENTS	Apartmt.		Median revenue data (as well as low and high quartile ranges for large sample sizes) are provided for selected metropolitan areas, regions, and age group; as well as organized by furnished and unfurnished apartment buildings. Data is presented for elevator, low rise 12-24 units, low rise 25 or more units, and garden type buildings. The total number of apartment buildings and their cummulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for particular metropolitan areas. Revenue data should be considered only as an advisory number useful in inetating the first project analysis.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Survey of Office Space Occupancy" is collected from a larger sample of buildings than the down-town and suburban statistical tables. The "Office Space Occupancy" survey provides more reliable indications of vacancy than those found in the data charts organized by city, city size, building size, age, and story height. The expense line items are averages that should be analyzed individually and adjusted for local market conditions. The summing of all average expense items without adjustment will generate an inflated project operating expense statement. Expense data, in the Downtown and Suburban Statistical Tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area (office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply /demand forces, current lease terms, or particular project management strategies.
	The vacancy data included in the "Trend Analysis" section provides an indication of vacancy nationwide by building type. The vacancy data found in the metropolitan statistical tables are samples from selected metropolitan areas. Careful attention should be given to sample size and the number of apartment buildings, apartment units, and rentable square feet before making a judgement about apartment vacancy in a specific metropolitan area. Current, locally collected data for competitve rental space should be used in the intermediate models when possible. The expense line items are medians, (with low and high quartile ranges for large sample sizes) atated as a percentage of Gross Possible Income and in dollars per square foot of rentable area. This data should be adjusted for lacal market conditions. The summing of all expense items vertically without adjustment will generate an inflated project operating expense statement. Be aware th . expenses are l sted as a percentage of Gross Possible Income. This income includes miscellaneous revenue from garage/parking and store/offices rental. If the proposed project is exclusively rental apartment space, then expenses as a percentage of Gross Possible Income must be adjusted to a Rent-Apartments. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/demand forces, current lease terms, or particular project management strategies.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATION EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/ demand forces, current lease terms, or particular project management strategies.
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indication of local market supply/ demand forces, current lease terms, or particular project management strategies.

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
IREM INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Office		Revenue is presented in dollars per square feet of Gross Area of Building, Gross Rentable Office Area, and Net Rentable Office Area. The appropriate revenue data used in the initial models depends on whether floor areas are to be leased by single or multiple tenants. *Median revenue data (and low and high quartile* ranges for large sample sizes) is provided for selected suburban metropolitan areas and regions according to building size, age group, rental range, and building type. Revenue data appropriate for the initial project *analysis is found under the heading "Income"* for the "Offices" line item. Miscellaneous income would be excluded when project design calls for exclusive office rental space. Revenue data should be considered only as an advisory number useful as a starting point for the initial project analysis.
ULI DOLLARS & CENTS OF SHOPPING CENTERS	Shopping Centers		Revenue data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The revenue data is presented by dollars per square foot of "Gross Leaseable Area" and as a "Percentage of Total Receipts." The revenue data is reported as medians with lower and upper deciles. All data is presented in dollars per square foot of Gross Leasable Area which includes all areas leased by the center owner, (including department stores owned by the center) "Total Operating Receipts" is the appropiate revenue data to use in the initial project analysis model. It is found in the statistical tables by shopping center type, age, and region. Revenue data from the "Operating Results" table should be considered only as an advisory number useful as a starting point for the initial project analysis. In more advanced analysis models, particular tenant composition and the resulting rent structure will give a more accurate indication of possible revenues for the proposed project.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Trend Analysis" section provides an indication of suburban office building vacancy nationwide for the year. The vacancy data found in the suburban metropolitan statistical tables is reported as of December 31, of preceeding year. Careful attention should be given to sample size and the number of office buildings and their cumulative square feet of rentable area before making a judgement about office building vacancy in the particular suburban metropolitan area. Current local collected vacancy data for competitive rentable space should be used in the intermediate models when possible. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the Gross Rentable Office Area or Net Rentable Office area The total number of buildings and their cumulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for a particular suburban metropolitan area.
	Operating expense data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The expense data is presented by dollars per square foot of "Gross Leasable Area" and as a Percentage of Total Receipts." The expense data is reported as medians, with lower and higher deciles. Vacancy data is not included as a segregated item. Tenant information is given for low and high total rent charges to facilitate estimation of tenant composition and the resulting rent structure for the proposed project in the intermediate analysis. The specific revenue and expense data for the four shopping center categories is summarized in the "Operating Results" tables. Data is analyzed by region and shopping center age groups.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data for suburban office buildings. The size and character of the manual survey sample may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies.
	Debt service is included in the "Operating Results" tables. This data is inappropiate for the advance project analysis models which generate their own annual debt service estimates for the project. "Detailed Tenant Information Tables", for different center categories, indicate the base rental rate, percentage (overage) rent, and common area charges that equal the total revenue expected per square foot of Gross Leaseable Area for each type of possible tenant. The frequency of occupancy and the median size of leased area for different tenants can be found in the "Summary of Tenant Information Tables". This manual of historical operating revenue and expense data can be used to verify estimates of up-to-date local shopping center revenue and expense data. The size and character of the manual may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies. (These factors are considered in the advanced project analysis process when tenant composition for the center has been tentatively identified.)

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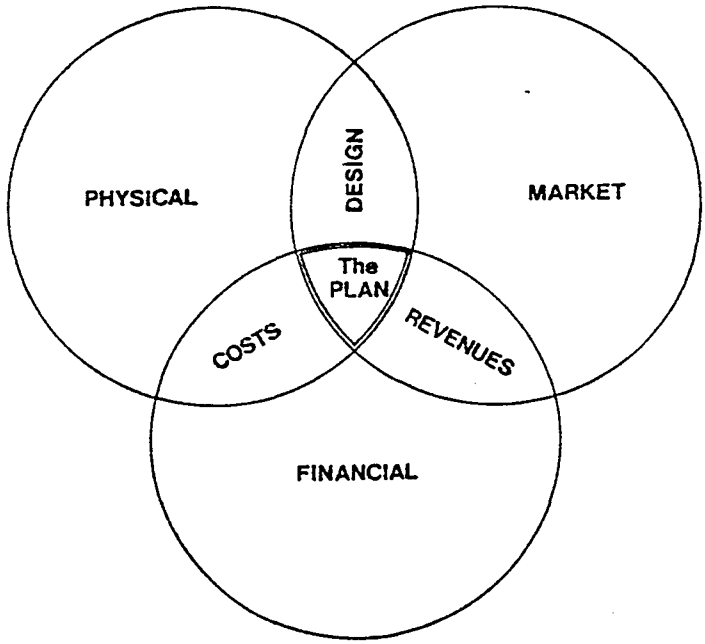
STATEMENT OF PURPOSE

The objective of Project Feasibility Analysis is to:

reduce the risk of uncertainty by stating assumptions completely and explicitly, and

enhance the value of the asset— land— by maximizing the margin between revenues from market opportunities and costs of development.

The process and techniques employed can be used to continuously assess feasibility from undocumented to fully documented assumptions. The level of documentation may vary for each of three categories of input, but each requires consideration as the analysis is undertaken.



INTRODUCTION

The Development Impact Model (DIM) provides a technique for performing a balanced feasibility analysis. It was developed by John Rahenkamp and Associates, Inc., in response to the need for feasibility evaluations which incorporate the social and political externalities affecting the feasibility of a proposed project. By recognizing the real and growing power of local political forces and environmental values as well as the need for a reasonable rate of return, the DIM measures the true feasibility of a particular project from the developer's and also the community's point of view.

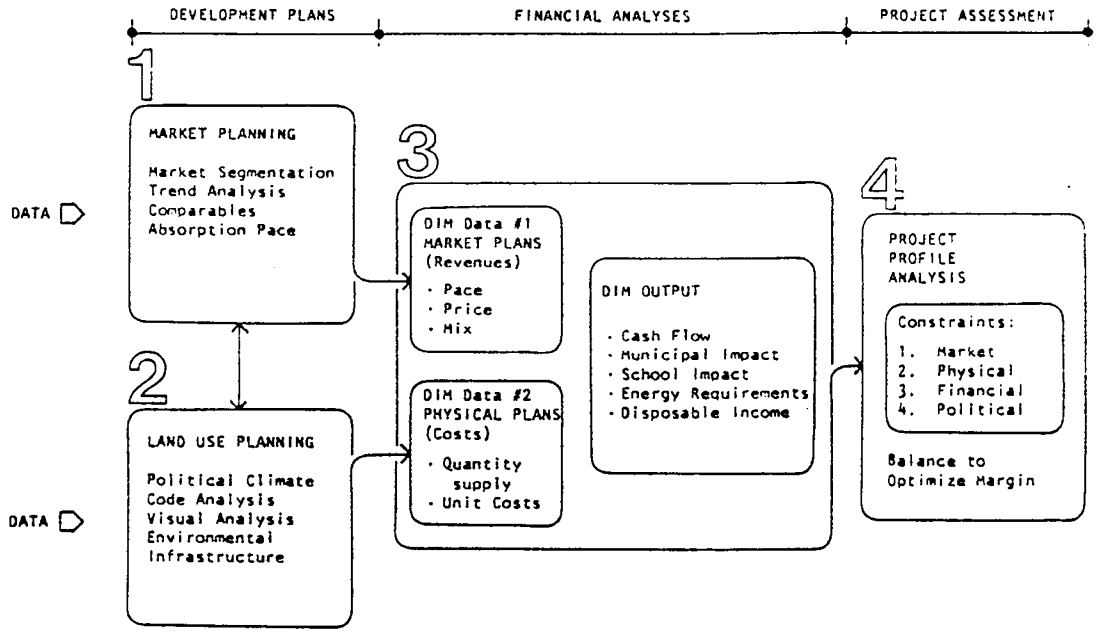
Essentially, the model identifies existing capacities of physical and fiscal systems, the projected demands resulting from the proposed project, and the resulting costs or benefits. It calculates not only front end expenses and bottom line profit, but it may also calculate the development's impact on local educational and municipal support systems. This information provides the developer and/or the community with a balanced measure of feasibility, political and environmental as well as financial. Since this information is objective as well as extensive, it should establish a sound basis for proper project approval or rezoning decisions.

Furthermore, the DIM is a computerized system utilizing the speed of the computer to deal with the numerous factor items and the vast range of possible combinations and permutations. Manual calculations of possible alternatives may take weeks, forcing decision-makers to act on incomplete information. In contrast, the computer offers the critical advantage of simulating available options quickly and performing continuous runs as criteria change either in the community's or developer's requirements.

It must be recognized that the value of a DIM feasibility evaluation is directly related to the accuracy and completeness of the basic data input. Each DIM analysis pertains only to the individual project and requires site-specific information. Much of the required data is usually already held by the developer or immediately available to him. The cost of a DIM feasibility analysis will obviously vary significantly depending on the amount of in-house research and data gathering required. If the information is provided directly by the developer in an appropriate form, the DIM evaluation costs are appreciably reduced.

The schematic diagram on the following page indicates the framework in which a feasibility analysis is carried out. Careful attention must be given to each of the three categories of project parameters depending upon the political/market/physical situation of a specific property. Once a minimum level of data is acquired and synthesized, gaming with critical variables can be accomplished quickly to develop an optimum project profile.

PROJECT FEASIBILITY ANALYSIS



The sections following discuss the kinds and character of analysis required prior to establishing data inputs to DIM. The level of detail of each separate analysis will depend upon that element's criticality for project approval, both from public officials and the developer initiating the evaluation.

The third section contains a project checklist itemizing the information supplied by a developer. This checklist illustrates the scope and detail of the DIM feasibility analysis and provides the necessary data to run the DIM program.

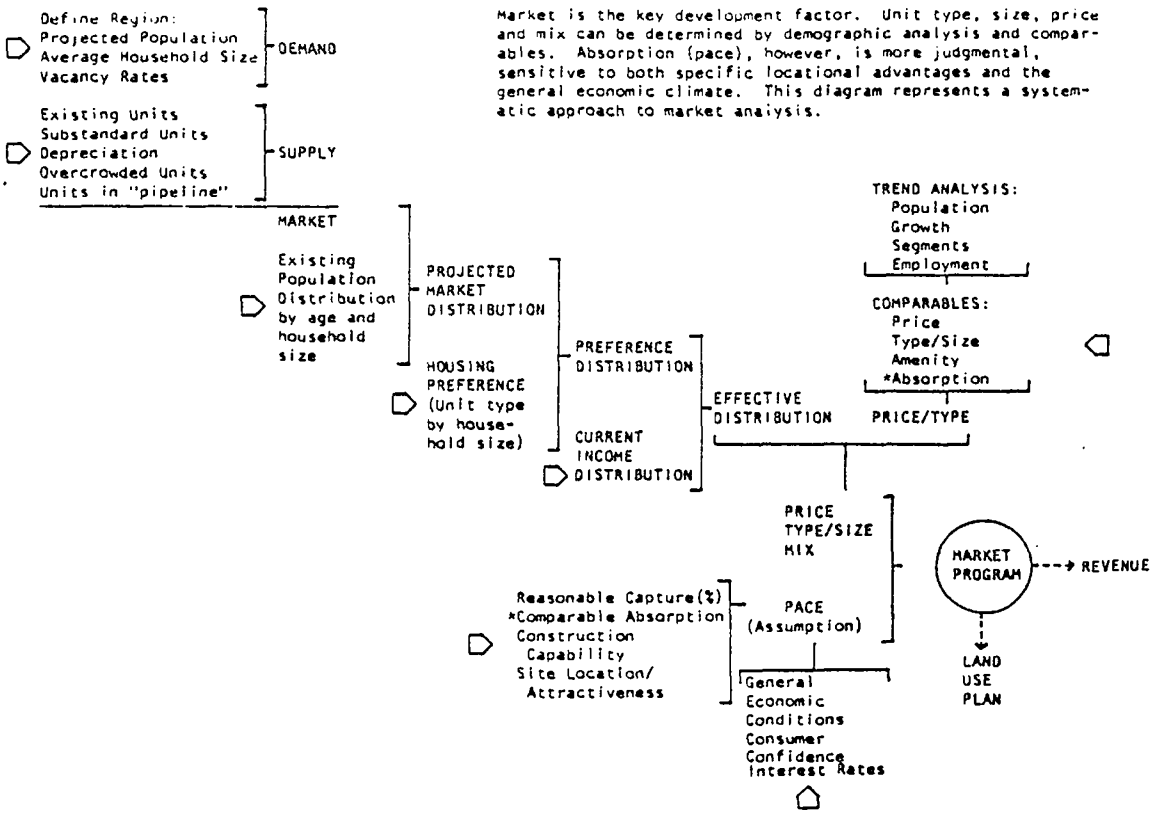
The Feasibility Checklist is supplemented by several pages of explanatory notes and exhibits. Each input space on the checklist has been assigned a code number which corresponds to a note describing the information required, and in five cases, these notes refer to one of the exhibits. After the exhibits is a sample of the checklist which was prepared for a typical project and a feasibility analysis printout which can be a guide.

It should be noted that all of the data indicated on the checklist is not required for analysis purposes. Where data is missing either a specific analysis will not be performed, e.g., School, Municipal, Demand, or the computer will assume a zero value. However, before each analysis all the data is reviewed by a staff computer specialist to insure its completeness.

1

market planning

MARKET SEGMENTATION



Market is the key development factor. Unit type, size, price and mix can be determined by demographic analysis and comparables. Absorption (pace), however, is more judgmental, sensitive to both specific locational advantages and the general economic climate. This diagram represents a systematic approach to market analysis.

MARKET SEGMENTATION ILLUSTRATION

MONTGOMERY CO.

PRICE LEVEL COMPARABLES

(RENT/MONTH)	180.	225.	275.	350.
GA-1BR	9697.	0.	0.	0.
GA-2BR	1727.	7856.	0.	0.
TH	2715.	2761.	2590.	0.
SF	422.	5368.	4808.	13836.
TOTAL NET MARKET	14562.	15986.	14397.	13836.
% TOTAL DEMAND	25.	27.	24.	24.

TOTAL NET MARKET (15 YEAR ESTIMATE) 58780.

MARKET TREND ANALYSIS

RESEARCH:

* Major commercial centers within 15 minutes
* Major commercial centers within 45 minutes
* Major employment centers within 15 minutes
* Major employment centers within 45 minutes
* Commercial and employment growth rate
* Population growth rate by age segments
* Family income growth rate by segments
* Housing vacancy rates
* Permits issued by type

INTERPRETATIONS:

* Strength and income/housing type implications of future employment opportunities
* Locational convenience
* Growing age and income segments related to price and housing type
* Strengh of competition; how much of the market is being absorbed and/or lost?

CONCLUSIONS:

* What is presently being built (price/type) is correct; follow the leaders and do comparables
* Identify market demands not being met
* There is some elasticity in the market to support price increases over competition
* Hold or reduce prices due to competition

MARKET COMPARABLES

Project Name: Indian Hills — Date: 2/14/75
Owner: C. Quinn — Address: Winona Way
Builder: — Lender:
Age or Status: 8 yrs. — Architect:
No. of Stories: 2 & 3 — No. of Units: 120 — No. Vacant: none — No. of Bldgs: 10 — Type of Constr: frame
Map Key: 9

Bedrooms - Baths:	1/1	2/1
Number of Units:		
Monthly Rents:	185	275
Square Feet:	900	1000
Rent/Sq. Ft. (Unfurn):	.206	.275
No. of Furn. Apts:	none	
No. of Vacant Apts:	none	

Utilities Furnished: Electric: ____ Gas: ____ Water: x

Extra Charges: Refrigerator: ____ Other: ____
Furniture: 0 BR ____ 1 BR ____ 2 BR ____ 3 BR ____

Cooking Energy: elec. — Type of Heating: central gas — Walk-In Closets: ____
Air Conditioning: central — Ranges/Ovens: x — Fireplaces: ____
Dishwashers: x — Patios/Balconies: x — Carpets/Drapes: x
Washer/Dryer: in bldg. — Other Good Features/Remarks: ____

Pool(s): x — Laundry Facilities: in bldg.
Clubhouse(s): x — Security System: ____
Tennis: ____ — Parking: incl. garages
Playground Area: ____ — Storage Lockers: ____
Other Good Recreation or Project Features/Remarks: ____

MARKET PLAN/SUMMARY OF ASSUMPTIONS

Upon completion of the market segmentation analysis, the following information is arranged in a convenient form for direct input to the DIM data sheets and as a working program for physical land use planning.

Unit Types:	Single Family	Townhouse	Garden Apartment
Mix (%):	11.3	54.7	34.0
Price (K$):	60.0	45.0	30.0
Average Size (S.F.):	2,000	1,500	900
Average Stories:	1.5	2.5	3.0

Annual Sales*:				Pace
Year 1	0	0	0	0
2	•	•	•	100
3	•	•	•	130
4	•	•	•	130
5	•	•	•	130
6	•	•	•	130
7	•	•	•	140

*Based on market analysis only: Subject to physical confirmation after land use planning.

•Actual minimal distribution will be approximately equal to projected market mix but is subject to physical planning

2

land use planning

POLITICAL CLIMATE ANALYSIS

APPROVABILITY

Project Proposal Impacts:	on existing zoning on fair share on existing demography on existing population size on growth rate
Index of Exclusionary Tendency:	elected official turnover rate professional staff capability and attitudes change approval rate allowable density and land use types fair share allocation "vigilante" groups community income distribution
Codes and Procedures:	complexity clarity time lines flexibility requirements standards
Local Issues:	fiscal environmental land use utilities open space

---

Estimate of legal position and potential tradeoffs.

Summary estimate of probability (%) of approval for proposed project.

CODE ANALYSIS

Applicable zoning codes are reviewed and analyzed to determine development potential under existing zoning or the availability of appropriate zoning districts which might satisfy the client's building program.

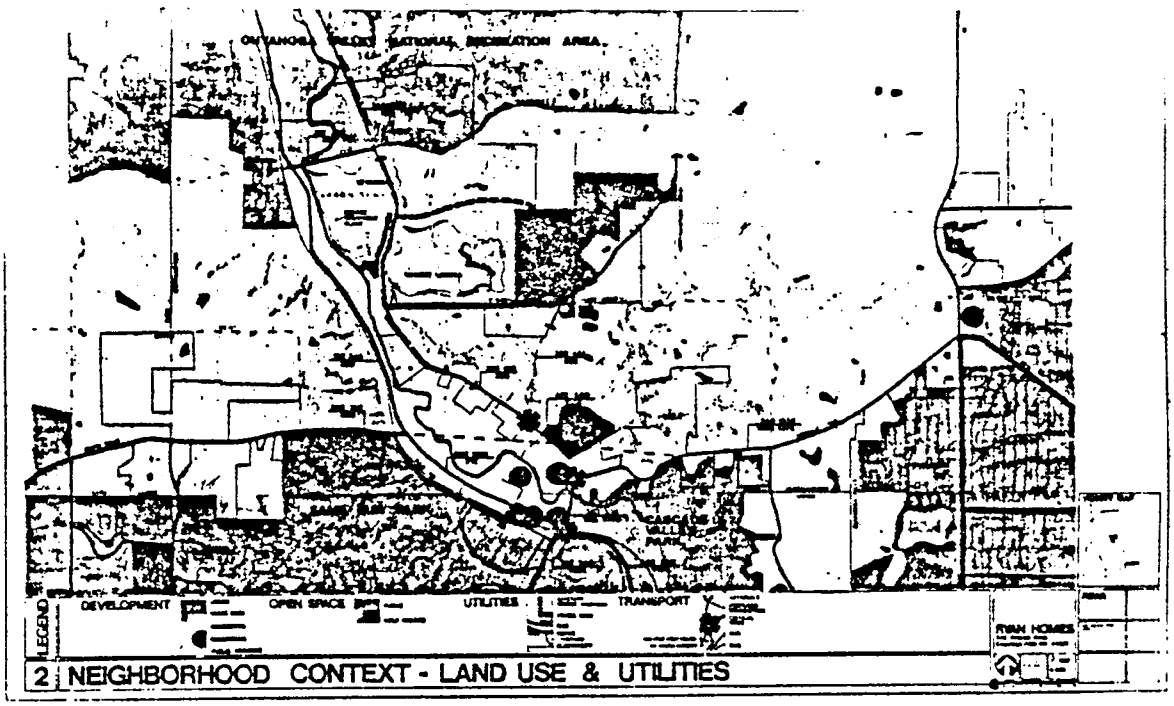
...ship ... last ... election experienced a drastic realignment in its political structure. The Township, turned-out the "democratic machine" who had dominated Berlin for the past thirty to forty years. A group of young independents, whose platform was a change of government was elected with nearly 75% of the vote. As a result, all the major administrative boards were changed and people of the same persuasion as the Mayor-Council were appointed. A portion of the platform of the new government was to promote good substantial growth.

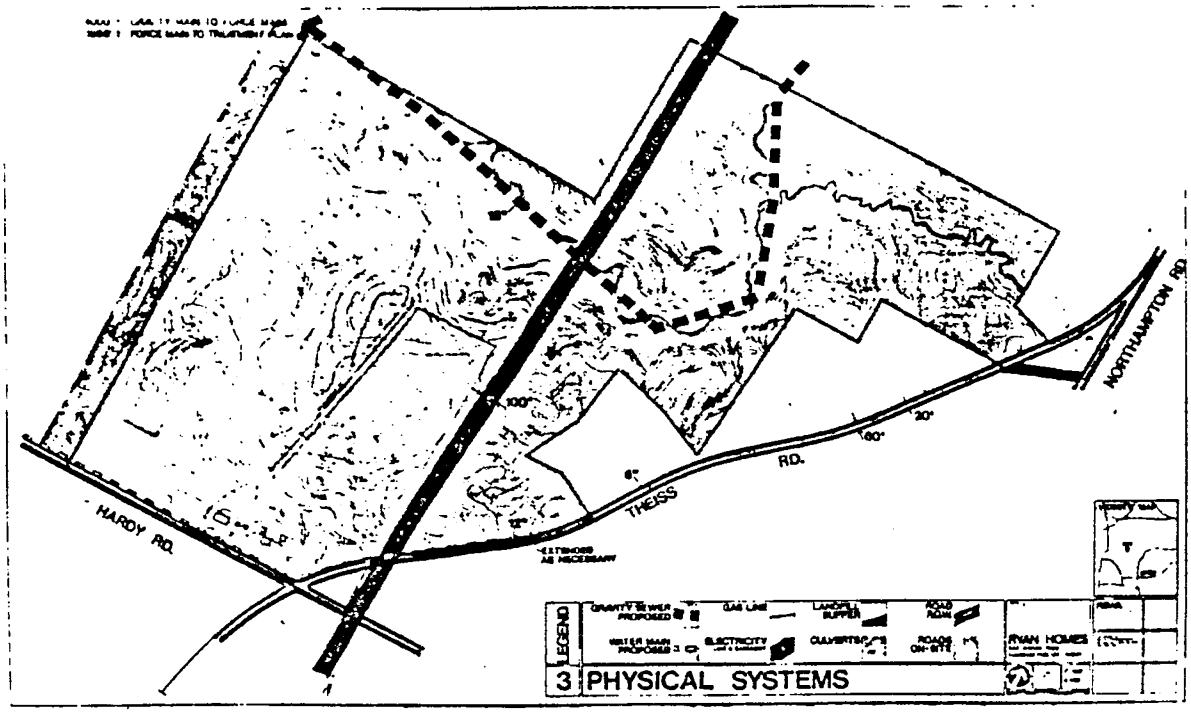
As a result of these changes, the Mayor-Council has appointed a Land Use Study Committee to review the Township's existing zoning ordinance to determine what changes should be made to encourage growth while minimizing its adverse effects.

The site is presently zonad into three categories: 276 ac. in R-1 Residential with minimum lots of one acre; 21.5 ac. I-1 Light Industrial; and 2.5± ac. C-2 Neighborhood Commercial. With this splitting of the parcel into various zones, the chance of unified development is lessened which would not permit maximizing the site's development potential. The Township is relatively unsophisticated in its planning activities, but the new officials are aggressive and appear to be open to construction suggestion which will enable them to promote the desired quality growth.

INFRASTRUCTURE ANALYSIS

Every development generates demands on man-made systems. The capacity to absorb these demands must exist or be built. An analysis is required to make this determination which is often the difference between a profitable project and one that is marginal or premature.

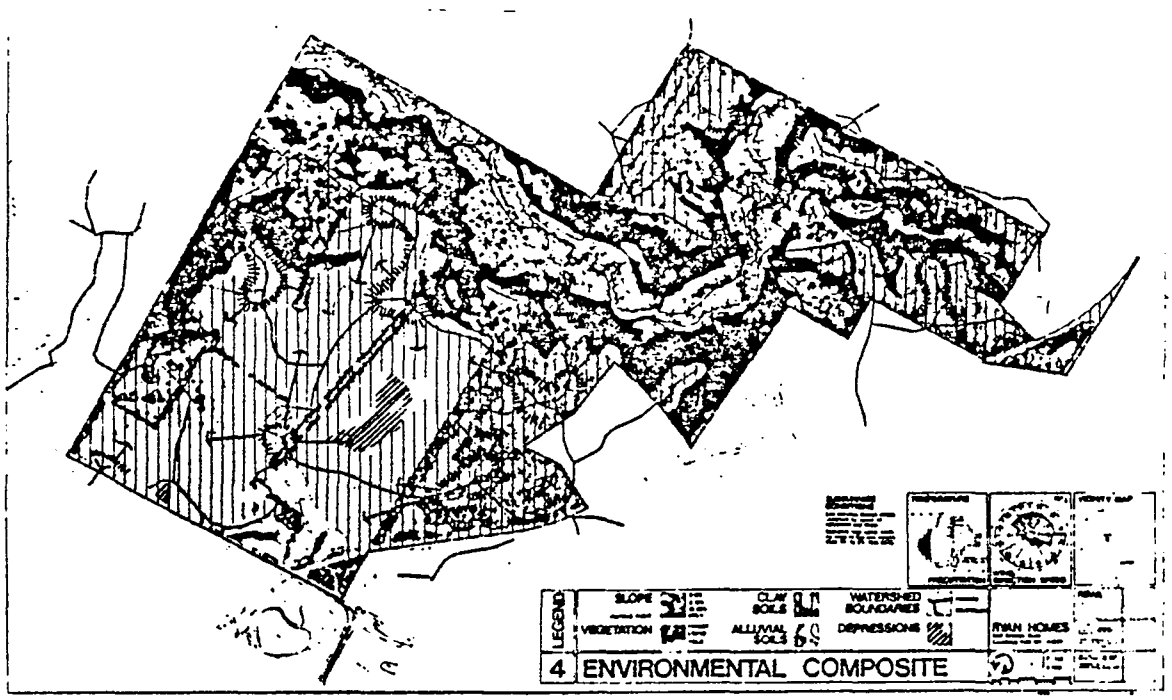




ENVIRONMENTAL ANALYSIS

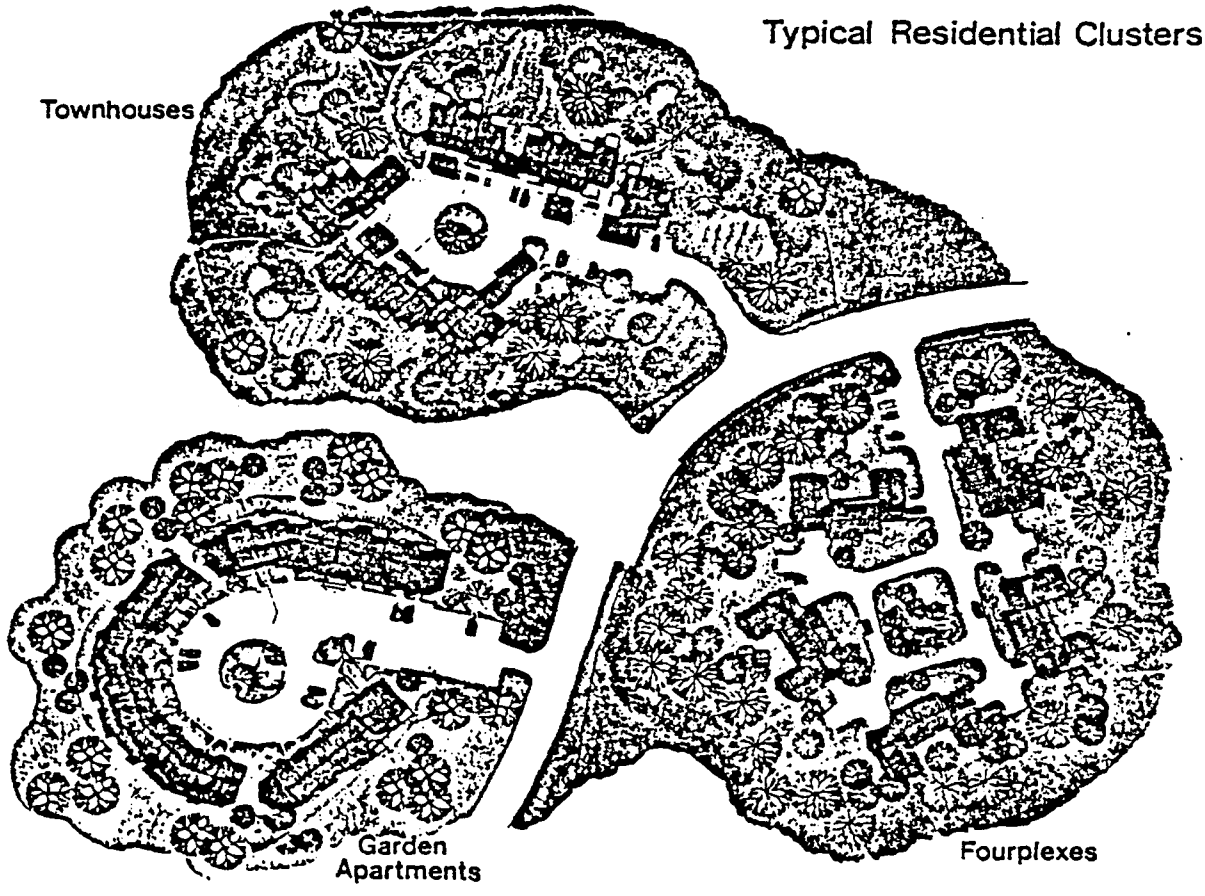
Environmental variables can be identified which materially affect the disposition of land uses if the plan is to be cost effective. Severe slopes, high water tables, and shallow bedrock have obvious cost consequences if not identified. Conserving trees and natural ground covers reduces landscaping costs and helps to prevent excessive erosion. Public health and safety must also be protected by identifying easily polluted soils and underground water supplies. If properly conducted and used, environmental analysis proves it is less costly to work with, rather than against, nature.

As part of the environmental analysis, the visual opportunities and burdens of the site, whether part of a larger neighborhood (if it's a small site) or as a self-contained neighborhood (if a large one) must be identified. Visual attributes include long or intimate views, dense or filtered spatial enclosures, natural features, and water. Burdens that must be mitigated if possible include noise, odors, visual obstructions like high tension lines, and unsightly views. The visual analysis locates these opportunities and burdens so they can be used in developing the land use plan most effectively.



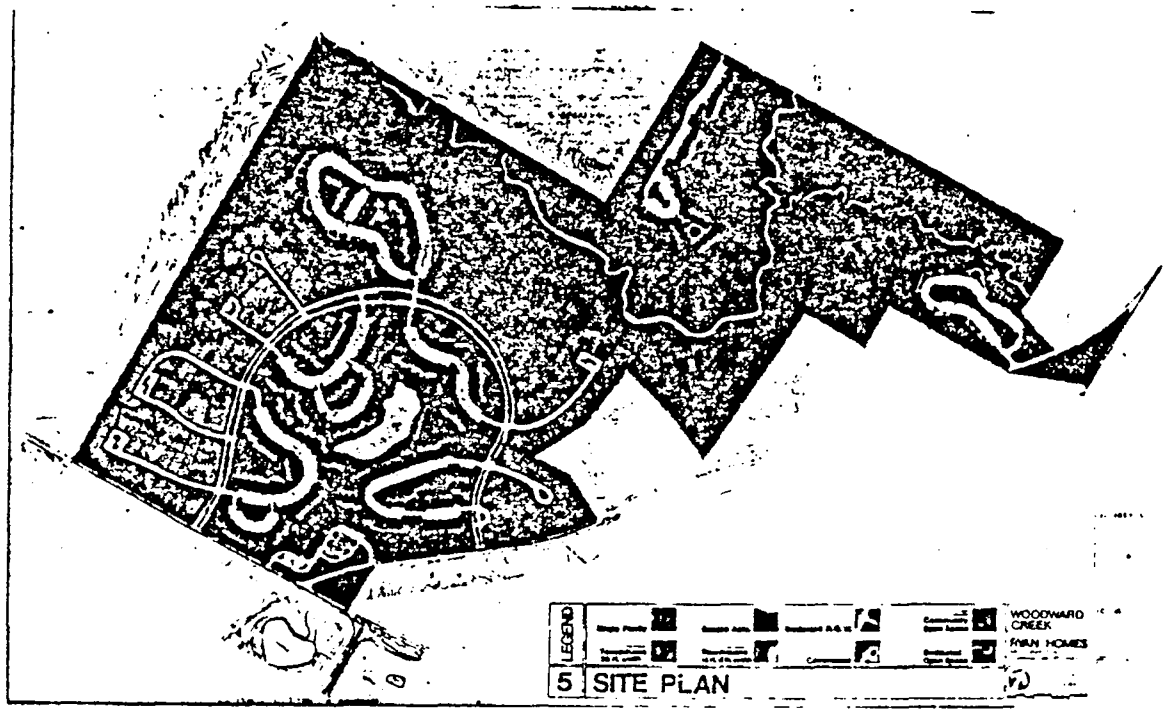
HOUSING PRODUCTS ANALYSIS

For land use plans to be used as reasonable representations of what can be built and for rough development cost estimates, it is necessary to be realistic about what can be placed on the ground (usually expressed as net densities for each unit type). Typical cluster designs are developed to insure that unit counts can be achieved and that lot improvement costs are accurate.



LAND USE PLANS

The land use plan must accommodate the market program and respect both visual and other environmental considerations. It must be cost-effectively phased for on and off-site infrastructure and generally enhance the marketability of the site through sensitive design.



3

financial analysis

DIM DATA INPUT SHEETS

The Development Impact Model (DIM) calculates quickly and accurately the combined consequences of the market, physical and other financial data provided to it. It is used to speed up computation and to organize the output so the project can be conveniently compared to acceptable standards of performance. The general value of the computer program is the ability to make many changes without the labor of endless calculation or the danger of error.

The DIM data sheets facilitate the systematic recording of the specific data requirements of the program. Each section has an appropriate heading covering the following four areas of data:

- Market Data from the market program (modified if necessary after physical planning)
- Physical Data from the land use plan
- Public Impact Data from the political climate and code analysis
- Financial Data from the client concerning sales and overhead costs

In general, the market determines revenues; land use, the costs; and public impacts, the probability of public approval.

Attached to the data sheets are specific definitions of what is included in the number called for in each box. In some cases, checklists are provided for even finer breakdowns. These definitions and checklists provide confidence that nothing has been overlooked and that revisions can be made without disturbing other variables. The data input to DIM is thus highly explicit.

client data

CLIENT NAME	DNAME-1
PROJECT NAME, LOCATION	DNAME-2
DATE	DATE-3

site data

SITE AREA COVERAGE ALLOWABLE	A-4	GSCAP-5	
INDUSTRIAL COMMERCIAL SCHOOL SITE	AI-6	AC-6	AS-6
MAJOR ROAD (R.O.W.) OPEN SPACE	AR-6	AO-6	
RECREATIONAL FACILITY OTHER (SPECIFY)	ARC-6	AOT-6	

unit data

UNIT TYPES DUMNMS-7						
NET DENSITIES DD-8						
SALE PRICES - RESIDENTIAL ISP-9 - INDUSTRIAL SPNRI-10 - COMMERCIAL SPNRC-11						
MIX MIX-12						
NUMBER OF UNITS INU-13						
UNIT SIZE AUS-14						
NUMBER OF STORIES STORYS-15						

demand data

ANNUAL REGIONAL RESIDENTIAL DEMAND	RD-16
ANNUAL REGIONAL INDUSTRIAL DEMAND	RID-17
ANNUAL REGIONAL COMMERCIAL DEMAND	RCD-18

school data

SCHOOL CAPACITY NSC-19		
CONSTRUCTION COST SQUARE FOOT REQUIREMENT	CSC-20	CSC-20
SCHOOL BOND RATE SCHOOL BOND TERM	DS-21	DS-21
OPER. INC. XOY-22		
SCHOOL ENROLLMENT MSC-23		

municipal data

REAL ESTATE VALUE MMV-24		
POPULATION MUNICIPAL COSTS	NR-25	CCOMOI-26

fiscal data

ASSESSMENT FACTOR AF-27		
SCHOOL TAX MILLAGE MUNICIPAL TAX MILLAGE	STM-28	MM-29

land and development data

LAND COST INTEREST PROFESSIONAL FEES	LC-30		INT-31		FOP-31
DEVELOPMENT COST OFF-SITE CONTRIBUTION	CA-33		DEVC-34		
ANNUAL LAND EXPENDITURES LAC-35	1	2	3	4	5
	6	7	8	9	10
ANNUAL SITE-DEVELOPMENT EXPENDITURES XPCPY-36	1	2	3	4	5
	6	7	8	9	10
ANNUAL OFF-SITE CONTRIBUTION OSC-37	1	2	3	4	5
	6	7	8	9	10

construction and management data

PERCENT LAND PRICE TO SALE PRICE PCT-38						
CONSTRUCTION COST/SQ. FT. BY UNIT TYPE ESCF-39						
LOT IMPROVEMENT COST/ UNIT TYPE CLI-40						
PERCENT SALES COST ESC-41						
TECHNICAL FEES INTEREST ON CONSTRUCTION	TECH-42		IOCC-43			
OVERHEAD EXPENSE	POHE-44					
ANNUAL RESIDENTIAL CONSTRUCTION ID-45	1	2	3	4	5	
	6	7	8	9	10	
ANNUAL INDUSTRIAL CONSTRUCTION IID-46	1	2	3	4	5	
	6	7	8	9	10	
ANNUAL COMMERCIAL CONSTRUCTION CID-47	1	2	3	4	5	
	6	7	8	9	10	

annual sales/revenue data

ANNUAL RESIDENTIAL SALES (UNITS) SDU-48	1	2	3	4	5
	6	7	8	9	10
ANNUAL INDUSTRIAL SALES (ACRES) SNRAI-49	1	2	3	4	5
	6	7	8	9	10
ANNUAL COMMERCIAL SALES (ACRES) SNRAC-50	1	2	3	4	5
	6	7	8	9	10
OTHER REVENUES OR-51	1	2	3	4	5
	6	7	8	9	10
OTHER EXPENSES OE-52	1	2	3	4	5
	6	7	8	9	10

NOTES ON INPUT CHECKLIST

KEY CODE	KEY NUMBER	DESCRIPTION
CLIENT DATA		
DNAME	(1)	CLIENT NAME
DNAME	(2)	PROJECT NAME, LOCATION: LOCATION BY MUNICIPALITY, STATE.
DATE	(3)	DATE: DATE OF CHECKLIST COMPLETION.
SITE DATA		
A	(4)	SITE AREA: TOTAL SITE ACREAGE.
GSCAP	(5)	COVERAGE ALLOWABLE: TOTAL ALLOWABLE IMPERVIOUS COVER AS DEFINED BY CODE; 30% COVERAGE MAXIMUM.
		NON-RESIDENTIAL ACREAGES
AI	(6)	INDUSTRIAL
AC	(6)	COMMERCIAL
AS	(6)	SCHOOL SITE
AR	(6)	MAJOR ROAD (RIGHT-OF-WAY)
AO	(6)	OPEN SPACE
ARC	(6)	RECREATIONAL FACILITY
AOT	(6)	OTHER (SPECIFY)
UNIT DATA		
DUMNMS	(7)	UNIT TYPES: DEFINED AS SINGLE FAMILY (SF), TOWNHOUSE (TH), GARDEN APARTMENT (GA), MID-RISE (MR), HIGH RISE (HR).
DD	(8)	NET DENSITIES: NET DENSITY PER UNIT TYPES, IN DWELLING UNITS PER ACRE.

SALE PRICES:

ISP	(9)	ESTIMATED AVERAGE SALES PRICE BY RESIDENTIAL UNIT TYPE.
SDNRI	(10)	ESTIMATED AVERAGE SALES PRICE BY INDUSTRIAL UNIT TYPE.
SPNRC	(11)	ESTIMATED AVERAGE SALES PRICE BY COMMERCIAL UNIT TYPE.
MIX	(12)	MIX: SUGGESTED RESIDENTIAL UNIT MIX AS A PERCENT OF TOTAL RESIDENTIAL UNITS (100%). SUGGESTED NON-RESIDENTIAL UNIT MIX AS A PERCENT OF TOTAL NON-RESIDENTIAL UNITS (100%).
INU	(13)	NUMBER OF UNITS: SUGGESTED NUMBER OF UNITS BY RESIDENTIAL AND NON-RESIDENTIAL TYPES.
AUS	(14)	UNIT SIZE: ESTIMATED SQUARE FOOTAGE OF LIVING AREA BY RESIDENTIAL UNIT TYPE. ESTIMATED SQUARE FOOTAGE OF GROSS LEASABLE AREA (GLA) BY NON-RESIDENTIAL UNIT TYPE.
STORYS	(15)	NUMBER OF STORIES: ESTIMATED HEIGHT OF BUILDINGS IN NUMBER OF STORIES BY RESIDENTIAL AND NON-RESIDENTIAL UNIT TYPES.

DEMAND DATA

RD	(16)	ANNUAL REGIONAL RESIDENTIAL DEMAND: TOTAL NUMBER OF RESIDENTIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA.
RID	(17)	ANNUAL REGIONAL INDUSTRIAL DEMAND: TOTAL NUMBER OF INDUSTRIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA. (1,000 SQ. FT. PER UNIT)

RCD	(18)	ANNUAL REGIONAL COMMERCIAL DEMAND: TOTAL NUMBER OF COMMERCIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA, (1,000 SQ. FT. PER UNIT)

SCHOOL DATA

NSC	(19)	SCHOOL CAPACITY: TOTAL NUMBER OF SPACES AVAILABLE IN THE MUNICIPAL SCHOOL SYSTEM. (TOTAL CAPACITY OF ALL SCHOOLS MINUS CURRENT ENROLLMENT.)
CSC	(20)	CONSTRUCTION COST (SCHOOLS): ESTIMATED COST PER SQUARE FOOT FOR SCHOOL CONSTRUCTION.
CSC	(20)	SQUARE FOOT REQUIREMENT: THE NUMBER OF SQUARE FEET REQUIRED PER STUDENT BY STATE LAW OR MUNICIPAL RECOMMENDATION.
DS	(21)	SCHOOL BOND RATE: THE CURRENT OR PROJECTED INTEREST RATE ON SCHOOL BOND OFFERINGS.
DS	(21)	SCHOOL BOND TERM: THE CURRENT OR PROJECTED NUMBER OF YEARS FOR A SCHOOL BOND TO REACH MATURITY FROM ITS INITIAL OFFERING.
XOY	(22)	OPER. INC. THE AMOUNT OF REVENUE RAISED THROUGH LOCAL REAL ESTATE TAXES USED IN THE SCHOOL OPERATING BUDGET FOR THE CURRENT ACADEMIC YEAR. (RESIDENTIAL ONLY IF AVAILABLE)
MSC	(23)	SCHOOL ENROLLMENT: THE TOTAL NUMBER OF SCHOOL CHILDREN REGISTERED IN THE SCHOOL SYSTEM FOR THE CURRENT ACADEMIC YEAR (DATE).

INT	(31)	INTEREST: INTEREST RATE AT WHICH LAND FINANCING WAS/WOULD BE OBTAINED.
FOP	(32)	PROFESSIONAL FEES: TOTAL FEES TO INCLUDE ALL PLANNING AND LEGAL EXPENSES BEFORE ANY TECHNICAL FEES RELATING TO CONSTRUCTION (DEFINED BELOW).
CA	(33)	DEVELOPMENT COST: TOTAL COST OF SITE DEVELOPMENT (SEE EXHIBIT 1 FOR ITEMIZED BREAKDOWN).
DEVC	(34)	OFF-SITE CONTRIBUTION: TOTAL OFF-SITE COSTS (SEE EXHIBIT 2 FOR ITEMIZED BREAKDOWN).
LAC	(35)	ANNUAL LAND EXPENDITURES ($): ANNUAL DISTRIBUTION OF LAND AND CARRY COSTS THROUGH THE PROJECT PERIOD. (MAY BE SUPPLIED IN LIEU OF ITEMS (30) AND (31).)
XPCPY	(36)	ANNUAL SITE-DEVELOPMENT EXPENDITURES (%): ANNUAL PERCENT DISTRIBUTION OF SITE DEVELOPMENT COSTS. THIS WILL BE RELATED TO ESTIMATED CONSTRUCTION OR PHASING PACE.
OSC	(37)	ANNUAL OFF-SITE CONTRIBUTION ($): ANNUAL DISTRIBUTION OF OFF-SITE COSTS THROUGH THE PROJECT PERIOD. (THE TOTAL SHOULD AGREE WITH EXHIBIT 2.)

CONSTRUCTION AND MANAGEMENT DATA

PCT	(38)	PERCENT LAND PRICE TO SALE PRICE: THE PERCENT OF TOTAL RESIDENTIAL UNIT SALE PRICE ATTRIBUTABLE TO LAND SALE.
ESCF	(39)	CONSTRUCTION COST/SQ. FT. BY UNIT TYPE: ESTIMATED COST PER SQUARE FOOT FOR RESIDENTIAL CONSTRUCTION (BRICKS AND MORTAR) OF LIVING AREA, BASEMENTS, AND GARAGES (SEE EXHIBIT 3 FOR ITEMIZED BREAKDOWN).

Municipal Data

MMV	(24)	Real Estate Value: Total value of all real estate BEFORE the assessment ratio is applied. Typically broken down into residential and non-residential uses (Supply breakdown if possible).
NR	(25)	Population: Current total population defined by the municipality or Census.
CCOMOI	(26)	Municipal Costs: Any expenditures required BY the municipality due to the demands of project development.

Fiscal Data

AF	(27)	Assessment Factor: The ratio of assessed value to market value used by the assessor's office for determining the value of real estate for tax purposes.
STM	(28)	School Tax Millage: The millage rate set by the municipality for school revenues raised from real estate taxes. (Supply itemized tax bill.)
MM	(29)	Municipal Tax Millage: The millage rate set by the municipality for municipal revenues raised from real estate taxes. (Supply itemized tax bill.)

Land and Development Data

LC	(30)	Land Cost: Gross purchase price of the land net of any interest charges. (The annual distribution of Land and Carry may be supplied in # (35) in lieu of (30) and (31).)

CLI	(40)	LOT IMPROVEMENT COST/UNIT TYPE: ESTIMATED COST FOR LOT IMPROVEMENT (WITHIN THE LOT LINE) BY RESIDENTIAL UNIT TYPE (SEE EXHIBIT 4 FOR ITEMIZED BREAKDOWN).
ESC	(41)	PERCENT SALES COST: PERCENT OF TOTAL SALE PRICE ATTRIBUTED TO SALES AND CLOSING EXPENSES.
TECH	(42)	TECHNICAL FEES: TOTAL FEES PER UNIT TO INCLUDE ARCHITECTURAL, ENGINEERING, HOOK-UP, ETC. (SEE EXHIBIT 5 FOR ITEMIZED BREAKDOWN).
IOCC	(43)	INTEREST ON CONSTRUCTION: INTEREST RATE AT WHICH CONSTRUCTION FINANCING WAS/WOULD BE OBTAINED.
POHE	(44)	OVERHEAD EXPENSE: PERCENT OF SALE PRICE ATTRIBUTED TO GENERAL OVERHEAD EXPENSES.
ID	(45)	ANNUAL RESIDENTIAL CONSTRUCTION: ESTIMATED ANNUAL TOTAL RESIDENTIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.
IID	(46)	ANNUAL INDUSTRIAL CONSTRUCTION: ESTIMATED ANNUAL TOTAL INDUSTRIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.
CID	(47)	ANNUAL COMMERCIAL CONSTRUCTION: ESTIMATED ANNUAL COMMERCIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.

Sales/Revenue Data

SDU	(48)	Annual Residential Sales (units): Estimated annual unit sales beginning with year one, running through the total length of the project.
SNRAI	(49)	Annual Indistrial Sales (acres): Estimated annual sale of industrial acreage beginning with year one, running through the total length of the project.
SNRAC	(50)	Annual Commercial Sales (acres): Estimated annual sale of commercial acreage beginning with year one, running through the total length of the project.
OR	(51)	Other Revenues: Additional annual revenues anticipated from the project by year not included previously.
OEX	(52)	Other Expenses: Additional annual expenses anticipated from the project not included previously.

EXHIBIT 1

DEVELOPMENT COST

(INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE PROJECT'S BOUNDARIES EXCLUDING LOT IMPROVEMENTS AND BUILDING CONSTRUCTION COSTS.)

ITEM	QUANTITY	UNIT COST	ALLOWANCES*	TOTAL COST
A. ROADS/STREETS (1)				
1. CLEARING				
2. ROAD GRADING				
3. ROAD SURFACING				
4. CURB AND GUTTER				
5. SIDEWALK				
6. STREET LIGHTING				
7. SEEDING/SODDING (COMMON AREAS, NOT LOTS)				
8. STREET TREES/ PLANTING (COMMON AREAS)				
9. OTHER				
SUBTOTAL				

NOTES:

* ALLOWANCES: ANY CONTINGENCIES ON ALLOWANCES FOR OVERHEAD AND PROFIT NOT INCLUDED IN UNIT OR TOTAL COST.

(1) ROADS/STREETS - INCLUDE ALL NECESSARY IMPROVEMENTS, WITHIN DEDICATED ROAD R.O.W., REQUIRED BY ORDINANCE AND/OR CODE.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST

B. STORM WATER/ SEWER SYSTEM (2)

1. PIPE
2. CATCH BASINS
3. CULVERTS
4. RETENTION PONDS
5. OTHER

SUBTOTAL

C. SANITARY SEWER/ SEWAGE DISPOSAL (3)

1. SEPTIC SYSTEMS
2. TREATMENT PLANT
3. PUMP/LIFT STATIONS
4. FORCE/GRAVITY MAINS
5. MANHOLES
6. CONNECTION CHARGES/ ASSESSMENTS
7. OTHER

SUBTOTAL

NOTES:

(2) STORM WATER/SEWER SYSTEM - INCLUDE ALL REQUIRED STORM SEWER/ DRAINAGE NECESSARY TO CONTROL STORM WATER RUNOFF AS REQUIRED BY ORDINANCE AND/OR CODE.

(3) SANITARY SEWER/SEWAGE DISPOSAL - INCLUDE ALL CONSTRUCTION NECESSARY TO PROVIDE COMPLETE SEWAGE FACILITIES. DO NOT INCLUDE ON-SITE LATERAL CONNECTIONS. THESE ARE CONSIDERED ON A LOT BASIS IN EXHIBIT 4.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST
D. WATER SYSTEM (4)				
1. WELL				
2. MAIN				
3. HYDRANTS				
4. CONNECTION CHARGES/ ASSESSMENTS				
5. OTHER				
SUBTOTAL				
E. OPEN SPACE/ COMMUNITY FACILITIES (5)				
1. CLEARING				
2. PATHS				
3. LIGHTING				
4. PLAY AREAS				
5. TENNIS COURTS OR OTHERS				
6. SWIMMING POOL				
7. COMMUNITY BUILDING				
8. LANDSCAPING				
9. OTHER				
SUBTOTAL				
F. TOTAL				

NOTES:

(4) WATER SYSTEM - INCLUDE ALL CONSTRUCTION NECESSARY TO PROVIDE COMPLETE WATER DISTRIBUTION SYSTEM. DO NOT INCLUDE ON-SITE LATERAL CONNECTIONS. THESE ARE CONSIDERED ON A LOT BASIS IN EXHIBIT 4.

(5) OPEN SPACE/COMMUNITY FACILITIES - INCLUDE ALL IMPROVEMENTS NECESSARY TO MEET RECREATIONAL DEMANDS OF PROJECT.

EXHIBIT 2

OFF-SITE CONTRIBUTION

(INCLUDE ALL DEVELOPMENT/IMPROVEMENTS BEYOND THE PROJECT'S BOUNDARIES THAT ARE CONSIDERED TO BE ESSENTIAL OR ATTRIBUTABLE TO THE PROJECT'S DEVELOPMENT.)

ITEM	QUANTITY	UNIT COST	ALLOWANCES*	TOTAL COST
A. ROAD/STREET				
1. SURFACING				
2. CURB AND GUTTER				
3. TRAFFIC CONTROLS				
4. LIGHTING				
5. ASSESSMENTS				
6. OTHER				
SUBTOTAL				
B. STORM WATER/ SEWER SYSTEM				
1. PIPE				
2. CATCH BASINS				
3. CULVERTS				
4. CONNECTION CHARGES/ ASSESSMENTS				
5. OTHER				
SUBTOTAL				

* ALLOWANCES: ANY CONTINGENCIES ON ALLOWANCES FOR OVERHEAD AND PROFIT NOT INCLUDED IN UNIT OR TOTAL COST.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST
C. SANITARY SEWER/ SEWAGE DISPOSAL				
1. TREATMENT PLANT IMPROVEMENTS				
2. PUMP/LIFT STATIONS				
3. FORCE/GRAVITY MAINS				
4. MANHOLES				
5. CONNECTION CHARGES/ ASSESSMENTS				
6. OTHER				
SUBTOTAL				
D. WATER SYSTEM				
1. MAIN				
2. HYDRANTS				
3. CONNECTION CHARGES/ ASSESSMENTS				
4. OTHER				
SUBTOTAL				
E. OTHER COSTS/ COMMUNITY FAC. CONTRIBUTIONS				
1. SCHOOLS				
2. PARKS				
3. OTHER				
SUBTOTAL				
F. TOTAL				

EXHIBIT 3

CONSTRUCTION COST/SQ. FT. (FOR EACH UNIT TYPE)

(INCLUDE ALL CONSTRUCTION COSTS RELATED TO ACTUAL PRODUCTION OF HOUSING/DWELLING UNIT EXCLUDING SITE AND LOT DEVELOPMENT AND ARCHITECTURAL FEES, MARKETING COSTS, ETC.)

UNIT TYPE	ITEM	SIZE	SQ. FT. COST	TOTAL
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			

EXHIBIT 4

LOT IMPROVEMENT COST
(FOR EACH UNIT TYPE)

A. SINGLE FAMILY DETACHED: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE LOT AREA EXCLUDING ACTUAL BUILDING CONSTRUCTION.

B. SINGLE FAMILY ATTACHED: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE SITE AREA OF THE HOUSING CLUSTER/BUILDING TYPE ATTRIBUTED TO EACH INDIVIDUAL DWELLING UNIT.

C. MULTI-FAMILY: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE SITE AREA OF THE BUILDING "UNIT" ATTRIBUTED TO EACH INDIVIDUAL DWELLING UNIT (TOTAL COST DIVIDED BY NUMBER OF D.U. = COST PER D.U.).

UNIT TYPE:

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST
A. CLEARING (1)				
B. GRADING AND DRAINAGE (2)				
C. SURFACING (3)				
D. SAFETY CONTROLS (4)				
E. WATER SERVICE (5)				
F. SANITARY SEWER (6)				
G. LANDSCAPING (7)				
H. FEES AND PERMITS (8)				
I. OTHER (9)				
TOTAL				

NOTES:

(1) CLEARING - INCLUDE TOTAL AND SELECTIVE CLEARING NECESSARY TO ACCOMMODATE CONSTRUCTION WITHIN "LOT" AREA.

(2) GRADING AND DRAINAGE - INCLUDE ALL IMPROVEMENTS NECESSARY TO PROVIDE FOR ADEQUATE DRAINAGE AND STORM WATER RUNOFF FROM "LOT."

(3) SURFACING - INCLUDE ALL DRIVES AND PARKING AREAS, WALKS AND TERRACES AND OTHER SURFACING.

(4) SAFETY CONTROLS - INCLUDE BOLLARDS, LIGHTING AND OTHER CONTROLS.

(5) WATER SERVICE - INCLUDE ALL WATER LATERALS FROM MAIN IN ROAD R.O.W. TO BUILDING.

(6) SANITARY SEWER - INCLUDE ALL SEWER LATERALS FROM SEWER MAIN TO BUILDING.

(7) LANDSCAPING - INCLUDE GRADING, TOPSOIL, SEEDING, AND LANDSCAPE CONSTRUCTION AND PLANTING ALLOWANCE.

(8) FEES AND PERMITS - INCLUDE SEWER AND WATER HOOK-UP AND BUILDING PERMITS.

(9) OTHER.

EXHIBIT 5

TECHNICAL FEES

(INCLUDE ALL ARCHITECTURAL, ENGINEERING, LANDSCAPE ARCHITECTURAL, LAND SURVEYING, GRAPHIC AND INTERIOR-DESIGN FEES FOR EACH CATEGORY ON A UNIT BASES AS INDICATED BY THE NOTES.)

ITEM	TOTAL COST
A. ARCHITECTURAL (1)	
B. ENGINEERING (2)	
C. LANDSCAPE ARCHITECTURAL (3)	
D. LAND SURVEYING (4)	
E. GRAPHICS (5)	
F. INTERIOR DESIGN (6)	
TOTAL	

NOTES:

(1) ARCHITECTURAL

A. BUILDING DESIGN (COMPLETE)
B. CONSTRUCTION SPECIFICATION (BUILDING SYSTEMS)
C. CONSTRUCTION COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
D. CONSTRUCTION INSPECTION (PERIODIC)

(2) ENGINEERING

A. ROAD/STREET SYSTEMS DESIGN (HORIZONTAL AND VERTICAL CURVE DATA, PROFILES)
B. UTILITY SYSTEMS DESIGN (SEWAGE, WATER, STORM, ETC.)
C. LOT DESIGN (LOT CLOSURE AND PLAT/SURVEY DATA)
D. CONSTRUCTION SPECIFICATIONS (ROAD AND UTILITY SYSTEMS)
E. CONSTRUCTION COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
F. CONSTRUCTION INSPECTION (PERIODIC)

(3) LANDSCAPE ARCHITECTURAL

A. LANDSCAPE CONSTRUCTION AND PLANTING DESIGN (ALL SITE IMPROVEMENTS NOT COVERED BY ARCHITECTURAL AND ENGINEERING, I.E. GRADING, SURFACING, RETAINMENT, LIGHTING, PLANTING, SPECIAL FEATURES, ETC.)
B. CONSTRUCTION AND PLANTING SPECIFICATIONS (AS NOTED IN 3A.)
C. CONSTRUCTION AND PLANTING COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
D. CONSTRUCTION AND PLANTING INSPECTION (PERIODIC)

(4) LAND SURVEYING

A. ROAD/STREET SYSTEMS LAYOUT (SEE 2A.)
B. UTILITY SYSTEMS LAYOUT (SEE 2B.)
C. LOT LAYOUT (BOUNDARY SURVEY AND MONUMENTS)
D. BUILDING LAYOUT (STAKEOUT AND SET ELEVATIONS)
E. LANDSCAPE CONSTRUCTION LAYOUT (STAKEOUT DRIVES, PARKING, ETC. AND SET ELEVATIONS)

(5) GRAPHICS

A. SIGNAGE (PROJECT SIGNS, ETC.)
B. P.R. LITERATURE (BROCHURES, ETC.)

(6) INTERIOR DESIGN

A. INTERIORS (SAMPLES/MODELS)
B. MATERIALS/COLORS (TYPICAL UNITS)

EXAMPLE: INPUT CHECKLIST
(Private Developer Data Only)

client data

CLIENT NAME	XYZ Corporation DNAME-1
PROJECT NAME, LOCATION	A-PUD, Akron, Ohio DNAME-2
DATE	9/13/79 DATE-3

site data

SITE AREA COVERAGE ALLOWABLE	207.00 A-4	GSCAP-5	
INDUSTRIAL COMMERCIAL SCHOOL SITE	AI-6	4.79 AC-6	AS-6
MAJOR ROAD (R.O.W.) OPEN SPACE	7.40 AR-6	112.35 AO-6	
RECREATIONAL FACILITY OTHER (SPECIFY)	3.30 ARC-6	7.58 AOT-6	

unit data

UNIT TYPES DUMNMS-7	SFD	TH	GA			
NET DENSITIES DD-8	4.42	8.75	15.20			
SALE PRICES - RESIDENTIAL ISP-9 - INDUSTRIAL SPNRI-10 - COMMERCIAL SPNRC-11	68250.	52800.	43700.			
MIX MIX-12	22.1	22.5	55.5			
NUMBER OF UNITS INU-13	141	143	354			
UNIT SIZE AUS-14	1625	1200	950			
NUMBER OF STORIES STORYS-15	2	2	2			

land and development data

LAND COST INTEREST PROFESSIONAL FEES	1,424,665 LC-30		0.00 INT-31		150,000 FOP-31					
DEVELOPMENT COST OFF-SITE CONTRIBUTION	1,535,714 CA-33		113,000 DEVC-34							
ANNUAL LAND EXPENDITURES LAC-35	1 250000.	2 413333.	3 386666.	4 374666.	5					
	6	7	8	9	10					
ANNUAL SITE-DEVELOPMENT EXPENDITURES XPCPY-36	1 .417	2 .230	3 .275	4 .078	5					
	6	7	8	9	10					
ANNUAL OFF-SITE CONTRIBUTION OSC-37	1 113000.	2	3	4	5					
	6	7	8	9	10					

construction and management data

PERCENT LAND PRICE TO SALE PRICE PCT-38	14.	9.	6.			
CONSTRUCTION COST/SQ. FT. BY UNIT TYPE ESCF-39	25.	24.	22.			
LOT IMPROVEMENT COST/ UNIT TYPE CLI-40	3000.	3100.	2100.			
PERCENT SALES COST ESC-41	14	9	6			
TECHNICAL FEES INTEREST ON CONSTRUCTION	350 TECH-42		3.0 IOCC-43			
OVERHEAD EXPENSE	5.0 POHE-44					
ANNUAL RESIDENTIAL CONSTRUCTION ID-45	1 186	2 190	3 116	4 146	5	
	6	7	8	9	10	
ANNUAL INDUSTRIAL CONSTRUCTION IID-46	1	2	3	4	5	
	6	7	8	9	10	
ANNUAL COMMERCIAL CONSTRUCTION CID-47	1	2	3	4 4.79	5	
	6	7	8	9	10	

annual sales/revenue data

ANNUAL RESIDENTIAL SALES (UNITS) SDU-48	1 186	2 190	3 116	4 146	5
	6	7	8	9	10
ANNUAL INDUSTRIAL SALES (ACRES) SNRAI-49	1	2	3	4	5
	6	7	8	9	10
ANNUAL COMMERCIAL SALES (ACRES) SNRAC-50	1	2	3	4 4.79	5
	6	7	8	9	10
OTHER REVENUES OR-51	1	2	3	4	5
	6	7	8	9	10
OTHER EXPENSES OE-52	1 200000.	2 200000.	3	4	5
	6	7	8	9	10

pp. 40 – 54 are not legible

APPENDIX: DEVELOPMENT IMPACT MODEL — OPERATING PROCEDURE

The Development Impact Model is a system for analyzing development proposals to determine their economic feasibility within the constraints imposed by natural determinants, physical delivery systems, public service systems, market factors and legal requirements. The following is an outline of the procedure for using the Development Impact Model.

DATA COLLECTION

A. Site Analysis

1. Base map with location of property outbounds and important features from property survey or county tax maps.
2. Municipal zoning map and code and development codes for analysis of legal constraints.
3. Municipal and county master plans for analysis of public intentions and policy.
4. Price of land from the developer or other source for use in the feasibility analysis.
5. Legal fees, interest on land, and other miscellaneous front-end costs from the developer for use in the feasibility analysis.

B. Natural Determinants and Coverage Analysis

1. County soil survey from Soil Conservation Service for soil series types, shallow to bedrock, seasonal high water table, alluvial soils.
2. Topographic maps of site and surrounding areas from U.S. Geological Survey or site survey for slope analysis.
3. Aerial photographs of site from U.S. Department of Agriculture, Aero Service, etc., for analysis of vegetation and other physical features.
4. Hydrology and floodplain location from the U.S. Army Corps of Engineers or the Soil Conservation Service for floodplain analysis.

C. Physical Systems Analysis

1. Streets and roads from municipal or county planning department/commission or state highway department, or a traffic study by a consultant.
   a. Right-of-way and cartway dimensions, including intersection approaches.
   b. Existing traffic volumes.
   c. Design capacities. (Intersection capacities are usually critical points.)
2. Water supply information from municipality, county, or private water company(ies).
   a. Location and excess capacity of water lines near the site.
   b. Supply costs and hook-up charges.
   c. If there is no feasible public water supply, determine the ground water supply and delivery costs from the Soil Conservation Service, state department of natural resources or its equivalent, or well drilling companies.
3. Sewer service information from the municipality or county authority.
   a. Location and excess capacity of sewer lines in the area.
   b. Sewer rental rates and hook-up charges.
   c. If there is no public sewer available, contact state department of health for package plant or septic tank requirements and costs.
4. Check location of electrical supply and cost of installing lines underground with the local power company.
5. Check location of telephone lines and cost of installing lines underground with the local telephone company. Determine whether this can be coordinated with electric lines for any savings.
6. Check location and hook-up costs for gas service with the local gas company.

D. Public Services and Revenues Analysis

1. Obtain a copy of the current municipal budget.

2. Check the level of service provided for by the budget for:

   a. Police

   b. Fire

   c. Recreation, parks

   d. Road maintenance

   e. Other

3. Check sources of municipal revenue, tax base, and rate.

   a. Property tax

      (1) Total revenue

      (2) Total assessed value

      (3) Assessment rate

      (4) Tax rate

   b. Income tax

      (1) Total revenue

      (2) Total personal income (average household income times number of households)

      (3) Tax rate

   c. Per capita and other taxes

      (1) Total taxable population

      (2) Tax rate

   d. State and federal subsidy

      (1) Amount of subsidy

      (2) Basis for subsidy

   e. Municipal debt

      (1) Current municipal debt

      (2) Legislative debt limit

4. School data

   a. School taxes - Obtain school budget and supporting data to determine:

      (1) Property tax

         (a) Total revenue

         (b) Total assessed value

         (c) Assessment rate

         (d) Tax rate

      (2) Income tax

         (a) Total revenue

         (b) Total personal income

         (c) Tax rate

(3) Per capita and other taxes

(a) Total taxable population

(b) Tax rate

(4) State and federal subsidy

(a) Amount of subsidy

(b) Basis for subsidy

(5) School debt

(a) Current debt

(b) Legislative debt limit

b. School capacity/enrollment

(1) Current enrollment

(2) Current capacity

c. Plans for school expansion

E. Market Analysis

1. Market comparables

a. Unit types (market mix: percent of each type available).

b. Sale prices and rents.

c. Unit sizes.

d. Special features.

2. Market absorption rates

3. Cyclical construction trends. (Is the market over-built or under-built now?)

4. Neighborhood characteristics

5. Regional location factors:

a. Access to work, shopping, recreation, etc.

b. Special amenities.

c. Major pollution sources, etc.

NATURAL SYSTEMS ANALYSIS

Dollar costs that may be incurred to overcome restrictions or meet performance standards should be particularly noted.

A. Analysis of Natural Restrictions

1. Vegetation

a. Acres in each vegetation classification (wooded, non-wooded).

b. Percentage of the site in each vegetation type.

2. Slopes

a. Acres in each slope classification (0-3%, 3-8%, 8-15%, 15-25%, 25+%).

b. Percentage of the site in each slope classification.

3. Seasonal high water table (SHWT)

a. Acres in each class of SHWT.

b. Percentage of the site in each SHWT class.

4. Shallow to bedrock

   a. Acres in each class of shallow to bedrock.

   b. Percentage of the site in each shallow to bedrock class.

5. Floodplain

   a. Acres of the site in the floodplain.

   b. Percentage of the site in the floodplain.

6. Composite development restrictions.

   a. Acres with development restrictions.

   b. Percentage of site with development restrictions.

B. Coverage Limits Analysis

This involves an analysis of the projected runoff of stormwater and the determination of impervious coverage limits or performance standard requirements.

LAND USE DESCRIPTION

Determine the types of units, market values, sizes and mix. These will be based on the developer's preferences and the market study.

SCHEMATIC SITE DESIGN

This is a blob diagram showing land use classifications (single-family, townhouses, garden apartments, commercial, open space, etc.) and the major circulation and utility lines. The amount of land shown in the various blobs should agree with the required unit mix determined in the Land Use Description phase. The schematic design should also respect the natural restrictions from the Natural Systems Analysis phase.

PHYSICAL DELIVERY SYSTEMS ANALYSIS

A. Roads

1. Length of major access and site circulation.

2. Cost of major access and circulation.

3. Cost of intersection improvements.

B. Water System

1. Length of major water lines on- and off-site.

2. Cost of major water lines.

3. Cost of other water system features if required (wells, pumps, storage tanks, treatment equipment, etc.)

C. Sewer System

1. Length of major sewer lines on- and off-site.

2. Cost of major sewer lines including manholes.

3. Cost of other sewer system features if required (pumping station, package plant, etc.).

D. Other Utilities

1. Length of other utility lines (telephone, electric, gas).

2. Cost of utility lines not paid by the utility companies (placing system underground, etc.).

DENSITY FEASIBILITY ANALYSIS

A. Upper limit of development density can be determined in a number of ways:

1. Maximum density allowable from zoning or PUD code. This is the legal maximum.

2. Maximum density possible within the constraints imposed by the market mix and lot sizes from the Land Use Description phase. This can be calculated using Equation 1.

$$D_m = \frac{100}{\Sigma\ \ell_n m_n} \qquad \text{(Equation 1)}$$

where D_m is the net density based on the market study mix,
ℓ is the lot size for the unit type (acres),
m is the mix for the unit type (%), and
n is the total number of unit types.

For instance, if the market study shows that the proposed development should include 80% (m_1) single family homes on half acre lots ($\ell_1 = .5$), 10% (m_2) townhouses at 10 per acre ($\ell_2 = .1$), and 10% (m_3) garden apartments at 14 per acre ($\ell_3 = .07$), then the net density would be calculated as follows:

$$D_m = 100 / \{(.5 \times 80) + (.1 \times 10) + (.07 \times 10)\}$$

$$= 100 / (40 + 1 + .7)$$

$$= 100 / 41.7$$

$$= 2.4 \text{ du/acre}$$

3. Maximum density determined from the coverage analysis in the Natural Systems Analysis phase and the market mix of the Land Use Description phase. Three impervious coverage (C) values are required: (a) the weighted average coverage per unit ($C\chi$), (b) the amount of impervious coverage allowed for the site ($C\alpha$), and (c) the amount of impervious coverage per acre for all major site improvements such as community buildings, major roads, etc. ($C\delta$).

A weighted average is calculated using the following equation:

$$\chi = \Sigma\ \frac{v_n\ k_n}{\Sigma\ v_n} \qquad \text{(Equation A)}$$

where v is the number of each variable or element,
k is the constant value of each variable or element, and
n is the number of different variables.

This equation can then be used to calculate the weighted average coverage per unit. For instance, suppose that the following is the recommended mix from the market study:

Unit Type	Unit Area	Stories	Net Cover	Parking, Patio, etc.	Total/ Unit	Mix
SF	1700 sf	1	1700 sf	1000 sf	2700 sf	10%
TH	1400 sf	2	700 sf	600 sf	1300 sf	30%
GA2	1000 sf	3	333 sf	600 sf	933 sf	30%
GA1	800 sf	3	267 sf	600 sf	867 sf	30%

Therefore, if the percent mix is the variable value (v) and the total coverage per unit is the constant value (k), then for the four (n) unit types the weighted average coverage per unit ($C\chi$) can be calculated as follows:

$$C\chi = \frac{v_1k_1 + v_2k_2 + v_3k_3 + v_4k_4}{v_1 + v_2 + v_3 + v_4}$$

$$= \frac{(10 \times 2700) + (30 \times 1300) + (30 \times 933) + (30 \times 867)}{10 + 30 + 30 + 30}$$

$$= \frac{27000 + 39000 + 27990 + 26010}{100}$$

$$= 12000/100 = 1200 \text{ sf/du}$$

The maximum density based on the cover model (D_i) can then be calculated using Equation 2 as follows:

$$D_i = \frac{(435.6 \times C\alpha) - C\delta}{CX} \qquad \text{(Equation 2)}$$

As an example, assume that the allowable impervious coverage for the site based on the cover model ($C\alpha$) is 22%, the coverage per acre of all major site improvements ($C\delta$) is 1500 square feet per acre, and the weighted average coverage per unit is 1200 square feet per unit as above, then the maximum density would be calculated using Equation 2 as follows:

$$D_i = \frac{(435.6 \times 22) - 1500}{1200}$$

$$= \frac{9583.2 - 1500}{1200}$$

$$= 8083.2 / 1200$$

$$= 6.736 \text{ du/acre}$$

B. Break-even Density. This is the minimum project density at which the developer will be able to meet all costs and still make an acceptable profit. This is used to determine the relationships among the total site development cost (both on- and off-site), the average market value per unit, and the density.

1. The basic break-even density equation is as follows:

$$D_e = \frac{L}{.0826 \times V \times A} \qquad \text{(Equation 3)}$$

where L is the major site development costs ($),
V is the average market value per unit ($/du), and
A is the site area in acres.

2. Variations of break-even equation.

a. To find the average market value if the density and development cost is known:

$$V = L / (.0826 \times A \times D_e) \qquad \text{(Equation 3a)}$$

b. To find the allowable development cost if the density and average market value is known:

$$L = V \times A \times D_e \times .0826 \qquad \text{(Equation 3b)}$$

3. Determination of site development cost (L). This is the total of all front-end and major improvement costs. It includes:

a. Cost of land.

b. Interest on land.

c. Planning fees.

d. Legal fees, permits, etc.

e. Sewer system.

f. Water system.

g. Roads and intersection improvements.

h. Community buildings and recreation facilities.

i. Other major site improvement costs.

4. Determination of average unit market value (V). This is the weighted average of the market value of all units.

a. V can be a one-number estimate for the whole project.

b. A more accurate method of determining V is to use a weighted average of the project value of each type of unit based on the Land Use Description analysis and the market study.

c. To find the market value for rental apartments, multiply the expected annual rent by 7.28.

d. To find the total construction cost (bricks and boards plus unit share of major site development costs) from the market value, divide the market value by 1.661.

e. To find the unit share of the major site development costs from the market value, multiply the market value by .0826.

f. To find the total construction cost (bricks and boards plus unit share of major site development improvement costs) from the annual rent, multiply the annual rent by 4.3833.

C. Equilibrium break-even density. This analysis is used when the developer and the municipality (or school district) share the cost of major site improvements. The analysis is subject to the constraints that the project must generate a positive tax surplus if the developer pays all major site development costs.

With the equilibrium analysis the municipality invests all tax surplus generated by the project in the major site development costs. When the municipality pays part of the site development cost, the break-even density for the developer is lowered because his costs are lowered. The equilibrium analysis determines the minimum breakdown density where the developer just breaks even and the municipality reinvests all tax surplus. The analysis also determines the respective shares of costs for the developer and the municipality.

The equilibrium break-even density (D_b) is calculated using the following equation:

$$D_b = \frac{L}{A\ \{.0826\ V + 15\ (\{V \times M \times R\} + T - S)\}} \qquad \text{(Equation 4)}$$

where L is the major site development costs ($),
V is the average market value per unit ($/du),
A is the site area in acres,
M is the tax millage rate,
R is the assessment factor,
T is all other taxes paid by the occupants per unit, and
S is the unit service cost.

All of the other taxes paid by the occupants of the units would include income taxes, per capita taxes, etc. This value (T) is calculated on a per unit basis for the entire project. The unit service cost (S) is based on the average cost per unit for municipal services to the project. This is based on an analysis of the municipal budget. The same procedure would be used for school budget information if the equilibrium analysis was between the developer and the school district.

For instance, suppose that each of the variables has the following values:

L = $1,500,000
V = $25,000
A = 120 acres
M = .025
R = .6 (60%)
T = $250/unit
S = $600

The equilibrium break-even density would be calculated using Equation 4 as follows:

$$D_b = \frac{1,500,000}{120\ \{(.0826 \times 25,000) + 15\ \{\{25,000 \times .025 \times .6\} + 250 - 600\}\}}$$

$$= \frac{1,500,000}{120\ \{2065 + 15\{375 + 250 - 600\}\}}$$

$$= \frac{1,500,000}{120\ \{2065 + (15 \times 25)\}}$$

$$= \frac{1,500,000}{120\ (2065 + 375)}$$

$$= \frac{1,500,000}{120 \times 2440}$$

$$= \frac{1,500,000}{292,800}$$

$$= 5.12 \text{ du/acre}$$

To calculate the developer's share of the site development costs (L_d), use Equation 3b by substituting the equilibrium break-even density (D_b) for the break-even density (D_e) in the equation as follows:

$$L_d = V \times A \times D_b \times .0826 \qquad \text{(Equation 4a)}$$

The municipality's share of the site development costs (L_m) is simply calculated by subtracting the developer's share from the total site development costs:

$$L_m = L - L_d \qquad \text{(Equation 4b)}$$

Following through with the above example, the developer's share of the site development costs would be

L_d = \$25,000 x 120 acres x 5.12 du/acre x .0826

= \$1,268,736

and the municipality's share would be

L_m = \$1,500,000 - \$1,268,736

= \$231,264

There are two major practical limitations on the use of the equilibrium analysis:

1. Any investment of public funds in major site development must be politically expedient. The municipality might be able to invest in intersection improvements, off-site sewer lines, and other improvements which ostensibly benefit more of the public than just the residents of the site. If the municipal share of costs at the equilibrium density is \$200,000 but only \$100,000 in off-site public improvements can judiciously be made, then the other \$100,000 will remain as a tax surplus.

2. Separate taxing bodies normally will not and cannot exchange surplus revenues to balance out deficits. If a project is developing a \$100,000 municipal tax surplus, a \$100,000 school tax deficit will not be cancelled out.

DEVELOPMENT EXTERNALITIES

This section deals with costs (monetary and non-monetary) and revenues generated by a development. A detailed analysis of these externalities is often useful for planning purposes.

A. Traffic Generation

1. Daily or peak hour trip generation rates by unit type are applied to the total number of units contemplated for the project. This gives the total traffic generation.

2. Percentage allocation of the various access routes to the site is derived from origin-destination studies.

3. By combining 1 and 2 above the site-generated traffic load on any access point can be determined.

4. Comparison of existing traffic, design capacity, and site-generated traffic loads indicates the amount of anticipated congestion.

5. If a road or intersection improvement is needed to overcome the anticipated level of congestion, the cost will become part of the major site development cost. Either the municipality or the developer can pay for the improvements.

B. School Children

1. School children generation rates by unit type are applied to the total number of units comtemplated to obtain an estimate of the total number of school children generated by the project.

2. The school budget will indicate the cost per student for operation. Multiply that cost by the total number of students generated for the projected school costs.

3. Project market value, property tax rates, and other tax information are used to determine the total school tax generated by the project.

4. Formulas for state and federal school subsidies are used to determine the additional subsidy created by the school children from the project.

5. The sum of items 3 and 4 above is compared to item 2 to determine the net surplus or deficit caused by the project.

C. Municipal Services

The revenue and operations structure must be investigated to find which services are supported by general taxes and which are supported by special user charges.

1. Typically sewer and water operations are separate from the general fund so that a property tax surplus cannot usually be used for sewer construction. The structure of municipal services must be investigated to sort this out.

2. Costs, revenues, and indicators of use on a per capita, per square foot, per linear foot, per dwelling, per acre, etc., basis for all municipal services should be investigated to find out which areas show a favorable balance for the proposed project (or an unfavorable balance as the case may be).

Second Day

REAL ESTATE FEASIBILITY SEMINAR

Houston Chapter 33
February 18-19, 1983
Houston Grand Hotel

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

I. Free enterprise is the art of creating ones own monopoly, if only for a moment in the mind of the buyer. Monopoly characteristics in real estate depend on careful analysis of uncontrollable variables among the collective consumers and precise segmentation of the controllable variables relative to individual consumer.

A. To review the broad strategic concern of real estate investment in order of priority:

1. Degree of exposure to political risks (collective consumer action)

a. Broad array of land use controls
b. Vulnerability to subsidize competition
c. Dependency on government subsidized demand

2. Ability to generate channel demand

a. Control of space consumer
b. Indirect control through reciprocity
c. Indirect control of alternative supplies
d. Indirect control through effective research and timing

3. Degree of acceptable management intensity

a. Marketing tied to a specific personality
b. Marketing tied to a specific set of high skill talents
c. Marketing tied to quality, service, and convenience
d. Marketing tied to technology/cost advantage (high tech/high touch product)

4. Degree of financial exposure per project

a. Front end cost
b. Hard dollar equity required
c. Time line risks
d. Holding power
e. Efficiency of credit utilization

5. Tax strategy and exposures

a. Federal income tax
b. State taxes
c. Real estate taxes
d. Special assessments

6. Going concern versus liquidation options

a. Estate tax and estate planning considerations
b. Corporate liquidation
c. Asset liquidity
d. Management rewards, penalties, and survival

B. The real estate project marketing program must keep in mind the features required to neutralize the collective consumer who might oppose entitlements, the features and codes which will motivate the space consumer at a price which provides financial viability, and the overall six strategic attributes to be marketed to the investor At the very least market and merchandising research should be able to eventually produce a marketing program which suggests:

1. Where the developer/investor should position his effort relative to demographic and economic trends given a desired scale of operation.

2. The unmet needs in the marketplace in terms of mostprobable user groups, their total number, and their effective demand constraints.

3. The time span of their effective demand in the marketplace

4. The competitive standard product minimum required for entry into the market.

5. The competitive product/service/margin necessary for monopoly advantage

6. The project image most likely to neutralize collective opposition

7. Essential media and themes required for promotion programs

8. Financial parameters required to attract investors, mortgage or equity

II. The first step is to reduce aggregate data about user groups which is plausible but overly general information to a scale which will focus on a sub-segment with a proper rationale or hierarchy. To do that requires an analytical model and in most cases, each situation requires the analyst to create his own model with which to structure the data available and to discover the missing links in the logic diagram which must be researched.

A. Models organize the anlyst, the report, and the client

1. Models explain what you are going to do.

2. Models make relationships and key assumptions explicit.

3. Models permit clients to understand logic of conclusion and to test his own set of assumptions.

B. A market research model should be careful to recognize?

1. What are the questions

2. What data is available which is relevant?

3. What theory is available to focus data on the questions?

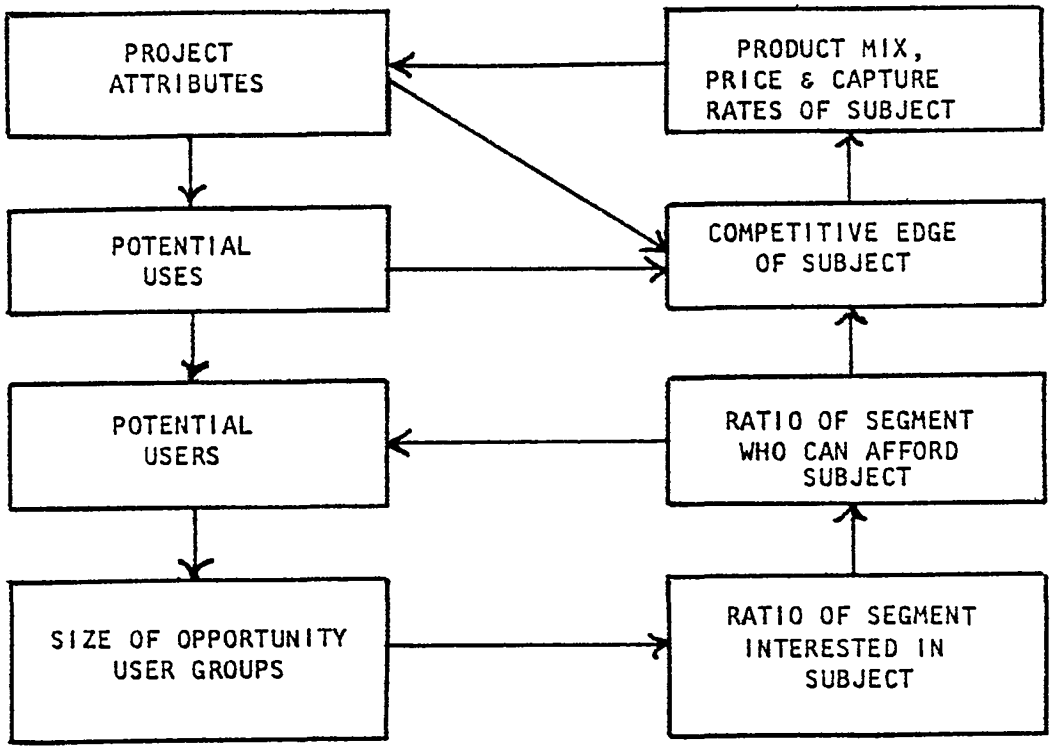
4. How will the results be communicated?

5. What are the abilities of the analyst?

6. What is the cost benefit ratio between the model method and the question?

EXHIBIT I

SEGMENTATION LOGIC TREE



C. Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on. It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

D. Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

1. Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many square feet of leased office space were occupied.

2. Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

E. A flow chart of the market research process is provided in Exhibit 1.

F. Most multi-tenant or multi-user land uses are susceptible to a retail trade area model. A retail model is a device analogous to establishing a retail trade area perimeter for a super market to segregate households which have a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income. Thus the analyst should establish a preliminary hypothesis for:

1. Primary market area to be served.

2. Secondary market area to be served.

3. Principal competitors.

G. Consider Exhibit 2 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

1. For lines with asterisks the key ratios for reduction were derived from a survey of the elderly generating primary data for this county.

2. For example, while 37% of the elderly were financially qualified, only about 60% of those were interested in considering a residential, minimal care facility or 22% of those in the convential housing market - hence the reduction from 19,700 to only 4,200. This chart should have showed the ratios from the survey.

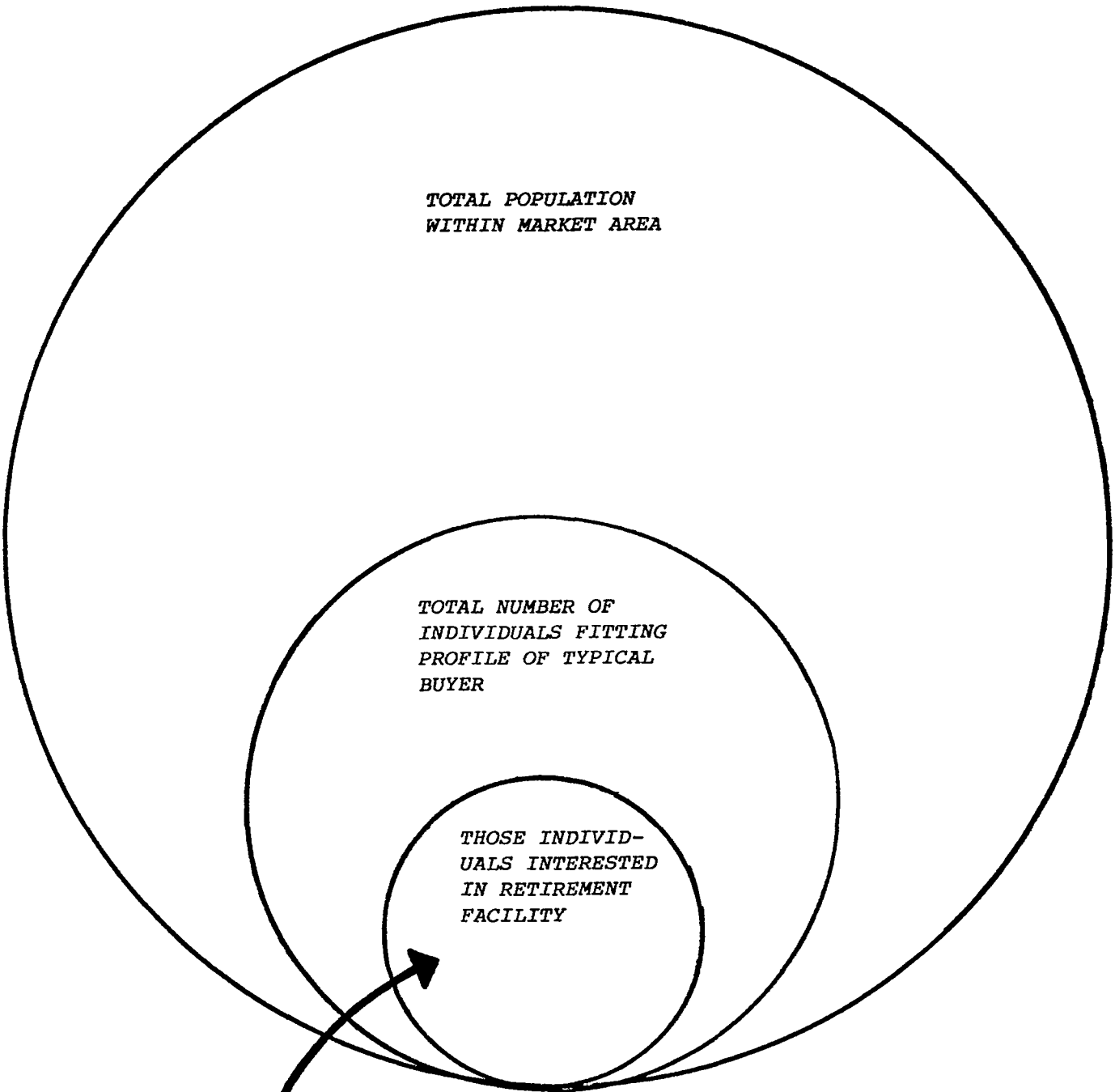
3. Failure to convert serious interest into action was a round number based on experience of those which had marketed similar developments in the past, as was an allowance for potential customers coming from outside the county to be closer to relatives, etc.

III. Market data provides a measure of potential scale of a market opportunity; the most important aspect of market analysis is forecasting the degree of market penetration or capture rate of remedial development.

A. To reduce aggregate market data to a merchandising hypothesis, the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

EXHIBIT 2a

RETIREMENT CENTER MARKET SITUATION ANALYSIS



- WHAT ARE THEIR NEEDS?
- WHEN DO THEY WISH TO MOVE?
- WHAT ARE THEY WILLING & ABLE TO PAY?
- HOW MANY ARE THERE?

EXHIBIT 2b
DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Survey percentage of persons financially qualified for $350 a month + $5,000 entry deposit (34%)		6,707
Survey percentage of these qualified who are seriously interested in proposed independent elderly unit (63.6%)		4,270
Household equivalent (+ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3%) from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4%) (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development(10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who state in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise 28.0%		
Garden 49.1		
77.1%		978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		780

1. Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

2. A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

3. A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its contribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

4. The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hours, or per hour of ice time.

5. Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

   a. The salesman or the management paying his travel costs
   b. The doctor or the clinic
   c. The district manager or the corporate real estate manager
   d. The ticket buyer or the promoter
   e. The bowling league, team business manager, travel agency tour guide

6. The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

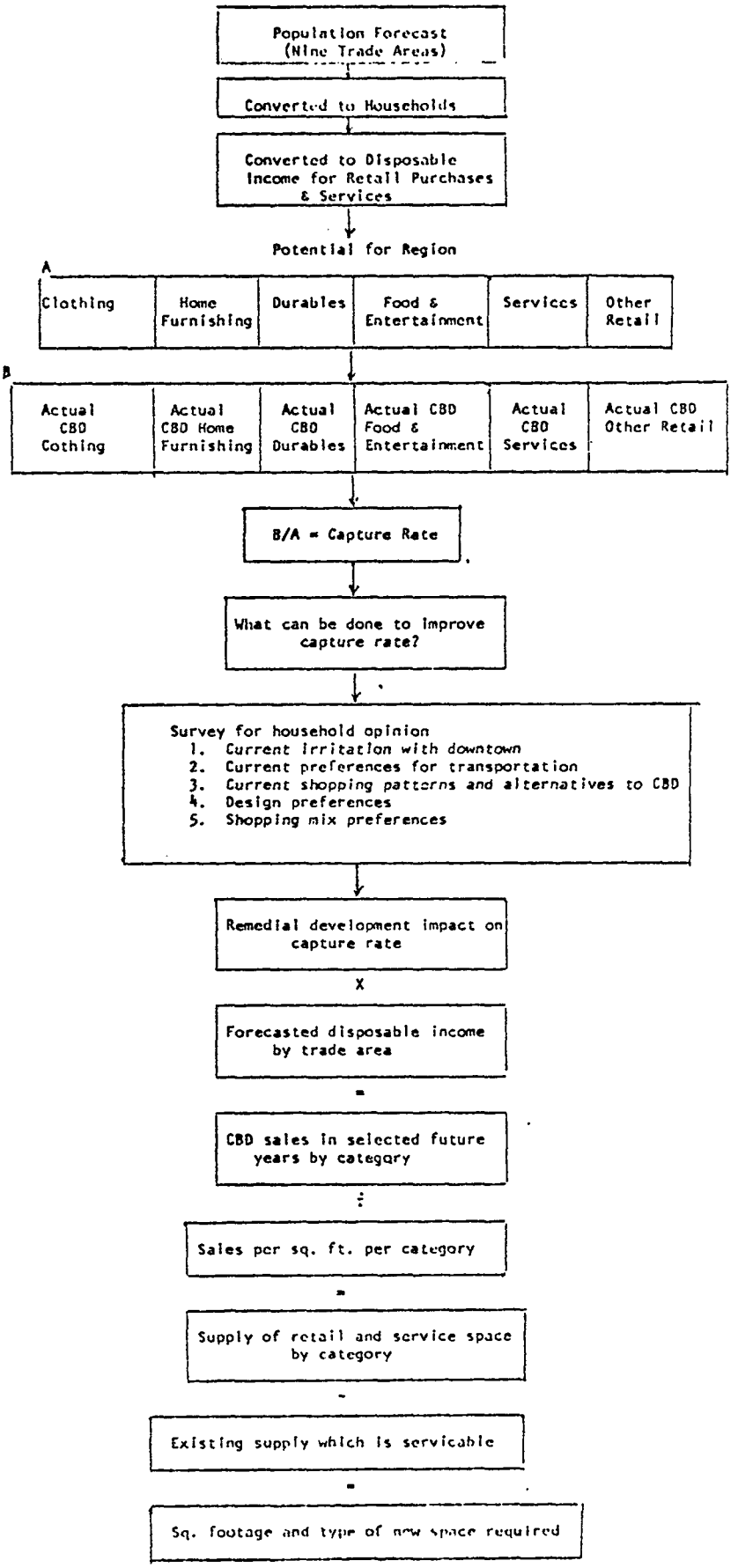
   a. A reverse directory or criss-cross telephone book
   b. Building directories of comparables
   c. Mailing lists of specialty publications
   d. License number spotting
   e. Guest registers
   f. Charge account mailing addresses

B. The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations. Unlike most consumer markets, the number of prospects is always low; think small!

   1. Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

   2. A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

Exhibit 3


Population Forecast (Nine Trade Areas)
Converted to Households
Converted to Disposable Income for Retail Purchases & Services
Potential for Region
A
Clothing
Home Furnishing
Durables
Food & Entertainment
Services
Other Retail
B
Actual CBD Cothing
Actual CBD Home Furnishing
Actual CBD Durables
Actual CBD Food & Entertainment
Actual CBD Services
Actual CBD Other Retail
B/A = Capture Rate
What can be done to improve capture rate?
Survey for household opinion
1. Current irritation with downtown
2. Current preferences for transportation
3. Current shopping patterns and alternatives to CBD
4. Design preferences
5. Shopping mix preferences
Remedial development impact on capture rate
X
Forecasted disposable income by trade area
=
CBD sales in selected future years by category
÷
Sales per sq. ft. per category
=
Supply of retail and service space by category
-
Existing supply which is servicable
=
Sq. footage and type of new space required

C. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

D. A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

3. Survey questions can discover latent political issues or provide a calm base for citizen input from those who rightfully dislike public hearings.

4. Survey questions and execution should not be done by planners or appraisers.

IV. A good example of modeling market data through segmentation and survey for renovation in a small community is a project by Gruen Gruen + Associates for Santa Maria, California. The study was begun in 1972. Project is operating as the Santa Maria Town Center with retail sales ahead of forecasts.

A. The Gruen's were able to convince the redevelopment agency to avoid any physical planning until a detailed analysis of the demand for alternative services that could attract people back to the downtown area was done. This EMAS study (economic market analysis study) outline is in Exhibit 3 had the following outputs:

1. First, a full analysis of economic data and retail data was utilized to generate information about the type of tenancies that could realistically be expected to penetrate downtown markets. (Table of Contents Exhibit 4)

Reprinted with permission of Dr. Claude Gruen & Nina Gruen of Gruen Gruen + Associates.

Exhibit 4

ECONOMIC AND MARKET ANALYSIS STUDY FOR DOWNTOWN SANTA MARIA

Prepared for: The City of Santa Maria
Redevelopment Agency

George S. Hobbs, Jr., Chairman
Elwin E. Mussell, Vice Chairman
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Prepared by:

GRUEN GRUEN + ASSOCIATES
Economic and Sociological Consultants

February, 1972

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2. With a lead on tenancies, the Gruen's worked with an architect to provide sketches of alternative architectural styles and concepts to show residence in survey to see what type of treatments might strike the most positive response. (See Exhibit 5)

3. The EMAS should then be able to indicate the kind of tenancies that could survive downtown, suggest their dollar sales potential, and indicate at a preliminary level a design scheme. (See Exhibit 6)

4. At the same time, back door financial studies are done from rents from capital budgets to discover what would be feasible for the private developer and what components may need to be subsidized by the public.

5. Appraisers use the EMAS and suggested tenant mix as the basis for their value estimate in the after condition.

6. Final stage was to write up a series of specifications or profiles on tenants, product design and components, and a cash flow analysis of the entire project from the viewpoint of the developer so he could see how much money there was to make tnd he would know that the city knew the financial aspects of the project. Developers were then asked to bid.

B. In the case of Santa Maria, three developers bid and the city picked Ernest Hahn to build the project. There was no demolition or site acquisition before the start of the EMAS. The entire project was done within a four year period. For the first six months of complete operation, June 1976 through December 1976, sales were approximately 15.6 million and is 70% leased. The Mall did 4.9 million, Sears - 6.9 million, and a local department store - 3.7 million.

C. Before looking at report organization and product, it is useful to observe:

1. Planners are poor market economists and merchandising survey analysts. Use specialist at the start.

2. Most appraisers are equally bad, but are reluctant to use team approach or to accept EMAS by somebody else as a legitimate set of assumptions for appraisal. Moreover, appraisal financial analysis must be on after tax cash flow in the redevelopment game, or he will miss the market completely. The financial analysis must contain extensive sensitivity analysis so that changing times due to a slow pace of such projects does not invalidate a point conclusion.

3. The leader of the team should be oriented to empirical observation, be he planner, lawyer or architect, rather than dedicated to purist appraisal or planning dogma and esthetics. The numbers crunch or nothing will be built that should have been built.

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Exhibit 5

Excerpt With Permission From
Economic & Market Analysis Study for Downtown Santa Maria

Prepared for City of Santa Maria Redevelopment Agency
by Gruen Gruen + Associates

Thus, the relationship between survey derived indications of satisfaction and current expenditure patterns were sufficiently significant to warrant the use of survey responses to suggest the change in relative preferences that would be caused by an appropriately developed new shopping agglomeration in downtown Santa Maria. However, the rapid deterioration of this relationship with distance suggested that it be used very cautiously in Trade Areas 5 through 9. Therefore, in addition to considering the percentage of respondents who made no complaints, we also analyzed into the following three categories all the comments that were made in response to the interview question concerning the reasons for not shopping in downtown Santa Maria:

1. Complaints about physical deficiencies of the existing downtown that we have assumed the redevelopment will alleviate. (Remediable complaints)

2. Complaints concerning limited selection such as requests for a department store or more stores. (Remediable complaints)

3. Complaints about prices, the lack of a supermarket or other contemporary situations that we do not think the redevelopment programs will alter. (Irremediable complaints)

Table 10 presents the percentage of respondents making remediable complaints. These complaints were used in conjunction with the information about the relationship between the indications of satisfaction discussed above to adjust the present indicators of the proportion of expenditures on various items in downtown Santa Maria (the S variables originally presented in Table 4) to reflect the increase in consumer preferences for downtown Santa Maria that would result from the completion of a sales optimizing redevelopment program. We did not think the evidence warranted using these percentages of remediable complaints (%RC) directly by adding them to the previously revealed preference percentages (S1970) to get a new percentage (S1975, 1980, 1985). Instead, we adopted the following rules to get the new estimates of this preference variable:

	Trade Areas 1 through 4	Trade Areas 5 through 9
For Clothing	% RC x .964 + S_{1970}	Use % RC instead of S_{1970}
For Home Furnishings	% RC x .861 + S_{1970}	Use % RC instead of S_{1970}
For Other Retail	% RC x .017 + S_{1970}	1% + S_{1970}

Exhibit 5

Table 10

Percentage of Respondents Making Complaints
About Remediable Features of the Present Downtown
(Complaints About Physical Problems
or Inadequate Selection of Stores and Goods)

Trade Area	% Remediable Complaints
1	62.7
2	53.8
3	65.8
4	53.3
5	19.3
6	22.2
7	14.3
8	20.0
9	10.2

Source: Gruen Gruen + Associates telephone survey

Computations following these rules permitted us to develop the estimates of maximum percentage effective preference or penetration presented below in Table 11. The insertion of these percentages in the sales estimate generating equations we have been using throughout permits us to make the forecasts of potential sales summarized in Table 12. The forecast sales potential of almost $42 million in 1975 would have downtown Santa Maria capturing 26.4% of the region's sales. By 1985 potential sales climb to almost $58 million in spite of the fact that our model has downtown Santa Maria's share of the region's sales dropping slightly to 25.4%.

Table 11

Estimated Maximum Effective Preference (S)
or Percentage Penetration Possible
After Appropriate Redevelopment

Trade Area	Clothing	Home Furnishings	Other Retail
1	76.2	74.5	19.9
2	74.3	69.1	10.4
3	76.3	72.2	12.9
4	56.9	53.0	8.6
5	19.3	19.3	2.1
6	22.2	22.2	1.5
7	14.3	14.3	1.6
8	20.0	20.0	2.8
9	10.2	10.2	1.5

Source: Gruen Gruen + Associates

Table 12

Estimated Downtown Santa Maria Future Sales Potential
(In Thousands of Dollars)

Trade Area	$ Available In Region 1975	Potential $ Sales in NDP 1975	$ Available In Region 1980	Potential $ Sales in NDP 1980	$ Available In Region 1985	Potential $ Sales in NDP 1985	% of Regional Sales to NDP
1	21,347	12,520	23,950	14,047	26,764	15,693	58.6
2	9,159	4,940	10,665	5,753	12,369	6,673	53.9
3	15,852	8,916	18,705	10,521	22,956	12,912	56.2
4	6,759	2,806	7,949	3,300	9,473	3,933	41.5
5	19,676	2,756	22,963	3,217	26,613	3,728	14.0
6	18,030	2,854	20,878	3,305	24,042	3,806	15.8
7	9,065	942	10,920	1,135	13,106	1,362	10.4
8.	25,355	3,729	31,043	4,566	38,198	5,618	14.7
9	33,589	2,527	42,857	3,224	53,925	4,057	7.5
Total	158,831	41,990	189,931	49,068	227,447	57,782	

Source: Gruen Gruen + Associates

Exhibit 5

Table 30

Proportion of Expenditures in Downtown

Trade Area	% Clothing	% Home Furnishings	% Other Retail	% Service
1	15.9	20.5	18.8	33.3
2	22.6	22.8	9.5	35.9
3	13.1	15.5	11.8	28.0
4	5.7	7.0	7.7	5.3
5	5.4	4.5	1.1	4.0
6	2.9	0.9	0.5	1.8
7	2.5	1.5	0.6	0.6
8	6.6	5.0	1.8	3.5
9	2.0	0.6	0.5	0.6

Source: Gruen Gruen + Associates telephone survey

Table 31

Banking, Repair, Beauty Parlor/Barber Shop and Similar Services Obtained Downtown By Consumers of Differing Incomes

Household Income	% Generally	% Occasionally	% Seldom
Under $7,000	43.7	22.9	16.0
$7,000-10,000	43.3	20.0	36.7
$10,000-15,000	60.7	12.5	26.8
Over $15,000	61.5	21.2	17.3

Source: Gruen Gruen + Associates downtown survey

Figures 2-5 are not legible

FOR THE RESPONDENTS ONLY

37. If a new and attractive apartment complex were to be bui in Downtown Santa Maria, would you be very likely___1, likely___2, or unlikely___3 to consider this location?

38. If a one-bedroom unit were priced from $150-175 and a two bedroom unit from $175-250, would you be very likely___1 likely___2, or unlikely___3 to consider this location?

39. If a new residential hotel were to be built in Downtown Santa Maria, would you be very likely___1, likely___2, or unlikely___3 to consider this location?

We are going to show you four sets of pictures of differing of shopping centers. We would like to get your opinion of e

Picture No. 1

40. Which of the two pictures do you like the best?
A___1 B___2

a. Why?

INTERVIEWER: If respondent has not mentioned the width of the walkway ask:

41. Did the different widths of the walkway affect your choice in any way? Yes___1 No___2

a. If yes, how?

Picture No. 2

42. Which of the three pictures do you like the best?
A___1 B___2 C___3

a. Why?

43. Which of the three pictures do you like the least?
A___1 B___2 C___3

a. Why?

INTERVIEWER: If respondent has not mentioned the openness or closeness of the shopping center ask:

44. Picture A presents an open mall center, B a partly enclosed center and Picture C a completely closed mall. Did this factor influence your choice in any way? Yes___1 No___2

a. How?

Picture No. 3

45. Which of the two pictures do you like the best?
A___1 B___2

a. Why?

46. If Picture A were to contain both apartments and stores while Picture B were to contain only stores, which would you prefer? A___1 B___2

a. Why?

Picture No. 4

47. Which of the three pictures do you like the best?
A___1 B___2 C___3

a. Why?

48. Which of the three pictures do you like the least?
A___1 B___2 C___3

a. Why?

To assist us in better planning for all residents, we would appreciate your answering a few biographical questions.

INTERVIEWER: Fill in sex and race

49. Sex: Male___1 Female___2

50. Race/Ethnic: White___1, Black___2, Spanish Surname___3, Other___4

D. Consider the elderly housing market chart in Exhibit 2a,b. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and overwhelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

E. The ratio sought by the survey follow a precise reduction pattern:

1. How many will consider moving?
2. Of those, how many would consider staying in town?
3. Of those, how many would consider an apartment?
4. Of those remaining who would consider an apartment in town, how many would consider a specific location?
5. Notice the reduction process defines a subset of the elderly market - a micro-market.

F. Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

1. Confine vocabulary to basic 1000 words; avoid lingo.

2. Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 6)

3. Always test the quesionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

4. Questions may take different formats. (See Exhibit 6)

G. The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

1. Probe for dissatisfaction with existing space or life style.
2. Probe for anxieties about uncontrollable trends and events.
3. Probe for desired social structure ties, real or imagined.

H. The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

1. The telephone interview may be less expensive per question and fastest but is limited in the type and amount of questions which can be asked. Rifled to a project known to the analyst,

Simple Survey Formats for Classification of Subsets & Measurement of Preference

I'd like to ask you a few questions about the place you lived just before you moved into this apartment.

5. About how many years did you live in your former home?

__ less than 1 year
__ 1 year - L.T. 2 years
__ 2 to L.T. 5 years
__ 5 to L.T. 10 years
__ 10 to 15 years
__ more than 15 years,_____

6. Did you live in a house or in an apartment building just before your move here?

__ house
__ apartment
__ other, _____

About how many apartments, including yours were there in the building?

__ L.T. 4
__ 4 to 8
__ 9 to 16
__ 17 to 24
__ 24 to 32
__ more than 32

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Did you own or rent the house?

__ own
__ rent

Did you rent a room, a flat or floor, or entire house?

__ room __ flat/floor __ entire

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Now I'd like to ask you some general questions about your decision to move to this apartment.

7. How did you first find out about them?

__ family
__ friends
__ church
__ Housing Authority
__ newspaper
__ radio
__ television
__ other, _____

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself. (See Exhibit 7)

2. A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

3. Direct mail questionnaires may cost from 5¢ to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

4. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

   . Would you be at all uneasy if people of a different religion or race were to move in next to your home?

   . As you see it, what are some of the good points and the bad points of the present Governor of this state?

5. Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked, the response should permit some degree of obliqueness by the respondent.

   . The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.

   . If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

6. Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:

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EXHIBIT 7

COPY

WE WOULD APPRECIATE YOUR COMMENTS ABOUT APARTMENT LIVING OR ABOUT THIS SURVEY.

YOUR COMMENTS: I have considered buying a house so that I could have my own washer and dryer. I really dislike running down to the basement to do my laundry and sometimes finding the washer & dryer being used. Also I dislike having to put coins in the machines. I understand that in South Bend, Indiana, apartments have their own washers and dryers in each unit. I realize that moving to a house would bring maintenance & lawn care and snow removal concerns which I do not want. So, I'm still living in an apartment. I would move in an instant if an apartment complex would provide me with a washer & dryer.

THANK YOU FOR YOUR HELP!

Please return the survey in the postage-paid envelope as soon as possible.

FEASIBILITY RESEARCH GROUP
210 Michigan Theater Building
Ann Arbor, Michigan 48108

FEASIBILITY RESEARCH GROUP

Specialists in Consumer Market Research for Decision Makers

JOHN A. RASMUSSEN
Research Coordinator

OCTOBER, 1976

SUBJECT: LANSING APARTMENT RESIDENT SURVEY

DEAR APARTMENT RESIDENT:

YOU CAN HELP PLAN NEW APARTMENTS. YOUR OPINIONS ABOUT YOUR OWN APARTMENT AS WELL AS OTHER APARTMENTS YOU MAY HAVE LOOKED AT OR LIVED IN, CAN HELP DECISION-MAKERS IDENTIFY WHAT APARTMENT RESIDENTS PREFER. THIS WILL HELP THEM IN PLANNING FUTURE APARTMENTS ACCORDING TO THE RESIDENTS' NEEDS AND PREFERENCES.

BY FILLING OUT THE ENCLOSED QUESTIONNAIRE AND RETURNING IT IN THE POSTAGE PAID ENVELOPE PROVIDED, YOU CAN HELP IN MAKING THESE DECISIONS. THIS SURVEY IS BEING CONDUCTED BY FEASIBILITY RESEARCH GROUP, AN INDEPENDENT RESEARCH FIRM.

YOUR REPLY TO THE SURVEY IS CONFIDENTIAL. THE CODE NUMBER IS USED ONLY TO HELP US REMIND PEOPLE WHO MAY BE SLOW TO RESPOND. PLEASE RETURN YOUR SURVEY IN THE POSTAGE PAID RETURN ENVELOPE AS SOON AS POSSIBLE.

VERY TRULY YOURS,

John A. Rasmussen

JOHN A. RASMUSSEN
RESEARCH COORDINATOR

YOUR OPINION COUNTS

210 MICHIGAN THEATER BUILDING • ANN ARBOR, MICHIGAN 48108 • 313/994-4454

16A. WHO LIVES WITH YOU IN YOUR PRESENT APARTMENT? (Check one)

(1) ____ My spouse
(2) ____ My spouse and children
(3) X I do not share my apartment with anyone.
(4) ____ I share my apartment with roommates
____ Other (Please explain _____)

____ 16B. IF YOU SHARE YOUR APARTMENT WITH ROOMMATES, HOW MANY SHARE YOUR APARTMENT? (INCLUDING YOURSELF)

N/A

(1) ____ Two
(2) ____ Three
(3) ____ Four

____ 16C. IF YOU HAVE CHILDREN, PLEASE INDICATE HOW MANY LIVE IN YOUR HOUSEHOLD AND HOW OLD THEY ARE.
How many children? N/A Their ages? _____

____ 17. WHICH OF THE FOLLOWING AGE GROUPS DO YOU AND YOUR SPOUSE OR ROOMMATE(S) FALL INTO?

(1) ____ 18 - 24 (3) ____ 35 - 44 (5) ____ 55 - 64
(2) X 25 - 34 (4) ____ 45 - 54 (6) ____ 65 or over

____ 18. ARE YOU: (1) ____ Male (2) X Female

IN ORDER TO ASSIST FUTURE DEVELOPERS TO MEET THE NEEDS OF INDIVIDUALS LIKE YOU, IT IS IMPORTANT TO UNDERSTAND WHICH EMPLOYERS IN THE AREA ARE ATTRACTING NEW EMPLOYEES. WITH THIS INFORMATION, FUTURE HOUSING NEEDS CAN BE ANTICIPATED AND MET.

____ 19A. HOW MANY INDIVIDUALS IN YOUR HOUSEHOLD ARE NOW EMPLOYED? 1

____ 19B. WHERE DO PERSONS IN YOUR HOUSEHOLD WORK?

Name of Company	Location (City, Street)	Year Employment Began
(Law Firm)	Lansing, MI 48933	1966

____ 20. WHICH OF THE FOLLOWING CORRESPONDS WITH YOUR TOTAL HOUSEHOLD INCOME? (IF YOU SHARE WITH ROOMMATES, DO NOT INCLUDE THEIR INCOME.) [Check one]

(1) ____ Under $6,000 per year (4) X $12,000 to $14,999 per year
(2) ____ $6,000 to $8,999 per year (5) ____ $15,000 to $19,999 per year
(3) ____ $9,000 to $11,999 per year (6) ____ $20,000 or more per year

THANK YOU FOR YOUR HELP!

PLEASE RETURN YOUR SURVEY RIGHT AWAY IN THE POSTAGE PAID ENVELOPE.

____ 1. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR PREVIOUS RESIDENCE? (Check one)

(1) X Apartment 0157
(2) ____ Single family house which I/we rented
(3) ____ Single family house which I/we owned
(4) ____ Lived with parents
____ Other (Please explain _____)

____ 2A. WHERE WAS YOUR PREVIOUS RESIDENCE LOCATED? (Check one)

(1) ____ Lansing
(2) X East Lansing
(3) ____ Grand Ledge
(4) ____ DeWitt
(5) ____ Outside the state of Michigan
____ Other (Where? _____)

____ 2B. WHAT WAS THE NAME OF THE STREET WHERE YOUR PREVIOUS RESIDENCE WAS LOCATED? (IF YOUR PREVIOUS RESIDENCE WAS LOCATED IN AN APARTMENT DEVELOPMENT, WHAT IS THE NAME OF THE DEVELOPMENT?)

Street Name West Saginaw Apartment Development Name Horizon House

____ 3. FOR HOW MANY YEARS DID YOU LIVE AT YOUR PREVIOUS RESIDENCE? 4 Years

____ 4. WHAT WERE YOUR MAJOR REASONS FOR DECIDING TO MOVE FROM YOUR PREVIOUS RESIDENCE?

From one-bedroom to two-bedroom
From no dishwasher to a dishwasher
For a change after 4 years

____ 5. BEFORE YOU DECIDED TO MOVE TO THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE, WHICH OTHER DEVELOPMENTS DID YOU CONSIDER? WHAT WERE THEIR NAMES?

Names of Other Apartment Developments Considered

Others considered from outside appearance and reputation only — also location — did not seriously look at any other

____ 6. WHY DID YOU DECIDE TO LIVE HERE RATHER THAN IN ONE OF THE OTHER DEVELOPMENTS YOU CONSIDERED? (Looked at complex 3 times before decided to move) Decided to live here because knew owners; liked apartment; and ready for a change - especially to a 2-bedroom

____ 7A. IF THERE HAD BEEN NO VACANCY AT THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE, WHICH OF THE OTHERS WOULD YOU HAVE SELECTED AS YOUR SECOND CHOICE?

N/A

____ 7B. WHY WOULD YOU HAVE CONSIDERED THIS AS YOUR SECOND CHOICE OVER THE OTHERS?

N/A

LANSING AREA APARTMENT RESIDENTS

WHETHER YOU ARE

* VERY SATISFIED
* NEUTRAL OR
* VERY DISSATISFIED

WITH YOUR APARTMENT.

HERE IS YOUR CHANCE TO BE HEARD!

NOTE: TO BE COUNTED, YOUR SURVEY MUST BE RECIEVED BEFORE THE TABULATION DATE.

WHO RECEIVES A SURVEY?

* SURVEY SAMPLES ARE SELECTED BY A SCIENTIFIC RANDOM NUMBER PROCESS. NOT EVERY HOUSEHOLD WILL BE SURVEYED. THEREFORE, IT IS IMPORTANT THAT SELECTED HOUSEHOLDS DO RESPOND.

IF I DON'T REPLY, WILL YOU SURVEY SOMEONE ELSE?

* NO. ONCE YOUR HOUSEHOLD IS SELECTED FOR THE SAMPLE, WE CANNOT SUBSTITUTE ANOTHER APARTMENT.

WHAT IF I DON'T WANT TO ANSWER SOME OF THE QUESTIONS?

* IF YOU COME TO ANY QUESTIONS YOU DO NOT WISH TO ANSWER, JUST SKIP THAT QUESTION AND GO ON TO THE NEXT ONE.

WILL MY APARTMENT MANAGER SEE MY SURVEY?

* NO. THIS IS AN INDEPENDENT SURVEY OF MANY APARTMENT COMMUNITIES. ONLY THE COMBINED RESPONSES OF ALL APARTMENT RESIDENTS WILL BE TABULATED.

8. WHAT MONTH AND YEAR DID YOU MOVE INTO THE APARTMENT DEVELOPMENT IN WHICH YOU NOW LIVE? Apr. Month 75 Year

9. WHY DID YOU SELECT THE PARTICULAR APARTMENT UNIT YOU LIVE IN?
2-bedroom unit.
Close to community building.
Gold carpeting and gold appliances

10. HOW MANY BEDROOMS DO YOU HAVE IN YOUR PRESENT APARTMENT? 2

11. HOW MANY BATHROOMS DO YOU HAVE IN YOUR PRESENT APARTMENT? 1

12A. HOW MUCH DO YOU PAY MONTHLY FOR RENT FOR YOUR APARTMENT? $ 225

12B. PLEASE CHECK THOSE UTILITIES THAT ARE INCLUDED IN YOUR MONTHLY RENTAL PAYMENT.

(1) X Water
(2) X Heat
(3) ___ Electricity

12C. PLEASE CHECK THOSE ITEMS FOR WHICH YOU PAY EXTRA IN YOUR MONTHLY RENT?

	ITEM	HOW MUCH EXTRA PER MONTH?
(1) ___	Carport	$ N/A (no carports)
(2) ___	Pet	$ N/A (no pets allowed)
X	Other (What? top floor)	$ unsure

13. PLEASE RATE YOUR PRESENT RESIDENCE IN THE FOLLOWING AREAS BY PLACING A CHECK (√) IN THE SPACE BELOW THE PHRASE THAT BEST DESCRIBES YOUR FEELINGS ABOUT YOUR RESIDENCE.

	(1) VERY SATISFIED	(2) SOMEWHAT SATISFIED	(3) NEUTRAL	(4) SOMEWHAT DISSATISFIED	(5) VERY DISSATISFIED
A. RENTAL MANAGEMENT SERVICE	(√)	( )	( )	( )	( )
COMMENTS					
B. MAINTENANCE SERVICE	(√)	( )	( )	( )	( )
COMMENTS	Not 100% pleased at all times but cannot say only somewhat satisfied.				
C. GENERAL ATTITUDE OF MANAGEMENT	(√)	( )	( )	( )	( )
COMMENTS					
D. RENT LEVEL	(√)	( )	( )	( )	( )
COMMENTS	Naturally I would be more satisfied if it were lower				

13. CONTINUED PLEASE RATE YOUR PRESENT RESIDENCE IN THE FOLLOWING AREAS BY PLACING A CHECK (√) IN THE SPACE BELOW THE PHRASE THAT BEST DESCRIBES YOUR FEELINGS ABOUT YOUR RESIDENCE.

	(1) VERY SATISFIED	(2) SOMEWHAT SATISFIED	(3) NEUTRAL	(4) SOMEWHAT DISSATISFIED	(5) VERY DISSATISFIED
E. GENERAL APPEARANCE OF DEVELOPMENT	(√)	( )	( )	( )	( )
COMMENTS	Good landscaping and good general upkeep				
F. SOUNDPROOFING BETWEEN UNITS	( )	(√)	( )	( )	( )
Soundproofing could be improved upon.					
COMMENTS	I would only be satisfied when I could not hear (muted) voices + garbage disposals + showers/ flushings, etc.				
G. APPLIANCES AND FIXTURES	( )	(√)	( )	( )	( )
Strong desire →					
COMMENTS	I would like an apt. size washer + dryer in the unit + would be willing to pay extra for that convenience.				
H. ADEQUACY OF RECREATIONAL FACILITIES	(√)	( )	( )	( )	( )
COMMENTS					

ABOUT YOUR HOUSEHOLD

14. HOW MANY PASSENGER VEHICLES (CARS, TRUCKS, VANS, ETC.) ARE OWNED BY MEMBERS OF YOUR HOUSEHOLD? (Check one)

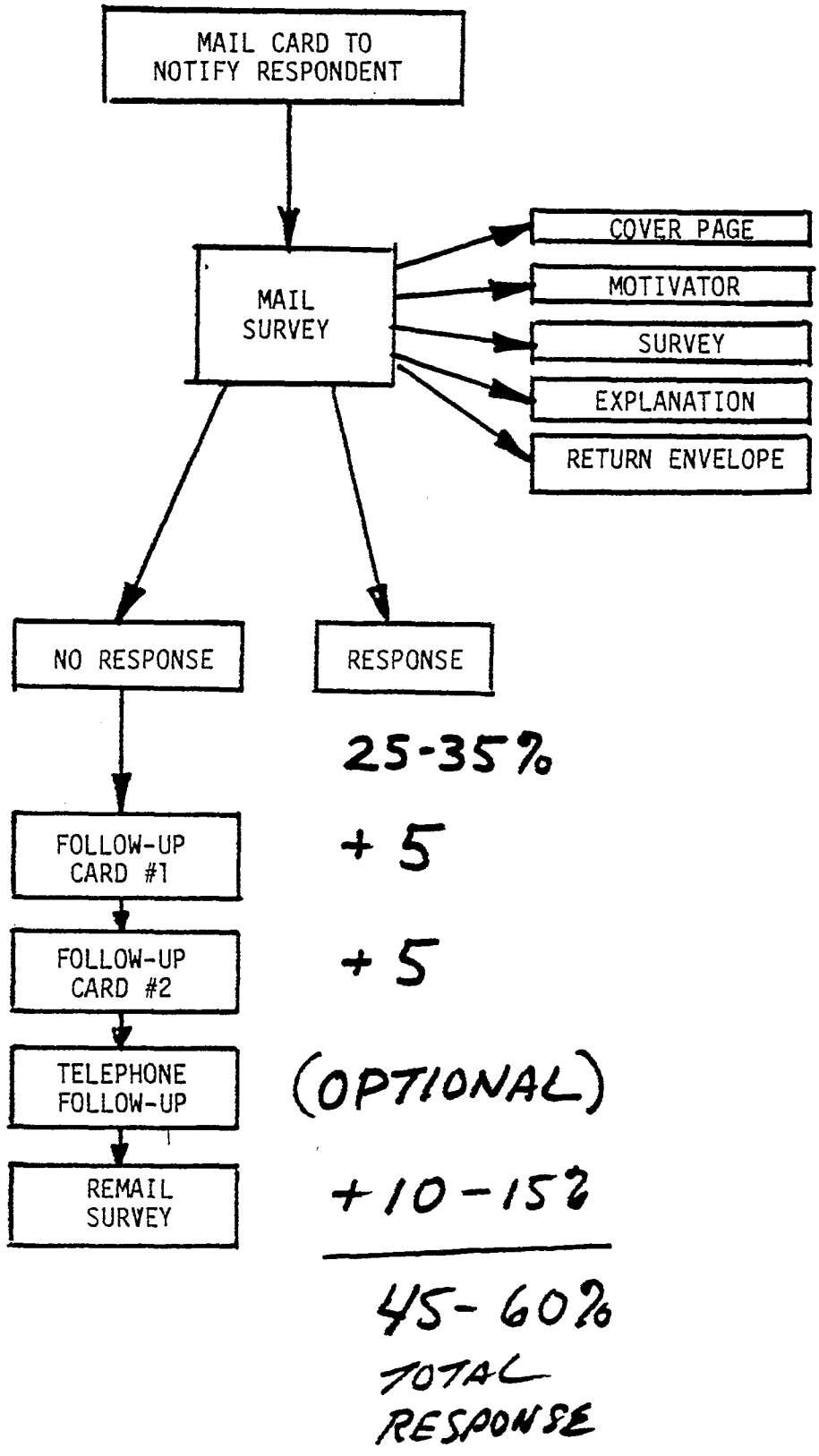
(1) ___ None
(2) X One
(3) ___ Two
(4) ___ Three

15. WHAT IS YOUR MARITAL STATUS? (Check one)

(1) X Single
(2) ___ Married
(3) ___ Widowed
(4) ___ Divorced or separated
___ Other

Exhibit 8

SURVEY RESEARCH PROCESS--MAIL SURVEY



V. Introduction to Prospect Survey

While a survey analysis appears to be a group of questions, in fact the real product is a table of data unavailable from any other source. The analyst should begin with a written mock-up of the final report logic and the specific tables which lead to a conclusion.

A. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankruptcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

B. A survey of users, is designed to reveal or to identify the competitive differential attributes which whould provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

C. With a preliminary hypothesis as to the prospect, survey questions may be inteded to provide:

1. Key ratios necessary for segmentation of market data already broken down by trade area, demographics, employment, etc.

2. Key indicators of anxieties or preferences or tradeoffs of the prospect.

3. Key indicators of the anxieties or preferences of non-prospects who feel a vested interest in the impact or have a significant part in the purchase process. (For example - the members of the Public Housing Authority have a different set of needs than the ultimate user, but the product is "bought" by the Board).

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FEASIBILITY RESEARCH GROUP

CONSUMER MARKET RESEARCH FOR DECISION MAKERS

JOHN A. RASMUSSEN
Research Coordinator

June 10, 1977

SUBJECT: CONSUMER HOUSING RESEARCH

Dear Traver Villa Townhouse Owner:

By completing the attached questionnaire you can help Ann Arbor builders determine the type of housing to build. As an owner of a condominium home your opinions and preferences will help in selecting the design and features for proposed new housing units.

This research is being conducted by an independent firm, Feasibility Research Group, Ltd. If you come to any questions you don't wish to answer please skip that question and go on to the next one.

If you are not at home an interviewer will leave the survey for you to fill out. A postage-paid envelope is enclosed or, if you prefer, the interviewer will call back to pick up the questionnaire.

Please fill out your survey as soon as possible. Thank you for your cooperation.

Your opinion does count.

John A. Rasmussen
Research Coordinator
208 Michigan Theater Building
Ann Arbor, Michigan 48104
Telephone: 994-4454

FEASIBILITY RESEARCH GROUP

CONSUMER SURVEY

(ANN ARBOR CONDOMINIUM MARKET)

1. DID YOU PURCHASE THIS RESIDENCE FROM A PREVIOUS OWNER?

   (1) ____ Yes

   (2) ____ No, I/we purchased it new

   (3) ____ I/we rent this residence

2. WHEN DID YOU PURCHASE THIS RESIDENCE? MONTH_____ YEAR 19__ __

3A. WHERE WAS YOUR PREVIOUS RESIDENCE LOCATED?

   (1) ____Outside the state of Michigan

   (2) ____Outside Ann Arbor but within Michigan

   (3) ____Within the Ann Arbor area

3B. IF YOUR PREVIOUS RESIDENCE WAS LOCATED WITHIN THE ANN ARBOR AREA PLEASE INDICATE THE ADDRESS AND/OR NEIGHBORHOOD OR DEVELOPMENT WHERE IT WAS LOCATED.

_____

4. DID YOU OWN OR RENT YOUR PREVIOUS RESIDENCE? (1) ____Own (2) ____ Rent

5. WHAT WAS THE NATURE OF YOUR PREVIOUS RESIDENCE?

   (1) ____Single family house

   (2) ____Condominium

   (3) ____Apartment

   (4) ____ Townhouse

   ____ Other (Please explain)

   _____

   _____

6. WHAT PROMPTED YOU TO MOVE FROM YOUR PREVIOUS RESIDENCE?

_____

_____

7A. WHAT ALTERNATIVE TYPES OF HOUSING DID YOU CONSIDER BEFORE DECIDING TO PURCHASE A CONDOMINIUM?

   (1) ____ Single family house

   (2) ____ Apartment

   (3) ____ Townhouse

   ____ Other (Please explain)

   _____

   _____

7B. WHY DID YOU DECIDE TO PURCHASE A CONDOMINIUM RATHER THAN ONE OF THE OTHER HOUSING ALTERNATIVES YOU CONSIDERED?

_____

_____

8A. WHAT OTHER CONDOMINIUM DEVELOPMENTS DID YOU LOOK AT BEFORE DECIDING TO PURCHASE A CONDOMINIUM AT THIS DEVELOPMENT ?

_____

8B. OF THOSE CONDOMINIUM DEVELOPMENTS THAT YOU LOOKED AT, WHICH ONES DID YOU SERIOUSLY CONSIDER?

_____

8C. OF THOSE CONDOMINIUM DEVELOPMENTS THAT YOU SERIOUSLY CONSIDERED, WHY DID YOU CHOOSE TO BUY IN THIS DEVELOPMENT?

_____

_____

_____

9. WHY DID YOU PURCHASE THIS PARTICULAR UNIT WITHIN THIS DEVELOPMENT OVER OTHER UNITS THAT WERE AVAILABLE?

_____

_____

ABOUT YOUR PRESENT RESIDENCE

10. WHAT TYPE OF UNIT DID YOU PURCHASE?

(1) ____ One-story ranch style

(2) ____ Two-story

(3) ____ Split-level (bi-level, tri-level)

____ Other (Please explain)

_____

_____

11A. HOW MANY BEDROOMS DOES YOUR RESIDENCE HAVE?

(1) ____One

(2) ____Two

(3) ____ Three

(4) ____ Four

11B. WHERE ARE THESE BEDROOMS LOCATED?

(1) ____ All bedrooms on first floor

(2) ____ All bedrooms on second floor

(3) ____ Master bedroom on first floor and other bedroom(s) on upper floor

(4) ____ Master bedroom on upper floor and other bedroom(s) on lower floor

12. HOW MANY BATHS DOES YOUR RESIDENCE HAVE?

(1) ____ One
(2) ____ One-and-a -half
(2) ____ Two
(4) ____ Two-and-a -half
____ Other (Please explain)
_____
_____

13. WHAT TYPE OF BASEMENT DOES YOU RESIDENCE HAVE?

(1) ____Full basement (2) ____Partial basement (3) ____No basement

14. WHAT TYPE OF AUTOMOBILE STORAGE DOES YOU PRESENT RESIDENCE PROVIDE?

(1) ____ One car attached garage
(2) ____ Two car attached garage
(3) ____ One car detached garage
(4) ____ Two car detached garage
(5) ____One car carport
(6) ____Two car carport
(7) ____Open parking

15. DOES YOUR RESIDENCE HAVE A FIREPLACE? (1) ____Yes (2) ____ No

16. WHAT TYPE OF KITCHEN CABINETS DOES YOUR RESIDENCE HAVE?

(1) ____Wood cabinets with formica tops
(2) ____Formica finished cabinets with formica tops
____Other (Please explain)_____

WHAT WOULD YOU HAVE PREFERRED?

17. WHAT TYPE OF UNIT WOULD YOU HAVE PREFERRED?

(1) ____I/we like our present design
(2) ____Would have preferred a one-story unit
(3) ____Would have preferred a two-story unit
(4) ____Would have preferred a split-level unit
____Would have preferred some other design (Please explain)_____
_____

18A. HOW MANY BEDROOMS WOULD YOU HAVE PREFERRED?

(1) ____ I/we like the number we presently have
(2) ____ Would have preferred one bedroom
(3) ____ Would have preferred two bedrooms
(4) ____ Would have preferred three bedrooms
(5) ____ Would have preferred four bedrooms

18B. WHERE WOULD YOU HAVE PREFERRED THAT THE BEDROOMS BE LOCATED?

(1) ____I/we like our present arrangement

(2) ____Would have preferred all bedrooms on first floor

(3) ____Would have preferred all bedrooms on the second floor

(4) ____Would have preferred Master bedroom on first floor and other bedroom(s) on the upper floor

(5) ____Would have preferred Master bedroom on upper floor and other bedroom(s) on the lower floor

19. WHAT NUMBER OF BATHROOMS WOULD YOU HAVE PREFERRED?

(1) ____I/we like the present number we have

(2) ____Would have preferred one bath

(3) ____Would have preferred one-and-a-half baths

(4) ____Would have preferred two baths

(5) ____Would have preferred two-and-a-half baths

____Other (Please explain)_____

20. WHAT TYPE OF BASEMENT WOULD YOU HAVE PREFERRED?

(1) ____I/we like our present arrangement

(2) ____Would have preferred a full basement

(3) ____Would have preferred a partial basement

(4) ____Would have preferred no basement(provided dwelling has adaquate storage)

(5) ____Makes no difference

21. WHAT TYPE OF AUTOMOBILE STORAGE WOULD YOU HAVE PREFERRED?

(1) ____I/we like our present arrangement

(2) ____Would have preferred a one car attached garage

(3) ____Would have preferred a two car attached garage

(4) ____Would have preferred a one car detached garage

(5) ____Would have preferred a two car detached garage

(6) ____Would have preferred a one car carport

(7) ____Would have preferred a two car carport

(8) ____Would have preferred open parking at a lower cost

22. WOULD YOU HAVE PREFERRED A FIREPLACE?

(1) ____I/we have a fireplace

(2) ____Would have preferred a wood burning brick fireplace at $2,500 extra cost

(3) ____Would have preferred a wood burning metal fireplace at $1,500 extra cost

(4) ____Would have preferred gas log fireplace at $1,000 extra cost

(5) ____Would have preferred no fireplace at a lower cost

23. WHAT TYPE OF KITCHEN CABINETS WOULD YOU HAVE PREFERRED?

(1) ____I/we like our present cabinets

(2) ____Would have preferred wood cabinets with formica tops

(3) ____Would have preferred formica finish cabinets with formica tops

(4) ____ Makes no difference

ABOUT YOUR HOUSEHOLD

24. HOW MANY VEHICLES (CARS, TRUCKS, VANS, ETC.) ARE OWNED BY MEMBERS OF YOUR HOUSEHOLD?

_____

25. ARE YOU:

(1) ____Married (3)____ Widowed (5) ____Other

(2) ____Single (4)____ Divorced or separated

26. ARE YOU: (1) ____Female (2) ____Male

27. WHAT AGE GROUP DO YOU AND SPOUSE OR ROOMATE(S) FALL INTO?

(1) ____ 18 - 24 (3) ____35 - 44 (5) ____55 - 64

(2) ____ 25 - 34 (4) ____45 - 54 (6) ____65 or over

28. HOW MANY CHILDREN ARE THERE IN YOUR HOUSEHOLD? WHAT ARE THEIR AGES?

_____

29. WHICH OF THE FOLLOWING CORRESPONDS WITH YOUR TOTAL ANNUAL HOUSEHOLD INCOME?

(1) ____ Under $10,000 (4) ____ $20,000 to $24,999

(2) ____ $10,000 to $14,999 (5) ____ $25,000 to $29,999

(3) ____ $15,000 to $19,999 (6) ____ $30,000 or more

30. HOW MANY INDIVIDUALS WITHIN YOUR HOUSEHOLD ARE EMPLOYED OUTSIDE THE HOME?

_____

31. WHAT WAS THE PURCHASE PRICE OF YOUR PRESENT RESIDENCE? $ __ __ , __ __ __

THANK YOU FOR YOUR HELP!

FEASIBILITY RESEARCH GROUP LTD.
208 MICHIGAN THEATRE BUILDING
ANN ARBOR, MICHIGAN 48104

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FEASIBILITY RESEARCH GROUP

MARKET ANALYSIS FOR PROPOSED TOWNHOUSES

PREPARED BY

JOHN RASMUSSEN, *RESEARCH COORDINATOR*

FEASIBILITY RESEARCH GROUP
210 Michigan Theater Building
Ann Arbor, Michigan 48108

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BUYER PROFILES

CONDOMINIUM BUYER PROFILES ARE DEVELOPED THROUGH DIRECT SURVEYS OF THE CONSUMER USING PERSONAL INTERVIEWS, TELEPHONE INTERVIEWS OR MAIL QUESTIONNAIRES. THE FOLLOWING QUESTIONS ARE FROM A RECENT BUYER SURVEY.

ABOUT YOUR HOUSEHOLD

24. HOW MANY VEHICLES (CARS, TRUCKS, VANS, ETC.) ARE OWNED BY MEMBERS OF YOUR HOUSEHOLD?

    _____

25. ARE YOU:

    (1) ___Married (3)___ Widowed (5) ___Other

    (2) ___Single (4)___ Divorced or separated

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27. WHAT AGE GROUP DO YOU AND SPOUSE OR ROOMATE(S) FALL INTO?

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    (2) ___ 25 - 34 (4) ___45 - 54 (6) ___65 or over

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    _____

29. WHICH OF THE FOLLOWING CORRESPONDS WITH YOUR TOTAL ANNUAL HOUSEHOLD INCOME?

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    (2) ___ $10,000 to $14,999 (5) ___ $25,000 to $29,999

    (3) ___ $15,000 to $19,999 (6) ___ $30,000 or more

30. HOW MANY INDIVIDUALS WITHIN YOUR HOUSEHOLD ARE EMPLOYED OUTSIDE THE HOME?

    _____

31. WHAT WAS THE PURCHASE PRICE OF YOUR PRESENT RESIDENCE? $ __ __ , __ __ __

THANK YOU FOR YOUR HELP!

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HOUSING MARKET SEGMENTS

Housing markets can be segmented by resident life cycles. Each segment typically has different housing needs in terms of type of housing, number of bedrooms and floor plan.

	PROFILE	CHILDREN	TYPICAL AGE
1.	SINGLES, DIVORCED	without children	
2.	YOUNG MARRIEDS	without children	25 - 34
3.	FULL NESTER I	oldest child under 11 years	35 - 44
4.	FULL NESTER II	oldest child 11 to 17 years	45 - 54
5.	EMPTY NESTER	no children under 18	55 - 64
6.	RETIREES		65 - 74
7.	WIDOWS, WIDOWERS AND SINGLES (never married)		75 and up

The existing Lake Villa Buyer Profile mix is as follows:

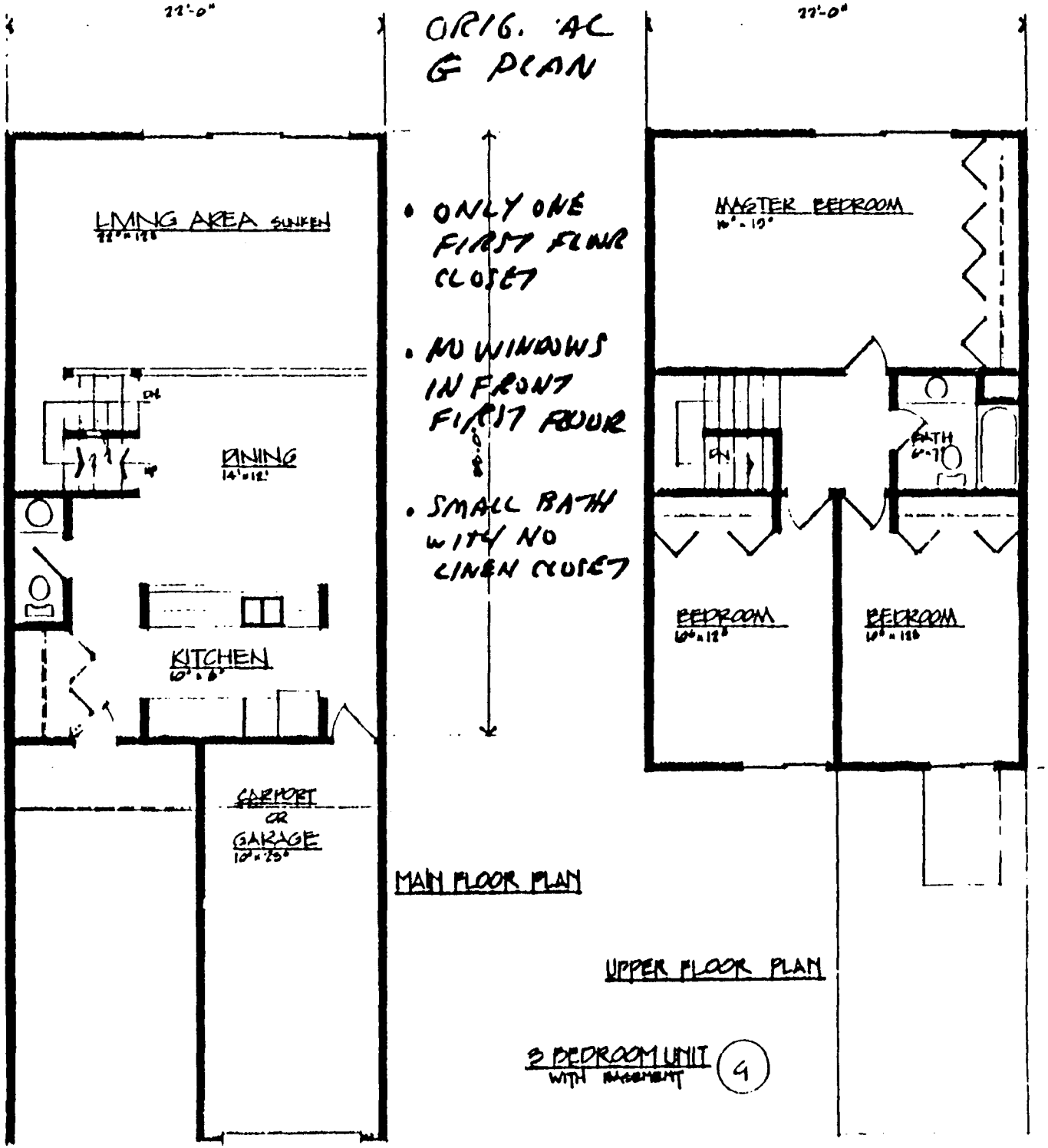
LAKE VILLA PROFILE*

PROFILE	PERCENT
SINGLES, DIVORCED	15%
YOUNG MARRIEDS	20%
FULL NESTER I	25%
FULL NESTER II	25%
EMPTY NESTER	15%
RETIREES	0%
TOTAL	100%

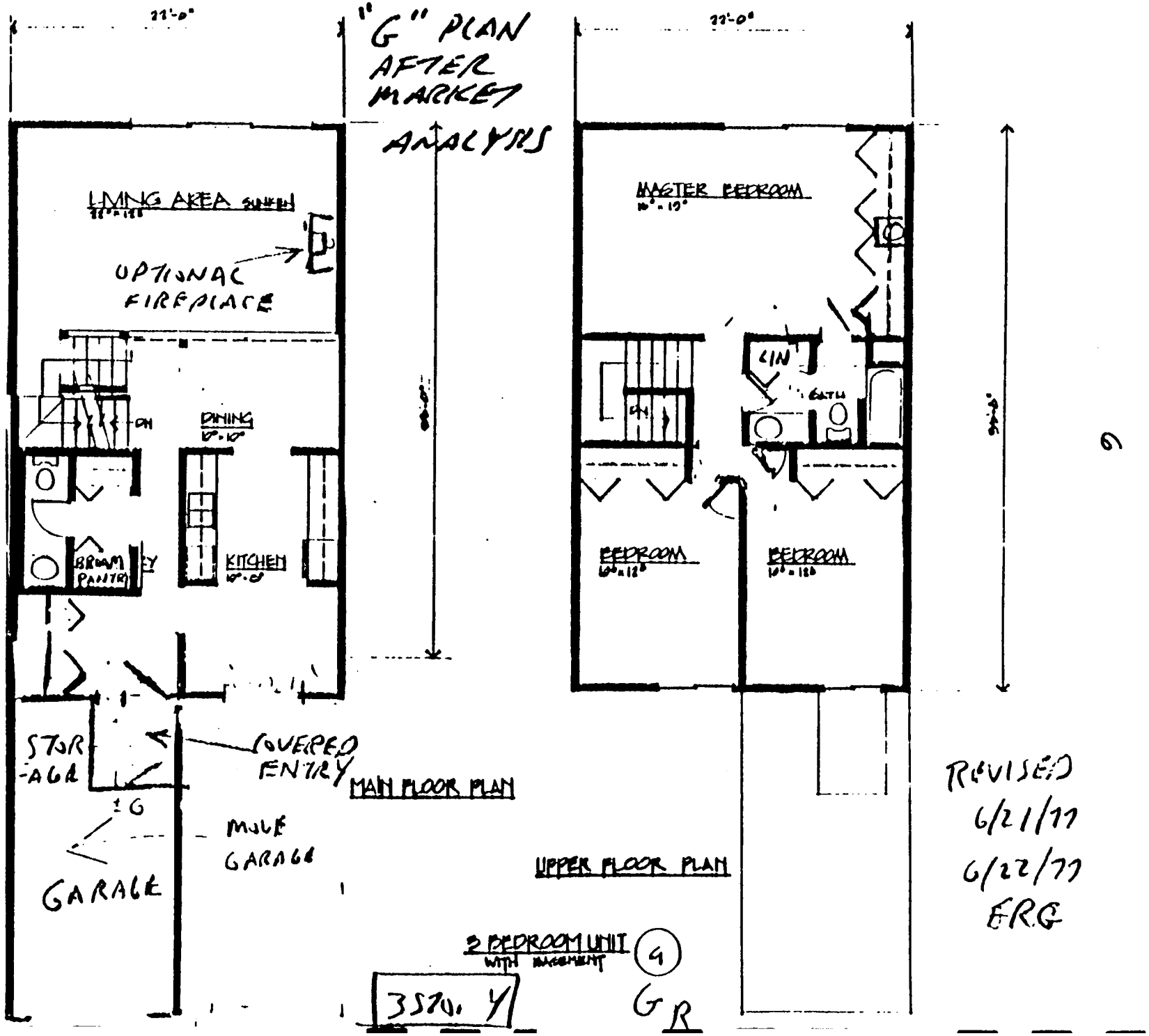
* The above profiles were developed through personal interviews with a sample of 20 of 43 Lake Villa buyers.

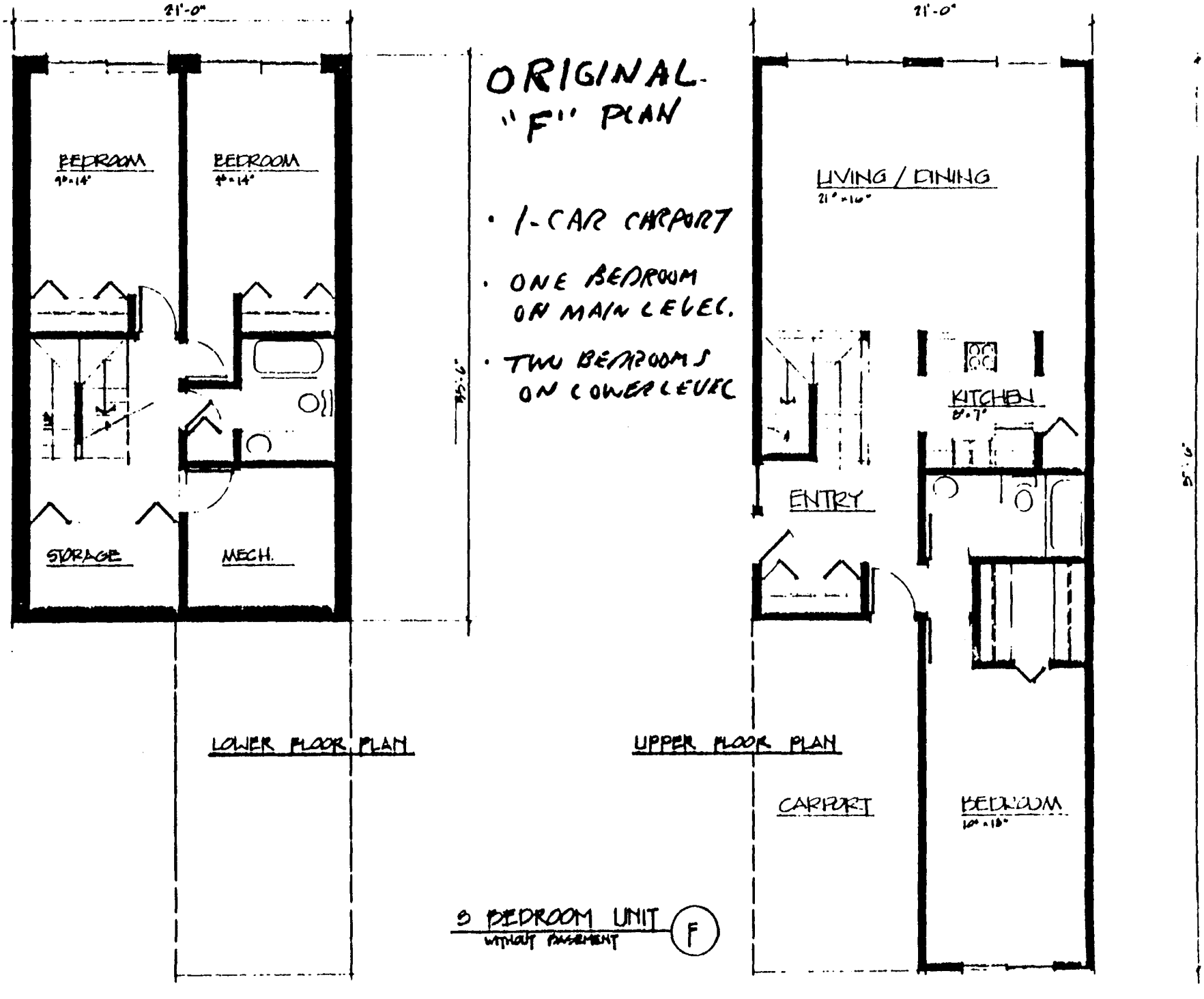
Buyer Profiles provide one indication of the market (and product mix). To identify the nature of demand, Buyer Profiles developed through systematic sampling and personal interviews or mail surveys provide insight into why people buy condominium units in specific developments. By understanding the buyer decision process and why buyers prefer one development over another we can more accurately project market strategies for capturing potential sales.

A COMPARISON OF SUBJECT AND COMPETITION BUYER PROFILES IS SHOWN ON THE FOLLOWING PAGES


22'-0"
LIVING AREA SUNKEN
22' x 12'
DN
DINING
14' x 12'
KITCHEN
10' x 8'
CARPORT OR GARAGE
10' x 25'
MAIN FLOOR PLAN
22'-0"
MASTER BEDROOM
10' x 12'
DN
BATH
5'-7"
BEDROOM
10' x 12'
BEDROOM
10' x 12'
UPPER FLOOR PLAN
ORIG. AC G PLAN
• ONLY ONE FIRST FLOOR CLOSET
• NO WINDOWS IN FRONT FIRST FLOOR
• SMALL BATH WITH NO LINEN CLOSET
2 BEDROOM UNIT WITH BASEMENT
4

5

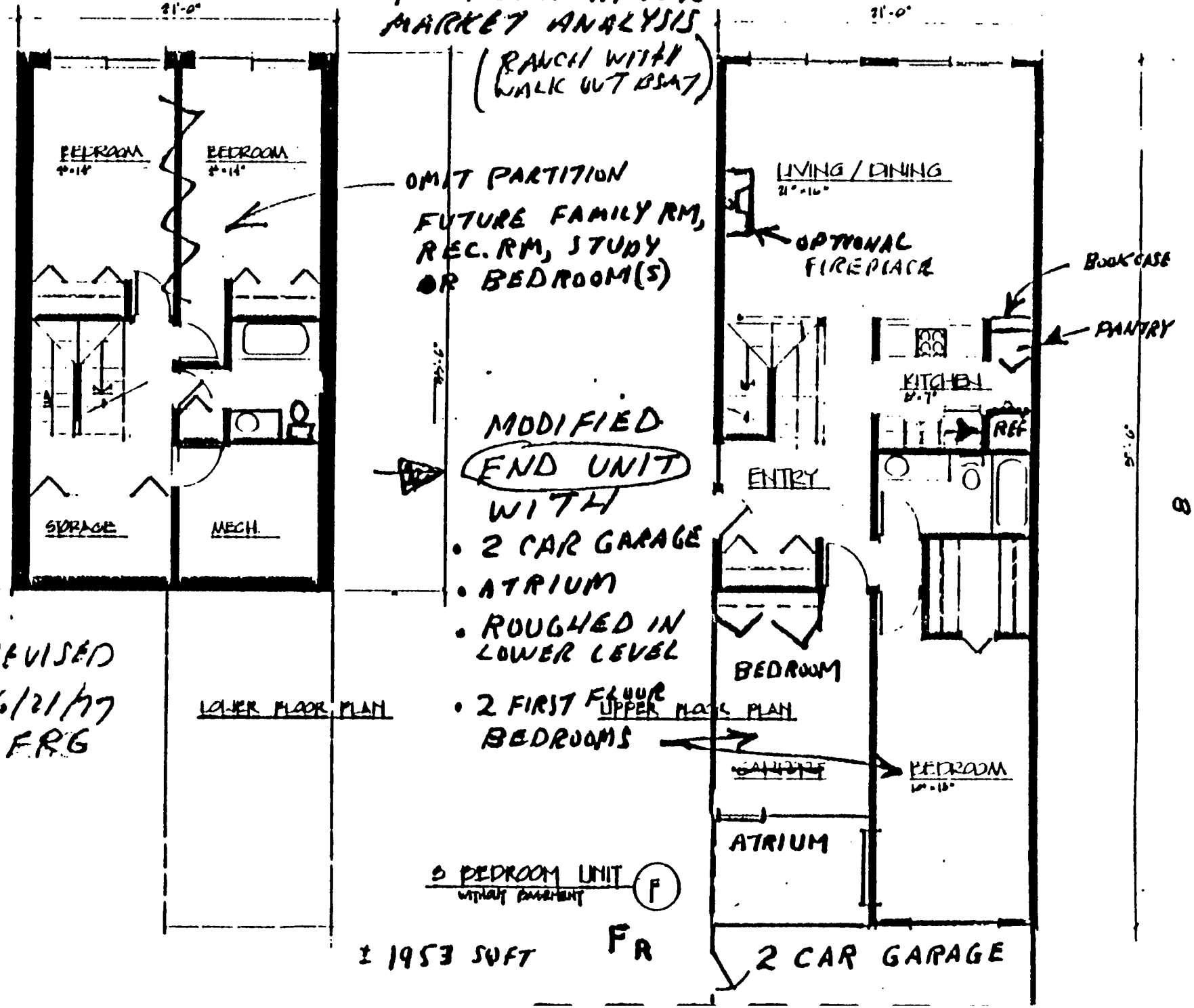

"G" PLAN
AFTER
MARKET
ANALYSIS
LIVING AREA SUNKEN
OPTIONAL
FIREPLACE
DN
DINING
CL
BROOM
PANTRY
KITCHEN
STOR-
AGE
COVERED
ENTRY
MAIN FLOOR PLAN
MULE
GARAGE
GARAGE
MASTER BEDROOM
LIN
BATH
BEDROOM
BEDROOM
UPPER FLOOR PLAN
2 BEDROOM UNIT WITH BASEMENT
G
3570. Y
GR
REVISED
6/21/77
6/22/77
ERG


21'-0"
BEDROOM
9'-0" x 14'
BEDROOM
9'-0" x 14'
STORAGE
MECH.
LOWER FLOOR PLAN
21'-0"
LIVING / DINING
21'-0" x 14'-0"
KITCHEN
8'-0" x 7'-0"
ENTRY
CARPORT
BEDROOM
10'-0" x 13'-0"
UPPER FLOOR PLAN
ORIGINAL
"F" PLAN
• 1-CAR CARPORT
• ONE BEDROOM ON MAIN LEVEL.
• TWO BEDROOMS ON LOWER LEVEL
3 BEDROOM UNIT
WITHOUT BASEMENT
F

(17)

"F" PLAN AFTER MARKET ANALYSIS

(RANCH WITH WALK OUT BSMT)



REVISED 6/21/77 FRG

3 BEDROOM UNIT (F)
WITHOUT BASEMENT

± 1953 SQFT

FR

POTENTIAL MARKET SEGMENTS

I. Singles -- Unmarried, active, mobile, many interests, entertain informally, few financial burdens, recreation oriented. Buy basic furniture, basic kitchen equipment, cars, stereos, and vacations.

II. Young Marrieds, #1 -- Young couple, working wife, entertain informally, amateur gardeners, planning on family. Better off financially than they will be in the "family formation" future. Buy durables -- cars, kitchen equipment, furniture, and vacations. Rate housing as a need for more living space.

III. Young Marrieds, #2 -- Discretionary income available, deferring family, active, entertain informally and often, some formal entertaining, independent, dual-person working household, do-it-yourself buffs, sports car. Rate housing as an investment.

IV. Compact Family/Move Down -- Discretionary income available, interested in no maintenance, informal living, some formal entertainment. Away from home often, occasional visits from family or guests, focus on both active and passive recreation.

V. Divorcees/With Children -- Family oriented activity, limited entertainment, informal lifestyle, limited maintenance.

VI. Full Nest, #1 -- Home purchasing at its peak, even though liquid assets are low. Dissatisfied with financial position, and amount of money saved. Conscious of monthly payments, family activities. Unemployed female with numerous interests, mostly child oriented. Lifestyle is casual and informal. Interested in new products, buy washers, dryers, T.V.'s, baby food, dolls, wagons, etc.

VII. Full Nest, #2 -- Family move-up market, as financial position gets better, some wives work. Interested in larger sized packages. The most price/size sensitive group.

VIII. Established Family -- Making monthly payment comfortably, some discretionary income as more wives work, approaching peak of economic and social lifestyle curve, some formal entertaining, older children and teenagers, many interests.

IX. Luxury Families -- Have arrived, tremendous discretionary income, very formal house, don't entertain often, but when they do, it's formal, dine out often, no maintenance, privacy mandatory.

X. Empty Nester - Home ownership at its peak, more satisfied with financial position. Small or no debt. Family is often away from home, occasional visits from family. Mobile in attitude, but permanent in residence, near grandchildren, many hobbies, one child in college, one or two children married, self-sufficient couple.

XI. Active Retired -- Still working two or three days per week, active either socially or politically in community or church affairs, self-sufficient, many hours away from home, do not entertain often, but when they do, it's semi-formal. Winter/summer residences. Likely to sell home before retirement.

XII. Retired -- Drastic cut in income, dependent, limited activities outside community. Winter/summer residences.

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Exhibit 9

FEASIBILITY RESEARCH GROUP

SAMPLE QUALITY CONTROL

SAMPLING ERROR

DEFINITION: Sampling error occurs when sample data is not representative of the total population of households from which the sample is drawn.

HOW CONTROLLED: FRG's sample of the population reflects updated 1977 household data. Using our source of Washtenaw County Household addresses, which is updated for new apartments and homes built in 1977 and applying a computer-generated random sample, we can hold sample error to a minimum.

SAMPLE BIAS

DEFINITION: Sample bias occurs when respondents drawn in the sample refuse to be interviewed for the survey or do not reply to certain questions in the survey.

HOW CONTROLLED: At FRG the following steps are taken to reduce possible sample bias:

(1) Pretesting of the survey questions and survey format to:
   (a) enable the respondent to understand the question
   (b) reduce respondent fatigue by creating a natural flow in the question sequence

(2) Monitoring interviewer performance by Head Interviewer to:
   (a) review completed surveys for completion and editing
   (b) review respondent's perception of interviewer through calling of 5% of respondents to learn consumers' opinion of interviewer

MAIL SURVEY RESPONSE RATES

	1 DATE	2 DAILY RESPONSE	3 TOTAL RESPONSE	4 POSTAGE DUE	5 UNDE-LIVERED	6 POSTAGE DUE FRG
SURVEY MAILED	7/7/75					
	7/10/75	1	1	$0.22	1	$.10
	7/11/75	7	8	$0.84		
1st FOLLOW-UP MAILED	7/12/75					
	7/12/75	11	19	$0.82		
	7/14/75	1+41+30	91	$8.62	(1 FRG stamp used)	
	7/15/75	63	154	$7.76	1	$.10
	7/16/75	1+2, 1+90	247	$10.90	1(3 FRG stamps)	
	7/17/75	1+115	363	$11.60	1 (1 FRG stamp)	
2nd FOLLOW-UP MAILED	7/18/75					
	7/18/75	247	610	$34.14	5	
	7/21/75	165	775	$21.10	3	
	7/22/75	233	1,008	$28.36	4	
				(+$.20 remail)		
	7/23/75	1+2, 138	1,149	$15.66	2	
				(+$.20 remail)		
	7/24/75	153	1,302	$14.02 (+$.20 remail)		
	7/25/75	114	1,416	$13.68	1	
	7/28/75	49	1,465	$ 5.88		
	7/29/75	143	1,608	$17.16 (+$.40 remail)		
	7/30/75	53	1,661	$ 6.56	2	
	7/31/75	37	1,698	$ 4.54	1	
				(+$.40 for 2-1st class)		
MAILED FOLLOW-UP (52.7%) response rate to date	8/1/75					
	8/1/75	11	1,709	$ 1.52	2	
	8/4/75	48	1,757	$ 5.86	1(25)	
	8/5/75	31	1,788	$ 3.72 (+$.40 postage)		
	8/6/75	1+22	1,811	$ 2.64 (+$.40 postage)		
	8/7/75	25	1,836	$ 3.00?		
	8/8/75	34	1,870	$ 4.20	1	

DATE	8 DAILY RESPONSE	9 TOTAL RESPONSE	10 POSTAGE DUE	11 UNDE-LIVERED	12 POSTAGE DUE FRG	13
8/11/75	33+6	1,906	$ 3.96			
8/12/75	3+1	1,910	$ .36 (+$1.20 remail postage)			
8/13/75	18	1,928	$ 2.16			
8/14/75	10	1,938	$ 1.20	1(27)		
8/15/75	5	1,943	$ .60			
8/18/75	10	1,953	$ 1.20			
8/19/75	4	1,957	$ .40			
8/20/75	2	1,959	$ .34	1		
8/21/75	1	1,960	$ .12			
8/22/75	1	1,961	$ .12 (+1 mailed to MEHA = 1,962			
8/25/75	1	1,963	$ .12 (+$.40 remail)			
8/26/75	3	1,966	$ .36			
8/27/75	2	1,968	$ .24			
8/28/75	3	1,971	$ .36			
8/29/75	1	1,972	$ .12			
9/2/75	2	1,974	$ .24 (+1 mailed to MEHA = 1,975			
9/8/75	2	1,977	$ .24			
9/9/75	1	1,978	$ .12			
9/18/75	4	1,982	$ .55	(28)		
(3,331-28 = 1,982/3,303 = 60% response rate to date)						
9/22/75	1	1,983	$ .15			
9/30/75	1	1,984	$ .15			
10/6/75	1	1,985	$ .15			
10/22/75	1	1,986	$ .15			
11/12/75	1	1,987	$ .15			
11/24/75	1	1,988	$ .15			

Exhibit 10

7. Personal interviews in depth permit questions using photographs with colors and styles. Expensive and time consuming, it assumes precious qualification of the interviewee as a typical prospect.

I. Processing of surveys can involve simple tallies or counts, simple subdividing of responses into subcategories, or preferably organization of the questionnaire to permit key punching or cross tabbing or statistical analysis by computer processing. The problem of identification requires:

1. Coding by colored paper, colored return envelope, stamp on self-addressed stamped envelope to reflect geographic area, building address, type of respondent, original mailing list solves most processing problems.

2. Beware of code numbers if you promised anonymity; give them the option of identifying the respondent, etc.

3. Always identify yourself as an analyst (but not the project or the client), providing a phone number or an address where the interviewee can find you. It will generate both presale prospect lists and some primary unexpected political participation by others.

J. Comparative cost and comparative merits and disadvantages of alternative survey research methods for appraisers is suggested in EXHIBIT 11.

1. These were prepared in 1978 by John Rasmussen for a conference at the University of Wisconsin.

2. Many appraisers worry about the size of the sample and degree of reliability of the results. In many cases, market segmentation and correct identification of the customer group will allow survey of virtually the entire universe of 20-40 users.

3. A sample is used to infer facts about a larger universe. EXHIBIT 12 provides an indication of sample size and range of error. Note that if you are going to subdivide responses between homeowners and renters, for example, it is important to have the desired sample size in the subcategory. Hence, it is important to refine your list of names as sharply as possible.

VI. Telephone Survey to Improve Bidding Position on Turn-key Elderly Housing Project (Exhibits 13&14)

As a simple illustration of the relationship of consumer need to pre-architectural programs, consider the survey approach for a turnkey, 160-unit elderly housing project, solicited by the City

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THE RELATIONSHIP OF SAMPLE SIZE TO SURVEY ACCURACY

Sample or subsample size	With this size sample, we are X% certain the obtained percentage is within Y% of the true percentage[1].		
	95% certain	90% certain	50% certain
50	± 13.8%[2]	± 11.6%	± 4.8%
100	9.8	8.2	3.4
150	8.0	6.7	2.8
200	6.9	5.8	2.4
250	6.2	5.2	2.1
300	5.7	4.7	1.9
350	5.2	4.4	1.8
400	4.9	4.1	1.7
450	4.6	3.9	1.6
500	4.4	3.7	1.5
600	4.0	3.4	1.4
700	3.7	3.1	1.3
800	3.5	2.9	1.2
900	3.3	2.7	1.1
1000	± 3.1%	± 2.6%	± 1.1%

[1] The percentage that would be obtained if everyone in the sampling list had been sent a survey. The figures given are accurate if the true percentage is from 30% to 70%. The obtained percentage and true percentage are likely to be closer if the true percentage is less than 30% or greater than 70%.

[2] For example, if the obtained percentage is 50%, the true percentage will be between 36.2% and 63.8% (±13.8%) nineteen times out of twenty (95% certain).

Exhibit 12

SURVEY RESEARCH FOR APPRAISERS

Survey Format	Advantages	Disadvantages	Response Rates	Typcial Cost Per Response	Typical Time
Personal Interviews	1. Permits longer surveys 2. Opportunity to probe 3. Can use flash cards, floor plans, etc.	1. Higher cost than phone phone or mail survey 2. More time required than telephone 3. Training and field supervision required	60 - 75% Call Backs-3	$3 to $6 per response	30 - 60 days
Telephone Survey	1. Faster than personal interviews or mail surveys 2. Opportunity to probe 3. Less pretesting required	1. Shorter questionnaire required 2. High turnover results in lower completion rate 3. Unlisted and disconnected phones may bias sample	30 - 50% Call Backs-3	$2 to $2.50	15 - 30 days
Mail Questionnaires	1. Lowest cost 2. Larger survey sample	1. Longest time for turn around 2. Questions as well as layout require design	40 -60 % Follow ups 3or 4	$.55 to $1.00	60 - 90 days

Exhibit 11

CHECKLIST FOR INTERVIEWERS

Exhibit 13

1. BE NEUTRAL -- DON'T ATTEMPT TO INFLUENCE RESPONDENT IN ANY WAY.
   BE INFORMAL.
   BE COURTEOUS.
   BE CONSCIENTIOUS.

2. FIRST ANSWERS ARE USUALLY THE MOST MEANINGFUL. DO NOT CHANGE ANY ANSWERS TO A PAST QUESTION.

3. DO NOT RECORD A "DON'T KNOW" ANSWER TOO QUICKLY -- GIVE RESPONDENT TIME TO THINK.

4. RECORD ANSWERS JUST AS THEY ARE GIVEN. IF LENGTHY, TRY TO SUMMARIZE IN RESPONDENT'S OWN WORDS, NOT YOURS.

5. TRY TO OBTAIN AS SPECIFIC INFORMATION AS POSSIBLE. IF RESPONDENT ANSWERS, "IT'S O.K.", ASK WHY. IF NECESSARY, DO A LITTLE PROBING.

6. KEEP TALKING AS YOU WRITE. ASK NEXT QUESTION WHILE WRITING FIRST ANSWER. DON'T LET RESPONDENT GET DISTRACTED OR BORED.

7. STICK TO THE SUBJECT. DON'T LET YOURSELF OR THE RESPONDENT DIGRESS.

8. BE SURE YOU'VE ASKED EVERY QUESTION AS IT IS WRITTEN IN THE ORDER THEY APPEAR ON THE QUESTIONNAIRE FORM.

9. CHECK OVER QUESTIONNAIRE BEFORE TERMINATING THE INTERVIEW TO MAKE SURE IT IS COMPLETE.

10. THANK RESPONDENT FOR PARTICIPATING!

FEASIBILITY RESEARCH GROUP LTD.
210 MICHIGAN THEATER BUILDING
ANN ARBOR, MICHIGAN 48108
(313) 994-4454

PROJECT NO: _____ CONTRACTOR NAME: _____ _____

PROJECT NAME: _____ Exhibit 14 INTERVIEWER NO: _____

INTERVIEW VALIDATION

	INTERVIEWER TO FILL IN (1) ADDRESS AND PHONE NUMBER OR (2) NAME AND ADDRESS (IF NO PHONE OR REFUSAL)									FIELD SUPERVISOR TO COMPLETE. (VALIDATE WITHIN 2-7 DAYS.)				
	ADDRESS	ZIP	NAME	MR, MRS, MS, MISS	PHONE #	INTERVIEW DATE	START TIME	FINISH TIME	TOTAL TIME	VALIDATED BY	PHONE OR IN PERSON	QUESTIONS VALIDATED	COMMENTS	
1														1
2														2
3														3
4														4
5														5
6														6
7														7
8														8
9														9
10														10
11														11
12														12
13														13
14														14
15														15
16														16
17														17
18														18
19														19
20														20

FEASIBILITY RESEARCH GROUP, LTD.
208 MICHIGAN THEATER BUILDING
ANN ARBOR, MICHIGAN 48104

Pink - INTERVIEWER'S COPY
Yellow - FIELD SUPERVISOR
White - OFFICE

KEY: YES = X
NO = —
DK = DON'T KNOW
NA = NOT APPROPRIATE
REF = REFUSED

I CERTIFY THE ABOVE LISTED ITEMS ARE TRUE AND CORRECT.

CONTRACTOR SIGNATURE _____ DATE ____

FIELD SUPERVISOR SIGNATURE _____ DATE ____

COMMENTS: _____

of Madison Housing and Redevelopment Authority for a specific urban renewal site. Developers were to compete on both cost and sensitivity of design with an oral presentation to the Board in addition to submission of bid materials.

A. The packet of bid instructions included:

1. Identification of the 116,549 sq. ft. site (wtih views of lake, park, and hospital)

2. Restriction of access to one side of site, and inclusion of 53 parking stalls, and a drive through portachere.

3. A statement that the proposed structure be in harmony with existing buildings.

4. Limit of 160 units in three distinct structures interconnected by an enclosed weatherized corridor system for elderly housing.

5. Specification of three structures consist of a one-story building housing 10-15% of total units; a trhee-story with 25-35% of total units; and a high rise with the remaining 60-70% of the total units.

6. Provision of extensive community, recreation, management and maintenance spaces with explicit instructions as to the location and relationship of the latter two space groups.

7. Design in accord with HUD Minimum Property Standards.

8. Time between solicitation and presentation was four weeks.

B. Joint venture proposal was to include experience design/construction firm from out-of-town, the local broker/developer for financing and community relations, and a team of two graduate students in real estate. After organization of their joint venture three and one half weeks remained; designer required two weeks to prepare materials; estimator two days, etc. and specification and development of a pre-architectural program had to be completed in eight days.

1. Four days allocated to data collection and survey design; four days allocated to analysis and development of design program.

2. Market researches read relevant secondary literature (such as Housing the Elderly, Central Mortgage and Housing Corporation of Canada, Second Edition, July 1972, Printed in Canada; or Design of Housing for the Elderly: A checklist, by Marie C. McGuire, NAHRO 1972; items found in The Built Environment For the Elderly and the Handicapped, a bibliography, U. D. Department of Housing & Urban Development, Library and Information Division, June 1971).

3. Researchers visited several Madison projects, obtained floor plans, and visited with managers to make a subjective analysis of the relative success or misfit design elements in existing housing.

C. During same two day period architect/engineers reviewed information packet and site constraints; then met with market researchers to generate the following basic research questions.

1. What are the physical limitations of the prospective residents requiring special features?

2. What is the prior living experience of the resident, to minimize disruption of life style through design sensitivity?

3. What unit mix would be appropriate?

4. How is unit mix allocated between three required structures?

5. What should be basic unit size?

6. How should space within each unit be allocated?

7. What functions and design feautures should be included in community spaces?

8. Are there other wants, needs and anxieties of users unmet by existing Madison elderly housing projects?

D. To answer these questions the survey design required specification of survey measurement devices and identification of a respondent group.

1. Given the experience of the researchers, their preliminary research to brief themselves, and a two-day time limit, they chose to do a non-probability judgment sample.

2. Time schedule required a telephone survey technique with a random sample of residents in elderly housing units in Madison.

E. Sampling criteria required:

1. Sample be representative of the population of interest

2. Persons selected must be able to respond with relevance and validity to the survey

3. Population from which sample would be drawn had to be experienced in type of unit to be researched

F. In response to these criteria:

1. It was reasoned that most likely there would be homogeneity of demand characteristics between present occupants of public elderly housing in Madison and prospective occupants on Housing Authority waiting lists.

2. Literature search indicated that continuity theory (habit, pattern, life style) control elderly so that occupant of present comparable units would best be able to relate to design questions and project their future needs and desires relative to their own units and experience.

3. A need survey could have been made of Housing Authority management, building managers, or HUD underwriters but developer felt that the best responding group would be the elderly themselves.

G. The interview sampling plan consisted of:

1. Identification of Madison public housing units for the elderly by street address
2. Identification of present occupants by name in existing units from current reverse telephone directory.
3. Random sample of residents named and available by phone (potential bias)

H. Survey results were to be keypunched and analyzed on a cross tabulation program at the UW School of Business Computer Center to reveal how different persons in different types of units might have differed in their responses.

1. For speed, keypunching was to be done directly from completed questionnaire form
2. Usable forms were required to have answers to all relevant questions
3. Ultimately there were 99 usable responses from a total population of 268 apartment units in the Madison elderly housing program.
4. Two persons complete these responses in two twelve hour working days; computer analysis took one day.

I. Sample questionnaire provided in Exhibit 15

1. Telephone survey very poor technique for measuring attitudes of elderly
2. More valid than group meetings conducted by Housing Authority where residents are intimidated by landlord, size of group, or dominant extroverts
3. Personal interview more time consuming and more valuable
4. Interviews should be conducted in respondent own unit to position questions against current experience and to permit demonstration with more ease than verbal articulation.
5. Exhibit 15 should be viewed as demonstrating how standardization is imposed on telephone survey techniques
6. Interviewers were women

VII. The questionnaire was intended to generate a brief consumer profile, identify possible significan and subtle dissatisfactions with unit design, and permit some open-end questions to explore areas not anticipated by researchers.

A. The consumer profile of the typical occupant:

1. Was female (83%)
2. Had previously rented a housing unit (82%) with 91% having paid less than $175 per month and 60% had paid less than $100, indicating most found the public housing unit better in quality and lower in price ($50-$60 per month)
3. Long waiting periods before admittance to public housing generally made them most grateful and non-critical
4. Almost all had known low density low rise residential environments over their lifetimes.

B. For space allocation and features the survey revealed:

1. Satisfaction of present site with living room larger than bedroom, etc.
2. 99% preferred bathroom to open into bedroom
3. Open-end question revealed majority wanted outside window from kitchen
4. Desire for indoor walking-exercise area without steps
5. Desire for lounges tied to indoor passages and with views of action centers
6. Desire for community craft and recreation facitilites which were not isolated by stairs, windowless walls, or outside walkways (as was the case in Madison projects).
7. Anxiety about high rise among many due to fire hazard dependence on elevators or lifetime unfamiliarity with high rises.
8. Preferred more units per floor in low rise to exclusiveness of high rise floor but would take anything they could get.

C. The theory on aging elderly behavior patterns also contributed to design constraints, for example, the disengagement theory indicates the elderly gradually lose the energy to maintain a great variety of social contacts, etc., a tendency which leads to isolation and increased depression due to loneliness.

1. Physical design must provide a variety of choices as to their withdrawal from the street, the total project, a small group of neighbors, or their own room.
2. At the same time, heterogeneity of unity mix avoids clustering all handicapped, all married, etc. in one particular zone to give everyone a variety of social contacts.
3. Circulation patterns can be designed to encourage random meetings without forcing social involvement.
4. Visual elements which are depressants such as views of cemeteries, hospitals, nursing homes, etc. should be avoided.

D. With the initial design constraint inputs, the designers worked up a tentative plan which proved to exceed the desired cost estimate at which point estimators, market analysts, and designers met in an all-day session to hammer out final trade-offs. A 165-unit project was the result as described in Exhibits 17, 18, 19 and 20.

1. Project had second lowest total cost ($3,397,380 or $26,000 per unit) of the ten proposals submitted.
2. Project was turned down by renewal board because they did not like contractors reputation for economy and thought the exterior was less attractive than conventional tower.

3. Experience is typical of real estate that is designed to please the investor rather than the ultimate user, particularly when the investor has not properly defined the context in sufficient detail to judge the fit of any proposal submitted.

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EXHIBIT #15

Telephone Survey Script - Elderly Housing

Prepared and executed by
James R. DeLisle, June, 1974

PRE-SURVEY INFO.

Survey
Turnkey Elderly Housing
Triangle Project
Madison, Wis.

Code of Interviewer ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

PROJECT CODE Code of Project ☒ Braxton
☐ Romnes
☐ Tenney Park

Sex of Respondent ☐ Male ☒ Female

****

INTRO.

Hello, my name is _____. We are conducting a survey of residents of elderly housing apartments so that we may identify those features of apartment design and planning that are satisfying to residents, as well as those that are irritations.

The purpose of seeking your responses to these questions, is to provide a base of information from you --the real experts on housing for the elderly-- upon which we can make specific recommendations to developers of the proposed elderly housing project on the Triangle Urban Renewal Area, here in Madison. This information will result in an improved living environment in the proposed housing project. Your responses are confidential and you will not be identified as an individual.

Would you mind answering a few questions ? Thank you.

****

PRIOR LIVING EXPERIENCE

1. When did you move into your present home ?

NOTE: (read options only when arrow is shown as in question # 2)

☐ 1960 to 1965
☐ 1966 to 1968
☒ 1969 to 1970
☐ 1971 to 1972
☐ 1973 to 1974

2. What type of home did you live in before moving to your present home ?

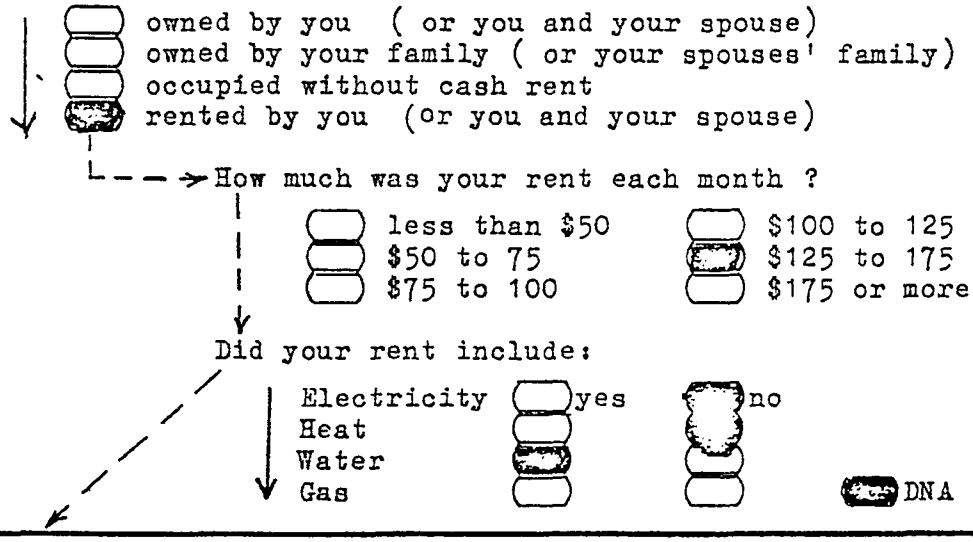
☒ one family house
☐ two family house
☐ other_____

☐ 1 to 4 unit apartment bldg.
☐ 5 or more unit apt. bldg.
☐ other_____

3. How long did you live in your former home ?

☐ less than 6 month
☐ 6 mo. to 1 year
☐ 1 - 2 years
☒ 2 - 5 years
☐ 5 -10 years
☐ Over 10 years

4. Was your previous home:



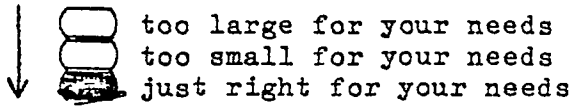
PRESENT LIVING EXPERIENCE

YOUR RESPONSES TO THE FOLLOWING QUESTIONS WILL TELL US WHAT YOU FEEL IS IMPORTANT IN AN APARTMENT SPECIFICALLY DESIGNED FOR THE ELDERLY

5. Which of the rooms in the apartment should be the largest, second largest, and third largest ?



6. Is your present home:

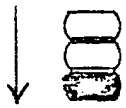


7. How many people live with you in your apartment ?



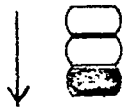
If you could change your present apartment by making one room larger and one room smaller;

8. Would you make your:



LR larger; BR smaller or/
BR larger; LR smaller or/
leave them like they are

9. Would you make your:



LR larger; K-D area smaller or/
K-D area larger; LR smaller or/
leave them like they are

OPTIONAL UNIT FEATURES

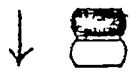
If you had to select one of the following:

10. Would you prefer:



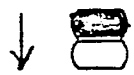
A dining area <u>in</u> the kitchen or/
A dining area next to the kitchen

11. Would you prefer:



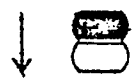
A bathroom door opening to bedroom only or/
A bathroom door opening to living room area only

12. Would you prefer:



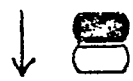
A large closet area in the bedroom or/
A large closet area in the living-dining-kitchen area

13. Would you prefer:



A balcony or
Slightly larger apartment size

14. Would you prefer:



Larger closet space or
More open space in your apartment

Optional Project Features

15. If you had the choice, would you want:

- ( ) A larger apartment and less community space or/
- ( ) A smaller apartment and more community space or/
- (■) make no change

If you had to select one of the following:

16. Would you prefer:

- (■) One large room with a music area, T.V. area, conversation area, and a small library or/
- ( ) Several smaller separate rooms for each of these activities, in addition to a central lounge

17. Would you prefer:

- ( ) A special lounge area for children of guests or/
- (■) A larger main lounge

---

18. Should there be a separate lounge for women only (yes / No) and a separate lounge for men only (yes / No)

19. Is there a craft or hobby room in the building you live in now ?

- (■) yes
- ( ) no

20. Would you like (do you like) a crafts room ?

- ( ) no
- (■) yes

21. For what crafts would you (do you) use the craft room ?

- ( ) Pottery
- ( ) knitting and crocheting
- ( ) painting
- (■) weaving
- ( ) photography
- ( ) woodworking
- ( ) sewing
- ( ) copper enamiling
- ( ) other _____
- ( ) other _____

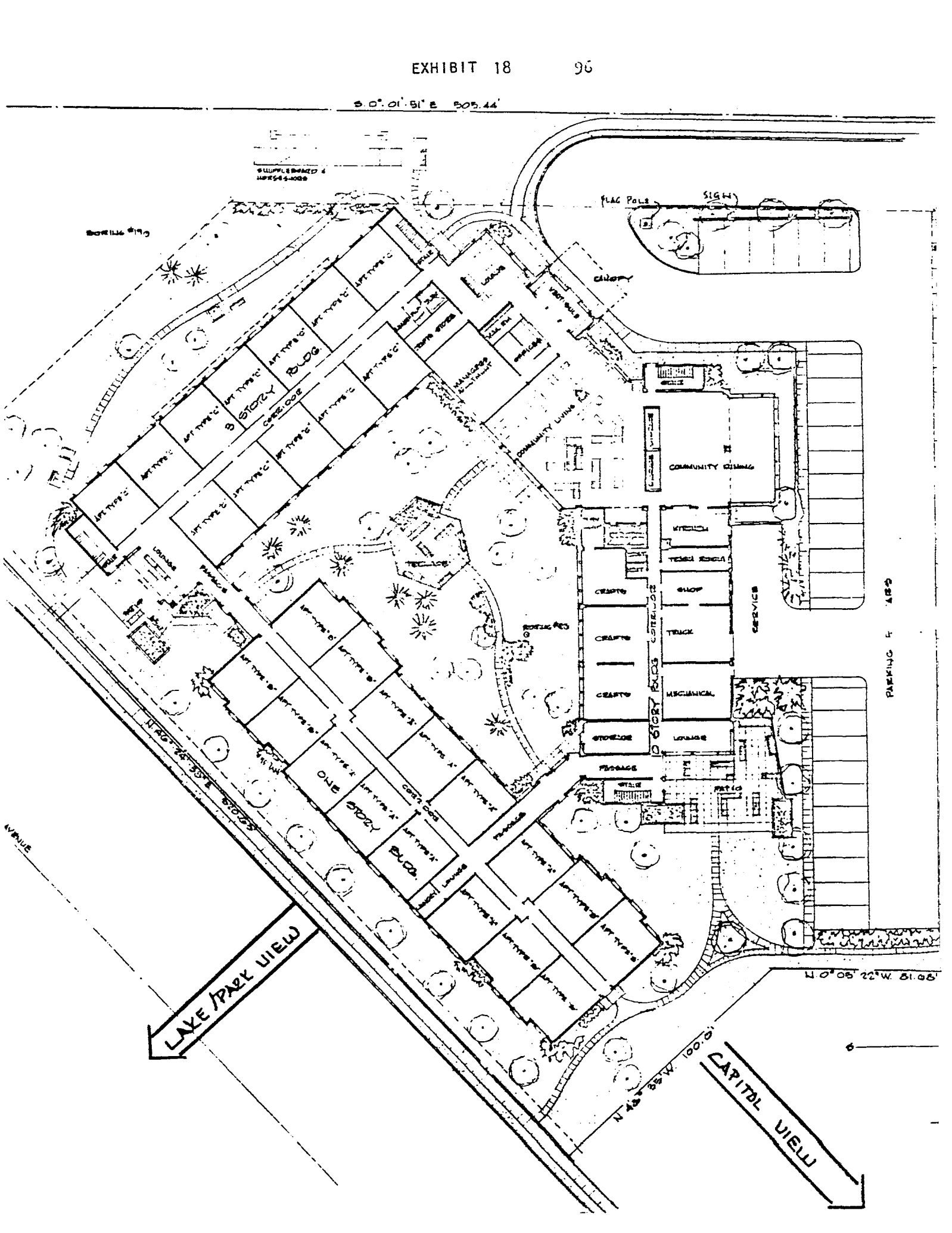
22. How many times a week would you (do you) use the room ?

- ( ) less than once a week
- ( ) once
- ( ) twice
- (■) three
- ( ) More than 3 times
- ( ) Never

23. Should the crafts room be:

- (■) one large room for all crafts or/
- ( ) several smaller rooms for each craft

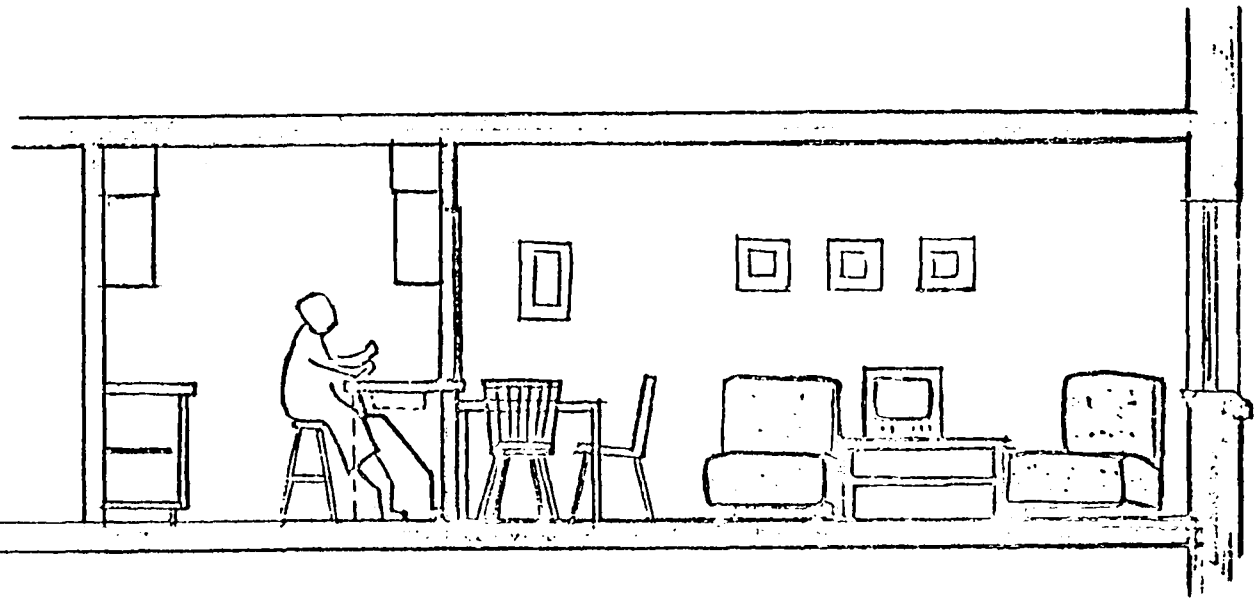
EXHIBIT 18 96



UNIT CHARACTERISTICS AND DISTRIBUTION

BUILDING	UNIT TYPE	DESCRIPTION	NUMBER	FLOOR	NET SQUARE FOOTAGE	TYPICAL VIEW
One-Story	A	Handicapped 1 Bed	8	1	505	(4) Courtyard (4) Brittingham Park
	B	Handicapped 2 Beds	8	1	524	(2) Courtyard (2) Neighborhood Terrace (4) Brittingham Park
Mid-Rise	C	Handicapped 1 Bed	12	1	504	(7) Brittingham Park West (5) Courtyard
	C	1 Bed	18	2,3	504	(6) Brittingham Park West (12) Brittingham Park East
	D	2 Beds	8	2,3	536	(8) Brittingham Park West
	E	1 Bed	2	2,3	504	(2) Brittingham Park East
High Rise	C	1 Bed	84	2-8	504	(42) Capitol (42) Lake Monona
	D	2 Beds	24	9,10	536	(12) Capitol (12) Lake Monona
Manager's Apartment	F	2 Bedroom	1	1	660	Courtyard

EXHIBIT 19

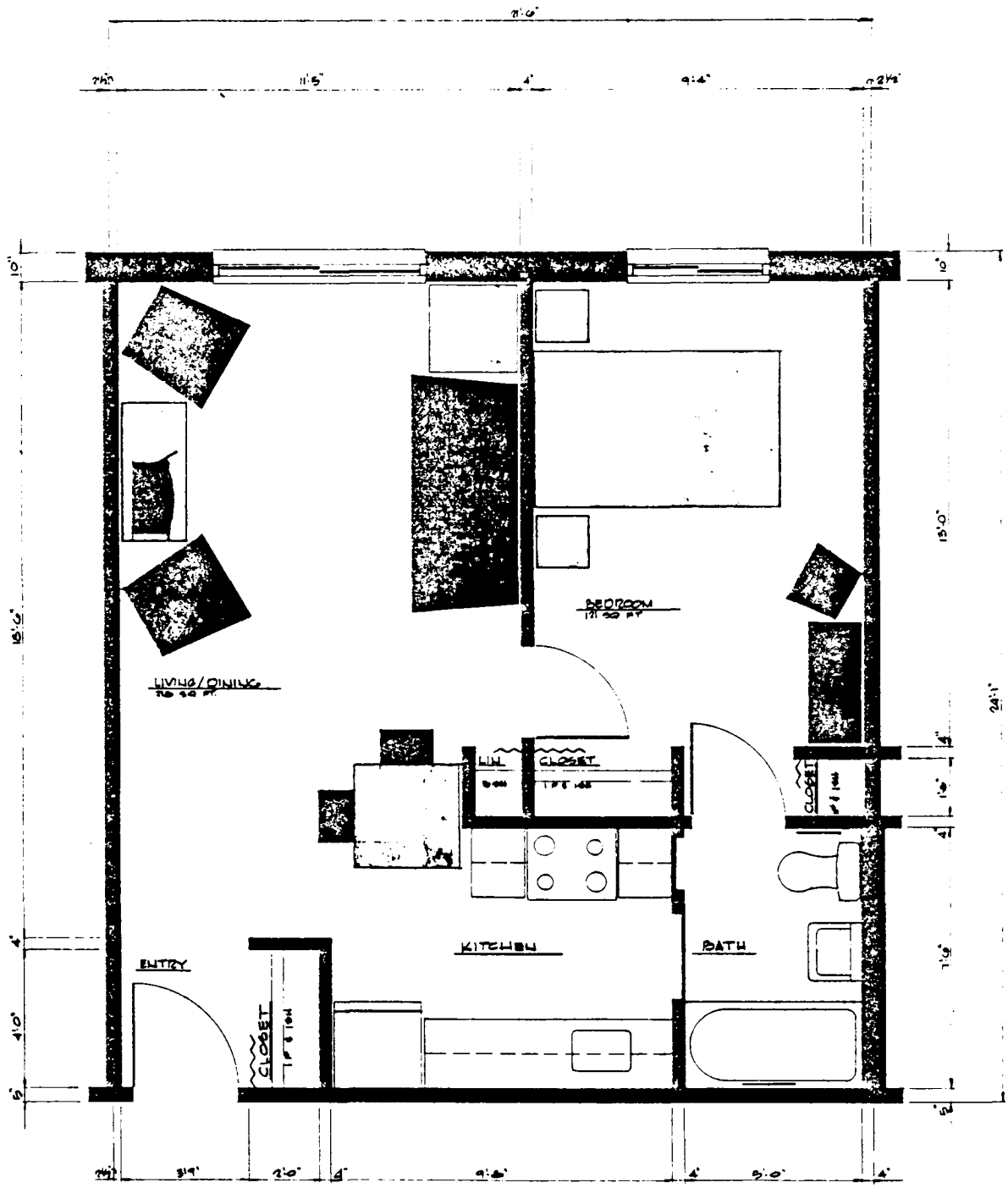


ELEVATION – KITCHEN & LIVING ROOM TYPES C & D

SCALE 1/4" = 1'-0"

TOTAL 146 UNITS

EXHIBIT 20



622 sq ft. GROSS . 505 sq ft. NET

ONE STORY BLDG - ONE BEDROOM APT TYPE "A" - 8 UNITS

SCALE 1/2" = 1'-0"

KITCHEN SHELF AREA 53 SQ FT.
KITCHEN DRAWERS 8 SQ FT.
GENERAL STORAGE 179 CU. FT.

E. Generalized Format of Merchandising Report Summary

Cash flows ultimately depend on sales or rental revenues and further refinements of the frontdoor-backdoor approaches depend on establishing an explicit set of assumptions about the geographical market area, the user segment within that market area, and so on. All you buy in a real estate investment is a set of assumptions about the market. Therefore, the analyst should provide and identify a marketing assumption checklist for the reader:

1. Definition of geographic and demographic market.

   a. Primary trade area to be served

   b. Profile of prospects by current location, statue, income, etc. in primary carefully segmented area.

   c. Secondary trade area to be served

   d. Profile of prospects by current location, status, income, etc. in secondary carefully segmented area.

2. Definition of principal competitors

   a. Existing supply

   b. Prospective supply with timeline advantage.

   c. Competitive standard package of project features.

   d. Unique features of successful competitors.

   e. Probable cause of unsuccessful competitors.

   f. Merchandising appeals of competitors.

   g. Definition of market penetration and competitive gap.

3. Establishment of merchandising strategy logic

   a. Competition
      - Standard product
      - Price and quality
      - Competitive edge opportunity

   b. Positioning strategy
      - Sales themes
      - Name and byline
      - Site and unit features
      - Strong sales points

   c. Construction and architecture
      - Sales area
      - Models
      - Entrance and signs

- Project amenities
- Roads and paving
- Site plan
- Construction schedule

4. Definition of prospect target for subject property

   a. Recommendations on site location

   b. Recommendations on site linkages and dynamics

   c. Recommendations on building types and numbers

   d. Recommendations on basic unit features

   e. Recommendations on basic unit options

   f. Recommendations on level of quality

   g. Recommendations on basic price targets

F. Structuring the Feasibility Report

Ultimately the budget established for analysis and the need to communicate the findings represent a severe constraint on the feasibility process. Priorities and critical assumptions necessary to achieve the desired outcome must be separated from the great mass of detail and presented tersely.

1. Format of the report should rely on three elements:

   a. An executive summary which tersely identifies alternative courses of action and recommendations as to how client can make the choice.

   b. A basic reference document which includes all the detail analysis.

   c. A collection of reports by contributing professionals incorporated by reference.

2. To be terse the executive summary should depend on:

   a. Simple charts of choices of alternative outcomes (See Exhibit 21).

   b. Simple flow charts (Such as Exhibits 3,7,13,22).

   c. Specific criteria used to measure "liklihood of success"

3. Statement of limiting conditions should first begin with a definition of the word "feasible" (as per Institute of Appraisal Terminology Handbook), and then state that it was the purpose of the study to define the context of the situation and the parameters within which a solution might be

found to fit the major constraints with a reasonable likli-hood of success. It should carefully point out that the generalist has made a series of explicit assumptions which may, nevertheless, need confirmation by more detailed study best done by specialists. The statement of limiting conditions should further emphasize the constraints and objectives placed on the study by identifying who:

a. Defined the constraints

b. Defined success

c. Provided the data and assumptions

d. Permitted key assumptions to remain untested for economy or speed

e. Accepted assumptions of conditions of uncertainty

f. Assembled proforma financial statements and projections

g. Executed feasibility confirmation of key assumptions with aid of specialists.

h. Placed limitations on use and confidentiality.

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FEASIBILITY RESEARCH GROUP

MINI-STORAGE MARKET FEASIBILITY ANALYSIS

A MARKET ANALYSIS GUIDE FOR REAL ESTATE APPRAISERS, MORTGAGE LENDERS, DEVELOPERS AND INVESTORS.

PREPARED BY:

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PREFACE

The following illustrations of market feasibility analysis represent an introduction to market analysis. This effort should not be considered as a complete "how to do it" guide but rather as a framework for stimulating the discovery and reasoning processes of the reader i.e. not "What is the answer?" but "What questions should be asked?"

Market analysis requires original research. To assist the reader in visualizing a market opportunity analysis examples are included, both of secondary analysis (e.g. census data) and primary analysis (e.g. survey research).

An introduction to market analysis would not be complete if it did not include a basic outline or framework of the market analysis process. The real estate market analysis process used here considers real estate developments as a consumer market product. Real estate appraisers, architects and financial analysts hopefully will find that this introductory guide places market analysis in perspective.

The specific applications used to illustrate market analysis and market strategy should not be considered as models to be accepted and used in other situations. The very essence of market analysis is relating total potential demand to a specific site. Analysis of individual sites and competition in individual markets should be considered in each instance.

John A. Rasmussen
Research Coordinator
Feasibility Research Group, Ltd.
Ann Arbor, Michigan

THE CONCEPT

IS THE SELF-SERVE STORAGE CONCEPT A "FAD" OR AN ESTABLISHED MARKET TREND?

Prior to the introduction of self-serve storage facilities consumers rented storage space for storage of household furniture at MOVING AND STORAGE company warehouses.

Moving and storage company facilities are still available today from Mayflower, North American Van Lines and other companies with local household storage warehouses.

DISADVANTAGES OF MOVING COMPANY	VS.	ADVANTAGES OF SELF-SERVICE STORAGE
--In-and-out labor charges	vs.	--No labor charge for self-serve
--High minimum rents of $30+	vs.	--$9 to $18 minimums for self-serve
--Container storage boxes stacked three tiers high by hydraulic forklift	vs.	--Walk-in quick access without waiting for forklift and operator
--Access limited to 8-5pm business hours	vs.	--Easy access in evenings and weekend hours
--High ceiling heights make boat, R.V. and sporting vehicle equipment storage expensive and impractical	vs.	--Drive-in size units with 10', 15', 20', 25' and 30' depths allow renting as much or as little space as needed. Eight to ten foot heights.

The above disadvantages of moving company storage facilities are very easily overcome by the self-serve mini-storage concept for household storage needs.

The likelihood of apartment dwellers or homeowners switching back from self-serve to moving company storage facilities appears highly unlikely. A fad would tend to show a spurt in consumer demand and then decline , but mini-storage demand in both southwestern and northwestern states has indicated increasing demand for mini-storage units in mature markets.

THE USER PROFILE

There are several methods of developing user profiles.

(1) Trade Association or other published profile data
(2) Review application forms where available
(3) Survey existing users of mini-warehouses
(4) Survey potential users of mini-warehouses

WHO IS THE PRIME USER?

By identifying the profile of the user we find that the prime user is the apartment resident. Survey by Feasibility Research Group of 299 households in a random sample survey in Washtenaw County, Michigan in 1976 revealed that 28% of the apartment residents and 16% of single-family residents said that, yes, they were interested in the concept of mini-warehouse service. An additional 32% of the apartment residents and 21% of the single-family residents indicated they possibly would be interested in mini-warehouse service.

Combining the responses of those who said yes and those who said possibly interested we found that 60% of the apartment residents and 37% of the single-family residents represent the potential market for mini-warehouse facilities. (Note: These percentages may or may not apply in other communities.) The actual percentages are not critical, but the total support for the concept from the apartment residents vs. the single-family residents is important.

HOW LONG DOES THE PRIME USER NEED STORAGE SPACE?

After identifying the prime user of the mini-warehouse, the apartment resident followed by the single-family resident, we can further profile the market of residential users into those people who use the mini-warehouse on an annual basis and those people who use it on a seasonal or short-term use. Based upon our sample survey of 299 households the indicated demand for seasonal storage is as follows:

	APARTMENT RESIDENT'S DEMAND	SINGLE-FAMILY DEMAND
SEASONAL STORAGE:	83%	17%
ANNUAL STORAGE:	67%	33%

The apartment residents are the largest segment of the user profile as they account for the highest percentage of both the seasonal and annual storage needs.

SHORT-TERM DEMAND GENERATED BY HOUSING MOVES

A significant segment of market demand for mini-storage use comes from households who move and those households which move frequently. As might be expected, apartment residents are more mobile. Apartment residents are also more likely to move themselves, using either U-Haul truck, Avis or National, or whatever company provides the truck rental service in the market area.

To estimate the size of this potential mover, do-it-yourself market, again we go to our survey of 299 households.

QUESTION #10A: WHEN YOU MOVED TO YOUR PRESENT HOME, HOW DID YOU MOVE ALL THE THINGS YOU BROUGHT WITH YOU? (DOUBLE COUNTING)*

RESPONSE	*APARTMENT*	*SINGLE-FAMILY HOUSING*
1. HIRED A MOVING AND STORAGE COMPANY	*12.0%*	*30.2%*
2. RENTED A U-HAUL TRUCK OR TRAILER AND MOVED IT MYSELF	*46.2%*	*31.0%*
3. USED MY OWN CAR OR TRUCK TO MOVE	*18.3%*	*21.4%*
4. BORROWED A VEHICLE FROM FRIEND OR RELATIVE	*17.9%*	*10.3%*
5. EMPLOYER HIRED A MOVING AND STORAGE COMPANY TO MOVE MY THINGS	*1.2%*	*11.9%*
TOTAL	*100.0%*	*100.0%*

**A household may have employed two or more methods in moving.*

We can see from the survey results that only 12% of the apartment residents hired a moving and storage company, as opposed to 30% of the single-family households. Even including the households where the employer pays for moving and storage the total moving and storage company market segment accounts for only 13.2% to approximately 42.1% of the moving market. The do-it-yourself mover thus accounts for approximately 83% of all apartment movers in the market area survey.

To identify how to reach the potential user profile, the apartment residents who move and move frequently, we can also turn to the survey. Survey data indicated that the Yellow Pages was the largest one single source of information regarding moving companies and U-Haul rental locations. Later on, in evaluating the promotion plan for mini-warehouses, it is important to recognize the Yellow Pages ad as one major part of the mini-warehouse promotion.

WHAT KINDS OF ITEMS ARE STORED IN MINI-WAREHOUSES?

There are three ways of finding out what is stored in mini-warehouses.

(1) Ask existing managers and inspect existing mini-warehouses.
(2) Trade association data.
(3) Survey people in a market area and find out what they have to store.

FRG used all of the above sources including a survey of prospective users.

Household furniture is the largest single category of items typically stored in mini-storage facilities. Our survey indicated that between 40-47% of the demand was for storage of household furniture. When you add household appliances this increases from about 48-62% of the demand.

7-12% of the indicated demand is for boats and trailers.

4-6% of the indicated demand is for sporting goods and recreational equipment.

I would like to add that most of this is for dead storage space, not where the space is used for work on a hobby or repair service or daily use, but strictly for dead storage use.

WHAT ARE THE GREATEST CONCERNS OF MINI-STORAGE WAREHOUSE USERS?

Survey responses reveal overwhelmingly that 60% of the potential users are concerned about security from theft. Safety from water damage is important to about 5-12% of the respondents. Single-family households are concerned about fire damage to a much lesser extent than security from theft. Temperature, humidity and dampness are concerns, but again much less than security from theft.

WHAT IS THE IMPORTANCE OF A STEEL STORAGE BUILDING VS. A MASONRY MINI-WAREHOUSE BUILDING?

This is perhaps one of the most interesting areas of the survey in respect to the perceived safety and security of a storage facility. We asked the question: "Which do you feel would be a safer place to store your property, a steel building or a concrete building?"

Mini-warehouses are built of steel skin over a wood frame, basically a pole barn for those of you who are familiar with pole barns, or they can be built with a steel frame, such as a Butler steel building with a steel skin and steel roof. They can also be built with poured concrete footings, 42" in Michigan, with either concrete block or tilt-up poured concrete walls with precast concrete roof structures or wood roof structures. The interior partitions can be of galvanized corrugated steel or wood frame partitions with drywall, wood frame partitions with galvanized steel or with partitions with particle board. I have seen combinations of both wood building with wood interior partitions, steel buildings with wood interior partitions, masonry buildings with wood interior partitions or masonry buildings with steel interior partitions. Which is best is best answered by the consumer.

WHAT DO CONSUMERS SAY?

TABLE R

QUESTION #25: WHICH DO YOU FEEL WOULD BE A SAFER PLACE TO STORE YOUR PROPERTY?

RESPONSE	*APARTMENT*	*SINGLE-FAMILY*
1. A STEEL BUILDING	*8.3%*	*11.3%*
2. A CONCRETE BUILDING	*29.8%*	*30.9%*
3. MAKES NO DIFFERENCE	*62.0%*	*57.7%*
TOTAL	*100.0%*	*100.0%*

About 8% preferred the steel building as a safer place to store their property. A concrete building was favored by about 30% of the apartment residents; however, 62% of the apartment residents say it doesn't make any difference whether it's built of steel or concrete.

The importance of this survey finding is that you can build a lower cost facility and still provide safe storage space.

HOW CAN THE SECURITY BE PROVIDED?

The security which the users of mini-warehouses expect and require can be provided in several ways:

(1) A completely fenced facility,

(2) Well lighted facility,

(3) An onsite manager, manager's office and onsite manager's apartment for 24-hour security of the premises.

In several instances, in facilities with which we are familiar, two onsite manager's apartments had been offered.

HOW CAN THE INDIVIDUAL UNIT MIX BE MEASURED AGAINST THE MARKET DEMAND?

(1) Review Existing Experience

The successful developers of existing mini-warehouses who have monitored rent-up in several locations have been able to identify the best unit mix. After basing initial mix upon judgment and previous experience the monthly rent-up is monitored for each size of unit. Learn how rapidly the 5'x5' units fill compared with the 10'x10' units compared with the 10'x15' units. When all of the 5'x5' units are filled the demand would shift to filling in the next largest size unit. This would indicate a shortage of the 5'x5' units.

(2) Survey Potential Demand

If there are no mini-warehouses in the market area or perhaps only one or two smaller local facilities which can't be used as a guide to set a competitive standard, it is possible to estimate the demand for mini-warehouse unit mix using survey research.

In FRG's resident survey in Washtenaw County, Michigan we used the question: "HOW MUCH STORAGE SPACE WOULD YOU NEED TO STORE THE ITEMS YOU WISH TO STORE?" We then listed the various unit sizes. This was in a market where many people were not aware of mini-warehouses but had some idea of what amount of space they might need for the items they now needed to store.

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MINI-WAREHOUSE LOCATION CRITERIA

1. TOTAL POPULATION IN URBANIZED AREA

   --Total demand may range from 1 to 1.5 feet of space per person in total urban population. (An urban area of 100,000 would indicate a total demand of 100,000 to 150,000 square feet of mini-storage space.)

2. TOTAL POPULATION WITHIN PRIMARY TRADE AREA

   --Total demand based upon population within trade area of 3 to 5 miles. Census tract maps and census tract data provide
   (A 3-mile trade area population of 30,000 would indicate a potential demand of 30,000 to 45,000 square feet of space.)
   (A 5-mile trade area population of 90,000 would indicate a potential demand of 90,000 to 135,000 square feet of space.)

3. HIGH CONCENTRATION OF RENTAL HOUSEHOLDS

   --User profile consists of rental households.
   (Census data used for trade area also provides information on renter or owner occupancy.)

4. TURNOVER RATE OF 20% OR MORE (IF DATA AVAILABLE)

   --Housing moves generate mini-storage demand.
   (Telephone or other utility connections indicate total annual turnover.)

5. HIGHLY VISIBLE SELF-ADVERTISING SITE

   --Visibility appears more important than accessibility.
   (Interstate highway and bypass exposure is helpful, but not essential.)

6. RELATIVELY HIGH TRAFFIC COUNT

   --Local traffic counts in front of and adjacent to site may be more important than interstate highway traffic counts.

7. RESIDENTIAL, COMMERCIAL OR LIGHT INDUSTRIAL AREA

   --A neighborhood attractive to residential users rather than a heavy industrial area.

MINI-WAREHOUSE SITE CRITERIA

1. SITE SIZE

Range 2-6 acres. Typical site is 2½-3½ acres.

2. MAXIMUM SITE COVERAGE

Maximum site coverage approximately 40% of gross site (depends upon zoning).

e.g. A 2-acre site would allow approximately a 35,000 square foot maximum size facility.

43,560 x 2 acres = 87,120 square feet
87,120 x 40% = 34,848 square feet

3. ZONING

Light industrial or commercial zonings is typical. Heavily industrial districts are generally undesirable for residential storage use as apartment owners and homeowners do not like to go into industrial neighborhoods, particularly at night.

One community has allowed residential storage only to be located in a multiple-family zoning area.

4. SEWER AND WATER REQUIREMENTS

Mini-warehouses have been built with well and septic systems as well as public utilities. Many developers consider the public water essential for fire protection to help reduce insurance rates.

Storm drainage is perhaps one of the major problem areas for mini-warehouses. With the lot site covered with asphalt and roof area there is a considerable amount of water runoff. Retention ponds onsite or public storm sewer drainage are usually necessary.

5. ECONOMIC CONSIDERATIONS

MIMIMUM FACILITY SIZE In order to support a first-class mini-warehouse facility an onsite manager's office and apartment is a requirement. In order to maintain the operating expense ration with a manager's salary and apartment it is necessary to have a large enough facility to support the onsite manager. Based upon typical costs of construction and the operating expenses the minimum size for economic facility may be as low as 35,000 square feet in some locations but could be higher in other urban communities which have higher land costs, higher storm sewer costs, higher building costs and higher wage costs for managers.

MAXIMUM FACILITY SIZE What is the maximum size operation for an economic mini-warehouse? While I understand there are some mini-warehouses over 100,000 square feet, most of the mini-warehouses are in the 40-60,000 square feet range with the typical being approximately 50,000 square feet.

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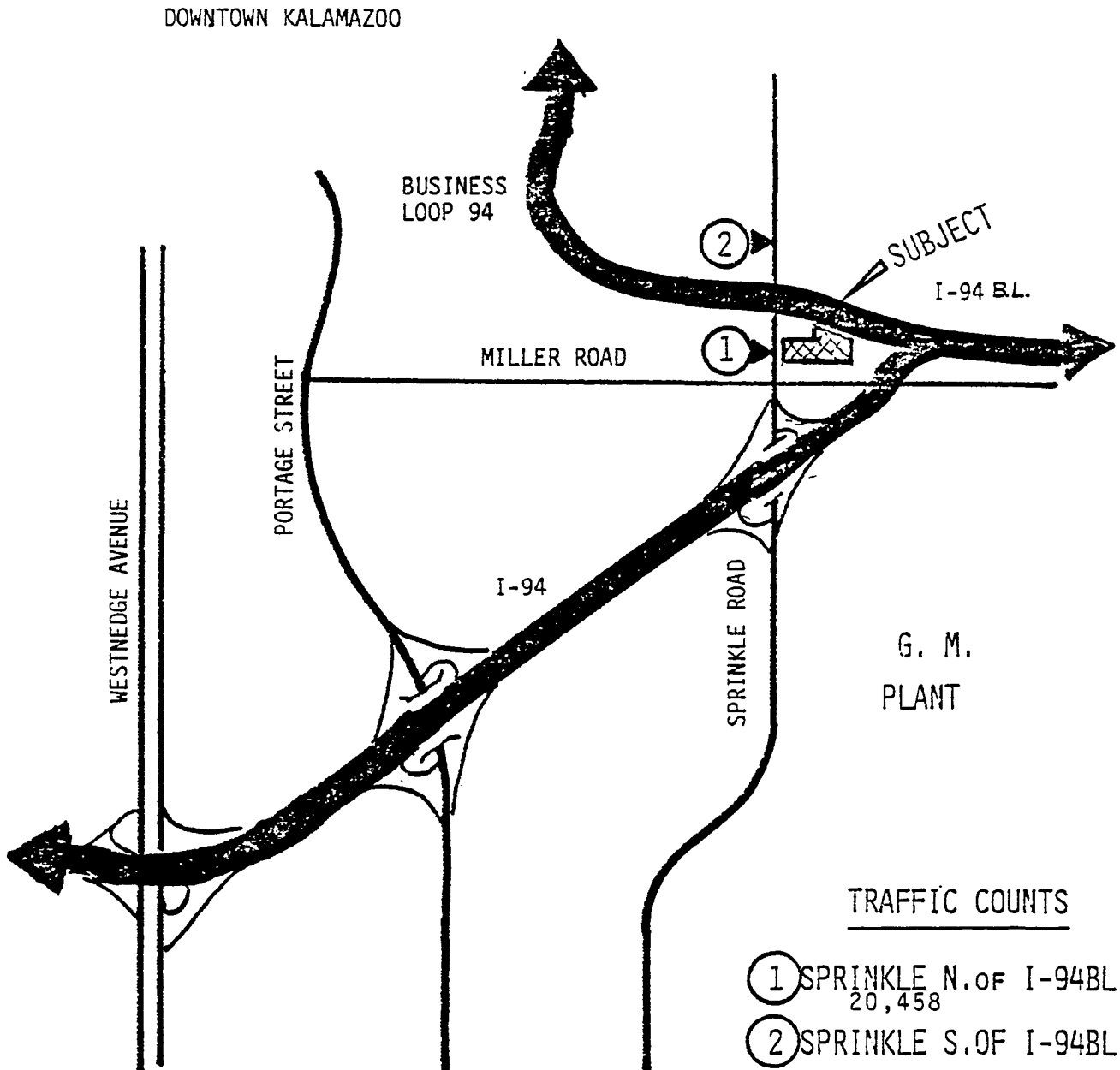
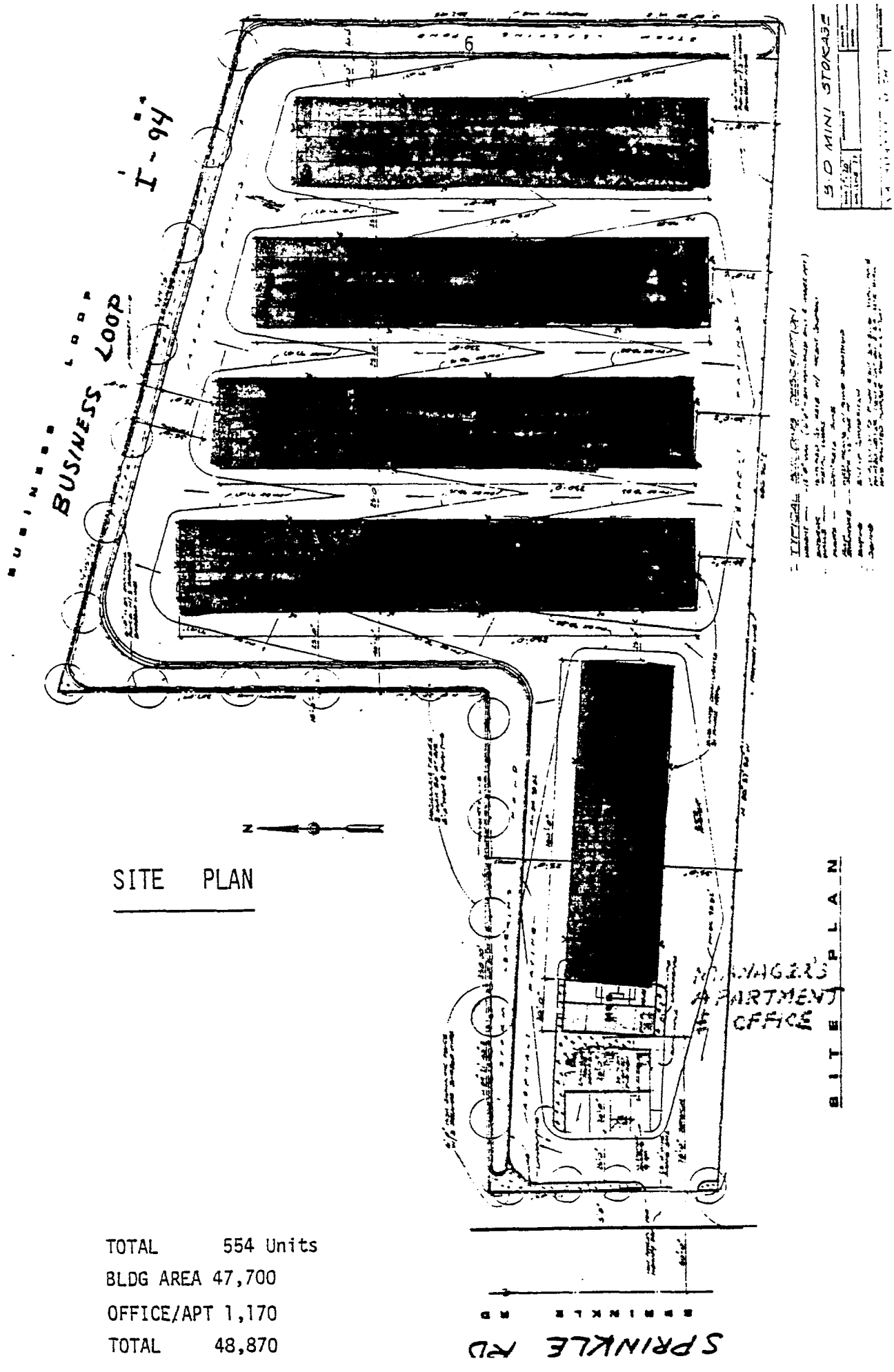
CERTIFICATION
EXPERIENCE AND QUALIFICATIONS

SUBJECT LOCATION AND TRAFFIC MAP



Source: Kalamazoo Co. Road Commission



TOTAL 554 Units

BLDG AREA 47,700

OFFICE/APT 1,170

TOTAL 48,870

MARKET FEASIBILITY ANALYSIS
FOR MINI-WAREHOUSE DEVELOPMENT

OBJECTIVES

The objectives of the following market analysis are:

(1) To provide the reader with a picture of the overall market potential for mini-warehouse development in Kalamazoo, Michigan.

(e.g. How many potential mini-warehouses and how many total square feet of mini-warehouse development will the Kalamazoo market support?)

(2) To provide a projection of the potential mini-warehouse demand at a specific site.

(e.g. How many square feet of space will the market support in the subject trade area?)

(3) To measure the probable impact of existing and potential competition on the proposed subject mini-warehouse.

(e.g. How much (if any) potential business within the subject trade area could be lost to competition?)

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OVERALL MARKET POTENTIAL FOR KALAMAZOO MARKET

UNIT OF MEASURE

The unit of measure is square feet of mini-warehouse space per person.

Previous market analysis in the southwestern U.S. by Bill Aard Associates revealed an overall demand projection of 1 to 1.5 square feet of mini-warehouse space for each person in the overall population. Mature markets may support 2 square feet per person but Kalamazoo is only in the early stages of development.

MARKET POPULATION

The total population of the Kalamazoo market (SMSA) totals 201,550 as of 1970. For the purpose of this market analysis we have used the urbanized area population of 152,083 as a basis for analysis.

KALAMAZOO COUNTY (SMSA)	201,550*
KALAMAZOO URBANIZED AREAS	152,083*
KALAMAZOO CITY	85,555*
PORTAGE CITY	33,590*

The urbanized area as of 1970 understates the 1978 population but includes Comstock Township and other urbanized township areas outside the cities of Kalamazoo and Portage.

BASIC DEMAND

The basic overall mini-warehouse demand projection is 152,000 to 228,000 total square feet.

CONSERVATIVE	PROBABLE
152,083	152,083
x 1 square foot	x 1.5 square feet
152,083 call	228,125 call
152,000 square feet	228,000 square feet

Assuming a typical mini-warehouse development of about 50,000 square feet, a total of three to five mini-warehouses could be supported by the Kalamazoo urbanized market area.

$$\frac{152{,}000 \text{ square feet}}{50{,}000 \text{ square feet}} = 3.04 \text{ call } 3 \qquad \frac{228{,}000 \text{ square feet}}{50{,}000 \text{ square feet}} = 4.56 \text{ call } 5$$

TOTAL MARKET POTENTIAL

Based upon the above analysis the Kalamazoo urban area can support:

- Three to five mini-warehouses of $\pm$50,000 square feet
- 152,000 to 228,000 square feet of mini-storage space

*Source: 1970 U.S. Census

POTENTIAL DEMAND AT SUBJECT SITE

LOCATION: 2135 Sprinkle Road corner I-94 Business Loop, Kalamazoo (Comstock Township), Michigan.

TRADE AREA: Experience in the western U.S. as also verified in Washtenaw County (Ann Arbor market), Michigan indicates that the majority of mini-warehouse users live within three to five miles of a mini-warehouse site.

SUBJECT MARKET POTENTIAL: Compilation of the census tracts within three to five miles of the subject site reveals the following potential demand:

DISTANCE:	3-MILE TRADE AREA		5-MILE TRADE AREA	
POPULATION:	41,688	41,688*	104,581	104,581*
DEMAND:	x1 SQ FT	x1.5 SQ FT	x1 SQ FT	x1.5 SQ FT
TOTAL:	41,688 SQ FT	62,532 SQ FT	104,581 SQ FT	156,872 SQ FT

TRADE AREA POTENTIAL: The subject trade area can adequately support the proposed subject mini-warehouse.

CONSERVATIVE POTENTIAL	PROPOSED	PROBABLE POTENTIAL
41,688 to 62,532 SQ FT MINI-STORAGE	47,700 SQ FT MINI-STORAGE	104,581 to 156,872 MINI-STORAGE

* SOURCE: 1970 U. S. Census (see Table A for Trade Area analysis of 1,2,3,4, and 5 mile radius of subject site.)

TRADE AREA ANALYSIS - - KALAMAZOO SITE

TABLE A

POTENTIAL MARKET WITHIN 1 MILE RADIUS OF SITE:

# PEOPLE	4,544	
# HOUSEHOLDS		
SINGLE FAMILY	1,297	89 %
RENTAL***	168	11
TOTAL HOUSEHOLDS	1,465	100 %

POTENTIAL MARKET WITHIN 2 MILE RADIUS OF SITE:

# PEOPLE	20,792	
# HOUSEHOLDS		
SINGLE FAMILY	5,271	73 %
RENTAL	1,963	27
TOTAL HOUSEHOLDS	7,234	100 %

POTENTIAL MARKET WITHIN 3 MILE RADIUS OF SITE:

# PEOPLE	41,688	
# HOUSEHOLDS		
SINGLE FAMILY	10,491	73 %
RENTAL	3,830	27
TOTAL HOUSEHOLDS	14,321	100 %

POTENTIAL MARKET WITHIN 4 MILE RADIUS OF SITE:

# PEOPLE	77,428	
# HOUSEHOLDS		
SINGLE FAMILY	18,272	69 %
RENTAL	8,038	31
TOTAL HOUSEHOLDS	26,310	100 %

POTENTIAL MARKET WITHIN 5 MILE RADIUS OF SITE:

# PEOPLE	104,581	
# HOUSEHOLDS		
SINGLE FAMILY	24,584	70 %
RENTAL	10,340	30
TOTAL HOUSEHOLDS	34,924	100 %

* Source: 1970 U.S. CENSUS

**Includes mobile homes

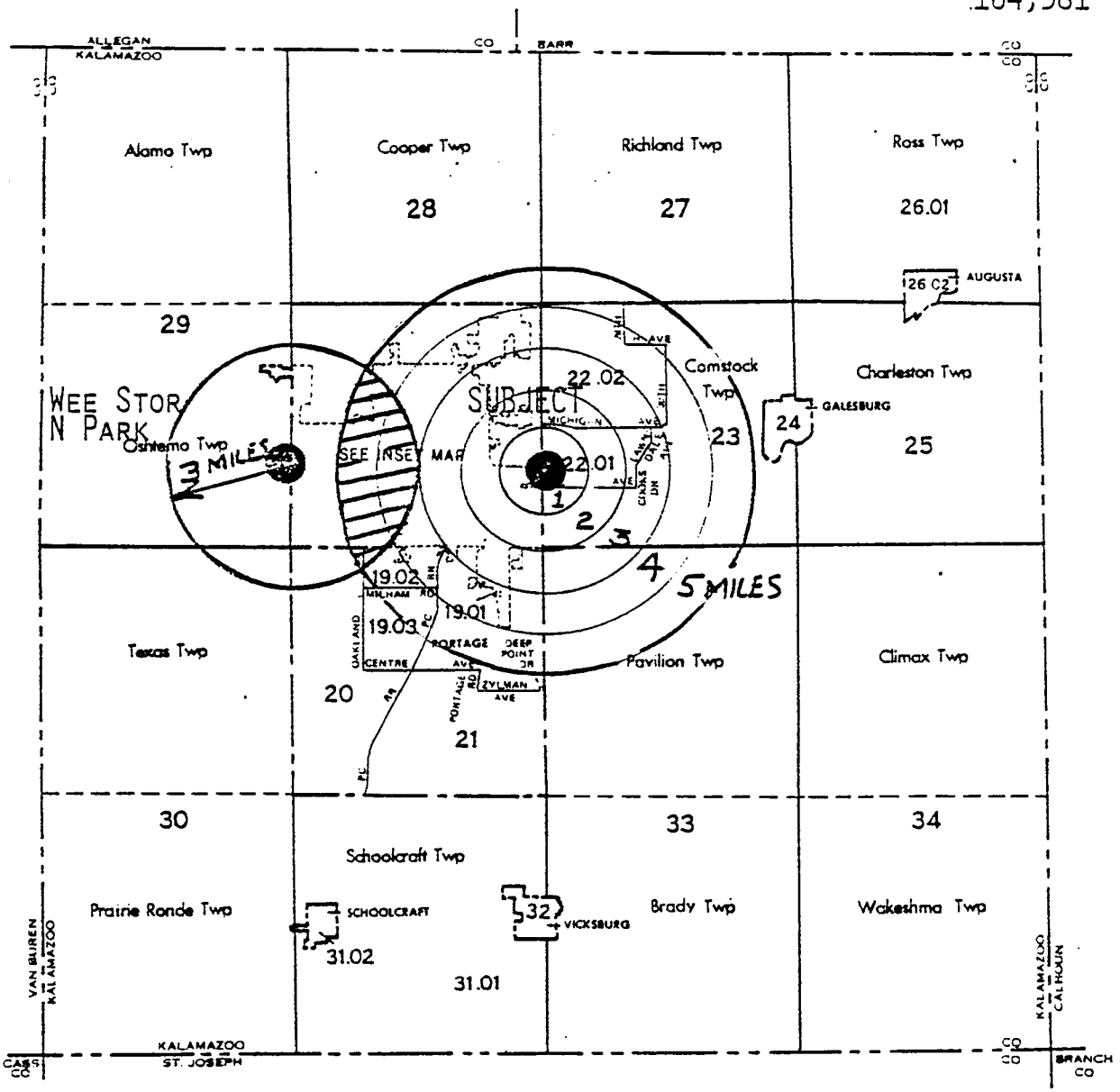
*** Includes structures with 2 or more units

CENSUS TRACTS IN THE KALAMAZOO, MICH. SMSA

TRADE AREA MAP OF SUBJECT AND COMPETITION

POTENTIAL DEMAND AT SUBJECT SITE:

3 MILES POPULATION	5 MILES POPULATION
41,688	104,581



BOUNDARY SYMBOLS

Census Tract Boundaries:

- County
- Corporate Limit
- Minor Civil Division
- Other Tracts

Boundaries Which Are Not Tracts:

- Minor Civil Division

POTENTIAL DEMAND LOST TO COMPETITION

POPULATION WITHIN SUBJECT 5 MILE ZONE AND WITHIN 3 MILES OF WEE STOR N PARK ON 11TH ST. 16,196

2 0 2 4 MILES

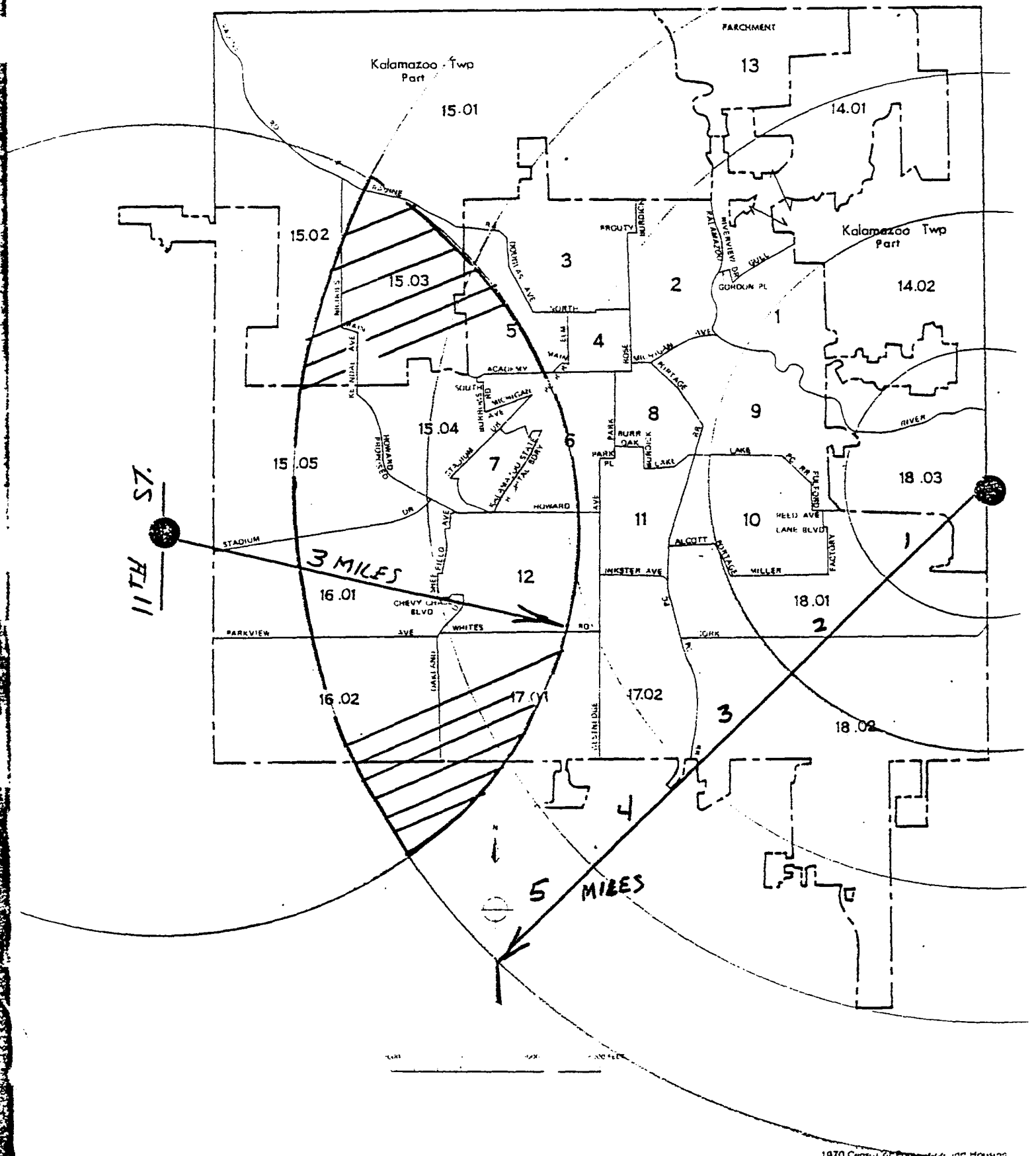
1970 Census of Population and Housing
CENSUS TRACTS
KALAMAZOO, MICH.
STANDARD METROPOLITAN STATISTICAL AREA
Final Report PHC(1)-98

U.S. DEPARTMENT OF COMMERCE

1 OF 2

CENSUS TRACTS IN THE KALAMAZOO, MICH. SMSA

INSET MAP - KALAMAZOO AND VICINITY



1970 Census of Population and Housing
CENSUS TRACTS
KALAMAZOO, MICH
STANDARD METROPOLITAN STATISTIC
Final Report PHC(1)-98

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

THE COMPETITION

EXISTING

One existing competitor is located west of Kalamazoo. The Wee Stor-N-Park mini-warehouse on 11th Street is outside the subject's three-mile trade area. The subject's five-mile trade area, however, overlaps the competitor's three-mile trade area. (See Competition Maps on pages 12, 13 and 15.) We have assumed the subject will lose those potential customers in the subject's five-mile trade area only where this overlap occurs. The U-Haul mini-storage at 1004 Portage is considered to be too small to be significant competition. The two small mini-storage buildings on South Sprinkle Road and the one building on Lovers' Lane, both located in Portage, are marginal competition.

POTENTIAL COMPETITION

Our investigation reveals that two potential developers are looking for sites on the west and south sides of Kalamazoo but no sites are known to be acquired with site plans approved for mini-warehouse use. Contact was made with both the city and county Planning Departments, but no rezoning requests or pending site plans for mini-storage facilities were discovered.

COMPETITION IMPACT

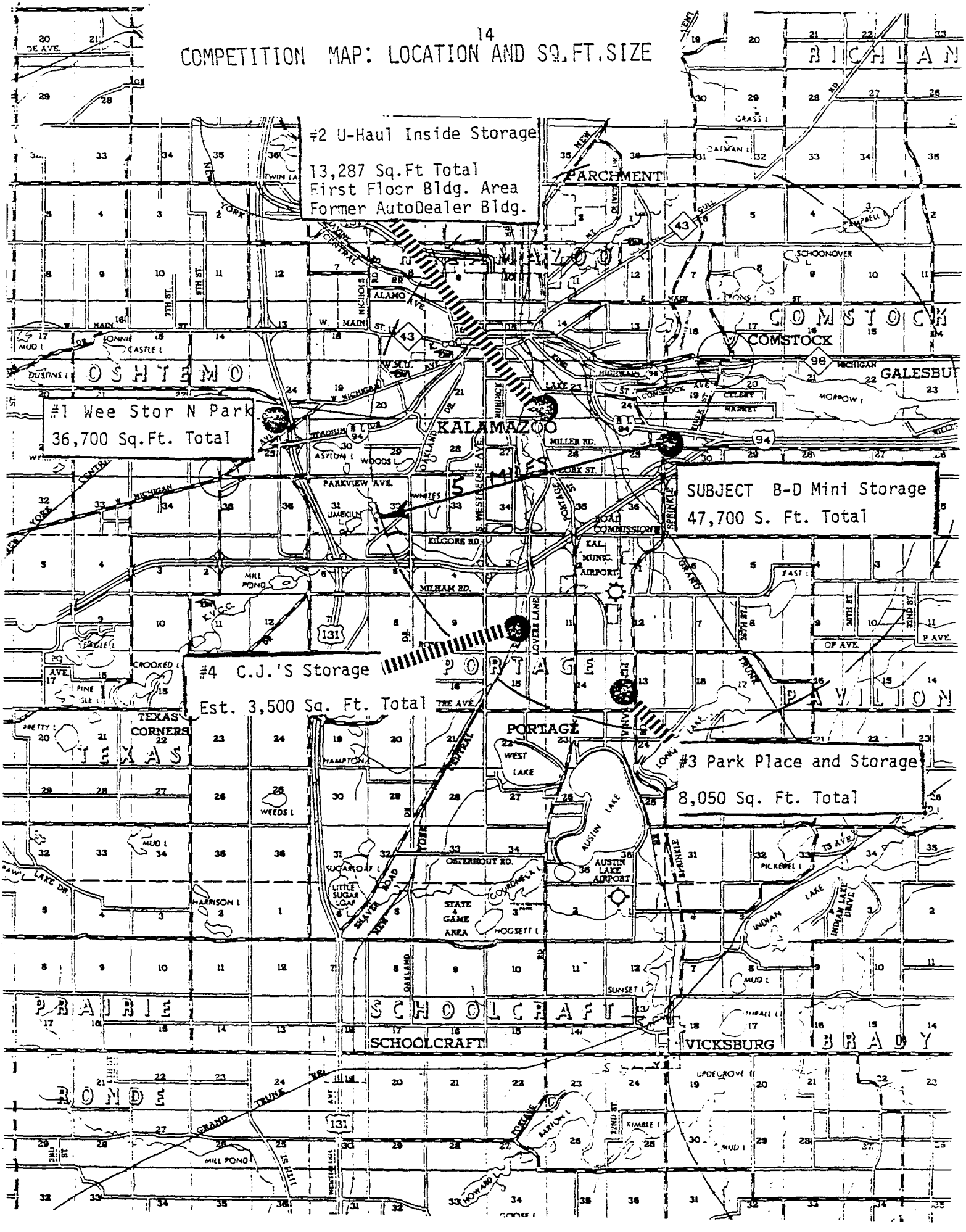
Competition with the subject's three-mile trade area could have a negative impact but there is no existing competition within three miles. If competition does develop within the three-mile trade area the subject's management and promotion could lessen the impact of future competition. The five-mile trade area is large enough to support two 50,000 square foot mini-warehouse developments, using conservative projections. Recognizing even this potential competition the impact on the subject is not likely to reduce the subject occupancy level level below a normal vacancy level.

The best defense against potential competition is selecting a prime site with high visibility, a high traffic count and close proximity to the potential user population.

The proposed subject facility is located adjacent to the easterly edge of the city of Kalamazoo on a highly visible site with exposure to both Sprinkle Road and the I-94 Business Loop. The 24-hour traffic count on Sprinkle Road ranges from 20,458 (south of I-94) to 28,103 (north of I-94 Business Loop). Except for the potential loss of customers located near the Western Michigan University campus, which is closer to Wee Stor-N-Park location, the subject site, in our opinion, has a better location than all four existing Kalamazoo area mini-storage sites.

Analysis of the overlapping trade area with Wee Stor indicates 16,000 to 24,000 square feet of potential demand should be deducted. To arrive at the final estimated storage space demand at the subject site the total square footage of the three existing small storage companies should also be deducted.

COMPETITION MAP: LOCATION AND SQ.FT.SIZE



FEASIBILITY RESEARCH GROUP

MINI-WAREHOUSE MARKET ANALYSIS

POTENTIAL COMPETITION IMPACT SUMMARY

		1 SQ. FT.	1.5 SQ.FT.	
1. TOTAL DEMAND IN SUBJECT TRADE AREA:		104,581 to	156,872	SQUARE FEET
2. *LESS* EXISTING COMPETITION IN TRADE AREA:				
#1 Wee Stor N. Park	*(Partial Overlap)*	16,000 *to*	24,000	SQUARE FEET
#2 U-Haul	(Downtown)	13,287	13,287	
#3 Park Place and Storage	(Portage)	8,050	8,050	
#4 C.J.'s Storage	(Portage)	3,500	3,500	
3. INDICATED DEMAND FOR SUBJECT (1-2) =		63,744 to	108,035	SQUARE FEET
4. PROPOSED SUBJECT SPACE:		47,700 *to*	47,700	SQUARE FEET
5. EXCESS DEMAND (3-4) =		16,044 *to*	60,335	SQUARE FEET

CONCLUSION: *The largest existing competitor #1 would only absorb excess demand. The three small facilities are within the subjects 5 mile trade area, but have less desirable sites and/or lower traffic counts. There is excess demand for 16,000 to 60,000 Sq.Ft. more than subject.*

SUBJECT VS. COMPETITION RANKING

(EQUAL =) (SUBJECT IS SUPERIOR +) (SUBJECT IS INFERIOR -)

	SUBJECT *B-D Mini*	COMPETITION *#1 Wee Stor*	COMPETITION *#2 U-Haul*	COMPETITION *#3 Park Place*
LOCATION	*+ Sprinkle*	*11th St (west)*	*Portage St (Dntn)*	*Sprinkle (Portge)*
SITE VISIBILITY	*+ Excellent*	*Good/Fair*	*Good*	*Good/Fair*
TRAFFIC COUNT	*+ 20-28000*	*3000*	*N.A.*	*10,500*
BUSINESS USE *Estimate*	*+ 25-30%*	*15%*	*5%*	*5%*
RESIDENTIAL USE	*75-70%*	*85%*	*95%*	*95%*
UNIT SIZES	*+ 12*	*8*	*4*	*4*
PRICE	*$9.75-69.75*	*$9-80*	*$16-45*	*$30-50*
MANAGEMENT (ONSITE)	*Full time*	*Part time*	*Full time*	*Part time*
MANAGEMENT (OFFSITE)	*Professional*	*Unknown*	*Franchise*	*Owner/Mgr.*
PROMOTION	*Experienced*	*Yellow Pgs&?*	*Thru U-Haul*	*Limited*
OVERALL RANK	*First*	*Second*	*Third*	*Fourth*

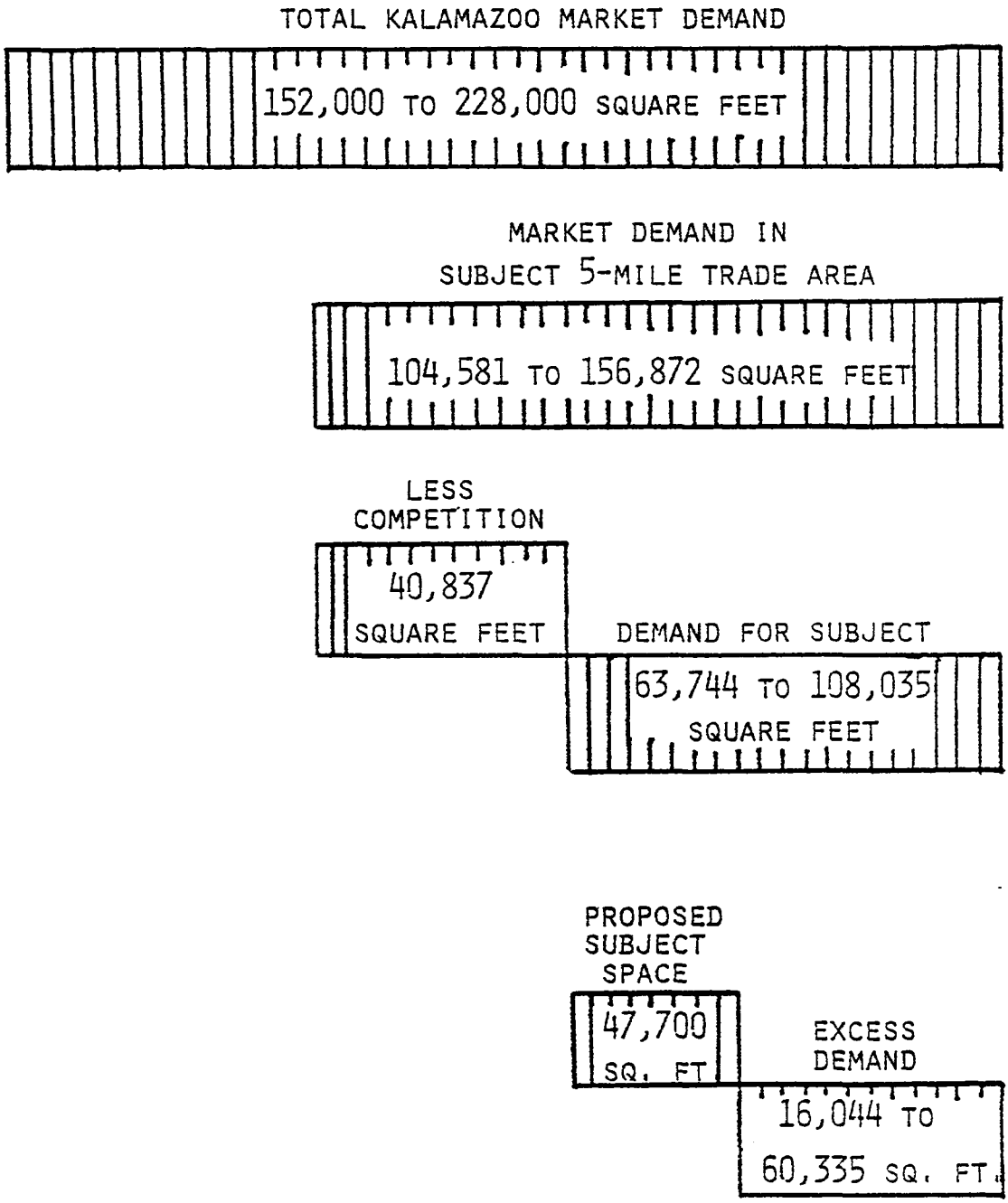
CONCLUSION: *The proposed B-D Mini Storage facility is superior to the existing competition in location, site visibility, traffic count in front of site, and has a potentially higher business user demand. The unit sizes offered increase the competitive edge of the subject over existing and potential competition.*

The monthly rentals are competitive and should compete very effectively with both mini-storage and moving company storage.

Full time on site management with off site back up for monitoring promotion and performance indicate a potential first class facility.

OVERVIEW

MINI-STORAGE MARKET DEMAND



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Continental Publications, PO Box 2248, Palos Verdes, CA 90274.
Coopers and Lybrand, 1251 Avenue of the Americas, New York, NY 10020.
Cornell University College of Agriculture and Life Sciences, Roberts Hall, Ithaca, NY 14853.
Cornell University School of Hotel Administration, 327 Statler Hall, Ithaca, NY 14853.
Council of Planning Librarians, PO Box 229, Monticello, IL 61856.
Council on Hotel, Restaurant, and Institutional Education, Human Development Building, Room 12, University Park, PA 16802.
Counting House Publishing Co., Thiensville, WI 53092.
Coward, McCann & Geoghegan, 390 Murray Hill Parkway, East Rutherford, NJ 07073.
Crossing Press, 17 West Main Street, Trumansburg, NY 14886.
Thomas Y. Crowell, 666 Fifth Avenue, New York, NY 10019.
Crown Publishers, 419 Park Avenue South, New York, NY 10016.
Culinary Arts Institute, 1975 Hawthorne Place, Chicago, IL 60657.
Culinary Arts Society, 270 Madison Avenue, Suite 1302, New York, NY 10016.
Culinary Institute of America, North Road, Hyde Park, NY 12538.

Dartnell Corp., 4660 Ravenswood Avenue, Chicago, IL 60640.
John Day Co., 666 Fifth Avenue, New York, NY 10019.
Dell Publishing Co., Delacourt Press, 1 Dag Hammarskjold Plaza, 245 East 47th Street, New York, NY 10017.
Dial Press—*see* **Dell Publishing Co.**
Discover America Travel Organizations, 1100 Connecticut Avenue N.W., Washington, DC 20036.
Doolco, 2016 Canton Street, Dallas, TX 75201.
Doubleday & Co., 501 Franklin Avenue, Garden City, NY 11530.
Dover Publications, 180 Varick Street, New York, NY 10014.
Dow Jones-Irwin—*see* **Richard D. Irwin**
Dryden Press, 901 North Elm Street, Hinsdale, IL 60521.
Dun & Bradstreet, Dun Donnelly Publishing Corporation, 666 Fifth Avenue, New York, NY 10019.
E. P. Dutton and Co., 201 Park Avenue South, New York, NY 10003.
Duxbury Press—*see* **Wadsworth Publishing Co.**

The Economist Intelligence Unit Ltd., Spencer House, 27 St. James Place, London SW1A 1NT, England.
Edwards Brothers, 2500 South State Street, Ann Arbor, MI 48104.
Elbert Hubbard Foundation, Roycraft Campus, East Aurora, NY 14052.
Electrical Information Publications, 2131 Fordem Avenue, Madison, WI 53701.
Elsevier Scientific Publishing Co., 52 Vanderbilt Avenue, New York, NY 10017.
M. Evans and Company, 216 East 49th Street, New York, NY 10017.
Executive Enterprises Publications Co., PO Box 6532, La Jolla, CA 92037.
Executive Publications, PO Box 92, Harvard Square, Cambridge, MA 02138.
Exposition Press, 900 South Oyster Bay Road, Hicksville, NY 11801.

Faber and Faber Ltd., 101 South Broadway, Salem, NH 03079.
Fawcett Publications, Fawcett Place, Greenwich, CT 06830.
Frederick Fell, 386 Park Avenue South, New York, NY 10016.
Fielding Publications—*see* **William Morrow & Co.**

Financial Accounting Standards Board, High Ridge Park, Stamford, CT 06905.
Financial Executives Research Foundation, 633 Third Avenue, New York, NY 10017.
Financial Publishing Co., 82 Brookline Avenue, Boston, MA 02215.
Follett Publishing Co., 1010 West Washington Boulevard, Chicago, IL 60607.
Fox Publishing Co., Bradford, VT 05033.
Free Press—*see* **MacMillan Publishing Co.**
W. H. Freeman & Co., 660 Market Street, San Francisco, CA 94104.

Georgia State University School of Business Administration, Publishing Services Division, University Plaza, Atlanta, GA 30303.
Glencoe Publishing Co., MacMillan Co., Riverside, NJ 08075.
Golem Press, PO Box 1342, Boulder, CO 80306.
Greater Chicago Hotel and Motel Association, Illinois Athletic Club Building, 112 South Michigan Avenue, Chicago, IL 60603.
Grid, 4666 Indianola Avenue, Columbus, OH 43214.
Grolier, Sherman Turnpike, Danbury, CT 06816.
Grosset & Dunlap, 51 Madison Avenue, New York, NY 10010.

H. P. Books, PO Box 5367, Tucson, AZ 85703.
Halstead Press—*see* **John Wiley & Sons**
Hammond, 515 Valley Street, Maplewood, NJ 07040.
Harcourt Brace Jovanovich, 757 Third Avenue, New York, NY 10017.
Harper and Row Publishers, Keystone Industrial Park, Scranton, PA 18512.
Harris, Kerr, Forster & Co., 420 Lexington Avenue, New York, NY 10017.
Harvard University Press, 79 Garden Street, Cambridge, MA 02138.
Hastings House Publishers, 10 East 40th Street, New York, NY 10016.
Hawthorn Books, 260 Madison Avenue, New York, NY 10016.
Hayden Book Co., 50 Essex Street, Rochelle Park, NJ 07662.
Holiday Inn University, Olive Branch, MS 38654.
Hospitality Institute, Ireland Educational Group, 1652 Groton Court, Wheaton, IL 60187.
Holt, Rinehart & Winston, 383 Madison Avenue, New York, NY 10017.
Hotel Association of New York City, 141 West 51st Street, New York, NY 10019.
Hotel and Restaurant Employees and Bartenders International Union, 120 East Fourth Street, Cincinnati, OH 45202.
Hotel Sales Management Association, 362 Fifth Avenue, New York, NY 10001.
Houghton Mifflin Co., 2 Park Street, Boston, MA 02107.

ITT Educational Services—*see* **Howard W. Sams & Co.**
India Ministry of Information and Broadcasting, Publications Division, New Delhi, India.
Industrial Press, Building 424, Raritan Center, Edison, NJ 08817.
Info Press, 736 Center Street, Lewiston, NY 14092.
Inform, 25 Broad Street, New York, NY 10004.
Institute for Contemporary Studies, 260 California Street, Suite 811, San Francisco, CA 94111.
Institute for Management, Old Saybrook, CT 06475.
Institute for Social Research, University of Michigan, 426 Thompson Street, Ann Arbor, MI 48106.
Institute of Certified Travel Agents, 148 Linden Street, PO Box 56, Wellesley, MA 02181.
Institute of Real Estate Management, 155 East Superior Street, Chicago, IL 60611.
Insurance Company of North America, 1600 Arch Street, Philadelphia, PA 19103.
International Council of Shopping Centers, 445 Park Avenue, New York, NY 10022.
International Foodservice Manufacturers Association, 1 East Wacker Drive, Chicago, IL 60601.
International Franchise Association, 7315 Wisconsin Avenue, Suite 600W, Washington, DC 20014.
International Labour Office, Washington Branch, 1750 New York Avenue N.W., Suite 311, Washington, DC 20006.
International Personnel Management Association, 1313 East 60th Street, Chicago, IL 60637.
International Publications Service, 114 East 32nd Street, New York, NY 10016.
International Publishers, 381 Park Avenue South, Suite 1301, New York, NY 10016.
International Scholarly Book Service, PO Box 555, Forest Grove, OR 97116.
International Union of Official Travel Agents—*see* **World Tourism Organization**
International Wine Society, 304 East 45th Street, New York, NY 10017.
Iowa State University Press, South State Avenue, 112C Press Office, Ames, IA 50010.
Richard D. Irwin, 1818 Ridge Road, Homewood, IL 60430.

Johns Hopkins University Press, Baltimore, MD 21218.
Johnson Publishing Co., PO Box 990, Boulder, CO 80306.

Keats Publishing Co., 36 Grove Street, PO Box 876, New Canaan, CT 06840.
J. J. Keller and Associates, 145 West Wisconsin Avenue, Neenah, WI 54956.
Alfred A. Knopf—*see* **Random House**

Lateiner Publishing, 1 Strawberry Hill Avenue 10-E, Stamford, CT 06902.
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Law Journal Press, New York Law Journal Building, 258 Broadway, New York NY 10007.
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Lebhar-Friedman Books, 425 Park Avenue, New York, NY 10020.
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Lenz and Reicker, 75 Varick Street, New York, NY 10013.
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Lexington Books, D. C. Heath and Co., 125 Spring Street, Lexington, MA 02173.
J. B. Lippincott Co., East Washington Square, Philadelphia, PA 19105.
Little, Brown & Co., 200 West Street, Waltham, MA 02154.
Longmark, Canada Ltd., 55 Barber Green Road, Don Mills, Ontario, Canada.
Lord Publishing Co., 130 Clarke Road, Needham, MA 02192.
Lyceum Books, PO Box 113, Wilton, CT 06897.

MIT Press, 28 Carleton Street, Cambridge, MA 02142.
McCutchan Publishing, 2526 Grove Street, Berkeley, CA 94704.
McGill-Queens University Press, 1020 Pine Avenue West, Montreal, Quebec, Canada.
McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, NY 10020.
David McKay Co., 750 Third Avenue, New York, NY 10017.
MacMillan Publishing Co., Riverside, NJ 08075.
Management Information Center, PO Box 357, Miami, FL 33148.
Manhattan Menus, 919 Third Avenue, New York, NY 10022.
Mason/Charter, 641 Lexington Avenue, New York, NY 10022.
Mayfield Publishing Co., 285 Hamilton Avenue, Palo Alto, CA 94301.
Meadowbrook Press, 16648 Meadowbrook Lane, Wayzata, MN 55391.
R. S. Means Co., 100 Construction Plaza, Duxbury, MA 02332.
Meredith Corporation, 1716 Locust Street, Des Moines, IA 50336.
Michigan State University Press, East Lansing, MI 48823.
Mobil Oil Corporation, 150 East 42nd Street, New York, NY 10017.
Money Market Directories, 370 Lexington Avenue, New York, NY 10017.
Morgan-Grampian, 205 East 42nd Street, New York, NY 10017.
William Morrow & Co., 6 Henderson Drive, West Caldwell, NJ 07006.

National Academy of Science, Printing and Publishing Offices, 2101 Constitution Avenue, Washington, DC 20418.
National Association of Accountants, 919 Third Avenue, New York, NY 10022.
National Association of Home Builders, 15th and M Streets N.W., Washington, DC 20005.
National Association of Meat Purveyors, 252 West Ina Road, Tucson, AZ 85704.
National Association of Pool Owners, 10 Kearney Road, Box 222, Needham, MA 02194.
National Association of Realtors, 430 North Michigan Avenue, Chicago, IL 60611.
National Club Association, Suite 602, 1129 20th Street N.W., Washington, DC 20036.

National Education Standards, 650 South Grand Avenue, Suite 1002, Los Angeles, CA 90017.
National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.
National Innkeeping Association, 122 East High Street, Jefferson City, MO 65101.
National Institute for the Foodservice Industry, 120 Riverside Plaza, Chicago, IL 60606.
National Institute for Occupational Safety and Health, Office of Technical Publications, PO Building, Room 530, Cincinnati, OH 45202.
National Live Stock and Meat Board, 444 North Michigan Avenue, Chicago, IL 60611.
National Recreation and Park Association, 1601 North Kent Street, Arlington, VA 22209.
National Restaurant Association, Suite 2600, One IBM Plaza, Chicago, IL 60611.
National Sanitation Foundation, NSF Building, 3475 Plymouth Road, Ann Arbor, MI 48106.
National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.
Nelson-Hall Co., 325 West Jackson Boulevard, Chicago, IL 60600.
New American Library, 1301 Avenue of the Americas, New York, NY 10019.
New University Education, Bingley Co., (Clive Ltd.), 16 Pembridge Street, London W11, England.
New York State Department of Commerce, 99 Washington Avenue, Albany, NY 12245.
New York State Recreation and Park Society, PO Box 68, Peekskill, NY 10566.
New Zealand Tourist and Publicity Department, Wellington, New Zealand.
Newnes-Butterworth, Burough Green, Sevenoaks, Kent TN 15 8 PH, England.
Newspaper Enterprises Association, 230 Park Avenue, New York, NY 10017.
North Holland—*see* **Elsevier Scientific Publishing Co.**
W. W. Norton & Co., 500 Fifth Avenue, New York, NY 10036.
Noyes Data Corporation, Mill Road at Grand Avenue, Park Ridge, NJ 07656.

Ohio State University, College of Administrative Science, Columbus, OH 43210.
Opinion Research Corporation, North Harrison, Princeton, NJ 08540.
Organization of American States, 17th and Constitution Avenues N.W., Washington, DC 20006.
Ottenheimer Publishers, 1632 Reisterstown Road, Baltimore, MD 21208.
Owen-Sterling, Grand Rapids, MI 49503.
Oxford University Press, 1600 Pollitt Drive, Fair Lawn, NJ 07410.

Paddington Press Ltd.—*see* **Grosset & Dunlap**
Pantheon Books, Random House, 400 Hahn Road, Westminster, MD 21157.
Parker Publishing Co.—*see* **Prentice-Hall**
Passive Energy Systems, PO Box 499, Blacksburg, VA 24060.
Pendragon House, 2595 East Bayshore Drive, Palo Alto, CA 94303.
Penguin Books, 625 Madison Avenue, New York, NY 10022.
Peninsular Publishing Co., 2503 Jackson Bluff Road, Tallahassee, FL 32301.
Pennsylvania State University Press, University Park, PA 16802.
Pergamon Press, Maxwell House, Fairview Park, Elmsford, NY 10523.
Petrocelli/Charter—*see* **Mason/Charter**
Pica Editions, Pica Editorial Ltd., 26 Parkway, London NW1, England.
Pilot Books, 347 Fifth Avenue, New York, NY 10016.
Pinnacle Books, 1 Century Plaza, 2029 Century Park East, Los Angeles, CA 90067.
Pitman Publishing Corp., 6 Davis Drive, Belmont, CA 94022.
Potter, Clarkson N.—*see* **Crown Publishers**
Practising Law Institute, 810 Seventh Avenue, New York, NY 10019.
Praeger Publishing—*see* **Holt, Rinehart & Winston**
Prentice-Hall, Box 903, Englewood Cliffs, NJ 07632.
Price Analysis Systems, PO Box 8516, Minneapolis, MN 55408.
Princeton University Press, 41 William Street, Princeton, NJ 08540.
Profit Sharing Research Foundation, 1718 Sherman Avenue, Evanston, IL 60201.
G. P. Putnam's Sons, 390 Murray Hill Parkway, East Rutherford, NJ 07073

Quadrangle/New York Times—*see* **Harper and Row**

Rand McNally & Co., PO Box 7600, Chicago, IL 60680.
Random House, 457 Hahn Road, Westminster, MD 21157.
Rawson Associates—*see* **Atheneum Publishers**
Henry Regnery Co., 180 North Michigan Avenue, Chicago, IL 60601.
D. Reidel Publishing Co., 160 Old Derby Street, Hingham, MA 02043.
Resources for the Future, 1755 Massachusetts Avenue N.W., Washington, DC 20036.
Resume Researchers, 239 Fourth Avenue, Pittsburgh, PA 15222.
Reston Publishing Co., Prentice-Hall, Englewood Cliffs, NJ 07632.
Rodale Press, 33 East Minor Street, Emmaus, PA 18049.

St. Augustinus Boekhandel, Curaçao, Antilles Islands.
St. Martin's Press, 175 Fifth Avenue, New York, NY 10010.
Howard W. Sams & Co., 4300 West 62nd Street, Indianapolis, IN 46206.
San Francisco Book Co.—*see* **Simon and Schuster**
W. B. Saunders Co., Columbia Broadcasting System, West Washington Square, Philadelphia, PA 19105.
Schocken Books, 200 Madison Avenue, New York, NY 10016.
Scholars Book Company, 4431 Mount Vernon, Houston, TX 77006.
Charles Scribner's Sons, Shipping and Service Center, Vreeland Avenue, Totawa, NJ 07512.
Security World Publishing Co., 2639 South La Cienega Boulevard, Los Angeles, CA 90034.
Siebel Publishing Company, 4049 West Patterson Avenue, Chicago, IL 60646.
Signet Books—*see* **New American Library**
Simon and Schuster, 1230 Avenue of the Americas, New York, NY 10020.
Simpson-Doyle Co., Phoenix Book Publishers, 1614 East McLullan Boulevard, Phoenix, AZ 85106.
Society for the Advancement of Food Service Research, 2710 North Salisbury Street, West Lafayette, IN 47906.
Society for Industrial Realtors, 935 15th Street N.W., Washington, DC 20005.
Society of Real Estate Appraisers, 7 South Dearborn Street, Chicago, IL 60603.
South-Western Publishing Co., 5101 Madison Road, Cincinnati, OH 45227.
Southern University Press, 130 South 19th Street, Birmingham, AL 35233.
E. & F. N. Spon Ltd., 11 New Fetter Lane, London EC4P 4EE, England.
Stackpole Books, Cameron & Keller Streets, Harrisburg, PA 17105.
Stamats Publishing Co., 427 6th Avenue, Cedar Rapids, IA 52406.
Stein and Day, 122 East 42nd Street, New York, NY 10017.
Structures Publishing Co., Box 423, Farmington, MI 48024.
Struik, Cape Town, Union of South Africa.
Successful Meetings Book Division, 633 Third Avenue, New York, NY 10017.

Ten Speed Press, PO Box 7123, Berkeley, CA 94707.
Charles C. Thomas, 301–27 East Lawrence Avenue, Springfield, IL 62717.
Time-Life Books, Little, Brown & Co., 34 Beacon Street, Boston, MA 02106. *For library and school orders:* Silver Burdette Co., Morristown, NJ 13664.
Touche Ross, 1633 Broadway, New York, NY 10019.
Tourism Development Company, Fomento Building, 268 Ponce de Leon Avenue, Hato Rey, PR 00918.
Tourism International Press, 154 Cromwell Road, London SW7, England.
Tourist Planning and Research Ltd., Suite 433, 52–54 High Holborn House, London WC1 V6R, England.
Travel Data Center, 1100 Connecticut Avenue N.W., Washington, DC 20036.
Travel Information Bureau, PO Box 1051, Kings Park, NY 11754.
Travel Marketing Consultant Service, 37 Haverford Road, Hicksville, NY 11802.
Tudor Publishing Company, 31 West 46th Street, New York, NY 10036.
Two Continents Publishing Group, 5 South Union Street, Lawrence, MA 01843.

UCN Register Div., Anderson Group, PO Box 508, Madison, NJ 07940.

Unipub, PO Box 433, Murray Hill Station, New York, NY 10016.
United States Government Printing Office, Division of Public Documents, Washington, DC 20402.
United States Travel Data Center, Suite 340, 1100 Connecticut Avenue N.W., Washington, DC 20036.
University of California Press, 2223 Fulton Street, Berkeley, CA 94720.
University of Colorado, Business Research Division, Graduate School of Business Administration, Boulder, CO 80302.
University of Hawaii, College of Business Administration, Industrial Relations Center, 2444 Dole Street, Honolulu, HI 96822.
University of Massachusetts Press, PO Box 429, Amherst, MA 01002.
University of Michigan Press, 615 East University, Ann Arbor, MI 48106.
University of Nevada, Bureau of Business and Economic Research, Reno, NV 89557.
University of Texas, Bureau of Business Research, Graduate School of Business, PO Box 7459, University Station, Austin, TX 78712.
University of Wales, Cardiff, Wales.
University of Wisconsin Press, Box 1379, Madison, WI 53701.
Urban Institute, Publications Office, 2100 M Street N.W., Washington, DC 20037.
Urban Land Institute (ULI), 1200 18th Street N.W., Washington, DC 20036.

Van Nostrand-Reinhold, Litton Educational Publishing Co., 7625 Empire Drive, Lexington, KY 41042.
Arthur Vanous Co., One Richard Court, River Edge, NJ 07661.
Viking Press, 625 Madison Avenue, New York, NY 10022.
Virtue Books—*see* **Continental Publications**

Wadsworth Publishing Co., 10 Davis Drive, Belmont, CA 94002.
Warren, Gorham & Lamont, 210 South Street, Boston, MA 02111.
Watson-Guptill Publications, 2160 Patterson Street, Cincinnati, OH 45214.
West Publishing Co., PO Box 3526, St. Paul, MN 55165.
Whitney Library of Design—*see* **Watson-Guptill Publications**
John Wiley & Sons, 605 Third Avenue, New York, NY 10016.
Wilton Enterprises, 1602 South Michigan Avenue, Chicago, IL 60616.
Wine and Spirit Publications, Southbank House, Black Prince Road, London SE1, England.
Wines and Vines, Hiaring Co., 703 Market Street, San Francisco, CA 94103.
Winthrop Publishing Co., Prentice-Hall, Englewood Cliffs, NJ 07632.
Woodbridge Press Publishing Co., Box 6189, Santa Barbara, CA 93111.
World Publishing Co., 2231 West 110th Street, Cleveland, OH 44102.
World Tourism Organization, Avenida del Generalissimo, 59, Madrid 16, Spain.
Peter H. Wyden, 750 Third Avenue, New York, NY 10017.

Yale University Press, 92A Yale Station, New Haven, CT 06520.

Ziff-Davis Publishing Co., One Park Avenue, New York, NY 10016.

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INVESTMENT BULLETIN

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MORTGAGE COMMITMENTS ON MULTIFAMILY AND NONRESIDENTIAL PROPERTIES REPORTED BY 20 LIFE INSURANCE COMPANIES FOURTH QUARTER 1980 AND ANNUAL DATA

Reporting companies account for 67% of nonfarm mortgages and 61% of total assets held by U. S. life insurance companies.

The attached tables provide the results for the fourth quarter of 1980 from the survey of mortgage commitments made on income properties by 20 life insurance companies. Annual data appear in Table 1, Table 4, Table A, Table B, and Table L.

Flexible lending terms continued to be emphasized in commitments made in the fourth quarter of 1980. Loans with provision for income or equity participation, renegotiable rates, maturities of 10 years or less, or a lender's call option accounted for nearly 90% of fourth-quarter commitments. (The ratio reflects adjustments to eliminate double-counting of loans with more than one feature.)

As shown in Table 3, loans with provision for income/equity returns or renegotiable rates accounted for 53% of the number and 75% of the amount committed in the final quarter of 1980, even larger shares than in the preceding quarter (see Investment Bulletin No. 818). Loans with final maturities of 10 years or less again represented some 30% of the number of loans, in contrast with a scant 5% share in the final quarter of 1979. With this emphasis on variable returns and shorter maturities, use of a lender's call option occurred less frequently than was found in 1979 commitments, but the option was exercisable much sooner in loan life than prevailed a year earlier (Table E and comparable earlier tables).

For the first time in these surveys, information is included on nonrefundable fees received in connection with some loan commitments (see footnotes to Table 3, Table D, and Table M). Such fees, which have long been utilized by some lenders, are at times associated with a lower contract rate than otherwise would have been required. The presence of nonrefundable fees and other yield-affecting features are important to any assessment of contract rates. The surveys, however, do not attempt to measure potential yields of the reported commitments, in part because the yield is highly uncertain. Moreover, some commitments may not be funded or may be funded at terms different from those set at commitment.

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Table L

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Property Type, Year 1980

Property Type	No. of Loans	Amount Committed ($000)	Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Term (Years/Months)	Percentage Distribution by loan amount
Conventional Elevator Apartment	7	18,100	2,586	12.39%	12.53%	61.0%	10.1%	1.17	13.1%	14/3	0.4%
Conventional Nonelevator Apartment	21	91,145	4,340	12.52	12.55	74.4	11.8	1.25	13.0	13/7	2.2
Retail - less than 5 stores	9	20,102	2,234	12.76	12.80	72.7	11.6	1.25	13.2	18/2	0.5
Shopping Center - 5 or more stores[1/]	39	189,897	4,869	12.61	12.61	71.6	12.0	1.29	12.8	15/8	4.5
Supermarket	7	31,252	4,465	12.89	12.80	97.4	13.6	1.03	13.8	22/10	0.7
Department Store	5	38,800	7,760	12.00	12.00	100.0	13.9	1.09	12.8	25/0	0.9
Office Building[2/]	240	2,524,388	10,518	12.59	12.45	73.2	11.9	1.27	12.9	18/8	60.4
Medical Office Building[1/]	20	36,810	1,840	12.74	12.87	73.9	12.3	1.26	13.2	18/10	0.9
Parking Garage	2	4,075	2,038	*	*	*	*	*	*	*	0.1
Service Station	1	1,000	1,000	*	*	*	*	*	*	*	**
Restaurant	3	8,795	2,932	13.04	12.41	88.5	11.6	0.92	14.7	18/4	0.2
Commercial Warehouse[1/]	71	143,521	2,021	12.64	12.42	71.3	11.5	1.23	13.1	13/8	3.4
Truck Terminal	1	1,500	1,500	*	*	*	*	*	*	*	**
Other Commercial	4	10,675	2,669	13.16	13.53	69.7	12.7	1.28	14.4	13/6	0.3
Educational	1	350	350	*	*	*	*	*	*	*	**
Hospital and Institutional	2	2,968	1,484	*	*	*	*	*	*	*	0.1
Social and Recreational	3	4,130	1,377	13.42	13.65	58.9	13.5	1.24	14.8	11/8	0.1
Industrial Warehouse[3/]	149	285,381	1,915	12.85	12.43	73.8	12.4	1.26	13.2	21/6	6.8
Manufacturing Plant	10	10,010	1,001	12.88	12.82	72.2	11.8	1.23	13.3	17/2	0.2
Other Industrial	21	46,710	2,224	12.68	12.99	73.5	12.6	1.33	13.0	26/5	1.1
Hotel	32	635,050	19,845	12.75	12.66	72.0	13.1	1.39	13.2	16/11	15.2
Motel	4	36,200	9,050	12.88	11.86	66.3	13.0	1.57	13.2	10/6	0.9
Multiple Property Complex	4	39,430	9,858	12.56	12.47	74.8	11.9	1.24	12.8	22/6	0.9
TOTAL	656	4,180,289	6,372	12.69	12.42	73.3	12.1	1.27	13.1	18/6	100.0

*Data not shown where there are fewer than three loans.
**Less than 0.05%.

1/ Interest rate was not available for one loan.
2/ Interest rate was not available for two loans.
3/ Interest rate was not available for six loans.

Note: Averages for capitalization rate, debt coverage ratio, and percent constant may represent a fewer number of loans than the total for the specified category.

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Table M

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Loan Size Class Within Major Property Type, Fourth Quarter, 1980

Major Property Type Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Term (Years/Months)
APARTMENT - CONVENTIONAL	11	33,570	3,052	12.41%	12.45%	66.5%	11.3%	1.23	13.3%	13/2
Less than $1 million	1	940	940	*	*	*	*	-	-	*
$1 million - $3,999(000)	6	11,980	1,997	12.67	12.64	59.4	11.0	1.19	14.0	13/4
$4 million - $7,999(000)	4	20,650	5,162	12.38	12.41	74.9	11.9	1.26	12.7	15/0
COMMERCIAL RETAIL	11	33,478	3,043	13.02	12.93	73.2	12.2	1.26	13.3	11/4
$1 million - $3,999(000)	8	18,343	2,293	13.00	12.83	72.6	12.2	1.27	13.4	11/10
$4 million - $7,999(000)	3	15,135	5,045	13.08	13.05	74.6	12.1	1.22	13.2	10/0
OFFICE BUILDING[2/]	82	713,129	8,697	13.01	12.92	71.5	12.1	1.28	13.3	17/3
Less than $1 million	8	5,420	678	13.98	13.95	69.8	13.3	1.39	14.7	15/0
$1 million - $3,999(000)	28	63,154	2,256	13.15	13.04	72.3	12.6	1.29	13.5	15/8
$4 million - $7,999(000)	23	134,550	5,850	12.82	12.81	71.0	11.8	1.28	13.1	19/7
$8 million and over	23	510,005	22,174	12.72	12.92	71.5	11.4	1.23	12.9	17/7
COMMERCIAL SERVICE[1/]	19	35,966	1,893	13.19	13.02	70.1	11.6	1.21	13.6	13/6
Less than $1 million	3	1,381	460	14.00	14.27	70.8	12.6	1.26	14.2	5/8
$1 million - $3,999(000)	15	27,185	1,812	13.07	13.10	69.3	11.4	1.20	13.5	15/0
$4 million - $7,999(000)	1	7,400	7,400	*	*	*	*	*	*	*
INSTITUTIONAL AND RECREATIONAL	1	150	150	*	*	*	-	-	-	*
INDUSTRIAL[3/]	32	55,566	1,736	13.31	13.30	74.0	12.9	1.29	13.7	20/3
Less than $1 million	14	9,056	647	13.31	13.30	73.9	13.4	1.34	13.7	20/3
$1 million - $3,999(000)	16	33,360	2,085	13.36	13.45	74.1	12.4	1.23	13.7	19/10
$4 million - $7,999(000)	2	13,150	6,575	*	*	*	*	*	*	*
HOTEL AND MOTEL	8	114,400	14,300	12.92	12.75	70.9	13.0	1.39	13.3	17/6
$1 million - $3,999(000)	2	5,100	2,550	*	*	*	*	*	*	*
$4 million - $7,999(000)	1	4,000	4,000	*	*	*	*	*	*	*
$8 million and over	5	105,300	21,060	12.65	12.70	72.0	13.2	1.43	13.1	19/0
MULTIPLE PROPERTY COMPLEX	1	6,675	6,675	*	*	*	*	*	*	*
TOTAL	165	992,934	6,018	13.04	12.90	71.6	12.2	1.28	13.4	16/8

*Data not shown where there are fewer than three loans.

1/ Interest rate was not available for one loan.
2/ Interest rate was not available for two loans.
3/ Interest rate was not available for five loans.

Note: Averages for capitalization rate, debt coverage ratio, and percent constant may represent a fewer number of loans than the total for the specified category. Nonrefundable fees were reported in connection with 26% of the number and 22% of the amount committed. The comparable shares by property type ran: 64% and 70% for apartments, 36% and 42% for retail stores, 27% and 21% for office buildings, 32% and 29% for commercial service properties, 6% and 4% for industrial properties, and 25% and 14% for hotels and motels. See note to Table D.

THE ALASKA CHAPTERS

OF THE

AMERICAN INSTITUTE OF

REAL ESTATE APPRAISERS

AND

SOCIETY OF REAL ESTATE APPRAISERS

PRESENT

CONTEMPORARY APPRAISAL ISSUES

FOR LARGE INCOME PROPERTIES

July 26, 1983

8:30 a.m. - 4:30 p.m.

CONTEMPORARY APPRAISAL: CONCEPTS AND EXAMPLES

Professor James A. Graaskamp
University of Wisconsin, School of Business

I. The basic premises of the contemporary approach stem from the fundamental belief that pricing is a behavioral science, that analysis should be inductive rather than deductive wherever possible, and that appraised values are intended to serve as a benchmark for some decision process.

A. A price is a social transaction and the behavior of the parties and configuration of the transaction reflects a consensus at some point in time between external market forces sufficiently strong to impose on the outcome and internal forces on the supply side sufficiently strong to pursue their own self-perceived interests.

Notice that the above does not presume:

1. Both demand and supply forces to have alternatives of equal indifference
2. Negotiation abilities of equal force, or
3. Cash maximization as their sole criteria - all of which characterize the traditional approach

B. Most probable price is defined as: that price within a defined range of possible transactions which would most likely result in sale of the subject property at specified financing terms and conditions after reasonable exposure on the market.

C. The contemporary view sees appraisal as a limited and fictional case of feasibility analysis which, in turn, is a limited case in problem solving which, in turn, is part of a larger planning framework.

D. Appraisal as a fictional feasibility study is a model of a decision process and, therefore, like all models is constrained by the following elements:

1. What is the nature of the question?
2. What quantity and quality of data may be available?
3. What theory or hypothesis may edit and focus the available data as a tentative answer to the question?
4. What techniques and data management can be used reliably by the analysts?
5. What techniques and data management have credibility with the ultimate decision maker hiring the analyst?
6. What techniques and data management are cost effective in terms of the dollar consequences of the decision?

II. In that light, the sequence of steps required of the contemporary appraisal process referred to by Wisconsin students as RATGRAM is as follows:

A. What is the issue for which the appraisal is sought as a benchmark? (see Exhibit 1)

B. What are the attributes of the property in terms of alternative courses of action for their productive use?

C. Given the alternatives, what is the most probable use?

D. Given the most probable use, who is the most probable buyer in terms of class, motivation profile, or market position?

E. Given the most probable use and most probable buyer assumptions, there are three approaches to predicting most probable price:

   1. Inference from past transactions involving properties of similar potential and buyers of similar motivation.

   2. Failing adequate transaction data, it is then acceptable to simulate the pricing methods of the most probable buyer.

   3. Failing to find either similar properties or articulate buyers, the appraiser is then permitted to use normative methods which indicate what might happen if buyer and seller were as smart as the appraiser.

F. With an initial estimate of value, it may then be modified for external conditions unique to the parties, the place, or the time.

G. The adjusted value must then be tested to demonstrate that results at that price would be consistent with the minimum goals of all major parties to the transaction.

H. Since the appraiser is predicting price under conditions of uncertainty and many different market terms, the appraisal conclusion must be expressed as a central tendency within a transaction zone which is qualified by financial terms and/or critical assumptions about unknowable facts.

   1. Although the institute uses fair market value and most probable price interchangeably, that is a travesty on the work of modern theorists and a deliberate attempt to confuse or negate the implied criticism of traditional ways by contemporary analysts.

   2. Contemporary theory recognizes explicitly the errors in forecasting, the role of financial terms, and the reality of bargaining position.

I. These general precepts are then expanded into an appraisal report outline of the general type included in Exhibit 2.

J. Upon review of the more detailed outline and the limited time that we have, I would like to demonstrate a manual market inference system, an automated market comparison system, and an income simulation method, and a computerized test model.

Exhibit I

Critical Issues Which Define Appraisal Process

Function of the Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee simple private rights unencumbered	Fair market value	Income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (non-participating)	Encumbered fee simple private rights plus additional rights pledged	Regulations - fair market value Underwriting - solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus non-vested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business start-up plus monopolistic market controls	Most probable price within perceived costs of alternative	Land, structure, personalty, and intangible assets and good will plus profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

Exhibit 2

CONTEMPORARY REAL ESTATE APPRAISAL REPORT

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value applied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12. Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

C. Special assumptions or instructions that are provided by others

D. Definition of value,which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals,and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief statement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)
3. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
4. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
5. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
6. Current uses and tenancies of improvements, if any
7. Environmental impact attributes of improvements on environs

E. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternative tenancies and uses
4. Replacement of existing improvements or program with new uses

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative-use strategies for legal-political compatibility
2. Testing alternative-use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction of a sales transaction with logic for ranking of alternatives
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
3. Explanation of search parameters
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of alternative valuation method and reasoning
3. Conclusion leads to E or F

E. Simulation of Probable Buyer Decision Process If Market Comparison Approach Is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report

B. Certification of Independent Appraisal Judgment

C. Statement of Limiting Conditions That Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

EXHIBIT 3

FAIR MARKET VALUE - The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated.
2. both parties are well informed or well advised, and each acting in what he considers his own best interest.
3. a reasonable time is allowed for exposure in the open market.
4. payment is made in cash or its equivalent.
5. financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale.
6. the price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction.

Source: P. 137, Real Estate Appraisal Terminology, Editor Byrl Boyce.

EXHIBIT 4

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.

Source: P. 8, The Appraisal of 25 N. Pinckney, Editor James A. Graaskamp.

III. Three Basic Methods of Appraisal

As you know, Ratcliff concludes that most appraisals are concerned with prediction of a future event, a transaction price. Since an appraisal method is a forecasting tool, forecasting is best done with some past experience. Failing that, the best method is simulation of the real estate market process.

A. Given reliable information on past market behavior, the preferred method of appraisal is to process the data, statistically if possible, to derive a prediction of future price behavior under given conditions and with means for estimating the reliability of the prediction.

1. Statistical prediction if possible.
2. Statistical rules for definition of a data set at the least.

B. Should market data be unavailable or inconclusive, the appraiser is forced to resort to the second method of appraisal, namely the construction of a real estate market model of factors which reflect his understanding of how buyers and sellers might behave.

1. The income approach and the cost approach are submodels of how an investor is supposed to behave.
2. After tax investment models are another submodel of market behavior, but while these may measure demand from the buyer's viewpoint, it may not measure the minimum price expected by the seller who also has a tax model to consider. In using the second approach, the appraiser must be very careful to indicate price on the supply side representing minimum expectations (Vs) of the seller.

C. Should there be no sales and no way to verify how buyers would review the specific property (utility case-rate base or kilowatt production?), then the appraiser falls back to normative methods.

1. Normative means what the buyer would do if he were as smart as the appraiser and motivated only by a desire to maximize wealth.

2. The traditional income approach on the cost approach are normative models unless it can be proven buyers behave accordingly.

3. After tax cash flow models are normative models until it can be shown how these models value property.

D. Highest and best use or most probable use in order to identify most probable user and buyer, requires analysis and explicit recognition of:

1. Legal/political acceptability
2. Physical/technical feasibility
3. Effective demand and marketability
4. Financial viability
5. Community compatibility

(See Exhibit 5)

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 28 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by elderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered non-conforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio—housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation—smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$128,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 5

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE/ WEIGHT	#1 30 W. Mifflin	#2 50 E. Mifflin	#3 16 N. Carroll	#4 123 W. Washington	#5 102 N. Hamilton	#6 212 E. Washington	Subject 110 E. Main
	Rating/Weighted Rating						
Parking • 25%	5/1.25	3/.75	0/0	0/0	3/.75	3/.75	3/.75
Location 20%	5/1.00	5/1.00	5/1.00	3/.60	1/.20	3/.60	3/.60
First Floor Retail Lease In Place 15%	5/.75	5/.75	0/0	3/.45	3/.45	0/0	1/.15
Need for Renovation 15%	5/.75	1/.15	3/.45	5/.75	1/.15	1/.15	3/.45
Visual Quality of Office Entrance 10%	5/.50	3/.30	3/.30	5/.50	3/.30	3/.30	1/.10
Vacancies in Existing Office Space 15%	5/.75	0/0	5/.75	5/.75	0/0	0/0	1/.15
Total Weighted Score	5.00	2.95	2.50	3.05	1.85	1.80	2.20
Selling Price	$2,555,500	$850,000	$615,270	$2,896,000	$330,000	$472,000	X
Total Net Rentable Area (NRA)	65,000 sq. ft.	38,500 sq. ft.	35,725 sq. ft.	138,000 sq. ft.	28,000 sq. ft.	38,000 sq. ft.	74,000 sq. ft.
Price Per Square Foot (NRA)	$39.30	$22.10	$17.20	$21.00	$11.80	$12.40	
Price Per Square Foot of NRA / Total Weighted Score	7.86	7.49	6.88	6.89	6.38	6.89	

EXHIBIT 22

EXHIBIT 21

SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS
FOR OFFICE/RETAIL SPACE IN MADISON C-4 ZONE

Parking 25%	5 = Ample private parking on site or available on contract within the same block. 3 = Limited parking on premises 0 = Little or no surface parking on premises.
Location 20%	5 = In the blocks of East and West Mifflin St. or North and South Carroll St., across from the Capitol Square 3 = In the blocks of North and South Pinckney St., across from the Capitol Square, or in the 100 block of West Washington, or adjacent to General Executive Facilities. 1 = Off of the Capitol Square
First Floor Retail Lease in Place at Time of Purchase 15%	5 = Strong lease in place. 3 = Strong lease in place for part of first floor. 0 = Lease expires in less than 6 months or vacant.
Need for Renovation of Office Space at Time of Purchase 15%	5 = No renovation required. 3 = Modest renovation required. 1 = Intensive renovation required.
Visual Quality of Office Entrance 10%	5 = Excellent design and location. 3 = Indifferent design and/or location. 1 = Poorly defined and/or adjacent to incompatible uses.
Vacancies in Existing Office Space at Time of Purchase 15%	5 = Less than 10% of net rentable area (NRA). 3 = More than 10% of NRA. 0 = Vacant

EXHIBIT 23

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Selling Price/ per NRA	Point Score	Price per NRA per Total Weighted Score (x)
1	$39.30	5.00	7.86
2	22.10	3.45	7.49
3	17.20	2.50	6.88
4	21.00	3.05	6.89
5	11.80	1.85	6.38
6	12.40	1.80	6.89
		TOTAL	42.39

Mean Value ($\bar{x}$) = 42.39 ÷ 6 = 7.07

Standard Deviation = $\dfrac{\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}}{\sqrt{n}}$ = .214

where:

x	$\bar{x}$	$(x-\bar{x})$	$\Sigma(x-\bar{x})^2$	n	$n-1$
7.86	7.07 =	.79	.62	6	5
7.49	7.07 =	.42	.18		
6.88	7.07 =	.19	.04		
6.89	7.07 =	.18	.03		
6.38	7.07 =	.69	.48		
6.89	7.07 =	.18	.03		
			1.38		

Value Range: 7.07 ± .21

High Estimate: 7.28 = (X/74,000[1] sq. ft.) ÷ 2.2[2], ∴ X = 1,185,184 or $1,200,000

Central Tendency: 7.07 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,150,996 or $1,150,000

Low Estimate: 6.86 = (X/74,000 sq. ft.) ÷ 2.2, ∴ X = 1,116,808 or $1,120,000

[1] 74,000 sq. ft. = NRA of subject property
[2] 2.2 = Weighted point score for subject property

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof								
B Level Vault-Vacant	700	3.00	--	$ 2,100	$ 2,100	$ 2,270	$ 2,270	$ 2,450
B Level-Showroom & Office	4000	3.00	--	12,000	12,000	12,960	12,960	14,000
A Level-Storage	400	4.00	6/30/80	1,600	2,400	2,600	2,800	3,000
Honeywell Phone Box	--	--	--	600	600	600	650	650
Total-Lower Level	5100			$16,300	$17,100	$18,430	$18,680	$20,100
First Floor								
Chez Vous-112	454	4.80	10/1/76 - 9/30/81	$ 2,180	$ 2,290	$ 2,360	$ 2,360	$ 2,360
Chez Vous-114	1000	4.80	10/1/76 - 9/30/81	4,810	5,030	5,200	5,200	5,200
North Entry	2000	9.00	--	18,000	19,500	21,000	22,500	24,000
South Entry-Leaf & Ladle[4]	3500	9.00	1/1/80 - 12/30/84	31,500	33,130	33,950	36,670	39,600
Total-First Floor	6954			$56,490	$59,950	$62,510	$66,730	$71,160
Second Floor								
201 Vacant	150	6.50	--	$ 970	$ 970	$ 1,050	$ 1,050	$ 1,140
202 State[5]	600	6.70	7/1/79 - 6/30/80	4,020	4,320	4,320	4,670	4,670
203-4 Vacant[5]	543	6.20	9/1/78 - 8/31/79	3,370	3,640	3,640	3,640	3,930
205-6 State	506	7.00	3/1/78 - 5/31/80	3,540	3,820	3,820	4,120	4,120
207-8 Homecrafts	386	7.20	1/1/79 - 12/31/81	2,780	2,850	3,000	3,000	3,080
209-10 State[5]	451	6.25	11/1/79 - 5/31/80	2,820	3,040	3,040	3,280	3,280
211 Dr. Regez	219	7.00	--	1,600	1,730	1,730	1,870	1,870
212-14 Dr. Wierwill	700	6.50	4/1/78 - 3/31/81	4,570	4,900	4,900	4,900	5,210
215 Vacant	415	6.75	7/1/78 - 6/30/79	2,800	3,020	3,020	3,270	3,270
216 UPI	500	7.50	5/1/80 - 4/30/81	3,750	4,050	4,050	4,370	4,370
218-19 Rape Crisis Center	816	7.00	1/1/80 - 12/31/81	5,840	6,120	6,260	6,530	6,690
220-21 State[5]	1400	6.25	12/1/79 - 5/31/80	8,750	9,450	9,450	10,200	10,200
Total-Second Floor	6686			$44,810	$47,910	$48,280	$50,900	$51,830

EXHIBIT 24

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor								
301 Vacant	150	5.75	--	$ 860	$ 860	$ 930	$ 930	$ 1,000
302-3 State[5]	1179	5.75	--	6,780	7,320	7,320	7,900	7,900
304 State[5]	230	6.70	--	1,540	1,660	1,660	1,800	1,800
305-8 State[5]	942	6.70	--	6,300	6,800	6,800	7,360	7,360
309 The Journal Co.	232	7.20	9/1/79 - 8/31/80	1,810	1,880	1,970	2,030	2,120
310-11 State[5]	456	6.70	--	3,050	3,300	3,300	3,560	3,560
312 Vacant	234	5.75	--	1,340	1,450	1,450	1,570	1,570
313-14 Dr. R. Meng	482	7.20	6/1/79 - 5/31/80	3,490	3,730	3,750	4,000	4,030
315 Vacant	731	6.70	10/1/79 - 9/30/80	5,000	5,080	5,310	5,480	5,630
316-19 Wisc. Builders Assoc.	1091	7.00	1/1/80 - 12/31/80	7,810	8,180	8,360	8,730	8,940
320-24 Vacant	1363	7.00	--	9,540	10,300	10,300	11,130	11,130
Total-Third Floor	7090			$47,520	$50,560	$51,150	$54,490	$55,040
Fourth Floor								
401 Vacant	150	6.40	--	$ 960	$ 960	$ 1,040	$ 1,040	$ 1,120
402 Furst, Carlson Inc.	648	6.40	5/1/79 - 4/30/80	4,350	4,370	4,700	4,730	5,090
403-11 State	2147	6.75	1/1/80 - 12/31/81	14,500	14,880	15,670	16,100	16,960
412 Vacant	202	6.40	--	1,290	1,290	1,400	1,400	1,500
413-14 Wisconsin Alliance of Cities	679	6.80	--	4,980	5,020	5,420	5,420	5,850
415 State[5]	259	7.00	3/1/79 - 2/28/81	1,830	1,940	1,970	2,100	2,130
416-19 State[5]	1370	6.00	vacated 6/30/80	8,220	8,880	8,880	9,590	9,590
420-20a State[5]	560	6.70	vacated 6/30/80	3,750	3,750	4,050	4,050	4,370
421-22 State	300	6.70	vacated 6/30/80	2,010	2,010	2,170	2,170	2,340
423-24 Ed Konkol	340	6.60	9/1/79 - 8/31/80	2,240	2,240	2,420	2,420	2,620
Total-Fourth Floor	6655			$44,130	$45,340	$47,720	$49,020	$51,570

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fifth Floor								
501 E. C. Barton	150	7.60	--	$ 1,240	$ 1,270	$ 1,270	$ 1,380	$ 1,380
502 Vacant	842	7.50	--	6,310	6,820	6,820	7,360	7,360
503-5 Vacant	810	7.50	--	6,070	6,070	6,440	6,800	6,800
506-19 State	3922	6.25	11/1/79 - 10/31/83	24,500	24,500	24,500	30,590	31,770
520 State-Bd. of Aging	555	6.70	7/1/79 - 6/30/81	3,950	4,000	4,270	4,330	4,940
521-22 Dr. Coryell	339	7.20	7/1/79 - 6/30/80	2,440	2,690	2,740	2,920	2,950
523-24 Green Bay Press Gazette	337	7.60	9/1/79 - 8/31/82	2,560	2,690	2,760	2,760	2,760
Total-Fifth Floor	6955			$47,070	$48,040	$48,800	$56,140	$57,960
Sixth Floor								
601 Vacant	150	6.70	--	$ 1,000	$ 1,000	$ 1,080	$ 1,080	$ 1,170
602-4 State[5]	1473	6.00	vacated 6/30/80	8,840	9,540	9,540	10,300	10,300
605 Vacant	204	6.40	--	1,300	1,300	1,410	1,410	1,520
606-10 State	1000	6.70	to 6/30/80 then mo. - mo.	7,370	7,500	7,500	8,100	8,100
611 The Evjue Foundation	286	7.00	vacated 11/30/80	2,000	2,000	2,160	2,160	2,330
612-14 State	647	7.50	11/1/79 - 10/31/83	4,850	4,850	4,850	5,080	5,240
615 Tenney Bldg.	344	7.00	--	2,400	2,400	2,600	2,600	2,800
616 John Barsness	850	6.00	3/1/79 - 2/28/81	5,170	5,520	5,590	5,950	6,020
617 Bill Ward	250	6.70	vacated 5/31/80	1,940	2,120	2,120	2,300	2,300
618-19 State	494	8.00	vacated 5/31/79	3,950	3,950	4,270	4,270	4,610
620-24 Vacant	1262	6.70	--	8,450	9,130	9,130	9,860	9,860
Total-Sixth Floor	6960			$47,270	$49,310	$50,250	$53,110	$54,250
Seventh Floor								
701 Lawton & Cates	150	5.75	6/1/79 - 5/31/83	$ 930	$ 970	$ 1,100	$ 1,050	$ 1,090
702-19 Lawton & Cates	5417	5.75	6/1/79 - 5/31/83	33,600	35,100	36,450	37,850	39,160
720-24 Vacant	1106	7.00	--	7,740	7,740	8,360	8,360	9,030
Total-Seventh Floor	6673			$42,270	$43,810	$45,910	$47,260	$49,280

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Eighth Floor								
801 Wisconsin Radio News	150	7.00	to 6/30/80	$ 1,050	$ 1,050	$ 1,130	$ 1,130	$ 1,220
802-5 State	1536	7.55	to 10/31/83	11,600	11,600	11,600	12,060	12,520
806-7 Dr. Mannis	470	7.50	9/1/79 - 8/31/80	3,840	4,000	4,000	4,210	4,320
808-22 State	4580	6.00	7/1/79 - 6/30/80	27,480	36,620	37,100	37,100	39,580
823-24 Dr. Boyle	339	7.60	9/1/79 - 8/31/80	2,780	2,880	3,040	3,120	3,120
Total-Eighth Floor	7075			$46,750	$56,150	$56,870	$57,620	$60,760
Ninth Floor								
901 Millman & Robertson	150	8.00	1/1/80 - 12/31/80	$ 1,230	$ 1,300	$ 1,340	$ 1,400	$ 1,400
902 Wisc. Ins. Alliance	864	7.00	6/1/79 - 5/31/80	6,400	6,480	6,910	7,000	7,000
903-6 Mulcahy & Wherry	980	8.00	1/1/79 - 12/31/81	8,070	8,530	8,750	9,210	9,210
907 Robert Uehling	225	8.00	4/1/80 - 3/31/81	1,810	1,960	1,980	2,110	2,110
909-10 Larry Hall	700	6.00	6/1/79 - 5/31/80	4,520	4,550	4,870	4,900	4,900
911 Dr. Schmitz	248	7.75	1/1/79 - 12/31/80	1,920	1,970	2,060	2,140	2,230
912-19 Devine Insurance	2580	7.00	4/1/80 - 3/31/83	18,060	18,060	18,180	19,350	19,350
921 State	575	7.00	vacated 7/1/80	4,020	4,350	4,350	4,700	4,700
922-23 Judicial Commission	355	6.50	5/1/79 - 4/30/81	2,300	2,500	2,500	2,700	2,700
924-25 Dr. Rundell	339	7.20	6/1/79 - 5/31/80	2,650	2,680	2,860	2,880	2,880
Total-Ninth Floor	7016			$50,980	$52,380	$53,800	$56,390	$56,480
Tenth Floor								
1001 Victor Lind	150	6.80	11/1/79 - 10/31/80	$ 1,050	$ 1,200	$ 1,250	$ 1,300	$ 1,350
1002 Wisc. Assoc. of Indep. Colleges	864	6.50	1/1/80 - 12/31/80	5,760	6,050	6,190	6,480	6,650
1003-4 Wisc. Canners & Freezers	756	8.00	5/1/79 - 4/30/80	6,050	6,050	6,530	6,530	7,050
1005-8 Boelter Co.	911	6.80	12/1/79 - 11/30/80	6,370	6,650	6,880	7,200	7,400
1009-10 Vacant	455	6.50	--	2,950	3,190	3,190	3,450	3,450
1011-13 Dr. Doll	727	6.65	6/1/79 - 5/31/80	5,230	5,270	5,640	5,670	6,100
1014 Vacant	229	6.25	--	1,430	1,430	1,540	1,540	1,670
1015-18 State	1616	7.50	11/1/79 - 10/31/83	12,120	12,120	12,120	12,600	13,090
1019-21 Vacant	680	6.70	vacated 2/29/80	5,380	5,440	5,870	5,910	6,350
1022 Herb Walsh	171	8.00	12/1/79 - 11/30/80	1,420	1,490	1,490	1,540	1,600
1023-24 Dane Co. Advocate for Battered Women	331	7.20	8/1/79 - 7/31/80	2,610	2,680	2,840	2,900	3,070
Total-Tenth Floor	6890			$50,370	$51,570	$53,540	$55,120	$57,780
Annual Totals for	74,054 sq. ft.			$493,960	$522,120	$537,260	$565,460	$586,210

EXHIBIT 24 -- Continued

Notes to Schedule of Rental Revenues for the
Period of April 30, 1980 Through April 29, 1985

[1]The annualized gross rental revenue for the period from April 30, 1980 through April 29, 1981 is consistent with the actual lease terms, if at market rents, as of April 30, 1980. Increases in rents are assumed to take place according to lease terms and conditions; an increase of 8 percent is used at lease renewal dates. This factor was taken from a survey of office rent increases in Class B buildings on and near the Capitol Square in Madison and is the current rate used by the Tenney Building manager.

[2]The annual rental market rate is given as of April 30, 1980. Only one tenant in Rooms 909-10 is considered to be below market rent at $4.73/square foot; therefore the rent for this space is calculated at a market rate of $6.00/square foot. Market rents are also imputed to spaces used by the building owner.

[3]Of the 87 rental space units in the Tenney Building as of April 30, 1980, there are 62 leases in place, but 54 of those terminate between 1980 and 1982. Only eight have leases that extend beyond April 30, 1982.

[4]The Leaf and Ladle Restaurant began its lease of 3500 sq. ft. of the first floor retail space on January 1, 1980. The restaurant had closed its door by October 1, 1980, and the remodeled space is once again on the market. The rental rate of $9.00 with an annual escalator of 8% per year commencing in the second year is considered comparable for the area. A most probable investor might consider an escalator based upon a percentage of gross sales to encourage rental of this space if restaurant use is most likely; the projected revenues probably would not increase as rapidly as forecast.

[5]The state has given notice that it will vacate these spaces by June 30, 1980.

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per. Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof[1]									
B Level - Vault	700	100	3.00	12	$ 2,100				
	700	100	3.00	12		$ 2,100			
	700	100	3.25	12			$ 2,270		
	700	50	3.25	6				$ 1,140	
	700	50	3.50	6					$ 1,140
B Level									
Showroom and Office	4,000	100	3.00	12	12,000				
	4,000	100	3.00	6		6,000			
	4,000	50	3.25	6			3,250		
	4,000	50	3.25	6				3,250	
	4,000	50	3.50	3					1,750
A Level - Storage	400	100	7.00	6				1,400	
	400	100	7.50	9					2,250
Total - Lower Level					$14,100	$ 8,100	$ 5,520	$ 5,790	$ 5,140
First Floor									
112 East Main	454	100	5.20	8		$ 1,570			
	454	100	5.20	12			$ 2,360		
	454	100	5.20	4				$ 780	
114 East Main	1,000	100	5.20	8		3,480			
	1,000	50	5.20	12			2,600		
	1,000	50	5.20	4				860	
Leaf & Ladle	3,500	100	9.00	7	18,370				
	3,500	100	9.50	3		8,310			
	3,500	100	10.50	3				9,190	
	3,500	100	11.30	3					$ 9,890
North Entry	2,000	100	9.00	9	13,500				
Total - First Floor					$31,870	$13,360	$ 4,960	$10,830	$ 9,890

EXHIBIT 25

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Second Floor[3]									
201	150	100	6.50	12	$ 900				
	150	100	6.50	12		$ 900			
	150	100	7.00	12			$ 1,050		
	150	100	7.00	12				$ 1,050	
	150	100	7.60	12					$ 1,140
202	600	100	6.70	6	2,010				
	600	50	7.20	12		2,160			
	600	50	7.20	12			2,160		
	600	50	7.80	6				1,170	
	600	50	7.80	3					580
203-4	543	100	6.20	12	3,370				
	543	50	6.70	12		1,820			
	543	50	6.70	12			1,820		
	543	50	6.70	9				1,360	
205-6	506	100	7.00	6	1,770				
	506	50	7.50	12		1,900			
	506	50	7.50	12			1,900		
	506	50	8.15	9				1,550	
	506	50	8.15	6					1,030
209-10	451	100	6.25	6	1,410				
	451	50	6.75	12		1,520			
	451	50	6.75	12			1,520		
	451	50	7.30	9				1,230	
215	415	100	6.75	12	2,800				
	415	100	7.30	6		1,510			
	415	100	7.30	3			760		
218-19	816	100	8.00	8				4,370	
	816	100	8.20	12					6,690
220-21	1,400	100	6.25	6	4,370				
	1,400	50	6.75	12		4,720			
	1,400	50	6.75	6			2,360		
	1,400	50	7.30	6				2,560	
Total - Second Floor					$16,630	$14,530	$11,570	$13,290	$ 9,440

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

EXHIBIT 25 -- Continued

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fourth Floor									
401	150	100	6.40	12	$ 960				
	150	100	6.40	12		$ 960			
	150	100	6.90	12			$ 1,040		
	150	100	6.90	12				$ 1,040	
	150	100	7.45	12					$ 1,120
412	202	100	6.40	12	1,290				
	202	100	6.40	12		1,290			
	202	100	6.90	12			1,400		
	202	100	6.90	12				1,400	
	202	100	7.40	12					1,500
416-19	1,370	100	6.00	6	4,110				
	1,370	50	6.50	12		4,450			
	1,370	50	6.50	12			4,450		
	1,370	50	7.00	12				4,800	
	1,370	50	7.00	6					2,400
420-20a	560	100	6.70	6	1,880				
	560	50	6.70	12		1,870			
	560	50	7.20	9			1,520		
Total - Fourth Floor					$ 8,240	$ 8,570	$ 8,410	$ 7,240	$ 5,020
Fifth Floor									
502	842	100	7.50	12	$ 6,310				
	842	50	8.00	12		$ 3,410			
	842	50	8.00	12			$ 3,410		
	842	50	8.75	6				$ 3,410	
520	555	100	7.70	6			2,130		
	555	50	7.80	12				2,160	
	555	50	8.90	9					$ 1,850
Total - Fifth Floor					$ 6,310	$ 3,410	$ 5,540	$ 5,570	$ 1,850

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor[3]									
301	150	100	5.75	12	$ 860				
	150	100	5.75	12		$ 860			
	150	100	6.20	12			$ 930		
	150	100	6.20	12				$ 930	
	150	100	6.70	12					$ 1,000
302-3	1,179	100	5.75	6	3,390				
	1,179	50	6.20	12		3,650			
	1,179	50	6.20	12			3,650		
	1,179	50	6.70	6				3,950	
304	230	100	6.70	6	770				
	230	100	7.20	12		1,660			
	230	100	7.80	6					900
305-8	942	100	6.70	6	3,150				
	942	50	7.20	12		3,390			
	942	50	7.20	12			3,390		
	942	50	7.80	3					1,830
310-11	456	100	6.70	6	1,530				
	456	50	7.20	12		1,640			
	456	50	7.20	12			1,640		
312	234	100	5.75	12	1,340				
	234	100	6.20	12		1,450			
	234	100	6.20	12			1,450		
	234	100	6.70	12				1,570	
	234	100	6.70	12					1,570
315	731	100	6.70	4	1,610				
320-24	1,363	100	7.00	12	9,540				
	1,363	100	7.60	6		5,150			
Total - Third Floor					$22,190	$17,800	$11,060	$ 6,450	$ 5,300

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Sixth Floor									
601	150	100	6.70	12	$ 1,000				
	150	100	6.70	12		$ 1,000			
	150	100	7.20	9			$ 810		
602-4	1,473	100	6.00	6	4,420				
	1,473	50	6.50	12		4,770			
	1,473	50	6.50	12			4,770		
	1,473	50	7.00	9				$ 3,870	
	1,473	50	7.00	6					$ 2,580
605	204	100	6.40	12	1,300				
	204	100	6.40	12		1,300			
	204	100	6.90	12			1,410		
	204	100	6.90	9				1,060	
617	250	100	7.75	4	640				
620-24	1,262	100	6.70	12	8,450				
	1,262	100	7.20	6		4,540			
	1,262	100	7.20	6			4,540		
	1,262	50	7.80	9				3,690	
Total - Sixth Floor					$15,810	$11,610	$11,530	$ 8,620	$ 2,580
Seventh Floor									
No Vacancies Projected									
Eighth Floor									
801	150	100	7.00	10	$ 880				
	150	100	7.00	12		$ 1,050			
	150	100	7.50	6			$ 560		
Total - Eighth Floor					$ 880	$ 1,050	$ 560	0	0

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Ninth Floor									
909-10	700	100	6.50	6		$ 2,280			
	700	100	7.00	6			$ 2,440		
922-23	355	100	7.00	12			2,500		
	355	100	7.60	6				$ 1,350	
Total - Ninth Floor					0	$ 2,280	$ 4,940	$ 1,350	0
Tenth Floor									
1009-10	455	100	6.50	12	$ 2,950				
	455	100	7.00	12		$ 3,190			
	455	100	7.00	9			$ 2,390		
1014	229	100	6.25	12	1,430				
	229	100	6.25	12		1,430			
	229	100	6.70	6				770	
1019-20	680	100	6.70	1	380				
Total - Tenth Floor					$ 4,760	$ 4,620	$ 2,390	$ 770	0
TENNEY BUILDING TOTALS[4]					$120,790	$85,330	$66,480	$59,910	$39,220

EXHIBIT 25 -- Continued

Notes to Schedule of Vacancies by Floor and by Lease Terms
For the Period of April 30, 1980 Through April 29, 1985

[1]The lower level space has a continued record of vacancy; it is assumed that until the space is made more marketable by remodeling, rents will not keep pace with the market. Uses other than a showroom for the 4000 sq. ft. will need to be explored; subdividing the larger space for office space and/or storage space are possibilities.

[2]It is assumed that the smaller office spaces from 200-500 square feet will experience less overall vacancy than the larger spaces. There appears to be a trend toward several small independent businessmen sharing a common secretarial staff; some of the larger vacant suites could be remodeled for this type of use.

[3]The second and third floors have the greatest amount of vacancy due to the exodus of State tenants. By the end of June, 1980, the State's move alone will cause 44% of the second floor vacancies; the third floor will experience a vacancy rate of 39.5% due to loss of State tenants; the State related vacancy rates on the fourth and sixth floors will be 29% and 21% respectively. A most probable buyer will have to anticipate a large capital investment in 1980 to remodel and refurbish the Building to make it competitive in the Class B office market that already has a large supply of space available on and near the Square.

[4]Vacancies are assumed to gradually decrease between 1981 and 1983; a most probable buyer will institute a vigorous marketing program which will involve research of space needs in the area and remodeling which will be targeted to those needs.

EXHIBIT 27

Schedule of Projected Revenues and Expenses From April 30, 1980 Through April 29, 1985

	4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Revenues:					
Gross Income	$493,960	$522,120	$537,260	$565,460	$586,210
Less: Vacancies	(120,790) (24.5%)	(85,330) (16.3%)	(66,480) (12.4%)	(59,910) (10.6%)	(39,220) (6.7%)
Effective Gross	373,170	436,790	470,780	505,550	546,990
Parking Rentals	12,960	12,960	12,960	14,000	14,000
Total Revenues	$386,130	$449,750	$483,740	$519,550	$560,990
Expenses:[1]					
Accounting & Legal	4,200	4,640	5,120	5,650	6,240
Building Security[2]	21,840	24,100	26,620	29,390	32,440
Insurance	7,000	7,730	8,530	9,420	10,400
Maintenance[3]	28,850	31,850	35,160	38,820	42,860
Wage & Salaries	60,000	66,240	73,130	80,730	89,130
Payroll Taxes	11,500	12,700	14,020	15,470	17,080
Repairs	14,880	16,430	18,130	20,020	22,100
Telephone[4]	1,600	1,770	1,950	2,150	2,380
Utilities[5]	90,600	101,470	107,560	114,380	122,020
Office Expenses[6]	7,040	7,520	8,250	8,840	9,690
Management	22,390	26,320	27,540	30,280	32,570
Concourse Special Assessment	2,360	2,410	2,630	2,550	2,480
Total Operating Expenses Before R.E. Taxes[7]	($272,260)	($303,180)	($328,640)	($357,700)	($389,390)
Net Operating Income Before R.E. Taxes	$113,870	$146,570	$155,100	$161,850	$171,600
Real Estate Taxes[8]	(26,680)	(28,000)	(29,400)	(30,880)	(32,420)
Net Operating Income	$ 87,190	$118,570	$125,700	$130,970	$139,180

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[1]Expenses

In general, expenses are projected to increase according to the average annual change of 10.4% in the All Item Consumer Price Index over the past five years. (See amended Exhibit 27).

[2]Building Security

Security personnel is hired from 10 P.M. to 6 A.M. on weekdays with 24 hour coverage on the weekends. The building is open to the public from 6 A.M. to 6 P.M. each weekday. The continuing problems created by the presence of bars and adult entertainment places across the street make this security protection mandatory.

[3]Maintenance

This account includes an elevator maintenance contract at $9,060 a year.

[4]Utilities

At present the Tenney Building consumes approximately 55,000 to 70,000 gallons of No. 2 fuel oil per year depending upon the weather. The cost of fuel has increased as follows:

January 12, 1979	.43/gallon
October 1, 1979	.77/gallon
February 1, 1980	.95/gallon

In thirteen months the cost has risen 121%. Though the Tenney Building is converting to natural gas on its primary boiler, the cost of natural gas is also volatile. Over the past five years natural gas has had an average annual increase of 17.6% for the commercial time-of-use consumer, according to Milton Spiros, Madison Gas & Electric Co.

The installation of combination storm windows throughout the building should help to conserve fuel costs. To stabilize utility costs it is assumed management will place energy cost escalators in renewed leases; therefore in the pro forma income statement utility costs are escalated at 12 percent annually with 50 percent of the increase passed through to the tenant after year 2.

[5]Office expenses include rental of space in the Tenney Building for management operations.

[6]Management costs are computed as 6% of effective gross office revenue with 4% allowed for management and 2% for leasing commissions for space turnover.

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[7]Total operating expenses are calculated before including real estate taxes for ease in using the MRCAP discounted cash flow program.

[8]Real estate taxes are calculated as 5.4% of gross revenues in the first year and increased at 5% per annum thereafter. These calculations are based on the following fact and assumptions:

1. The assessed value as of 1/1/80 is $1,200,000.
2. The mill rate is assumed to increase slightly (approximately 1%) after several years of decrease.
3. Taxes will continue to increase due to inflated city budgets and decreasing state aids.

end of the second year when the leases have been renegotiated.

4. Conversion of Net Income to Present Value

The MRCAP program from the National EDUCARE library of programs, previously described, is used to convert net income to a present value after taxes as of April 30, 1980, for the Tenney Building at the end of a five-year holding period.

C. Assumptions Used in MRCAP

The MRCAP discounted cash flow program can solve for a justified project value by specifying the ratio of net income to debt service acceptable to an institutional mortgage lender. Given the interest rate and term available as of April 30, 1980, the program will solve for the justified amount of mortgage and for justified cash equity, assuming typical before-tax cash-on-cash investor requirements for office buildings, with potential for inflation sensitive rents. Exhibit 28 is a simplified flow chart depicting the steps in solving for the justified project budget.

On April 30, 1980, prudent lenders will require a minimum debt cover ratio of 1.3 and equity investors expect no less than 6 percent cash-on-cash.

1. Inputs into MRCAP Program

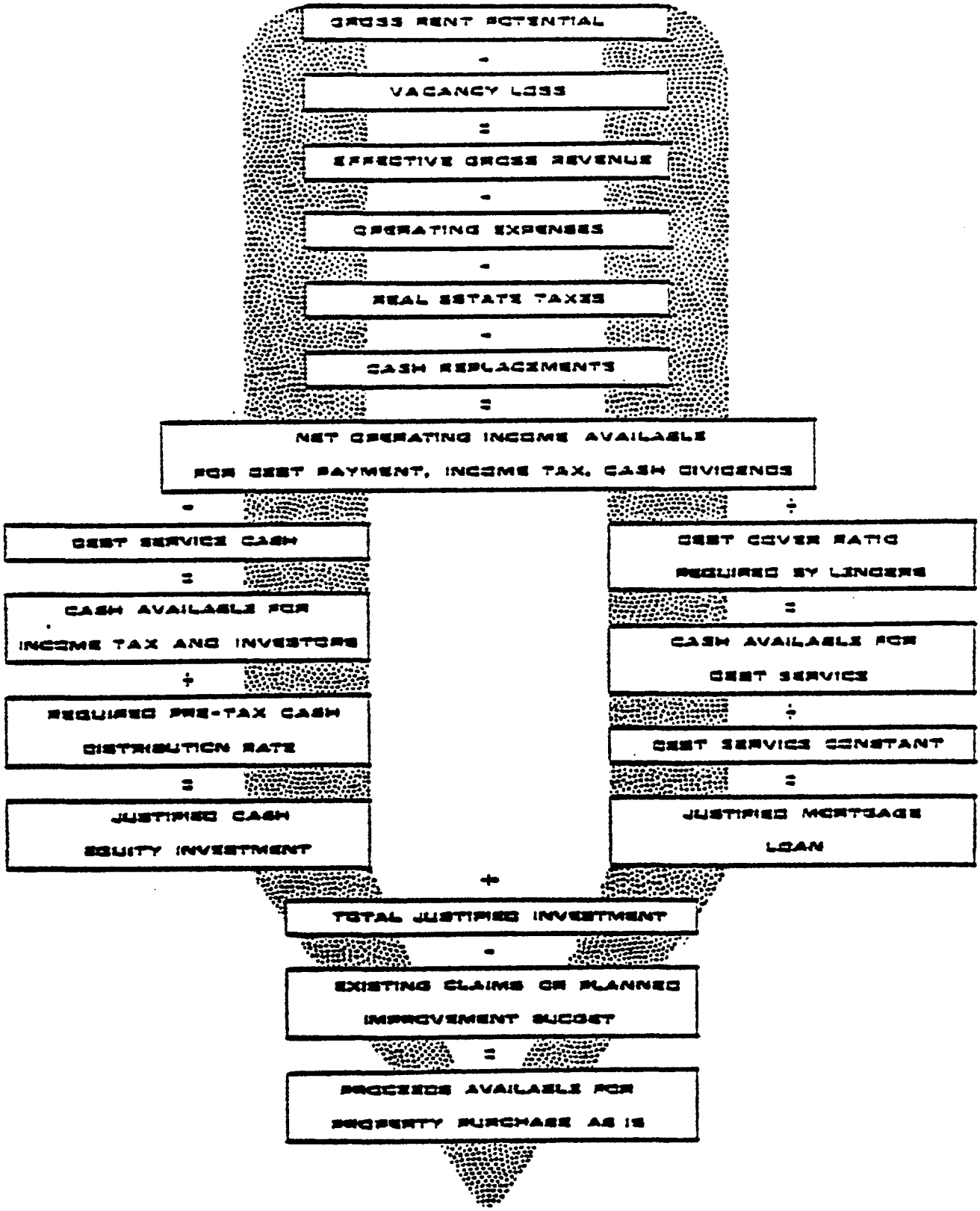
   a. Debt cover ratio = 1.3

   b. Before tax cash-on-cash requirements = 6%

   c. Project holding period = 5 years

EXHIBIT 28

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



d. Real estate taxes = historical pattern suggests real estate taxes at 5.4 percent of first year's gross with an annual inflation factor of 5% (see assumptions discussed below)

e. Discount rate = 13% (present value factor used to discount cash flow)

f. Reinvestment rate = 6% after tax rate applied to after tax cash flow

g. Resale price = 10 times net operating income in year of sale

h. Resale cost rate = 4%

i. Working capital reserves from equity to cover one month's expenses = $30,000

j. Investor marginal income tax rate = 50%

k. Land = $340,000, as of most recent appraisal for IRS

l. Buildings = 60% of total improvement value

m. Mechanicals and site improvements = 40% of total improvement value

n. Elevators = remaining book value of $73,000

o. Improvements for Energy Conservation = a total of $54,000 which includes $43,000 for storm windows and $11,000 for natural gas conversion unit.

p. Tenant Improvements = $50,000 for carpeting and partitions as needed to upgrade vacant office space

q. Investment Credit Dummy = to allow for tax benefit of investment credit in first year for capital improvement for energy conservation

r. Mortgage = principal amount determined by debt cover ratio; interest rate a minimum of 12% with a 20-year term, paid monthly, on the first mortgage and 13% interest and an 8-year term for the second mortgage

2. Real Estate Tax Assumptions

Real estate taxes are a function of assessed value (or fair market value when assessed value is 100 percent of market value) and the net mill rate; therefore, real estate taxes are estimated as a function of gross rental income. During the past two years, real estate taxes have been between 5 percent and 6 percent of the Building's potential gross rental income. As a result of tests of several values between 5 percent and 6 percent, it is determined that 5.4 percent of gross rental revenues best represents the historical pattern of the Building's real estate taxes. MRCAP is programmed to use 5.4 percent of the first year's gross rental income to compute the first year's real estate taxes and then provides for a growth factor of 5 percent to increase the taxes each year thereafter.

D. Analysis of Test Results

Four runs of the MRCAP program were done using different assumptions about the amount of real estate taxes that would be paid on the subject property. Taxes and net mill rates for the past three years on the subject property have been:

Year	1977	1978	1979
Real Estate Taxes	$33,118.75	$29,951.95	$25,340.93
Net Mill Rate	.026495	.024153	.022036

Real estate taxes estimated at various percentages of the first year's projected gross and inflated 5 percent a year gave these results in the MRCAP runs:

Percentage of First Year's Gross Rental Revenue	Real Estate Taxes				
	1980	1981	1982	1983	1984
5.0	$24,698	$25,933	$27,230	$28,591	$30,021
5.4	$26,674	$28,008	$29,408	$30,878	$32,422
5.8	$28,650	$30,082	$31,586	$33,166	$34,824
6.0	$29,638	$31,119	$32,675	$34,309	$36,025

The real estate taxes estimated at 5.4 percent of the first year's gross rent best approximates the shift from a decreasing to an increasing net mill rate that can now be expected due to an anticipated decrease in state aids to cities. Rising costs of local government can be expected to be borne by the local taxpayer.

The input and output for the MRCAP program using real estate taxes estimated at 5.4 percent of gross rental revenue are found in Exhibit 29.

If taxes are a conservative 5.4 percent of gross rental revenue, MRCAP substantiates the fair market value of $1,150,000 estimated by the market comparison approach to value.

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EXHIBIT 29

MRCAP INPUT AND OUTPUT--
JUSTIFIED CAPITAL BUDGET WITH
REAL ESTATE TAXES AT 5.4% OF
FIRST YEAR'S GROSS RENT

```
MRCAP       09:49CST    12/20/80

ENTER INPUT FILE NAME?TENNEY


THE PROGRAM MRCAP IS THE PROPERTY OF
MICHAEL L. ROBBINS
C/O REAL ESTATE DYNAMICS INC.
4701 WINNEQUAH RD.
MONONA, WISC.

USER NO. 66

(608)-221-1120


NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS OR
COMPUTATIONAL FORMAT USED IN THIS PROJECTION WILL
BE ACCEPTABLE TO TAXING AUTHORITIES.

**$10.00 LIB CHG APPLIED
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R E P O R T S E C T I O N N U M B E R 1 PAGE 1

* GROSS RENT	$ 554378.	* RATE OF GROWTH OF GROSS RENT	0.0432
* EXPENSES	$ 330234.	* RATE OF GROWTH OF EXPENSES	0.0936
* R E TAXES	$ 29478.	* RATE OF GROWTH OF R E TAXES	0.0500
INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	2.0000
* VACANCY RATE	0.1375	WORKING CAPITAL LOAN RATE	0.1400
EQUITY DISCOUNT	0.1300	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0400	REINVESTMENT RATE	0.0600
WKG CAPITAL RS	$ 30000.	CAPITAL RESER INTEREST RATE	0.
INITIAL COST	$ 1091502.	INITIAL EQUITY REQUIRED	$ 486009.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

INITIAL COST DERIVED THROUGH BACKDOOR TYPE 3 USING 2 MORTGAGES

EXHIBIT 29 -- Continued

PRO FORMA

INVESTMENT ANALYSIS OF

BUILDING

FOR

REPORT SECTION NUMBER 2 PAGE 1

COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
1LAND	0.	1	25.	0	$	340000.	0
BUILDING	0.80	1	29.	2	$	338221.	0
HVAC	0.90	1	9.	2	$	225481.	0
ELEVATORS	0.90	1	4.	2	$	73000.	0
ENERGY CONSERVATION	0.90	1	5.	2	$	54000.	0
TENANT IMPROVEMENTS	0.90	1	10.	4	$	50000.	0
INVESTMENT CREDIT DU	1.00	1	1.	2	$	10800.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.1200	1	20	20	$	531493.	0.487
SECOND MORTGAGE	0.1300	1	8	8	$	104000.	0.095

EXHIBIT 29 -- Continued

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
1	GROSS INCOME	506920.	535080.	550220.	579460.	600210.
2	LESS VACANCY	120790.	85330.	66480.	59910.	59220.
3	LESS REAL ESTATE TAXES	26674.	28008.	29408.	30878.	32422.
4	LESS EXPENSES	272260.	303180.	328640.	357700.	389390.
5	NET INCOME	87196.	118562.	125692.	130972.	139178.
6	LESS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
7	LESS INTEREST	76472.	74515.	72298.	69785.	66938.
8	TAXABLE INCOME	-65599.	-20351.	-10048.	-1443.	26726.
9	PLUS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
10	LESS PRINCIPAL PAYMENTS	14730.	16687.	18904.	21417.	24263.
11	CASH THROW-OFF	-4006.	27361.	34490.	39770.	47976.
12	LESS TAXES	0.	0.	0.	0.	13363.
13	LESS RESERVES	0.	0.	0.	0.	0.
14	CASH FROM OPERATIONS	0.	27361.	34490.	39770.	34613.
15	WORKING CAPITAL LOAN	0.	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	27361.	34490.	39770.	34613.
17	TAX SAVING ON OTHER INCOME	32799.	10175.	5024.	721.	0.
18	SPENDABLE CASH AFTER TAX	32799.	37536.	39514.	40491.	34613.

EXHIBIT 29 -- Continued

MARKET VALUE & REVERSION

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
19	END OF YEAR MARKET VALUE	871962.	1185625.	1256921.	1309717.	1391778.
20	LESS RESALE COST	34878.	47425.	50277.	52389.	55671.
21	LESS LOAN BALANCES	620764.	604077.	585173.	563756.	539493.
22	PLUS CUM. CASH RESERVES	25994.	25994.	25994.	25994.	25994.
23	BEFORE TAX NET WORTH	242314.	560117.	647466.	719566.	822608.
24	CAPITAL GAIN (IF SOLD)	-181096.	182544.	313511.	426719.	551596.
25	CAPITAL GAINS TAX	-36219.	36509.	62702.	85344.	110319.
26	MINIMUM PREF. TAX	0.	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP.	1500.	2438.	2897.	2950.	2657.
28	TOTAL TAX ON SALE	-16610.	38946.	65599.	88294.	112977.
29	AFTER TAX NET WORTH	258924.	521171.	581867.	631273.	709632.

BEFORE TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
30	RETURN ON NET WORTH B/4 TAX	-0.5014	1.4245	0.2175	0.1728	0.2099
31	CHANGE IN NET WORTH B/4 TAX	-243696.	317803.	87349.	72100.	103042.
32	ORIG EQUITY CASH RTNB/4 TAX	-0.0082	0.0563	0.0710	0.0818	0.0987
33	ORIG EQUITY PAYBACK B/4 TAX	0.0000	0.0563	0.1273	0.2091	0.2803
34	B/4 TAX PRESENT VALUE	846386.	1092030.	1126006.	1142995.	1174189.

AFTER TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
35	RETURN ON NET WORTH AFR TAX	-0.3998	1.1578	0.1923	0.1545	0.1790
36	CHANGE IN NET WORTH AFR TAX	-227086.	262248.	60696.	49406.	78359.
37	ORIG EQUITY CASH RTNAFR TAX	0.0675	0.0772	0.0813	0.0833	0.0712
38	ORIG EQUITY PAYBACK AFR TAX	0.0675	0.1447	0.2260	0.3093	0.3806
39	AFTER TAX PRESENT VALUE	893655.	1102069.	1124564.	1133307.	1150082.

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
40	NET INCOME-MARKET VALUE RTO	0.1000	0.1000	0.1000	0.1000	0.1000
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7696	0.7894	0.8165	0.8280	0.8547

EXHIBIT 29 -- Continued

INPUT FILE

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240 201,1,340000,0,0
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270 201,2,,60,,80,2
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310 202,3,1,9,0
320 200,4,ELEVATORS
330 201,4,73000,,90,2
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410 200,7,INVESTMENT CREDIT DUMMY
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530 403,99,1,2,3,4,5
540 999,99
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APPRAISAL REPORT

CORK 'N CLEAVER
RESTAURANT & LOUNGE
342 VALLEY AVENUE
BIRMINGHAM, ALABAMA 35209

EFFECTIVE DATE OF APPRAISAL:
MARCH 21, 1983

FOR: MR. RICHARD BAMERICK

REALTY RESEARCHERS
REALTY RESEARCHERS BUILDING
586 SHADES CREST ROAD
BIRMINGHAM, ALABAMA 35226

RECORD 14

STREET	VALLEY AV
ADDRESS	N/S 300.96' W OF BEACON PKWY W
DATE	78.0808
SIZE	59552
PRICE/SF	3.27
ID#	0
SELLER	ALSTON CALLAHAN
PURCHASER	VALLEY RLTY LTD
DB	1648/234
PRICE	195000
DESCR	238.21 X 250 27E RES WMS ADD TO B.PK
REM	MR GADDIS REST SITE

RECORD 41

STREET	VALLEY AV
ADDRESS	N/S ACRS FRM PAPILLON DR
DATE	83.0114
SIZE	83200
PRICE/SF	4.05
ID#	29-14-1-3-7.1
SELLER	BEACON PK LD CO
PURCHASER	HOBBIT CORP
DB	2283/636
PRICE	337300
DESCR	26-B BEACON PK
REM	SO HLD HSP-EMER MED CLIN 1500 GAL SEW ALLOT

RECORD 42

STREET	W VALLEY AV
ADDRESS	S/S 129' W OF SUMMIT PKWY
DATE	81.0226
SIZE	54783
PRICE/SF	3.29
ID#	0
SELLER	STEPHEN J SHADER JR
PURCHASER	SPARTAN FOOD SYSTEMS INC
DB	2029/715
PRICE	180000
DESCR	LT 1 SUMMIT PK
REM	QUINCY'S INSIDE LOT

RECORD 43

STREET	VULCAN RD
ADDRESS	E/S ACRS FRM SUMMIT LN
DATE	82.1ØØ6
SIZE	79969
PRICE/SF	3.88
ID#	29-14-3-4-11
SELLER	STEPHEN J SHADER JR
PURCHASER	RED ROOF INNS
DB	Ø
PRICE	31ØØØØ
DESCR	12-A SUMMIT PK 5TH SEC
REM	MOTEL SITE-ADJ PACIFIC ISLANDER ON N

RECORD 44

STREET	VULCAN DR
ADDRESS	W/S ADJ 11Ø ON N
DATE	82.Ø3
SIZE	22575
PRICE/SF	3.77
ID#	29-14-3-4-2 PT
SELLER	UNION 76
PURCHASER	BIO-MEDICAL
DB	Ø
PRICE	3.77
DESCR	13 G&H 6TH SEC OR 2 UNION VALLEY
REM	INSIDE LOT

ADJ FACTORS FOR	75%	77.5%	80%	82.5%	85%	87.5%	90%
# 1	1.25	1.22	1.19	1.16	1.13	1.11	1.08
# 2	1.05	1.04	1.04	1.03	1.03	1.02	1.02
# 3	1.23	1.20	1.17	1.15	1.12	1.10	1.08
# 4	0.73	0.75	0.78	0.81	0.83	0.86	0.89
# 5	1.09	1.08	1.07	1.06	1.05	1.04	1.03

MEAN OF PRICES= 4.506
STANDARD DEVIATION OF PRICES = .39728
COEFFICIENT OF VARIATION = .0881668

MEAN OF PRICES ADJ'D W/ 75% CURVE = 4.75243
STD DEV = .651591
COEFF OF VAR = .137107

MEAN OF PRICES ADJ'D W/ 77.5% CURVE = 4.71536
STD DEV = .555122
COEFF OF VAR = .117726

MEAN OF PRICES ADJ'D W/ 80% CURVE = 4.68167
STD DEV = .463922
COEFF OF VAR = .0990932

MEAN OF PRICES ADJ'D W/ 82.5% CURVE = 4.65098
STD DEV = .379186
COEFF OF VAR = .0815281

MEAN OF PRICES ADJ'D W/ 85% CURVE = 4.62353
STD DEV = .305541
COEFF OF VAR = .0660839

MEAN OF PRICES ADJ'D W/ 87.5% CURVE = 4.59806
STD DEV = .247169
COEFF OF VAR = .053755

MEAN OF PRICES ADJ'D W/ 90% CURVE = 4.57538
STD DEV = .217854
COEFF OF VAR = .0476145

RECAP OF SIZES & PRICES

SALE#	SIZE	PRICE
1	83200	4.13
2	54783	4.58
3	79969	4.07
4	22575	4.98
5	59552	4.77
SUB	48750	

The land valuation may be summarized as follows:

Land Sales Adjustment Chart

Sale #	Price	Time	Location	=	Size	Adjusted Ind.
1	$4.05	1.02	1.00	$4.13	1.08	$4.46
2	$3.29	1.21	1.15	$4.58	1.02	$4.67
3	$3.88	1.05	1.00	$4.07	1.08	$4.40
4	$3.77	1.10	1.20	$4.98	.89	$4.43
5	$3.27	1.46	1.00	$4.77	1.03	$4.91
				Mean		$4.57
				Standard Deviation		$0.22

Land Value Indication for Subject:

48,750 sq. ft. @ $4.50 sq. ft., or: (R) $219,500

COST APPROACH TO VALUE

In applying the cost approach for a preliminary value indication, we have used the Marshall & Swift cost service. We have tested their costs against numerous known local contract costs, and found them to be quite reliable.

The building was classified as Class C construction, restaurant, Good to Very Good Quality.

The cost approach to value may be summarized as follows:

Cost Approach Summary

Replacement Cost New		
5,724 sq. ft. @ $53.05		$303,658
Fireplaces 4 @ $2,500		10,000
Built-in equipment @ $12 s/f		68,500
Paving 24,560 s/f @ 1.08		26,525
Landscaping		2,500
	(R)	$411,183
Less Depreciation:		
Normal 20% $82,000		
Deferred Maintenance @ $5 s/f 28,500		
Econ obsolescence 25% 103,000		213,500
Improvements, Net		$197,500
Plus Land		$219,500
Preliminary Value Indication		$417,000

SALE COMPARISON APPROACH TO VALUE

Among sales of restaurants which were investigated and analyzed in estimating value of subject were the following:

(1) Bonanza, 1591 Montgomery Hwy, Hoover. Sold 5/6/82, Deed Book 2191 Page 271, for $550,000. Lot 40,291 s/ft; bldg 4,600 sq.ft., 9 yrs old.

(2) Elegant Inn, 1575 Montgomery Hwy. Sold 2/26/82, DB 2166 P 758, for $400,000. Lot 33,810 s/ft; bldg 5,190 s/ft. Built 1970, remodeled 1975.

(3) El Palacio, 1543 Montgomery Hwy. Sold 2/25/82, DB 2169 P 436, for $135,000. Lot 21,740 s/ft; bldg 1,884 s/ft. Built 1970, remodeled 1980.

(4) Windsor Castle, SW cor 2nd Ave S & 18th St. Sold 1/29/82, DB 2158 P 94, for $75,000. Lot 10,000 s/ft; bldg 1,748 s/ft. Built 1940, remodeled 1973.

(5) Niki's, 233 Finley Ave West. Sold 1/4/82, DB 2150 P 811, for $100,000. Lot 13,560 s/ft; bldg 3,400 s/ft. Built 1957.

The sales were analyzed, using a procedure proposed by Dr. Richard U. Ratcliff, elaborated and implemented by Dr. James A. Graaskamp, with modifications by Gene Dilmore.

The comparison procedure is basically as follows: First, land value is calculated as of the sale date for each comparable property. The indicated land value is then deducted from the sale price, eliminating this major element from the price differentials. Then the remainder price, for improvements only, is reduced to price per square foot of building area.

Next, the properties are assigned comparative quality points for the major property attributes. Points are in accordance with qualitative ratings, as follows:

Rating	Points
Excellent	26
Good	20
Average	15
Fair	13
Poor	10

The major categories of property attributes considered, and the relative weights assigned to each were as follows:

Effective Age	30%
Space Quality (Construction, Design, Finish)	50%
Marketability (Accessibility, linkages to clients & customers, amenities)	20%
	100%

Each assignment of quality points is given its appropriate weight, and the weighted quality points totaled. For example, a rating of Average in regard to Age (15 points, x 30% weight); a rating of Excellent in regard to space quality (26 points, x 50% weight); and a rating of Excellent in regard to Marketability Factors (26 points, x 20% weight) gives, for Sale #1, a total of 22.70 quality points.

Next, we divide the "Price Per Square Foot for Improvements" by the number of quality points, in order to reduce the comparisons to a common denominator. In the case of Sale #1, the price of improvements of $75.76 per square foot, divided by 22.70 quality points, yields an indicator of a price of $3.34 per square foot/per quality point. Note that these comparative ratings are thus independent of subject property, which is then assigned quality ratings in the same manner.

Finally, we examine the central tendency of these five indicators, for a value indication for subject improvements, and add subject land value for a total market value indication.

The analysis is summarized in the following matrix:

Comparable Sales Analysis Matrix

Sale #	Ident.	Price	Land	Improvements	Imps Sq Ft
1	Bonanza	550,000	201,500	348,500	$75.76
2	Elegant	400,000	169,000	231,000	$44.51
3	Palacio	135,000	86,000	49,000	$26.01
4	Windsor	75,000	40,000	35,000	$20.02
5	Niki's	100,000	27,000	73,000	$21.47

Comparable Sales Analysis Matrix--Cont'd

Sale #	Age Rating	Sp Qual Rating	Mktblty Rating	Quality Points	Price Per Point/SF
1	15/.3	26/.5	26/.2	22.70	$3.34
2	14/.3	26/.5	15/.2	20.20	$2.20
3	14/.3	15/.5	15/.2	14.70	$1.77
4	10/.3	13/.5	15/.2	12.50	$1.60
5	10/.3	15/.5	14/.2	13.30	$1.61
			Mean		$2.10
			Standard Deviation		$0.73
Subject	15/.3	22/.5	13/.2	18.10	

Value for subject from this approach is indicated as follows:

18.10 quality points for subject x $2.10 per point per square foot = $38.01 per square foot. 5.724 sq. ft. @ $38.01 = indicated value for improvements (R) $217,500

Adding back the land:	Land	219,500
Preliminary Value Indication		$437,000
Less Deferred Maint (See Cost Apch)		28,500
Value Indication		$408,500

Applying the standard deviation gives a confidence interval of plus or minus one standard deviation, of: $332,900 to $484,100, with most probable figure of $408,500.

(Standard deviation of $0.73 x 18.10 points = $13.21 x 5,724 sq. ft. = a standard deviation, in dollars, of plus or minus (R) $75,600.) This means that, given that the assumptions in the approach are valid, the indicated most probable selling price is $408,500, with a 68% probability that the price would lie within the range of $332,900 to $484,100.

Preliminary Value Indication from Sale Comparison Approach:

$408,500

INCOME APPROACH TO VALUE

Although the property is now vacant, a lease to Cork 'N Cleaver, Inc. remains in effect to approximately May 2001. The lease had a 25 year base term beginning in 1976, with net rental of $52,250, payable monthly in advance. It has a lease guaranty by Chart House, Inc.

The lease rental is at the rate of $9.13 per square foot. Since data on other rentals indicates a current market rental in the area of $9 per sq. ft., we are using the lease rental as market rental.

The property has financing, effected May 1976, with principal of $383,000, 25-year term, 10% interest. Current balance is approximately $348,657. Inquiry indicates that this mortgage could be assumed by a purchaser, so the existing financing is taken into account in our valuation premises.

MARKET COMP THEORY COMPARED TO REGRESSION

I. Common Requirements to be Determined

A. Variables to survey
B. Sales comparables available for analysis
C. Variables which relate to value
D. Rates of adjustment for difference in variable factors
E. Comparable sales which are best related to subject property

II. Prediction of Price Through Regression Analysis

$$V_p = b + X_s\ (A) + \ldots X_{n,s}\ (A_n)$$

$$V_s = b_o + \sum_f A_f\ X_{f,s}$$

$$V_k = b_o + \sum_f A_f\ X_{f,k}$$

$$V'_k = P_k + V_s - V_k$$

$$= P_k + A_1\ X_{1s} - A_1\ X_{1k} + A_2\ X_{2s} - A_2\ X_{2k}$$

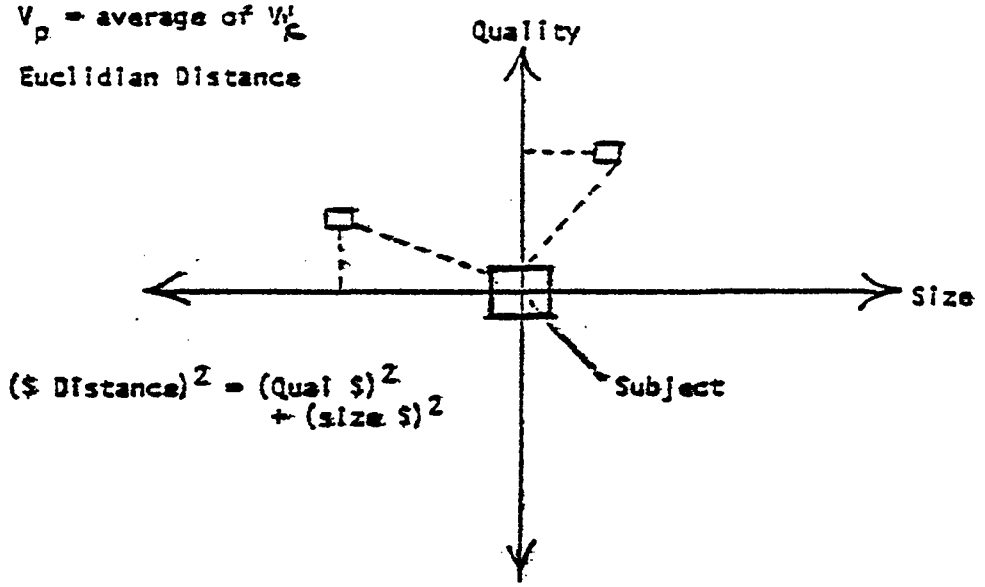
$$= P_k + A_1\ (X_{1s} - X_{1k}) + A_2\ (X_{2s} - X_{2k})$$

III. Market Comparison

$$V_k = A_1 \times (X_s - X_k) + A_2 \times (X_{s2} - X_{k2})$$

V_p = average of V'_k

IV. Euclidian Distance



$(\$\ \text{Distance})^2 = (\text{Qual}\ \$)^2 + (\text{size}\ \$)^2$

Scale requires conversion of factors to $'s per unit
Market comp permits conversion with:
$/unit
$/as % of sale price/unit
$'s/ transformation unit

Date of Inspection_____

Name of Inspector_____

VILLAGE OF MAPLE BLUFF
DANE COUNTY
WISCONSIN

SINGLE FAMILY RESIDENTIAL INFORMATION FORM

1. _____ Tax Parcel Number
2. _____ Property Owner
3. _____ Street Number
4. _____ Street Name

LAND DATA

5. _____ Previous Lot Sale Price
6. _____ Previous Lot Sale Date
7. _____ X Geocode
8. _____ Y Geocode
9. _____ Neighborhood Number (01-18)
10. _____ Lot Square Feet (rounded to nearest 500 ft.)
11. _____ Lot Front Feet (rounded to nearest foot)
12. _____ Lot Depth (rounded to nearest foot)

13. _____ Lot Subdividable
(smaller of A, B,
A & B apply only to unplatted-uncertified lots)

0 = No

A = Unplatted Gross Lots = $\frac{\text{Lot area - } 40{,}000 \text{ sq.ft.}}{25{,}000 \text{ sq.ft.}}$ (round down to next integer value)

B = Net Additional Lots = $\frac{\text{Lake frontage}}{100 \text{ ft.}} - 1$ (round down to next integer value)

CONDITIONS WHICH MUST BE MET:

1. All lots must have no less than 40' of street frontage or a single driveway (apron) easement.
2. Platted vacant lots (within a parcel) will be treated as buildable if, separately or in combination, the total area is ≤ 14,000 SF, and conforms to condition #1.

14. _____ Lot Oversized (but not subdividable)
0 = under 65,000 sq.ft.;
1 = oversize lot

15. _____ Lake Access Easement
0 = No; 1 = Yes

16. _____ Shore Quality
3 = inaccessible bluff/Dengel Bay
2 = shallow
1 = mud; 0 = no dominant problem

17. _____ Water Quality
3 = odor; 2 = flotsam; 1 = weeds;
0 = no dominant problem

18. _____ Lake Front Feet
(rounded to nearest foot)

19. _____ Lot on Corner
0 = No; 1 = Yes

20. _____ Lot on Cul-de-sac
0 = No; 1 = Yes

21. _____ Inside Lot
0 = No; 1 = Yes

22. _____ Lot Wooded
0 = Below average (0 to 3 major trees)
1 = Average wooded lot (4 to 7 major trees)
2 = Above average lot (more than 7 major trees)

23. _____ Lot View
0 = Commercial lot or railroad lot
1 = Average view
2 = Golf course or park view
3 = Water average (non-State Capitol view)
4 = Water superior (State Capitol view)

24. _____ Lot Topography
0 = Severe, non-usable slope
1 = Wet pockets
2 = Downsloping lot
3 = Level contour
4 = Upward sloping lot

25. _____ Adverse Influence

0 = None	5 = Public property or exposure
1 = Contiguous lake easement	
2 = Joint driveway	6 = Railroad
3 = Other (high lines, etc.)	7 = High traffic
4 = Commercial property	9 = Combination

If lot suffers from two adverse influences, enter the higher value.

SITE IMPROVEMENT DATA

26. _____ Tennis Court

27. _____ Outdoor Pool

28. _____ Patio

29. _____ Storage Shed

30. _____ Boathouse

31. _____ Seawall

32. _____ Indoor Pool

33. _____ Elevator

34. _____ Other Structure Name

35. _____ Other Structure Value

36. _____ Other Structure Name

37. _____ Other Structure Value

38. _____ Special Structures Total
(Sum of columns 26 - 37)

39. _____ Driveway
(score = style, material)

STYLE	MATERIAL
1 = Linear into garage-back into street	1 = Dirt
2 = Linear with turn-around space	2 = Gravel
3 = Circular	3 = Asphalt
4 = Large with parking space and turnaround space	4 = Concrete/Brick
5 = Circular with parking space	

40. _____ Neighborhood Foliage
1 = New and raw
2 = Some mature trees
3 = Shady

41. _____ Landscaping
1 = Little or none
2 = Average
3 = Above average

42. _____ Screening of Back
0 = Little or none
1 = Yes

43. _____ Screening of Front
0 = Little or none
1 = Yes

44. _____ Curb and Gutter
0 = No; 1 = Yes

45. _____ Sidewalk
0 = No; 1 = Yes

IMPROVEMENT DATA

46. _____ Previous Sale Price

47. _____ Previous Sale Date

48. _____ Year Built

49. _____ Era
0 = Pre-1910
1 = 1910-1929
2 = 1930-1949
3 = 1950-1969
4 = 1970 to present

50. _____ Square Feet Living Space

51. _____ Number of Stories
0 = Vacant Lot
1 = 1 Story
1.3 = 1-1/2 Stories
1.6 = Miltilevel
2 = 2 Stories
2.3 = 2-1/2 Stories

52. _____ Roof
(score = style, material)

STYLE	MATERIAL
1 = Gable	1 = Gravel
2 = Hip	2 = Asphalt shingles
3 = Mansard	3 = Wood shake/shingle
4 = Gambrel	4 = Slate shingles
5 = Flat	5 = Tile
6 = Single pitch	6 = Metal

53. _____ Exterior

0 = Concrete block
1 = Wood siding/frame
2 = Stucco
3 = Stained boards/shingles
4 = Aluminum siding
5 = Part masonry/frame
6 = Part masonry/ stained boards
7 = Part masonry/aluminum
8 = Predominantly brick veneer
9 = Predominantly stone

54. _____ Garage Type

0 = None
1 = Carport
2 = 1 car detached
3 = 1 car basement
4 = 1 car attached
5 = 2-3 car detached
6 = 2-3 car basement
7 = 2 car attached, small
8 = 2 car attached, large
9 = 3 car attached

55. _____ Building Style

1 = Cottage
2 = Pre-1940
3 = Standard builder's suburban (Owner custom obsolescence)
4 = Architectural modern
5 = Pre-1940 remodeled
6 = Good builder's suburban/mansion
7 = Architectural contemporary
8 = Architectural traditional
9 = Architectural colonial

56. _____ Basement Type

0 = Slab
1 = Crawl
2 = Partial
3 = Full
4 = Partially exposed (opening on grade at least one side)
5 = Exposed (raised ranch/bilevel- English basement- window sill at grade)

57. _____ Basement Condition

0 = No problem
2 = Mild problem due to seepage/aging
5 = Poor condition or no basement

58. _____ Appearance to Neighbors

1 = Less attractive
2 = Equally attractive
3 = More attractive

59. _____ Quality

0 = Uninhabitable
1 = Major mechanical or structural problems
2 = Interior damage
3 = Exterior maintenance required
4 = Average condition
5 = Well-maintained
6 = Maintained like new
7 = New--standard
8 = New--custom
9 = New--deluxe

60. _____ Enclosed Porch

0 = None	5 = Average glass
1 = Small screen	6 = Large glass
2 = Average screen	7 = Small glass, heated
3 = Large screen	8 = Average glass, heated
4 = Small glass	9 = Large glass, heated

61. _____ Total Number of Rooms

62. _____ Total Number of Bedrooms

63. _____ Total Number of Bathrooms
(sum of bathroom scores)

64. _____ Half
(Score = .5 for each)

65. _____ Three-quarter
(Score = .75 for each)

66. _____ Full
(Score = 1 for each)

67. _____ Bathroom on First Floor
0 = No
1 = Yes

68. _____ Total Number of Fireplaces

69. _____ Living Room
(score = size, layout)

SIZE	LAYOUT
1 = Small	1 = Poor
2 = Moderate	2 = Indifferent
3 = Large	3 = Good

70. _____ Dining Room
0 = None

STYLE
1 = At end of living room
2 = Dining L
3 = Full dining area
4 = Separate room

71. _____ Den/Library/Study

0 = None 2 = Average
1 = Small 3 = Large

72. _____ Kitchen Score

Score = (Size * Type * Work area) + Eating space

73. _____ Kitchen Size

1 = Small
2 = Average
3 = Large

74. _____ Kitchen Type

1 = Single wall 4 = U-shaped
2 = Pullman 5 = L- or U-shaped with island
3 = L-shaped

75. _____ Kitchen Work Area

To calculate kitchen score use:

0 = Obsolete (.5)
1 = Dated (.75)
3 = Modern (1.00)

76. _____ Kitchen Eating Space

To calculate kitchen score use:

0 = None	0
1 = Counter/Stools	.2
2 = Space for table/chairs	.4
3 = Breakfast nook	.6

77. _____ Family Room

(Score = location, size)

0 = None

LOCATION	SIZE
1 = Poor	1 = Small
2 = Adjoining kitchen	2 = Average
3 = Fully separate and well located	3 = Large

78. _____ Recreation Room

0 = None
1 = Yes (Must have fully finished floor, ceiling, and walls)

79. _____ Laundry Area Score

(Score = location * type)

80. _____ Laundry Area Location

LOCATION
1 = Basement
2 = At grade
3 = Second floor

81. _____ Laundry Area Type

0 = None
TYPE
1 = Exposed
2 = Enclosed closet
3 = Separate room

82. _____ Heating System Score
(Score = Fuel * Type)

83. _____ Heating Fuel

FUEL
1 = Electricity
2 = Oil
3 = Gas

84. _____ Heating Type

TYPE
1 = Old hot water - radiators
2 = Old low pressure steam - radiators
3 = Old hot water integrated with water heater
4 = Gravity hot air grills on floor
5 = Hot water-baseboards
6 = Forced hot air
7 = Forced hot air-zoned
8 = Multiple forced hot air units

85. _____ Electrical Service

AMPERAGE
1 = 30 amp.
2 = 60 amp.
3 = 100 amp.
4 = 125 amp.
5 = 150 amp.
6 = > 150 amp.

86. _____ Water Heater

Score = (Capacity, Fuel)

0 = With hot water heat system

CAPACITY OF UNIT		FUEL
1 = 20 gal.	5 = 75 gal.	1 = Electric
2 = 30 gal.	6 = 100 gal.	2 = Solar
3 = 40 gal.	7 = 100+ gal.	3 = Oil
4 = 50 gal.		4 = Gas

87. _____ Interior Circulation (Traffic pattern)

0 = Poor
1 = Moderately good
2 = Good
3 = Excellent

88. _____ Total Special Features Score

(Sum of all special features points)

SPECIAL FEATURES

1. _____ Front Exterior Entry
(Score = Sum of style and function)

STYLE	FUNCTION
0 = Single door	-1 = Unprotected
1 = Double door	2 = Protected

2. _____ Front Interior Entry
(Score = Sum of points)

-3 = Entrance direct to living room
0 = Vestibule (hall entry)
1 = Foyer (enclosed entry)
2 = Spacious vestibule
3 = Spacious foyer

3. _____ Master Bedroom Suite
(Score = Sum of points)

1 = Extra closet space
2 = Dressing area
3 = Sitting area

4. _____ Living Room Extras
(Score = Sum of points)

-3 = Classical cathedral ceiling
0 = None
1 = Contemporary sloped ceiling, built-in cabinets
2 = Sunken multi-level, special natural illumination, deluxe woodwork

5. _____ Dining Room Extras
(Score = Sum of points)

0 = None
1 = Built-in china cabinet, break front/buffet
2 = Wet bar
3 = Deluxe built-ins

6. _____ Den/Library/Study Extras
(Score = Sum of points)

0 = None
1 = Built-in cabinets
2 = Deluxe woodwork

SPECIAL FEATURES (Continued)

7. _____ Kitchen Extras
(Score = Sum of Points)
0 = None
1 = Each built-in appliance, serving pantry/bar, direct access to outside, grill/BBQ, more than one sink area
-3 = No window
-2 = Below average window area
0 = Average window area
1 = Above average window area

8. _____ Family Room Extras
(Score = Sum of points)
0 = None
1 = Built-in cabinets, deluxe flooring, deluxe paneling, sloped ceiling
2 = Wet bar
5 = Kitchen facilities

9. _____ Number of Special Spaces
(Score = Sum of points)
0 = None
1 = Special woodwork/craft area
2 = Dark room
3 = Sewing, sitting, office areas, partially finished recreation room

10. _____ Recreation Room Extras
(Score = Sum of ponits)
0 = None
1 = Built-in cabinets
2 = Wet bar
5 = Kitchen facilities

11. _____ Household Extras
(Score = Sum of points)
0 = None
1 = Greenhouse - attached at window, special indirect lighting
2 = Security system
3 = Greenhouse - attached and walk-in, sauna
5 = Central air conditioning, grand spiral staircase

1983 PROPERTY CARD
FOR SUBJECT PROPERTY

1983 PROPERTY CARD - PARCEL

MADISON, WI 53704

LAND DATA

PREVIOUS LOT SALE PRICE	0
PREVIOUS LOT SALE DATE	0
GEOCODE	41.
NEIGHBORHOOD NUMBER	13
LOT SQ. FT.*	24000
LOT FRONT FT.*	70
LOT DEPTH*	336
LOT SUBDIVIDABLE	No
LOT OVERSIZED	No
LAKE ACCESS EASEMENT	No
SHORE QUALITY	Shallow
WATER QUALITY	Flotsam
LAKE FRONT FT.	70
LOT ON CORNER	No
LOT ON CUL DE SAC	No
INSIDE LOT	No
LOT WOODED	4 to 7 major trees
LOT VIEW	Water
LOT TOPOGRAPHY	Downsloping lot
ADVERSE INFLUENCE	None

SPECIAL STRUCTURES AND SITE IMPROVEMENTS

TENNIS COURT	0
OUTDOOR POOL	0
PATIO	200
STORAGE SHED	200
BOATHOUSE	0
SEAWALL	0
INDOOR POOL	0
ELEVATOR	0
0.	-2000
0.	0
SPECIAL STRUCTURES TOTAL	-1600
DRIVEWAY	Circular, asphalt
NEIGHBORHOOD FOLIAGE	Shady
LANDSCAPING	Average
SCREENING OF BACK	Little or none
SCREENING OF FRONT	Yes
CURB AND GUTTER	No
SIDEWALK	No

*APPROX. USING VILLAGE MAP

IMPROVEMENT DATA

PREVIOUS SALE PRICE	180000
PREVIOUS SALE DATE	8203
YEAR BUILT	1947
ERA	1930-1949
SQ. FT. LIVING SPACE	2500
NUMBER OF STORIES	2 Stories
BUILDING STYLE	Good Builder's Sub./Mansion
ROOF	Hip,asphalt shingles
EXTERIOR	Part masonry/frame
GARAGE	2 Car attached, small
BASEMENT TYPE	Full
BASEMENT CONDITION	Mild seepage/aging
QUALITY	Maintained like new
APPEARANCE TO NEIGHBORS	Equally attractive
ENCLOSED PORCH	Average glass
NUMBER OF ROOMS	8
NUMBER OF BEDROOMS	3
NUMBER OF BATHROOMS	2.25
HALF BATHS	1
THREE QUARTER BATHS	1
FULL BATHS	1
BATH ON FIRST FLOOR	Yes
NUMBER OF FIREPLACES	3
LIVING ROOM	Moderate size, average layout
DINING ROOM	At end of living room
DEN/LIBRARY/STUDY	Small size
FAMILY ROOM	None
KITCHEN SCORE	8.40
SIZE	Average
TYPE	U shaped
WORK AREA	Modern
EATING SPACE	Space for table/chairs
RECREATION ROOM	Yes
LAUNDRY AREA SCORE	3
LOCATION	Basement
TYPE	Separate room
HEATING SYSTEM SCORE	3
FUEL	Gas
TYPE	Old hot water-radiators
ELECTRICAL SERVICE	100 amp.
WATER HEATER	50 gal., gas
TRAFFIC PATTERN	Moderately good
SPECIAL FEATURES SCORE	14
LAND	69,600
IMPROVEMENTS	109,400
1982 ASSESSMENT	179,000
LAND	69,600
IMPROVEMENTS	121,400
1983 ASSESSMENT	191,000

PROPERTY DATA RECORD FOR SUBJECT PARCEL

RECORD> 512
1.TXPARNUM >460 2.PROPOWN : 3.STRNUM > 4.STRNAM : 5.PLSPRICE >0 6.PLSDATE >0 7.GEOX
>41. 8.GEOY >186. 9.NBRHD >13 10.LTSQFT >24000 11.LTFFT >70 12.LTDPTH >336 13.LOTSDIV >0 14.LOTOVSZD >0 15.LKACC >0
16.SHORE >2 17.WATER >2 18.LKFFT >70 19.LTCNR >0 20.LTCUL >0 21.LTIN >0 22.LTWOOD >1 23.LTVIEW >3 24.LTTOPO >2
25.ADINF >0 26.TENCT >0 27.OUTPOOL >0 28.PATIO >200 29.STSHED >200 30.BTHSE >0 31.SEAWLL >0 32.INPOOL >0 33.ELEV >0
34.STCT1 >0. 35.VALUE1 >-2000 36.STCT2 >0. 37.VALUE2 >0 38.SPCTOT >-1600 39.DRVWY >33 40.NBRFOL >3 41.LNDSCP >2 42
.SCRBK >0 43.SCRFT >1 44.CRBGTR >0 45.SIDWLK >0 46.PSPRICE >180000 47.PSDATE >8203 48.YRBLT >1947 49.ERA >2 50.SQFTL
G >2500 51.STORIES >2 52.ROOF >22 53.EXTER >5 54.GARAGE >7 55.STYLE >6 56.BSMTYP >3 57.BSMTCND >2 58.APPEARS >2 59
.QUALITY >6 60.PORCH >5 61.ROOMS >8 62.BDRMS >3 63.BATHS >2.25 64.HFBTH >1 65.THQBTH >1 66.FULLBTH >1 67.BTH1ST >1
68.FPLAC >3 69.LIVRM >22 70.DINRM >1 71.DEN >1 72.KITCHSCR >8.4 73.KITCHSZ >2 74.KTCHTYPE >4 75.KITCHWRK >2 76.KITC
HEAT >2 77.FMLYRM >0 78.RECRM >1 79.LAUNSCR >3 80.LAUNLOC >1 81.LAUNTYP >3 82.HTGSCR >3 83.HTGFUEL >3 84.HTGTYP >1
85.ELECTSRV >3 86.WTRHTR >44 87.TRAFICPATRN >1 88.SPFTSCR >14 89.79ASSESS >140000 90.80ASSESS >149000 91.79-80CHANGE >1
.0643 92.80LAND >45000 93.80IMPROVE >104000 94.80LAND/SF >1.875 95.80IMPROVE/SF >41.6 96.79IMPROVE >95000 97.81ASSESS >1
79000 98.80-81CHANGE >1.2013 99.81LAND >63000 100.81IMPROVE >116000 101.81LAND/SF >2.625 102.81IMPROVE/SF >0 103.EFFLKFT
>75 104.EFFAGE >73.99 105.EFFSQFT >2388 106.82ASSESS >179000 107.81-82CHANGE >1 108.82LAND >69600 109.82IMPROVE >109400
110.82LAND/SF >2.9 111.82IMPROVE/SF >43.76 112.83ASSESS >191000 113.82-83CHANGE >1.07 114.83LAND >69600 115.83IMPROVE >
121400 116.83LAND/SF >2.9 117.83IMPROV/SF >48.56

FACTOR FILE USED FOR
1983 LAKE PROPERTY ASSESSMENTS

```
RUN [150,54]MKTMB
ENTER FACTOR FILENAME
*LAKE20.FAC

ENTER COMPARABLE FILENAME
*LAKEXX.COM

ENTER SUBJECT FILENAME
*SAMPLE.SUB

   0    0    0    0        0.00000
   1    4         0.00000
   2    2        83.00000
   3  100         2.00000
   4    4         0.00000
   5    1         0.00000
   0    0         0.00000
     1  PSPR      0.  0.        1.00000  0.  0.        1.00000
     2  PSDATE    2.  0.        0.00000  2.  0.        0.05000
     3  NBRHD     1.  0.     1500.00000  1.  0.     5000.00000
     4  LTSQFT    1.  0.        0.44000  1.  0.        0.44000
     5  LOTSDIV   1.  0.    15500.00000  1.  0.    15500.00000
     6  SHORE     2.  0.       -0.02000  2.  0.       -0.02000
     7  WATER     2.  0.       -0.02000  2.  0.       -0.02000
     8  LKFFT     1.  0.        0.00000  1.  0.        0.00000
     9  EFFLKFT   1.  0.      350.00000  1.  0.     3000.00000
    10  LTCNR     1.  0.     -750.00000  1.  0.     -750.00000
    11  LTCUL     1.  0.      500.00000  1.  0.      500.00000
    12  LTWOOD    2.  0.        0.02000  2.  0.        0.02000
    13  LTVIEW    2.  0.        0.02000  2.  0.        0.02000
    14  LTTOPO    2.  0.        0.03000  2.  0.        0.03000
    15  ADINF     2.  0.       -0.01500  2.  0.       -0.01500
    16  SPCTOT    1.  0.        1.00000  1.  0.        1.00000
    17  YRBLT     1.  0.        0.00000  1.  0.        0.00000
    18  EFFAGE    3.  0.        0.50000  3.  0.        2.00000
    19  SQFTLS    1.  0.        0.00000  1.  0.        0.00000
    20  EFFSQFT   1.  0.       20.00000  1.  0.       90.00000
    21  STORIES   2.  0.        0.00000  2.  0.        0.00000
    22  EXTER     2.  0.        0.00600  2.  0.        0.00600
    23  GARAGE    2.  0.        0.01000  2.  0.        0.01000
    24  STYLE     2.  0.        0.01000  2.  0.        0.01000
    25  BSMTYP    2.  0.        0.01500  2.  0.        0.01500
    26  BSMTCND   1.  0.     -750.00000  1.  0.     -750.00000
    27  QUALTY    2.  0.        0.02000  2.  0.        0.02000
    28  PORCH     1.  0.      600.00000  1.  0.      600.00000
    29  BDRMS     1.  0.     1500.00000  1.  0.     5000.00000
    30  BATHS     1.  0.     4000.00000  1.  0.     4000.00000
    31  FPLAC     1.  0.      750.00000  1.  0.      750.00000
    32  DINRM     2.  0.        0.02000  2.  0.        0.02000
    33  DEN       1.  0.     1000.00000  1.  0.     1000.00000
    34  KTCHSCR   1.  0.      850.00000  1.  0.      850.00000
    35  FAMRM     1.  0.      100.00000  1.  0.      100.00000
    36  RECRM     1.  0.     2000.00000  1.  0.     2000.00000
    37  LAUNSCR   1.  0.      300.00000  1.  0.      300.00000
    38  HTGSCR    1.  0.      200.00000  1.  0.      200.00000
    39  INTCIR    2.  0.        0.01000  2.  0.        0.01000
    40  SPFTSCR   1.  0.      350.00000  1.  0.      350.00000
ENTER SUMMARY FILENAME
*JEAN.BAS
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MARKET COMPARISON APPROACH
FOR FAIR MARKET VALUE

11:511 4601
10:502 4601449 29 HARBORT DR
12:516 4601462 1177 FARWELL DR
2:9 4601108 45 CAMBRIDGE RD

FACTOR	SUBJECT	11-AMT	ADJ	10-AMT	ADJ	12-AMT	ADJ	2-AMT	ADJ
PSPR	180000.00	180000.00	180000.	192000.00	192000.	215400.00	215400.	215000.00	215000.
PSDATE	82.17	82.17	0.	81.42	0.	82.50	0.	82.08	0.
NBRHD	13.00	13.00	0.	13.00	0.	13.00	0.	17.00	-6000.
LTSQFT	24000.00	24000.00	0.	30000.00	-2640.	29000.00	-2200.	18000.00	2640.
LOTSDIV	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
SHORE	2.00	2.00	0.	0.00	-7680.	0.00	-8616.	0.00	-8600.
WATER	2.00	2.00	0.	2.00	0.	0.00	-8616.	2.00	0.
LKFFT	70.00	70.00	0.	80.00	0.	60.00	0.	80.00	0.
EFFLKFT	75.00	75.00	0.	80.00	-1750.	75.00	0.	80.00	-1750.
LTCNR	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LTCUL	0.00	0.00	0.	1.00	-500.	0.00	0.	0.00	0.
LTWOOD	1.00	1.00	0.	2.00	-3840.	2.00	-4308.	1.00	0.
LTVIEW	3.00	3.00	0.	3.00	0.	3.00	0.	4.00	-4300.
LTTOPO	2.00	2.00	0.	3.00	-5760.	2.00	0.	3.00	-6450.
ADINF	0.00	0.00	0.	5.00	14400.	0.00	0.	0.00	0.
SPCTOT	-1600.00	-1600.00	0.	0.00	-1600.	0.00	-1600.	0.00	-1600.
YRBLT	1947.00	1947.00	0.	1951.00	0.	1939.00	0.	1930.00	0.
EFFAGE	73.99	73.99	0.	76.48	-3126.	69.39	7140.	64.77	15303.
SQFTLS	2500.00	2500.00	0.	2250.00	0.	2460.00	0.	3000.00	0.
EFFSQFT	2388.00	2388.00	0.	2214.00	3480.	2278.00	2200.	2714.00	-6520.
STORIES	2.00	2.00	0.	2.00	0.	2.00	0.	2.00	0.
EXTER	5.00	5.00	0.	1.00	4608.	8.00	-3877.	5.00	0.
GARAGE	7.00	7.00	0.	7.00	0.	5.00	4308.	7.00	0.
STYLE	6.00	6.00	0.	4.00	3840.	5.00	2154.	8.00	-4300.
BSMTYP	3.00	3.00	0.	2.00	2880.	4.00	-3231.	3.00	0.
BSMTCND	2.00	2.00	0.	2.00	0.	2.00	0.	2.00	0.
QUALTY	6.00	5.00	3600.	5.00	3840.	5.00	4308.	5.00	4300.
PORCH	5.00	5.00	0.	2.00	1800.	5.00	0.	8.00	-1800.
BDRMS	3.00	3.00	0.	4.00	-1500.	4.00	-1500.	4.00	-1500.
BATHS	2.25	2.25	0.	3.00	-3000.	3.25	-4000.	2.25	0.
FPLAC	3.00	3.00	0.	2.00	750.	2.00	750.	2.00	750.
DINRM	1.00	1.00	0.	2.00	-3840.	4.00	-12924.	3.00	-8600.
DEN	1.00	1.00	0.	0.00	1000.	0.00	1000.	2.00	-1000.
KTCHSCR	8.40	6.40	1700.	5.10	2805.	1.50	5865.	0.50	6715.
FAMRM	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
RECRM	1.00	1.00	0.	0.00	2000.	1.00	0.	0.00	2000.
LAUNSCR	3.00	3.00	0.	1.00	600.	1.00	600.	1.00	600.
HTGSCR	3.00	3.00	0.	24.00	-4200.	16.00	-2600.	3.00	0.
INTCIR	1.00	1.00	0.	1.00	0.	1.00	0.	2.00	-2150.
SPFTSCR	14.00	14.00	0.	9.00	1750.	12.00	700.	4.00	3500.
ADJUSTED AMOUNT		185300.		196317.		190952.		196238.	
SELECTION INDEX		8491.		36430.		37893.		35368.	

512 460 - FARWELL DR ADJUSTMENT ==

FACTOR	TYP	RATE	AVE.	S-DEV.
PSPR	0.	1.00	200600.	17557.
PSDATE	2.	0.00	0.	0.
NBRHD	1.	1500.00	-1500.	3000.
LTSQFT	1.	0.44	-550.	2420.
LOTSDIV	1.	15500.00	0.	0.
SHORE	2.	-0.02	-6224.	4172.
WATER	2.	-0.02	-2154.	4308.
LKFFT	1.	0.00	0.	0.
EFFLKFT	1.	350.00	-875.	1010.
LTCNR	1.	-750.00	0.	0.
LTCUL	1.	500.00	-125.	250.
LTWOOD	2.	0.02	-2037.	2360.
LTVIEW	2.	0.02	-1075.	2150.
LTTOPO	2.	0.03	-3053.	3536.
ADINF	2.	-0.01	3600.	7200.
SPCTOT	1.	1.00	-1200.	800.
YRBLT	1.	0.00	0.	0.
EFFAGE	3.	0.50	4829.	8198.
SQFTLS	1.	0.00	0.	0.
EFFSQFT	1.	20.00	-210.	4445.
STORIES	2.	0.00	0.	0.
EXTER	2.	0.01	183.	3470.
GARAGE	2.	0.01	1077.	2154.
STYLE	2.	0.01	424.	3519.
BSMTYP	2.	0.01	-88.	2497.
BSMTCND	1.	-750.00	0.	0.
QUALTY	2.	0.02	4012.	351.
PORCH	1.	600.00	0.	1470.
BDRMS	1.	1500.00	-1125.	750.
BATHS	1.	4000.00	-1750.	2062.
FPLAC	1.	750.00	562.	375.
DINRM	2.	0.02	-6341.	5624.
DEN	1.	1000.00	250.	957.
KTCHSCR	1.	850.00	4271.	2400.
FAMRM	1.	100.00	0.	0.
RECRM	1.	2000.00	1000.	1155.
LAUNSCR	1.	300.00	450.	300.
HTGSCR	1.	200.00	-1700.	2069.
INTCIR	2.	0.01	-538.	1075.
SPFTSCR	1.	350.00	1488.	1522.
AVE ADJUSTED AMT			192202.	5241.
WEIGHTED AVE.			191000.	

VACANT SITES

TXPARNUM	PROPOWN	STRNUM	STRNAM	LOT SIZE LTSQFT	HOUSE SIZE SQFTLS	1983 ASSESSMENT 83ASSESS	1983 LAND 83LAND	1983 IMPROVEMENT 83IMPROVE	% CHANGE 82-83CHANGE
4601126	SUHR,FREDERICK C	29	CAMBRIDGE CT	8400	9	27000	27000	0	1
460120.9	JENSEN,A PAUL & AILEEN	530	FARWELL DR	26400	9	94500	94500	0	1
460121.18	COLEMAN,CATHERINE	735	FARWELL DR	23500	9	58000	58000	0	1
460121.20.1	MALOOF,GEORGE J	16	FULLER CT	43500	9	108000	108000	0	1
460121.6	COLEMAN,JEROME REED	425	SUMMIT RD	36000	9	63500	63500	0	1
4601325.19	RICE,GREGORY A & DEBORAH S	000	KENSINGTON DR	15000	9	31000	31000	0	1
4601327.1	HARLING,DOROTHY	614	FARWELL DR	16000	200	40000	38000	2000	1.05
4601329	HOPKINS,JAMES E & NANCY C	639	SUMMIT RD	22000	9	39000	39000	0	1
4601329.2	HOPKINS,JAMES E & NANCY C	639	SUMMIT RD	15000	9	35000	35000	0	1
4601404.02	FERRIS,DONNIE B	519	SUMMIT RD	18000	9	54000	54000	0	1
4601404.03	LEVY, PHILLIP A	505	SUMMIT RD	23500	9	59500	59500	0	1
4601404.04	FERRIS,DONNIE B	439	SUMMIT RD	22000	9	59000	59000	0	1
4601407	FERRIS,COLLINS	500	FARWELL DR	12000	9	100	100	0	1
4601414.2	HPT,INC	625	FARWELL DR	48000	9	86000	86000	0	1
4601418.3	IWANOWSKI, PETER	715	FARWELL DR	26900	9	103500	103500	0	1
4601419.1	SCHUETTE,JOHN F	719	FARWELL DR	38000	9	76000	76000	0	0
4601431.1.3	MAYER, OSCAR G	722	WILDER DR	14500	9	50000	50000	0	1
4601433	SCHMIDT,WILBUR	377	LAKEWOOD BLVD	37500	9	47500	47500	0	1
4601468.1	BLANCKE,ROSEMARIE	801	BUTTERNUT RD	39000	9	80000	80000	0	1
460170	BERSE,PHILIP H & MARGARET B	57	FULLER DR	5500	9	2000	2000	0	1

EQ

Ready

2)

4601444.1	COE,HELEN SMITH	821	FARWELL DR	14000	77	1340	1	1.75	3.4	8	1952	120000	1.04
4601444.2	FARLEY,THOMAS J & MARY ANNE	817	FARWELL DR	31000	160	3820	4	2.75	1.5	19	1959	270000	1.03
4601445.7	LLA,ROBERT W	8	FULLER CT	26000	110	2780	4	4	8	9	1954	207000	1.03
4601449	EHMER, DONALD S & PHYLLIS A	29	HARBORT DR	30000	80	2250	4	3	5.1	9	1951	192000	1.05
4601450	HOLTER,THOMAS F	33	HARBORT DR	27000	75	4320	5	3.5	10.2	23	1964	221500	1.03
4601453	LIPPERT,LESLIE J	1319	FARWELL DR	39500	100	1260	1	1.5	1.5	2	1925	120500	1
4601454	ROTH,PHILLIP	1317	FARWELL DR	40000	110	2460	4	3	2.65	18	1939	170500	1.03
4601455	GREENBERG,WALTER	1315	FARWELL DR	24000	80	1800	3	2	3.4	16	1900	147500	1.02
4601456	THOMPSON,BJORN J AND BA	1313	FARWELL DR	23500	70	2240	3	1.5	4.4	7	1929	174000	1.03
4601457	KIBBLE,PETER & PAT	1311	FARWELL DR	24000	70	2500	3	2.25	8.4	14	1947	191000	1.07
4601458	LIPPERT,E C	1309	FARWELLDR	24000	75	1380	1	1	2.4	8	1935	125000	1.03
4601459	COTTER,CHARLES	1225	FARWELL DR	35000	110	4720	7	4	4.2	32	1966	255500	1
4601460	SCHMALBACH,CHARLES L	1215	FARWELL DR	28000	70	1880	3	1.5	1.9	3	1928	150000	1.01
4601461	MORTENSON,LOREN	1205	FARWELL DR	30000	69	3640	4	2.25	8.4	27	1965	219000	1.03
4601462	FARNHAM,D JOHN	1177	FARWELL DR	29000	60	2460	4	3.25	1.5	12	1939	214000	1.05
4601463	CRANE,JEREMY B	1175	FARWELL DR	26000	63	2280	4	1.5	1.6	1	1939	167500	1.03
4601464	YOST,HARRY A ET AL TRUSTEE	1173	FARWELL DR	30500	75	2200	3	2.5	3	7	1921	167000	.95 ADJ. 1992 ERROR
4601465	TENNFY,HORACE DR	1155	FARWELL DR	38500	100	1480	2	1.75	9	12	1948	176500	1
4601466	GRANNIS,ADRIENNE ELY	1171	FARWELL DR	41500	100	5140	5	3.75	15.6	40	1975	331500	1.01
4601467	BOWMAN,ARNOLD P	1101	FARWELL DR	53500	113	2720	2	2.5	12	25	1975	266000	1.05
4601468.2	BLANCKE,FREDERICK & ROSEMARIE	1005	FARWELL DR	43000	97	960	1	1	1.15	1	1890	100500	1
4601469	TZAKIS,DANNY A & DIANE	1001	FARWELL DR	56500	156	2540	3	2.5	15.6	17	1951	236000	1.02
46015	HARPER,ALPHA S	3	BAYSIDE DR	43000	125	2480	4	2.5	4.7	11	1932	175500	1.05
460157	PADLEY,HOWARD	21	FULLER DR	26600	115	1820	3	1.5	3.4	16	1955	202000	1.02
460158	SCHNEIDERS,DR. E F	19	FULLER DR	27500	125	3660	6	3.25	6.6	14	1938	253000	1.03
460159	APPEL,BETTE ANNE	25	FULLER DR	27000	125	2680	6	2.75	2.25	12	1926	235000	1.08
46016	SHELTON,WILLIAM E & CAROL	7	BAYSIDE DR	20500	60	2140	4	2.5	4.9	3	1923	154000	1.01
460160	FRAUTSCHI,WALTER & DOROTHY	29	FULLER DR	30000	100	3660	3	4.25	8.6	28	1953	264500	1.03
460161	CARPENTER,RUSSELL H	33	FULLER DR	32000	100	4220	6	4.25	8.2	27	1932	273000	1.03
460162	BEACH,P GOFF	41	FULLER DR	52000	184	5060	6	4.5	6.6	5	1929	332000	1.03
460163	YOST ET AL,JOHN R	49	FULLER DR	55000	200	3260	5	4	6.4	10	1936	303500	1.02
460165	DEAN,FRANK K	53	FULLER DR	31000	100	2840	3	2.5	6.6	6	1954	214000	1.03
46017	FISHER,JEROME	15	BAYSIDE DR	52000	170	9260	7	6.25	15.4	19	1983	402500	3.5
46017.2	BACH,FRANCIS H	23	BAYSIDE DR	21000	80	4160	4	4.5	12.4	18	1965	230000	1.03
460194	YOST,ROBERT E	357	LAKEWOOD BLVD	16000	80	2380	4	2.25	3	8	1937	179000	1.03
460195	KLAUSER,JAMES R & SHIRLEY A	349	LAKEWOOD BLVD	24500	100	2200	3	2.5	6.2	8	1917	179000	1.03
460196	SCHOOR,LEONARD R	345	LAKEWOOD BLVD	25000	88	2400	4	1.5	3.2	8	1925	187500	1.03
460197	KESSENICH,HARRY E	333	LAKEWOOD BLVD	31500	90	2040	3	1.5	3.2	9	1923	172000	1.03
460198	CARTER,MARTHA G	325	LAKEWOOD BLVD	40000	95	4040	4	4	6.6	16	1927	252000	1
460199	FISH,JOHN W	315	LAKEWOOD BLVD	52000	105	4240	5	3	6.6	16	1927	259500	1

(1) NON-LAKE

TXPARNUM	PROPOWN	STRNUM	STRNAM	LOT SIZE	HOUSE SIZE	BEDRMS	BATH BRMS	KITCHSCR	SPECIAL FEATURES	YEAR BUILT	1983 ASSESS	% CHANGE
				LTSQFT	SQFTLS	BDRMS	BATHS	KITCHSCR	SPFTSCR	YRBLT	83ASSESS	83C
460110	FRANKWICZ,STEVE & MARTHA	37	OLD SHORE RD	13500	3080	5	2.5	5.1	7	1928	119500	1
460111	EGGLESTON,GERALD R & BARBARA	21	OLD SHORE RD	22500	2180	4	1.75	1.15	4	1927	85000	1
460112	SHERRY,TOBY E	22	BURROWS RD	9500	2240	4	2.5	2.1	3	1935	99000	1
4601125	HOPKINS,RANDALL H & PAMELA S	98	CAMBRIDGE RD	21000	2580	4	2.5	4.9	7	1954	130000	1.04
4601126.1	KOENIG,ERWIN F	221	LAKEWOOD BLVD	21500	3540	5	3.25	3.6	21	1931	132500	1
4601126.3	SPOHN,JOHN E	209	LAKEWOOD BLVD	23000	3270	6	3	7.35	7	1956	137500	1
4601127	HEANEY,NOBLE S	205	LAKEWOOD BLVD	27500	3020	6	4.5	3.4	8	1914	125500	1
4601128	MARSHALL,RICHARD	175	LAKEWOOD BLVD	35000	3220	5	3	5.1	12	1938	156500	1
460113	HAUSMAN,PHILIP J	201	WARNER DR	9500	1500	3	2	3.6	10	1939	77000	1.03
4601131	JERVING,JAMES	167	LAKEWOOD BLVD	15000	1520	3	1.5	1.15	3	1939	81500	1.13
4601132	GRAHAM, WILLIAM C JR	159	LAKEWOOD BLVD	18500	3080	4	2.25	3	12	1948	133000	1.02
4601134	GLOWAC,RONALD J	155	LAKEWOOD BLVD	11500	1720	3	1.5	1	6	1938	81500	1
4601135	RYAN,DAVID F & LOUISE M	151	LAKEWOOD BLVD	10000	1500	3	1.5	2.65	1	1939	78500	1.03
4601136	EIERMAN,DON F	147	LAKEWOOD BLVD	8000	1460	3	1.5	2.65	5	1941	71500	1.12
4601137	CANFIELD,JOHN E	143	LAKEWOOD BLVD	8500	2340	4	2.25	5.1	16	1939	114000	1
4601138	HALVERSON,HERMAN L	139	LAKEWOOD BLVD	7000	2240	4	1.5	4.9	2	1952	110000	1.08
4601139	GIBSON,ANNE ANDERSON & JACQUE	135	LAKEWOOD BLVD	7500	2000	3	1.5	3.2	5	1939	87500	1
4601141	O'BRIEN,RICHARD O	131	LAKEWOOD BLVD	7500	2320	4	2.5	4.9	5	1939	117000	1
4601142	HART,JOHN R	92	CAMBRIDGE RD	14500	2800	4	3.5	12.6	22	1977	170000	1
4601144	NOURSE,DENNIS	88	CAMBRIDGE RD	10000	2320	5	2.5	6.4	4	1921	122000	1
4601145	STEGE,EDWARD R	82	CAMBRIDGE RD	32000	2600	3	2.25	3.4	13	1914	131000	1
4601146	WIRIG,MARC T & MARGO E	74	CAMBRIDGE RD	23500	2660	4	3.5	6.6	11	1917	110000	.97
4601147	TORMEY,DR. WESTON	68	CAMBRIDGE RD	17000	3300	5	3.5	9.4	23	1936	169000	1
4601148	OSTBY,BYRONC	58	CAMBRIDGE RD	21000	2340	4	2.25	4.7	8	1936	125500	1
460115	WEILER,WILLIAM & JULIA	30	OLDSHORE RD	14000	2400	4	1.5	1.5	6	1927	100000	1
4601150	VARDA,JOHN P	50	CAMBRIDGE RD	16000	3720	5	3.75	6.2	15	1927	146500	1
4601151	RICHTER,HUGH V & RENEE Y	42	CAMBRIDGE RD	15500	3500	5	4	12.6	28	1962	172000	1
4601152	VARDA,JOHN DUNCAN & MARY T	38	CAMBRIDGE RD	14500	3320	5	4.25	1.5	17	1942	170000	1.02
4601154	COTTER,JAMES M	34	CAMBRIDGE RD	7500	1820	3	1.5	4.9	16	1936	86000	1
4601155	BUSH,HENRY H & JOANNE K	30	CAMBRIDGE RD	10500	1900	3	2.5	5.1	6	1938	92000	1
4601156	REUL,HENRY JAMES	26	CAMBRIDGE RD	12500	2900	4	1.75	1	1	1927	100500	1
4601157	STUTZ,DONALD R	101	FISK PLACE	9500	1200	3	1.5	1.7	7	1941	62000	1.02
4601158	LATHERS,FRANK R	105	FISK PLACE	9500	1440	2	1.5	1.7	2	1935	63500	1.02
4601159	SCHMIDT,JAMES P	353	KENSINGTON DR	10000	1820	4	2	3.4	9	1940	84000	1
4601160	MACKEY,JAMES & CLARK,CARRIE	349	KENSINGTON DR	9500	1700	3	1.75	3.4	5	1940	73000	1
4601161	STOLEN,ANNE R	345	KENSINGTON DR	9500	2380	4	2	4.9	5	1936	106000	1
4601162	SAVIDUSKY,JACK	341	KENSINGTON DR	9500	1940	4	1.75	6	11	1941	75000	1
4601163	EISELE,GEORGE	337	KENSINGTON DR	9000	1860	3	2.5	3.4	17	1936	87500	1
4601164	MENGEL,RONALD E	333	KENSINGTON DR	13500	2280	4	2.25	4.9	7	1941	119000	1.03
4601166	CLARKE,LUCILLE E	325	KENSINGTON DR	13500	1700	2	1.5	4.9	4	1938	80500	1
4601167	STARKWEATHER,BRUCE C	321	KENSINGTON DR	9500	1320	3	1	1.15	-2	1936	62500	1
4601168	WHIPPLE,CARLYLE	317	KENSINGTON DR	10000	2220	4	2.5	3	1	1937	101500	1
4601169	CLARK,MARCIA	313	KENSINGTON DR	9500	1860	3	2	2.65	5	1935	82000	1
460117	GROOT,JULIE	202	WARNER DR	8000	1120	3	1.5	4.9	6	1954	65000	1.03
4601170	WEBER,JEAN I	309	KENSINGTON DR	7000	1860	3	2.25	.75	-1	1937	71500	1
4601171	FRAZIER,ALBERT F JR	121	CAMBRIDGE RD	6500	1360	3	1	1.5	-1	1935	60000	1
4601172	SEDGWICK,EVELYN C	113	CAMBRIDGE RD	7000	1500	3	2	1.4	1	1935	72000	1.03
4601173	HOVDE,RAYMOND	109	CAMBRIDGE RD	8000	1440	3	1.5	.75	5	1937	74500	1.04
4601175	DRUCKENMULLER,HOWARD & JEAN	356	LAKEWOOD BLVD	11500	2400	3	2.5	4.7	12	1936	125000	1
4601176	FORTIN, JOHN (JACK)	348	LAKEWOOD BLVD	10500	1800	3	1.5	2.85	9	1940	107500	1.05
4601176,1	YOST,JOHN K	344	LAKEWOOD BLVD	14500	2260	4	2.25	4.6	6	1949	115000	1
4601177	BURKE,CECIL K & NANCY W	340	LAKEWOOD BLVD	18500	1880	3	1.5	1.9	5	1917	79500	1
4601178	PORTER,LEONARD L	332	LAKEWOOD BLVD	17500	2040	4	1.5	3.4	3	1920	95000	1
4601179	VERHULST,MARVIN P	328	LAKEWOOD BLVD	11000	1960	4	2.25	6.2	14	1940	94000	1
460118	PHILLIPS,WILLIAM V	208	WARNER DR	10500	1520	2	1.75	.75	4	1927	46000	1.05
4601180	JACKMAN,W L	324	LAKEWOOD BLVD	16500	3200	4	2.5	4.5	9	1923	113500	1
4601181	CLASS,GEORGE M	316	LAKEWOOD BLVD	16500	1800	4	1.5	.9	2	1937	94500	1
4601182	HANSEN,EDWARD S	312	LAKEWOOD BLVD	11000	1680	3	1.5	5.1	9	1937	88500	1.03
4601183	HAMACHER,LEO V	308	LAKEWOOD BLVD	12000	1700	3	1.5	1.4	4	1938	79000	1
4601184	REYNOLDSON,JOHN	304	LAKEWOOD BLVD	8000	1800	4	2.25	6.6	9	1941	93000	1

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4601185	RABBINO,JEAN & HELEN	300	LAKEWOOD BLVD	8500	1620	3	1.5	8.6	7	1938	87500	1
4601186	KARR,MARIAN LOUISE	105	CAMBRIDGE RD	8000	1700	3	1.5	.9	7	1938	74500	1.06
4601187	KRUPP,JOSEPH & CYNTHIA JNEL	118	CAMBRIDGE RD	8000	1660	4	1.5	10.2	5	1938	83000	1.04
4601188	KLEIN,VICTOR M	275	KENSINGTON DR	7000	1460	3	1.5	1.5	0	1937	69500	1.03
4601189	GRAPES, DAVID G & M C CARLSON-	273	KENSINGTON DR	7000	1140	2	1	1.5	-3	1937	69500	1
4601190	MOORE,THOMAS P	269	KENSINGTON DR	7000	1220	2	1.5	.75	-1	1941	63500	1.06
4601191	JERRED,WILLIAM E	265	KENSINGTON DR	10000	1100	3	1.75	1.5	1	1939	68000	1.03
4601192	EGRE,MILLARD	261	KENSINGTON DR	10500	1040	3	1	1.2	4	1938	64500	1.06
4601193	VOLTZ,BARBARA C	257	KENSINGTON DR	12000	1320	3	1	.95	1	1939	68500	1
4601194	ANDERSON,ERNEST HOBART	253	KENSINGTON DR	10500	1300	3	1	2.45	6	1940	64500	1
4601195	CLARK,STEVEN C & FRANCIS A	249	KENSINGTON DR	9000	1300	3	1	1.5	4	1938	60500	1
4601196	KINNNEY,CRAIG V & ELEANOR C	245	KENSINGTON DR	10000	1320	4	1	1.9	0	1940	63500	1
4601197	SENGSTOCK,VIRGINIA	241	KENSINGTON DR	10000	1280	3	1.5	4.9	0	1939	66000	1.02
4601198	COCHRANE,DAVIDJ	233	KENSINGTON DR	11000	1720	3	1.5	2.65	5	1941	75500	1
4601199	RAHN,DOUGLAS JR	229	KENSINGTON DR	11500	1380	2	1.5	4.9	-1	1939	71000	1
460120.1	PAUL,DONALD & LOIS	933	FARWELL DR	18000	3440	3	2.5	15.4	18	1978	193500	1
460120.10	WATERS,DARWIN D & MATTICE M	1008	FARWELL CT	12500	2220	3	2.75	6	21	1965	143500	1
460120.2	ANTONIUS,DR. LESLIE	927	FARWELL DR	15000	3000	4	2.5	12.4	25	1967	190000	1.02
460120.3	LEVY,MARVIN J	921	FARWELL DR	22500	3040	4	2.5	4.4	11	1967	180500	1
460120.4	TOLLESON,RICHARD L & WANDA O	915	FARWELL DR	19000	3200	5	2.25	12.6	18	1966	182000	1
460120.5	SANNA,CHARLES A & MARGARET M	909	FARWELL DR	23500	3540	4	3.25	4.6	19	1965	192500	1
460120.6	HERRO,NORMAN & MARY	1007	FARWELL CT	12500	4400	5	4	8.4	20	1966	182500	1
4601201	WEINER,MARK ALAN	225	KENSINGTON DR	9000	2140	4	1.5	4.9	2	1941	94000	1
4601202	WARREN,DONALD D	221	KENSINGTON DR	13500	1950	3	2.25	1.15	4	1939	91500	1
4601203	PATTERSON,HUGH R	209	KENSINGTON DR	9000	1280	3	1.5	1.15	1	1938	70000	1.09
4601204	HALL,AGNES M	207	KENSINGTON DR	10500	1380	3	1.5	.75	6	1939	75000	1
4601205	LYNN,JAMES	205	KENSINGTON DR	9500	1080	3	1.5	.75	-3	1938	55500	.99 ADJ. 1982 ERROR
4601206	YOUNGQUIST,W G	201	KENSINGTON DR	10000	1500	4	1.5	2.65	8	1940	74000	1.03
4601208	SAVIDUSKY,MICHAEL P	110	CAMBRIDGE RD	10000	1560	3	1.5	1.7	6	1940	77000	1.05
4601209	RICE,GORDON A	244	LAKEWOOD BLVD	18000	2700	4	3.5	5.1	24	1940	160000	1
460121.1	SMITH,WEBER L JR	400	FARWELL DR	28500	3400	4	3.5	12.2	14	1965	203500	1
460121.10	ZIMBRICK,JOHN P & PATRICIA	400	COLEMAN RD	31000	4260	4	3.5	15.2	28	1964	220500	1
460121.12	BOLZ,ROBERT M	411	SUMMIT RD	58000	4960	5	3.25	6	24	1965	255500	1
460121.13	KELLY,JOHN M & FRANCES	723	WILDER DR	31000	4020	5	4.5	6	18	1965	190500	1
460121.14	RYDER,EDWARD K	731	WILDER DR	20000	3340	4	2.5	8.6	18	1971	191500	1
460121.15	OSCAR MAYER & CO	727	WILDER DR	26000	4900	3	2.75	15.6	35	1972	256500	1
460121.16	BRUEMMER,JOHN L	416	SUMMIT RD	27500	4060	5	4.25	9.6	10	1964	197000	1
460121.17	PERNA,RENEE D & GIUSEPPE	424	SUMMIT RD	23500	3740	4	3.25	7.15	11	1966	199000	1
460121.2	BACKWINKLE,KLAUS D & JEAN H	408	FARWELL DR	24700	2740	4	2.5	6.4	8	1965	162500	1
460121.3	STAUTER,RONALD B & JANE E	412	FARWELL DR	24500	3494	5	2.5	9.6	25	1969	192000	1
460121.4	BOLZ,JOHN A	424	FARWELL DR	24700	4440	5	4.75	6	21	1964	233000	1
460121.5	MONTGOMERY,THOMAS F	432	FARWELL DR	24000	2840	4	3.25	6.2	20	1964	179000	1
460121.7	HOPKINS,MARIE B	419	COLEMAN RD	30500	2560	4	2.5	4.4	16	1964	141000	1
460121.8	LINDSAY,KATHERINE L	411	COLEMAN RD	31500	3260	5	2.75	6.4	17	1964	172000	1
460121.9	STEVENS,RUDOLPH S	403	COLEMAN RD	33000	4020	5	4	12.6	13	1967	210000	1
4601211	TABORSKY,CHARLES R & NANCY N	240	LAKEWOOD BLVD	16000	2520	3	2.25	9.6	20	1957	151500	1.12
4601212	MCGOWAN,ELEANORE H	236	LAKEWOOD BLVD	17500	2500	5	2.5	6.6	5	1928	125000	1
4601213	SWAIN,PAUL	228	LAKEWOOD BLVD	11500	1740	3	1.5	4.5	13	1938	89000	1
4601214	ARMSON,LEORA MERRY	224	LAKEWOOD BLVD	11000	1760	3	2.25	2	11	1934	85000	1.03
4601215	DESCH,F & JEAN	222	LAKEWOOD BLVD	11000	1460	3	1.5	3	11	1938	80000	1.03
4601217	BLUMER,LESTER J &HILDA K	216	LAKEWOOD BLVD	16000	1680	3	1.5	4.7	6	1938	86500	1
4601218	BACH,DONALD L	212	LAKEWOOD BLVD	15000	1490	3	1.5	1.5	6	1934	79000	1.03
4601219	BOLLES,JOHN AND GLORIA	208	LAKEWOOD BLVD	14500	2120	4	1.5	7.35	11	1938	109500	1
460122	JOHA,MARY FRANCES ROTH	48	PAGET RD	10500	2220	4	3	1.7	3	1941	120000	1
4601220	ANDERSON,HENRY A	200	LAKEWOOD BLVD	15000	2860	4	1.75	6.6	8	1949	106000	1
4601226	SULZER,HARRY & JANE SULZER	159	KENSINGTON DR	12500	1660	4	1.5	3.6	3	1948	81500	1
4601228	LANDWEHR,W J	151	KENSINGTON DR	20500	2400	3	1.5	3.4	2	1936	118500	1
4601229	HENKEL,ERNEST J	143	KENSINGTON DR	18000	1400	3	1.5	4.4	6	1920	66000	1
460123	BRADY,GREGORY	40	PAGET RD	11000	2760	5	2.25	8.6	14	1970	151000	1
460123.1	BLANK,ROBERT L & SHIRLEY	44	PAGET RD	12000	2640	4	3	4.9	3	1941	120000	1
4601230	STEINHAUER,MRS R	139	KENSINGTON DR	11000	1600	4	1.5	1	1	1928	75000	1.06
4601231	ST CLAIR,DORIS W	135	KENSINGTON DR	9500	1540	3	1.5	3.6	9	1935	74500	1.06
4601232	ROBIN,CHARLES J	131	KENSINGTON DR	8500	1640	4	1.5	4.7	4	1926	74500	[illegible]

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4601233	AUER,HELMUT & NANCY	127	KENSINGTON DR	750[illegible]	1840	3	1.5	7	8	1940	85000	[illegible]2
4601234	KEHMAN,ROBERT & SALLY	123	KENSINGTON DR	8000	1960	4	1.5	1.7	12	1935	83000	1
4601235	FAULKNER,AUSTIN H	118	LAKEWOOD BLVD	12000	2620	4	3	3.4	15	1939	130500	1
4601237	BABLITCH,MARTHA	122	LAKEWOOD BLVD	8500	1820	4	1.5	.9	-3	1936	82000	1
4601238	WESTON,RUTH J	166	LAKEWOOD BLVD	72000	5760	9	6.5	4.9	26	1915	251500	1
4601239	REYNOLDSON,JOHN & VIRGINIA	150	LAKEWOOD BLVD	18000	2600	4	2	3.6	14	1935	138500	1
4601240	ARNESON,JOAN ELLIS	146	LAKEWOOD BLVD	18000	3120	5	4.5	12	13	1965	169000	1
4601241	HALL,LAWRENCE W	140	LAKEWOOD BLVD	17500	2660	4	2.5	4.9	13	1915	116000	1
4601242	WALKER,WILLIAM A	136	LAKEWOOD BLVD	13000	1960	3	1.5	1.2	5	1937	93500	1
4601242.1	REED,MARJORIE KROEHLER & C B	130	LAKEWOOD BLVD	10000	2040	4	1.5	2	0	1920	80000	1.05
4601243	BELSITO,LUKE	126	LAKEWOOD BLVD	10000	2380	5	2.75	6.4	13	1966	137500	1.02
460125	ARNOLD,CHARLES	36	PAGET RD	13500	2080	3	2.5	3.4	10	1941	108000	1.04
4601259	SCHUMANN,OTELA	456	N SHERMAN AVE	7000	1560	3	1.75	1.5	1	1939	58500	1
460126	MAYER, HAROLD F & CHRISTINE E	32	PAGET RD	13500	2640	4	2.5	3.6	12	1940	145000	1.11
4601261	ZIEGLER,EDGAR JAMES	452	N SHERMAN AVE	9500	1300	3	1.5	1.5	1	1939	51500	1
4601263	CURRY,R C	446	N SHERMAN AVE	8500	1079	2	1	2.7	3	1940	45500	1
4601264	MUTSCHLER, JOHN M & MARY	442	N SHERMAN AVE	8500	980	2	1	.75	2	1939	48500	1
4601265	WIECK,DAVID & CAROL	438	N SHERMAN AVE	9000	1320	2	1	1.9	0	1939	51000	1.13
4601266	RODHAM,CHARLES	434	N SHERMAN AVE	9000	760	2	1	.5	-1	1941	38000	1.07
4601267	OLSON,HARLAN & MARY LAWRENCE	430	N SHERMAN AVE	9500	1040	3	1	2.65	-4	1950	47500	1.02
4601268	ERBS,DENNIS WILLIAM & MARY	426	N SHERMAN AVE	9500	1200	3	1.5	.5	1	1948	50000	1
4601269	GERHARDT,TIMOTHY J	420	N SHERMAN AVE	10000	760	2	1	.5	-4	1948	38000	1.01
460127	GRANNIS,THOMAS E & CHRISTIN	28	PAGET RD	14000	2080	3	1.5	6.6	6	1939	110000	1.04
4601270	SPOENTGEN,RICHARD	418	N SHERMAN AVE	9500	1540	2	1	1.4	8	1930	59000	1
4601271	EISELE,KARL A	414	N SHERMAN AVE	7500	1280	3	1	.9	0	1929	48000	1
4601272	WILLIAMS,WARD	410	N SHERMAN AVE	7500	960	2	1	.5	7	1941	45500	1
4601273	COUGHLIN,DOROTHY M	406	N SHERMAN AVE	9000	1100	3	1	2.65	4	1947	50500	1
4601275	STOCKER,JAN	19	ROXBURY RD	6500	1260	3	1	1.5	-1	1940	59500	1.04
4601276	TAYLOR,BETTY M	166	KENSINGTON DR	7000	1720	3	1.5	4.6	5	1926	64500	1.06
4601277	BEDNAR,JOHN J	162	KENSINGTON DR	7000	1460	4	1.5	1.5	2	1941	64000	1.08
4601278	DORING,FRANCIS C	158	KENSINGTON DR	7000	920	2	1	1.9	5	1932	52000	1.04
4601279	HUMPHREY,ALMA F	154	KENSINGTON DR	9500	1680	3	1.5	.9	1	1938	65500	1.05
460128	EASTON,DAVID W & CECILIA J	24	PAGET RD	14500	2580	4	2.5	7.7	5	1938	125000	1
4601280.1	HERMANN,RICHARD	146	KENSINGTON DR	9500	1740	3	1.5	2	6	1937	79000	1.14
4601282	GARROT,WILLIAM	142	KENSINGTON DR	10500	2060	4	2.25	8.6	12	1965	111000	1.06
4601283	WAGENER,DOLORIS	136	KENSINGTON DR	12000	1400	3	1.5	2.5	9	1927	70000	1.01
4601284	FAUERBACH,W J	132	KENSINGTON DR	9500	1460	3	1.5	1.9	3	1938	75500	1.04
4601285	ZABIT,WILLIAM N & HEIDI J	128	KENSINGTON DR	10500	1580	3	1.5	.9	6	1936	80500	1.05
4601286	BETHEA,DAVID & KIM	124	KENSINGTON DR	9000	1340	3	1.5	.5	5	1937	77000	1.08
4601287	WALKER,WILLIAM JR & ANNE	120	KENSINGTON DR	14500	2020	4	2.25	3	6	1937	91500	1
4601288	STATZ,DANIEL J	112	KENSINGTON DR	16500	1840	4	1	5.1	3	1927	71500	1
4601289	KOZEL,DOUGLAS N & JOAN	110	KENSINGTON DR	8000	1088	2	1	.9	1	1937	62000	1.05
460129	WEGNER, RICHARD C & PAMELA J	20	PAGET RD	14000	2280	3	1.5	8.6	16	1940	127000	1.09
4601290	DAVIE,FREDERICK G	108	KENSINGTON DR	8000	1600	3	1	5.5	2	1926	67500	1.06
4601291	SANNA,ELIZABETH	26	LAKEWOODBLVD	18500	2200	4	2.25	6.6	5	1948	92000	1.03
4601293	HOGAN,HARLAND O	22	LAKEWOOD BLVD	12000	2020	3	2.25	5	10	1953	81500	1
4601294	NEBEL,STANLEY B	18	LAKEWOOD BLVD	10500	1500	3	1.5	2.1	8	1950	71500	1.04
4601295	BOYER,EDWARD J	14	LAKEWOOD BLVD	10000	2160	3	2.25	1.4	5	1948	85000	1
460130	BERGER,RICHARD W & MARJORIE A	16	PAGET RD	20000	2420	5	2.5	6.4	7	1937	120000	1
4601300	LONG,CONRAD V	540	N SHERMAN AVE	8000	680	2	1	.65	-3	1941	38000	1
4601301	TABORSKY,THOMAS & PETER	5	OXFORD PLACE	6000	1380	3	1.75	.65	7	1941	58000	1
4601302	BRABENDER,OSCAR	538	N SHERMAN AVE	6500	1580	3	1.5	3.4	1	1941	55500	.85 OPEN BOOK ADJUSTMENT
4601303	JACOBSON,HAROLD E	536	N SHERMAN AVE	8000	1580	4	1.5	1.1	5	1941	60000	1
4601304	LITTEL,M J	534	N SHERMAN AVE	7500	1320	3	1.5	1.4	3	1942	60500	1
4601305	SIMONSON,P O	532	N SHERMAN AVE	7500	1300	2	1	1.9	4	1952	60500	1
4601306	LEMKE,MILTON M	528	N SHERMAN AVE	11500	1170	3	1.5	2.25	0	1938	60000	1
4601307	WILKIE,THOMAS	524	N SHERMAN AVE	12500	1280	2	1.5	.5	0	1925	49000	1
4601309	HAY,MICHAEL	522	N SHERMAN AVE	9500	1280	3	1	2.65	4	1948	55500	1.02
4601311	GAUKEL,WILLIAM F ET AL	10	ROXBURY RD	11000	2220	4	1.5	4.9	1	1954	62000	1
4601312	HAUSMANN,TIMOTHY S & NANCY R	200	KENSINGTON DR	7000	1100	2	1	4.4	6	1921	66000	1.06
4601313	ERICKSON,ROBERT & ELIZABETH	204	KENSINGTON DR	11000	1280	3	1	1.15	9	1941	64000	1.02
4601314	WOLFE, JOSEPH & LINDA	212	KENSINGTON DR	9500	2200	4	1.5	4.4	11	1940	98000	1.04
4601316	SCHANTZ,JAMES & JOANNE	216	KENSINGTON DR	9000	2180	3	1.5	4.5	8	1938	88000	1

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4601317	HEINECK,DAVID L	220	KENSINGTON DR	11500	1800	3	1.75	1.9	2	1936	73000	1
4601318	RODENKIRCH,THOMAS J	224	KENSINGTON DR	10000	1400	3	1.75	1.9	6	1953	68500	1
4601319	WALKER,ETHEL HARRIS	232	KENSINGTON DR	10000	1420	3	1.75	4.9	6	1938	69500	1.04
460132	MARLING,WILLIAM H & MARCIA F	8	PAGET RD	25500	3160	4	2.5	4.9	17	1931	154500	1
4601321	OLSON,OSCAR	236	KENSINGTON DR	5500	880	2	1	1.4	4	1938	49500	1
4601322	MOYER,JILL H	238	KENSINGTON DR	5500	1740	4	2	3	-1	1940	74500	1
4601323	CARLSON,TROY D	244	KENSINGTON DR	7000	1360	3	1	.5	4	1940	62000	1.11
4601324	CAMPBELL,DUANE A	13	OXFORD PLACE	8000	1800	4	2.5	2.3	0	1939	76000	1
4601325	EKEN,MRS IRWIN D	9	OXFORD PLACE	8000	1060	3	1	1.5	2	1940	51000	1.04
4601325.1	STEBBINS,WALTER W	254	KENSINGTON DR	11500	1640	2	1.5	1.6	8	1938	63000	1.02
4601325.10	SWANSON,ARTHUR	308	KENSINGTON DR	8500	1650	3	2	.5	9	1938	81500	1.04
4601325.11	SCHANTZ,H J	310	KENSINGTON DR	9000	1340	3	1.5	4.4	16	1948	76500	1
4601325.12	SUGAR,JAMES E & ELIZABETH C	318	KENSINGTON DR	9500	1700	3	1.5	6.4	11	1938	85500	1.04
4601325.13A	WALLWORK,LYNN G	330	KENSINGTON DR	10000	1680	4	1.75	3	3	1946	77000	1
4601325.14	SMITH,W K	336	KENSINGTON DR	11500	1320	3	1	2.1	11	1939	69000	1
4601325.15	WINDING,FREDERICK C JR	342	KENSINGTON DR	12000	1980	4	1.5	6.6	5	1939	93000	1
4601325.16	LILLEGREN,DONALD A	348	KENSINGTON DR	7400	1640	4	1.75	4.5	12	1941	77000	1
4601325.17	MICHAELSEN,ALBERT & RUTH	354	KENSINGTON DR	10500	1100	2	1	4.6	4	1941	62000	1.02
4601325.18	TOOLE,WILLIAM H & JUDITH H	395	WOODLAND CIRCLE	13500	1860	3	1.5	2.65	16	1939	95000	1
4601325.2	KRUEGER, DORENE M	260	KENSINGTON DR	10500	1580	3	1.5	3	-2	1948	70000	1
4601325.20	DRISCOLL,WILLIAM	414	KENSINGTON DR	13000	1900	4	1.5	2.1	5	1939	83000	1
4601325.21	JOHNSTON,R	390	WOODLAND CIRCLE	10000	1460	3	1.5	1.1	4	1939	75500	1.01
4601325.22	HEGLEY,ALBERT T	384	WOODLAND CIRCLE	9500	1200	3	1.5	4.9	3	1940	71000	1.07
4601325.23	CARDARELLA,JOSEPH	378	WOODLAND CIRCLE	9000	1620	3	1.5	1	-1	1940	67000	1
4601325.24	HECOX,KURT E & JANE H	372	WOODLAND CIRCLE	10500	1960	3	1.5	4.9	13	1939	82000	1
4601325.25.1	ALLEGAR,AUTHUR I	366	WOODLAND CIRCLE	12000	1560	3	1.5	3.6	6	1940	78000	1.06
4601325.26	MILNE,ERNA H	360	WOODLAND CIRCLE	13500	1640	2	1.5	1.4	5	1941	67000	1
4601325.27	HESS,E F	354	WOODLAND CIRCLE	11000	940	2	1	.95	2	1941	53500	1
4601325.28	DAVENPORT,GREGORY & PAMELA	348	WOODLAND CIRCLE	13500	940	2	1	.75	-3	1941	52500	1
4601325.29	PIERCE,PAUL	340	WOODLAND CIRCLE	9000	1400	3	1	2.2	9	1941	62000	1.03
4601325.3	OSTREM,ROGER	266	KENSINGTON DR	10000	1660	3	1	1.4	1	1939	68000	1
4601325.30	FRASER,ELAINE	336	WOODLAND CIRCLE	11500	1360	3	1.5	3	12	1939	61500	.98 OPEN BOOK ADJUSTMENT
4601325.31	COTTRELL,MARIAN	330	WOODLAND CIRCLE	11500	1260	3	1.5	1.5	2	1939	60500	1
4601325.32	WAGNER, LYDIA	324	WOODLAND CIRCLE	11500	1160	2	1	1.4	9	1941	54500	1
4601325.33	TRIPALIN,JOSEPH P & SANDRA K	318	WOODLAND CIRCLE	11000	1380	3	1.5	.9	0	1939	62000	1
4601325.34	HORGEN,ROBERT	312	WOODLAND CIRCLE	10500	1180	2	1.5	2.85	5	1940	57000	1.03
4601325.35	CHAPMAN,FREDERICK	306	WOODLAND CIRCLE	9500	1280	2	1.5	2.5	8	1941	60000	1
4601325.36	NEDDERMAN,H R & RUTH	300	WOODLAND CIRCLE	9000	1640	2	1.75	.7	0	1941	56000	1
4601325.37	KENT,OLIVE L	301	WOODLAND CIRCLE	7500	980	3	1	1.7	7	1941	55500	1
4601325.38	BIEHL,ROBERT G	307	WOODLAND CIRCLE	7500	980	2	1	.5	3	1941	54000	1
4601325.39	WATSON,LAWRENCE	313	WOODLAND CIRCLE	8000	960	2	1	1.15	-2	1941	51500	1
4601325.4	SENGSTOCK,VIRGINIA	272	KENSINGTON DR	11000	2680	4	4.25	3.6	11	1938	114000	1
4601325.40	PHELAN,LOUISE	319	WOODLAND CIRCLE	8500	1400	3	1.5	2.2	5	1941	65000	1.02
4601325.41	HALL,KATHLEEN K	325	WOODLAND CIRCLE	9500	1740	3	1.75	6.4	7	1939	82500	1.02
4601325.42	REICHARDT,FREDERIC C	327	WOODLAND CIRCLE	11000	1560	2	2.25	1.7	5	1939	72000	1
4601325.43	STEBBINS,PETER W	331	WOODLAND CIRCLE	12000	1500	3	1.5	2.45	1	1942	76500	1.06
4601325.44	HYSLOP,BLAIR & MARGERY	337	WOODLAND CIRCLE	13000	1160	2	1	3.6	-2	1940	62500	1.04
4601325.45	SHERIDAN,JEROME R	343	WOODLAND CIRCLE	9500	1580	3	1.5	6.6	8	1939	75500	1
4601325.46	CARROLL,THOMAS J & PATRICIA	371	WOODLAND CIRCLE	12500	1760	3	1.25	.5	-1	1939	82500	1.05
4601325.47	HENDERSON,RUSSELL	385	WOODLAND CIRCLE	10000	980	2	1	1.9	4	1952	61000	1
4601325.48	CONNER,EUGENE P	391	WOODLAND CIRCLE	10000	980	2	1	1.1	4	1939	54500	1
4601325.5	MARTIN,GUY	278	KENSINGTON DR	10000	1180	1	1	1.5	9	1939	62000	1
4601325.6	BRANDT,EDWARD	284	KENSINGTON DR	10000	1460	3	1.5	.7	6	1938	73500	1
4601325.7	PURNELL,VIRGINIA H	290	WOODLAND CIRCLE	9000	1580	2	1	5.1	5	1950	68500	1.01
4601325.8	GATHY,GEORGE	300	KENSINGTON DR	8000	1120	2	1	1.15	5	1938	57500	1.03
4601325.9	BEFFEL,EULALIE C	306	KENSINGTON DR	8000	1000	2	1	2.25	4	1939	58500	1.04
4601326	WATERS,RUBY B	202	NEWCASTLE WAY	16500	2360	5	2.5	3.6	13	1949	125500	1
4601326.10	SUDOW,MARY	205	DEL MAR DR	18000	2840	4	3	6.6	25	1957	158500	1
4601326.12	RAY,JAMES L & BESS B	830	CHARING CROSS RD	15000	2120	4	2.5	8.4	13	1975	137000	1
4601326.13	MARLING,WILLIAM R	826	CHARING CROSS RD	11000	2300	2	1.75	12.6	18	1976	143000	1
4601326.14	MCVEY,JAMES W & ELEANOR L	822	CHARING CROSS RD	10000	2740	4	2.75	15.4	23	1975	171000	1
4601326.15	WALDO,ROBERT L	818	CHARING CROSS RD	11000	2640	3	2.25	10.4	25	1978	154000	1
4601326.1[illegible]	MARREL,EUGENE & CAROL	814	CHARING CROSS RD	115[illegible]	3680	5	3.75	12.6	24	1971	188000	

4601326.1	ARQUART,WILLIAM R & LYDIE E	810	CHARING CROSS RD	115[illegible]	2410	4	2.25	8.6	9	1970	144000	[illegible]	
4601326.19	LOUFEK,JULIA FRANCIS	206	NEWCASTLE WAY	16000	2700	4	4	6	19	1959	147000	1	
4601326.2	MILNER,ROSALIE B	809	LAKEWOOD BLVD	13000	1710	3	1.75	3.4	10	1956	94000	1	
4601326.20	ALLEN,JOHN E	795	LAKEWOOD BLVD	11500	2500	4	2.5	3.4	8	1948	118500	1	1983
4601326.21	RYAN,WILLIAM	205	NEWCASTLE WAY	11500	2440	4	2	1.9	10	1949	102000	.87	SALE
4601326.22	KESSENICH,HARRY MRS	209	NEWCASTLE WAY	11500	2440	3	2.5	9.6	9	1958	128000	1	
4601326.23	FISHER,JEROME	301	NEWCASTLE WAY	12000	2320	4	2	2.4	8	1952	122000	1	
4601326.24	FOWLKES,AGATHA	305	NEWCASTLE WAY	12000	1760	3	1.5	1.9	11	1950	83000	1	
4601326.25	HOBBINS,MARIANNE H	309	NEWCASTLE WAY	12000	1440	3	2	4.9	3	1950	71000	1	
4601326.26	BOARDMAN,ROBERT & LILY	313	NEWCASTLE WAY	12500	1500	3	1.75	6.4	11	1952	83500	1	
4601326.28	LARSON,JOHN D	401	NEWCASTLE WAY	12500	1760	3	2	1.9	3	1951	85000	1	
4601326.29	LEITCH,MARGUERITE TECKEMEYER	405	NEWCASTLE WAY	12000	1400	2	2	1.9	13	1953	87000	1	
4601326.3	GILOMEN,THOMAS & LAURA	813	LAKEWOOD BLVD	16500	2040	3	2.75	3	19	1956	119500	1	
4601326.30	SCHWAB,DONALD	409	NEWCASTLE WAY	11000	1720	3	1.5	1.9	8	1954	85000	1	
4601326.31	MAY,GARY M & CATHY S	413	NEWCASTLE WAY	11000	1800	3	1.75	6.4	8	1951	92000	1	
4601326.32	HARTWIG, CAREN	417	NEWCASTLE WAY	11000	2900	4	3.25	3	14	1948	128000	1	
4601326.33	ROTHERMEL,LEVAN H & LAVERNE S	420	NEWCASTLE WAY	18000	1760	3	2.5	4.9	6	1949	96500	1	1983
4601326.35	WINN,JOHN W	805	KINGS WAY	17000	2060	3	2.5	3.4	9	1952	93500	.84	SALE
4601326.36	MICKEY,EDITH E	813	KINGS WAY	12000	1820	3	1.5	2.45	5	1948	83000	1	
4601326.37	WEINSEL,LAVERN	817	KINGS WAY	10000	1820	3	1.5	3.4	11	1950	91500	1	
4601326.38	JACKSON,ERLING G & SUSAN L	821	KINGS WAY	11000	1500	3	1.5	3	0	1948	71500	.95	1983 SALE
4601326.39	PLUEMER,JOHN J	415	LEROY RD	11000	2560	5	2.5	11.85	9	1960	139000	1.01	
4601326.4	GARSTANG,WILLIAM W & MARY F	817	LAKEWOOD BLVD	11500	2340	3	2.5	6.4	3	1958	135000	1.05	
4601326.40	BECKER,JOHN	416	LEROY RD	12000	2640	3	2.75	6.6	22	1970	166500	1	
4601326.41	LATHROP,WILLIAM & JANE	413	DEL MAR DR	12000	2320	3	2.25	4	18	1951	131500	1	
4601326.45	EWELL,GEORGE H	313	DEL MAR DR	11500	2060	4	2	6.4	13	1956	120000	1.11	
4601326.46	ALBERT,LUTHER T & RUTH J	309	DEL MAR DR	12500	2300	3	2.5	6.4	16	1957	128500	1	
4601326.47A	SCOCOS,JOHN G & MARY	305	DEL MAR DR	11000	2360	3	2.5	6.6	12	1956	128500	1.24	
4601326.48	SCHOOF,WILLIAM V	829	CHARING CROSS RD	12000	2340	3	2.5	6.75	18	1956	135000	1.03	
4601326.49	BREWSTER,F ANTHONY & SUSAN	825	CHARING CROSS RD	14000	1700	4	2.25	6.4	13	1956	100000	1	
4601326.5	HOUSEMAN,FRANKLIN I	821	LAKEWOOD BLVD	11500	2400	3	2.25	6.2	7	1957	127500	1.06	
4601326.50	WALL,JOHN E & JOANNE	300	LAUREL LANE	18500	2760	6	3	6.2	1	1950	115500	1	
4601326.52	STAEDTLER,PAUL D & JO	308	LAUREL LANE	14000	1560	3	1.5	3.4	10	1951	89000	1	
4601326.53	GAGE,FREDERICK H	312	LAUREL LANE	12500	1740	3	1.5	6.4	4	1952	86000	1	
4601326.54	CORNELIUS,RUPERT	402	LAUREL LANE	12000	1280	3	1	2.65	5	1957	80000	1.09	
4601326.55	HALL,VIRGINIA R	406	LAUREL LANE	11500	1280	3	1.75	2.65	11	1952	81500	1	
4601326.56	HUFF,RICHARD L	820	KINGS WAY	11500	2140	4	2.5	6.6	13	1961	115000	1	
4601326.57	COOPERIDER,SHARON R	812	KINGS WAY	12000	1440	3	1.75	6.4	4	1950	82000	1	
4601326.58	WALLER,ELLIS P & CATHARINE B	405	LAUREL LANE	12000	1680	3	2	6.4	11	1956	97000	1.01	1983
4601326.59	OLSON,CHARLES G & MARGARET G	401	LAUREL LANE	12000	2080	3	3.25	6.4	6	1958	95000	.88	SALE
4601326.60	MILLIN,JOHN & RUTH ANN	313	LAUREL LANE	11000	1880	4	1.75	5.1	12	1952	96000	1	
4601326.60.1	LARSON,JOHN DAVID	309	LAUREL LANE	12000	1980	3	3	12.6	9	1951	110500	1	
4601326.62	WALKINGTON,WILLIAM G	305	LAUREL LANE	12500	2200	4	2	7.35	18	1951	112500	1	
4601326.63	FROHMADER,RICHARD L	811	CHARING CROSS RD	10000	1220	3	1.75	1.9	1	1952	75000	1	
4601326.64	GALLAGHER,DOROTHY M	801	CHARING CROSS RD	10000	2300	3	2.25	4.9	4	1960	107000	1	
4601326.65	RICE,GREGORY A & DEBORAH S	304	NEWCASTLE WAY	15500	1800	3	2	3	7	1952	90000	1	1983
4601326.66.1	LAKE,REX M & ETHEL B	308	NEWCASTLE WAY	13000	2200	3	2.25	4.9	7	1951	104500	.91	LISTING
4601326.67	HECHT,RUDOLPH C & ILSE	312	NEWCASTLE WAY	15000	2900	4	3	9.6	11	1961	150000	1	
4601326.67.1	PELLEGRINO,PHILLIP	402	NEWCASTLE WAY	15500	2880	5	3.25	12.6	19	1973	169000	1	
4601326.7	CROWLEY,WILLIAM F JR	825	LAKEWOOD BLVD	12500	2060	2	1.75	6.2	7	1977	128000	1	
4601326.70	LAPETINA,DANIEL A	804	KINGS WAY	12000	1560	3	1.75	12.6	7	1952	88000	1	
4601326.8	LEVY,JEFFREY C	829	LAKEWOOD BLVD	13000	2450	3	2.5	12.6	21	1977	160000	1	
4601326.9	THIERER,PATRICIA H	201	DEL MAR DR	15500	2200	2	2.25	5.1	6	1955	131000	1	
4601327	MARLING,DOROTHY C	614	FARWELL DR	19000	2420	4	2.25	1.6	3	1927	117500	1	
4601329.1	BENSON,PIRIE	647	SUMMIT RD	16000	2760	4	2.5	12.6	14	1976	167000	1	
4601329.3	HOPKINS,JAMES E & NANCY C	639	SUMMIT RD	38000	4860	8	4.5	12.6	13	1935	222500	1.01	
4601330	KIEN,ALLEN L	652	FARWELL DR	14000	2800	4	3	4.4	11	1976	190000	1.02	
4601330.1	RUTHERFORD,DONALD E	714	FARWELL DR	19000	2680	4	3	2.45	6	1928	135000	1.03	
4601331	WEGNER,DR RALPH	726	FARWELL DR	26500	4400	7	4.75	11.25	20	1938	214000	1	
4601333	MOON,RICHARD C & MURIEL N	615	SUMMIT RD	20500	2080	4	2.5	8	12	1938	150000	1.01	
4601334	GRINDE, RICHARD R & ANITA M	623	SUMMIT RD	17000	1800	4	2.25	1.9	5	1956	106000	1.28	
4601335	SCHMID,JOHN H & CAROL I	802	FARWELLDR	18000	2700	3	2.5	6.2	11	1936	170000	1.05	
4601336	LINDBLADE,JAMES	801	MAGDELINE DR	21000	2980	5	2.5	8.1	12	1938	150000	1	

4601337	PALAY,THOMAS & GUTMANN,DIANE	809	MAGDELINE DR	14500	2120	3	2	4.4	7	1936	107500	1
4601338	MCCORMICK,PATRICK Q	810	FARWELL DR	15000	2280	4	2.75	12.6	13	1960	130000	1
4601339	SCHEELE,LEE N & VICKI LYNNE	816	FARWELL DR	15000	2480	4	2.25	3.6	8	1940	156500	1.05
460134	TAFF,A J	6	FULLER DR	17500	1680	3	1.5	6.2	6	1926	80000	1.01
4601340	JOHNSON,RICHARD D	815	MAGDELINE DR	13000	2260	4	3	2.1	6	1938	126500	1
4601341	RUPP,LAWRENCE J & BETH	821	MAGDELINE DR	13000	2960	4	2.5	2	7	1948	144500	1.13
4601342	CALLOW,WILLIAM G	822	FARWELL DR	27000	3800	4	4	3.6	14	1938	182000	1
4601344	MUSSER,MARC & BARBARA	827	MAGDELINE DR	14500	2980	5	2.75	1.7	15	1929	138500	1
4601345	OSTRUM,ILAH M	833	MAGDELINE DR	14500	1780	3	1.5	5.1	9	1940	107500	1
4601346	GILL,MARCELLE E	830	FARWELL DR	15000	2180	4	2	4.9	10	1949	117000	1
4601347	THOMAS,JOE	840	FARWELL DR	15500	2040	4	2.5	.95	6	1937	107500	1
4601348	MCGUIRE,WILLIAM D & RITA F	846	FARWELL DR	12500	1740	3	2.25	4.5	4	1956	107500	1
4601349	LEIDEL,FREDERICK D	911	BUTTERNUT RD	12000	2100	2	1.5	3.4	11	1952	106000	1
460135	HUTCHISON,BEN H & SUZANNE B	39	PAGET RD	11500	2240	4	2.5	2.2	8	1936	107000	1
4601350	BRADY,PATRICK R & CAROL D	841	MAGDELINE DR	11500	2440	4	2	6.2	3	1930	110000	1
4601351	CLAUDER,EVELYNE	902	FARWELL DR	13000	1760	2	1.5	4.7	3	1954	97000	1
4601352	SWINGEN,ELDRED M	906	FARWELL DR	12500	2080	3	1.5	2.45	0	1940	106500	1
4601353	DAVIS,ADRIAN W	910	FARWELL DR	12000	1940	3	1.5	3.6	5	1952	95500	1
4601354	FEKETE,AGNES E &BLAISE Z	916	FARWELL DR	14000	2140	3	2.5	3.6	13	1950	94500	1.03
4601355	STACK,MALCOLM & JOSEPHINE	922	LEROY RD	11000	2580	5	3	4.9	6	1942	128000	1
4601356	BERNTSEN,MARYLINN M	926	LEROY RD	15000	1900	3	1.75	4.9	9	1949	97000	1
4601357	ROTH,JOHN S	915	MCBRIDE RD	13500	2000	3	3.25	1.9	13	1954	119000	1
4601358	BOEHNEN,MRYTLE	925	MAGDELINE DR	13500	1560	2	1.5	1.2	9	1946	75000	1
4601359	LARSON,LAWRENCE J	919	MAGDELINE DR	13000	2030	3	1.5	3.4	1	1952	98500	1
460136	JOHNSON,HANS A &ELIZABETH K	35	PAGET RD	10500	2360	4	2.25	1.5	10	1939	110000	1.04
4601360	SUGAR,DAVID C & CYNTHIA	913	MAGDELINE DR	12500	1560	3	1.5	6.6	6	1941	87000	1
4601361	KAVEGGIA,ELIZABETH	909	MAGDELINE DR	12500	2200	4	1	2.65	3	1948	102000	1
4601362	STEVENS,MYRON	902	BUTTERNUT RD	15500	2420	3	3	3	15	1933	131500	1
4601363	HOVEN,ROY	924	FARWELL DR	12500	1240	2	2	6.4	11	1978	83000	1
4601364	FROHMADER,STANLEY H	514	LEROY RD	25500	1340	3	1.5	3.4	7	1949	84500	1
4601366	SCHAPPE,PERRY J	510	LEROY RD	12000	1880	3	2.25	5.1	14	1958	98500	1
4601367	ANDERSON,CHARLES W & MARION C	506	LEROY RD	12000	2060	3	2.25	6.4	7	1956	106000	1
4601369	FINNEGAN,G E	920	MCBRIDE RD	23000	1400	3	1.5	6.4	7	1941	80500	1
4601370	CHRISTOPHER, NORBERT J & LOREE A	910	MCBRIDE RD	11500	2700	4	2.25	8.2	19	1969	135000	1
4601371	OWEN,A PAUL III & LINDA B	906	MCBRIDE RD	12000	1340	2	1.5	.75	5	1947	67000	1
4601372	BREIBY,N H	902	MCBRIDE RD	11500	1860	3	1.5	6.4	11	1939	92000	1
4601373	SETH,AJEY & LYNN	826	MCBRIDE RD	11500	1440	3	1.5	3	3	1948	78000	1.01
4601374	DAVIS,FREDERICK J	424	NEWCASTLE WAY	11000	2240	3	2.5	6.2	5	1955	122000	1.07
4601376	FLADER,WILLIAM A & SHIRLEY J	812	MCBRIDE RD	12500	1940	3	1.5	6.6	6	1946	95500	1
4601377	MOORE,GORDON D	808	MCBRIDE RD	12500	1480	2	1	4.9	0	1954	78500	1
4601378	KILEY,MAURICE W	804	MCBRIDE RD	15000	2700	3	2	6.6	15	1956	144500	1
460138	WALSH,DAVID G & NANCY	31	PAGET RD	23000	3460	4	3.5	4.9	18	1937	169000	1
4601383	YOUNG,F CHANDLER	821	MCBRIDE RD	15000	1800	3	2	3.4	4	1950	99500	1
4601384	WARD EST,T LANE	825	MCBRIDE RD	14500	2120	3	2.75	6	15	1956	112000	1
4601385	BACKUS,RICHARD C	916	MAGDELINE DR	12500	1940	3	2.5	3.4	6	1940	123000	1.07
4601386	DEVILLIER,CLYDE V & EVALYN M	908	MAGDELINE DR	13000	2100	3	2.25	3.6	15	1952	115500	1
4601387	ORR,ELEANOR A	840	BUTTERNUT RD	11000	1860	3	1.5	2.25	7	1929	91000	1
4601388	WEMMERLOV,URBAN & MARY BETH SCHMAL	7828	BUTTERNUT RD	13000	2220	3	1.5	.75	2	1929	111000	1.05
4601389	SIEBRECHT,HARLAN & DIANE	822	BUTTERNUT RD	14000	1920	3	2.5	6.4	5	1939	113000	1
460139	MELLO,FRANK C JR	23	PAGET RD	12500	1580	3	1.5	2.65	5	1929	80000	1.06
4601390	CAMPION,RUSSELL R & K A JACOBUS	816	BUTTERNUT RD	13000	2140	3	2.25	6.6	14	1928	113500	1.09
4601391	VACARRO,JAMES A & SLYVIA	812	BUTTERNUT RD	13500	2800	4	3	15	19	1947	155000	1
4601392	PECORIN,PAUL & ELSIE	806	BUTTERNUT RD	13000	2180	5	3.25	4.4	10	1928	138500	1.09
4601393	BLANCKE,ROSEMARIE	801	BUTTERNUT RD	14500	1960	4	1.5	3.6	8	1935	108500	1
4601394	HOPKINS,J D	807	BUTTERNUT RD	13000	2640	4	2.5	1.5	16	1938	131000	1
4601395	HOBBINS,MEREDITH L	811	BUTTERNUT RD	13000	1300	3	1.5	1.2	4	1954	84000	1
4601396	BARRY,DAVID S & JANE	819	BUTTERNUT RD	13000	2720	4	2.25	3	6	1927	124500	1
4601397	WITTMEYER,ESTHER E	831	BUTTERNUT RD	15500	2300	3	2.25	9.6	6	1957	123500	1
4601398	VOLZ,GORDON	837	BUTTERNUT RD	13000	2000	3	2	6.4	6	1941	112000	1
4601399	CORNELIUS,RUPERT G	830	MAGDELINE DR	17000	2540	4	2.5	6.6	13	1960	139000	1
460140	BOCK,ROBERT L & SARAH	19	PAGET RD	12000	2760	4	3	3.4	8	1940	136500	1
4601400	WHITFORD,GEORGE & GENEVIEVE	822	MAGDELINE DR	15500	3020	6	4.5	4.9	14	1937	152000	1
4601401	[illegible]OVETT,JOSEPH B	816	MAGDELINE DR	1350[illegible]	2320	3	2.5	3	18	1949	123000	[illegible]03

4601402	ALEXANDER,DONALD T	810	MAGDELINE DR	140	2460	5	2.75	9.6	14	1961	131500	
4601403	HILL,CHARLES	628	SUMMIT RD	14500	2780	3	2.75	4.9	9	1957	129000	1
4601404.01	FERRIS,BONNIE R	500	FARWELL DR	189000	7840	6	4.75	11.45	33	1930	368500	1
4601404.1	HOLMES,GEORGE E	704	BUTTERNUT RD	16500	2700	4	4	5.1	23	1959	159000	1
4601404.2	BLANCHAR,DONALD W	708	BUTTERNUT RD	18500	2320	3	2.75	6.6	17	1960	129500	1
4601404.3	COOPER,ROBERT A	531	SUMMIT RD	17900	2900	4	3.75	4.9	25	1961	167500	1
4601404.4	JENSEN,A PAUL	530	FARWELL DR	15500	2940	4	3.75	9.6	22	1960	170500	1
4601409.1	WALSH,WILLIAM A & CAROL YOST	603	FARWELL DR	17500	2400	3	2.25	3.2	7	1940	110000	1
460141	KUBLY,H E	15	PAGET RD	11500	2040	4	2	3.4	13	1926	108500	1
4601413	EVERITT,GEORGE L & MARILYN H	609	FARWELL DR	20000	3140	3	2.25	4	13	1980	177000	1
4601418.2	KOESSLER,MARGUERITE	707	FARWELL DR	25000	1780	2	1.5	6.4	12	1954	108500	1
460142	AMUNDSEN,IVER G	11	PAGET RD	11500	1620	2	1.5	3.4	12	1940	82500	1
4601424	RIKKERS,EDWARD & JANE	823	FARWELL DRIVE	26000	2460	2	2.25	3.4	10	1980	145000	1
4601428.1	STEWARD,DOUGLAS	811	FARWELL DR	29000	2700	3	2.5	1.5	16	1949	149000	1
4601428.2	DUQUAINE,CECIL	815	FARWELL DR	22200	1720	3	2.5	2.65	5	1950	109000	1
4601428.3	SCHUMACHER,A C	89	FULLER DR	11000	2080	3	1.75	5.1	5	1955	92500	1
4601428.4	HEGGE, DENNIS	2036	SHERMAN AVE	10500	1580	3	1.5	1.9	8	1890	56000	1.12
4601428.5	EVANS,STEVE H	85	FULLER DR	9500	1440	2	1.75	6.4	7	1948	85500	1
4601428.6	SCHUMACHER,JOSEPH & VERANA	81	FULLER DR	9500	1660	3	2.75	4.9	7	1948	89000	1
4601428.7	NIKOLIC,MARY H	77	FULLER DR	9500	1640	3	1.75	3.6	10	1950	85000	1
4601428.8	BAKKE,W K	73	FULLER DR	9500	1560	3	1.75	3.6	8	1956	91000	1
4601431.1.1	LANDWEHR,PETER J	730	WILDER DR	20000	2780	4	2.5	15.6	17	1975	171000	1
4601431.1.4	LAFOLLETTE,BRONSON	733	LAKEWOOD BLVD	68800	3480	5	2.5	6.6	7	1849	155000	1
4601431.2	JOHNSON,SILAS G	200	FARWELL DR	22500	2380	3	2.5	9.6	17	1958	140000	1
4601431.3	YOST,FRANK R	705	LAKEWOOD BLVD	18500	2320	4	2.25	6.6	13	1960	131000	1
4601431.4	LEVY,PHILLIP A	709	LAKEWOOD BLVD	18500	2460	3	3	6.2	11	1957	142000	1.03
4601431.5	REESE,MAURICE J	713	LAKEWOOD BLVD	18500	4560	4	2.75	3.2	28	1957	193000	1
4601431.6	KOLTES,DOROTHY G	717	LAKEWOOD BLVD	18500	2500	4	2.5	12.6	16	1969	150000	1
4601431.7	MAYER,OSCAR G	722	WILDER DR	72000	6520	4	4.75	11.85	43	1959	330000	1
4601431.9	SCHWOEGLER,JOHN J	704	WILDER DR	36000	2860	3	3.5	9.2	17	1962	167500	1
4601432	COLEMAN,JEROME R	425	SUMMIT RD	73500	3680	4	3.5	9.4	21	1937	220000	1
460144	SKORNICKA,JOHN R & JUDITH A	7	PAGET RD	21000	2300	4	2.25	2.65	8	1936	114500	1
4601445.1	ULTEIG,RODNEY A & DONNA M	7	FULLER DR	13000	2480	5	2.75	6.6	17	1952	108500	1
4601445.2	SHELDAHL,LEON D	11	FULLER DR	13000	2040	4	2.5	4	13	1958	114500	1
4601445.3	ROSS,REID	40	FULLER CT	13000	1640	3	2.75	4.9	12	1956	85000	1
4601445.3A	RENDALL,DAVID A	3	FULLER DR	14000	2060	4	2.5	3.6	14	1956	91500	1
4601445.4	ELVER,ALFRED	1900	SHERMAN AVE	15000	1500	2	1.75	2.7	13	1955	83500	1
4601445.5	STIEVE, JAMES R	36	FULLER CT	12500	2220	4	2.5	6.6	4	1953	116000	1.04
4601445.6	GILLESPIE,GERTRUDE W	15	FULLER DR	12500	1720	2	2.75	6.6	22	1954	104000	1
4601445.8	ANDERSON,DONALD W & CAROLYN T	17	FULLER DR	14500	3160	4	3.25	6.6	27	1961	168500	1
4601447.1	BREIBY,JAMES E& MARY	9	HARBORT DR	8500	1840	3	1.75	1.9	14	1952	89000	1
4601447.2	TODD,RONALD W & MARY E	11	HARBORT DR	9000	2040	4	2.5	1.9	7	1940	96500	1
4601447.3	HAUSMANN,FRITZ	17	HARBORT DR	9500	1740	3	2	.75	-2	1947	74500	1.13
4601447.4	THOMSEN,PAUL A & JUDITH	15	HARBORT DR	10000	2020	3	1.5	4.6	9	1953	90500	1
4601447.5	UMLAND,WALTER W	7	HARBORT DR	9000	1420	3	1	3.4	0	1949	60500	1
4601447.6	MOORE,DUANE I	2038	SHERMAN AVE	9000	1940	3	2	5.1	-1	1890	60500	1.04
460145	NESBIT,MARK E	22	FULLER DR	21000	2860	4	2.75	7.35	7	1936	147000	1 1993 SALE
4601450.1	MCGINN,JAMES C & CANDIS F CROKFR	21	HARBORT DR	15000	1560	3	2	6	9	1954	78500	.99
4601450.2	SENGSTOCK,VIRGINIA	25	HARBORT DR	11000	2140	4	2.25	1.9	3	1954	85500	1
460147	JORGENSON,DONALD & ELEANOR	30	FULLER DR	12500	3140	3	2.75	6.6	17	1952	149500	1
460148	ANDERES,BESS S	34	FULLER DR	16500	2580	3	2.25	9.6	12	1954	135000	1
460150	FELBER,EDWARD R	38	FULLER DR	15000	2060	4	2.25	4.9	7	1937	119500	1
460151	MCCLUNG,D.C.	42	FULLER DR	11500	2300	3	2.25	3.4	10	1948	117000	1
460152	KILKELLY,H ROBERT	46	FULLER DR	14000	2240	4	2.5	6	7	1937	117000	1
460153	VAN RYZIN,GARY J & PAMELA J	50	FULLER DR	12000	2160	4	2.5	4.9	5	1926	106000	1
460154	KNUTSEN,IVAN A	54	FULLER DR	18000	2180	4	2.25	6.6	11	1939	122500	1
460156	WILLIAMSON,BEULAH S	62	FULLER DR	6800	1480	3	1.5	2.4	8	1936	81500	1
460166	DERSE,PHILIP & MARGARET	57	FULLER DR	23500	2620	3	2.75	12.6	20	1963	161500	1
460167	KELSEY,FENTON JR & JOANNE E	61	FULLER DR	10500	2340	4	2	5.1	9	1936	115000	1
460168	HAUCK,MRS WAYNE O	65	FULLER DR	10500	2300	5	1.5	.9	5	1937	100500	1
460169	PECK,HOWARD L & ELIZABETH B	69	FULLER DR	10500	1640	2	2.25	8.4	4	1953	92000	1
460172	OLSON,S	417	KENSINGTON DR	6000	1340	3	1.5	2.25	0	1940	64000	1
460173	SODERHOLM,JOSEPH	413	KENSINGTON DR	6000	1360	3	1.5	5.1	2	1940	69000	1

460174	KNOEBEL,GORDEN W & MARGARET E	409	KENSINGTON DR	10000	2680	5	2.25	4.4	8	1941	123000	1
460177	CHATTERTON,G P	102	FISK PLACE	18000	1320	3	1	.5	-2	1939	60000	1
46018	BRUDEN,PHILIP M& PATRICIA I	4	BAYSIDE DR	10000	2500	5	3.25	3.6	0	1937	115500	1
460181	CHATTERTON,WILLIAM A	114	FISK PLACE	9000	2700	4	3.5	6.2	9	1962	132500	1.02
460182	HUMMEL,ADELINE	126	FISK PLACE	13500	1160	2	1.5	4.9	4	1940	66000	1
460184	BECK,ROBERT C	134	FISK PLACE	11000	2040	4	2.5	2.6	4	1939	85500	1
46019	BUTCHER,GORDON G	8	BAYSIDE DR	9500	1640	3	1.5	.9	4	1937	71500	1

IV. New Issues and New Appraisal Techniques

It is generally recognized that the real estate market is dependent on substantial amounts of credit to support effective demand so that real estate prices and perhaps values vary with the terms and supply of credit generally available in the marketplace. Indeed the old timers have seen the definition of fair market value gradually move away from the firm premise of cash to the seller to a somewhat more subjective condition of terms generally available in the market.

A. The pressure of double digit inflation is eroding many of the appraisers' favorite simplifications of the market model:

1. The long term fixed interest mortgage, amortized from property productivity is gone.
2. The simple division of income between the mortgage and the equity component is smothered in participating mortgages, limited partnerships, convertible mortgages and seller financing.
3. As the government had removed general subsidies to real estate finance such as regulation Q, it has made greater use of specific interest subsidies to selected special groups.
4. Real estate markets must be defined not only in terms of use, age, income, but also access to capital.
5. Moreover, most properties exist in a 3-tier market, utility to house to activity, commodity and money speculation, and as part of a going concern.
6. The 3-tier market can be further subdivided by the nature of permits or other entitlements that are site specific and define risk of a vested or non-vested opportunity.

B. Volatile money market conditions and the widespread use of creative financing leave the appraiser in considerable difficulty in defining typical market terms, cash equivalent prices or the relationship of fair market value to transaction price. Does the client want fair market price, most proable price, going concern value, contributory value, investment value, or liquidating value in event of delinquency and foreclosure.

C. The impact of these elements is signficantly different for problems involving:

1. Income investment properties
2. Economic development properties
3. Multi-family residential properties
4. Single family residential properties

D. The impact of financing in each situation requires that we go back to basics. The appraiser or his client must define:

1. What is the function of the appraisal?
2. Which rigths are to be appraised? (Those that run with the establishment on the site, with the ownership position, or with fee simple title).
3. Which definition of value is appropriate?
4. How is productivity allocated to the agents of production?

E. Reference to Exhibit 2

F. Reference to definition of fee simple title in Exhibit 3

G. Reference to definition of fair market value in Exhibit 4 and compare to most probable price in Exhibit 5

V. The Games People Play With Income Investment Property makes it very difficult to apply any one of the three approaches to value.

A. Sales prices are engineered by accountants to some degree to shift asset values among various classifications for land, structure, personalty, intangibles, capital gains and losses and ordinary gains and losses, making market comparison anything but objective (not to mention adjustments for non-market financing discussed in second day).

B. Similarly, the income approach has great difficulty in applying the truism that income value is the present value of income plus the present value of reversion.

1. There is the problem of defining net operating income in terms of what is attributable to the real estate (aside from financing effect on cash throwoff).
2. There is the problem of defining the net reversion to equity in an uncertain future (aside from financing effect on mortgage balance).
3. There is the problem of selecting a conversion process which reduces income cash flows and reversionary cash flows to a single present value.

C. Neither revenue, nor expenses nor debt service are constant over time anymore so that NOI/OAR is no longer a useful valuation model. Instead rents, vacancies, expenses, and financing must be staged using a spread sheet for both income and the reversion. Lenders may share in appreciation and owner and lender may share the risk of variable interest and the first principal payment.

D. The definition of economic rent attributable to the real estate

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?

a. For example--does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?

2. Is the real estate income from retailing of space or from wholesaling space?

a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.

3. Is the income for extraordinary services or intangible assets rather than customary?

   a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.

4. Ancillary to rather than integral with the project.

   a. Can services be acquired off premises such as janitorial or utilities?

5. IRS classification as 1250 property (real) or 1231 property (personalty) and Section 453, 453A and B, or Section 38 (tangible) or Section (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

E. Problem of defining or forecasting a reversion

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships of long term commodity/money ratios.

2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?

   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested and excluded from fair market value?

4. Can the appraiser simulate alternative speculative gains for most probable price?

5. When a premium is paid anticipating syndication of condominium conversion, should there be an adjustment for purchase of a business opportunity? Does fair market avlue include amangement fees for conversion?

VI. Case Study of an appraisal of a 50-year old high rise office building in the CBD with vacancy problems, utility problems and management problems.

A. Revenues reflected loss of a major tenant (State of Wisconsin), lack of demand for retail space on the first floor, a soft market for B-class space, and a reluctance of management and tenants to use pass-throughs for operating costs.

B. It was necessary to do a spread sheet indicating a gradual reduction of vacancy loss, a gradual updating of existing leases with pass-through clauses, and investment in critical energy conservation.

C. Resale price is tied to projected net income and gross with a debt cover ratio and a cash-on-cash yield. Loan-to-value ratio is irrelevant. (See The Appraisal Journal, January 1981, "DCR/R_e Cap Rate Tables for Today's Financing," p. 15.)

D. Our firm makes heavy use of the backdoor approach on MRCAP for valuation.

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First Asset
Realty
Advisors

First Bank Place
Minneapolis, MN 55480

APPRAISAL ENGAGEMENT LETTER

TO:

RE: Property Identification

Dear _____:

On behalf of First Asset Realty Advisors (FARA), we would like to engage your services for the appraisal of the above property to determine the fair market value of the legal interests owned by a Commingled Fund as of (date of appraisal). To that end and before accepting the assignment, the appraiser should consider the following requirements as to definition and procedure:

1. Fair market value shall be defined as the most probable price at which the property would sell to a knowledgeable buyer on a given date if placed on the market for a reasonable length of time by a well informed seller assuming:

   a. Cash to the seller or cash plus debt owed or assumed by the buyer, where appropriate.
   b. Fee title will be encumbered by leases in place and possible other covenants. Appraiser must indicate remaining market value of these other leasehold or non-possessory interests.
   c. The appropriate exposure on the market has occurred prior to the date of sale.

2. Fee title may be encumbered by leases, mortgages, as well as possible conditional use permits and private covenants. FARA is obligated to provide access to all of the appropriate documents at the office of _____ located at _____ during normal business hours. The appraiser is expected to read the leases, mortgage instruments and other encumbrances and relate to them appropriately. If existing debt is assumable by another buyer, then the appraiser can value the sale as cash to the seller with the buyer accepting the mortgage(s) already in place if that would be consistent with the most probable buyer's self interest. Otherwise the trustees of the Commingled Fund management (FARA) are interested in a value which is the most probable cash price to the seller and with the buyer accepting the existing encumbrances in terms of leases and covenants, etc.

3. When using the market comparison approach, the appraiser must document each comparable sale as to grantor, grantee, public record, plot plan and photograph as well as basic details of construction and existing encumbrances, terms of sale, and seller motivation. Buyer motivation is profiled as an assumption by the appraiser. All calculations necessary to adjust engineered prices to cash equivalencies must be documented and explained as well as any and all adjustments to relate the comparable price to the subject property must be itemized and explained so that the reader can repeat the mathematical adjustments.

4. The income approach must use discounted cash flow from a ten-year forecast (and your own forecast, if different) in which all the property's existing leases are detailed individually. The rationale for roll-over vacancies, absorptions, and expense projections must be itemized with a series of footnotes in the manner of a fully detailed accounting income and balance sheet statement. Income projections should account for current market lease rates with explanations of all assumptions used. Normalized income methods including investment bond, Ellwood or net income multipliers are not acceptable.

5. The appraiser must document his opinion as to the appropriate discount rate applied to each segment of the cash throw-off and after tax cash flow as appropriate, together with financing terms assumed.

6. A cost approach based upon a responsible service or professional should be supplied with the initial appraisal. If it is not used in the final valuation, then a discussion on why it is not used is required. The appraiser is expected to carefully inspect the property and report his own independent views on the quality of maintenance, deferred maintenance, and tenant housekeeping.

7. The appraiser is regarded as the eyes and property inspector of FARA. To put the property in context, the appraiser must supply a separate market analysis section to include current market conditions, an evaluation of projects which are competitive alternatives in the market area of the appraiser, an indication of rent structures, vacancy and absorption rates, and in the case of a new building, some indication as to rentup success and source of tenants. Wherever possible, the appraiser is to indicate the ownership and character of investment position in competitive properties and the property management or leasing term involved with each. The appraiser should include in his market analysis section an evaluation of the future projected market conditions over the ten-year holding period.

Following the initial appraisal at the time of acquisition, the appraiser will be asked to submit a letter of review 180 days after the date of the original appraisal indicating if he would modify any of his critial

assumptions at that time and, if so, indicating how this might affect his original value estimate as a specific dollar adjustment, up or down.

At the end of 360 days, the appraiser would be expected to perform a thorough review of his original appraisal, specifically focusing on the market approach (item 3), adjustments indicated for the income approach (items 4 and 5), and additions and amendments to market data (item 7). Aside from the specific instructions provided in paragraphs 1-7 above, it is anticipated that all work will be done according to the standards of the American Institute of Real Estate Appraisers, and it is further understood that the client for whom the appraisal is done for purposes of professional accountability is both First Asset Realty Advisors, Inc., and its operations agent, The Center Companies of Minneapolis, Minnesota. Purpose of the appraisal is to meet the asset valuation requirements of an open-ended, commingled real estate fund suitable for investment by pension fund programs subject to ERISA.

Please return both copies of this letter together with an indication of your fee for the appraisal services above by (date) with a separate quote for the initial appraisal, the 180 day review, and a 360 day reappraisal and an estimate of the date the appraisal will be completed. If this is your first assignment for FARA, please include a sample of your work, preferably of a similar property, in which you have provided for the necessary cash flow projections.

Yours very truly,

1

IV. INCOME APPROACH

In the absence of comparable sales the income approach is preferred (Dane County Circuit Court, Judge George R. Currie's instruction to the Madison Board of Review Case No. 140-201, Wild, Inc., relator, relative to the VIP Plaza office building, now known as the James Wilson Plaza.) The cost approach is the least preferred method and is also difficult to apply as will be discussed in a later section of the appraisal.

As stated in the 1980 Wisconsin Property Assessment Manual, Volume I, page 9-4:

> Value can be defined as "the present worth of anticipated future benefits." While this is true of all approaches to value, this definition is particularly useful in applying the income approach. The income approach is the conversion of anticipated future benefits (income) into an estimate of the present worth of the property. This conversion process is called capitalization. The income approach can be used when there are no comparable sales. It also can be used by the assessor because it represents the way investors think when they buy and sell income property in the market.
>
> The eight steps in applying the income approach are:
>
> 1. Estimate potential gross income
> 2. Deduct for vacancy and collection loss
> 3. Add miscellaneous income
> 4. Determine operating expenses
> 5. Subtract operating expenses to derive net income
> 6. Select the correct capitalization method

7. Derive the capitalization rate

8. Apply the capitalization rate to net income to arrive at a value estimate

In all of these steps the assessor must be aware of what is happening in the market. All of the information needed for the income approach is either obtained or verified by what the assessor finds in the marketplace.

A. Estimation of Revenue and Expenses

The market rents obtained and verified in the West Allis marketplace are used to estimate the potential gross income of the subject property as shown in Exhibit 8. Although some of the higher priced, larger, and better appointed rental units are currently experiencing higher than average vacancy rates (See Exhibit 4), as of January 1, 1982 a vacancy rate of approximately one percent was average.

The subject property, which opened for occupancy the latter part of December, 1981, does not have a full year's operating history. A study of the operating expense ratios for other new family apartment and townhouse projects in which tenants pay heat and electricity, and of the five month operating experience of the subject property indicates an average operating expense ratio, based upon gross potential revenue, of 19 to 20 percent before real estate taxes. The HUD-FHA Form 2264 used to estimate revenues and expenses shows a ratio of operating expenses to potential gross of 19.3 percent (See

EXHIBIT 8

WESTSIDE MEADOWS
WEST ALLIS, WISCONSIN

SCHEDULE OF REVENUE AND EXPENSES
from January 1, 1982 through December 31, 1982
based upon West Allis Market Rents

REVENUE

16	2 bedroom flats @ $385 (975 SF x .395 = $385)	$ 73,920	
6	2 bedroom townhouses @ $395 (890 SF x .444 = $395)	28,440	
4	2 bedroom townhouses @ $405 (890 SF x .455 = $405)	19,440	
15	3 bedroom townhouses @ $485 (1254 SF @ .387 and 1320 SF @ .367 = $485)	87,300	
	Potential Gross Revenue	$209,100	
	Less vacancy @ 1%	(2,090)	
	Effective Gross Revenue		$207,010

EXPENSES

19% of potential gross revenue before real estate taxes		(39,730)
Net Operating Income Before Taxes		$167,280

Appendix). Therefore, 19 percent of potential gross revenue is used to estimate the operating expenses for Westside Meadows before real estate taxes.

The net operating income before real estate taxes is $167,280 based upon market rents, a market vacancy rate, and historical operating expenses.

B. Income Capitalization

A computerized band of investment program is used to calculate a market capitalization rate as of January 1, 1982. The following assumptions are made regarding investor and lender expectations as of the lien date:

Parameter	Assumption Based Upon Market Information
Investor before income tax equity yield rate	14%
Lender mortgage interest (the lower rate often includes lender participation)	14%
Mortgage term	25 years
Payments per period	12/year
Growth in income per year	2%
Appreciation rate per year	3%
Mill rate (1981)	.030411
Mortgage	77% L/V
Debt cover ratio - Year 1	1.00
Holding period	5 years

The overall rate, which includes the mill rate of .030411, is .1425149; without the mill rate the overall rate is a conservative .112, at a time when interest rates were averaging 17 percent. The results of the computer program are shown in

Exhibit 9. In recent years investors in apartment properties have been buying near break even cash flow (debt cover ratio of approximately 1.0) with the anticipation of rent increases and/or rapid appreciation. During this last year investors have become much more cautious in their estimates of future appreciation and may require some cash dividend in excess of debt service.

When the net operating income before real estate taxes is capitalized using an overall rate of .14 (.11 plus a mill rate of .03), the resulting value is $1,194,857 or, rounded, $1,200,000. This value translates to $29,300 per unit or $12,400 per bedroom.

Given the schedule of projected revenue and expenses as detailed in Exhibit 8, and based upon market data and minimal investor expectations previously described in Exhibit 9, an investor could pay no more than $1,200,000 for the subject property as of January 1, 1982.

C. Financial Logic of Appraisal Conclusion

Another way to check the reasonableness of a value conclusion is to examine the demands upon a property's cash flow; the residual cash flow before payment of real estate taxes is then capitalized using the full market mill rate to

EXHIBIT 9

BAND OF INVESTMENT ANALYSIS

```
 1 EQ YLD?. .14   -  Investor before tax equity yield expectation
 2 PROJ PD? 5   -  Holding period
MORTGAGE 1 DATA
 4 MTG INTR? .14   -  Mortgage interest rate
 5 MTG PD? 25   -  Mortgage term
 7 PMT PDS/YR? 12   -  Payments per period
 10 M?
 11 M$? 905357   -  Mortgage amount based upon mortgage parameters and a net
MORTGAGE 2 DATA     operating income of $130,780, real estate taxes of $890 per
 14 MTG INTR?       unit and a debt cover ratio of 1.0
 52 %DEPR(-APPR)? -.15   -  Appreciation of 3 percent per year
 55 INC? 167280   -  See Exhibit 5 - net operating income before real estate taxes
 53 % INCR INCOME? .10   -  Income increase of 2 percent per year
 58 EF.R.E.TX.R.? .030411   -  West Allis 1981 mill rate
 .0003857 = MTG 1 C   -  Mortgage coefficient
 .1397556 = BASIC RATE   -  Rate before appreciation and mill rate
 .1425149 = OVERALL RATE   -  Total overall rate including mill rate
  1173771 = VALUATION   -  Value, given the above assumptions
MODE? P
```

```
 MORTGAGE1  77%  905357 AT .1445  130780
    EQUITY  23%  268414 AT .0030     804
                      R.E.TAXES   35695   -  Based upon above valuation ($1173771 x
         TOTAL 1173771            167280 INCOME                                .030411)

1173771 ORIGINAL PRICE
-176065 LESS -15.% DEPRECIATION
-------
1349837 PROPERTY REVERSION, DEFERRED 5 YEARS
        905357 MORTGAGE 1
 876410   28947 LESS 5 YEAR AMORTIZATION; (3.19735E-2)
-------
 473427 EQUITY REVERSION, DEFERRED 5 YEARS

PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 14.%
 [INCOME INCLUDES PRESENT VALUE
  OF 10. % INCREASE OVER 5 YEARS]

  22745 INCOME, 6625.32 X 3.43308
 245883 REVERSION, 473428. X 0.519369
-------
 268628 TOTAL
```

determine the maximum assessment the project could carry and still break even.

With reference to the revenue and expenses from Exhibit 8 a summary of the project's cash flow projected for 1982 follows:

Effective gross revenue	$207,010
less: Operating expenses before real estate taxes at 19% of gross potential revenue	(39,730)
less: Debt service	(130,780)
Maximum residual cash throw off available for real estate taxes	$36,500

When the $36,500 is divided by the full market 1981 mill rate of .030411, the resulting value of $1,200,224 or rounded, $1,200,000 is the maximum assessment that allows the project to meet its cash obligations. This value assumes no cash throw off to the investor in the first year with which to cushion the risk of expenses increasing at a proportionately faster rate than revenues.

D. Test of Value Conclusion

A computerized discounted cash flow program which solves for before and after income tax yield is used to test the value conclusion of $1,200,000 for Westside Meadows as of January 1, 1982. The same assumptions are used: 1) income increases annually at an average of two percent, 2) the property value appreciates an annual average of three percent, and 3) financing terms are extremely favorable at 14 percent interest, 25 year term with monthly payments. At the 1981 mill rate, real

estate taxes will be 1,200,000 x .030411 or $36,490 per year and therefore the first year's net operating income is $130,790.

The input assumptions and results are given in Exhibit 10. Though the before tax yield of 12.6 percent is below the 14 percent anticipated before tax yield, the tax shelter available in the property increases the after tax yield to 16 percent, a minimally acceptable rate.

Therefore, a knowledgeable investor would pay no more than $1,200,000 for Westside Meadows as of January 1, 1982.

EXHIBIT 10

TEST OF VALUE CONCLUSION

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? WEST ALLIS HOUSING ASSOCIATES
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEARS NOI OR EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 130790
   N.O.I. YEAR  2? 133410
   N.O.I. YEAR  3? 136100
   N.O.I. YEAR  4? 138820
   N.O.I. YEAR  5? 141600
4. ACQUISITION COST: ? 1200000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 905357, .14, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .866, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? N
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 1
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?N
   THE MAXIMUM FEDERAL INDIVIDUAL ORDINARY RATE COULD BE:
          70% (PRE-1981 LAW)
          50% (1981 LAW, EFFECTIVE 1982)

          (PLUS STATE RATE)

    ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .5, .5
9. RESALE PRICE (NET OF SALE COSTS) ? 1380000
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  13
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  12
```

EXHIBIT 10, Continued

AFTER TAX CASH FLOW PROJECTION
WEST ALLIS HOUSING ASSOCIATES
DATE 1/1/82

DATA SUMMARY
****

ACQUISTN COST: $1,200,000. MTG. AMT.: $905,357.
NOI 1ST YR: $130,790. MTG. INT.: 14%
ORG. EQUITY: $294,643. MTG. TERM: 25. YRS
CTO 1ST YEAR: $10. DEBT SERVICE 1ST YEAR: $130,780.
MTG. CONST.: .14445128
IMP. #1 VALUE: $1,039,200. IMP. #1 LIFE: 15.
INC. TX RATE: 50%
SALE YR RATE: 50% OWNER: INDIVIDUAL

DEPRECIATION IMPROVEMENT #1 :
RESIDENTIAL PROPERTY
LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JAMES A. GRAASKAMP ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT A RATE EQUAL TO 50% OF THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	130790.	126481.	69280.	-64972.	-32487.	32497.
2.	133410.	125839.	69280.	-61710.	-30856.	33486.
3.	136100.	125101.	69280.	-58282.	-29142.	34462.
4.	138820.	124253.	69280.	-54714.	-27358.	35398.
5.	141600.	123278.	69280.	-50959.	-25480.	36300.
	$680720.	$624953.	$346400.	$-290637.	$-145323.	$172143.

EXHIBIT 10, Continued

RESALE PRICE:	$1,380,000.
LESS MORTGAGE BALANCE:	$876,410.
PROCEEDS BEFORE TAXES:	$503,590.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$503,590.

1ST YR B4 TAX EQ DIV:	.0034%
AVG DEBT COVER RATIO:	1.0410

RESALE PRICE:	$1,380,000.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$1,380,000.
LESS BASIS:	$853,600.
TOTAL GAIN:	$526,400.
LESS EXCESS DEPREC.:	$0.
CAPITAL GAIN:	$526,400.

CAPITAL GAINS TAX:	$105,280.
PLUS EXCESS DEP TAX:	$0.
PLUS MORTGAGE BAL:	$876,410.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$981,690.

NET SALES PROCEEDS AFTER TAX:	$398,310.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $1,380,000.
THE MODIFIED I.R.R. BEFORE TAXES IS 12.6329% AND AFTER TAXES IS 16.0399%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 13%, AND OPPORTUNITY COST OF 12%

EXHIBIT 10, Continued

MORTGAGE ANALYSIS
WEST ALLIS HOUSING ASSOCIATES
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	130790.	126481.	4299.	130780.	1.000	901058.
2.	133410.	125839.	4941.	130780.	1.020	896117.
3.	136100.	125101.	5679.	130780.	1.041	890438.
4.	138820.	124253.	6527.	130780.	1.061	883911.
5.	141600.	123278.	7502.	130780.	1.083	876410.
AVG	$136,144.				1.041	

DEPRECIATION SCHEDULE
WEST ALLIS HOUSING ASSOCIATES
IMPROVEMENT # 1

RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	69280.0	69280.0	.0	969920.0
2.	69280.0	69280.0	.0	900640.0
3.	69280.0	69280.0	.0	831360.0
4.	69280.0	69280.0	.0	762080.0
5.	69280.0	69280.0	.0	692800.0
TOTAL	346400.0	346400.0	.0	

EXHIBIT 10, Continued

DISTRIBUTION OF CASH THROW-OFF
WEST ALLIS HOUSING ASSOCIATES

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	10.	10.	0.
2.	2630.	2630.	0.
3.	5320.	5320.	0.
4.	8040.	8040.	0.
5.	10820.	10820.	0.
	26820.	26820.	0.

RESALE PRICE:	$1,380,000.
LESS MORTGAGE BALANCE:	$876,410.
PROCEEDS BEFORE TAXES:	$503,590.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$503,590.

CASH THROW-OFF = 0% REVERSION = 0%

EQUITY ANALYSIS
WEST ALLIS HOUSING ASSOCIATES
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$130,790.	$298,942.	$10.	.0000	.0000
2.	133,410.	303,883.	2,630.	.0089	.0087
3.	136,100.	309,562.	5,320.	.0181	.0172
4.	138,820.	316,089.	8,040.	.0273	.0254
5.	141,600.	323,590.	10,820.	.0367	.0334

ORIGINAL EQUITY: $ 294643

VALTEST

A DEMONSTRATION PACKET

PREPARED BY

LANDMARK RESEARCH INC

MADISON, WISCONSIN

FOR

THE REAL ESTATE ANALYSTS NORTHSTAR USERS GROUP

September 24th and 25th - 1982

Costa Mesa, California

VALTEST

DEMONSTRATION 1

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? J
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 5000
   N.O.I. YEAR  2? 5000
   N.O.I. YEAR  3? 6000
   N.O.I. YEAR  4? 6000
   N.O.I. YEAR  5? 7000
4. ACQUISITION COST: ? 50000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? .8, .12, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .8, 13
   IS THERE A SECOND IMPROVEMENT? Y OR N? N
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
           17% - 46%  (1978 LAW, EFFECTIVE 1979)
           16% - 46%  (1981 LAW, EFFECTIVE 1982)
           15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

           (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .46, .46
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

FILE = JEAN1

LANDMARK
RESEARCH
INC

DEMONSTRATION 1 - Continued

AFTER TAX CASH FLOW PROJECTION

J

DATE 9/14/82

DATA SUMMARY

****

ACQUISTN COST:	$50,000.	MTG. AMT.:	$40,000.	
NOI 1ST YR:	$5,000.	MTG. INT.:	12%	
ORG. EQUITY:	$10,000.	MTG. TERM:	25. YRS	
CTO 1ST YEAR:	$-55.	DEBT SERVICE 1ST YEAR:		$5,055.
		MTG. CONST.:	.1263869	
IMP. #1 VALUE:	$40,000.	IMP. #1 LIFE:	15.	

INC. TX RATE: 46%

SALE YR RATE: 46% OWNER: CORPORATION

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
RESIDENTIAL PROPERTY

LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE-TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	5000.	4785.	4667.	-4453.	-2049.	1994.
2.	5000.	4751.	4122.	-3874.	-1783.	1728.
3.	6000.	4713.	3641.	-2355.	-1084.	2029.
4.	6000.	4669.	3216.	-1887.	-869.	1814.
5.	7000.	4620.	2841.	-462.	-214.	2159.
	$29000.	$23539.	$18488.	$-13031.	$-5999.	$9722.

DEMONSTRATION 1 - Continued

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$38,261.
PROCEEDS BEFORE TAXES:	$21,739.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$21,739.

1ST YR B4 TAX EQ DIV:	-.5548%
AVG DEBT COVER RATIO:	1.1473

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$60,000.
LESS BASIS:	$31,512.
TOTAL GAIN:	$28,488.
EXCESS DEPRECIATION:	$5,155.
CAPITAL GAIN:	$23,333.
ORDINARY GAIN:	$5,155.

TAX ON ORDINARY GAIN:	$2,371.
TAX ON CAPITAL GAIN:	$6,533.
PLUS MORTGAGE BAL:	$38,261.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$47,166.

NET SALES PROCEEDS AFTER TAX:	$12,834.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS 20.6487% AND AFTER TAXES IS 19.5405%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

DEMONSTRATION 1 - Continued

MORTGAGE ANALYSIS
J
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	5000.	4785.	270.	5055.	.989	39730.
2.	5000.	4751.	304.	5055.	.989	39426.
3.	6000.	4713.	343.	5055.	1.187	39083.
4.	6000.	4669.	386.	5055.	1.187	38697.
5.	7000.	4620.	435.	5055.	1.385	38261.
AVG	$5,800.				1.147	

DISTRIBUTION OF CASH THROW-OFF
J

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-55.	-55.	0.
2.	-55.	-55.	0.
3.	945.	945.	0.
4.	945.	945.	0.
5.	1945.	1945.	0.
	3723.	3723.	0.

RESALE PRICE:	$40,000.
LESS MORTGAGE BALANCE:	$38,261.
PROCEEDS BEFORE TAXES:	$21,739.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$21,739.

CASH THROW-OFF = 0% REVERSION = 0%

DEMONSTRATION 1 — Continued

DEPRECIATION SCHEDULE
J
IMPROVEMENT # 1
175% D.B.
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	4666.7	2666.7	2000.0	35333.3
2.	4122.2	2666.7	1455.6	31211.1
3.	3641.3	2666.7	974.6	27569.8
4.	3216.5	2666.7	549.8	24353.3
5.	2841.2	2666.7	174.6	21512.1
TOTAL	18487.9	13333.3	5154.6	

EQUITY ANALYSIS
J
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CUR EQ
1.	$5,000.	$10,325.	$-55.	-.0055	-.0054
2.	5,000.	10,685.	-55.	-.0055	-.0052
3.	6,000.	11,028.	945.	.0945	.0856
4.	6,000.	11,414.	945.	.0945	.0827
5.	7,000.	11,850.	1,945.	.1945	.1641

ORIGINAL EQUITY: $ 10000

VALTEST

DEMONSTRATION 2

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? CARDINAL-2
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 81745
   N.O.I. YEAR  2? 81920
   N.O.I. YEAR  3? 98910
   N.O.I. YEAR  4? 108800
   N.O.I. YEAR  5? 119680
4. ACQUISITION COST: ? 1007000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 647000, .15236, 30, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .149, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .781, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  196625
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 1
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 1
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?N
   THE MAXIMUM FEDERAL INDIVIDUAL ORDINARY RATE COULD BE:
          70% (PRE-1981 LAW)
          50% (1981 LAW. EFFECTIVE 1982)

          (PLUS STATE RATE)

    ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .5, .5
9. RESALE PRICE (NET OF SALE COSTS) ?.1258750
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  11
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  11
```

LANDMARK RESEARCH INC.

FILE = CARD2A

DEMONSTRATION 2 - Continued

AFTER TAX CASH FLOW PROJECTION
CARDINAL-2
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$1,007,000.	MTG. AMT.:	$647,000.		
NOI 1ST YR:	$81,745.	MTG. INT.:	15.236%		
ORG. EQUITY:	$360,000.	MTG. TERM:	30. YRS		
CTO 1ST YEAR:	$-17,893.	DEBT SERVICE 1ST YEAR:		$99,638.	
		MTG. CONST.:	.15400037		
IMP. #1 VALUE:	$150,043.	IMP. #1 LIFE:	15.		
IMP. #2 VALUE:	$786,467.	IMP. #2 LIFE:	15.		
INC. TX RATE:	50%				
SALE YR RATE:	50%	OWNER: INDIVIDUAL			

DEPRECIATION IMPROVEMENT #1 : STRAIGHT LINE
DEPRECIATION IMPROVEMENT #2 : STRAIGHT LINE
RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	81745.	98500.	62434.	-79190.	-236221.	218328.
2.	81929.	98313.	62434.	-78828.	-39415.	21697.
3.	98910.	98097.	62434.	-61622.	-30812.	30084.
4.	108800.	97845.	62434.	-51480.	-25741.	34903.
5.	119680.	97552.	62434.	-40307.	-20154.	40196.
	$491055.	$490307.	$312170.	$-311427.	$-352343.	$345207.

NOTE: 1ST YEAR'S TAX REDUCED BY $196,625. FOR TAX CREDIT (IMP #2)

DEMINSTRATION 2 - Continued

RESALE PRICE:	$1,258,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

1ST YR B4 TAX EQ DIV:	-4.9703%
AVG DEBT COVER RATIO:	.9857

RESALE PRICE:	$1,258,750.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$1,258,750.
LESS BASIS:	$694,830.
TOTAL GAIN:	$563,920.
EXCESS DEPRECIATION:	$0.
CAPITAL GAIN:	$563,920.
ORDINARY GAIN:	$0.

TAX ON ORDINARY GAIN:	$0.
TAX ON CAPITAL GAIN:	$112,784.
PLUS MORTGAGE BAL:	$639,115.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$751,899.

NET SALES PROCEEDS AFTER TAX:	$506,851.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $1,258,750.
THE MODIFIED I.R.R. BEFORE TAXES IS 10.5005% AND AFTER TAXES IS 22.2744%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 11%, AND OPPORTUNITY COST OF 11%

DISTRIBUTION OF CASH THROU-OFF
CARDINAL-2

YEAR	CASH THROU-OFF TOTAL	CASH THROU-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-17893.	-17893.	0.
2.	-17718.	-17718.	0.
3.	-728.	-728.	0.
4.	9162.	9162.	0.
5.	20042.	20042.	0.
	-7136.	-7136.	0.

RESALE PRICE:	$1,259,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

CASH THROU-OFF = 0% REVERSION = 0%

MORTGAGE ANALYSIS
CARDINAL-2
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	81745.	98500.	1139.	99638.	.820	645861.
2.	81920.	98313.	1325.	99638.	.822	644537.
3.	98910.	98097.	1541.	99638.	.993	642995.
4.	108800.	97845.	1793.	99638.	1.092	641202.
5.	119680.	97552.	2086.	99638.	1.201	639115.
AVG	$98,211.				.986	

EQUITY ANALYSIS
CARDINAL-2
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$81,745.	$379,032.	$-17,893.	-.0497	-.0472
2.	81,920.	398,075.	-17,718.	-.0492	-.0445
3.	98,910.	400,345.	-728.	-.0020	-.0018
4.	108,800.	402,138.	9,162.	.0254	.0228
5.	119,680.	404,224.	20,042.	.0557	.0496

ORIGINAL EQUITY: $ 360000

DEMINSTRATION 2 - Continued

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 1
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	10002.9	10002.9	.0	140040.1
2.	10002.9	10002.9	.0	130037.3
3.	10002.9	10002.9	.0	120034.4
4.	10002.9	10002.9	.0	110031.5
5.	10002.9	10002.9	.0	100028.7
SUB-TOTAL	50014.3	50014.3	.0	

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 2
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	52431.1	52431.1	.0	734035.9
2.	52431.1	52431.1	.0	681604.7
3.	52431.1	52431.1	.0	629173.6
4.	52431.1	52431.1	.0	576742.5
5.	52431.1	52431.1	.0	524311.3
SUB-TOTAL	262155.7	262155.7	.0	
TOTAL	312170.0	312170.0	.0	

VALTEST - DEMONSTRATION 3

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? SELL AT LOSS TEST
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? Y
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0

   EFFECTIVE GROSS REVENUE YEAR  1? 13800
   EFFECTIVE GROSS REVENUE YEAR  2? 14210
   EFFECTIVE GROSS REVENUE YEAR  3? 1000
   EFFECTIVE GROSS REVENUE YEAR  4? 15080
   EFFECTIVE GROSS REVENUE YEAR  5? 15530

   VAR OP EXPENSE (%) YEAR  1? 6
   VAR OP EXPENSE (%) YEAR  2? 5
   VAR OP EXPENSE (%) YEAR  3? 0

   FIXED OP EXPENSE YEAR  1? 3700
   FIXED OP EXPENSE YEAR  2? 3920
   FIXED OP EXPENSE YEAR  3? 4160
   FIXED OP EXPENSE YEAR  4? 4410
   FIXED OP EXPENSE YEAR  5? 4679
4. ACQUISITION COST: ? 66000 .
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 49500, .18, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .25, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .55, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  9075
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y *
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175 *
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 2
   ENTER D.B. %: ? 175 *
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? N
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
          17% - 46%  (1978 LAW, EFFECTIVE 1979)
          16% - 46%  (1981 LAW, EFFECTIVE 1982)
          15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

          (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .4, .4
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?Y
   ENTER CASH THROW-OFF (%), PROCEEDS BEFORE TAXES (%):  5, 5
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

* FOR ILLUSTRATIVE PURPOSES ONLY

LANDMARK RESEARCH

FILE = SALTEST4

DEMONSTRATION 3 - Continued

AFTER TAX CASH FLOW PROJECTION
SELL AT LOSS TEST
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$66,000.	MTG. AMT.:	$49,500.		
NOI 1ST YR:	$9,272.	MTG. INT.:	18%		
ORG. EQUITY:	$16,500.	MTG. TERM:	25. YRS		
CTD 1ST YEAR:	$258.	DEBT SERVICE 1ST YEAR:		$9,014.	
		MTG. CONST.:	.1820916		
IMP. #1 VALUE:	$16,500.	IMP. #1 LIFE:	15.		
IMP. #2 VALUE:	$36,300.	IMP. #2 LIFE:	15.		
INC. TX RATE:	40%				
SALE YR RATE:	40%	OWNER: CORPORATION			

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
DEPRECIATION IMPROVEMENT #2 : 175% D.B.
NON-RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROU-OFF: 5% REVERSION: 5%

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	9272.	8914.	6160.	-5803.	-11397.	11643.
2.	9580.	8907.	5441.	-4770.	-1909.	2447.
3.	-3210.	8853.	4807.	-16870.	-6749.	-5475.
4.	9916.	8866.	4246.	-3197.	-1280.	2137.
5.	10084.	8837.	3750.	-2505.	-1003.	2019.
	$35641.	$44377.	$24404.	$-33145.	$-22338.	$12771.

NOTE: 1ST YEAR'S TAX REDUCED BY $9,075. FOR TAX CREDIT (IMP #2)

DEMONSTRATION 3 - Continued

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

1ST YR B4 TAX EQ DIV:	1.4381%
AVG DEBT COVER RATIO:	.7908
AVG DEFAULT RATIO:	1.1381

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$567.
NET RESALE PRICE:	$59,433.
LESS BASIS:	$41,596.
TOTAL GAIN:	$17,838.
TAX DEPRECIATION:	$24,404.
CAPITAL GAIN:	$0.
ORDINARY GAIN:	$17,838.

TAX ON ORDINARY GAIN:	$7,135.
TAX ON CAPITAL GAIN:	$0.
PLUS MORTGAGE BAL:	$48,670.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$55,805.

NET SALES PROCEEDS AFTER TAX:	$3,629.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS -12.4777% AND AFTER TAXES IS 5.4951%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

DEMONSTRATION 3 - Continued

DISTRIBUTION OF CASH THROW-OFF
SELL AT LOSS TEST

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	258.	246.	13.
2.	566.	538.	28.
3.	-12224.	-12224.	0.
4.	902.	857.	45.
5.	1070.	1016.	53.
	-9427.	-9567.	140.

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

CASH THROW-OFF = 5% REVERSION = 5%

EQUITY ANALYSIS
SELL AT LOSS TEST
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$9,272.	$16,613.	$246.	.0149	.0148
2.	9,580.	16,747.	538.	.0326	.0321
3.	-3,210.	29,131.	-12,224.	-.7408	-.4196
4.	9,916.	29,324.	857.	.0520	.0292
5.	10,084.	29,554.	1,016.	.0616	.0344

ORIGINAL EQUITY: $ 16500

DEMONSTRATION 3 - Continued

MORTGAGE ANALYSIS
SELL AT LOSS TEST
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.	DEFAULT RATIO
1.	9272.	8901.	113.	9014.	1.029	49387.	.981
2.	9580.	8879.	135.	9014.	1.063	49253.	.960
3.	-3210.	8853.	161.	9014.	-.356	49092.	13.224
4.	9916.	8821.	192.	9014.	1.100	48900.	.940
5.	10084.	8784.	230.	9014.	1.119	48670.	.931
AVG	$7,128.				.791		1.158

REVENUE AND EXPENSE REPORT
SELL AT LOSS TEST
DATE 9/14/82
****

YEAR	EFF GROSS REV	% RATE	% VAR OP	$ FIXED OP	NOI
1.	$13,800.	6.%	$828.	$3,700.	$9,272.
2.	$14,210.	5.%	$711.	$3,920.	$9,580.
3.	$1,000.	5.%	$50.	$4,160.	$-3,210.
4.	$15,080.	5.%	$754.	$4,410.	$9,916.
5.	$15,530.	5.%	$777.	$4,670.	$10,084.
	$59,620.		$3,119.	$20,860.	$35,641.

DEMONSTRATION 3 - Continued

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 1
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	1925.0	1100.0	1925.0	14575.0
2.	1700.4	1100.0	1700.4	12874.6
3.	1502.0	1100.0	1502.0	11372.5
4.	1326.8	1100.0	1326.8	10045.8
5.	1172.0	1100.0	1172.0	8873.7
SUB-TOTAL	7626.3	5500.0	7626.3	

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 2
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	4235.0	2420.0	4235.0	32065.0
2.	3740.9	2420.0	3740.9	28324.1
3.	3304.5	2420.0	3304.5	25019.6
4.	2919.0	2420.0	2919.0	22100.7
5.	2578.4	2420.0	2578.4	19522.2
SUB-TOTAL	16777.8	12100.0	16777.8	
TOTAL	24404.0	17600.0	24404.0	

VII. Further Development of Market Comparison Techniques

A. Selection of a comparable unit as basis for comparison

1. User viewpoint in terms of productive unit
2. Investor viewpoint in terms of productivity
3. Physical approach to comparability
4. Substitute approach

B. Quick statistical tests of unit correlation to price

1. Measuring degree of difference from a standard (mean)(multiple regression)
2. Measuring degree of difference in terms of sameness (Euclidian distance)

C. Multiple regression has had limited acceptance in appraisal for the following reasons:

1. Theory:
   a. Violation of data requirements of independence, normally distributed error, degrees of freedom, etc.
   b. Comparison of subject to mean of set
   c. Market comparison is set theory not statistical

2. Practice:
   a. Lack of adequate comparables
   b. Failure of appraiser to view all properties and set adjustments
   c. Inability to communicate with credibility

D. Euclidian distance measures sameness of observations within a set in order to rank degree of sameness in order to bracket subject property with comparables. Advantages include:

1. Explainable ordinal ranking
2. Comparison to subject property for purposes of ranking
3. High tolerance for error in selection of adjustment factors
4. Self correcting weights to convert ordinal ranking to added weighted score

SEMINAR
REAL ESTATE FEASIBILITY ANALYSIS

Presented By:

Professor James A. Graaskamp, CRE, SREA
University of Wisconsin, School of Business

For

Denver Chapter
American Institute of Real Estate Appraisers

September 16-17, 1983

REAL ESTATE FEASIBILITY SEMINAR

American Institute of Real Estate Appraisers
Denver Chapter
September 16-17, 1983

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and inclues architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital. Money is an energy transfer system.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.
4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

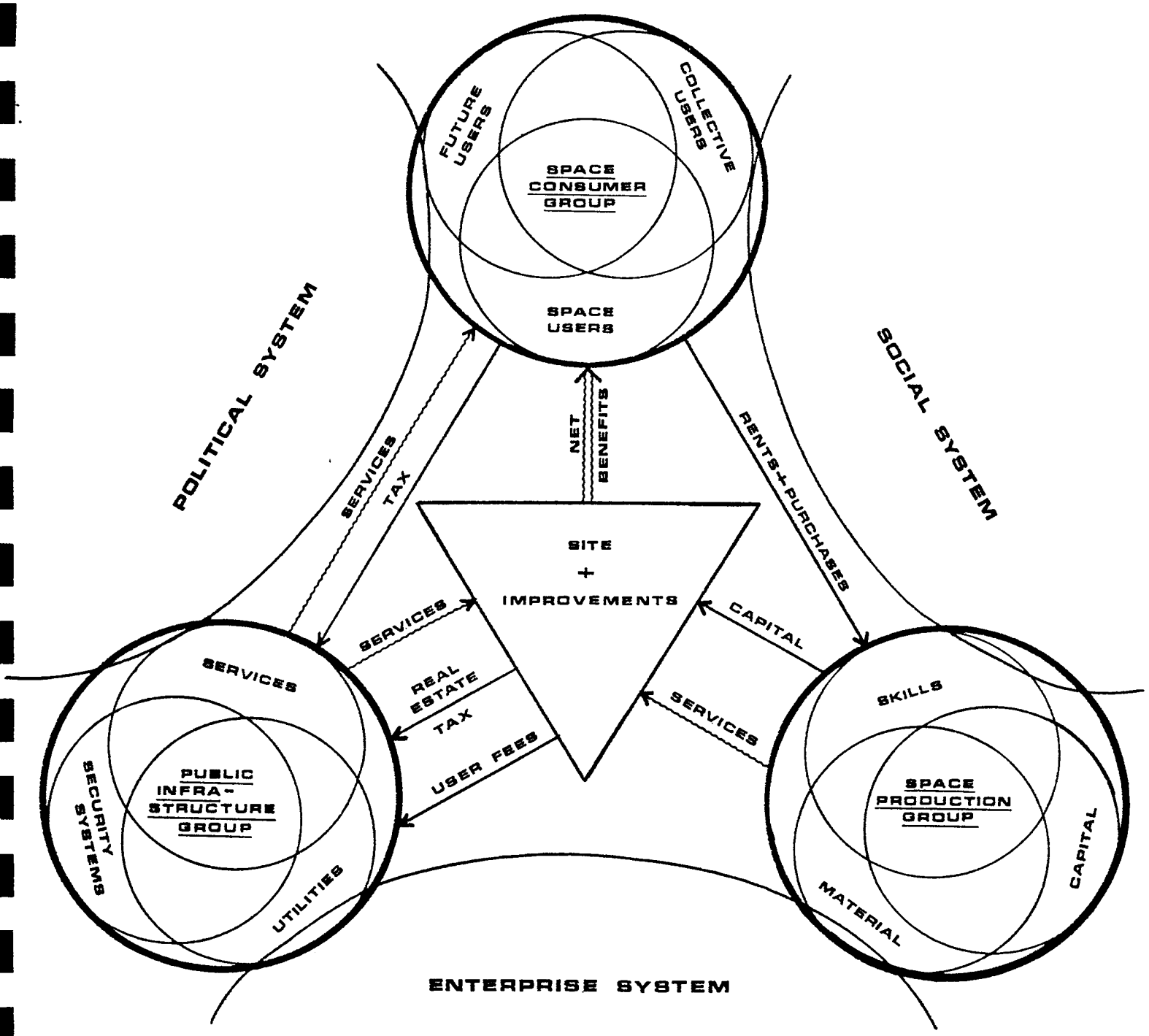
D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:

1. Physical attributes
2. Legal-political attributes
3. Linkage attributes
4. Dynamic attributes
5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

Exhibit 1



THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced be concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.
2. The individual consumer with needs and a budget is the drive wheel.
3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.
4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.
2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.
3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.
4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.
5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. An enterprise is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The system engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form giver.

II. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

> "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

1. The nature of a decision process must be made explicit.
2. Defining a problem in terms of inherent characteristics must be addressed today.
3. The nature of risk and risk management must be made explicit because the definition implies uncertainty by means of a subjective probability, "reasonable likelihood of succeeding."
4. There is a need to identify and measure and weight elements of success.
5. There is a need to identify and dimension the limited resources of the client in terms of personnel, expertise, cash, and time for commitment and completion.
6. Definition of decision process and problem lead to proper description of work project for the analyst.

C. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical-aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

D. These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own . Components may be provided by others and the sequence of set may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.

3. Merchandising studies: consumer surveys, competitive property analusis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Architectural and engineering studies: alternative building envelopes, structural solutions, and net usable space and space relationships, together with technical resolutions of problems in the physical context adequate for budgeting and marketing work.
6. Compatibility studies: project impact on various groups affected in terms of their attitudes, expectations and vested interests in the status quo and community goals.
7. Financial studies: cash flow budgets, potential risk and sensitivity analysis, fiscal impact analysis, and alternative sources of capital, tax implications, etc.

E. Feasibility analysis is a sub-topic within the generally expanding litturature of problem solving. Any Counselor or problem solver is urged to read the following:

1. The Art of Problem Solving, Russell L. Ackoff, John Wiley & Sons, New York, 1978
2. The Complete Problem Solver, John R. Hayes, The Franklin Institute Press, Philadelphia, 1981
3. Strategic Planning in Emerging Companies, Steven C. Brandt, Addison-Wesley Publishing Company, 1981

Ackoff subdivides any problem into five types of components:

1. The decision maker--the person or persons faced with the problem, as a group or individual.

2. The controllable variables--those aspects of the problem situation the decision maker can control.

3. The uncontrolled variables--those aspects of the problem situation the decison maker cannot control but those which, together with the controlled variables can effect the outcome of his choice. The uncontrolled variables may be quantitative or qualitative, but together they define the problem environment, in the language of Ackoff, or the context in the language of Christopher Alexander.

4. Constraints imposed from within or without on the values of the controlled and uncontrolled variables. For example, the consumer places a limit on how much he is willing to pay for rent, although rent levels themselves are often set by cost factors byond his control.

5. The possible outcomes produced jointly by the decision makers choice and the uncontrolled variable.

Ackoff further refines problem solving:

> A problem is said to be solved when the decision maker selects those values of the controlled variables which maximize the value of the outcome; that is, when he has optimized. If he selects values of the controlled variables that do not maximize the value of the outcome but produce an outcome that is good enough, he has resolved the problem by satisficing. There is a third possibility: he may dissolve the problem. This is accomplished by changing his values so that the choices available are no longer menaingful. For example, the problem of selecting a new car may be dissolved by deciding that the use of public transportation is better than driving oneself. It may also be dissolved by moving to within walking distance from work so that driving is no longer required. We use "solving" loosely to cover all three alternatives.

Ackoff also points that many problem solvers are reactive responding to the immediate irritation which leads us "to walk into the future facing the past - we move away from, rather than toward something. This often results in unforseen consequences that are more distasteful than the dificiencies removed." Recall D.D.T. Problem should be proactive by specifying the ideal outcome and looking for ways to move in that direction. "The chances of overlooking relevant consequences are minimized when we formulate a problem in terms of approaching ideals ... focusing on an ideal reveals the relationships between things that can be done in the future and tends to make us feel simultaneously with sets of interacting threats and opportunities, to treat them as a whole, as a system of problems.

From that it is important to learn that:
Planning is dealing with sets of interacting problems
Problem solving is finding alternative routes to approach an ideal solution
Feasibility analysis is testing a specified course of action for its liklihood of fulfilling the ideal
An appraisal is a ficticious feasibility study in which human behavior is assumed to be normative

F. The Hayes text is a rich collection of problem solving and decision making methods. Hayes believes that problems should be represented with doodles, flow charts, simple diagrams, or other graphics. He sees the problem solving process as correctly representing the goal, correctly specifying the initial state of affairs, correctly specifying the differences between the current state of affairs and the goal, the restrictions in moving toward the goal and operators available to advance affairs to the goal. He defines decision technique for conditions of certainty, uncertainty, or competitive conflict Hayes develops for strategic viewpoints:

1. The minimax strategy which assumes that "nature is against us" so that the ob ject is to choose the strategy that will minimize the disaster, although it has the unfortunate property that may also eliminate the best possible outcome.

2. The maxi-max strategy chooses the course of action which could provide the best of the best possible outcomes, but it does not defend you against the possibility of enjoying the worst possible outcome.

3. The Hurwitz strategy allows a compromise between the pessimistic and the very optimistic strategies above while allowing one to modify the probabilities with a factor for the level of optimism or pessimism of the decision maker.

4. Minimizing maximum regret strategy may be most significant for real estate investors as in phasing the project or buying standby credit at an exhorbitant rate.

Hayes describes four general types of decisions which require different decision procedures; decisions under certainty, under risk, under uncertainty and under conflict. In the case of certainty the facts are known and static, and it is only necessary to rank in terms of desirability. Consider four student apartments as described in Exhibit 2. Hayes demonstrates five different methods which may be useful for making decisions under certainty:

1. Dominance which determines that one alternative dominates if it is at least as good as the other properties and is better in one attribute on at least one property. (Exhibit 3.)
2. The lexicographic method which ranks like a dictionary specifying the most important attributes first and then resolving ties in ranking by going to the second most important attribute second. The weakness is that the selection process ignores all but the most important attributes so that the selection may have serious unattractive secondary attributes.
3. Additive weighting takes all attributes into account but gives them different weights depending on value systems of observer. It does not recognize interactions of attributes so it can lead to inappropriate decisions by ignoring interactions just as lexicographics ignore minor attributes. (Exhibit 4.)
4. Effectiveness indices take into account interactions, such as the profitability index which takes present value of premises relative to total capital budget.
5. Satisficing approach requires the decision maker to identify the minimum value he is willing to accept for each of the attributes, rejecting alternatives which fail the test and accepting the first alternative which meets all the minimal values tests. (For example, a building with a debt cover ratio no less than 1.2, a cash on cash yield of 9%, leasable area no less than 60,000 square feet in an office building no more than five years old with one parking stall per 300 square feet of G.L.A.) (Exhibit 5.)

Summary of systems in Exhibit 6.

Success may be measured by any of the above systems with lists of attributes selected by the analyst as relevant tests of alternative courses of action, such as: (See Exhibit 7.)

1. A check list of physical attributes.
2. A check list of critical linkage attributes.
3. A check list of dynamic behavioral attributes.
4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies.
6. Probability distributions of alternative outcomes and standard error
7. Psychological gratifications.
8. Specified legal attributes.
9. Measures of impact on environment.

Database management on personal computers will require that you learn to use decision rules dealing with certainty, uncertainty, conflict, and difference by understanding the advantages and disadvantages of each rule.

EXHIBIT 2

Student Apartments

A1		A2	
brightness:	always needs artificial lighting	size of rooms:	cramped
cleanliness:	needs vacuuming	noise level:	usually quiet
kitchen:	new stove, sink, and refrigerator	general repairs:	needs no repairs
noise level:	frequently noisy	brightness:	very bright throughout the day
size of rooms:	average	cleanliness:	needs vacuuming
general repair:	needs no repairs	landlord attitude:	cordial
distance from place of employment:	15 minutes	distance from place of employment:	60 minutes
landlord attitude:	indifferent	kitchen:	stove, sink, and refrigerator in good condition

A3		A4	
distance from place of employment:	20 minutes	general repair:	needs no repairs
brightness:	fairly bright	brightness:	very bright
landlord attitude:	very friendly	noise level:	often quiet
cleanliness:	ready to move in	size of rooms:	small
kitchen	stove, sink, & refrigerator, old but useable	distance from place of employment:	45 minutes
noise level:	sometimes noisy	kitchen:	stove & refrigerator in good condition
general repair:	needs one week repair work	landlord attitude:	cordial
size of rooms:	comfortable	cleanliness:	ready to move in

EXHIBIT 3

Alternatives

	1	2	3	4
Distance in Minutes	15 Min	60 Min	20 Min	45 Min
Size of Rooms	Average	Cramped	Comfortable	Small
Kitchen	New stove, etc.	Stove, etc. in good condition	Stove, etc. old but useable	Stove, etc. in good condition
General Repair	Needs no Repair	Needs no Repair	Needs one Week work	Needs no Repair
Cleanliness	Needs Vacuuming	Needs Vacuuming	Ready to Move in	Ready to Move in
Noise Level	Frequently Noisy	Often Quiet	Sometimes Noisy	Often Quiet
Brightness	Always needs artificial light	Very Bright	Fairly Bright	Very Bright
Landlord	Indifferent	Cordial	Very Friendly	Cordial

Only one alternative dominates another in this problem: Alternative 4 dominates Alternative 2. Alternative 4 is as good as Alternative 2 in "kitchen," "general repair," "noise level," "brightness," and "landlord," and it is better in "distance," "size," and "cleanliness." Alternative 1 does not dominate Alternative 2 because, while it is better in some properties, such as "distance," it is worse in others.

EXHIBIT 4

Alternative Apartments

	1	2	3	4	Weight
Distance in Minutes	15 Min (4)	60 Min (1)	20 Min (3)	45 Min (2)	7
	28	7	21	14	
Size of Rooms	Average (3)	Cramped (1)	Comfortable(4)	Small (2)	4
	12	4	16	8	
Kitchen	New stove, etc. (5)	Stove, etc. in good condition (4)	Stove, etc. old but useable (3)	Stove,etc. in good condition (4)	3
	15	12	9	12	
General Repair	Needs no Repair (5)	Needs no Repair (5)	Needs one Week work (2)	Needs no Repair (5)	2
	10	10	4	10	
Cleanliness	Needs Vacuuming (4)	Needs Vacuuming (4)	Ready to Move in (5)	Ready to Move in (5)	1
	4	4	5	5	
Noise Level	Frequently Noisy (2)	Often quiet (4)	Sometimes Noisy (3)	Often quiet (4)	1
	2	4	3	4	
Brightness	Always needs artificial light (1)	Very bright (5)	Fairly Bright (3)	Very Bright (5)	1
	1	5	3	5	
Landlord	Indifferent(3)	Cordial (5)	Very Friendly (4)	Cordial (5)	1
	3	5	4	5	
Sum of Value X Weight	75	51	65	63	

EXHIBIT 6

Decision Making Methods

Method	Type	Use this method	Cost of computation required	Number of alternatives examined
Dominance	Optimizing	for preliminary screening of alternatives	low	all
Lexicography	Optimizing	when attributes are very different in weight	very low	all
Additive Weighting	Optimizing	when it is important to find the best alternative	high	all
Effectiveness Index	Optimizing	when it is very important to get best alternative	very high	all
Satisficing	Non-optimizing	when the cost of examining the whole set of alternatives is very high	very low	some

IV. Problem Perceived By the Client

The original problem as perceived by the client is generally ill-defined or misdirected as the problem becomes understood by the analyst.

A. There are several reasons for the shift in perception by both parties, such as:

1. Implicit assumptions by the client as to the services offered by a real estate appraiser,
2. Implicit assumptions and poor sequencing in the decision process,
3. The bias of viewpoint, because everyone is an expert on real estate,
4. A bias introduced by training, previous experience, or peer group controlling the client.

B. The consultant must begin by attempting to discover the sequence or protocol of decision which have brought the client to that point to discover what has been taken for granted, what has been overlooked, and what will be needed.

C. Education can't provide the tools for this critical initial step in the relationship between counselor and client. Ackhoff pointed out that educators generally produce only competence, communicativeness, and concern while the characteristics that makes for outstanding managers are courage and creativity. Hayes goes on to define creativity as "A special kind of problem solving, that is the act of solving an ill-defined problem. Ill-defined problems are those which require problem solvers to contribute to the definition of the problem from their own resources."

D. The consultant must structure the initial interview and subsequent intermediate report sessions to ask the client explicitly about the following:

1. His concept as to the "essence" of his business
2. His preferred method of meeting entrepreneurial risk
3. His preferred method of dealing with governmental regulation and news media
4. His preferred method of personnel compensation
5. His style of value decision trade-offs between qualitative and quantitative issues
6. His perception of his risk position and his risk utility "curve"
7. His personal non-business objective
8. His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of in-depth preparation by the client)

E. In the process of developing the assignment with the client, keep in mind the following questions:

1. What is the Problem at hand?
2. From what Viewpoint or Perspective should the problem be analyzed?
3. What Judgments seem to be appropriate?
4. What Assumptions should be adopted?
5. Is the resulting Premise realistic?
6. What Derivation Process should be applied?
7. What Conclusion results?
8. What Alternative choices are available?

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EXHIBIT 7

Worksheet Containing MUSTS and WANTS,

With Appropriate Weights Added, For a House-Purchase

MUST OBJECTIVES: Resource Limits and Requirements

Down payment not to exceed $10,000
Monthly payment (principal, interest, taxes, and insurance) not to exceed $300
Minimum of four bedrooms
Minimum of two bathrooms
Location outside of downtown area, within 45-minutes driving time to office parking lot
Occupancy within 60 days

WANT OBJECTIVES: Best use of resources, maximum results and returns, minimum disadvantage

	Weight
Minimum down payment	6
Lowest monthly payment	10
Location conveniently close to work	7
Able to use present furnishings, drapes	5
Shelter for two cars	4
Public transportation nearby	4
Location convenient to elementary and high schools	8
Location convenient to shopping center, stores	7
Workshop and storage space available	2
Stable resale value	7
Attractive; modern style and appearance	5
Good landscaping; trees, shrubs	4
Large play area for kids	5
Large, modern kitchen with a view	2
Large, comfortable family room	3
Location on quiet street, in good neighborhood	4
Minimum maintenance cost to house	7
Minimum risk - tax increase or special assessments	4

Source: Page 198, The Rational Manager by Charles H. Kepner and Benjamin B. Tregoe.

F. Since the problem percieved by the client may be poorly defined, the analyst needs to convert the stated problem into a sequence of issues which relate to the enterprise decision process outlined earlier.

1. The stated question "How much should I pay for the land?" is a step in implementation of the program. Go back to the statement of objectives "why do I need to invest in land?" and the search for opportunities, "how did we choose this piece of land?"

2. In general, you must discover what has been done, what explicit assumptions have been made, what implicit assumptions seem to be operating, and who made the decisions thus far.

3. A useful technique is always to reverse the question or place it in some hierarchy of values.
   a. For industrial real estate assume that working capital is preferrable to fixed assets. Therefore,
   b. Own no real estate - shift real estate problems by purchasing procedures.
   c. if you can't shift space needs, lease short term
   d. if you want the option of long term leases, negotiate a long term lease for a rental discount and then give back part of the discount if you cancel under a change of conditions clause.
   e. own or build only as last resort

4. One creative think system recommends conversion of new problem by analogy to old format; retail location is useful for any multi tenant space just as commodity terms made describe a mortgage. Familiar problems may need a purge of conventional answers by conversion to strange analogies.

G. Another way of understanding the problem is to relate it to soope! of services you can offer as in Exhibit 8 or the ideal way to approach a solution for the client. For example;

1. It is preferred to identify locational need and use requirements of a user before searching for a specific site.

2. If the site is already owned by a specific client, then it is necessary to adapt the use to the specific limitations of the site.

3. In the absence of a site in search of a use or a use in search of a site, the problem is to search for an investment opportunity in real estate.

4. Limitations of a site owned may require the consultant to solve both a disposition and an acquisition problem.

H. Definiton of a report medium and viewpoint of an intended audience is critical in the early stages of defining the assignment.

I. In distinguishing between judgment and assumptions the analyst may need to be an expert on experts, helping to select members of a team of specialists under the control of a generalist.

EXHIBIT 8

SCOPE OF SERVICES

BASIC BUSINESS	BASIC SERVICES	COMPONENT ACTIVITIES	INFORMATION TARGETS & CRITICAL DETAILS
Real Estate Investment Analysis	Development Coordination	Planning & Programming	Analysis of Economic Context re: Past Growth Trends Economic Base & Volatility Strengths & Weaknesses Recent Trends & Changes Future Economic Outlook including - Growth Potential - Growth Constraints - Investment Considerations
		Site & Use Analysis	
	Development Feasibility Analysis	Economic Analysis of Region	
		Construction Cost Analysis	Analysis of Specific Property Types re: Past Directions of Growth Major Growth Factors Future Growth Areas Sub-Area Differentiation Historic Supply/Demand Relationships Future Demand Trends Absorbtion Capacity Recent Trends & Projected Construction
		Highest & Best Use Analysis	
		Market Analysis	
		Marketability Analysis	
	Appraisal	Location Analysis	Analysis of Specific Property Types re: Rent Levels & Trends Vacancy Levels & Trends Quality Differences Locational Differences Lease Terms & Differences
		Rent & Vacancy Survey	
		Market Price Analysis	
	Income Property Analysis (potential or previous acquisitions & problem properties)	Value-Price Determination	Analysis of a Soecific Property re: Revenue Assumptions(1st Year & Growth) Expense Assumptions(1st Year & Growth) Reserves and Capital Replacement Req'ts Financing Assumptions Depreciation Assumptions Resale Assumptions Return Comparisons
		Financial Return Analysis	
		Transaction Structuring	
	Acquisition, Sale, Trade, Refinancing Assistance	Hold/Sell/Refinance Evaluation	Formulation of Investment Criteria re: Economic expectations(nat'l & local) Realistic Return Levels for alternate markets and property types Risk/return tradeoffs Diversification(geographic & prop. type) Management Strategies Alternate investment vehicles
		Investment Strategy Formulation	
		Acquisition Negotiation	
		Sale & Debt Packaging	
	Property Management & Analysis	Property Search & Evaluation	Formulation of Search Methodology re: Comparison/Selection of Markets Identification/Solicitation of available properties Contact with Owners and/or Brokers Determination of Market Reference Points (Cap rates, cash-on cash returns, expense ratios, and market trends) Approximation of Value to Buyer Determination of Upside Potential
		Buyer Identification	
	Management Assistance	Management Analysis & Planning	

J. John Rasmussen recommends a work sheet defining who will provide key assumptions and judgments or data as illustrated in Exhibit 9.

K. Conceptualizing the work assignment and the work product can also be facilitated by a flow chart of the thought process or protocols for a site in search of a use (Exhibit 10), a use in search of a site (Exhibit 11), or the investor in search of a real estate opportunity. The latter will depend on the consultant initially reviewing the following strategic choices for the investor:

1. Degree of exposure to political risks (collective consumer action)

    a. Broad array of land use controls
    b. Vulnerability to subsidized or non-rational competition
    c. Dependency on government subsidized demand

2. Ability to generate channelled demand

    a. Control of space consumer
    b. Indirect control through reciprocity
    c. Indirect control of alternative supplies
    d. Indirect control through effective research and timing

3. Degree of acceptable management intensity

    a. Marketing tied to a specific personality
    b. Marketing tied to a specific set of high skill talents
    c. Marketing tied to quality, service, and convenience
    d. Marketing tied to technology/cost advantage (high tech/high touch product)
    e. Marketing based on consumer research segmentation

4. Degree of financial exposure per project

    a. Front end cost
    b. Peak hard dollar equity required
    c. Time line risks
    d. Maximum potential loss
    e. Holding power
    f. Efficiency of credit utilization

5. Tax strategy and exposures

    a. Federal income tax
    b. State taxes
    c. Real estate taxes
    d. Special assessments

6. Going concern versus liquidation options

    a. Estate tax and estate planning considerations
    b. Corporate liquidation
    c. Asset liquidity
    d. Management rewards, penalties, and survival

EXHIBIT 10

Figure 5

Analysis Process: The Search For a Site For a Use(s)

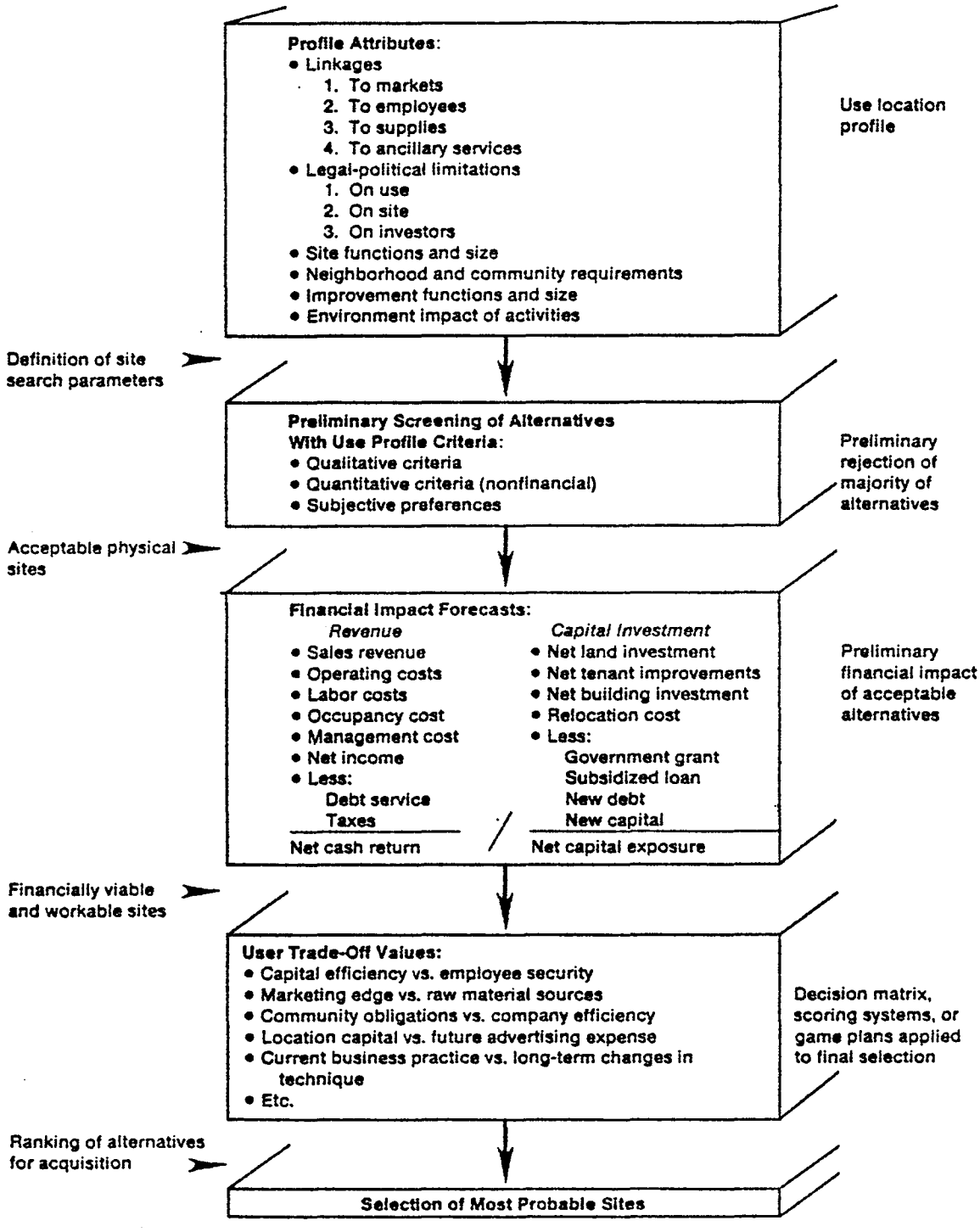
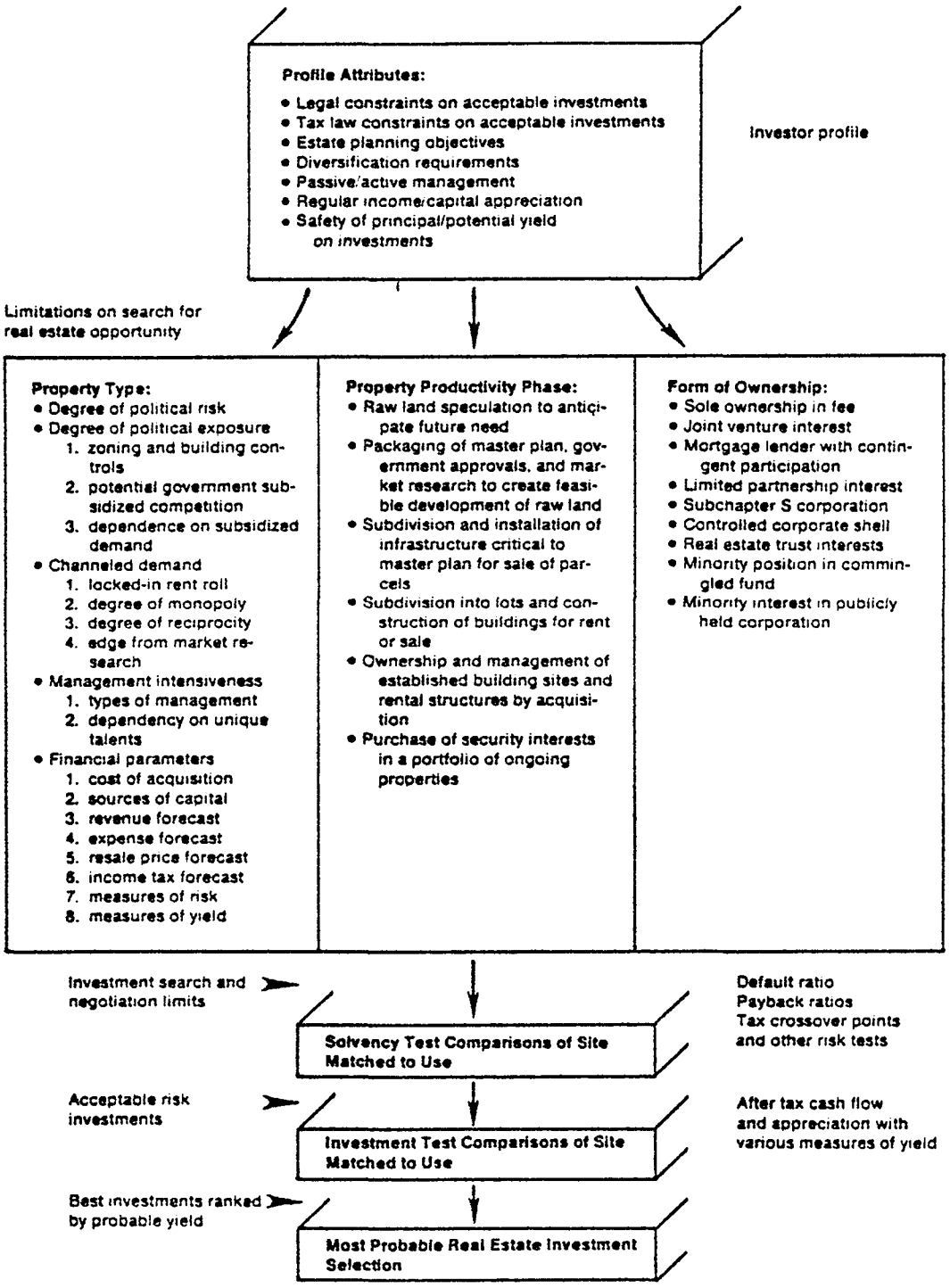


EXHIBIT 12

Figure 7
Process for Investor Selection of Real Estate



V. Financial Viability

Financial institutions confuse feasibility in terms of the ethical fit of a project to all parties impacted with the financial viability of the project--the adequacy of revenues and asset values to repay capital sources. Analysis of financial viability requires examining a set of financial assumptions in order to control variance between expectations and realizations, between pro forma budgets and actual P&L statements.

A. Analysis is risk management, control of variance.
B. There are essentially two types of risk exposures:

1. Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.

2. Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.

C. Risk evaluation or comparison grows out of the function of risk management for an enterprise.

1. Risk management has two objectives:

a. First priority - conservation of existing enterprise assets despite surprise events.
b. Second priority - realization of budgeted expectations despite surprise events.

2. The process of risk management involves systematic and continuous:

a. Identification of significant exposures to loss
b. Estimation of potential loss frequency and severity
c. Identification of alternative methods to avoid loss
d. Selection of a risk management method
e. Monitoring execution of risk management plan

3. The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to anticipate surprise and to provide for a response or adjustment in advance of the contingency.

D. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as:

1. Review of balance sheet accounts
2. Review of profit and loss statement accounts
3. Review of business organization or function chart
4. Review of elements of financial feasibility analysis

E. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

1. Very frequent and minor become expense accounts
2. Less frequent but predicatable and major become reserves or budget allowances.

3. Infrequent, uncertain but very severe become issues of risk management.
4. A 50/50 probability is the most uncertain outcome.

F. The alternative methods of avoiding loss which everyone subconsciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (diversification or mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expense)
4. Shift risk by contract (subcontracts or escalator clauses)
5. Shift risk by combination (diversification) by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and leaseback, options, contingent sales)

G. Risk management concepts leads to understanding by analogy of the true essence of a mortgage contract, an equity commitment, or a land lease.

1. A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market.

2. Tax savings from depreciation can refund the down payment to make a perfect straddle.

3. A joint venture profit distribution formula is like reinsurance. It sells a preferred straight return for equity capital, additional equity for a preferred return on profits, and additional equity for sharing in the maximum possible profit. The equity position is like an insurance company using pro rata reinsurance, loss ratio stabilization, and excess of loss coverage.

4. Apartment buildings sold on land contracts are financed to 100% of value and the down payment is a prepaid fee for a put--liquidated damages.

5. Equity ownership is the degree to which you can divert cash flow to your benefit by means of control of expenditure decisions.

6. An unsubordinated land lease enjoys the capital guarantees of all improvements constructed thereon--like lending 100% of the cat and enjoin the increasing collateral of the cow.

VI. Property analysis to determine alternative uses

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence: (See Exhibit 3)

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B. A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal-political attributes include not only zoning and subdividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site concern with off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal-political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

1. Size, shape, and lot area

2. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, flood plain designations, etc.

4. Flora and fauna which enhance marketability or which might cause environmental impact litigation

5. Concealed utility easements, old foundations, etc.

6. Existing on-site utility services and capacity

7. Access points to public thoroughfares or private right-of-ways

8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitues or future legislation which will affect administration of these ordinances relative to future uses of the site. (See Exhibit 13)

1. All alternative setback lines and building envelope interpretations relative to site

2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administraion of the law

8. Existing or impending legislation relative to such matters as:

    a. Septic tank installation
    b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
    c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
    d. Conservation of envrionmental edges, prime agricultural land, wet lands

9. Define physical system sub-systems

    a. Foundation system
    b. Structural system
    c. Floor system
    d. Ceiling system
    e. Roof system
    f. Exterior wall system
    g. Interior wall system
    h. Horizontal circulation sytsem (provacy, interaction, congestion, confusion)
    i. Vertical circulation system (handicapped code, cost, economy of scale and height)

10. Delineation of functional systems

    a. Bay spaces
    b. Module unit
    c. Ceiling heights
    d. Visual codes - such as mass, entrance, claustrophobic signals

11. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

EXHIBIT 13

Hierarchy of Site Specific Legal/Political Situs Attributes

I. Federal Site Specific Controls

A. Environmental Protection Agency
B. U.S. Army Corps of Engineers
C. Federal Aeronautics Administration
D. Department of Housing and Urban Developmental Agencies

1. Insurance underwriting standards of Federal Housing Administration
2. Eligibility standards of Urban Development Action Grant Program
3. Office of Interstate Land Sales Standards
4. Office of Flood and Catastrophe Insurance

E. Bank and Savings & Loan Deposit Insurance
F. Farm Home Administration Standards of Eligibility for Loans and Guarantees
G. Small Business Administration Standards for Eligibility for Loans and Guarantees
H. Forest Service, Wildlife Service or Department of Administration management areas

II. State and Regional Planning Site Controls

A. State Land Use Plans
B. State Highway Department Access Controls
C. State Department of Health Controls on Septic Tanks, Wells, Shorelands,
D. State Building Codes
E. State Aeronautical Commission Rules
F. State Environmental Protection Rules
G. Regional Planning Commission Standards and Recommendations
H. Coastal or Wilderness District Controls

III. Local Community Controls

A. Subdivision, Building, and Housing Codes
B. Special Planning and Assessment Districts
C. Extra Territorial Zoning Powers
D. Discretionary Commissions such as Metropolitan Sewer, Water, Port Authorities, Industrial Development, etc.

IV. Site Specific Controls

A. Private Covenants as to Use and Permissible Building Envelope
B. Easements
C. Property Owner Association Rules Tied to Lot Title
D. Existing Leases or Portions of the Property
E. Existing Entitlements Transferable with the Title, such as Permits to Build a Dam or Water Impoundment, Dredge Water Front or Conditions Within Financing Agreements

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

   a. Limitations on sewage processing, storm water retention or runoff constraints
   b. Community energy supplies, priorities, and capacity
   c. Water processing and chemistry as applicable
   d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

   a. Employment centers
   b. School system alternatives
   c. Retail services
   d. Complimentary existing nearby uses
   e. Recreational services
   f. Health care systems
   g. Security systems
   h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

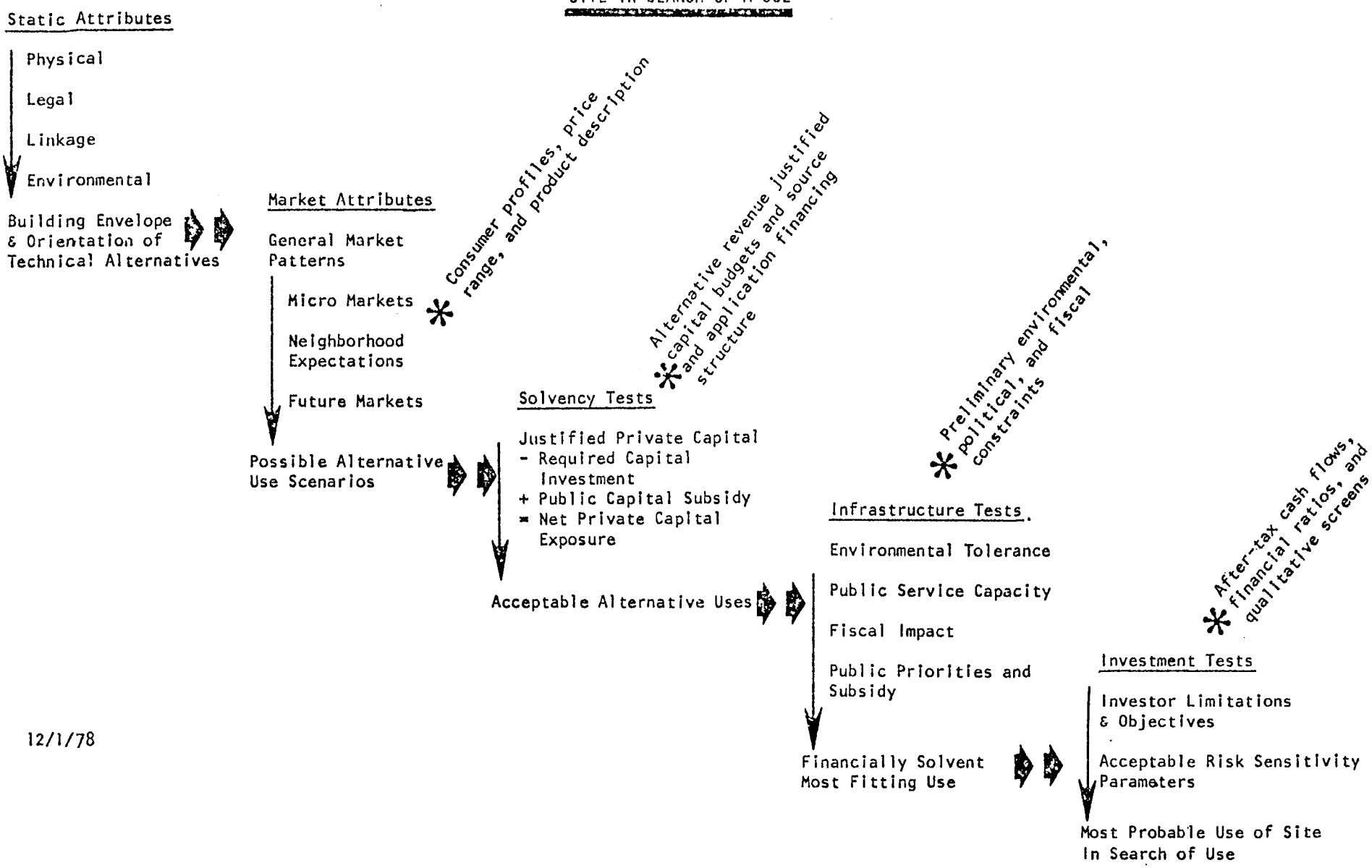
2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

EXHIBIT 14

SITE IN SEARCH OF A USE



12/1/78

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by alderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered non-conforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio--housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation--smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 15

a. Impact on supply/demand equilibrium
b. Stamina of project sponsor in the face of public pressure
c. Vulnerability of potential project buyers to secondary political pressures and counter attack
d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital are provided in Cases 1, 2, and 3.

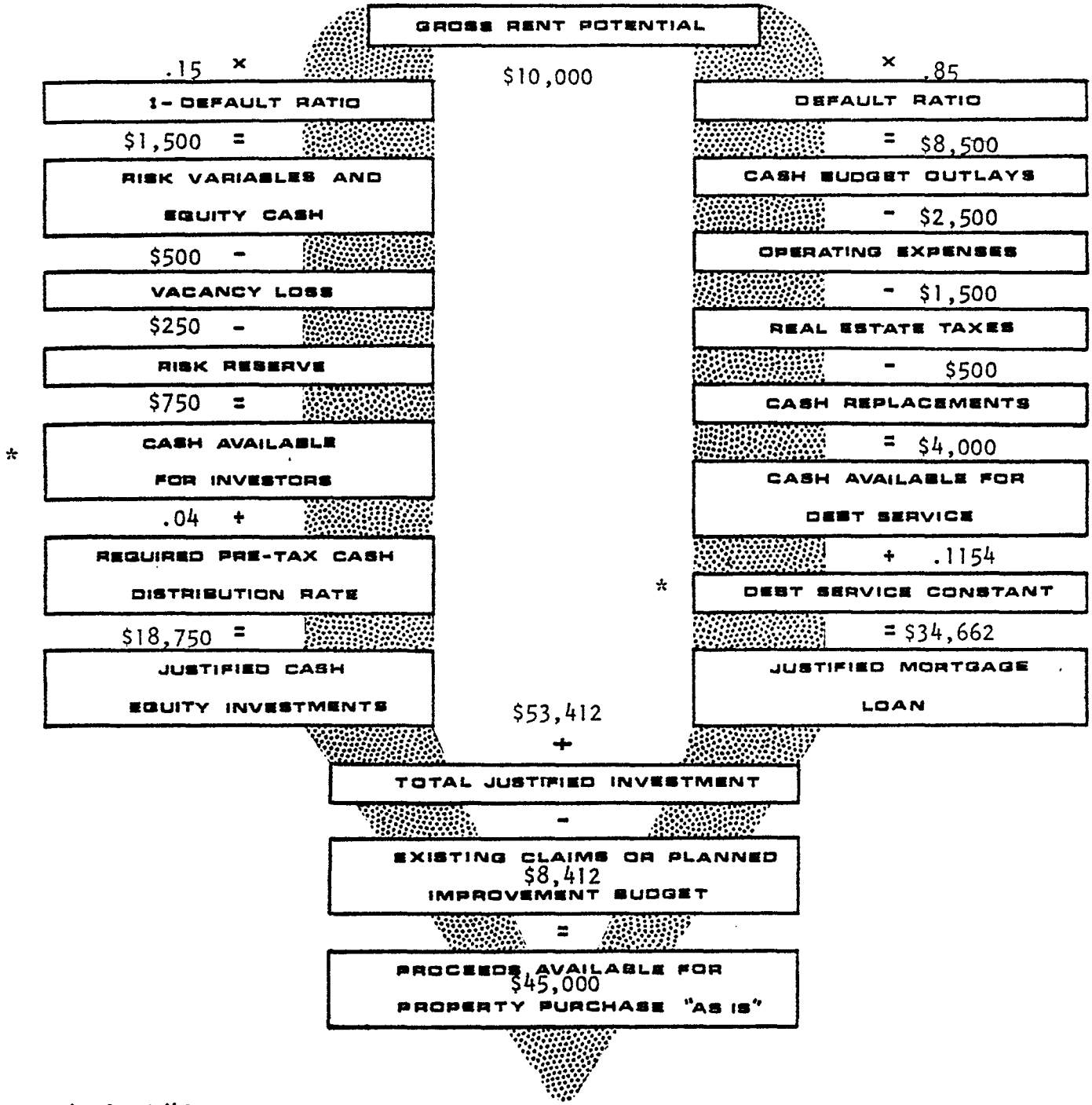
M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 15.

1. Note that Exhibit 15 integrates the basic elements of preliminary feasibility analysis.

2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

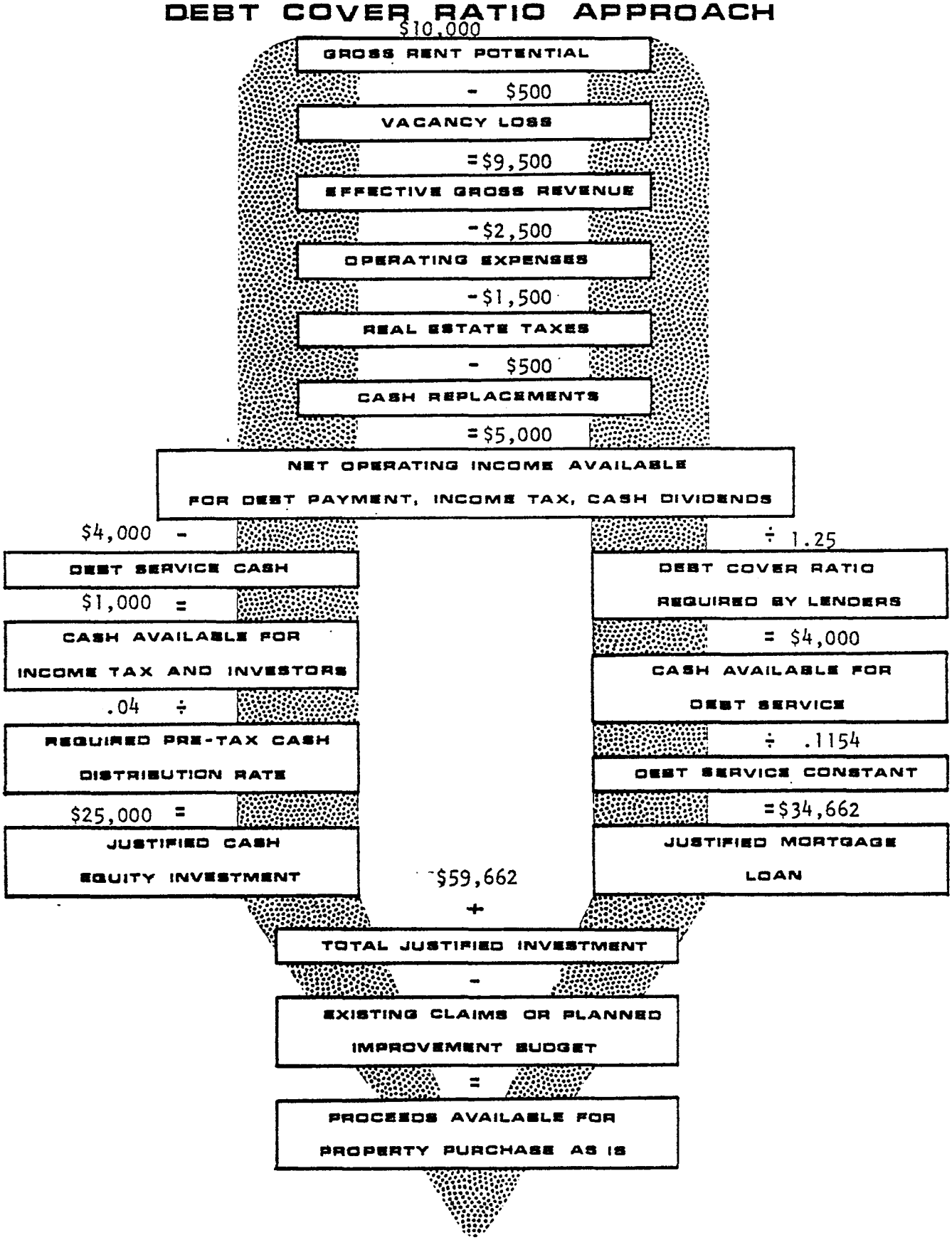
CASE I

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH



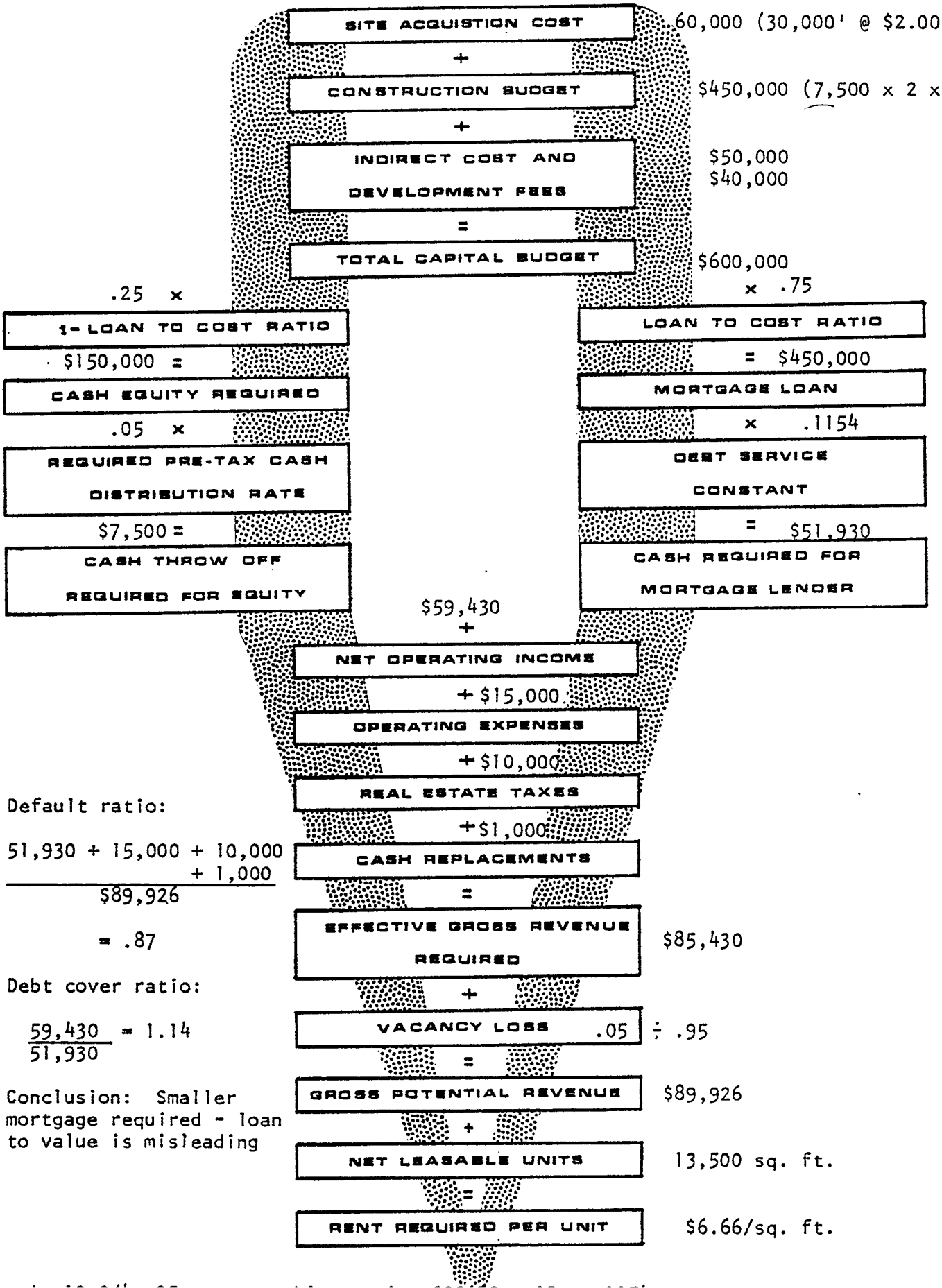
* 10 3/4% 25 year monthly pay is .009620 x 12 = .1154
9% 25 year monthly pay is .008391 x 12 = .1006
or a $40,000 justified loan

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



* *Note that a full $1,000 is distributed to investors rather than the $750 in Case*

REVENUE REQUIRED BY CAPITAL BUDGET LOAN TO COST RATIO APPROACH



Default ratio:

$$\frac{51,930 + 15,000 + 10,000 + 1,000}{\$89,926}$$

$$= .87$$

Debt cover ratio:

$$\frac{59,430}{51,930} = 1.14$$

Conclusion: Smaller mortgage required - loan to value is misleading

VII. Preliminary financial analysis begins with a variety of ratios which are intended to reveal the tolerance of the project for variance in key assumptions, the ability absorb surprise, as well as dynamic risk. These ratios become the objective of further refinement through sensitivity analysis. Among the important ratios we have used so far are:

1. Absorption rate:

$$\frac{\text{Units sold or leased per period}}{\text{Total supply of units available for sale or lease}} = \text{Absorption rate}$$

2. Capture rate:

$$\frac{\text{Units in specific project sold or leased per period}}{\text{Total competitive units sold or leased per period}} = \text{Capture rate}$$

3. Vacancy ratio:

$$\frac{\text{Space unit} \times \#\text{ of units} \times \text{rental payment periods per year} \times \text{turnover rate} \times \text{rental payments lost} \times \text{rent}}{\#\text{ of units} \times \#\text{ of payments} \times \text{rent per period} = \text{(gross rent)}}$$

1-bedroom apartments x 20 x 50% turnover x 1 month lost 1 $200/mo.

$$\frac{20 \times 50\% \times 1 \times 200}{20 \times 12 \times 200}$$

$$\frac{2000}{48000} = \frac{1}{24} = 4.2\%$$

4. Expense ratio:

$$\frac{\text{Expenses}}{\text{Gross rent}}$$

5. Net income ratio:

$$\frac{\text{Net income}}{\text{Purchase price + additional costs}} = \text{Overall rate or cap rate (should be = to debt service constant or up to 2\% lower)}$$

6. Debt cover ratio:

$$\frac{\text{Net operating income}}{\text{Debt service}}$$

7. Default ratio:

$$\frac{\text{Operating expenses + real estate taxes + short term debt + interest + principal payments}}{\text{Gross rent}}$$

8. Loan to value ratio:

$$\frac{\text{Mortgage loan balance}}{\text{Purchase price}}$$

9. Cash on cash:

$$\frac{\text{Net income - debt service - reserves + refinancing surplus}}{\text{Total capital budget - original mortgage balance}}$$

IV. Understanding the basic ratios leads to manual or data processing of sensitivity ratios; it is important to remember that projecting specific returns is not a forecast for the future; it is intended to be a basis for measuring the tolerance of the financial parameters for variance from the initial assumptions and identifying the thresholds of insolvency or incompatibility with competitive markets. Refer to John Nabors model in Exhibit .

If project makes sense before tax, then it is useful to refine analysis for projections over time on an after tax basis.

1. Accounting tabs for after tax income (See Exhibit)
2. Accounting tabs for after tax sale proceeds (See Exhibit)
3. Basic pattern of after tax financial analysis requires a pattern of assumptions (See Exhibit)

After tax speandable cash ratios include:

1. Distributable cash from operations:

Cash throwoff
- income taxes
Cash from operations
- reserves
- repayment of working capital loans
= Distributable cash

2. Spendable cash attributable to real estate:

Distributable cash
+ tax savings to other income
+ surplus from refinancing
= Spendable cash

3. After tax sale proceeds:

+ return of working capital
+ liquidation of sinking funds
= cash reversion

4. Return on net worth B/4 tax:

$$\frac{\text{Cash throwoff + change in net worth}}{\text{Net worth at end of previous period}}$$

5. Return on net worth after tax:

$$\frac{\text{Spendable cash + (chnage in net worth - change in taxes on sale)}}{\text{Net worth at end of precious period - taxes on sale}}$$

6. Payback ratio:

$$\frac{\text{Cumulative spendable cash}}{\text{Original budget - original debt + amount of personal guarantees}}$$

Precise definition of cash returns is critical in the negotiation of participating loans and partnerships

1. Defining effective gross, net income or cash throwoff with a participation loan.

2. Defining base number in which general partner will share

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HANDBOOK: ORDER FORM

Now that you have had the opportunity to use and evaluate the Real Estate Financial Feasibility Analysis WORKBOOK, you may wish to explore more comprehensively the topic of Project INVESTMENT ANALYSIS. The Real Estate Financial Feasibility Analysis HANDBOOK has been written specifically to quickly and accurately present the steps necessary to complete a Project INVESTMENT ANALYSIS. This 200 page text has been written in the terminology that both a novice and practitioner can easily understand. The HANDBOOK is designed to compliment, reinforce, and elaborates on the COST-BENEFIT analysis systems presented in the WORKBOOK. In addition, a comprehensive index, glossary, and set of compound interest tables are provided for reference. Topics presented in the HANDBOOK include:

1. PROCESS INTRODUCTION:
   - The Real Estate Development System
   - The Feasibility Analysis Process
   - The Analysis Framework
   - The Project Cost-Benefit Analysis Process
   - Market Justified Cost-Benefit Analysis
   - Project Solvency & Financing Justified Cost-Benefit Analysis
   - The Transition
   - Cash Flow Analysis
   - Investment Value Analysis

2. THE OPERATING INCOME STATEMENT:
   - Real Estate Market Analysis
   - Revenue Generation
   - The Lease Commitment
   - Operating Expenses

3. INCOME CAPITALIZATION:
   - Capitalization in Perpetuity
   - Investment Value
   - Compound Interest
   - Determination of the Discount Rate
   - Standard Compound Interest Factors

4. THE CAPITAL BUDGET:
   - The Procurement Process
   - Capital Cost Components
   - Interim Financing
   - Life Cycle Cost Analysis
   - Total Present Value Cost Approach
   - Equivalent Uniform Annual Cost Approach

5. THE MORTGAGE-EQUITY FINANCING PACKAGE:
   - Straight Term Mortgage
   - Chattel Mortgage
   - Amortized Mortgage
   - Refinancing Surplus
   - Mortgage Debt Service
   - Mortgage Constant
   - Equity
   - Leverage

6. BEFORE AND AFTER TAX CASH FLOWS:
   - Cash Throw-off
   - Taxable Income Deductions
   - Income Tax Liability
   - Cash from Operations
   - Working Capital Loan
   - Distrbutive Cash After Taxes
   - Tax Savings on other Taxable Income
   - Refinancing Surplus
   - Spendable Cash After Taxes

7. PROCEEDS FROM RESALE & TOTAL INVESTMENT VALUE:
   - Resale Price
   - Reversion
   - Taxes Due at Time of Sale
   - Capital Gain Tax
   - Total Investment Value

8. EVALUATION OF INVESTMENT PERFORMANCE:
   - Before Tax Ratio Analysis
   - Default Point
   - Before and After Tax Equity Payback
   - Rate of Return Indicators
   - Investor Preference for Return Measures
   - Sensitivity Analysis

9. APPENDIX:
   - Cost Benefit Worksheets
   - After Tax Equity Investment Value - Problems 1 & 2
   - Compound Interest Tables
   - Glossary
   - Index
   - Sources

ORDER FORM ON REVERSE SIDE

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_____ Copies of the Real Estate Financial Feasibility Analysis HANDBOOK: _____

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_____ Copies of the Real Estate Financial Feasibility Analysis WORKBOOK: _____

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Post Office Box 194
Blacksburg, Virginia 24060

LEGEND: EVALUATION OF PROJECT COST AND OPERATIONS DATA MANUAL SUITABILITY

LEGEND

	RECOMMENDED:	COMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information which can be utilized to best advantage in the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	COMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual provides comprehensive information organized into categories which can not be successfully intergrated into the format of the decision models under consideration.
	RECOMMENDED WITH RESERVATIONS:	INCOMPLETE DATA CONTENT WHICH HAS A STRONG FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; but the data categories included can be satisfactorily utilized in the format of the decision models under consideration.
	NOT RECOMMENDED:	INCOMPLETE DATA CONTENT WHICH HAS A WEAK FIT TO THE FORMAT OF THE MODELS. The data manual does not include all the necessary information required by the decision models; and the data categories included can not be successfully intergrated into the format of the decision models under consideration.

APPENDIX TABLE OF CONTENTS

Comparison of PROJECT COST DATA MANUALS: X. 2 - 3

- Boeckh Building Cost Guide: Commercial
- Boeckh Building Cost Guide: Light Industrial
- Boeckh Building Valuation Manual, Second Edition
- Dodge Building Cost Calculator and Valuation Guide
- Dodge Digest of Building Cost and Specifications
- Dodge Construction Systems Costs
- Dodge Manual for Building Construction , Pricing and Scheduling

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 4 - 5

- Marshall Valuation Service
- Residential Cost Handbook
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
- Current Construction Costs

Comparison of PROJECT COST DATA MANUALS: (cont.) X. 6 - 7

- Dollars and Cents of Shopping Centers
- Building Cost File Unit Prices
- Design Cost File
- Engleman's General Construction Cost Guide
- Real Estate Valuation Cost Guide
- Residential Cost Manual

Comparison of PROJECT OPERATIONS DATA MANUALS X. 8 - 9

- Downtown and Suburban Office Building Experience Exchange Report
- Income/Expense Analysis: Apartments
- Expense Analysis: Condominiums, Cooperatives, and Planned Unit Developments
- Income/Expense Analysis: Suburban Office Buildings
- Dollars and Cents of Shopping Centers

Evaluation of PROJECT COST DATA MANUAL Suitability X. 10-11

- Boeckh Building Valuation Manual
- Boeckh Building Cost Guide: Commercial
- Dodge Building Cost Calculator and Valuation Guide
- Dodge Construction Systems Cost Guide
- Dodge Digest of Building Costs and Specifications
- Residential Cost Handbook
- Marshall Valuation Service
- Means Building Construction Cost Data
- Means Building Systems Cost Guide
- Dollars and Cents of Shopping Centers
- Real Estate Valuation Cost File

Evaluation of PROJECT OPERATIONS DATA MANUAL Suitability X. 12-13

- Downtown and Suburban Office Building Experience Exchange Report
- Income/Expense Analysis: Apartments

Evaluation of PROJECT OPERATIONS DATA MANUAL Suitability X. 14-15

- Income/Expense Analysis: Suburban Office Buildings
- Dollars and Cents of Shopping Centers

SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method				Uses			
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq. Ft. + Cu.Ft.	Unit (Component System)-In-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
BOECKH BUILDING COST GUIDE: COMMERCIAL	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$18.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	Yes (1a)
BOECKH BUILDING COST GUIDE: LIGHT INDUSTRIAL	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$15.00	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No (2a)
BOECKH BUILDING VALUATION MANUAL SECOND ED.	E.H.Boeckh Company American Appraisal Associates, Inc. 615 E.Michigan St. Milwaukee, Wisc. 53201	$88.00 Includes quarterly up dating of time-location multipliers	$52.00 Also includes quarterly Up-dating	Yes	Yes (3a)	No	Yes	Yes	Yes	No	Yes
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$82.00 Includes three quarterly supplements	$62.00 Also includes quarterly materials	Yes	No (4a)	No	Yes	Yes	No (4a)	No	Yes (4b)
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$122.00 Includes semi-annual supplement	$92.00 Also includes supplement	Yes	No	No	No	Yes	No	No	Yes (5a)
DODGE CONSTRUCTION SYSTEMS COSTS	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americas New York, N.Y. 10020	$39.80	New Edition Published Annually	Yes	Yes (6a)	No	No	Yes	Yes	Yes (6b)	Yes
DODGE MANUAL FOR BUILDING CONSTRUCTION PRICING AND SCHEDULING	Dodge Building Cost Services McGraw-Hill Information Systems Company 1221 Avenue of the Americans New York, N.Y. 10020	$28.80	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (7a)

PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No	Yes (1b)	Yes	No	No	Yes	No	1a. Comparative unit costs are segregated for air-conditioning, fire protection, & elevators only. 1b. A 5% cost for contingencies is included.
No	No	Yes (2b)	Yes	No	No	Yes	No	2a. Comparative unit (sq.ft.) costs are given for air conditioning, fire protection, and elevators only. 2b. A 5% cost for contingencies is included.
No (3b)	No (3c)	Yes (3d)	No (3e)	No	No	Yes	Yes	3a. Unit-in-place costs are given for walls, foundations, framing, floors, floor finish, roof, ceiling finish, partitions, plumbing, HVAC, electrical, fire protection & a large number of miscellaneous equipment and improvements. 3b. Criteria for land valuation is given, but no cost figures are included. 3c. Sitework costs are given for some site improvements. 3d. A 5% cost for contingencies is included. 3e. A separate schedule of architect fees based upon project cost is given.
No	No (4c)	Yes/ No (4d)	Yes	No	No	Yes	Yes	4a. Unit-in-place costs are given for a few selected miscellaneous items only. 4b. Component depreciation can be calculated from building systems costs given in case histories. 4c. Sitework costs are included in case histories only. 4d. Builder's profit is not included in cost figures; only builder's administrative overhead & supervision.
No	No (5b)	Yes	No	No	No	Yes	Yes	5a. Comparative unit costs (sq.ft.) are given for structure, plumbing, HVAC, electrical and miscellaneous categories only. Comparative unit costs (sq.ft.) are also given by building sytems in 12 case histories 5b. Segregated sitework costs are included in the case histories only.
No	No (6c)	Yes	No	No	Yes (6d)	Yes	No	6a. Unit-in-Place (systems) costs are given for foundations, superstructures, exterior walls, roofing, partitions, interior wall finish, floor finish, ceilings only; other improvement costs taken from average costs table. 6b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 6c. Sitework costs are included in average cost section through 1978 edition. 6d. Labor/materials are segregated for unit-in-place (systems) costs only.
No	No (7b)	No	No	No	Yes	Yes	No	7a. Component depreciation could be calculated from a detailed quantity survey. 7b. Quantity survey sitework costs are included for drainage, utilities, paving & surfacing, landscaping, and site improvements.

SOURCES				CONTENT ORGANIZATION — DESCRIPTION OF COST DATA — Method				Uses			
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq. ft. + Cu.Ft.	Unit (Component System)-in-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
MARSHALL VALUATION SERVICE	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$75.00 Includes monthly supplement	$65.00 Also includes monthly supplement	Yes	Yes (8a)	No	Yes	Yes	Yes	No	Yes
RESIDENTIAL COST HANDBOOK	Marshall & Swift Publication Co. 1617 Beverly Blvd. Los Angeles, California 90026	$33.00 Includes quarterly supplement & up-date services	$29.00 Includes quarterly supplement & up-date services	Yes	Yes (9a)	No	Yes	Yes	Yes	No	Yes
BUILDING CONSTRUCTION COST DATA	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$22.50	New Edition Annually	Yes	No (10a)	Yes	No	Yes (10b)	No	Yes	Yes (10c)
BUILDING SYSTEMS COST GUIDE	Robert Snow Means Company, Inc. Construction Consultants and Publishers 100 Construction Plaza Duxbury, Mass. 02332	$27.50	New Edition Annually	Yes	Yes	No	No	Yes	Yes	Yes (11a)	Yes (11b)
CURRENT CONSTRUCTION COSTS	Lee Saylor, Inc. Consulting Cost Engineers 1855 Olympic Blvd., Suite 110 Walnut Creek, California 94596	$23.95	New Edition Annually	No	No	Yes	No	No	No	Yes (12a)	Yes (12b)

PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
No	No (8b)	Yes	Yes (8c)	Yes (8d)	No	Yes	Yes	8a. Unit-in-place costs are given for foundations, framing, floors, interior construction, HVAC, electrical, plumbing, fire protection, roofs, walls, refrigeration, conveyances and miscellaneous equipment. 8b. Sitework costs are given for some site improvements. 8c. Architect's fees are included in compartive units costs (calculator method),but are not included in unit-in-place (segregated cost method) costs. A schedule of architect's fees based upon project cost is given. 8d. Included in construction costs are construction financing costs except for discounts & bonuses paid for financing.
No	No (9b)	Yes	Yes (9c)	Yes (9d)	No	Yes	Yes	9a. Unit-in-place (components)costs are given for roofs, walls, HVAC, ceilings, floors,electrical, plumbing, & fireplaces. 9b. Sitework costs are given for some street, utility, and yard improvements. 9c. Architect's fees are included in comparative unit costs, but are not included in component or unit-in-place costs. A schedule of architect's fees based upon project quality is given. 9d. Included in construction costs are construction financing costs except for discounts and bonuses paid for financing.
No	No (10d)	Yes (10e)	No (10f)	No	Yes (10g)	Yes	Yes (10h)	10a. Selected building components are categorized by trades, with costs given in comparative unit cost section. 10b. Use comparative unit cost section (sq.ft. and cubic ft.building costs)for quick estimates. 10c. Component depreciation could be calculated from a detailed quantity survey. 10d. Quantity survey sitework costs are included for drainage,utilities,roads,walks,fences,playgrounds, fountains,athletic facilites, and landscaping. Segregated sitework costs are given for some building types in comparative unit cost section. 10e. Builder's (general contractor) overhead & profit must be added to quantity survey costs; comparative unit costs include builder's overhead & profit. A schedule is included for builder's overhead & profit as % of project cost. 10f. A schedule of architect's & engineer's fees as % of project cost is given in the manual. 10g. Labor/material costs are segregated in the quantity survey section only. 10h. Historical cost indexes are included to determine quarterly construction cost changes.
No	No (11c)	No	No (11d)	No	No (11e)	Yes	Yes (11f)	11a. An estimate based on detailed assembly cost would be less detailed than a complete quantity survey based estimate. 11b. Component depreciation figures can be compiled from costs given in systems section. In comparative unit cost section, selected building component costs are segregated. 11c. Sitework systems costs are given for roads, parking lots,utilities. Segregated sitework costs are given for some building types in comparative unit cost section. 11d. A schedule of architect's fees is given as a % of project cost by building type in manual. 11e. Installation costs are segregated from material costs for some systems,ie.walls,doors & windows. 11f. Historical cost indexes are included to determine quarterly construction cost changes.
No	Yes (12c)	Yes	No (12d)	No	Yes	Yes	Yes	12a. Where a trade requires several types of materials to make a final item (ie. paving) in-place costs as well as detailed breakdown of costs are included. 12b. Component depreciation could be calculated from a detailed quantity survey. 12c. Quantity survey sitework costs are included for utilities, drainage, paving, sidewalks,landscaping, fencing, and athletic facilities. 12d. On-site construction permits are included in a separate section titled General Conditions.

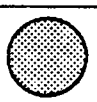
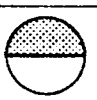
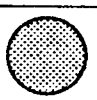
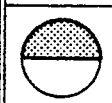
SOURCES				CONTENT ORGANIZATION							
				DESCRIPTION OF COST DATA							
				Method				Uses			
NAME OF DATA SOURCE	Publisher's Address	Initial Cost 1st Year	Frequency of Publication	Comparative Unit Sq.Ft. + Cu.Ft.	Unit (Component System)-In-Place	Quantity Survey	Valuation	Initial Estimate	Intermediate Estimate	Detailed Estimate	Calculation of Component Depreciation
DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th St, N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Yes	No	No	No	Yes	No	No	No
BUILDING COST FILE UNIT PRICES 4 editions available: Eastern, Central Southern, Western	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$25.95	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (14a)
DESIGN COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	No	Yes	No	No	No (15a)	Yes	Yes (15b)	Yes (15c)
ENGELSMAN'S GENERAL CONSTRUCTION COST GUIDE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$27.50	New Edition Published Annually	No	No	Yes	No	No	No	Yes	Yes (16a)
REAL ESTATE VALUATION COST FILE	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$29.95	New Edition Published Annually	Yes	No	No	Yes	Yes	No	No	No
RESIDENTIAL COST MANUAL	Van Nostrand Reinhold Company 135 West 50th St. New York, N.Y. 10020 To order: 7625 Empire Drive Florence, Kentucky 41042	$28.95	New Edition Published Annually	Yes (18a)	No	Yes	Yes (18a)	No	No	Yes	Yes (18b)

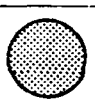
PROJECT ITEMS INCLUDED IN COST DATA						ADJUSTMENTS		SELECTED SPECIAL FEATURES
Land Costs	Sitework	General Contractor Overhead & Profit	Architect/Engineer Fee	Construction Financing Costs	Labor Cost Segregated From Material Costs	Location Modifier	Time Modifier	
Yes	Yes (13a)	Yes	Yes	Yes	No	No	No	13a. The site improvement cost includes both on-site and off-site improvements.
No	No (14b)	No	No	No	Yes	Yes	No	14a. Component depreciation could be calculated from a detailed quantity survey. 14b. Quantity survey sitework costs are given for drainage, utilities, paving, surfacing, fencing, athletic facilities, retaining walls, and landscaping.
No	No	No	No	No	No	Yes	No	15a. An initial estimate can be made by summing system costs if the building design & systems are well defined. 15b. An estimate based on detailed assembly costs would be less detailed than a complete quantity survey based estimate. 15c. Component depreciation could be calculated from detailed building system costs.
No	No (16b)	No	No	No	Yes	Yes	Yes	16a. Component depreciation could be calculated from a detailed quantity survey. 16b. Quantity survey sitework costs are given for drainage, utilities, paving, athelitic facilities, paving, fencing, and landscaping.
No	No (17a)	Yes	Yes	No	No	Yes	No	17a. In Miscellaneous Cost Items section, comparative unit sitework costs are given for athelic facilities, parking, fencing, landscaping, incinerators, paving, and retaining walls.
No	Yes	No (18c)	No (18d)	No	Yes	Yes	No	18a. Part 3: Valuation Section includes comparative unit costs for houses and apartments which are adjusted by shape, height, and size factors. 18b. Component depreciation could be calculated from a detailed quantity survey. 18c. General overhead items are included in a seperate schedule for reference. 18d. Architect's and engineer's fees are included as part of general overhead.

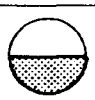
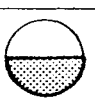
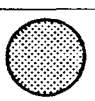
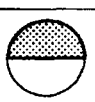
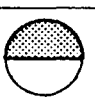
SOURCES						
NAME OF DATA SOURCE	Publishers' Address	Initial Cost 1st Year	Frequency of Publication	Income Categories	Expense Categories	Statistics Used (Median, Range, Average)
DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Building Owners and Managers Association International 1221 Massachusetts Avenue, N.W. Washington, D.C. 20005	$95.00	New Edition Published Annually	Office Store Storage Special	Variable Operating Fixed Operating Tenant Improvement Allowance Leasing Expense Depreciation	Average
INCOME/EXPENSE ANALYSIS APARTMENTS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$45.00	New Edition Published Annually	Apartments Garage/Parking Store/Office	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Amenities	Median & Range
EXPENSE ANALYSIS CONDOMINIUMS, COOPERATIVES, AND PLANNED UNIT DEVELOPMENT	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$20.00	New Edition Published Annually	None	Administrative Utilities Building Services Maintenance R.E. Taxes Insurance Leased Recrational Facilities	Median & Range
INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Institute of Real Estate Management 430 North Michigan Chicago, Illinois 60611	$30.00	New Edition Published Annually.	Office Storage Retail Parking Escalator Clauses	Administrative Maintenance Utilities R.E. Taxes Insurance	Median & Range
THE DOLLAR AND CENTS OF SHOPPING CENTERS	Urban Land Institute 1200 18th, N.W. Washington, D.C. 20036	$49.25	New Edition Published Every Three Years	Base Rent Overage Common Area Charges	Maintenance Central Utility System Advertising & Promotion R.E. Taxes Insurance Administrative Depreciation Debt Service	Median & Deciles

CONTENT ORGANIZATION									SELECTED SPECIAL FEATURES
Occupancy Data	Vacancy Trend & Analysis	Type of Development	Size in Square Feet	Location Categories	Age of Building	Rental or Price Range	Number of Stories	City Size	
Yes	Detailed 1973-77 compared by several attributes ..... National Values	Offices Downtown Suburban including Government & Medical	Yes	City Region Nation	Yes	None	Yes	Yes	1. Economic analysis of office building industry. 2. Operating cost breakdown by region, size, age & height for suburban & downtown offices. 3. Energy analysis for downtown, suburban, & government offices by size, age, region, age, and height. 4. Data summary & operating ratios by organizational category.
Yes	Detailed 1974-77 by building type ..... National Values	Apartments Lo-Rise 12-24 units Lo-Rise 25+ units Elevator Garden Unfurnished Furnished	No	City Metropolitan Area Region Nation	Yes	Rental Range	No	No	1. Graphic summary of income & expenses by development type. 2. Tenant turnover rates by development type. 3. Summary of distribution of income & expenses by building type expressed in dollars per room & percentage of gross income.
No	No	Condominiums Cooperatives Planned Unit Developments	No	Metropolitan Area Region	Yes	Price Range	No	No	1. Kinds of amenities furnished by owners association. 2. Breakdown of utility expenses between unit and owners' association by unit price range and building age.
Yes	1976 & 1977 by regions ..... Regional Values	Offices Suburban	Yes	Metropolitan Area Region Nation	Yes	Rental Range	Yes	No	1. Energy analysis for suburban offices by region and age. 2. Data summary & operating ratios by organizational category. 3. National & regional graphic summary of income, expenses, & total actual collections.
No	1975 & 1978 by shopping center type ..... National Values	Shopping Centers Super regional Regional Community Neighborhood	Yes	Region Nation	Yes	Yes	No	No	1. Tenant space needs, base rent, sales, & common area charges for 120 types of tenants in each center type. 2. Center operating receipts, expenses, & net operating income as a % of capital costs. 3. Energy sales & distribution methods by center type. 4. Analysis of Operations of enclosed & non-enclosed malls. 5. Analysis of capital costs by center type.

Legend: Refer to Page X.1

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	COMPARATIVE COSTS - analyzed on the basis of: BUILDING TYPE & SIZE
BOECKH BUILDING VALUATION MANUAL	Apartmt. Office Retail		The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
BOECKH COMMERCIAL BUILDING COST GUIDE	Apartmt. Office Retail		The data requires design decisions on building exterior and ground floor area to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE BUILDING COST CALCULATOR AND VALUATION GUIDE	Apartmt. Office Retail		A limited selection of hisorical case studies are included for each building category which could prove helpful in identifying initial project costs. The data requires design decision on building exterior and quality class to select appropriate cost figures. The data applies to intermediate project analysis.
DODGE CONSTRUCTION SYSTEMS COST GUIDE	Apartmt. Office Retail		The average building cost section provides a range of construction costs for various project types.
DODGE DIGEST OF BUILDING COSTS AND SPECIFICATIONS	Apartmt. Office Retail Shop.Cntr.		Data requires initial design decisions before comparison with specific case study references. The data applies to intermediate project analysis.
RESIDENTIAL COST HANDBOOK	Apartmt.		The data requires design decisions on building type, size, and quality to select appropriate cost figures. The data applies to intermediate project analysis.
MARSHALL VALUATION SERVICE	Apartmt. Office Retail		The Cost Calculator Method data requires design decisions on building type and quality to select appropriate cost figures.
MEANS BUILDING CONSTRUCTION COST DATA	Apartmt. Office Retail		Section 17 can be very useful for developing initial cost estimates for particular property types.
MEANS BUILDING SYSTEM COST GUIDE	Apartmt. Office Retail		Section 14 can be very useful for developing initial cost estimates for particular property types
DOLLARS AND CENTS OF SHOPPING CENTERS	Shop.Cntr.		A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This manual provides complete project cost data which can be directly used in the Project-to-Building Ratio.
REAL ESTATE VALUATION COST FILE	Apartmt. Office Retail		The data applies to intermediate project analysis. The data requires design decisions on building types, size, and quality to select appropriate cost figures.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	- COMPONENT DESCRIPTION AND QUALITY FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, AND QUALITY
	The data is presented in a form which includes building component descriptions and costs for specific designs. The comprehensive design and cost data is best applied in advanced project analysis.
	The data scope is limited because building quality is indicated only by exterior facade and ground floor area. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data allows strong quality typing by exterior facade and quality class description.
	In the Average Building Cost Section, the data includes construction cost ranges that are not related to quality distinctions. The data is most suitable for use in project analysis.
	Data is presented from actual construction contracts for quick reference to similar jobs and specific locations. No definition of building quality is included with case study costs.
	The data allows strong quality typing by floor area and quality class description.
	The cost calculator method data is categorized by structural type and quality characteristics which makes it very appropriate for the intermediate analysis. The segregated cost method requires too many detailed design decisions to be appropriate for the intermediate project analysis models.
	The cost ranges identified in section 17 are not related to quality distinctions. The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in section 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The data allows strong quality typing by component description and quality classification. The data applies to intermediate project analysis.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	INTER CHANGEABLE COMPONENTS & DESIGN FACTORS - analyzed on the basis of: BUILDING TYPE, SIZE, QUALITY, & ALTERNATIVE COMPONENTS/SYSTEMS
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This comprehensive design and cost data best meets the needs of the advanced project analysis models.
	No alternative building components other than building facades are included. The building cost/sq.ft. of ground floor area must be converted to cost/sq.ft. of gross building area when a multi-story building is being analyzed.
	The data includes limited alternative component adjustments for selected items. The data applies to intermediate project analysis.
	The systems data is appropriate for estimating alternative components with the exception of HVAC. The data is most suitable for use in initial project analysis.
	Alternative building component decisions are difficult to establish from comparable based case studies. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. The data applies to intermediate project analysis.
	The segregated cost data allows estimates to be made with a consideration of specific design and cost trade offs. This data best meets the needs of the advanced project analysis models.
	The quantity survey data is so design specific in sections 1-16 that it exceeds the scope of the intermediate and advanced project analysis models.
	The unit-in-place data is so design specific in sections 1-12 that it exceeds the scope of the intermediate and advanced project analysis models.
	A range of average building and project cost data, for different shopping center size categories, appropriate only for the initial project analysis. This operations data manual provides only introductory cost data.
	The components are arranged into building quality classes and are not individually estimated. This makes the data inappropriate for advanced project analysis.

APPENDIX: Legend: Refer to Page X.1 X, 12



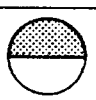
NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
BOMA DOWNTOWN AND SUBURBAN OFFICE BUILDING EXPERIENCE EXCHANGE REPORT	Office Limited Retail		Average Revenue Data (collected during previous calendar year) is provided for selected downtown and suburban metropolitan areas. Revenue data, in the Downtown and Suburban statistical tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area(office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate rental data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. Revenue data should be considered only as an advisory number useful in initiating the first project analysis.
IREM INCOME/EXPENSE ANALYSIS APARTMENTS	Apartmt.		Median revenue data (as well as low and high quartile ranges for large sample sizes) are provided for selected metropolitan areas, regions, and age group; as well as organized by furnished and unfurnished apartment buildings. Data is presented for elevator, low rise 12-24 units, low rise 25 or more units, and garden type buildings. The total number of apartment buildings and their cummulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for particular metropolitan areas. Revenue data should be considered only as an advisory number useful in inetating the first project analysis.



B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS

SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Survey of Office Space Occupancy" is collected from a larger sample of buildings than the downtown and suburban statistical tables. The "Office Space Occupancy" survey provides more reliable indications of vacancy than those found in the data charts organized by city, city size, building size, age, and story height. The expense line items are averages that should be analyzed individually and adjusted for local market conditions. The summing of all average expense items without adjustment will generate an inflated project operating expense statement. Expense data, in the Downtown and Suburban Statistical Tables, is organized by building size, age, story height, and city size. All data is presented in cents per square foot of total rentable area (office and retail space), total rentable office area, and actually rented office area. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the "Office Total" (total rentable office area) column. The total number of buildings and their cumulative square feet of rentable area, included in the statistical tables, are important items to note in determining the usefulness of the data for a particular metropolitan area. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply /demand forces, current lease terms, or particular project management strategies.
	The vacancy data included in the "Trend Analysis" section provides an indication of vacancy nationwide by building type. The vacancy data found in the metropolitan statistical tables are samples from selected metropolitan areas. Careful attention should be given to sample size and the number of apartment buildings, apartment units, and rentable square feet before making a judgement about apartment vacancy in a specific metropolitan area. Current, locally collected data for compettitve rental space should be used in the intermediate models when possible. The expense line items are medians, (with low and high quartile ranges for large sample sizes) atated as a percentage of Gross Possible Income and in dollars per square foot of rentable area. This data should be adjusted for lacal market conditions. The summing of all expense items vertically without adjustment will generate an inflated project operating expense statement. Be aware that expenses are listed as a percentage of Gross Possible Income. This income includes miscellaneous revenue from garage/parking and store/offices rental. If the proposed project is exclusively rental apartment space, then expenses as a percentage of Gross Possible Income must be adjusted to a Rent-Apartments. This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/demand forces, current lease terms, or particular project management strategies.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS

SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATION EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indications of local market supply/ demand forces, current lease terms, or particular project management strategies.
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data. The size and character of the manual survey sample may give incomplete indication of local market supply/ demand forces, current lease terms, or particular project management strategies.

Legend: Refer to Page X.1

NAME OF DATA SOURCE	PROJECT DEVELOPMENT CATEGORY	A - DECISION MODELS: INITIAL PROJECT ANALYSIS	
		SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET REVENUE AND SPACE ALLOCATION
IREM INCOME/EXPENSE ANALYSIS SUBURBAN OFFICE BUILDINGS	Office		Revenue is presented in dollars per square feet of Gross Area of Building, Gross Rentable Office Area, and Net Rentable Office Area. The appropriate revenue data used in the initial models depends on whether floor areas are to be leased by single or multiple tenants. Median revenue data (and low and high quartile ranges for large sample sizes) is provided for selected suburban metropolitan areas and regions according to building size, age group, rental range, and building type. Revenue data appropriate for the initial project analysis is found under the heading "Income" for the "Offices" line item. Miscellaneous income would be excluded when project design calls for exclusive office rental space. Revenue data should be considered only as an advisory number useful as a starting point for the initial project analysis.
ULI DOLLARS & CENTS OF SHOPPING CENTERS	Shopping Centers		Revenue data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The revenue data is presented by dollars per square foot of "Gross Leaseable Area" and as a "Percentage of Total Receipts." The revenue data is reported as medians with lower and upper deciles. All data is presented in dollars per square foot of Gross Leasable Area which includes all areas leased by the center owner. (including department stores owned by the center) "Total Operating Receipts" is the appropriate revenue data to use in the initial project analysis model. It is found in the statistical tables by shopping center type, age, and region. Revenue data from the "Operating Results" table should be considered only as an advisory number useful as a starting point for the initial project analysis. In more advanced analysis models, particular tenant composition and the resulting rent structure will give a more accurate indication of possible revenues for the proposed project.

B - DECISION MODELS: INTERMEDIATE PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE ESTIMATES
	The vacancy data included in the "Trend Analysis" section provides an indication of suburban office building vacancy nationwide for the year. The vacancy data found in the suburban metropolitan statistical tables is reported as of December 31, of preceeding year. Careful attention should be given to sample size and the number of office buildings and their cumulative square feet of rentable area before making a judgement about office building vacancy in the particular suburban metropolitan area. Current local collected vacancy data for competitive rentable space should be used in the intermediate models when possible. If the proposed project is exclusively rental office space, then select appropriate operating expense data from the Gross Rentable Office Area or Net Rentable Office area The total number of buildings and their cumulative square feet of rentable area included in the statistical tables are important items to note in determining the usefulness of the data for a particular suburban metropolitan area.
	Operating expense data (collected every third year) is provided for neighborhood, community, regional, and super regional shopping centers. The expense data is presented by dollars per square foot of "Gross Leasable Area" and as a 'Percentage of Total Receipts." The expense data is reported as medians, with lower and higher deciles. Vacancy data is not included as a segregated item. Tenant information is given for low and high total rent charges to facilitate estimation of tenant composition and the resulting rent structure for the proposed project in the intermediate analysis. The specific revenue and expense data for the four shopping center categories is summarized in the "Operating Results" tables. Data is analyzed by region and shopping center age groups.

C - DECISION MODELS: ADVANCED PROJECT ANALYSIS	
SUITABILITY FOR USE IN ANALYSIS Content/Fit	MARKET VACANCY AND OPERATING EXPENSE VERIFICATION
	This manual of historical operating expense data can be used to verify estimates of up-to-date local operating expense data for suburban office buildings. The size and character of the manual survey sample may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies.
	Debt service is included in the "Operating Results" tables. This data is inaporopiate for the advance project analysis models which generate their own annual debt service estimates for the project. "Detailed Tenant Information Tables", for different center categories, indicate the base rental rate, percentage (overage) rent, and common area charges that equal the total revenue expected per square foot of Gross Leaseable Area for each type of possible tenant. The frequency of occupancy and the median size of leased area for different tenants can be found in the "Summary of Tenant Information Tables". This manual of historical operating revenue and expense data can be used to verify estimates of up-to-date local shopping center revenue and expense data. The size and character of the manual may not give adequate indications of local market supply/demand forces, current lease terms, or particular project management strategies. (These factors are considered in the advanced project analysis process when tenant composition for the center has been tentatively identified.)

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INVESTMENT BULLETIN

April 24, 1981 No. 820

MORTGAGE COMMITMENTS ON MULTIFAMILY AND NONRESIDENTIAL PROPERTIES REPORTED BY 20 LIFE INSURANCE COMPANIES FOURTH QUARTER 1980 AND ANNUAL DATA

Reporting companies account for 67% of nonfarm mortgages and 61% of total assets held by U. S. life insurance companies.

The attached tables provide the results for the fourth quarter of 1980 from the survey of mortgage commitments made on income properties by 20 life insurance companies. Annual data appear in Table 1, Table 4, Table A, Table B, and Table L.

Flexible lending terms continued to be emphasized in commitments made in the fourth quarter of 1980. Loans with provision for income or equity participation, renegotiable rates, maturities of 10 years or less, or a lender's call option accounted for nearly 90% of fourth-quarter commitments. (The ratio reflects adjustments to eliminate double-counting of loans with more than one feature.)

As shown in Table 3, loans with provision for income/equity returns or renegotiable rates accounted for 53% of the number and 75% of the amount committed in the final quarter of 1980, even larger shares than in the preceding quarter (see Investment Bulletin No. 818). Loans with final maturities of 10 years or less again represented some 30% of the number of loans, in contrast with a scant 5% share in the final quarter of 1979. With this emphasis on variable returns and shorter maturities, use of a lender's call option occurred less frequently than was found in 1979 commitments, but the option was exercisable much sooner in loan life than prevailed a year earlier (Table E and comparable earlier tables).

For the first time in these surveys, information is included on nonrefundable fees received in connection with some loan commitments (see footnotes to Table 3, Table D, and Table M). Such fees, which have long been utilized by some lenders, are at times associated with a lower contract rate than otherwise would have been required. The presence of nonrefundable fees and other yield-affecting features are important to any assessment of contract rates. The surveys, however, do not attempt to measure potential yields of the reported commitments, in part because the yield is highly uncertain. Moreover, some commitments may not be funded or may be funded at terms different from those set at commitment.

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Table L

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Property Type, Year 1980

Property Type	No. of Loans	Amount Committed ($000)	Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Term (Years/Months)	Percentage Distribution by loan amount
Conventional Elevator Apartment	7	18,100	2,586	12.39%	12.53%	61.0%	10.1%	1.17	13.1%	14/3	0.4%
Conventional Nonelevator Apartment	21	91,145	4,340	12.52	12.55	74.4	11.8	1.25	13.0	13/7	2.2
Retail - less than 5 stores	9	20,102	2,234	12.76	12.80	72.7	11.6	1.25	13.2	18/2	0.5
Shopping Center - 5 or more stores[1/]	39	189,897	4,869	12.61	12.61	71.6	12.0	1.29	12.8	15/8	4.5
Supermarket	7	31,252	4,465	12.89	12.80	97.4	13.6	1.03	13.8	22/10	0.7
Department Store	5	38,800	7,760	12.00	12.00	100.0	13.9	1.09	12.8	25/0	0.9
Office Building[2/]	240	2,524,388	10,518	12.59	12.45	73.2	11.9	1.27	12.9	18/8	60.4
Medical Office Building[1/]	20	36,810	1,840	12.74	12.87	73.9	12.3	1.26	13.2	18/10	0.9
Parking Garage	2	4,075	2,038	*	*	*	*	*	*	*	0.1
Service Station	1	1,000	1,000	*	*	*	*	*	*	*	**
Restaurant	3	8,795	2,932	13.04	12.41	88.5	11.6	0.92	14.7	18/4	0.2
Commercial Warehouse[1/]	71	143,521	2,021	12.64	12.42	71.3	11.5	1.23	13.1	13/8	3.4
Truck Terminal	1	1,500	1,500	*	*	*	*	*	*	*	**
Other Commercial	4	10,675	2,669	13.16	13.53	69.7	12.7	1.28	14.4	13/6	0.3
Educational	1	350	350	*	*	*	*	*	*	*	**
Hospital and Institutional	2	2,968	1,484	*	*	*	*	*	*	*	0.1
Social and Recreational	3	4,130	1,377	13.42	13.65	58.9	13.5	1.24	14.8	11/8	0.1
Industrial Warehouse[3/]	149	285,381	1,915	12.85	12.43	73.8	12.4	1.26	13.2	21/6	6.8
Manufacturing Plant	10	10,010	1,001	12.88	12.82	72.2	11.8	1.23	13.3	17/2	0.2
Other Industrial	21	46,710	2,224	12.68	12.99	73.5	12.6	1.33	13.0	26/5	1.1
Hotel	32	635,050	19,845	12.75	12.66	72.0	13.1	1.39	13.2	16/11	15.2
Motel	4	36,200	9,050	12.88	11.86	66.3	13.0	1.57	13.2	10/6	0.9
Multiple Property Complex	4	39,430	9,858	12.56	12.47	74.8	11.9	1.24	12.8	22/6	0.9
TOTAL	656	4,180,289	6,372	12.69	12.42	73.3	12.1	1.27	13.1	18/6	100.0

*Data not shown where there are fewer than three loans.
**Less than 0.05%.

1/ Interest rate was not available for one loan.
2/ Interest rate was not available for two loans.
3/ Interest rate was not available for six loans.

Note: Averages for capitalization rate, debt coverage ratio, and percent constant may represent a fewer number of loans than the total for the specified category.

Table M

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Loan Size Class Within Major Property Type, Fourth Quarter, 1980

Major Property Type Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Term (Years/Months)
APARTMENT - CONVENTIONAL	11	33,570	3,052	12.41%	12.45%	66.5%	11.3%	1.23	13.3%	13/2
Less than $1 million	1	940	940	*	*	*	*	-	-	*
$1 million - $3,999(000)	6	11,980	1,997	12.67	12.64	59.4	11.0	1.19	14.0	13/4
$4 million - $7,999(000)	4	20,650	5,162	12.38	12.41	74.9	11.9	1.26	12.7	15/0
COMMERCIAL RETAIL	11	33,478	3,043	13.02	12.93	73.2	12.2	1.26	13.3	11/4
$1 million - $3,999(000)	8	18,343	2,293	13.00	12.83	72.6	12.2	1.27	13.4	11/10
$4 million - $7,999(000)	3	15,135	5,045	13.08	13.05	74.6	12.1	1.22	13.2	10/0
OFFICE BUILDING[2/]	82	713,129	8,697	13.01	12.92	71.5	12.1	1.28	13.3	17/3
Less than $1 million	8	5,420	678	13.98	13.95	69.8	13.3	1.39	14.7	15/0
$1 million - $3,999(000)	28	63,154	2,256	13.15	13.04	72.3	12.6	1.29	13.5	15/8
$4 million - $7,999(000)	23	134,550	5,850	12.82	12.81	71.0	11.8	1.28	13.1	19/7
$8 million and over	23	510,005	22,174	12.72	12.92	71.5	11.4	1.23	12.9	17/7
COMMERCIAL SERVICE[1/]	19	35,966	1,893	13.19	13.02	70.1	11.6	1.21	13.6	13/6
Less than $1 million	3	1,381	460	14.00	14.27	70.8	12.6	1.26	14.2	5/8
$1 million - $3,999(000)	15	27,185	1,812	13.07	13.10	69.3	11.4	1.20	13.5	15/0
$4 million - $7,999(000)	1	7,400	7,400	*	*	*	*	*	*	*
INSTITUTIONAL AND RECREATIONAL	1	150	150	*	*	*	-	-	-	*
INDUSTRIAL[3/]	32	55,566	1,736	13.31	13.30	74.0	12.9	1.29	13.7	20/3
Less than $1 million	14	9,056	647	13.31	13.30	73.9	13.4	1.34	13.7	20/3
$1 million - $3,999(000)	16	33,360	2,085	13.36	13.45	74.1	12.4	1.23	13.7	19/10
$4 million - $7,999(000)	2	13,150	6,575	*	*	*	*	*	*	*
HOTEL AND MOTEL	8	114,400	14,300	12.92	12.75	70.9	13.0	1.39	13.3	17/6
$1 million - $3,999(000)	2	5,100	2,550	*	*	*	*	*	*	*
$4 million - $7,999(000)	1	4,000	4,000	*	*	*	*	*	*	*
$8 million and over	5	105,300	21,060	12.65	12.70	72.0	13.2	1.43	13.1	19/0
MULTIPLE PROPERTY COMPLEX	1	6,675	6,675	*	*	*	*	*	*	*
TOTAL	165	992,934	6,018	13.04	12.90	71.6	12.2	1.28	13.4	16/8

*Data not shown where there are fewer than three loans.

1/ Interest rate was not available for one loan.
2/ Interest rate was not available for two loans.
3/ Interest rate was not available for five loans.

Note: Averages for capitalization rate, debt coverage ratio, and percent constant may represent a fewer number of loans than the total for the specified category. Nonrefundable fees were reported in connection with 26% of the number and 22% of the amount committed. The comparable shares by property type ran: 64% and 70% for apartments, 36% and 42% for retail stores, 27% and 21% for office buildings, 32% and 29% for commercial service properties, 6% and 4% for industrial properties, and 25% and 14% for hotels and motels. See note to Table D.

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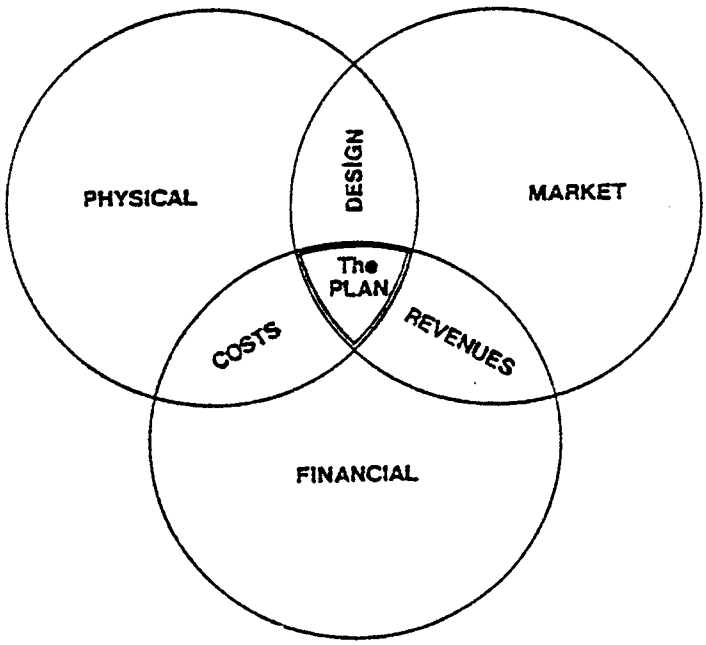
STATEMENT OF PURPOSE

The objective of Project Feasibility Analysis is to:

reduce the risk of uncertainty by stating assumptions completely and explicitly, and

enhance the value of the asset— land— by maximizing the margin between revenues from market opportunities and costs of development.

The process and techniques employed can be used to continuously assess feasibility from undocumented to fully documented assumptions. The level of documentation may vary for each of three categories of input, but each requires consideration as the analysis is undertaken.



INTRODUCTION

The Development Impact Model (DIM) provides a technique for performing a balanced feasibility analysis. It was developed by John Rahenkamp and Associates, Inc., in response to the need for feasibility evaluations which incorporate the social and political externalities affecting the feasibility of a proposed project. By recognizing the real and growing power of local political forces and environmental values as well as the need for a reasonable rate of return, the DIM measures the true feasibility of a particular project from the developer's and also the community's point of view.

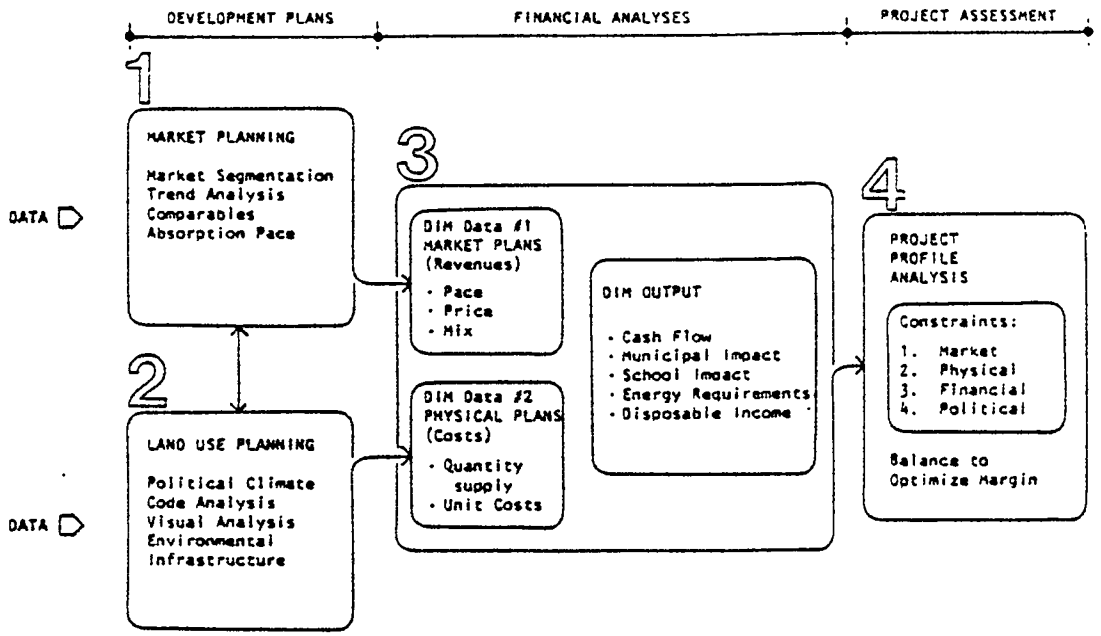
Essentially, the model identifies existing capacities of physical and fiscal systems, the projected demands resulting from the proposed project, and the resulting costs or benefits. It calculates not only front end expenses and bottom line profit, but it may also calculate the development's impact on local educational and municipal support systems. This information provides the developer and/or the community with a balanced measure of feasibility, political and environmental as well as financial. Since this information is objective as well as extensive, it should establish a sound basis for proper project approval or rezoning decisions.

Furthermore, the DIM is a computerized system utilizing the speed of the computer to deal with the numerous factor items and the vast range of possible combinations and permutations. Manual calculations of possible alternatives may take weeks, forcing decision-makers to act on incomplete information. In contrast, the computer offers the critical advantage of simulating available options quickly and performing continuous runs as criteria change either in the community's or developer's requirements.

It must be recognized that the value of a DIM feasibility evaluation is directly related to the accuracy and completeness of the basic data input. Each DIM analysis pertains only to the individual project and requires site-specific information. Much of the required data is usually already held by the developer or immediately available to him. The cost of a DIM feasibility analysis will obviously vary significantly depending on the amount of in-house research and data gathering required. If the information is provided directly by the developer in an appropriate form, the DIM evaluation costs are appreciably reduced.

The schematic diagram on the following page indicates the framework in which a feasibility analysis is carried out. Careful attention must be given to each of the three categories of project parameters depending upon the political/market/physical situation of a specific property. Once a minimum level of data is acquired and synthesized, gaming with critical variables can be accomplished quickly to develop an optimum project profile.

PROJECT FEASIBILITY ANALYSIS



The sections following discuss the kinds and character of analysis required prior to establishing data inputs to DIM. The level of detail of each separate analysis will depend upon that element's criticality for project approval, both from public officials and the developer initiating the evaluation.

The third section contains a project checklist itemizing the information supplied by a developer. This checklist illustrates the scope and detail of the DIM feasibility analysis and provides the necessary data to run the DIM program.

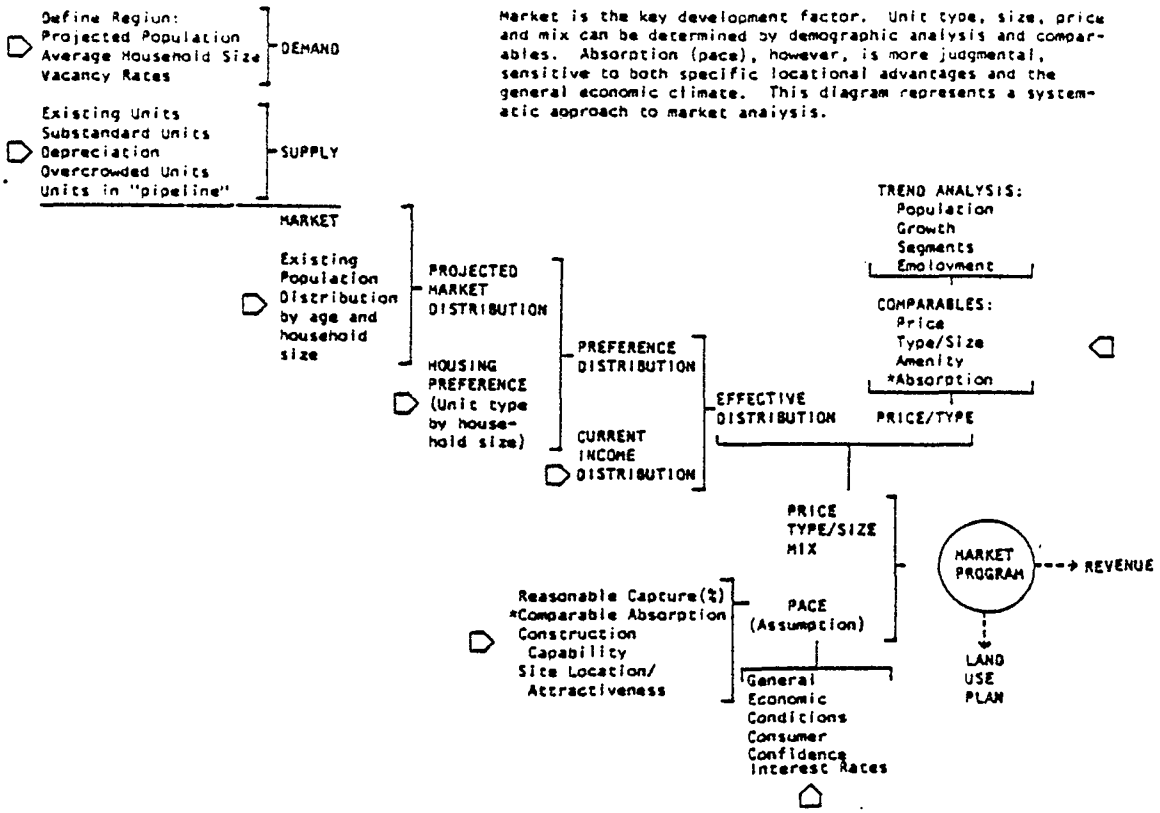
The Feasibility Checklist is supplemented by several pages of explanatory notes and exhibits. Each input space on the checklist has been assigned a code number which corresponds to a note describing the information required, and in five cases, these notes refer to one of the exhibits. After the exhibits is a sample of the checklist which was prepared for a typical project and a feasibility analysis printout which can be a guide.

It should be noted that all of the data indicated on the checklist is not required for analysis purposes. Where data is missing either a specific analysis will not be performed, e.g., School, Municipal, Demand, or the computer will assume a zero value. However, before each analysis all the data is reviewed by a staff computer specialist to insure its completeness.

1

market planning

MARKET SEGMENTATION



Market is the key development factor. Unit type, size, price and mix can be determined by demographic analysis and comparables. Absorption (pace), however, is more judgmental, sensitive to both specific locational advantages and the general economic climate. This diagram represents a systematic approach to market analysis.

MARKET SEGMENTATION ILLUSTRATION

MONTGOMERY CO.

PRICE LEVEL COMPARABLES

(RENT/MONTH)	180.	225.	275.	350.
GA-1BR	9697.	0.	0.	0.
GA-2BR	1727.	7856.	0.	0.
TH	2715.	2761.	2590.	0.
SF	422.	5368.	4808.	13836.
TOTAL NET MARKET	14562.	15986.	14397.	13836.
% TOTAL DEMAND	25.	27.	24.	24.

TOTAL NET MARKET (15 YEAR ESTIMATE) 58780.

MARKET TREND ANALYSIS

RESEARCH:

* Major commercial centers within 15 minutes
* Major commercial centers within 45 minutes
* Major employment centers within 15 minutes
* Major employment centers within 45 minutes
* Commercial and employment growth rate
* Population growth rate by age segments
* Family income growth rate by segments
* Housing vacancy rates
* Permits issued by type

INTERPRETATIONS:

* Strength and income/housing type implications of future employment opportunities
* Locational convenience
* Growing age and income segments related to price and housing type
* Strengh of competition; how much of the market is being absorbed and/or lost?

CONCLUSIONS:

* What is presently being built (price/type) is correct; follow the leaders and do comparables
* Identify market demands not being met
* There is some elasticity in the market to support price increases over competition
* Hold or reduce prices due to competition

MARKET COMPARABLES

Date: 2/14/75

Project Name: Indian Hills — Address: Winona Way
Owner: C. Quinn — Lender:
Builder: — Architect:
Age or Status: 8 yrs. — No. of Units: 120 — No. of Bldgs: 10
No. of Stories: 2 & 3 — No. Vacant: none — Type of Constr: frame
Map Key: 9

Bedrooms - Baths:	1/1	2/1
Number of Units:		
Monthly Rents:	185	275
Square Feet:	900	1000
Rent/Sq. Ft. (Unfurn):	.206	.275
No. of Furn. Apts:	none	
No. of Vacant Apts:	none	

Utilities Furnished: Electric: ____ Gas: ____ Water: x

Extra Charges: Refrigerator: ____ Other: ____
Furniture: 0 BR ____ 1 BR ____ 2 BR ____ 3 BR ____

Cooking Energy: elec. — Type of Heating: central gas — Walk-In Closets: ____
Air Conditioning: central — Ranges/Ovens: x — Fireplaces: ____
Dishwashers: x — Patios/Balconies: x — Carpets/Drapes: x
Washer/Dryer: in bldg. — Other Good Features/Remarks: ____

Pool(s): x — Laundry Facilities: in bldg.
Clubhouse(s): x — Security System: ____
Tennis: ____ — Parking: incl. garages
Playground Area: ____ — Storage Lockers: ____
Other Good Recreation or Project Features/Remarks: ____

MARKET PLAN/SUMMARY OF ASSUMPTIONS

Upon completion of the market segmentation analysis, the following information is arranged in a convenient form for direct input to the DIM data sheets and as a working program for physical land use planning.

Unit Types:	Single Family	Townhouse	Garden Apartment
Mix (%):	11.3	54.7	34.0
Price (K$):	60.0	45.0	30.0
Average Size (S.F.):	2,000	1,500	900
Average Stories:	1.5	2.5	3.0

Annual Sales*:

					Pace
Year	1	0	0	0	0
	2	@	@	@	100
	3	@	@	@	130
	4	@	@	@	130
	5	@	@	@	130
	6	@	@	@	130
	7	@	@	@	140

*Based on market analysis only: Subject to physical confirmation after land use planning.

@Actual minimal distribution will be approximately equal to projected market mix but is subject to physical planning

2

land use planning

POLITICAL CLIMATE ANALYSIS

APPROVABILITY

Project Proposal Impacts:	on existing zoning on fair share on existing demography on existing population size on growth rate
Index of Exclusionary Tendency:	elected official turnover rate professional staff capability and attitudes change approval rate allowable density and land use types fair share allocation "vigilante" groups community income distribution
Codes and Procedures:	complexity clarity time lines flexibility requirements standards
Local Issues:	fiscal environmental land use utilities open space

---

Estimate of legal position and potential tradeoffs.

Summary estimate of probability (%) of approval for proposed project.

CODE ANALYSIS

Applicable zoning codes are reviewed and analyzed to determine development potential under existing zoning or the availability of appropriate zoning districts which might satisfy the client's building program.

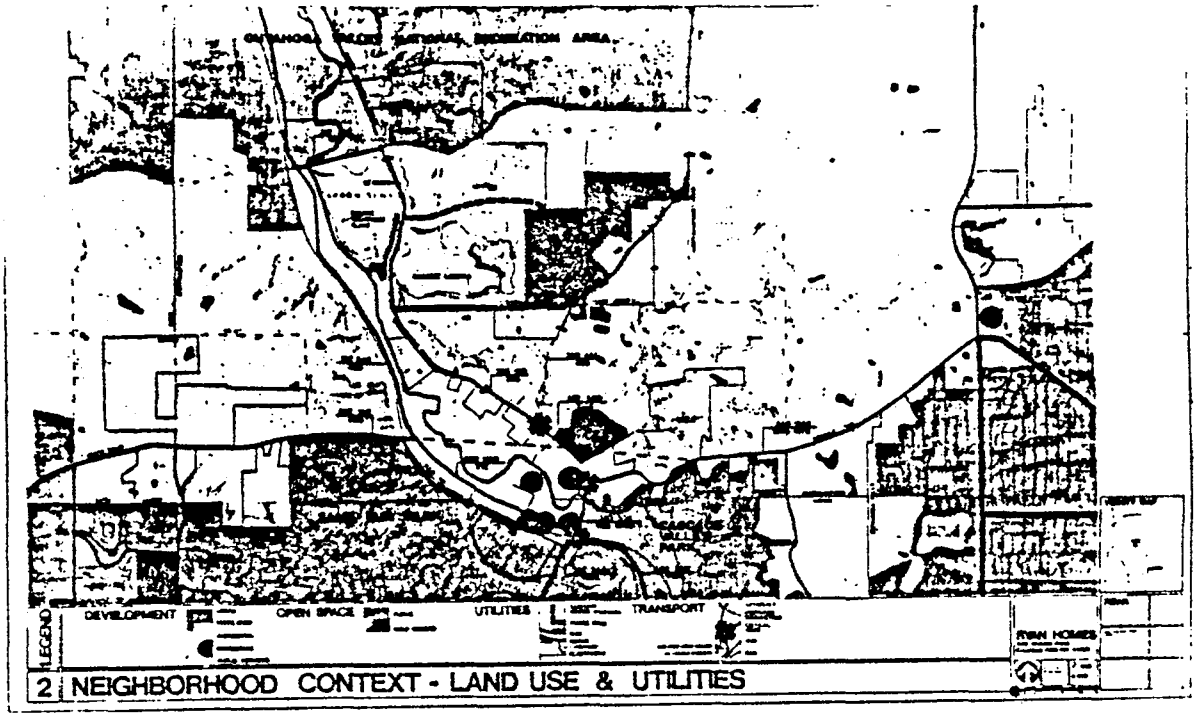
[illegible] election experienced a drastic realignment in its political structure. The Township, turned-out the "democratic machine" who had dominated Berlin for the past thirty to forty years. A group of young independents, whose platform was a change of government was elected with nearly 75% of the vote. As a result, all the major administrative boards were changed and people of the same persuasion as the Mayor-Council were appointed. A portion of the platform of the new government was to promote good substantial growth.

As a result of these changes, the Mayor-Council has appointed a Land Use Study Committee to review the Township's existing zoning ordinance to determine what changes should be made to encourage growth while minimizing its adverse effects.

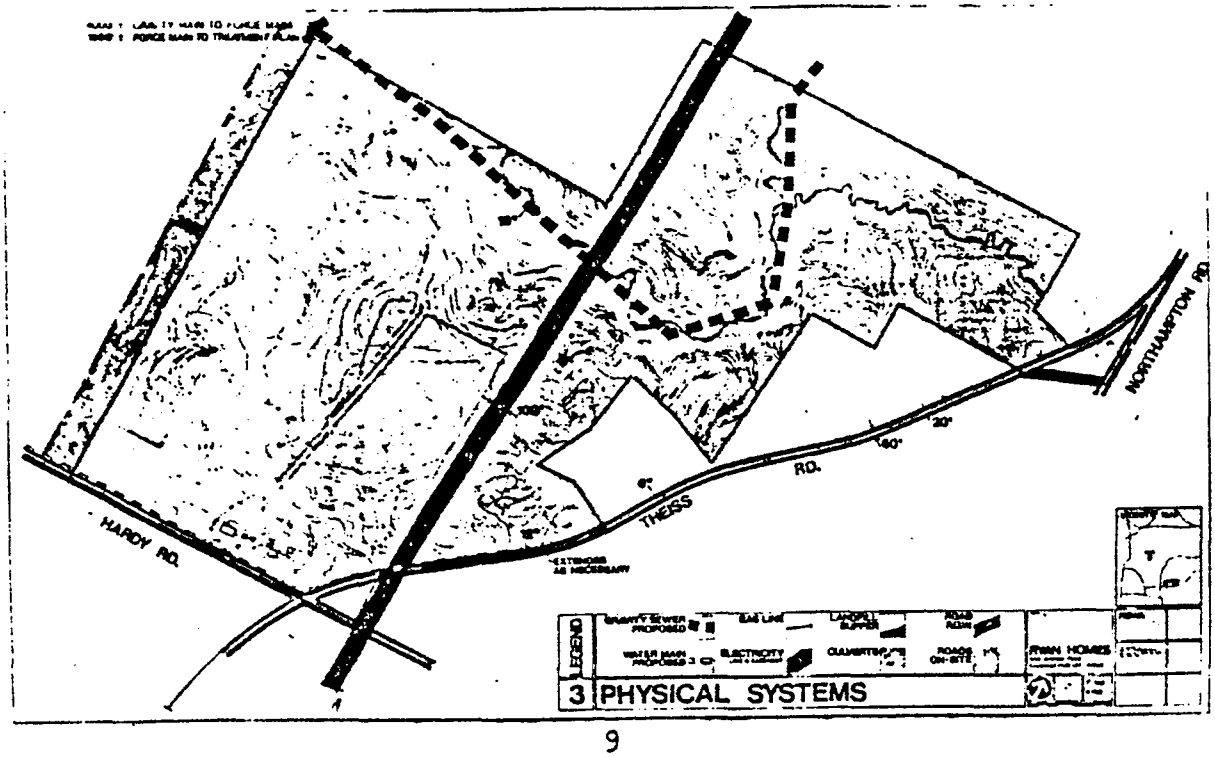
The site is presently zoned into three categories: 276 ac. in R-1 Residential with minimum lots of one acre; 21.5 ac. I-1 Light Industrial; and 2.5± ac. C-2 Neighborhood Commercial. With this splitting of the parcel into various zones, the chance of unified development is lessened which would not permit maximizing the site's development potential. The Township is relatively unsophisticated in its planning activities, but the new officials are aggressive and appear to be open to construction suggestion which will enable them to promote the desired quality growth.

INFRASTRUCTURE ANALYSIS

Every development generates demands on man-made systems. The capacity to absorb these demands must exist or be built. An analysis is required to make this determination which is often the difference between a profitable project and one that is marginal or premature.



2 NEIGHBORHOOD CONTEXT - LAND USE & UTILITIES

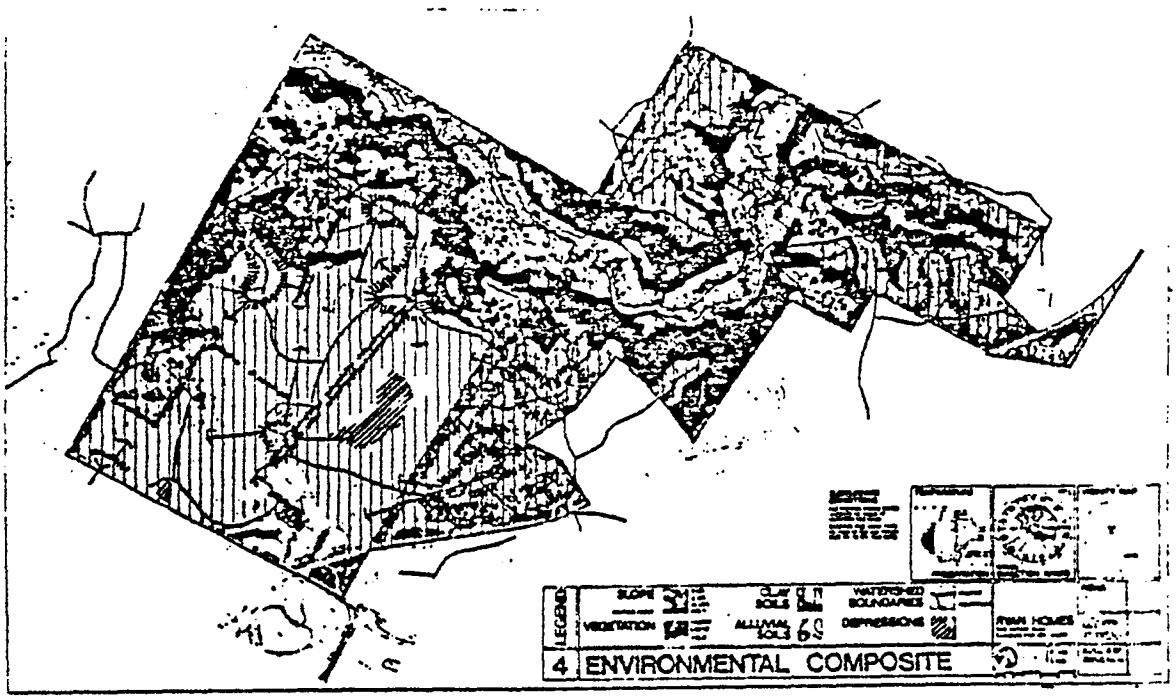


3 PHYSICAL SYSTEMS

ENVIRONMENTAL ANALYSIS

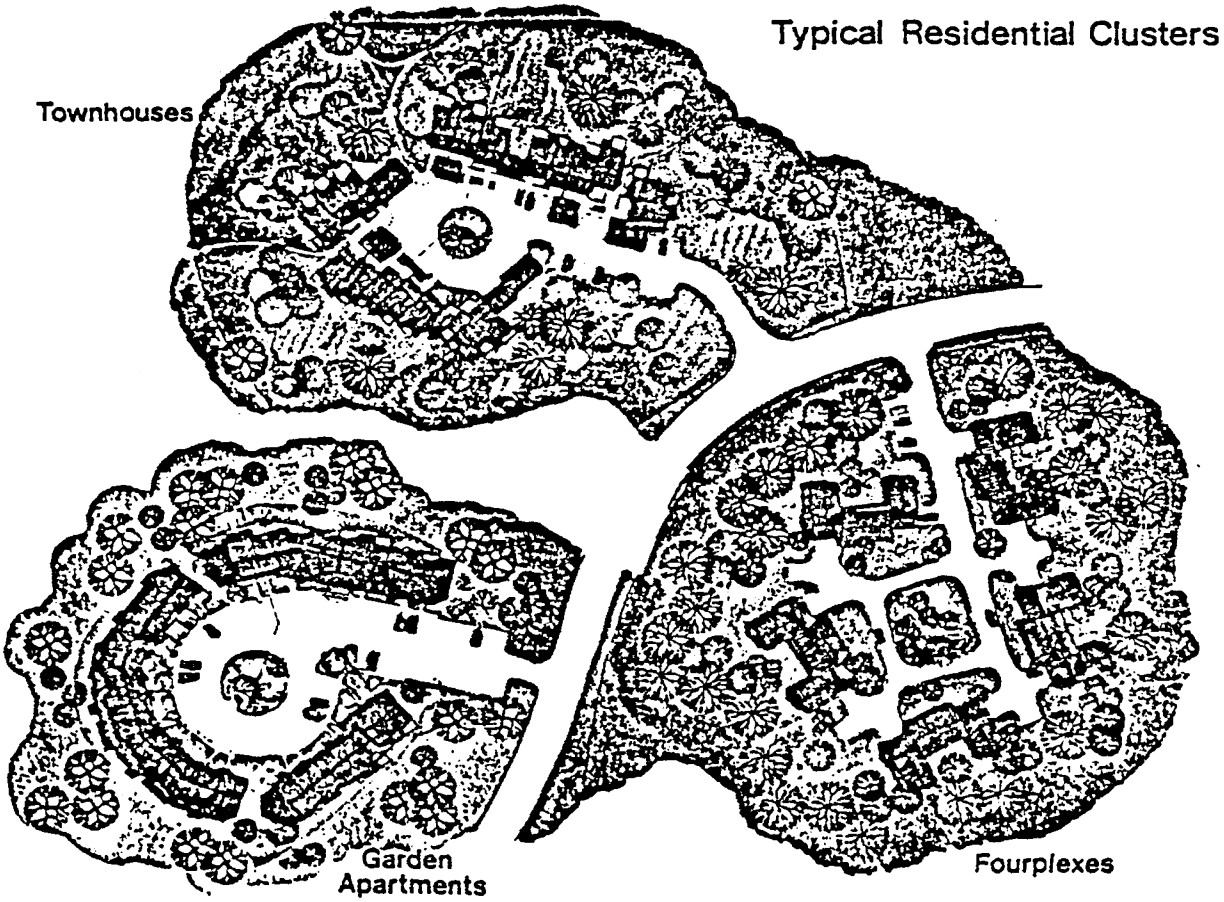
Environmental variables can be identified which materially affect the disposition of land uses if the plan is to be cost effective. Severe slopes, high water tables, and shallow bedrock have obvious cost consequences if not identified. Conserving trees and natural ground covers reduces landscaping costs and helps to prevent excessive erosion. Public health and safety must also be protected by identifying easily polluted soils and underground water supplies. If properly conducted and used, environmental analysis proves it is less costly to work with, rather than against, nature.

As part of the environmental analysis, the visual opportunities and burdens of the site, whether part of a larger neighborhood (if it's a small site) or as a self-contained neighborhood (if a large one) must be identified. Visual attributes include long or intimate views, dense or filtered spatial enclosures, natural features, and water. Burdens that must be mitigated if possible include noise, odors, visual obstructions like high tension lines, and unsightly views. The visual analysis locates these opportunities and burdens so they can be used in developing the land use plan most effectively.



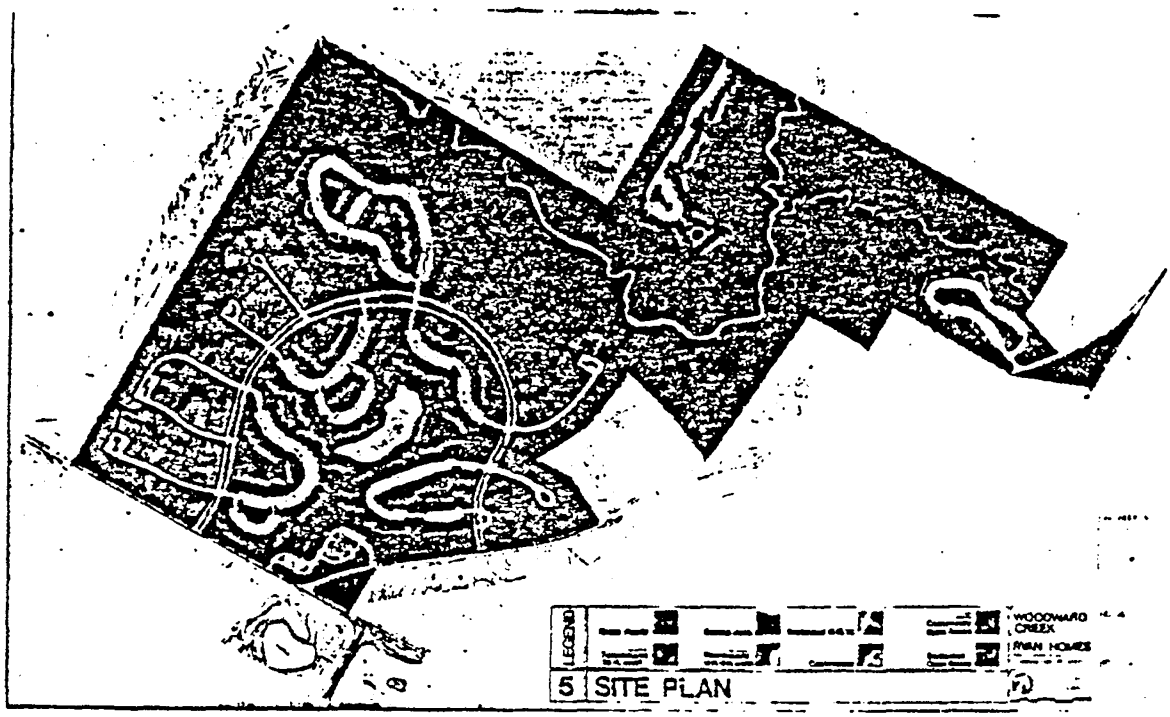
HOUSING PRODUCTS ANALYSIS

For land use plans to be used as reasonable representations of what can be built and for rough development cost estimates, it is necessary to be realistic about what can be placed on the ground (usually expressed as net densities for each unit type). Typical cluster designs are developed to insure that unit counts can be achieved and that lot improvement costs are accurate.



LAND USE PLANS

The land use plan must accommodate the market program and respect both visual and other environmental considerations. It must be cost-effectively phased for on and off-site infrastructure and generally enhance the marketability of the site through sensitive design.



3

financial analysis

DIM DATA INPUT SHEETS

The Development Impact Model (DIM) calculates quickly and accurately the combined consequences of the market, physical and other financial data provided to it. It is used to speed up computation and to organize the output so the project can be conveniently compared to acceptable standards of performance. The general value of the computer program is the ability to make many changes without the labor of endless calculation or the danger of error.

The DIM data sheets facilitate the systematic recording of the specific data requirements of the program. Each section has an appropriate heading covering the following four areas of data:

- Market Data from the market program (modified if necessary after physical planning)
- Physical Data from the land use plan
- Public Impact Data from the political climate and code analysis
- Financial Data from the client concerning sales and overhead costs

In general, the market determines revenues; land use, the costs; and public impacts, the probability of public approval.

Attached to the data sheets are specific definitions of what is included in the number called for in each box. In some cases, checklists are provided for even finer breakdowns. These definitions and checklists provide confidence that nothing has been overlooked and that revisions can be made without disturbing other variables. The data input to DIM is thus highly explicit.

client data

CLIENT NAME	DNAME-1
PROJECT NAME, LOCATION	DNAME-2
DATE	DATE-3

site data

SITE AREA COVERAGE ALLOWABLE	A-4	GSCAP-5	
INDUSTRIAL COMMERCIAL SCHOOL SITE	AI-6	AC-6	AS-6
MAJOR ROAD (R.O.W.) OPEN SPACE	AR-6	AO-6	
RECREATIONAL FACILITY OTHER (SPECIFY)	ARC-6	AOT-6	

unit data

UNIT TYPES DUMNMS-7						
NET DENSITIES DD-8						
SALE PRICES - RESIDENTIAL ISP-9 - INDUSTRIAL SPNRI-10 - COMMERCIAL SPNRC-11						
MIX MIX-12						
NUMBER OF UNITS INU-13						
UNIT SIZE AUS-14						
NUMBER OF STORIES STORYS-15						

demand data

ANNUAL REGIONAL RESIDENTIAL DEMAND	RD-16
ANNUAL REGIONAL INDUSTRIAL DEMAND	RID-17
ANNUAL REGIONAL COMMERCIAL DEMAND	RCD-18

school data

SCHOOL CAPACITY NSC-19		
CONSTRUCTION COST SQUARE FOOT REQUIREMENT	CSC-20	CSC-20
SCHOOL BOND RATE SCHOOL BOND TERM	DS-21	DS-21
OPER. INC. XOY-22		
SCHOOL ENROLLMENT MSC-23		

municipal data

REAL ESTATE VALUE MMV-24		
POPULATION MUNICIPAL COSTS	NR-25	CCOMOI-26

fiscal data

ASSESSMENT FACTOR AF-27		
SCHOOL TAX MILLAGE MUNICIPAL TAX MILLAGE	STM-28	MM-29

land and development data

LAND COST INTEREST PROFESSIONAL FEES	LC-30		INT-31		FOP-31
DEVELOPMENT COST OFF-SITE CONTRIBUTION	CA-33		DEVC-34		
ANNUAL LAND EXPENDITURES LAC-35	1	2	3	4	5
	6	7	8	9	10
ANNUAL SITE-DEVELOPMENT EXPENDITURES XPCPY-36	1	2	3	4	5
	6	7	8	9	10
ANNUAL OFF-SITE CONTRIBUTION OSC-37	1	2	3	4	5
	6	7	8	9	10

construction and management data

PERCENT LAND PRICE TO SALE PRICE PCT-38						
CONSTRUCTION COST/SQ. FT. BY UNIT TYPE ESCF-39						
LOT IMPROVEMENT COST/ UNIT TYPE CLI-40						
PERCENT SALES COST ESC-41						

TECHNICAL FEES INTEREST ON CONSTRUCTION	TECH-42	IOCC-43
OVERHEAD EXPENSE	POHE-44	

ANNUAL RESIDENTIAL CONSTRUCTION ID-45	1	2	3	4	5
	6	7	8	9	10
ANNUAL INDUSTRIAL CONSTRUCTION IID-46	1	2	3	4	5
	6	7	8	9	10
ANNUAL COMMERCIAL CONSTRUCTION CID-47	1	2	3	4	5
	6	7	8	9	10

annual sales/revenue data

ANNUAL RESIDENTIAL SALES (UNITS) SDU-48	1	2	3	4	5
	6	7	8	9	10
ANNUAL INDUSTRIAL SALES (ACRES) SNRAI-49	1	2	3	4	5
	6	7	8	9	10
ANNUAL COMMERCIAL SALES (ACRES) SNRAC-50	1	2	3	4	5
	6	7	8	9	10
OTHER REVENUES OR-51	1	2	3	4	5
	6	7	8	9	10
OTHER EXPENSES OE-52	1	2	3	4	5
	6	7	8	9	10

NOTES ON INPUT CHECKLIST

KEY CODE	KEY NUMBER	DESCRIPTION
CLIENT DATA		
DNAME	(1)	CLIENT NAME
DNAME	(2)	PROJECT NAME, LOCATION: LOCATION BY MUNICIPALITY, STATE.
DATE	(3)	DATE: DATE OF CHECKLIST COMPLETION.
SITE DATA		
A	(4)	SITE AREA: TOTAL SITE ACREAGE.
GSCAP	(5)	COVERAGE ALLOWABLE: TOTAL ALLOWABLE IMPERVIOUS COVER AS DEFINED BY CODE; 30% COVERAGE MAXIMUM.
		NON-RESIDENTIAL ACREAGES
AI	(6)	INDUSTRIAL
AC	(6)	COMMERCIAL
AS	(6)	SCHOOL SITE
AR	(6)	MAJOR ROAD (RIGHT-OF-WAY)
AO	(6)	OPEN SPACE
ARC	(6)	RECREATIONAL FACILITY
AOT	(6)	OTHER (SPECIFY)
UNIT DATA		
DUMNMS	(7)	UNIT TYPES: DEFINED AS SINGLE FAMILY (SF), TOWNHOUSE (TH), GARDEN APARTMENT (GA), MID-RISE (MR), HIGH RISE (HR).
DD	(8)	NET DENSITIES: NET DENSITY PER UNIT TYPES, IN DWELLING UNITS PER ACRE.

SALE PRICES:

ISP	(9)	ESTIMATED AVERAGE SALES PRICE BY RESIDENTIAL UNIT TYPE.
SDNRI	(10)	ESTIMATED AVERAGE SALES PRICE BY INDUSTRIAL UNIT TYPE.
SPNRC	(11)	ESTIMATED AVERAGE SALES PRICE BY COMMERCIAL UNIT TYPE.
MIX	(12)	MIX: SUGGESTED RESIDENTIAL UNIT MIX AS A PERCENT OF TOTAL RESIDENTIAL UNITS (100%). SUGGESTED NON-RESIDENTIAL UNIT MIX AS A PERCENT OF TOTAL NON-RESIDENTIAL UNITS (100%).
INU	(13)	NUMBER OF UNITS: SUGGESTED NUMBER OF UNITS BY RESIDENTIAL AND NON-RESIDENTIAL TYPES.
AUS	(14)	UNIT SIZE: ESTIMATED SQUARE FOOTAGE OF LIVING AREA BY RESIDENTIAL UNIT TYPE. ESTIMATED SQUARE FOOTAGE OF GROSS LEASABLE AREA (GLA) BY NON-RESIDENTIAL UNIT TYPE.
STORYS	(15)	NUMBER OF STORIES: ESTIMATED HEIGHT OF BUILDINGS IN NUMBER OF STORIES BY RESIDENTIAL AND NON-RESIDENTIAL UNIT TYPES.

DEMAND DATA

RD	(16)	ANNUAL REGIONAL RESIDENTIAL DEMAND: TOTAL NUMBER OF RESIDENTIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA.
RID	(17)	ANNUAL REGIONAL INDUSTRIAL DEMAND: TOTAL NUMBER OF INDUSTRIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA. (1,000 SQ. FT. PER UNIT)

RCD	(18)	ANNUAL REGIONAL COMMERCIAL DEMAND: TOTAL NUMBER OF COMMERCIAL UNITS DEMANDED ANNUALLY WITHIN THE DEFINED MARKET AREA, (1,000 SQ. FT. PER UNIT)

SCHOOL DATA

NSC	(19)	SCHOOL CAPACITY: TOTAL NUMBER OF SPACES AVAILABLE IN THE MUNICIPAL SCHOOL SYSTEM. (TOTAL CAPACITY OF ALL SCHOOLS MINUS CURRENT ENROLLMENT.)
CSC	(20)	CONSTRUCTION COST (SCHOOLS): ESTIMATED COST PER SQUARE FOOT FOR SCHOOL CONSTRUCTION.
CSC	(20)	SQUARE FOOT REQUIREMENT: THE NUMBER OF SQUARE FEET REQUIRED PER STUDENT BY STATE LAW OR MUNICIPAL RECOMMENDATION.
DS	(21)	SCHOOL BOND RATE: THE CURRENT OR PROJECTED INTEREST RATE ON SCHOOL BOND OFFERINGS.
DS	(21)	SCHOOL BOND TERM: THE CURRENT OR PROJECTED NUMBER OF YEARS FOR A SCHOOL BOND TO REACH MATURITY FROM ITS INITIAL OFFERING.
XOY	(22)	OPER. INC. THE AMOUNT OF REVENUE RAISED THROUGH LOCAL REAL ESTATE TAXES USED IN THE SCHOOL OPERATING BUDGET FOR THE CURRENT ACADEMIC YEAR. (RESIDENTIAL ONLY IF AVAILABLE)
MSC	(23)	SCHOOL ENROLLMENT: THE TOTAL NUMBER OF SCHOOL CHILDREN REGISTERED IN THE SCHOOL SYSTEM FOR THE CURRENT ACADEMIC YEAR (DATE).

INT	(31)	INTEREST: INTEREST RATE AT WHICH LAND FINANCING WAS/WOULD BE OBTAINED.
FOP	(32)	PROFESSIONAL FEES: TOTAL FEES TO INCLUDE ALL PLANNING AND LEGAL EXPENSES BEFORE ANY TECHNICAL FEES RELATING TO CONSTRUCTION (DEFINED BELOW).
CA	(33)	DEVELOPMENT COST: TOTAL COST OF SITE DEVELOPMENT (SEE EXHIBIT 1 FOR ITEMIZED BREAKDOWN).
DEVC	(34)	OFF-SITE CONTRIBUTION: TOTAL OFF-SITE COSTS (SEE EXHIBIT 2 FOR ITEMIZED BREAKDOWN).
LAC	(35)	ANNUAL LAND EXPENDITURES ($): ANNUAL DISTRIBUTION OF LAND AND CARRY COSTS THROUGH THE PROJECT PERIOD. (MAY BE SUPPLIED IN LIEU OF ITEMS (30) AND (31).)
XPCPY	(36)	ANNUAL SITE-DEVELOPMENT EXPENDITURES ANNUAL PERCENT DISTRIBUTION OF SITE DEVELOPMENT COSTS. THIS WILL BE RELATED TO ESTIMATED CONSTRUCTION OR PHASING PACE.
OSC	(37)	ANNUAL OFF-SITE CONTRIBUTION ($): ANNUAL DISTRIBUTION OF OFF-SITE COSTS THROUGH THE PROJECT PERIOD. (THE TOTAL SHOULD AGREE WITH EXHIBIT 2.)

CONSTRUCTION AND MANAGEMENT DATA

PCT	(38)	PERCENT LAND PRICE TO SALE PRICE: THE PERCENT OF TOTAL RESIDENTIAL UNIT SALE PRICE ATTRIBUTABLE TO LAND SALE.
ESCF	(39)	CONSTRUCTION COST/SQ. FT. BY UNIT TYPE: ESTIMATED COST PER SQUARE FOOT FOR RESIDENTIAL CONSTRUCTION (BRICKS AND MORTAR) OF LIVING AREA, BASEMENTS, AND GARAGES (SEE EXHIBIT 3 FOR ITEMIZED BREAKDOWN).

Municipal Data

MMV	(24)	Real Estate Value: Total value of all real estate BEFORE the assessment ratio is applied. Typically broken down into residential and non-residential uses (Supply breakdown if possible).
NR	(25)	Population: Current total population defined by the municipality or Census.
CCOMOI	(26)	Municipal Costs: Any expenditures required BY the municipality due to the demands of project development.

Fiscal Data

AF	(27)	Assessment Factor: The ratio of assessed value to market value used by the assessor's office for determining the value of real estate for tax purposes.
STM	(28)	School Tax Millage: The millage rate set by the municipality for school revenues raised from real estate taxes. (Supply itemized tax bill.)
MM	(29)	Municipal Tax Millage: The millage rate set by the municipality for municipal revenues raised from real estate taxes. (Supply itemized tax bill.)

Land and Development Data

LC	(30)	Land Cost: Gross purchase price of the land net of any interest charges. (The annual distribution of Land and Carry may be supplied in # (35) in lieu of (30) and (31).)

CLI	(40)	LOT IMPROVEMENT COST/UNIT TYPE: ESTIMATED COST FOR LOT IMPROVEMENT (WITHIN THE LOT LINE) BY RESIDENTIAL UNIT TYPE (SEE EXHIBIT 4 FOR ITEMIZED BREAKDOWN).
ESC	(41)	PERCENT SALES COST: PERCENT OF TOTAL SALE PRICE ATTRIBUTED TO SALES AND CLOSING EXPENSES.
TECH	(42)	TECHNICAL FEES: TOTAL FEES PER UNIT TO INCLUDE ARCHITECTURAL, ENGINEERING, HOOK-UP, ETC. (SEE EXHIBIT 5 FOR ITEMIZED BREAKDOWN).
IOCC	(43)	INTEREST ON CONSTRUCTION: INTEREST RATE AT WHICH CONSTRUCTION FINANCING WAS/WOULD BE OBTAINED.
POHE	(44)	OVERHEAD EXPENSE: PERCENT OF SALE PRICE ATTRIBUTED TO GENERAL OVERHEAD EXPENSES.
ID	(45)	ANNUAL RESIDENTIAL CONSTRUCTION: ESTIMATED ANNUAL TOTAL RESIDENTIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.
IID	(46)	ANNUAL INDUSTRIAL CONSTRUCTION: ESTIMATED ANNUAL TOTAL INDUSTRIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.
CID	(47)	ANNUAL COMMERCIAL CONSTRUCTION: ESTIMATED ANNUAL COMMERCIAL CONSTRUCTION BEGINNING WITH YEAR ONE, RUNNING THROUGH THE TOTAL LENGTH OF THE PROJECT.

Sales/Revenue Data

SDU	(48)	Annual Residential Sales (units): Estimated annual unit sales beginning with year one, running through the total length of the project.
SNRAI	(49)	Annual Indistrial Sales (acres): Estimated annual sale of industrial acreage beginning with year one, running through the total length of the project.
SNRAC	(50)	Annual Commercial Sales (acres): Estimated annual sale of commercial acreage beginning with year one, running through the total length of the project.
OR	(51)	Other Revenues: Additional annual revenues anticipated from the project by year not included previously.
OEX	(52)	Other Expenses: Additional annual expenses anticipated from the project not included previously.

EXHIBIT 1

DEVELOPMENT COST

(INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE PROJECT'S BOUNDARIES EXCLUDING LOT IMPROVEMENTS AND BUILDING CONSTRUCTION COSTS.)

ITEM	QUANTITY	UNIT COST	ALLOWANCES*	TOTAL COST
A. ROADS/STREETS (1)				
1. CLEARING				
2. ROAD GRADING				
3. ROAD SURFACING				
4. CURB AND GUTTER				
5. SIDEWALK				
6. STREET LIGHTING				
7. SEEDING/SODDING (COMMON AREAS, NOT LOTS)				
8. STREET TREES/ PLANTING (COMMON AREAS)				
9. OTHER				
SUBTOTAL				

NOTES:

* ALLOWANCES: ANY CONTINGENCIES ON ALLOWANCES FOR OVERHEAD AND PROFIT NOT INCLUDED IN UNIT OR TOTAL COST.

(1) ROADS/STREETS - INCLUDE ALL NECESSARY IMPROVEMENTS, WITHIN DEDICATED ROAD R.O.W., REQUIRED BY ORDINANCE AND/OR CODE.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST

B. STORM WATER/ SEWER SYSTEM (2)

1. PIPE
2. CATCH BASINS
3. CULVERTS
4. RETENTION PONDS
5. OTHER

SUBTOTAL

C. SANITARY SEWER/ SEWAGE DISPOSAL (3)

1. SEPTIC SYSTEMS
2. TREATMENT PLANT
3. PUMP/LIFT STATIONS
4. FORCE/GRAVITY MAINS
5. MANHOLES
6. CONNECTION CHARGES/ ASSESSMENTS
7. OTHER

SUBTOTAL

NOTES:

(2) STORM WATER/SEWER SYSTEM - INCLUDE ALL REQUIRED STORM SEWER/ DRAINAGE NECESSARY TO CONTROL STORM WATER RUNOFF AS REQUIRED BY ORDINANCE AND/OR CODE.

(3) SANITARY SEWER/SEWAGE DISPOSAL - INCLUDE ALL CONSTRUCTION NECESSARY TO PROVIDE COMPLETE SEWAGE FACILITIES. DO NOT INCLUDE ON-SITE LATERAL CONNECTIONS. THESE ARE CONSIDERED ON A LOT BASIS IN EXHIBIT 4.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST
D. WATER SYSTEM (4)				
1. WELL				
2. MAIN				
3. HYDRANTS				
4. CONNECTION CHARGES/ ASSESSMENTS				
5. OTHER				
SUBTOTAL				
E. OPEN SPACE/ COMMUNITY FACILITIES (5)				
1. CLEARING				
2. PATHS				
3. LIGHTING				
4. PLAY AREAS				
5. TENNIS COURTS OR OTHERS				
6. SWIMMING POOL				
7. COMMUNITY BUILDING				
8. LANDSCAPING				
9. OTHER				
SUBTOTAL				
F. TOTAL				

NOTES:

(4) WATER SYSTEM - INCLUDE ALL CONSTRUCTION NECESSARY TO PROVIDE COMPLETE WATER DISTRIBUTION SYSTEM. DO NOT INCLUDE ON-SITE LATERAL CONNECTIONS. THESE ARE CONSIDERED ON A LOT BASIS IN EXHIBIT 4.

(5) OPEN SPACE/COMMUNITY FACILITIES - INCLUDE ALL IMPROVEMENTS NECESSARY TO MEET RECREATIONAL DEMANDS OF PROJECT.

EXHIBIT 2

OFF-SITE CONTRIBUTION

(INCLUDE ALL DEVELOPMENT/IMPROVEMENTS BEYOND THE PROJECT'S BOUNDARIES THAT ARE CONSIDERED TO BE ESSENTIAL OR ATTRIBUTABLE TO THE PROJECT'S DEVELOPMENT.)

ITEM	QUANTITY	UNIT COST	ALLOWANCES*	TOTAL COST
A. ROAD/STREET				
1. SURFACING				
2. CURB AND GUTTER				
3. TRAFFIC CONTROLS				
4. LIGHTING				
5. ASSESSMENTS				
6. OTHER				
SUBTOTAL				
B. STORM WATER/ SEWER SYSTEM				
1. PIPE				
2. CATCH BASINS				
3. CULVERTS				
4. CONNECTION CHARGES/ ASSESSMENTS				
5. OTHER				
SUBTOTAL				

* ALLOWANCES: ANY CONTINGENCIES ON ALLOWANCES FOR OVERHEAD AND PROFIT NOT INCLUDED IN UNIT OR TOTAL COST.

ITEM	QUANTITY	UNIT COST	ALLOW-ANCES	TOTAL COST
C. SANITARY SEWER/ SEWAGE DISPOSAL				
1. TREATMENT PLANT IMPROVEMENTS				
2. PUMP/LIFT STATIONS				
3. FORCE/GRAVITY MAINS				
4. MANHOLES				
5. CONNECTION CHARGES/ ASSESSMENTS				
6. OTHER				
SUBTOTAL				
D. WATER SYSTEM				
1. MAIN				
2. HYDRANTS				
3. CONNECTION CHARGES/ ASSESSMENTS				
4. OTHER				
SUBTOTAL				
E. OTHER COSTS/ COMMUNITY FAC. CONTRIBUTIONS				
1. SCHOOLS				
2. PARKS				
3. OTHER				
SUBTOTAL				
F. TOTAL				

EXHIBIT 3

CONSTRUCTION COST/SQ. FT.
(FOR EACH UNIT TYPE)

(INCLUDE ALL CONSTRUCTION COSTS RELATED TO ACTUAL PRODUCTION OF HOUSING/DWELLING UNIT EXCLUDING SITE AND LOT DEVELOPMENT AND ARCHITECTURAL FEES, MARKETING COSTS, ETC.)

UNIT TYPE	ITEM	SIZE	SQ. FT. COST	TOTAL
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			
	LIVING AREA			
	BASEMENT			
	GARAGE			
	OTHER			
	TOTAL			

EXHIBIT 4

LOT IMPROVEMENT COST
(FOR EACH UNIT TYPE)

A. SINGLE FAMILY DETACHED: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE LOT AREA EXCLUDING ACTUAL BUILDING CONSTRUCTION.

B. SINGLE FAMILY ATTACHED: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE SITE AREA OF THE HOUSING CLUSTER/BUILDING TYPE ATTRIBUTED TO EACH INDIVIDUAL DWELLING UNIT.

C. MULTI-FAMILY: INCLUDE ALL DEVELOPMENT/IMPROVEMENTS WITHIN THE SITE AREA OF THE BUILDING "UNIT" ATTRIBUTED TO EACH INDIVIDUAL DWELLING UNIT (TOTAL COST DIVIDED BY NUMBER OF D.U. = COST PER D.U.).

UNIT TYPE:

ITEM	QUANTITY	UNIT COST	ALLOWANCES	TOTAL COST
A. CLEARING (1)				
B. GRADING AND DRAINAGE (2)				
C. SURFACING (3)				
D. SAFETY CONTROLS (4)				
E. WATER SERVICE (5)				
F. SANITARY SEWER (6)				
G. LANDSCAPING (7)				
H. FEES AND PERMITS (8)				
I. OTHER (9)				
TOTAL				

NOTES:

(1) CLEARING - INCLUDE TOTAL AND SELECTIVE CLEARING NECESSARY TO ACCOMMODATE CONSTRUCTION WITHIN "LOT" AREA.

(2) GRADING AND DRAINAGE - INCLUDE ALL IMPROVEMENTS NECESSARY TO PROVIDE FOR ADEQUATE DRAINAGE AND STORM WATER RUNOFF FROM "LOT."

(3) SURFACING - INCLUDE ALL DRIVES AND PARKING AREAS, WALKS AND TERRACES AND OTHER SURFACING.

(4) SAFETY CONTROLS - INCLUDE BOLLARDS, LIGHTING AND OTHER CONTROLS.

(5) WATER SERVICE - INCLUDE ALL WATER LATERALS FROM MAIN IN ROAD R.O.W. TO BUILDING.

(6) SANITARY SEWER - INCLUDE ALL SEWER LATERALS FROM SEWER MAIN TO BUILDING.

(7) LANDSCAPING - INCLUDE GRADING, TOPSOIL, SEEDING, AND LANDSCAPE CONSTRUCTION AND PLANTING ALLOWANCE.

(8) FEES AND PERMITS - INCLUDE SEWER AND WATER HOOK-UP AND BUILDING PERMITS.

(9) OTHER.

EXHIBIT 5

TECHNICAL FEES

(INCLUDE ALL ARCHITECTURAL, ENGINEERING, LANDSCAPE ARCHITECTURAL, LAND SURVEYING, GRAPHIC AND INTERIOR-DESIGN FEES FOR EACH CATEGORY ON A UNIT BASES AS INDICATED BY THE NOTES.)

ITEM	TOTAL COST
A. ARCHITECTURAL (1)	
B. ENGINEERING (2)	
C. LANDSCAPE ARCHITECTURAL (3)	
D. LAND SURVEYING (4)	
E. GRAPHICS (5)	
F. INTERIOR DESIGN (6)	
TOTAL	

NOTES:

(1) ARCHITECTURAL

A. BUILDING DESIGN (COMPLETE)
B. CONSTRUCTION SPECIFICATION (BUILDING SYSTEMS)
C. CONSTRUCTION COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
D. CONSTRUCTION INSPECTION (PERIODIC)

(2) ENGINEERING

A. ROAD/STREET SYSTEMS DESIGN (HORIZONTAL AND VERTICAL CURVE DATA, PROFILES)
B. UTILITY SYSTEMS DESIGN (SEWAGE, WATER, STORM, ETC.)
C. LOT DESIGN (LOT CLOSURE AND PLAT/SURVEY DATA)
D. CONSTRUCTION SPECIFICATIONS (ROAD AND UTILITY SYSTEMS)
E. CONSTRUCTION COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
F. CONSTRUCTION INSPECTION (PERIODIC)

(3) LANDSCAPE ARCHITECTURAL

A. LANDSCAPE CONSTRUCTION AND PLANTING DESIGN (ALL SITE IMPROVEMENTS NOT COVERED BY ARCHITECTURAL AND ENGINEERING, I.E. GRADING, SURFACING, RETAINMENT, LIGHTING, PLANTING, SPECIAL FEATURES, ETC.)
B. CONSTRUCTION AND PLANTING SPECIFICATIONS (AS NOTED IN 3A.)
C. CONSTRUCTION AND PLANTING COST ESTIMATES AND PROGRAM ($ AND SCHEDULE)
D. CONSTRUCTION AND PLANTING INSPECTION (PERIODIC)

(4) LAND SURVEYING

A. ROAD/STREET SYSTEMS LAYOUT (SEE 2A.)
B. UTILITY SYSTEMS LAYOUT (SEE 2B.)
C. LOT LAYOUT (BOUNDARY SURVEY AND MONUMENTS)
D. BUILDING LAYOUT (STAKEOUT AND SET ELEVATIONS)
E. LANDSCAPE CONSTRUCTION LAYOUT (STAKEOUT DRIVES, PARKING, ETC. AND SET ELEVATIONS)

(5) GRAPHICS

A. SIGNAGE (PROJECT SIGNS, ETC.)
B. P.R. LITERATURE (BROCHURES, ETC.)

(6) INTERIOR DESIGN

A. INTERIORS (SAMPLES/MODELS)
B. MATERIALS/COLORS (TYPICAL UNITS)

EXAMPLE: INPUT CHECKLIST
(Private Developer Data Only)

client data

CLIENT NAME	XYZ Corporation DNAME-1
PROJECT NAME, LOCATION	A-PUD, Akron, Ohio DNAME-2
DATE	9/13/79 DATE-3

site data

SITE AREA COVERAGE ALLOWABLE	207.00 A-4	GSCAP-5	
INDUSTRIAL COMMERCIAL SCHOOL SITE	AI-6	4.79 AC-6	AS-6
MAJOR ROAD (R.O.W.) OPEN SPACE	7.40 AR-6	112.35 AO-6	
RECREATIONAL FACILITY OTHER (SPECIFY)	3.30 ARC-6	7.58 AOT-6	

unit data

UNIT TYPES DUMNMS-7	SFD	TH	GA			
NET DENSITIES DD-8	4.42	8.75	15.20			
SALE PRICES - RESIDENTIAL ISP-9 - INDUSTRIAL SPNRI-10 - COMMERCIAL SPNRC-11	68250.	52800.	43700.			
MIX MIX-12	22.1	22.5	55.5			
NUMBER OF UNITS INU-13	141	143	354			
UNIT SIZE AUS-14	1625	1200	950			
NUMBER OF STORIES STORYS-15	2	2	2			

land and development data

LAND COST INTEREST PROFESSIONAL FEES	1,424,665 LC-30	0.00 INT-31	150,000 FOP-31
DEVELOPMENT COST OFF-SITE CONTRIBUTION	1,535,714 CA-33	113,000 DEVC-34	

	1	2	3	4	5
ANNUAL LAND EXPENDITURES LAC-35	250000.	413333.	386666.	374666.	
	6	7	8	9	10
ANNUAL SITE-DEVELOPMENT EXPENDITURES XPCPY-36	.417	.230	.275	.078	
ANNUAL OFF-SITE CONTRIBUTION OSC-37	113000.				

construction and management data

PERCENT LAND PRICE TO SALE PRICE PCT-38	14.	9.	6.			
CONSTRUCTION COST/SQ. FT. BY UNIT TYPE ESCF-39	25.	24.	22.			
LOT IMPROVEMENT COST/ UNIT TYPE CLI-40	3000.	3100.	2100.			
PERCENT SALES COST ESC-41	14	9	6			

TECHNICAL FEES INTEREST ON CONSTRUCTION	350 TECH-42	3.0 IOCC-43
OVERHEAD EXPENSE	5.0 POHE-44	

	1	2	3	4	5
ANNUAL RESIDENTIAL CONSTRUCTION ID-45	186	190	116	146	
	6	7	8	9	10
ANNUAL INDUSTRIAL CONSTRUCTION IID-46					
ANNUAL COMMERCIAL CONSTRUCTION CID-47				4.79	

annual sales/revenue data

ANNUAL RESIDENTIAL SALES (UNITS) SDU-48	1 186	2 190	3 116	4 146	5
	6	7	8	9	10
ANNUAL INDUSTRIAL SALES (ACRES) SNRAI-49	1	2	3	4	5
	6	7	8	9	10
ANNUAL COMMERCIAL SALES (ACRES) SNRAC-50	1	2	3	4 4.79	5
	6	7	8	9	10
OTHER REVENUES OR-51	1	2	3	4	5
	6	7	8	9	10
OTHER EXPENSES OE-52	1 200000.	2 200000.	3	4	5
	6	7	8	9	10

** pages 40 through 54 are not included because they could not be reproduced clearly enough to be legible

EXAMPLE: PROJECT FEASIBILITY ANALYSIS PRINTOUT

```
0.4420000E 01     0.8750000E 01     0.1519993E 02
0.2210031E 00     0.2241379E 00     0.5546589E 00
      141           143           354           638
0.1118102E 02
      311     0.0000000E 00     0.0000000E 00
0.1000000E 03     0.0000000E 00     0.1437000E 06
```

RESIDENTIAL LAND USE FEASIBILITY PROGRAM

AKRON/
ATLERNATIVE #1
13 SEPTEMBER 1979

RAHENKAMP, SACHS, WELLS & ASSOCIATES
1717 SPRING GARDEN ST.
PHILADELPHIA, PENNSYLVANIA

ECONOMICS AND MARKETING GROUP

A PROPRIETARY PROGRAM

APPENDIX: DEVELOPMENT IMPACT MODEL — OPERATING PROCEDURE

The Development Impact Model is a system for analyzing development proposals to determine their economic feasibility within the constraints imposed by natural determinants, physical delivery systems, public service systems, market factors and legal requirements. The following is an outline of the procedure for using the Development Impact Model.

DATA COLLECTION

A. Site Analysis

1. Base map with location of property outbounds and important features from property survey or county tax maps.
2. Municipal zoning map and code and development codes for analysis of legal constraints.
3. Municipal and county master plans for analysis of public intentions and policy.
4. Price of land from the developer or other source for use in the feasibility analysis.
5. Legal fees, interest on land, and other miscellaneous front-end costs from the developer for use in the feasibility analysis.

B. Natural Determinants and Coverage Analysis

1. County soil survey from Soil Conservation Service for soil series types, shallow to bedrock, seasonal high water table, alluvial soils.
2. Topographic maps of site and surrounding areas from U.S. Geological Survey or site survey for slope analysis.
3. Aerial photographs of site from U.S. Department of Agriculture, Aero Service, etc., for analysis of vegetation and other physical features.
4. Hydrology and floodplain location from the U.S. Army Corps of Engineers or the Soil Conservation Service for floodplain analysis.

C. Physical Systems Analysis

1. Streets and roads from municipal or county planning department/commission or state highway department, or a traffic study by a consultant.
   a. Right-of-way and cartway dimensions, including intersection approaches.
   b. Existing traffic volumes.
   c. Design capacities. (Intersection capacities are usually critical points.)
2. Water supply information from municipality, county, or private water company(ies).
   a. Location and excess capacity of water lines near the site.
   b. Supply costs and hook-up charges.
   c. If there is no feasible public water supply, determine the ground water supply and delivery costs from the Soil Conservation Service, state department of natural resources or its equivalent, or well drilling companies.
3. Sewer service information from the municipality or county authority.
   a. Location and excess capacity of sewer lines in the area.
   b. Sewer rental rates and hook-up charges.
   c. If there is no public sewer available, contact state department of health for package plant or septic tank requirements and costs.
4. Check location of electrical supply and cost of installing lines underground with the local power company.
5. Check location of telephone lines and cost of installing lines underground with the local telephone company. Determine whether this can be coordinated with electric lines for any savings.
6. Check location and hook-up costs for gas service with the local gas company.

D. Public Services and Revenues Analysis

1. Obtain a copy of the current municipal budget.

2. Check the level of service provided for by the budget for:

   a. Police

   b. Fire

   c. Recreation, parks

   d. Road maintenance

   e. Other

3. Check sources of municipal revenue, tax base, and rate.

   a. Property tax

      (1) Total revenue

      (2) Total assessed value

      (3) Assessment rate

      (4) Tax rate

   b. Income tax

      (1) Total revenue

      (2) Total personal income (average household income times number of households)

      (3) Tax rate

   c. Per capita and other taxes

      (1) Total taxable population

      (2) Tax rate

   d. State and federal subsidy

      (1) Amount of subsidy

      (2) Basis for subsidy

   e. Municipal debt

      (1) Current municipal debt

      (2) Legislative debt limit

4. School data

   a. School taxes - Obtain school budget and supporting data to determine:

      (1) Property tax

         (a) Total revenue

         (b) Total assessed value

         (c) Assessment rate

         (d) Tax rate

      (2) Income tax

         (a) Total revenue

         (b) Total personal income

         (c) Tax rate

(3) Per capita and other taxes

(a) Total taxable population

(b) Tax rate

(4) State and federal subsidy

(a) Amount of subsidy

(b) Basis for subsidy

(5) School debt

(a) Current debt

(b) Legislative debt limit

b. School capacity/enrollment

(1) Current enrollment

(2) Current capacity

c. Plans for school expansion

E. Market Analysis

1. Market comparables

a. Unit types (market mix: percent of each type available).

b. Sale prices and rents.

c. Unit sizes.

d. Special features.

2. Market absorption rates

3. Cyclical construction trends. (Is the market over-built or under-built now?)

4. Neighborhood characteristics

5. Regional location factors:

a. Access to work, shopping, recreation, etc.

b. Special amenities.

c. Major pollution sources, etc.

NATURAL SYSTEMS ANALYSIS

Dollar costs that may be incurred to overcome restrictions or meet performance standards should be particularly noted.

A. Analysis of Natural Restrictions

1. Vegetation

a. Acres in each vegetation classification (wooded, non-wooded).

b. Percentage of the site in each vegetation type.

2. Slopes

a. Acres in each slope classification (0-3%, 3-8%, 8-15%, 15-25%, 25+%).

b. Percentage of the site in each slope classification.

3. Seasonal high water table (SHWT)

a. Acres in each class of SHWT.

b. Percentage of the site in each SHWT class.

4. Shallow to bedrock

   a. Acres in each class of shallow to bedrock.

   b. Percentage of the site in each shallow to bedrock class.

5. Floodplain

   a. Acres of the site in the floodplain.

   b. Percentage of the site in the floodplain.

6. Composite development restrictions.

   a. Acres with development restrictions.

   b. Percentage of site with development restrictions.

B. Coverage Limits Analysis

This involves an analysis of the projected runoff of stormwater and the determination of impervious coverage limits or performance standard requirements.

LAND USE DESCRIPTION

Determine the types of units, market values, sizes and mix. These will be based on the developer's preferences and the market study.

SCHEMATIC SITE DESIGN

This is a blob diagram showing land use classifications (single-family, townhouses, garden apartments, commercial, open space, etc.) and the major circulation and utility lines. The amount of land shown in the various blobs should agree with the required unit mix determined in the Land Use Description phase. The schematic design should also respect the natural restrictions from the Natural Systems Analysis phase.

PHYSICAL DELIVERY SYSTEMS ANALYSIS

A. Roads

1. Length of major access and site circulation.

2. Cost of major access and circulation.

3. Cost of intersection improvements.

B. Water System

1. Length of major water lines on- and off-site.

2. Cost of major water lines.

3. Cost of other water system features if required (wells, pumps, storage tanks, treatment equipment, etc.)

C. Sewer System

1. Length of major sewer lines on- and off-site.

2. Cost of major sewer lines including manholes.

3. Cost of other sewer system features if required (pumping station, package plant, etc.).

D. Other Utilities

1. Length of other utility lines (telephone, electric, gas).

2. Cost of utility lines not paid by the utility companies (placing system underground, etc.).

DENSITY FEASIBILITY ANALYSIS

A. Upper limit of development density can be determined in a number of ways:

1. Maximum density allowable from zoning or PUD code. This is the legal maximum.

2. Maximum density possible within the constraints imposed by the market mix and lot sizes from the Land Use Description phase. This can be calculated using Equation 1.

$$D_m = \frac{100}{\Sigma\ \ell_n m_n} \qquad \text{(Equation 1)}$$

where D_m is the net density based on the market study mix,
ℓ is the lot size for the unit type (acres),
m is the mix for the unit type (%), and
n is the total number of unit types.

For instance, if the market study shows that the proposed development should include 80% (m_1) single family homes on half acre lots ($\ell_1 = .5$), 10% (m_2) townhouses at 10 per acre ($\ell_2 = .1$), and 10% (m_3) garden apartments at 14 per acre ($\ell_3 = .07$), then the net density would be calculated as follows:

$$D_m = 100 / \{(.5 \times 80) + (.1 \times 10) + (.07 \times 10)\}$$

$$= 100 / (40 + 1 + .7)$$

$$= 100 / 41.7$$

$$= 2.4 \text{ du/acre}$$

3. Maximum density determined from the coverage analysis in the Natural Systems Analysis phase and the market mix of the Land Use Description phase. Three impervious coverage (C) values are required: (a) the weighted average coverage per unit ($C\chi$), (b) the amount of impervious coverage allowed for the site ($C\alpha$), and (c) the amount of impervious coverage per acre for all major site improvements such as community buildings, major roads, etc. ($C\delta$).

A weighted average is calculated using the following equation:

$$\chi = \Sigma\ \frac{v_n\ k_n}{\Sigma\ v_n} \qquad \text{(Equation A)}$$

where v is the number of each variable or element,
k is the constant value of each variable or element, and
n is the number of different variables.

This equation can then be used to calculate the weighted average coverage per unit. For instance, suppose that the following is the recommended mix from the market study:

Unit Type	Unit Area	Stories	Net Cover	Parking, Patio, etc.	Total/ Unit	Mix
SF	1700 sf	1	1700 sf	1000 sf	2700 sf	10%
TH	1400 sf	2	700 sf	600 sf	1300 sf	30%
GA2	1000 sf	3	333 sf	600 sf	933 sf	30%
GA1	800 sf	3	267 sf	600 sf	867 sf	30%

Therefore, if the percent mix is the variable value (v) and the total coverage per unit is the constant value (k), then for the four (n) unit types the weighted average coverage per unit ($C\chi$) can be calculated as follows:

$$C\chi = \frac{v_1k_1 + v_2k_2 + v_3k_3 + v_4k_4}{v_1 + v_2 + v_3 + v_4}$$

$$= \frac{(10 \times 2700) + (30 \times 1300) + (30 \times 933) + (30 \times 867)}{10 + 30 + 30 + 30}$$

$$= \frac{27000 + 39000 + 27990 + 26010}{100}$$

$$= 12000/100 = 1200 \text{ sf/du}$$

The maximum density based on the cover model (D_i) can then be calculated using Equation 2 as follows:

$$D_i = \frac{(435.6 \times C\alpha) - C\delta}{Cx} \qquad \text{(Equation 2)}$$

As an example, assume that the allowable impervious coverage for the site based on the cover model ($C\alpha$) is 22%, the coverage per acre of all major site improvements ($C\delta$) is 1500 square feet per acre, and the weighted average coverage per unit is 1200 square feet per unit as above, then the maximum density would be calculated using Equation 2 as follows:

$$D_i = \frac{(435.6 \times 22) - 1500}{1200}$$

$$= \frac{9583.2 - 1500}{1200}$$

$$= 8083.2 / 1200$$

$$= 6.736 \text{ du/acre}$$

8. Break-even Density. This is the minimum project density at which the developer will be able to meet all costs and still make an acceptable profit. This is used to determine the relationships among the total site development cost (both on- and off-site), the average market value per unit, and the density.

   1. The basic break-even density equation is as follows:

$$D_e = \frac{L}{.0826 \times V \times A} \qquad \text{(Equation 3)}$$

   where L is the major site development costs ($),
   V is the average market value per unit ($/du), and
   A is the site area in acres.

   2. Variations of break-even equation.

      a. To find the average market value if the density and development cost is known:

$$V = L / (.0826 \times A \times D_e) \qquad \text{(Equation 3a)}$$

      b. To find the allowable development cost if the density and average market value is known:

$$L = V \times A \times D_e \times .0826 \qquad \text{(Equation 3b)}$$

   3. Determination of site development cost (L). This is the total of all front-end and major improvement costs. It includes:

      a. Cost of land.

      b. Interest on land.

      c. Planning fees.

      d. Legal fees, permits, etc.

      e. Sewer system.

      f. Water system.

      g. Roads and intersection improvements.

      h. Community buildings and recreation facilities.

      i. Other major site improvement costs.

   4. Determination of average unit market value (V). This is the weighted average of the market value of all units.

      a. V can be a one-number estimate for the whole project.

      b. A more accurate method of determining V is to use a weighted average of the project value of each type of unit based on the Land Use Description analysis and the market study.

c. To find the market value for rental apartments, multiply the expected annual rent by 7.28.

d. To find the total construction cost (bricks and boards plus unit share of major site development costs) from the market value, divide the market value by 1.661.

e. To find the unit share of the major site development costs from the market value, multiply the market value by .0826.

f. To find the total construction cost (bricks and boards plus unit share of major site development improvement costs) from the annual rent, multiply the annual rent by 4.3833.

C. Equilibrium break-even density. This analysis is used when the developer and the municipality (or school district) share the cost of major site improvements. The analysis is subject to the constraints that the project must generate a positive tax surplus if the developer pays all major site development costs.

With the equilibrium analysis the municipality invests all tax surplus generated by the project in the major site development costs. When the municipality pays part of the site development cost, the break-even density for the developer is lowered because his costs are lowered. The equilibrium analysis determines the minimum breakdown density where the developer just breaks even and the municipality reinvests all tax surplus. The analysis also determines the respective shares of costs for the developer and the municipality.

The equilibrium break-even density (D_b) is calculated using the following equation:

$$D_b = \frac{L}{A\ (.0826\ V + 15\ ((V \times M \times R) + T - S))} \qquad \text{(Equation 4)}$$

where L is the major site development costs ($),
V is the average market value per unit ($/du),
A is the site area in acres,
M is the tax millage rate,
R is the assessment factor,
T is all other taxes paid by the occupants per unit, and
S is the unit service cost.

All of the other taxes paid by the occupants of the units would include income taxes, per capita taxes, etc. This value (T) is calculated on a per unit basis for the entire project. The unit service cost (S) is based on the average cost per unit for municipal services to the project. This is based on an analysis of the municipal budget. The same procedure would be used for school budget information if the equilibrium analysis was between the developer and the school district.

For instance, suppose that each of the variables has the following values:

L = $1,500,000
V = $25,000
A = 120 acres
M = .025
R = .6 (60%)
T = $250/unit
S = $600

The equilibrium break-even density would be calculated using Equation 4 as follows:

$$D_b = \frac{1,500,000}{120\ \{(.0826 \times 25,000) + 15\ ((25,000 \times .025 \times .6) + 250 - 600)\}}$$

$$= \frac{1,500,000}{120\ \{2065 + 15(375 + 250 - 600)\}}$$

$$= \frac{1,500,000}{120\ \{2065 + (15 \times 25)\}}$$

$$= \frac{1,500,000}{120\ (2065 + 375)}$$

$$= \frac{1,500,000}{120 \times 2440}$$

$$= \frac{1,500,000}{292,800}$$

$$= 5.12 \text{ du/acre}$$

To calculate the developer's share of the site development costs (L_d), use Equation 3b by substituting the equilibrium break-even density (D_b) for the break-even density (D_e) in the equation as follows:

$$L_d = V \times A \times D_b \times .0826 \qquad \text{(Equation 4a)}$$

The municipality's share of the site development costs (L_m) is simply calculated by subtracting the developer's share from the total site development costs:

$$L_m = L - L_d \qquad \text{(Equation 4b)}$$

Following through with the above example, the developer's share of the site development costs would be

$$L_d = \$25,000 \times 120 \text{ acres} \times 5.12 \text{ du/acre} \times .0826$$

$$= \$1,268,736$$

and the municipality's share would be

$$L_m = \$1,500,000 - \$1,268,736$$

$$= \$231,264$$

There are two major practical limitations on the use of the equilibrium analysis:

1. Any investment of public funds in major site development must be politically expedient. The municipality might be able to invest in intersection improvements, off-site sewer lines, and other improvements which ostensibly benefit more of the public than just the residents of the site. If the municipal share of costs at the equilibrium density is $200,000 but only $100,000 in off-site public improvements can judiciously be made, then the other $100,000 will remain as a tax surplus.

2. Separate taxing bodies normally will not and cannot exchange surplus revenues to balance out deficits. If a project is developing a $100,000 municipal tax surplus, a $100,000 school tax deficit will not be cancelled out.

DEVELOPMENT EXTERNALITIES

This section deals with costs (monetary and non-monetary) and revenues generated by a development. A detailed analysis of these externalities is often useful for planning purposes.

A. Traffic Generation

1. Daily or peak hour trip generation rates by unit type are applied to the total number of units contemplated for the project. This gives the total traffic generation.

2. Percentage allocation of the various access routes to the site is derived from origin-destination studies.

3. By combining 1 and 2 above the site-generated traffic load on any access point can be determined.

4. Comparison of existing traffic, design capacity, and site-generated traffic loads indicates the amount of anticipated congestion.

5. If a road or intersection improvement is needed to overcome the anticipated level of congestion, the cost will become part of the major site development cost. Either the municipality or the developer can pay for the improvements.

B. School Children

1. School children generation rates by unit type are applied to the total number of units contemplated to obtain an estimate of the total number of school children generated by the project.

2. The school budget will indicate the cost per student for operation. Multiply that cost by the total number of students generated for the projected school costs.

3. Project market value, property tax rates, and other tax information are used to determine the total school tax generated by the project.

4. Formulas for state and federal school subsidies are used to determine the additional subsidy created by the school children from the project.

5. The sum of items 3 and 4 above is compared to item 2 to determine the net surplus or deficit caused by the project.

C. Municipal Services

The revenue and operations structure must be investigated to find which services are supported by general taxes and which are supported by special user charges.

1. Typically sewer and water operations are separate from the general fund so that a property tax surplus cannot usually be used for sewer construction. The structure of municipal services must be investigated to sort this out.

2. Costs, revenues, and indicators of use on a per capita, per square foot, per linear foot, per dwelling, per acre, etc., basis for all municipal services should be investigated to find out which areas show a favorable balance for the proposed project (or an unfavorable balance as the case may be).

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S E M I N A R

R E A L E S T A T E F E A S I B I L I T Y

A N A L Y S I S

Presented By:

Professor James A. Graaskamp, CRE, SREA
University of Wisconsin, School of Business

For

Denver Chapter
American Institute of Real Estate Appraisers

September 16-17, 1983

REAL ESTATE FEASIBILITY SEMINAR

Second Day

Presented By:
Professor James A. Graaskamp, CRE, SREA
University of Wisconsin, School of Business

I. Although macroeconomic theory argues a tendency toward perfect competition, the individual project should be striving toward a monopoly. Market analysis is the research necessary to create and maintain a competitive edge in order to stabilize investment performance against the profit decline of perfect competition, against inadvertent clash with community attitudes, and against future user rejection.

A. Given that premise, market research is risk management. The levels of market research would be:

1. Intuitive positioning to reflect attitudes about the future long-term trends of society, demographics, the economy, etc.
   a. For example, if government, education, and high tech are attitudes, then positioning might lead one to focus on state capitols with universities having technical rather than liberal arts emphasis.
   b. Attitudes might be set by futuristic books such as Megatrends, Third Wave, or The Ten Countries of North America.
   c. An old precept is "sell if everybody's buying, market to the gap that everyone overlooks." Thus market positioning might take an established idea in first and second tier cities and introduce it in the third and fourth tier cities.

2. Next marketing would stratify within a narrow band of a broader demographic market of intuitive positioning.

3. Stratification would consist of several segments of the broader band of preference (elderly breakdown or thirteen housing segments).

4. Identifying issues and symbols which would trigger adverse reactions of the collective consumer.

5. Evaluating demand/supply relationships to determine need for sensitivity to specialized consumer needs.

6. Focusing the project to provide relief from anxiety, a reduction in physical discomfort, improved efficiency of an activity house, or improvement of self-esteem of the targeted user/customer group.

7. Defining and controlling the window for presentation of the concept (the approach zone, the sales center office, the formal introduction and interview, etc.).

8. Identifying alternative markets and basic product features necessary to permit marketing campaign for an alternative second course, a fallback position.

B. The real estate project marketing program must keep in mind the features required to neutralize the collective consumer who might oppose entitlements, the features and codes which will motivate the space consumer at a price which provides financial viability, and the overall six strategic attributes to be marketed to the investor At the very least market and merchandising research should be able to eventually produce a marketing program which suggests:

1. Where the developer/investor should position his effort relative to demographic and economic trends given a desired scale of operation.

2. The unmet needs in the marketplace in terms of mostprobable user groups, their total number, and their effective demand constraints.

3. The time span of their effective demand in the marketplace

4. The competitive standard product minimum required for entry into the market.

5. The competitive product/service/margin necessary for monopoly advantage

6. The project image most likely to neutralize collective opposition

7. Essential media and themes required for promotion programs

8. Financial parameters required to attract investors, mortgage or equity

II. The first step is to reduce aggregate data about user groups which is plausible but overly general information to a scale which will focus on a sub-segment with a proper rationale or hierarchy. To do that requires an analytical model and in most cases, each situation requires the analyst to create his own model with which to structure the data available and to discover the missing links in the logic diagram which must be researched.

A. Models organize the anlyst, the report, and the client

1. Models explain what you are going to do.

2. Models make relationships and key assumptions explicit.

3. Models permit clients to understand logic of conclusion and to test his own set of assumptions.

B. A market research model should be careful to recognize?

1. What are the questions

2. What data is available which is relevant?

3. What theory is available to focus data on the questions?

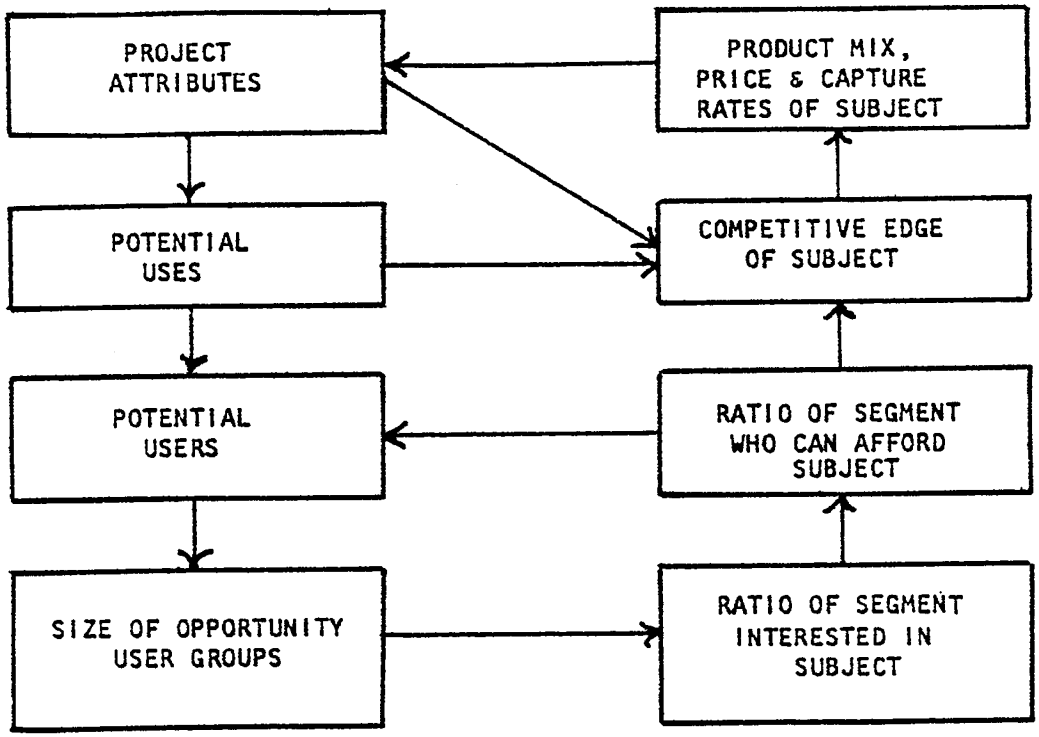
4. How will the results be communicated?

5. What are the abilities of the analyst?

6. What is the cost benefit ratio between the model method and the question?

EXHIBIT I

SEGMENTATION LOGIC TREE



C. Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on. It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

D. Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

1. Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many square feet of leased office space were occupied.

2. Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

E. A flow chart of the market research process is provided in Exhibit 1.

F. Most multi-tenant or multi-user land uses are susceptible to a retail trade area model. A retail model is a device analogous to establishing a retail trade area perimeter for a super market to segregate households which have a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income. Thus the analyst should establish a preliminary hypothesis for:

1. Primary market area to be served.

2. Secondary market area to be served.

3. Principal competitors.

G. Consider Exhibit 2 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

1. For lines with asterisks the key ratios for reduction were derived from a survey of the elderly generating primary data for this county.

2. For example, while 37% of the elderly were financially qualified, only about 60% of those were interested in considering a residential, minimal care facility or 22% of those in the convential housing market - hence the reduction from 19,700 to only 4,200. This chart should have showed the ratios from the survey.

3. Failure to convert serious interest into action was a round number based on experience of those which had marketed similar developments in the past, as was an allowance for potential customers coming from outside the county to be closer to relatives, etc.

III. Market data provides a measure of potential scale of a market opportunity; the most important aspect of market analysis is forecasting the degree of market penetration or capture rate of remedial development.

A. To reduce aggregate market data to a merchandising hypothesis, the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

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EXHIBIT 2

FOCUSING IN ON THE VARIOUS SEGMENTS OF THE ELDERLY POPULATION

TO DETERMINE RELATIVE LEVELS OF HOUSING NEED

AND THE URGENCY OF THAT NEED

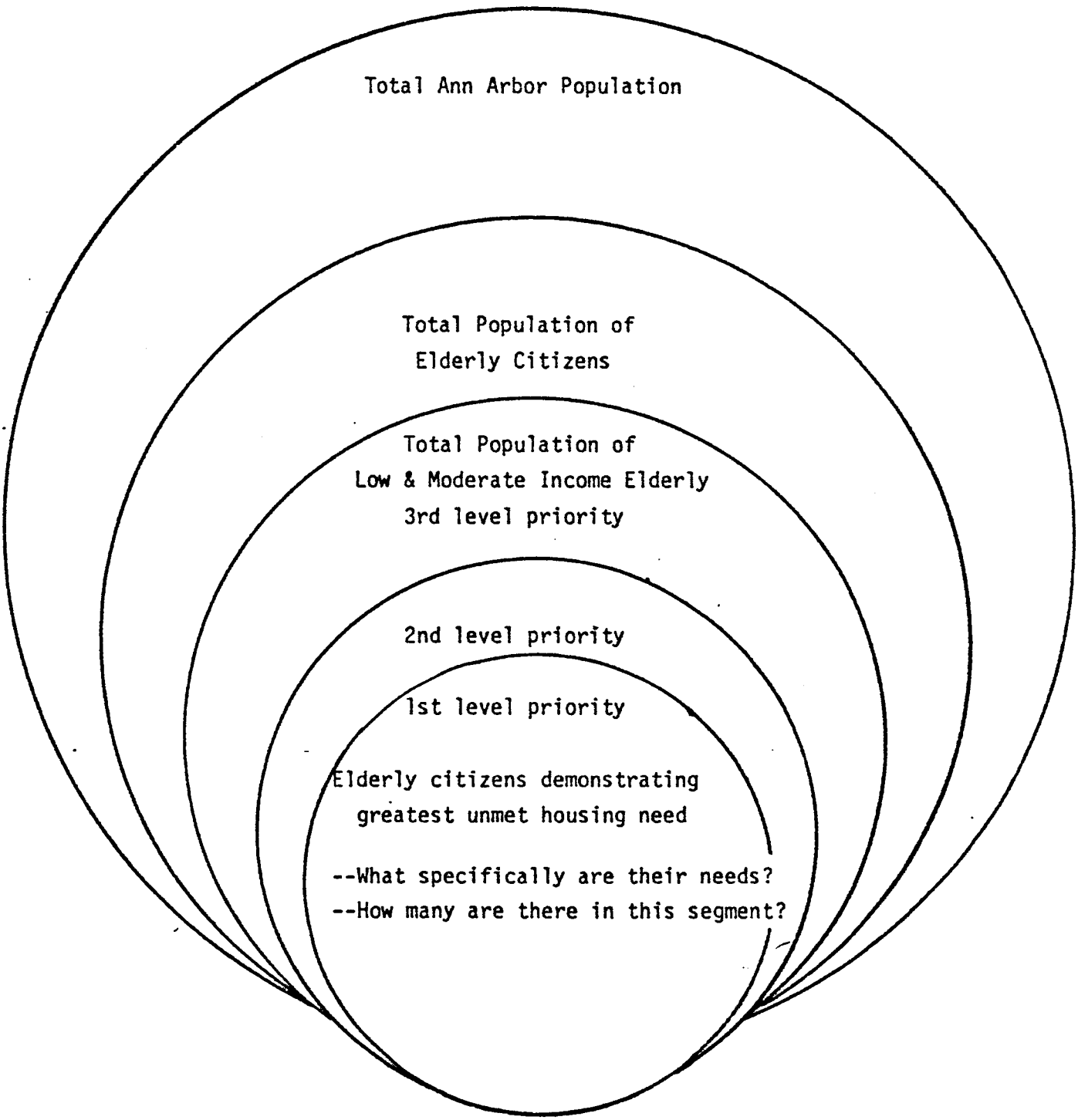


EXHIBIT 3
DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	
		2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
Survey percentage of persons financially qualified for $350 a month + $5,000 entry deposit (34%)		6,707
Survey percentage of these qualified who are seriously interested in proposed independent elderly unit (63.6%)		4,270
Household equivalent (+ 1.519 persons per household)		2,811
Less estimated number who will not convert serious interest into any form of action (50%)		1,406
Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3%) from survey questionnaire)	187	
Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4%) (from survey)	76	
		263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
Plus an allowance for those elderly households coming from outside County to enter the proposed development(10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
Share of market opportunity area who state in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise 28.0%		
Garden 49.1		
77.1%		978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		780

1. Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

2. A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

3. A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its contribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

4. The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hours, or per hour of ice time.

5. Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

   a. The salesman or the management paying his travel costs
   b. The doctor or the clinic
   c. The district manager or the corporate real estate manager
   d. The ticket buyer or the promoter
   e. The bowling league, team business manager, travel agency tour guide

6. The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

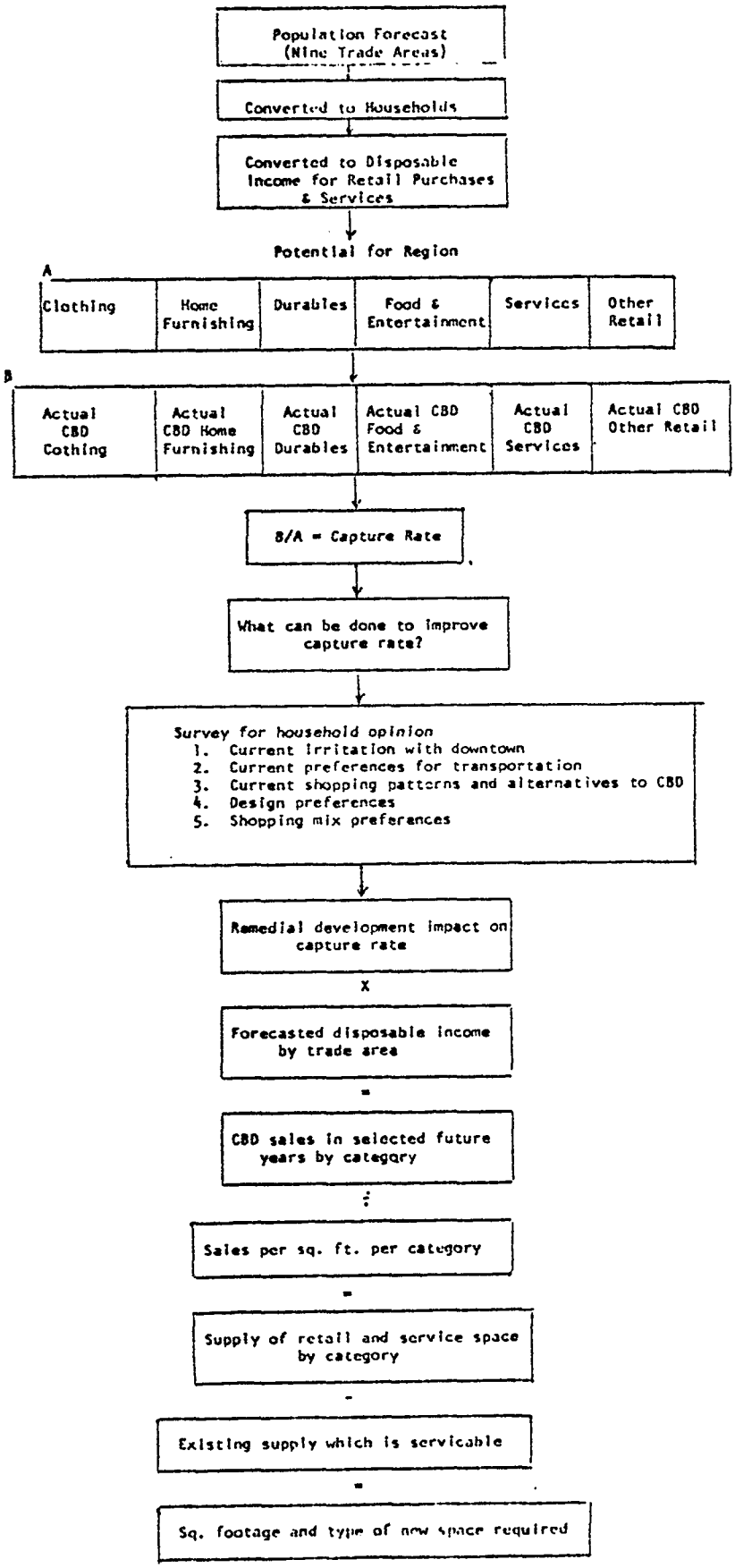
   a. A reverse directory or criss-cross telephone book
   b. Building directories of comparables
   c. Mailing lists of specialty publications
   d. License number spotting
   e. Guest registers
   f. Charge account mailing addresses

B. The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations. Unlike most consumer markets, the number of prospects is always low; think small!

   1. Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

   2. A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

EXHIBIT 4


Population Forecast (Nine Trade Areas)
Converted to Households
Converted to Disposable Income for Retail Purchases & Services
Potential for Region
A
Clothing
Home Furnishing
Durables
Food & Entertainment
Services
Other Retail
B
Actual CBD Cothing
Actual CBD Home Furnishing
Actual CBD Durables
Actual CBD Food & Entertainment
Actual CBD Services
Actual CBD Other Retail
B/A = Capture Rate
What can be done to improve capture rate?
Survey for household opinion
1. Current irritation with downtown
2. Current preferences for transportation
3. Current shopping patterns and alternatives to CBD
4. Design preferences
5. Shopping mix preferances
Remedial development impact on capture rate
X
Forecasted disposable income by trade area
=
CBD sales in selected future years by category
:
Sales per sq. ft. per category
=
Supply of retail and service space by category
-
Existing supply which is servicable
=
Sq. footage and type of new space required

C. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

D. A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

3. Survey questions can discover latent political issues or provide a calm base for citizen input from those who rightfully dislike public hearings.

4. Survey questions and execution should not be done by planners or appraisers.

IV. A good example of modeling market data through segmentation and survey for renovation in a small community is a project by Gruen Gruen + Associates for Santa Maria, California. The study was begun in 1972. Project is operating as the Santa Maria Town Center with retail sales ahead of forecasts.

A. The Gruen's were able to convince the redevelopment agency to avoid any physical planning until a detailed analysis of the demand for alternative services that could attract people back to the downtown area was done. This EMAS study (economic market analysis study) outline is in Exhibit 3 had the following outputs:

1. First, a full analysis of economic data and retail data was utilized to generate information about the type of tenancies that could realistically be expected to penetrate downtown markets. (Table of Contents Exhibit 4)

EXHIBIT 5

POTENTIAL MARKET SEGMENTS

I. Singles — Unmarried, active, mobile, many interests, entertain informally, few financial burdens, recreation oriented. Buy basic furniture, basic kitchen equipment, cars, stereos, and vacations.

II. Young Marrieds, #1 — Young couple, working wife, entertain informally, amateur gardeners, planning on family. Better off financially than they will be in the "family formation" future. Buy durables — cars, kitchen equipment, furniture, and vacations. Rate housing as a need for more living space.

III. Young Marrieds, #2 — Discretionary income available, deferring family, active, entertain informally and often, some formal entertaining, independent, dual-person working household, do-it-yourself buffs, sports car. Rate housing as an investment.

IV. Compact Family/Move Down — Discretionary income available, interested in no maintenance, informal living, some formal entertainment. Away from home often, occasional visits from family or guests, focus on both active and passive recreation.

V. Divorcees/With Children — Family oriented activity, limited entertainment, informal lifestyle, limited maintenance.

VI. Full Nest, #1 — Home purchasing at its peak, even though liquid assets are low. Dissatisfied with financial position, and amount of money saved. Conscious of monthly payments, family activities. Unemployed female with numerous interests, mostly child oriented. Lifestyle is casual and informal. Interested in new products, buy washers, dryers, T.V.'s, baby food, dolls, wagons, etc.

VII. Full Nest, #2 — Family move-up market, as financial position gets better, some wives work. Interested in larger sized packages. The most price/size sensitive group.

VIII. Established Family — Making monthly payment comfortably, some discretionary income as more wives work, approaching peak of economic and social lifestyle curve, some formal entertaining, older children and teenagers, many interests.

IX. Luxury Families — Have arrived, tremendous discretionary income, very formal house, don't entertain often, but when they do, it's formal, dine out often, no maintenance, privacy mandatory.

X. Empty Nester - Home ownership at its peak, more satisfied with financial position. Small or no debt. Family is often away from home, occasional visits from family. Mobile in attitude, but permanent in residence, near grandchildren, many hobbies, one child in college, one or two children married, self-sufficient couple.

XI. Active Retired — Still working two or three days per week, active either socially or politically in community or church affairs, self-sufficient, many hours away from home, do not entertain often, but when they do, it's semi-formal. Winter/summer residences. Likely to sell home before retirement.

XII. Retired — Drastic cut in income, dependent, limited activities outside community. Winter/summer residences.

D. Consider the elderly housing market chart in Exhibit 2a,b. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and overwhelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

E. The ratio sought by the survey follow a precise reduction pattern:

1. How many will consider moving?
2. Of those, how many would consider staying in town?
3. Of those, how many would consider an apartment?
4. Of those remaining who would consider an apartment in town, how many would consider a specific location?
5. Notice the reduction process defines a subset of the elderly market - a micro-market.

F. Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

1. Confine vocabulary to basic 1000 words; avoid lingo.

2. Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 6)

3. Always test the quesionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

4. Questions may take different formats. (See Exhibit 6)

G. The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

1. Probe for dissatisfaction with existing space or life style.
2. Probe for anxieties about uncontrollable trends and events.
3. Probe for desired social structure ties, real or imagined.

H. The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

1. The telephone interview may be less expensive per question and fastest but is limited in the type and amount of questions which can be asked. Rifled to a project known to the analyst,

it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself. (See Exhibit 7)

2. A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

3. Direct mail questionnaires may cost from 5¢ to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

4. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

   . Would you be at all uneasy if people of a different religion or race were to move in next to your home?

   . As you see it, what are some of the good points and the bad points of the present Governor of this state?

5. Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked, the response should permit some degree of obliqueness by the respondent.

   . The respondent can select a range of income or perhaps enter the answer with a letter A, B, etc. in place of a dollar amount.

   . If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

6. Contingency questions are those which are asked or skipped depending on the respondent's answer to a preceding question. The survey should be as simple to follow as a well designed road map for an interviewer or a respondent. For example:

V. Introduction to Prospect Survey

While a survey analysis appears to be a group of questions, in fact the real product is a table of data unavailable from any other source. The analyst should begin with a written mock-up of the final report logic and the specific tables which lead to a conclusion.

A. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankruptcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

B. A survey of users, is designed to reveal or to identify the competitive differential attributes which whould provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

C. With a preliminary hypothesis as to the prospect, survey questions may be inteded to provide:

1. Key ratios necessary for segmentation of market data already broken down by trade area, demographics, employment, etc.

2. Key indicators of anxieties or preferences or tradeoffs of the prospect.

3. Key indicators of the anxieties or preferences of non-prospects who feel a vested interest in the impact or have a significant part in the purchase process. (For example - the members of the Public Housing Authority have a different set of needs than the ultimate user, but the product is "bought" by the Board).

Simple Survey Formats for Classification of Subsets & Measurement of Preference

I'd like to ask you a few questions about the place you lived just before you moved into this apartment.

5. About how many years did you live in your former home?

__ less than 1 year
__ 1 year - L.T. 2 years
__ 2 to L.T. 5 years
__ 5 to L.T. 10 years
__ 10 to 15 years
__ more than 15 years, _____

6. Did you live in a house or in an apartment building just before your move here?

__ house
__ apartment
__ other, _____

→ About how many apartments, including yours were there in the building?

__ L.T. 4
__ 4 to 8
__ 9 to 16
__ 17 to 24
__ 24 to 32
__ more than 32

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Did you own or rent the house?

__ own
__ rent

Did you rent a room, a flat or floor, or entire house?

__ room __ flat/floor __ entire

About how much rent did you pay per month, including utilities but not telephone? $_____

__ L.T. $50
__ $50 to L.T. $75
__ $75 to L.T. $100
__ $100 to L.T. $125
__ $125 to $150
__ more than $150

Now I'd like to ask you some general questions about your decision to move to this apartment.

7. How did you first find out about them?

__ family
__ friends
__ church
__ Housing Authority
__ newspaper
__ radio
__ television
__ other, _____

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

E. Generalized Format of Merchandising Report Summary

Cash flows ultimately depend on sales or rental revenues and further refinements of the frontdoor-backdoor approaches depend on establishing an explicit set of assumptions about the geographical market area, the user segment within that market area, and so on. All you buy in a real estate investment is a set of assumptions about the market. Therefore, the analyst should provide and identify a marketing assumption checklist for the reader:

1. Definition of geographic and demographic market.
   a. Primary trade area to be served
   b. Profile of prospects by current location, statue, income, etc. in primary carefully segmented area.
   c. Secondary trade area to be served
   d. Profile of prospects by current location, status, income, etc. in secondary carefully segmented area.
2. Definition of principal competitors
   a. Existing supply
   b. Prospective supply with timeline advantage.
   c. Competitive standard package of project features.
   d. Unique features of successful competitors.
   e. Probable cause of unsuccessful competitors.
   f. Merchandising appeals of competitors.
   g. Definition of market penetration and competitive gap.
3. Establishment of merchandising strategy logic
   a. Competition
      - Standard product
      - Price and quality
      - Competitive edge opportunity
   b. Positioning strategy
      - Sales themes
      - Name and byline
      - Site and unit features
      - Strong sales points
   c. Construction and architecture
      - Sales area
      - Models
      - Entrance and signs

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DENVER RETIREMENT HOUSING SURVEY

1. Please indicate which of the following best describes your **present** residence?
   - (1) ☐ Single Family House
   - (2) ☐ Apartment (without elevator)
   - (3) ☐ Apartment (with elevator)
   - (4) ☐ Townhouse
   - (5) ☐ Duplex, Three-family or Four-plex
   - (6) ☐ Senior Citizens Housing
   - (7) ☐ Retirement Center (with meals and supporting services)
   - (8) ☐ Other, please specify _____

2. Approximately how many years have you resided within your present residence?

   _____ years

3. Please indicate which best describes the financial arrangement of your **present** residence:
   - (1) ☐ We/I own it
   - (2) ☐ We/I rent it
   - (3) ☐ Other, please specify _____

4. If you own your own home, what is its current market value?
   - (1) ☐ Less than $60,000
   - (2) ☐ $60,000 or higher
   - (3) ☐ Do not know

5. Please indicate (check one) which of the following best describes with whom you share your present residence:
   - (1) ☐ I live alone
   - (2) ☐ I share it with my spouse only.
   - (3) ☐ I share it with my children only.
   - (4) ☐ I share it with my spouse and children.
   - (5) ☐ I share it with a friend or friends.
   - (6) ☐ I share it with relatives other than spouse and children.
   - (7) ☐ Other (please specify) _____

6. Please indicate the zip code of your present residence:

   Zip Code _____

RETIREMENT COMMUNITY CONCEPT

In recent years, many retired persons have found the convenience of retirement living as an attractive alternative to living in a single family house. The reason frequently mentioned for moving are the freedom from the burden of home upkeep and the opportunity to live in a community of persons with similar interests. Each retirement center resident has the privacy of her/his own apartment and the opportunity to meet with friends for meals in the central dining room and join in recreational activities. Provisions are available for health check-ups and outpatient health care if and when needs arise.

7. Are you familiar with this retirement community concept?

   (1) ☐ Yes, because I/we have visited family/friends who live in a retirement community.

   (2) ☐ Yes, because I/we have considered living in a retirement community.

   (3) ☐ I/we know very little about it.

8. If the concept of retirement apartments with central dining and a senior health center is an attractive alternative to your present housing, when might you find it desirable?

   (1) ☐ I would be glad to move into such a community **now,** provided its accommodations were suitable to my needs.

   (2) ☐ I might find it quite desirable **in a couple of years.**

   (3) ☐ I am not interested now, but would like to see such an option open to me if I should find that I want it later.

   (4) ☐ Unsure.

   (5) ☐ I would definitely never be interested in such a community.

PROPOSED DENVER RETIREMENT COMMUNITY

9. The proposed retirement community will be located in the Sloan's Lake area of Denver. Please indicate what you feel are the advantages and disadvantages of this location. See map showing location of Sloan's Lake.

Advantages

(1) _____

(2) _____

(3) _____

Disadvantages

(1) _____

(2) _____

(3) _____

☐ Not familiar with Sloan's Lake location.

The proposed retirement community plan includes an outpatient health center and pharmacy located on the same site.

10. Do you feel the presence of the outpatient health center would influence your decision to live in the proposed retirement community?

(1) ☐ Yes, I/we feel the availability of the health center is a **definite advantage.**

(2) ☐ Yes, I/we feel the availability of the health center is a **slight advantage.**

(3) ☐ No, I/we feel the availability of the health center is not an advantage because I/we prefer other health care alternatives.

HOUSING FEATURES

11. What type of residence would you prefer for your **next** move? (Check one)

    (1) ☐ I/we would prefer it to be an apartment (without elevator).

    (2) ☐ I/we would prefer it to be an apartment (with elevator).

    (3) ☐ I/we would prefer it to be a duplex, three-family or four-plex.

    (4) ☐ I/we would prefer it to be some sort of **small** single family dwelling such as a cottage.

    (5) ☐ I/we are not sure.

    (6) ☐ Other, please specify _____

12. What building height would you prefer?

    (1) ☐ A one-story building.

    (2) ☐ A multiple story building with elevator.

    (3) ☐ The building height makes no difference.

    (4) Comments _____

13. What type of unit style would you prefer? (Check one)

    (1) ☐ Efficiency apartment with private bath.

    (2) ☐ One bedroom, living room and bath.

    (3) ☐ One bedroom, living room, den or study and **one bath.**

    (4) ☐ Two bedrooms, living room and **one bath.**

    (5) ☐ Two bedrooms, living room and **one and a half baths.**

    (6) ☐ Two bedrooms, living room and **two baths.**

14. What type of kitchen facilities would you prefer in your residence? (Check one)

    (1) ☐ Would prefer not to have any kitchen facilities since I would expect to eat all meals in a central dining room with friends.

    (2) ☐ Would like to have a **kitchenette** in my unit for preparing occasional snacks.

    (3) ☐ Would prefer to have a **full kitchen** in my unit although I may eat some meals in a central dining room with friends.

15. What type of meal service would you prefer?

    (1) ☐ Prepare **all** your own meals in your own kitchen.

    (2) ☐ Prepare one or two meals a day in your own kitchen.

    (3) ☐ Prepare less than one meal a day in your own kitchen.

16. Preference for retirement community amenities.

Please indicate the relative importance of the following amenities in making your next housing change.

	Very Important	Somewhat Important	Not Very Important	Not at all Important
(1) Close proximity to outpatient health center	☐	☐	☐	☐
(2) Exercise program	☐	☐	☐	☐
(3) Central dining room	☐	☐	☐	☐
(4) Linen service	☐	☐	☐	☐
(5) Maid service	☐	☐	☐	☐
(6) Group shuttle bus to shopping centers, restaurants and selected facilities	☐	☐	☐	☐
(7) Beauty salon/Barber shop	☐	☐	☐	☐
(8) Guest apartment facilities	☐	☐	☐	☐
(9) Pharmacy	☐	☐	☐	☐
(10) 24 hour security with emergency call buttons	☐	☐	☐	☐
(11) Outdoor patios, and/or balconies	☐	☐	☐	☐
(12) Whirlpool/hot tub	☐	☐	☐	☐
(13) Craft/hobby rooms	☐	☐	☐	☐
(14) Library	☐	☐	☐	☐
(15) Organized recreation program	☐	☐	☐	☐
(16) Chapel	☐	☐	☐	☐
(17) Covered parking	☐	☐	☐	☐
(18) Ability to keep small pet	☐	☐	☐	☐

(19) Other, please specify _____

17. In the previous list of 18 items, what are the 3 **most important** features to you?

List the numbers here: (1) _____ (2) _____ (3) _____

18. In the previous list of 18 items, what are the 3 **least important** features to you?

List the numbers here: (1) _____ (2) _____ (3) _____

FINANCIAL ARRANGEMENTS

The payment plan being considered requires an initial payment along with monthly fees. Generally with a higher initial payment a lower monthly payment is possible. The monthly fee includes the enjoyment of an apartment, the cost of optional meals in the dining room, scheduled transportation, utilities and services plus the use of community and recreation facilities. In other words except for the cost of meals prepared in your own kitchen or eating out in restaurants most of your monthly living costs are included.

19. Please indicate the highest level of initial payment **and** monthly payment you could pay.

Initial Payment (Check One)		**Monthly Payment** (Check One)	
(1) ☐	Less than $9,999	(11) ☐	Less than $399 per month
(2) ☐	$10,000-19,999	(12) ☐	$400-499
(3) ☐	20,000-29,999	(13) ☐	500-599
(4) ☐	30,000-39,999	(14) ☐	600-699
(5) ☐	40,000-49,999	(15) ☐	700-799
(6) ☐	50,000-59,999	(16) ☐	800-899
(7) ☐	60,000-69,999	(17) ☐	900-999
(8) ☐	70,000-79,999	(18) ☐	1000-1099
(9) ☐	80,000-89,999	(19) ☐	1100-1199
(10) ☐	90,000 or higher	(20) ☐	1200 or higher

With the proposed payment concept several payment plans are possible.

20. Which combination of payments would you most prefer?

(1) ☐ High initial payment low monthly fees, monthly fees increasing as costs increase.

(2) ☐ Low initial payment, high monthly fees, monthly fees increasing as costs increase.

(3) ☐ A middle level of initial payment and monthly fees, monthly fees increasing as costs increase.

(4) ☐ High initial payment, high monthly payment, monthly payment held constant.

21. Which of the following payment plans would you most prefer?

(1) ☐ Low initial payment with **no refund of payment** when you move.

(2) ☐ Middle amount of initial payment with **partial refund of initial payment** when you move.

(3) ☐ High initial payment with **complete refund upon move.**

22. If the payment plans described above do not meet your needs which of the following would you prefer:

(1) ☐ The payment concept presented above meets my needs.

(2) ☐ I/we would prefer to **rent** my/our next residence.

(3) ☐ I/we would prefer to **purchase** my/our next residence.

(4) ☐ I/we are not familiar with the various alternatives open to me/us regarding this subject.

(5) ☐ I/we are not sure.

GENERAL INFORMATION

23. Please indicate your sex: (1) ☐ Male (2) ☐ Female

24. Please indicate your marital status:

(1) ☐ Single (never married)

(2) ☐ Married

(3) ☐ Separated/Divorced

(4) ☐ Widowed

25. **Your Age:** _____ **Spouse's Age:** _____

26. At what age did you retire?

Your Retirement Age: _____ **Spouse's Retirement Age:** _____

27. If not retired, at what age do you plan to retire?

Your planned retirement age: _____

Spouse's planned retirement age: _____

28. Your occupation? _____ Spouse's occupation? _____
(If retired your/spouse's occupation prior to retirement)

HOUSEHOLD INFORMATION

29. Please indicate number of people in your household _____.

30. Please indicate total (your/spouse's) annual household income $_____.

31. How many people contribute to this income? _____ number of people.

32. Which of the following (check as many as are appropriate) is the source of your income?

(1) ☐ Full time wages/salary
(2) ☐ Part time wages/salary
(3) ☐ Social security
(4) ☐ Annuity
(5) ☐ Pension
(6) ☐ Rental property
(7) ☐ Interest
(8) ☐ Dividends

33. Do you and/or your spouse presently drive an automobile?

(1) ☐ Yes (2) ☐ No

34. If **yes**, do you own the automobile? (1) ☐ Yes (2) ☐ No

35. If **no**, what is your mode of transportation?

(1) ☐ Rely on family private car
(2) ☐ Rely on friend's private car
(3) ☐ Taxi
(4) ☐ Bus
(5) ☐ Special senior transportation
(6) ☐ Walk
(7) ☐ Other, please specify _____

THANK YOU FOR YOUR HELP!

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ANN ARBOR, MICHIGAN 48104

- Project amenities
- Roads and paving
- Site plan
- Construction schedule

4. Definition of prospect target for subject property

   a. Recommendations on site location

   b. Recommendations on site linkages and dynamics

   c. Recommendations on building types and numbers

   d. Recommendations on basic unit features

   e. Recommendations on basic unit options

   f. Recommendations on level of quality

   g. Recommendations on basic price targets

F. Structuring the Feasibility Report

Ultimately the budget established for analysis and the need to communicate the findings represent a severe constraint on the feasibility process. Priorities and critical assumptions necessary to achieve the desired outcome must be separated from the great mass of detail and presented tersely.

1. Format of the report should rely on three elements:

   a. An executive summary which tersely identifies alternative courses of action and recommendations as to how client can make the choice.

   b. A basic reference document which includes all the detail analysis.

   c. A collection of reports by contributing professionals incorporated by reference.

2. To be terse the executive summary should depend on:

   a. Simple charts of choices of alternative outcomes (See Exhibit 21).

   b. Simple flow charts (Such as Exhibits 3,7,13,22).

   c. Specific criteria used to measure "liklihood of success"

3. Statement of limiting conditions should first begin with a definition of the word "feasible" (as per Institute of Appraisal Terminology Handbook), and then state that it was the purpose of the study to define the context of the situation and the parameters within which a solution might be

found to fit the major constraints with a reasonable likli-hood of success. It should carefully point out that the generalist has made a series of explicit assumptions which may, nevertheless, need confirmation by more detailed study best done by specialists. The statement of limiting conditions should further emphasize the constraints and objectives placed on the study by identifying who:

a. Defined the constraints

b. Defined success

c. Provided the data and assumptions

d. Permitted key assumptions to remain untested for economy or speed

e. Accepted assumptions of conditions of uncertainty

f. Assembled proforma financial statements and projections

g. Executed feasibility confirmation of key assumptions with aid of specialists.

h. Placed limitations on use and confidentiality.

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Publications Indexed

ADDRESSES OF PERIODICALS

Administrative Management, Geyer-McAllister, 51 Madison Avenue, New York, NY 10010.
American Automatic Merchandiser, M-G Publications, Box 352, Northfield, IL 60093.
American Statistician, American Statistical Association, 806 15th Street N.W., Washington, DC 20005.
Americas, Secretariat, OAS, 17th and Constitution Avenues N.W., Washington, DC 20006.
Annals of Tourism Research, Department of Habitational Resources, University of Wisconsin — Stout, Menomonie, WI 54751.
Architectural Record, McGraw-Hill Publications, 1220 Avenue of the Americas, New York, NY 10020.
ASTA Travel News, Travel Communications, 488 Madison Avenue, New York, NY 10022.

The Baker's Digest, Siebel Publishing Co., 4049 West Peterson Avenue, Chicago, IL 60646.
Bakery, Rich Products Corp., Bakery & Food Service Div., PO Box 245, Buffalo, NY 14240.
Bakery Production and Marketing, Gorman Publishing Co., 3460 John Hancock Center, Chicago, IL 60611.
Barron's National Business and Financial Weekly, Dow Jones and Co., 22 Cortlandt Street, New York, NY 10007.
Beverage Industry, Magazines for Industry, 777 Third Avenue, New York, NY 10017.
Beverage World, Keller Publisher Corporation, East Stroudsburg, PA 18301.
Bon Appétit, 4700 Belleview, Kansas City, MO 64112.
The Brewer's Digest, Siebel Publishing Co., 4049 West Peterson Avenue, Chicago, IL 60646.
Briefing, American Express, 21 East 84th Street, New York, NY 10028.
Building Design and Construction, Cahners Publishing Co., 5 South Wabash Avenue, Chicago, IL 60603.
Building Operating Management, Trade Press Publishing Co., 407 East Michigan Street, Milwaukee, WI 53202.
Buildings Systems Design, Stephen C. Simonson, 476 Branch Avenue, Little Silver, NJ 07739.
Business Week, McGraw-Hill Publishing Co., 1221 Avenue of the Americas, New York, NY 10020.

Canadian Hotel and Restaurant, Maclean-Hunter Publishing Co. Ltd., 481 University Avenue, Toronto M5W 1A7, Ontario, Canada.
Canadian Institute of Food Science & Technology Journal, Canadian Institute of Food Science & Technology, Suite 10, 46 Elgin Street, Ottawa K1P 5K6, Ontario, Canada.
Catering Industry Employee, Hotel and Restaurant Employees & Bartenders International Union, 120 E. Fourth Street, Cincinnati, OH 45202.
Chain Report, Institutions/VF, 5 South Wabash Avenue, Chicago, IL 60603.
Chain Store Age Executive, Executive Offices, 425 Park Avenue, New York, NY 10022.
Chef/Institutional, Culinary Review, 441 Lexington Avenue, New York, NY 10017.
The Chuck Wagon, Texas Restaurant Association, PO Box 1429, Austin, TX 78767.
Cirascope, Chicago and Illinois Restaurant Association, 20 North Wacker Drive, Chicago, IL 60606.
Club Executive, R&W Management Co., 1028 Connecticut Avenue N.W., Washington, DC 20036.
Club Management, Commerce Publishing Co., 408 Olive Street, St. Louis, MO 63102.
Clubs in Town & Country, Harris, Kerr, Forster & Company, 420 Lexington Avenue, New York, NY 10017.
Commerce America, U.S. Department of Commerce, Superintendent of Documents, Washington, DC 20402.
The Consultant, International Society of Food Service Consultants, PO Box 689, Bloomfield Hills, MI 48013.
Consumer Reports, Consumers Union of the U.S., 256 Washington Street, Mount Vernon, NY 10550.
Consumers' Research Magazine, Consumers' Research, Washington, NJ 07882.
Continental Franchise Review, National Research Publications, PO Box 6360, Denver, CO 80206.
Contract Interiors, Billboard Publications, 1515 Broadway, New York, NY 10036.
Cooking for Profit, Gas Magazines, 1202 South Park Street, Madison, WI 53715.
The Cornell Hotel and Restaurant Administration Quarterly, School of Hotel Administration, 327 Statler Hall, Cornell University, Ithaca, NY 14853.
Critical Reviews in Food Science and Nutrition, Chemical Rubber Co., 18901 Cranwood Parkway, Cleveland, OH 44128.
The Culinarian, Chef's Association of the Pacific Coast, 995 Market Street, Suite 801–815, San Francisco, CA 94130.

Dairy and Ice Cream Field, Magazines for Industry, 777 Third Avenue, New York, NY 10017.
Dun's Review, Dun and Bradstreet Publications, 666 Fifth Avenue, New York, NY 10019.

Eastern Grape Grower & Winery News, Box 329, Watkins Glen, NY 14891.
Economic Indicators, Joint Economic Committee, Superintendent of Documents, Washington, DC 20402.
Economic Report (supplement to *NRA Washington Report*), National Restaurant Association, One IBM Plaza, Suite 2600, Chicago, IL 60611.
Electrical Apparatus with Electric Heat, Barks Publications, 400 North Michigan Avenue, Chicago, IL 60611.
Employee Relations Law Journal, 33 West 60th Street, New York, NY 10023.
Environmental Science and Technology, American Chemical Society, 1155 16th Street N.W., Washington, DC 20036.
Executive Housekeeper, North American Publishing Co., 401 North Broad Street, Philadelphia, PA 19108.

Fast Service, Harcourt Brace Jovanovich, 757 Third Avenue, New York, NY 10017.
Financial Executive, Financial Executives Institute, 633 Third Avenue, New York, NY 10017.
Florida Hotel-Motel News, PO Box 1754, Tallahassee, FL 32302.
Food and Wine, PO Box 2696, Boulder, CO 80321.
Food Engineering, Chilton Co., Chilton Way, Radnor, PA 19089.
Food Executive, International Food Service Executives Association, 508 IBM Building, Fort Wayne, IN 46815.
Food Management, Harcourt Brace Jovanovich, 757 Third Avenue, New York, NY 10017.
Food Processing, Putman Publishing Co., 430 North Michigan Avenue, Chicago, IL 60611.
Food Production/Management, Canning Trade, 2619 Maryland Avenue, Baltimore, MD 21218.
Food Science & Technology, Forster Publishing Co., Ottikerstrasse 59, 8033 Zurich, Switzerland.

Food Service/Hospitality, 85 Bloor Street E., 4th Floor, Toronto M4W 1A9, Ontario, Canada.
Food Service Marketing, Electrical Information Publications, 2132 Fordem Avenue, Madison, WI 53701.
Foodservice Equipment Dealer — see *Foodservice Equipment Specialist*
Foodservice Equipment Specialist, 5 South Wabash Avenue, Chicago, IL 60603.
Food Technology, Institute of Food Technologists, 221 North LaSalle Street, Chicago, IL 60601.
Forbes, 60 Fifth Avenue, New York, NY 10011.
Fortune, Time, 591 North Fairbanks Court, Chicago, IL 60611.
Fuel Oil and Oil Heat and Solar Systems, Industry Publications, 200 Commerce Road, Cedar Grove, NJ 07009.

Gourmet, 777 Third Avenue, New York, NY 10017.

HCIMA Journal, Hotel, Catering, and Institutional Management Association, 191 Trinity Road, London SW17 7HN, England.
HCIMA Review, Hotel, Catering, and Institutional Management Association, 191 Trinity Road, London SW17 7HN, England.
HKF Panorama, Harris, Kerr, Forster & Co., 626 Wilshire Boulevard, Los Angeles, CA 90017.
Harvard Business Review, Graduate School of Business Administration, Harvard University, Boston, MA 02163.
Health Foods Retailing, Syndicate Magazine, 6 East 43rd Street, New York, NY 10017.
Heating/Piping/Air Conditioning, Reinhold Publishing, 600 Summer Street, Stamford, CT 06904.
Holiday — see *Travel/Holiday*
Hospital Financial Management, Hospital Financial Management Association, 666 North Lake Shore Drive, Chicago, IL 60611.
Hospitality, Penton/IPC, 614 Superior Avenue West, Cleveland, OH 44113.
Hospitals, American Hospital Association, 840 North Lake Shore Drive, Chicago, IL 60611.
Hotel & Motel Management, Robert Freeman Publishing Co., 845 Chicago Avenue, Evanston, IL 60602.
Hotel Herald, Box 188, Gettysburg, PA 17325.
Hotel Restaurant, Matthaes Verlag GmbH, Olgastrasse 87, Postfach 622, 7 Stuttgart 1, West Germany.
Hotel & Restaurant, Centralfureningen Af Hotelvaerter og Restauratuerer Danmark, Vodroffsvej 46, 1900 Copenhagen, Denmark.
Hotel Sales Management Association World, Hotel Sales Management Association, 362 Fifth Avenue, Suite 1160, New York, NY 10001.
Hoteldomani, Publihotel International s.r.l., Via Bianconi, 10 — 20139 Milano, Italy.
Hotelier and Caterer, Ramsay, Son & Parker (Pty) Ltd., 405 Tulbagh Centre, Hans Strijdom Avenue, Cape Town, South Africa.

In Britain, British Tourist Authority, Head Office and Tourist Information Centre, 64 St. James Street, London SW1, England (distributed in U.S. by British Tourist Authority, 680 Fifth Avenue, New York, NY 10019).
Indian Hotelkeeper and Traveller, PO Box 110, New Delhi-1, India.
Institutional Distribution, Restaurant Business, 633 Third Avenue, New York, NY 10017.
Institutions/Volume Feeding, Cahners Publishing Co., 5 South Wabash Avenue, Chicago, IL 60603.
Insurance Conference Planner, Bayard Publications, 300 Broad Street, Stamford, CT 06901.
International Hotel Review, International Trade Publications Ltd., Queensway House, Redhill, Surrey RH1 1QS, England.
International Review of Food and Wine, 750 Third Avenue, New York, NY 10017.
Italian Wines and Spirits, PO Box 1130, Long Island City, NY 11101.

Journal of Accountancy, American Institute of Certified Public Accountants, 1211 Avenue of the Americas, New York, NY 10036.
Journal of Accounting, Auditing and Finance, Warren, Gorham & Lamont, 210 South Street, Boston, MA 02111.
Journal of Advertising Research, Advertising Research Foundation, 3 East 54th Street, New York, NY 10022.
Journal of Agricultural and Food Chemistry, American Chemical Society, 1155 16th Street N.W., Washington, DC 20036.
Journal of the American Dietetic Association, American Dietetic Association, 430 North Michigan Avenue, Chicago, IL 60611.
Journal of Environmental Health, National Environmental Health Association, 1200 Lincoln, #704, Denver, CO 80203.
Journal of Food Safety, Food & Nutrition Press, 265 Post Road West, Westport, CT 06880.
Journal of Food Science, Institute of Food Technologists, 221 North LaSalle Street, Chicago, IL 60601.
Journal of Hospitality Education, C.H.R.I.E., Human Development Building, Room 21, University Park, PA 16802.
Journal of Leisure Research, National Recreation and Park Association, 1601 North Kent Street, Arlington, VA 22209.
Journal of Marketing, American Marketing Association, 222 S. Riverside Plaza, Chicago, IL 60606.
Journal of Property Management, Institute of Real Estate Management, 430 North Michigan Avenue, Chicago, IL 60611.
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Laventhol & Horwath Perspective, Laventhol & Horwath, 1845 Walnut Street, Philadelphia, PA 19103.
Leisure Sciences, Crane, Russak & Company, 347 Madison Avenue, New York, NY 10017.
Lodging, American Hotel & Motel Association, 888 Seventh Avenue, New York, NY 10019.
Lodging and Food Service News, Hotel Service, 131 Clarendon Street, Boston, MA 02116.
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Modern Packaging, Morgan-Grampian Publishing Co., 205 East 42nd Street, New York, NY 10017.
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Monthly Tax Report, Laventhol & Horwath, 1845 Walnut Street, Philadelphia, PA 19103.
Mortgage and Real Estate Executives Report, Warren, Gorham & Lamont, 210 South Street, Boston, MA 02111.
Motel/Motor Inn Journal, Tourist Court Journal, 306 East Adams Avenue, Temple, TX 76501.

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NRA Washington Report, National Restaurant Association, One IBM Plaza, Suite 2600, Chicago, IL 60611.
National Food Situation, U.S. Department of Agriculture, National Economic Analysis Division, Washington, DC 20250.
National Geographic, National Geographic Society, 17th and M Streets N.W., Washington, DC 20036.
National Provisioner, 15 West Huron Street, Chicago, IL 60610.
Nation's Business, Chamber of Commerce of the United States, 1615 H Street N.W., Washington, DC 20006.
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Néo Restauration, Société d'Edition du Libre Service, 46 Rue de Clichy, 75009 Paris, France.
New England Economic Indicators, Research Department, Federal Reserve Bank of Boston, 600 Atlantic Avenue, Boston, MA 02106.
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Personnel Journal, Box 1520, Santa Monica, CA 90404.
Pesticides Monitoring Journal, Environmental Protection Agency, Superintendent of Documents, Washington, DC 20402.
Progressive Architecture, Reinhold Publishing Co., 600 Summer Street, Stamford, CT 06904.
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Resort Management, Box 4169, 1509 Madison Avenue, Memphis, TN 38104.
Restaurant Business, 633 Third Avenue, New York, NY 10017.
Restaurant & Hotel Management, Verlag und Anzeigenverwaltung, 6071 Gotzenhaain bei Frankfurt am Main, West Germany.
Restaurant Hospitality, 1111 Chester Avenue, Cleveland, OH 44114.
Revue du Vin de France, Société Francaise d'Edition Vinicoles, 6 Avenue du Coq, 75009 Paris, France.

Sales and Marketing Management, 633 Third Avenue, New York, NY 10017.
Service World International, Cahners Publishing Co., 5 South Wabash Avenue, Chicago, IL 60603.
Shopping Center World, 6285 Barfield Road, Atlanta, GA 30328.
Ski Area Management, Beardsley Publishing Corp., Box 242, North Salem, NY 10560.
Snack Food, Harcourt Brace Jovanovich, 757 Third Avenue, New York, NY 10017.
Statistical Reporter, Office of Management and Budget, Superintendent of Documents, Washington, DC 20402.
Successful Meetings, 633 Third Avenue, New York, NY 10017.
Supervisory Management, American Management Associations, Box 319, Saranac Lake, NY 12983.
Survey of Current Business, U.S. Department of Commerce, Superintendent of Documents, Washington, DC 20402.

Taste, Fellows of the Culinary Institute of America, Box 53, Hyde Park, NY 12538.
Tennis Industry, Industry Publishers, 915 NE 125th Street, Suite 2-C, North Miami, FL 33161.
Texas and Southwest Hotel-Motel Review, Texas Hotel and Motel Association, 8602 Crownhill Boulevard, San Antonio, TX 78209.
Tourism International History, Tourism International Press Ltd., 154 Cromwell Road, London SW7 4EF, England.
Tourist Review, Staempfli & Cie AG Bern, Hallerstrasse 7-9, 3012 Berne, Switzerland.
Travel Agent, American Traveler, 2 West 46th Street, New York, NY 10036.
Travel & Leisure, American Express Publishing Co., 1350 Avenue of the Americas, New York, NY 10019.
Travel/Holiday, Travel Building, Floral Park, NY 10011.
Travel Management Newsletter, Reuben H. Donnelley Corp., 2000 Clearwater Drive, Oak Brook, IL 60521.
Travel Trade, Travel Trade Publishing Co., 605 Fifth Avenue, New York, NY 10017.
Travel Weekly, Ziff-Davis Publishing Co., 1 Park Avenue, New York, NY 10016.
Trends in the Hotel-Motel Business, Harris, Kerr, Forster & Co., 420 Lexington Avenue, New York, NY 10017.

U.S. Lodging Industry, Laventhol & Horwath, 1845 Walnut Street, Philadelphia, PA 19103.

Vending Times, 211 E. 43rd Street, New York, NY 10017.
Vintage, PO Box 2739, Boulder, CO 80302.

Washington Report, American Hotel and Motel Association, 777 14th Street N.W., Washington, DC 20005.
Wines and Vines, Hiaring Co., 703 Market Street, San Francisco, CA 94103.
World Convention Dates, Hendrickson Publishing Co., 79 Washington Street, Hempstead, NY 11550.
World Travel, World Tourism Organization, Avda. del Generalissimo. 59, Madrid 16, Spain.
Worldwide Lodging Industry, Horwath & Horwath International and Laventhol & Horwath, 919 Third Avenue, New York, NY 10022.

ADDRESSES OF ORGANIZATIONS AND PUBLISHERS

AMACOM (American Management Associations), 135 West 50th Street, New York, NY 10020.
ATZMI Books, 322 Miller Building, Scranton, PA 18503.
AVI Publishing Co., PO Box 831, Westport, CT 06880.
Harry N. Abrams, Times-Mirror, 110 East 59th Street, New York, NY 10022.
Academic Press, 111 Fifth Avenue, New York, NY 10003.
Addison-Wesley Publishing Co., Jacob Way, Reading, MA 01867.
Administrative Management Society, Willow Grove, PA 19090.
Ahrens Book Co.—*see* **Hayden Book Co.**
Air Transport Association of America, 1709 New York Avenue N.W., Washington, DC 20006.
Airline Passengers Association, 800 W. Airport Freeway, Suite 1120, Irving, TX 75061.
Alchemy Books, PO Box 808, Corte Madera, CA 94925.
Alliance International de Tourism, Quai Gustave Ador, 2, Ch-1207 Geneva, Switzerland.
Allyn & Bacon, College Division, Rockleigh, NJ 07647.
American Accounting Association, 5717 Bessie Drive, Sarasota, FL 33581.
American Alliance for Health, Physical Education & Recreation, 1201 16th Street N.W., Washington, DC 20036.
American Arbitration Association, 140 West 51st Street, New York, NY 10020.
American Association for Leisure and Recreation, 1201 16th Street N.W., Washington, DC 20036.
American Bar Association, 1155 East 60th Street, Chicago, IL 60637.
American Chemical Society, 1155 16th Street N.W., Washington, DC 20036.
American Elsevier Publishing Co., 52 Vanderbilt Avenue, New York, NY 10017.
American Enterprise Institute for Public Policy Research, 1150 17th Street N.W., Washington, DC 20036.
American Gas Association, 1515 Wilson Boulevard, Arlington, VA 22209.
American Hospital Association, 840 North Lakeshore Drive, Chicago, IL 60611.
American Hotel and Motel Association, 888 Seventh Avenue, New York, NY 10019.
American Hotel and Motel Association Educational Institute, Stephen S. Nisbet Building, 1407 South Harrison Road, East Lansing, MI 48823.

American Hotel Association Directory Corp., 888 Seventh Avenue, New York, NY 10019.
American Hotel Register Co., 226 West Ontario Street, Chicago, IL 60610.
American Institute of Certified Public Accountants, 1211 Avenue of the Americas, New York, NY 10036.
American Institute of Real Estate Appraisers—*see* **Ballinger Publishing Co.**
American Law Institute, 4025 Chestnut Street, Philadelphia, PA 19104.
American Management Associations—*see* **AMACOM**
American Meat Institute Foundation, 1600 North Wilson Boulevard, Arlington, VA 22209.
American Society of Real Estate Counselors, 155 East Superior Street, Chicago, IL 60611.
American Society for Testing & Materials, 1916 Race Street, Philadelphia, PA 19103.
American Society of Planning Officials, 1313 East 60th Street, Chicago, IL 60637.
American Society of Travel Agents, 360 Lexington Avenue, New York, NY 10017.
Ann Arbor Science Publishers, PO Box 1425, Ann Arbor, MI 48106.
Arab World and Iran Business Guides, 4 Brattle Square, Philadelphia, PA 02138.
Architectural Press, 9 Queen Anne's Gate, London SWI H9E, England.
Archmedia, 1900 Chestnut Drive, Philadelphia, PA 19103.
Arco Publishing Co., 219 Park Avenue South, New York, NY 10003.
Arno Press, 3 Park Avenue, New York, NY 10017.
Association Internationale de l'Hôtellerie, 89 Rue de Faubourg Saint Honore, 75008 Paris, France.
Association of American Geographers, 1710 16th Street N.W., Washington, DC 20009.
Association of Official Analytical Chemists, Box 540, Benjamin Franklin Station, Washington, DC 20044.
Atheneum Publishers, Vreeland Avenue, Totowa, NJ 07512.
Ayer Press, 210 West Washington Square, Philadelphia, PA 19106.

Ballinger Publishing Co., 11511 Roosevelt Boulevard, Philadelphia, PA 19154.
Bancom Audiovision Corp., Manila, Philippines.
Bank of Hawaii, PO Box 2900, Honolulu, HI 96846.
Barnes & Noble, 10 East 53rd Street, New York, NY 10022.
Barrie & Jenkins, 24 Highbury Crescent, London N51 RX, England.
Barron's Educational Series, 113 Crossways Park Drive, Woodbury, NY 11797.
Basic Books, 10 East 53rd Street, New York, NY 10022.
Benjamin Co., 485 Madison Avenue, New York, NY 10022.
Berkshire Traveller Press, Pine Street, Stockbridge, MA 01262.
Better Homes and Gardens Books, 1716 Locust Street, Des Moines, IA 50336.
Clark Boardman Co. Ltd., 435 Hudson Street, New York, NY 10014.
Bobbs-Merrill—*see* **Howard W. Sams & Co.**
R. R. Bowker, PO Box 1807, Ann Arbor, MI 48106.
British Book Center, 153 East 78th Street, New York, NY 10021.
Brookdale Press, 184 Brookdale Road, Stamford, CT 06903.
William C. Brown Co., 2460 Kerper Boulevard, Dubuque, IA 52001.
Bureau of Business Research, Graduate School of Business Administration, University of Michigan, Ann Arbor, MI 48109.
Bureau of National Affairs, 1231 25th Street N.W., Washington, DC 20037.
Burgess Publishing Co., 7801 Ohms Lane, Minneapolis, MN 55435.
Business News Publishing Co., PO Box 6000, Birmingham, MI 48012.
Business Publishers, Richard D. Irwin, 1818 Ridge Road, Homewood, IL 60430.

CBI (Cahners Books International), 51 Sleeper Street, Boston, MA 02110.
CRC Press, Chemical Rubber Co., 2255 Palm Beach Lakes Boulevard, West Palm Beach, FL 33409.
California Hotel & Motel Association, 520 Capitol Mall, Sacramento, CA 95814.
Cambridge University Press, 510 North Avenue, New Rochelle, NY 10801.
Canadian Government Office of Tourism, Ottawa K1A 0H6, Canada.
Canadian Hotel & Restaurant Book Service, 481 University Avenue, Toronto M5W 1A7, Canada.
Cahill Ltd., 1500 Atwater, Suite 1200, Montreal, Quebec H32 1X5, Canada.
Center for Urban Policy Research, Rutgers University, New Brunswick, NJ 08903.
Chain Store Age—*see* **Lebhar-Friedman**
Chain Store Publishing—*see* **Lebhar-Friedman**
Chemical Publishing Co., 155 West 19th Street, New York, NY 10011.
Chicago and Illinois Restaurant Association, 20 North Wacker Drive, Chicago, IL 60606.
Chilton Book Co., 201 King of Prussia Road, Radnor, PA 19089.
Club Managers Association of America, 5530 Wisconsin Avenue N.W., Washington, DC 20015.
Collier Books, Collier-MacMillan—*see* **MacMillan Publishing Co.**
Columbia Books, 734 15th Street N.W., Suite 601, Washington, DC 20005.
Constable and Co. Ltd., 10 Orange Street, London WC2H 7EG, England.
Continental Publications, PO Box 2248, Palos Verdes, CA 90274.
Coopers and Lybrand, 1251 Avenue of the Americas, New York, NY 10020.
Cornell University College of Agriculture and Life Sciences, Roberts Hall, Ithaca, NY 14853.
Cornell University School of Hotel Administration, 327 Statler Hall, Ithaca, NY 14853.
Council of Planning Librarians, PO Box 229, Monticello, IL 61856.
Council on Hotel, Restaurant, and Institutional Education, Human Development Building, Room 12, University Park, PA 16802.
Counting House Publishing Co., Thiensville, WI 53092.
Coward, McCann & Geoghegan, 390 Murray Hill Parkway, East Rutherford, NJ 07073.
Crossing Press, 17 West Main Street, Trumansburg, NY 14886.
Thomas Y. Crowell, 666 Fifth Avenue, New York, NY 10019.
Crown Publishers, 419 Park Avenue South, New York, NY 10016.
Culinary Arts Institute, 1975 Hawthorne Place, Chicago, IL 60657.
Culinary Arts Society, 270 Madison Avenue, Suite 1302, New York, NY 10016.
Culinary Institute of America, North Road, Hyde Park, NY 12538.

Dartnell Corp., 4660 Ravenswood Avenue, Chicago, IL 60640.
John Day Co., 666 Fifth Avenue, New York, NY 10019.
Dell Publishing Co., Delacourt Press, 1 Dag Hammarskjold Plaza, 245 East 47th Street, New York, NY 10017.
Dial Press—*see* **Dell Publishing Co.**
Discover America Travel Organizations, 1100 Connecticut Avenue N.W., Washington, DC 20036.
Doolco, 2016 Canton Street, Dallas, TX 75201.
Doubleday & Co., 501 Franklin Avenue, Garden City, NY 11530.
Dover Publications, 180 Varick Street, New York, NY 10014.
Dow Jones-Irwin—*see* **Richard D. Irwin**
Dryden Press, 901 North Elm Street, Hinsdale, IL 60521.
Dun & Bradstreet, Dun Donnelly Publishing Corporation, 666 Fifth Avenue, New York, NY 10019.
E. P. Dutton and Co., 201 Park Avenue South, New York, NY 10003.
Duxbury Press—*see* **Wadsworth Publishing Co.**

The Economist Intelligence Unit Ltd., Spencer House, 27 St. James Place, London SW1A 1NT, England.
Edwards Brothers, 2500 South State Street, Ann Arbor, MI 48104.
Elbert Hubbard Foundation, Roycraft Campus, East Aurora, NY 14052.
Electrical Information Publications, 2131 Fordem Avenue, Madison, WI 53701.
Elsevier Scientific Publishing Co., 52 Vanderbilt Avenue, New York, NY 10017.
M. Evans and Company, 216 East 49th Street, New York, NY 10017.
Executive Enterprises Publications Co., PO Box 6532, La Jolla, CA 92037.
Executive Publications, PO Box 92, Harvard Square, Cambridge, MA 02138.
Exposition Press, 900 South Oyster Bay Road, Hicksville, NY 11801.

Faber and Faber Ltd., 101 South Broadway, Salem, NH 03079.
Fawcett Publications, Fawcett Place, Greenwich, CT 06830.
Frederick Fell, 386 Park Avenue South, New York, NY 10016.
Fielding Publications—*see* **William Morrow & Co.**

Financial Accounting Standards Board, High Ridge Park, Stamford, CT 06905.
Financial Executives Research Foundation, 633 Third Avenue, New York, NY 10017.
Financial Publishing Co., 82 Brookline Avenue, Boston, MA 02215.
Follett Publishing Co., 1010 West Washington Boulevard, Chicago, IL 60607.
Fox Publishing Co., Bradford, VT 05033.
Free Press—*see* **MacMillan Publishing Co.**
W. H. Freeman & Co., 660 Market Street, San Francisco, CA 94104.

Georgia State University School of Business Administration, Publishing Services Division, University Plaza, Atlanta, GA 30303.
Glencoe Publishing Co., MacMillan Co., Riverside, NJ 08075.
Golem Press, PO Box 1342, Boulder, CO 80306.
Greater Chicago Hotel and Motel Association, Illinois Athletic Club Building, 112 South Michigan Avenue, Chicago, IL 60603.
Grid, 4666 Indianola Avenue, Columbus, OH 43214.
Grolier, Sherman Turnpike, Danbury, CT 06816.
Grosset & Dunlap, 51 Madison Avenue, New York, NY 10010.

H. P. Books, PO Box 5367, Tucson, AZ 85703.
Halstead Press—*see* **John Wiley & Sons**
Hammond, 515 Valley Street, Maplewood, NJ 07040.
Harcourt Brace Jovanovich, 757 Third Avenue, New York, NY 10017.
Harper and Row Publishers, Keystone Industrial Park, Scranton, PA 18512.
Harris, Kerr, Forster & Co., 420 Lexington Avenue, New York, NY 10017.
Harvard University Press, 79 Garden Street, Cambridge, MA 02138.
Hastings House Publishers, 10 East 40th Street, New York, NY 10016.
Hawthorn Books, 260 Madison Avenue, New York, NY 10016.
Hayden Book Co., 50 Essex Street, Rochelle Park, NJ 07662.
Holiday Inn University, Olive Branch, MS 38654.
Hospitality Institute, Ireland Educational Group, 1652 Groton Court, Wheaton, IL 60187.
Holt, Rinehart & Winston, 383 Madison Avenue, New York, NY 10017.
Hotel Association of New York City, 141 West 51st Street, New York, NY 10019.
Hotel and Restaurant Employees and Bartenders International Union, 120 East Fourth Street, Cincinnati, OH 45202.
Hotel Sales Management Association, 362 Fifth Avenue, New York, NY 10001.
Houghton Mifflin Co., 2 Park Street, Boston, MA 02107.

ITT Educational Services—*see* **Howard W. Sams & Co.**
India Ministry of Information and Broadcasting, Publications Division, New Delhi, India.
Industrial Press, Building 424, Raritan Center, Edison, NJ 08817.
Info Press, 736 Center Street, Lewiston, NY 14092.
Inform, 25 Broad Street, New York, NY 10004.
Institute for Contemporary Studies, 260 California Street, Suite 811, San Francisco, CA 94111.
Institute for Management, Old Saybrook, CT 06475.
Institute for Social Research, University of Michigan, 426 Thompson Street, Ann Arbor, MI 48106.
Institute of Certified Travel Agents, 148 Linden Street, PO Box 56, Wellesley, MA 02181.
Institute of Real Estate Management, 155 East Superior Street, Chicago, IL 60611.
Insurance Company of North America, 1600 Arch Street, Philadelphia, PA 19103.
International Council of Shopping Centers, 445 Park Avenue, New York, NY 10022.
International Foodservice Manufacturers Association, 1 East Wacker Drive, Chicago, IL 60601.
International Franchise Association, 7315 Wisconsin Avenue, Suite 600W, Washington, DC 20014.
International Labour Office, Washington Branch, 1750 New York Avenue N.W., Suite 311, Washington, DC 20006.
International Personnel Management Association, 1313 East 60th Street, Chicago, IL 60637.
International Publications Service, 114 East 32nd Street, New York, NY 10016.
International Publishers, 381 Park Avenue South, Suite 1301, New York, NY 10016.
International Scholarly Book Service, PO Box 555, Forest Grove, OR 97116.
International Union of Official Travel Agents—*see* **World Tourism Organization**
International Wine Society, 304 East 45th Street, New York, NY 10017.
Iowa State University Press, South State Avenue, 112C Press Office, Ames, IA 50010.
Richard D. Irwin, 1818 Ridge Road, Homewood, IL 60430.

Johns Hopkins University Press, Baltimore, MD 21218.
Johnson Publishing Co., PO Box 990, Boulder, CO 80306.

Keats Publishing Co., 36 Grove Street, PO Box 876, New Canaan, CT 06840.
J. J. Keller and Associates, 145 West Wisconsin Avenue, Neenah, WI 54956.
Alfred A. Knopf—*see* **Random House**

Lateiner Publishing, 1 Strawberry Hill Avenue 10-E, Stamford, CT 06902.
Laventhol and Horwath, 1845 Walnut Street, Philadelphia, PA 19103.
Law Journal Press, New York Law Journal Building, 258 Broadway, New York NY 10007.
Learning Systems Company—*see* **Richard D. Irwin**
Lebhar-Friedman Books, 425 Park Avenue, New York, NY 10020.
Lehigh Books, 54 West 21st Street, New York, NY 10010.
Lenz and Reicker, 75 Varick Street, New York, NY 10013.
Lester & Orpen, 42 Charles Street East 8 FLR, Toronto, M4Y IT4, Canada.
Lexington Books, D. C. Heath and Co., 125 Spring Street, Lexington, MA 02173.
J. B. Lippincott Co., East Washington Square, Philadelphia, PA 19105.
Little, Brown & Co., 200 West Street, Waltham, MA 02154.
Longmark, Canada Ltd., 55 Barber Green Road, Don Mills, Ontario, Canada.
Lord Publishing Co., 130 Clarke Road, Needham, MA 02192.
Lyceum Books, PO Box 113, Wilton, CT 06897.

MIT Press, 28 Carleton Street, Cambridge, MA 02142.
McCutchan Publishing, 2526 Grove Street, Berkeley, CA 94704.
McGill-Queens University Press, 1020 Pine Avenue West, Montreal, Quebec, Canada.
McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, NY 10020.
David McKay Co., 750 Third Avenue, New York, NY 10017.
MacMillan Publishing Co., Riverside, NJ 08075.
Management Information Center, PO Box 357, Miami, FL 33148.
Manhattan Menus, 919 Third Avenue, New York, NY 10022.
Mason/Charter, 641 Lexington Avenue, New York, NY 10022.
Mayfield Publishing Co., 285 Hamilton Avenue, Palo Alto, CA 94301.
Meadowbrook Press, 16648 Meadowbrook Lane, Wayzata, MN 55391.
R. S. Means Co., 100 Construction Plaza, Duxbury, MA 02332.
Meredith Corporation, 1716 Locust Street, Des Moines, IA 50336.
Michigan State University Press, East Lansing, MI 48823.
Mobil Oil Corporation, 150 East 42nd Street, New York, NY 10017.
Money Market Directories, 370 Lexington Avenue, New York, NY 10017.
Morgan-Grampian, 205 East 42nd Street, New York, NY 10017.
William Morrow & Co., 6 Henderson Drive, West Caldwell, NJ 07006.

National Academy of Science, Printing and Publishing Offices, 2101 Constitution Avenue, Washington, DC 20418.
National Association of Accountants, 919 Third Avenue, New York, NY 10022.
National Association of Home Builders, 15th and M Streets N.W., Washington, DC 20005.
National Association of Meat Purveyors, 252 West Ina Road, Tucson, AZ 85704.
National Association of Pool Owners, 10 Kearney Road, Box 222, Needham, MA 02194.
National Association of Realtors, 430 North Michigan Avenue, Chicago, IL 60611.
National Club Association, Suite 602, 1129 20th Street N.W., Washington, DC 20036.

National Education Standards, 650 South Grand Avenue, Suite 1002, Los Angeles, CA 90017.
National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.
National Innkeeping Association, 122 East High Street, Jefferson City, MO 65101.
National Institute for the Foodservice Industry, 120 Riverside Plaza, Chicago, IL 60606.
National Institute for Occupational Safety and Health, Office of Technical Publications, PO Building, Room 530, Cincinnati, OH 45202.
National Live Stock and Meat Board, 444 North Michigan Avenue, Chicago, IL 60611.
National Recreation and Park Association, 1601 North Kent Street, Arlington, VA 22209.
National Restaurant Association, Suite 2600, One IBM Plaza, Chicago, IL 60611.
National Sanitation Foundation, NSF Building, 3475 Plymouth Road, Ann Arbor, MI 48106.
National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.
Nelson-Hall Co., 325 West Jackson Boulevard, Chicago, IL 60600.
New American Library, 1301 Avenue of the Americas, New York, NY 10019.
New University Education, Bingley Co., (Clive Ltd.), 16 Pembridge Street, London W11, England.
New York State Department of Commerce, 99 Washington Avenue, Albany, NY 12245.
New York State Recreation and Park Society, PO Box 68, Peekskill, NY 10566.
New Zealand Tourist and Publicity Department, Wellington, New Zealand.
Newnes-Butterworth, Burough Green, Sevenoaks, Kent TN 15 8 PH, England.
Newspaper Enterprises Association, 230 Park Avenue, New York, NY 10017.
North Holland—*see* **Elsevier Scientific Publishing Co.**
W. W. Norton & Co., 500 Fifth Avenue, New York, NY 10036.
Noyes Data Corporation, Mill Road at Grand Avenue, Park Ridge, NJ 07656.

Ohio State University, College of Administrative Science, Columbus, OH 43210.
Opinion Research Corporation, North Harrison, Princeton, NJ 08540.
Organization of American States, 17th and Constitution Avenues N.W., Washington, DC 20006.
Ottenheimer Publishers, 1632 Reisterstown Road, Baltimore, MD 21208.
Owen-Sterling, Grand Rapids, MI 49503.
Oxford University Press, 1600 Pollitt Drive, Fair Lawn, NJ 07410.

Paddington Press Ltd.—*see* **Grosset & Dunlap**
Pantheon Books, Random House, 400 Hahn Road, Westminster, MD 21157.
Parker Publishing Co.—*see* **Prentice-Hall**
Passive Energy Systems, PO Box 499, Blacksburg, VA 24060.
Pendragon House, 2595 East Bayshore Drive, Palo Alto, CA 94303.
Penguin Books, 625 Madison Avenue, New York, NY 10022.
Peninsular Publishing Co., 2503 Jackson Bluff Road, Tallahassee, FL 32301.
Pennsylvania State University Press, University Park, PA 16802.
Pergamon Press, Maxwell House, Fairview Park, Elmsford, NY 10523.
Petrocelli/Charter—*see* **Mason/Charter**
Pica Editions, Pica Editorial Ltd., 26 Parkway, London NW1, England.
Pilot Books, 347 Fifth Avenue, New York, NY 10016.
Pinnacle Books, 1 Century Plaza, 2029 Century Park East, Los Angeles, CA 90067.
Pitman Publishing Corp., 6 Davis Drive, Belmont, CA 94022.
Potter, Clarkson N.—*see* **Crown Publishers**
Practising Law Institute, 810 Seventh Avenue, New York, NY 10019.
Praeger Publishing—*see* **Holt, Rinehart & Winston**
Prentice-Hall, Box 903, Englewood Cliffs, NJ 07632.
Price Analysis Systems, PO Box 8516, Minneapolis, MN 55408.
Princeton University Press, 41 William Street, Princeton, NJ 08540.
Profit Sharing Research Foundation, 1718 Sherman Avenue, Evanston, IL 60201.
G. P. Putnam's Sons, 390 Murray Hill Parkway, East Rutherford, NJ 07073

Quadrangle/New York Times—*see* **Harper and Row**

Rand McNally & Co., PO Box 7600, Chicago, IL 60680.
Random House, 457 Hahn Road, Westminster, MD 21157.
Rawson Associates—*see* **Atheneum Publishers**
Henry Regnery Co., 180 North Michigan Avenue, Chicago, IL 60601.
D. Reidel Publishing Co., 160 Old Derby Street, Hingham, MA 02043.
Resources for the Future, 1755 Massachusetts Avenue N.W., Washington, DC 20036.
Resume Researchers, 239 Fourth Avenue, Pittsburgh, PA 15222.
Reston Publishing Co., Prentice-Hall, Englewood Cliffs, NJ 07632.
Rodale Press, 33 East Minor Street, Emmaus, PA 18049.

St. Augustinus Boekhandel, Curaçao, Antilles Islands.
St. Martin's Press, 175 Fifth Avenue, New York, NY 10010.
Howard W. Sams & Co., 4300 West 62nd Street, Indianapolis, IN 46206.
San Francisco Book Co.—*see* **Simon and Schuster**
W. B. Saunders Co., Columbia Broadcasting System, West Washington Square, Philadelphia, PA 19105.
Schocken Books, 200 Madison Avenue, New York, NY 10016.
Scholars Book Company, 4431 Mount Vernon, Houston, TX 77006.
Charles Scribner's Sons, Shipping and Service Center, Vreeland Avenue, Totawa, NJ 07512.
Security World Publishing Co., 2639 South La Cienega Boulevard, Los Angeles, CA 90034.
Siebel Publishing Company, 4049 West Patterson Avenue, Chicago, IL 60646.
Signet Books—*see* **New American Library**
Simon and Schuster, 1230 Avenue of the Americas, New York, NY 10020.
Simpson-Doyle Co., Phoenix Book Publishers, 1614 East McLullan Boulevard, Phoenix, AZ 85106.
Society for the Advancement of Food Service Research, 2710 North Salisbury Street, West Lafayette, IN 47906.
Society for Industrial Realtors, 935 15th Street N.W., Washington, DC 20005.
Society of Real Estate Appraisers, 7 South Dearborn Street, Chicago, IL 60603.
South-Western Publishing Co., 5101 Madison Road, Cincinnati, OH 45227.
Southern University Press, 130 South 19th Street, Birmingham, AL 35233.
E. & F. N. Spon Ltd., 11 New Fetter Lane, London EC4P 4EE, England.
Stackpole Books, Cameron & Keller Streets, Harrisburg, PA 17105.
Stamats Publishing Co., 427 6th Avenue, Cedar Rapids, IA 52406.
Stein and Day, 122 East 42nd Street, New York, NY 10017.
Structures Publishing Co., Box 423, Farmington, MI 48024.
Struik, Cape Town, Union of South Africa.
Successful Meetings Book Division, 633 Third Avenue, New York, NY 10017.

Ten Speed Press, PO Box 7123, Berkeley, CA 94707.
Charles C. Thomas, 301–27 East Lawrence Avenue, Springfield, IL 62717.
Time-Life Books, Little, Brown & Co., 34 Beacon Street, Boston, MA 02106. *For library and school orders:* Silver Burdette Co., Morristown, NJ 13664.
Touche Ross, 1633 Broadway, New York, NY 10019.
Tourism Development Company, Fomento Building, 268 Ponce de Leon Avenue, Hato Rey, PR 00918.
Tourism International Press, 154 Cromwell Road, London SW7, England.
Tourist Planning and Research Ltd., Suite 433, 52–54 High Holborn House, London WC1 V6R, England.
Travel Data Center, 1100 Connecticut Avenue N.W., Washington, DC 20038.
Travel Information Bureau, PO Box 1051, Kings Park, NY 11754.
Travel Marketing Consultant Service, 37 Haverford Road, Hicksville, NY 11802.
Tudor Publishing Company, 31 West 46th Street, New York, NY 10036.
Two Continents Publishing Group, 5 South Union Street, Lawrence, MA 01843.

UCN Register Div., Anderson Group, PO Box 508, Madison, NJ 07940.

Unipub, PO Box 433, Murray Hill Station, New York, NY 10016.
United States Government Printing Office, Division of Public Documents, Washington, DC 20402.
United States Travel Data Center, Suite 340, 1100 Connecticut Avenue N.W., Washington, DC 20036.
University of California Press, 2223 Fulton Street, Berkeley, CA 94720.
University of Colorado, Business Research Division, Graduate School of Business Administration, Boulder, CO 80302.
University of Hawaii, College of Business Administration, Industrial Relations Center, 2444 Dole Street, Honolulu, HI 96822.
University of Massachusetts Press, PO Box 429, Amherst, MA 01002.
University of Michigan Press, 615 East University, Ann Arbor, MI 48106.
University of Nevada, Bureau of Business and Economic Research, Reno, NV 89557.
University of Texas, Bureau of Business Research, Graduate School of Business, PO Box 7459, University Station, Austin, TX 78712.
University of Wales, Cardiff, Wales.
University of Wisconsin Press, Box 1379, Madison, WI 53701.
Urban Institute, Publications Office, 2100 M Street N.W., Washington, DC 20037.
Urban Land Institute (ULI), 1200 18th Street N.W., Washington, DC 20036.

Van Nostrand-Reinhold, Litton Educational Publishing Co., 7625 Empire Drive, Lexington, KY 41042.
Arthur Vanous Co., One Richard Court, River Edge, NJ 07661.
Viking Press, 625 Madison Avenue, New York, NY 10022.
Virtue Books—*see* **Continental Publications**

Wadsworth Publishing Co., 10 Davis Drive, Belmont, CA 94002.
Warren, Gorham & Lamont, 210 South Street, Boston, MA 02111.
Watson-Guptill Publications, 2160 Patterson Street, Cincinnati, OH 45214.
West Publishing Co., PO Box 3526, St. Paul, MN 55165.
Whitney Library of Design—*see* **Watson-Guptill Publications**
John Wiley & Sons, 605 Third Avenue, New York, NY 10016.
Wilton Enterprises, 1602 South Michigan Avenue, Chicago, IL 60616.
Wine and Spirit Publications, Southbank House, Black Prince Road, London SE1, England.
Wines and Vines, Hiaring Co., 703 Market Street, San Francisco, CA 94103.
Winthrop Publishing Co., Prentice-Hall, Englewood Cliffs, NJ 07632.
Woodbridge Press Publishing Co., Box 6189, Santa Barbara, CA 93111.
World Publishing Co., 2231 West 110th Street, Cleveland, OH 44102.
World Tourism Organization, Avenida del Generalissimo, 59, Madrid 16, Spain.
Peter H. Wyden, 750 Third Avenue, New York, NY 10017.

Yale University Press, 92A Yale Station, New Haven, CT 06520.

Ziff-Davis Publishing Co., One Park Avenue, New York, NY 10016.

Elderly Housing Questionnaire

I am responding for:

___ Myself; ___ My parent(s); ___ My friend(s)

BACKGROUND AND HOUSEHOLD INFORMATION

1. Which of the following best describes your present housing type?

   [ ] I own a single family home
   [ ] I rent an apartment
   [ ] I have a room in someone else's house
   [ ] I live at: (check one) [ ] Marian Manor
   [ ] Court Tower
   [ ] Mainview Apartments
   [ ] Simeanna
   [ ] Other, please specify _____

2. How long have you lived in your present home?

   No. years = _____

3. Which of the following best describes your present living arrangement?

   [ ] I live alone
   [ ] I live with my spouse only
   [ ] I live with one of my children in my home
   [ ] I live in the home of one of my children
   [ ] I live with my children and my spouse
   [ ] I live with a friend or friends
   [ ] I live with relatives other than my spouse and children
   [ ] Other, please specify _____

4. What is your present marital status? Are you:

   [ ] Single [ ] Married [ ] Widowed

5. What is your age (your spouse's age)?

   Your Age _____ Your Spouse's Age _____

6. Are you:

   [ ] Male [ ] Female

7. Do you need any help in moving about or walking at this time?

[ ] Need no assistance at all
[ ] Need assistance
  [ ] Use cane
  [ ] Use walker
  [ ] Use wheelchair

8. Below is a list of activities that many of us have difficulty with as we grow older. Do you have: NO DIFFICULTY, SOME DIFFICULTY, or find you CANNOT DO these activities?

	NO DIFFICULTY	SOME DIFFICULTY	CANNOT DO IT
Cooking	[ ]	[ ]	[ ]
Shopping	[ ]	[ ]	[ ]
Housekeeping	[ ]	[ ]	[ ]
Personal care (bathing)	[ ]	[ ]	[ ]
Getting out of the house	[ ]	[ ]	[ ]
Hearing on the telephone	[ ]	[ ]	[ ]
Reading the newspaper	[ ]	[ ]	[ ]
Taking medication	[ ]	[ ]	[ ]
Going up and down stairs	[ ]	[ ]	[ ]
Personal finances	[ ]	[ ]	[ ]

9. Do you have any continuing or chronic health problems, physical problem, or handicap?

[ ] No

[ ] Yes. Please specify _____

10. In general, which of the following best describes your overall level of health?

[ ] Excellent (plenty of energy)
[ ] Average (good health - no problems and enough energy)
[ ] Fair (some health problems but able to live completely independently)
[ ] Need some care or assistance
[ ] Need full-time care and assistance

11. IF you were to need help or assistance right now, who could you depend upon? (Check as many as apply.)

[ ] Family
[ ] Friends
[ ] Neighbors
[ ] Church group
[ ] Would prefer to hire people to help me
[ ] Would prefer to use community support services
[ ] Others, please specify _____

12. Do you currently use any of the following Community Support Services?

[ ] Home Aide Program
[ ] Nutrition center meals
[ ] Meals on Wheels
[ ] Visiting Nurse Associates
[ ] Adult day care
[ ] Other, please specify _____
[ ] None

13. IF you had some health problems which were making it difficult for you to stay in your home, would the availability of community support services make it possible for you to remain there?

[ ] Yes.
[ ] Yes, depending on the cost of the service.
[ ] Possibly.
[ ] Unlikely.
[ ] I would prefer to live in a facility where I could be closer to support services.

14. While the proposed facility will enable people who need some assistance with daily living activities to continue living independently, some of the residents may need to use walking aids such as canes, walkers or wheelchairs. What is your reaction to living near people who are less able than you may be?

[ ] I would prefer not to live with people who are noticeably less capable than I am.
[ ] I am comfortable with people who have noticeable physical handicaps and would not be affected by sharing the same facility with them.

15. IF you could choose a type of housing best suited for your current needs, would you?

[ ] Live in an apartment, such as in Marian Manor, Court Tower or Simeanna.
[ ] Live in a single family house.
[ ] Live in a condominium.
[ ] Live in a private apartment buiding that rents to all age levels including families with children.
[ ] Live in a private retirement center such as Zion Lutheran or Evergreen Manor.
[ ] Live in a retirement or independent living facility without any assisted-living or nursing care facility.
[ ] Live in a facility designed especially for the elderly, which provides a continuum of health care needs, ranging from independent living to skilled nursing care, each housed separately and provided with different amenities.
[ ] Stay where I am.

16. If there came a time when you might need occasional or perhaps ongoing assistance with daily tasks, and you had your choice, in what TYPE OF HOUSING would you REALLY LIKE TO LIVE?

_____

_____

17. Have you given any serious thought to moving from your present home?

[ ] No [ ] Yes. For what reason? _____

_____

18. If yes, how soon would you want to move?

[ ] In less than one year
[ ] In one to three years
[ ] In three years or more

19. In the future, which of the following event(s) might trigger the need to move?

[ ] Health problem
[ ] Death of a spouse
[ ] Financial hardship
[ ] Friction with my relatives
[ ] Children moving away
[ ] Other _____
[ ] None of these events would cause me to move

20. If you were seriously considering a move to a facility specifically designed for the elderly, would you consult someone else for advice in making your decision?

[ ] No [ ] Yes. If so, who would you consult:

[ ] Children
[ ] Friends
[ ] Clergy
[ ] Doctor
[ ] Attorney
[ ] Other _____

THE PLANNED PROJECT AND THE CONGREGATE LIVING CONCEPT

The program now being planned would provide small private apartments for individuals and couples, plus meal service in a large family dining room, some local activity rooms, and a resident manager, who could schedule supportive services as you needed them, and who would be available for 24-hour emergency assistance.

The apartments in the planned facility would be in a separate building located on the same campus as Bethel Home and Simeanna. Transportation would be provided for shopping and other errands, and you would have priority admission to Bethel Home if required.

To answer the next few questions, just PRETEND for a moment that you might have the need or be interested in living in an congregate living facility such as that being considered by the Lutheran Homes of Oshkosh.

21. To answer the next two pages of questions, please refer to the drawings. There will be three different plans presented: Plan A, Plan B, and Plan C. The numbers in the diagram relate to the question number.

Which would you prefer? (Check only one of the two possibilities.)

1. [ ] The kitchenette facing narrow hallway (Plan A #1), OR
   [ ] The kitchenette facing open sitting area (Plan B #1).

2. [ ] The smaller bathroom (Plan A #2) with the tub and toilet next to each other for convenience, OR
   [ ] The larger bathroom (Plan B #2) with the tub and toilet separate from each other but more accessible if I needed assistance.

3. [ ] A sliding door in the bathroom to save space (Plan A #3), OR
   [ ] A swinging door in the bathroom which is easier to open (Plan B #3).

4. [ ] A full closet (Plan A #4), OR
   [ ] A half-closet and half desk (Plan B #4).

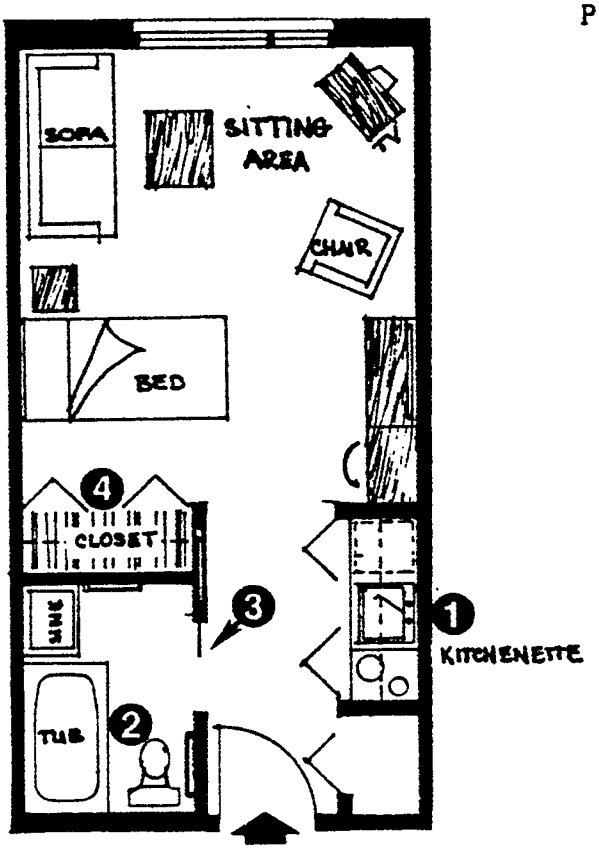
5. Overall, which do you prefer?

   I prefer Plan ___ because _____

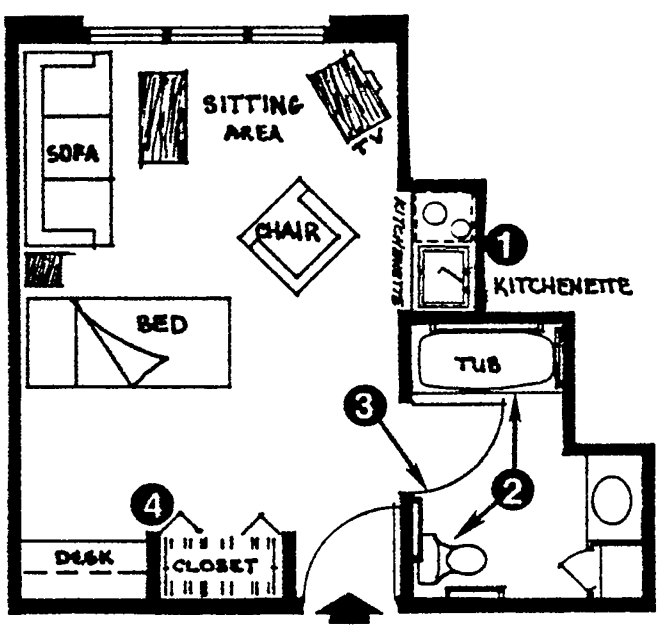
   _____

6. What do you think is a reasonable <u>monthly</u> rent to pay for:

   Plan A = $_____ Plan B = $_____



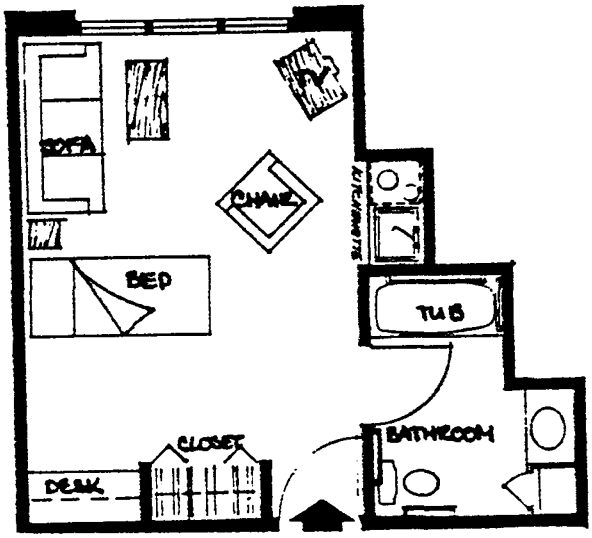
Plan A



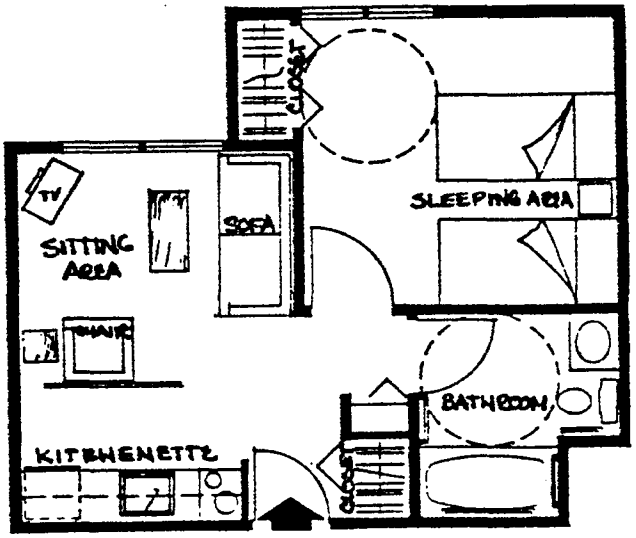
Plan B

7. Plan B has a combined sitting and sleeping area; Plan C has a separated sitting and sleeping area and would cost about $100 per month more in rent than Plan B. Which do you prefer?

[ ] I prefer Plan B [ ] I prefer Plan C



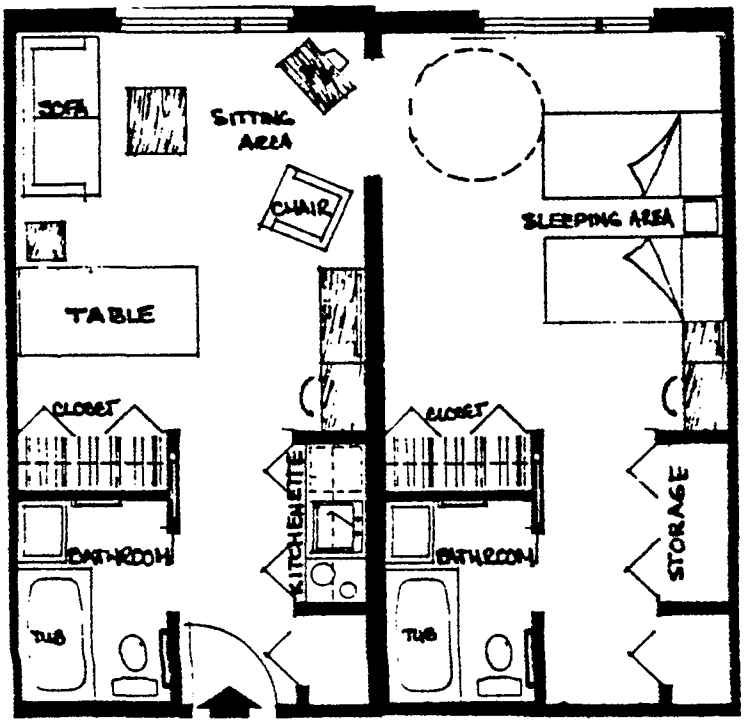
Plan B



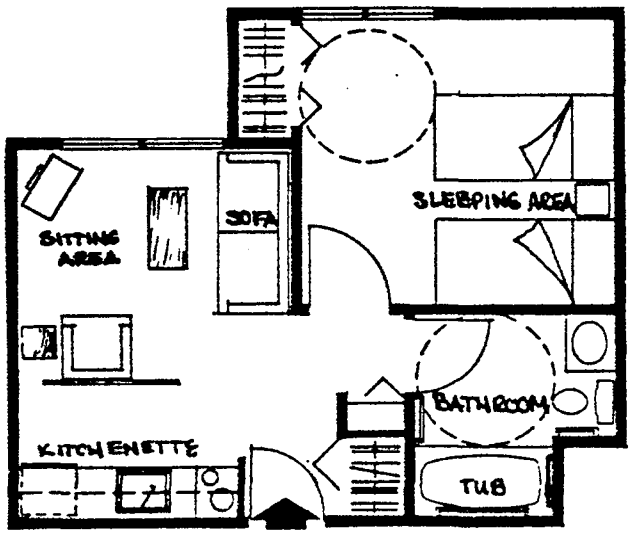
Plan C

8. For two people living together, what would you prefer?

[ ] Two Plan A units (650 sq.ft.), side-by-side and connected, at twice the monthly rent of a single Plan A.
[ ] Plan C (325 sq.ft.), with separation of sitting and sleeping area, at about $100 per month more than a single Plan A.



Plan A A



Plan C

22. What type of KITCHEN FACILITIES would you prefer?

[ ] I'd like to have a FULL KITCHEN in my apartment even though I may eat some meals in a central dining room with friends.
[ ] I'd like to have a KITCHENETTE (a small refrigerator and a small stove) in my apartment for preparing my own meals and snacks.
[ ] I'd like to have a SMALL REFRIGERATOR in my room, NO STOVE, but possibly a coffee maker in order to prepare occasional meals and snacks.
[ ] I'd prefer NO KITCHEN FACILITIES SINCE I would expect to eat all meals in a central dining room with friends.

23. What type of ARRANGEMENT FOR MEALS would you prefer? (Keep in mind there would be a central dining room in this facility.)

[ ] I'd prefer to have ALL MEALS OPTIONAL, on a pay-as-you-go basis, and not included in my monthly rental fee.
[ ] I'd prefer to have ONE MEAL PER DAY PROVIDED in the central dining room, included in my monthly rental fee, and the other two meals optional.
[ ] I'd prefer to have TWO MEALS PER DAY PROVIDED in the central dining room, included in my monthly rental fee and the other meal optional.
[ ] I'd prefer to have ALL THREE MEALS PER DAY PROVIDED in the central dining room and included in my monthly fee.

24. Would you be able to let the dining room facility know one month in advance just how many meals per day you would like to eat in the central dining room during the next month?

[ ] Yes
[ ] No
[ ] No, but I could do so on a weekly basis, even though the price may be slightly higher.
[ ] No, but I could do so on a daily basis, even though the price would be slightly higher.

25. If you were at the point where you had decided to move from your current home to a facility such as that being planned, chances are good you would have too much furniture and household items for your small apartment. Would you:

[ ] Sell off the surplus
[ ] Store it with children or relatives
[ ] Be willing to pay for a private storage locker
[ ] Decide not to choose a retirement home that did not have extra storage room space

26. Does this concept appeal to you as an alternative to your present living arrangement?

[ ] Yes [ ] Yes, if and when needed [ ] No

27. What do you like about this concept?

1._____

2._____

3._____

28. Is there anything you dislike about this concept?

1._____

2._____

3._____

29. The proposed facility would be built on the same campus as Bethel Home and Simeanna. Are you acquainted with these facilities?

[ ] Yes [ ] No

If yes, how do you feel about the presence of the two facilities? I feel:

	POSITIVE	NOT IMPORTANT	NEGATIVE
A. The availability of Bethel Homes Nursing Care is	[ ]	[ ]	[ ]
B. The identification of my apartment with the Bethel Home Campus is	[ ]	[ ]	[ ]
C. The convenience of access to friends at Simeanna is .	[ ]	[ ]	[ ]
D. The identification of my apartment with the Simeanna Campus is	[ ]	[ ]	[ ]

30. IF YOU OWN A HOME, what price do you think it would sell for today? Would it sell for ...

[ ] Less than $30,000
[ ] $30,000 to $40,000
[ ] $40,000 to $50,000
[ ] $50,000 or more

How did you arrive at this figure? _____

_____

For statistical purposes only, we need to know your total annual income for 1982 and what you spend on housing. Note: There is no way of our knowing your identity.

31. What was your (and your spouse's) total ANNUAL gross income for 1982?

[ ] Less than $5,000
[ ] $5,000 to $10,000
[ ] $10,000 to $15,000
[ ] $15,000 to $20,000
[ ] $20,000 to $30,000
[ ] More than $30,000

33. What are your total MONTHLY housing costs?

IF YOU RENT:		IF YOU OWN:	
Rent =	$ _____	Mortgage =	$ _____
Utilities =	$ _____	Taxes =	$ _____
Renter's Insurance =	$ _____	Utilities =	$ _____
Repairs =	$ _____	Homeowner's Insurance =	$ _____
		Repairs =	$ _____
TOTAL MONTHLY HOUSING COST	$ _____	TOTAL MONTHLY HOUSING COST	$ _____

33. People often have a number of sources of income. Which of the following are your main sources of income? (Please check as many as are appropriate.)

[ ] Salary/wages
[ ] Social security
[ ] Pension/Annuity
[ ] Assistance from family members
[ ] Other, please specify _____
[ ] Assistance from community
[ ] Interest/dividends on investments
[ ] Income rental property

34. Are you able to pay your living expenses each month without going into savings?

[ ] Yes [ ] No

35. If this congregate living concept appeals to you as an alternative to your present living arrangement, when would you seriously consider a move?

[ ] I would like to seriously explore the possibility of moving now.
[ ] I might consider living in such a facility in a year or so.
[ ] I might be interested, but I would want to wait to see how others liked it first.
[ ] I would be interested ONLY if something happened to me so that I needed the extra help with daily living activities.
[ ] I would never be interested in such a facility.

IF YOU WOULD LIKE TO LEARN MORE ABOUT THE PROJECT AS IT EVOLVES, PLEASE CHECK THE APPROPRIATE BOX ON THE ENCLOSED RETURN POSTCARD AND RETURN IT TO US. (Because we want to keep your responses confidential, do not sign your name to this survey. Those who would like to learn more about the project as it evolves, should do so separately by returning the enclosed postcard and checking the appropriate box.)

THANK YOU FOR YOUR HELP!

PLEASE RETURN THE SURVEY IN THE POSTAGE PAID ENVELOPE AS SOON AS POSSIBLE.

Additional Comments: _____

_____

_____

_____

_____

7/83

Page from questionnaire currently in process.

40. Are you able to pay your living expenses each month without going into savings?

[ ] Yes
[ ] No
[ ] Occasionally need to go into savings

41. The payment plan being considered requires an entry fee, partially refundable, along with monthly fees. Generally with a higher entry fee a lower monthly rent is possible. As envisioned currently, the monthly fee would include the enjoyment of an apartment including utilities (except phone), ~~2~~ daily meal in the dining room, scheduled transportation, 24-hour emergency assistance, and the use of community rooms. Although the fees and monthly rents for the proposed project have not been determined, please indicate which combination of entry fee and monthly rent would be most suitable for you:

		ENTRY FEE		MONTHLY RENT
1.	[ ]	Less then $10,000	but	$800 or more
2.	[ ]	$10,000 - $14,999	"	$750 - $799
3.	[ ]	$15,000 - $19,999	"	$700 - $749
4.	[ ]	$20,000 - $24,999	"	$650 - $699
5.	[ ]	$25,000 - $29,999	"	$600 - $649
6.	[ ]	$30,000 - $34,999	"	$550 - $599
7.	[ ]	$35,000 - $39,999	"	$450 - $549
8.	[ ]	$40,000 - $49,999	"	$350 - $449
9.	[ ]	$50,000 or more	"	Less than $350/month

42. A larger apartment is more expensive than a smaller unit. Which is more important to you?

[ ] Keeping costs as low as possible.
[ ] Having as much space as possible.

43. Which of the following entry fee plans would you most prefer?

[ ] Low initial payment with no refund of payment when you move.
[ ] Middle amount of initial payment with partial refund of initial payment when you move.
[ ] High initial payment with complete refund upon move.

IDENTIFICATION AND DELINEATION OF REAL ESTATE MARKET RESEARCH

Presented by

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University of Wisconsin

SYMPOSIUM ON REAL ESTATE MARKET ANALYSIS

October 10-13, 1984

Westin Peachtree Plaza
Atlanta, Georgia

Sponsored by: Society of Real Estate Appraisers
SREA Foundation
Homer Hoyt Institute of Maryland

IDENTIFICATION AND DELINEATION

OF REAL ESTATE MARKET RESEARCH

I. INTRODUCTION

Every real estate project is a cash cycle enterprise which depends on customers willing to spend dollars in their own self interest. Not only is each real estate project an individual enterprise, it is also a subsystem within a network of collective interdependent enterprises, each of which must be persuaded that their own needs and goals are furthered by interfacing with certain real estate.

In the broadest sense, market research investigates any factor influencing communication, persuasion, or recognition of needs and motivations in the transactional interface of enterprises in the real estate network. The network of forces includes local political controls on entitlement to new entrants, the bargaining power of customers and suppliers, and changing land use patterns and technologies affecting land use. [1]

In the narrower sense, market research is concerned with securing a customer's commitment to the enterprise with a high degree of predictability to control the variance in cash flows, growth in values, and other indices of financial performance derivative of a customer. To paraphrase Peter Drucker, once business has created a customer, everything else it does may be redundant. Certainly the critical element of a business strategy is coping with competition.

A. Market Enterprise and Monopoly

In a market system, free enterprise is the art of creating one's own monopoly, at least for a moment, in the mind of the customer, for partial protection against price competition and the necessity of sharing a limited market. Free enterprise as the art of creating one's own monopoly leads to the following premises for this essay:

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[1] Michael E. Porter, "How Competitive Forces Shape Strategy," Harvard Business Review, 57:2 (March/April 1979).

1. For products, monopoly requires at least one element of control in terms of raw material, location and political entitlement, relevant design, unique service, control of distribution channels, or good timing.

2. For services, monopoly requires control of the customer through behavioral conditioning, or consumer inertia toward an opportunity to change habits.

3. Real estate is a combination of product and service, and therefore real estate monopoly has the greatest number of options to exploit when shaping marketing efforts of the firm.

4. The long lead time required to change supply to meet demand creates unique opportunity for creating a monopoly by decision making finesse relative to politics of location, timing of financing and delivery, and forecasting of demographic shifts and changing consumer preference.

Marketing research involves any investigation that permits focusing of a real estate project on selected segments of consumers with a unique product requirement (market gap) at a particular point in time and location when supply alternatives are limited (market window). Because discount rates contain a lower load for market risk, the ultimate objective is to stabilize cash flows and maximize values.

B. The Real Estate Enterprise

The goal of imperfect competition is consistent with an enterprise management and systems view of the real estate process, and the appeal of real estate to the entrepreneurial mind--particularly if one believes the firm should prevail to some degree over socializing and collectivist forces in the environment. In general, abstract characteristics of an enterprise are that it is an organized undertaking with rational goals and standards which continually screen opportunities consistent with goals, focus limited resources on selected opportunities, and formulate, implement, and operate

programs to capture the perceived opportunities. In the dynamic process one writer [2] has postulated that:

1. The form of an enterprise, in terms of both its physical configuration and social behavior, eventually represents a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on the one hand, and, on the other hand, power of the organization to decide for itself what its characteristics and behavior will be.

2. Real estate is a space-time unit with physical form and a service enterprise with intangible formats intended to enclose a social activity so as to minimize the adverse influence of external forces and maximize the internal goals of the activity to be accommodated. Parameters of space and time are set by political entitlement.

3. External forces determining the configuration and behavior of the real estate are goals of the collective political forces, anticipations of future users, motivations of producer groups, and preferences of those controlling infrastructure enterprises. These forces define the context within which requirements of potential real estate occupancies can be met. These forces limit both the choices of the ultimate consumer and the ultimate solutions put forward by the real estate enterprise responding knowledgeably and sensibly to a group decision process.

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[2] For a thorough introduction to enterprise systems and management concepts that have contributed to the author's own thought development, see John A. Beckett, Management Dynamics: The New Synthesis, (New York: McGraw-Hill, 1971).

C. Market Research - The Intelligence Gathering Unit

Real estate market research is therefore called to provide information for real estate enterprise decision making in the general areas of:

1. Definition of the framework of external factors having ascertainable influence on the generation of customers and revenues for the enterprise, i.e., power to shape product/service/price.

2. Inventory of strengths and weaknesses of the decision-making enterprise which must influence the enterprise deciding for itself what its product characteristics and marketing behavior will be.

3. Classification of factors having influence on customers and revenues as controllable or uncontrollable because of the presence or absence of skills available to the enterprise to manipulate external factors and control internal talents.

4. Providing cost effective data for decisions relative to controllable variables influencing customers and revenues.

The patterns of these decisions generally emerge as a set of initial marketing premises, hypotheses, assumptions, and design controls on the project that are referred to as strategic positioning and tactical positioning. Strategic positioning generally relates to how the enterprise will utilize or neutralize uncontrollable, external market forces. Tactical positioning has to do with implementation of the strategy through manipulation of the controllable variables in a specific market situation. Strategic planning might try to provide housing for the elderly as a growing cohort in the market pushed by circumstance to relocate, while tactical planning might market supporting services and lifestyle in congregate housing while avoiding nursing care responsibilities.

II. MARKET RESEARCH AND MODELING MARKET BEHAVIOR

Real estate market research is ultimately behavioral research, but still a science, not an art. Other sciences have less data than real estate. Indeed, real estate and urban planning seem to be inundated with plausible data points, and the problem is to discover the pattern and the causal factors leading to the powers of forecasting. Therefore, market research is not aimless, but rather is focused on defining hypotheses, confirming assumptions, and contributing facts which in turn provide the enterprise with a strategic and tactical position in the marketplace with strong, monopolistic overtones.

A. Models of Market Behavior

To simplify the structure and analysis of behavioral research on economic matters, it is typical to provide a model of relationships that is, in essence, a hypothesis about market segmentation, motivation, and the elements that combine to create effective demand. Models for behavioral research and enterprise decision have been characterized by Dilmore as based on truth, beauty, or chance. [3]

1. Models based on truth reflect normative premises about economic motivation and simple decision criteria such as optimizing. Truth tends to make clear distinctions between market factors and merchandising tricks of promotion. Models based on truth tend to rely on proof by assertion, are deductive, and basically rely on secondary data, such as Reilly's gravitational models of retail draw.

2. Models that stem from beauty are intuitive, reflective of sensitivity of a few persons' experience, and gain credibility from elegance.

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[3] Gene Dilmore, "Technology of Information Processing and Data Basing--Implications for Real Estate Value Reporting," Proceedings of 1984 Real Estate Valuation Colloquium on a Redefinition of Real Estate Appraisal Precepts and Process, The Lincoln Institute of Land Policy, Cambridge, MA, June 1984.

As Dilmore pointed out, $E=MC^2$ was initially based on the speed of light because the concept was elegant, and it was only years later that empirical data supported the model. Models based on beauty are not always persuasive since beauty is in the eye of the beholder or communicated by means of the aura and trustworthiness of the communicator. For example, George Writer segmented the upper end of the Denver single-family housing market as the Gucci shirts, the Pendletons and the Brooks' Brothers button-down. The Ray Ellison folks depend on Professor Lazlo and lifestyle groups.

3. Behavioral models of chance exploit the increasing credibility of statistics in scaling, forecasting, and ranking consumer preferences. Statistics can be inductive, generated from focused primary research instruments, honest in measuring the degree of fuzziness in the resolution of focus, and abused in terms of power to communicate disinformation between enterprises.

B. Six Critical Elements of a Model

Whichever model genre or format is selected, there are six elements to the model, the research, and the decision that may follow. These are recognized as:

1. The question that needs to be addressed.

2. Data availability with plausible relevance.

3. The hypothesis with which to edit, structure, and focus the data on the question at hand.

4. Skills of the analyst that can be applied with reliability and understanding of the opportunities and pitfalls.

5. The decision-makers' ability to convert the inferences of the research model to appropriate action.

6. Cost effectiveness of the modeling process relative to the economic significance and risk of loss in the action taken.

As a general observation, models concerned with external aggregate forces tend to be fragmented, deductive, and oversimplified because the complexities are so great, research budgets so small, and time in such short supply. Not to mention that the larger systems are not yet well understood. The science of meteorology has more data points than it can manage, and its models still tend to rely on assertions and logic to bridge the gaps in understanding. Nevertheless, the weather cycle is reasonably predictable and so is the demand and supply for carefully defined real estate units. Even basic models provide an adequate basis for timing picnics and office buildings, spring planting and ground breaking. Disappointment with aggregate data most often occurs because the user misfits the data to the problem and not because the basic model never anticipated some unique phenomenon.

On the other hand, with internal, controllable variables, the real estate market analyst has the means to develop inductive, statistical models with a great deal of reliability in the control of internal decisions relative to the enterprise response to external forces. An explosion of software systems simulates parking demand by hour, day, and season correlated to building tenancy. Energy consumption can be correlated to building shape, materials, and site orientation. Linear programming models optimize elevators, installations, land use mix, and all the other controllable design variables and financing options. Of course, there are significant dangers in too much precision on data-rich small problems and data-poor forecasts subject to wide ranges of variables. In some ways today's market research techniques suffer the same problems as the excitement over the Ellwood technique two decades ago, when capitalization rates could be computed to six decimal places, but only two significant numbers were in the normalized net income forecast.

Still, the scope and format of real estate market research is limited only by the inventiveness of the researcher in modeling new connections of easily available data points and then capitalizing on these market insights throughout the hierarchy of roles for market research.

III. THE FUNCTIONAL CONCERNS OF MARKET RESEARCH

The real estate enterprise must market concepts, credibility, and cooperation as well as product to three major sets of enterprises. In order of importance these groups are consumer enterprises, public infrastructure enterprises that provide entitlement and offsite networks of supporting services, and finally reactive enterprises supplying capital, expertise, and material. Consumer enterprises are further subdivided among those who actually rent or buy, those enterprises which coalesce temporarily to influence political decisions, and future users who must be anticipated in the flexibility of product adaptation to changing times or who will be represented by self-appointed proxies for environmental conservation.

A. Market Research Objectives

Although random interactions of these groups and the interplay of their negotiations may be of interest to the market researcher, critical questions to be answered by market research models must focus on the following basic topics which represent the building blocks of market strategy and positioning:

1. Potential market gap opportunities consistent with enterprise abilities to capture that particular segment

2. Profile of prospect psychographics

3. Proportion of population meeting prospect profile

4. Profile of competitive supply meeting prospect needs

5. Proportion of supply historically provided in each period (absorption rate)

6. Product and service standards (defining competitive standards)

7. Product and service differentiation (providing competitive edge)

8. Product and service pricing matrix

9. Potential elasticity of revenue

10. Pace and phasing of production, including economics of scale required for pricing

11. Penetration required into prospect profile group as a percentage of period supply (capture rate)

12. Profile of political power segment within entitlement process

13. Psychographics of the voting constituencies determining entitlement

14. Preconditioned mindset of the capital sources financing the real estate decision

15. Psychographics of the enterprise's personnel in terms of suitability to the task at hand

B. Other Peripheral Objectives of Research

Real estate marketing research is systematic information gathering from investigation of any factor influencing communication, persuasion, or specification of needs and dissatisfactions among the various interacting decision-makers. Wherever there is a potential protagonist/antagonist relationship, the protagonist researcher must carry out some degree of research for data that will contribute toward a reduction in resistance, avoidance of resentment, dissolution of misinformation, and motivation of constructive response. The responsibility of market research for the real estate enterprise has only recently been correctly expanded to include every aspect of anticipation and control of the behavioral interfaces which represent in total the external forces shaping the enterprise and the internal communications within the enterprise which shape its response.

C. Market Research for Public Planning

Although market research has always been identified by consumerism, market research has also become a major data input for planning in the public sector. Planning, like management of a real estate enterprise, is an effort to deal with sets of interacting problems as a whole. The new emphasis in planning, as Ackoff [4] has suggested, is not just dealing holistically with a number of interacting problems, but doing so with a perspective orientation. Market research is now the planner's way to discover that perspective is appropriate, as well as the momentum of market that which can be harnessed to advance public plans. Planners have learned to give public segments what they want rather than what the planners want. Planners compete for capital by tapping demand generated cash flows rather than pillaging tax revenues. Thus, market research has been expanded to serve the external forces imposing on the real estate enterprise by researching the collective social ethics, values, and peer group perceptions that influence the political process of providing entitlements by means of land use control and capital allotments from both public funds and regulated capital markets as a precondition of any private real estate enterprise.

Formal and informal survey research is required of large and small constituencies, including:

1. Contiguous property owners
2. Organized neighborhood-tenant associations
3. Constituencies sharing common interests, such as age, school children, religion, professions, etc.
4. Community power structure and media bias
5. Formal political district boards and councils
6. Public boards regulating community infrastructure
7. Public boards regulating financial institutions

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[4] Russell L. Ackoff, The Art of Problem-Solving, (New York: John Wiley & Sons, 1978).

While the search for market opportunity may be in researching the degree of effective demand for a specific set of benefits, access to that opportunity depends on first marketing the idea to those who fear they may pay so that others may benefit. The cost/benefit impact study is a whole new class of market research for products and services with high public profiles--such as real estate, medicine, transportation, and energy.

IV. CLASSIFICATION OF MARKET RESEARCH FORMS

Convenient classifications for marketing research are somewhat arbitrary categories of competitive strategy formulation, market research, merchandising research, political research, and promotional studies. These categories parallel the enterprise decision process for which the data is required:

1. Setting enterprise goals, talents, and opportunity search standards (competitive strategy studies)

2. Reviewing trends to identify suitable opportunity areas (market study)

3. Selecting a consumer target group within an opportunity area (merchandise study)

4. Formulating a technical program to capture the opportunity

    a. Securing entitlement in the public sector (political research)
    b. Defining competitive standard and conditions required for entry (competitive project analysis)
    c. Finding competitive differentials in the private sector (consumer research)

5. Implementing the program designed to capture the opportunity (promotion studies)

6. Operating the program over time to realize the goals of the program

7. Generating feedback of data with which to modify and improve implementations of numbers 1-6.

Note that marketing research in some format is involved in all seven steps except the implementation and operating phases called Property Development and Management. These phases are omitted only because the feedback process is separated from operations.

A. Market Research

Market research is defined as research of secondary data sources to define trends, patterns of geographic fragmentation, and clusters of market segmentation which scale the size of any enterprise opportunity and provide a link between site and marketplace. Shifts in the demand/supply equilibrium of space/time units will be derivative of changes in:

1. Demographic trends

2. Psycho/social value trends

3. Available investment capital allocations and interest cost trends

4. Technological trends

5. Environmental trends

6. Energy cost impact trends

7. Locational preferences

8. Income redistribution through federal fiscal budget and tax policy

Secondary data are seldom in appropriate scale for a proposed project and must therefore be disaggregated into a series of smaller subsets by a variety of devices initially generated by primary research. The circumference of a trade area, subdivision of demographic data by age, income, or marital status, or subsets of aggregate data by psychographic lifestyle preferences are all examples of refining the focus of market data to search out a specific

target subset, consistent with enterprise goals and monopolistic marketing.

B. Merchandising Research

Merchandising research is defined as primary research of specified subsets of customers and competitive supplies in order to confirm appropriate ratios for the disaggregation of aggregate data to identify location, space, and amenity needs, and to specify levels of effective demand. (According to a Chicago builder, the market for two-bedroom townhouses may be subdivided among 13 different family status groups.) The objective is always to define a subset with the highest level of interest in the subject matter to maximize survey response rate and intensity of execution of survey formats. Various devices may be used deductively to make the scope of empirical research manageable, cost effective, and directly involved with market prospects. Prospect lists may include comparable building tenant rosters, crisscross telephone directories and yellow sections, professional lists, street directories, subscription lists, license numbers, etc. Merchandising research is also concerned with an inventory of supply that is determined to be competitive and therefore defines the competitive standard of attributes taken for granted by the consumer. At the same time, empirical research of the prospects will strive to identify the competitive edge and motivational appeals to overcome inertia and to permit monopolistic pricing for a specific time, place, and group.

C. Political Research

Political research is defined as primary research of specified subsets of political decision makers and their constituents in order to anticipate and influence legislative decisions, commission rulings, and attitudes of specific political persons and blocs. Projects must be marketed to collective consumers so as to minimize the generation of political resistance to the project by inadvertently providing features or marketing themes that stimulate negative political action. The only project with building permits on the Kenai River spent its research budget on identifying the

environmental concerns and design preferences of area residents so that the ultimate land use plan from the outset avoided river bank development and the other cliches of recreational land. The attractions of the Kenai were apparent and consumers would come under any rules and conditions imposed by local constituents. Land use of any type is first dependent on collective political approval, and therefore real estate concepts must first be marketed to those who control the political process.

D. Promotional Research

Promotional research is defined as investigation of media channels, messages, and subliminal codes that communicate and motivate the customer. In the case of real estate, the product is so big that it envelops the customer as a primary media, using forms, colors, textures, as well as spatial layouts to communicate sensitivity to the needs of the prospect. While merchandising research and political research identify the potential irritations and misfits of prospect to existing real estate accommodations, promotion is concerned with communicating how the proposed real estate enterprise combination of space, time, service, and cosmetic attributes will reduce irritation for the activity to be enclosed. Irritation is both technical and perceptual and stems from the following fundamental motivations:

1. Desire to avoid physical discomfort in accommodating the person to the environment.

2. Incentive to profit by reducing economic inefficiency in the use of people and resources in order to improve net spendable cash flow or transferable wealth.

3. Need to reduce anxiety and stress for physical well being.

4. Need for enhancement of status and social well being.

Biological evolution indicates that surviving organisms are those which specially adapt so that the necessities of survival are accomplished by

using less energy, incurring less stress, and enjoying more relaxation and comfort. Similarly, real estate that survives contributes to the enclosed establishment in much the same way.

Technical irritation, which has historically stimulated improved planning, is the objective of merchandising research, while perceptual dissatisfactions existing in the mind of the beholder can be diffused and exploited by means of promotional research. Better merchandising may improve the speed of elevator service in an office building, while promotional research may place mirrors at the elevator floor stop to distract those who might otherwise perceive the elevators to be slow.

E. Integration of Market Methods and Available Talents

The four convenient dichotomies of real estate market research in the previous section interact with the formation of strategic hypotheses and finally strategic programs for the real estate asset manager. Appropriate techniques, budgets, and objectives of each category of market research shift over the timeline of the real estate asset management problem. A preliminary effort to indicate the sequencing and changing content of real estate market research studies over time is provided in Exhibit 1, a matrix of development staging and research objectives. Exhibit 2 provides a matrix of research techniques now utilized in market analysis classified as models of truth, beauty, and chance. No mention is made of obsolete terminology such as highest and best use studies, feasibility analysis, or other similar nonspecific types of consulting products.

Naturally, the utilization of the more sophisticated market research techniques is somewhat cyclical as methods and formats become identified with innovators and successful real estate entrepreneurs. Entrepreneurial egos, cash budgets, and time pressures have tended to prefer research models based on truth by assertion or intuitive beauty, rather than carefully crafted statistics of behavioral research. The emergence of more elaborate techniques is highly correlated to the

OBJECTIVES AND SUBJECTS FOR
REAL ESTATE MARKET RESEARCH

	PREDEVELOPMENT PHASE	SUBDIVISION PHASE	PROJECT-FEASIBILITY PHASE	INITIAL PROJECT MARKETING	PROPERTY-MANAGEMENT PHASE
	OBJECTIVE	Spatial patterns and movements	Absorption rates for land	Absorption rates for space	Timing, trade area data, identification of competitive supply	Roll-over rates
MARKET		Statistical studies of economic, demographic, political, technical, and environmental trends	Rate of creation and sale and improvement of urban lands	Focus groups, rates of construction by type and class and aggregate occupancy of comparable projects	—	Monitor competitive supplies and terms
	OBJECTIVE	Influential person analysis	Capture rate for sites	Capture rate for occupants by product price and tenant profile	Trade-off analysis of features	Tenant canvass for renovations and service innovations and expansion demand
MERCHANDISE		—	Research of required emenities	Research of competitive standard and competitive edge focus groups	Feedback from model space	—
	OBJECTIVE	Impact analysis, regional fiscal, environmental, and transportation impacts	Land use control approval process and power structure	Building permit approval process and power structure	Monopoly of entitlements	Feedback from neighborhood and political groups
POLITICAL		—	—	Focus groups	Testing for political image	—
	OBJECTIVE	Identification of long-term visual and location perception codes	Imagery for neighborhood groups and contiguous property owners	Conversion rate of prospects	Define channels of communication and sales	Resigning of tenant lease maturities
PROMOTION		—	—	—	Testing of advertising effectiveness	Public relations research for building management
	OBJECTIVE	Substitute forecasting skills for risk capital	Substitute pre-sales and public capital to finance public infrastructure	Position for unique project and timing to reduce capital risks	Price for elasticity matched to scale of production	Estate transfer or corporate liquidation formats
STRATEGIC		—	—	—	To control variable costs	Next user or investor market analysis

EXHIBIT 2

GENERALIZED ALLOCATION OF
MARKET RESEARCH METHODS FOR REAL ESTATE
ASSET MANAGEMENT

	ORDER TRUTH-NORMATIVE	BEAUTY (INTUITIVE)	CHANCE-STATISTICAL
MARKET	Gravitational models Input-output Shift-share Census data and planning counts Social prototypes (hierarchy of needs)	Subjective forecasts Delphi studies	Dynamic time series model for forecasting Regression analysis Cluster analysis
MERCHANDISE	Non-systematic survey/ research Competitive property inventories Standard plan selection	Focus groups Personal interview Experience logs Marketing diaries	Factor analysis Conjoint analysis Random telephone survey AID analysis Multi-dimensional scaling
POLITICAL	Flowchart of political process	Focus groups Personal interview Expert opinion	Random telephone survey Precinct voting profiles Legislative voting records
PROMOTION	Standard advertising, channels for distribution, and established building forms and textures	Focus groups Architectural models, testing of visual and tactile codes	Factor analysis Conjoint analysis Random telephone survey

appearance of high rates of compound interest and saturation of generic space markets so that profit margins and survival depend on monopolistic market and pricing. Low cost data processing was a timely and coincidental aid to this shift of entrepreneurial attitudes towards research. Real estate needs to break the stereotype of report titles and normative formats as well as the presumption that appraisers do market research. Nothing in appraisal training relates to decision theory for enterprises in the real world or modern methods of gathering and interpreting data to facilitate these decisions. Real estate analysis is no longer an exercise in modeling of real estate futures with normative and intuitive models with a generic format and a narrow scope of issues to be addressed. Nor can one individual span the array of issues within the broad sequence of asset management steps suggested in Exhibit 1. As a result, real estate market analysis as a cottage industry of generalists is nearly over.

V. CONCLUSIONS

Recognition that market research for real estate requires investigation of a broad front of behavioral interfaces within economic, engineering, and architectural constraints is the first step toward recognition that real estate analysis will become a clinical service of related specialists rather than the province of cottage industry generalists. The shift of investment capital by fiduciaries toward real estate presages large increases in market research budgets for both proposed and existing income property investment to protect the fiduciary against the consequences of negligence in establishing a marketing strategy for yield and protection of capital.

Bigger fees to protect decision makers against the consequences of bigger mistakes will attract and generate larger firm activities in providing real estate market analysis. For the same reason that accounting firms are taking over appraisal firms, advertising and public relation firms will take over real estate market research. Political science firms and research divisions of large advertising agencies are already playing a role in the application of sophisticated

research techniques to large real estate project marketing problems.

Nevertheless, something is lost when those using the new techniques are not well grounded in real estate vernacular, building technique, and the theology of land planning. Therefore, a young generation of statistical analysts will join forces with normative and intuitive problem solvers to provide a clinical array of services as a coordinated team of market analysts. Within that team will be a land planner, a mechanical engineer, an architect, a financial analyst, a political liaison specialist, and one or more market researchers. This team will support the developer as employees or as a subcontracting professional firm. The subcontracting firm is socially preferred to facilitate dissemination of an understanding of the market on a cumulative basis to multiple developers. However, currently the creation of value depends primarily on market research that will provide a proprietary, competitive differential leading to a confidential, inhouse data base development. The learning curve from research and the experience curve that provides a timing edge will be key to monopolistic operations of institutionalized real estate. The result will be a greatly reduced dissemination of research methods, findings, and demonstrable successes. Almost inevitably, market research firms providing services to the general public will evolve into development firms for their own account because the value created through thorough and comprehensive research is so much greater than professional fees currently acceptable for the service.

SYMPOSIUM ON REAL ESTATE MARKET ANALYSIS
JOINTLY SPONSORED BY
SOCIETY OF REAL ESTATE APPRAISERS, SREA FOUNDATION
AND THE HOMER HOYT INSTITUTE OF MARYLAND

October 11-13, 1984

Westin Peachtree Plaza, Atlanta, Georgia

Wednesday, October 10, 1984

4:00-7:00 p.m.	Registration	International Room, Level 7
6:00-7:30 p.m.	Informal Reception	Spanish Room, Level 7

Thursday, October 11, 1984

7:30-9:00 a.m.	Registration	International Room, Level 7
7:30-9:00 a.m.	Continental Breakfast	Reception Area, Level 8
9:00-9:15 a.m.	Greetings and Introductions Francis J. McGee, SREA, 1984 Society President Richard E. Nichols, SREA, 1984 Society President-elect David N. Peterson, SREA 1984 SREA Admission Committee Chairman	Peachtree Ballroom, Level 8
9:15-9:30 a.m.	Introduction to Symposium; Statement of Objectives Dr. Nathan Baily, President, The Homer Hoyt Institute of Maryland	
9:30-9:45 a.m.	Organization and Conduct of Symposium Dr. Willian N. Kinnard, Jr., SREA, MAI, CRE Education Consultant, Society of Real Estate Appraisers	
9:45-10:30 a.m.	Research Design for Real Estate Market Analysis: Specification of Project, Product, Program, Client Objectives Robert L. Foreman, SREA, MAI	

10:30-10:45 a.m.	Coffee Break	Reception Area, Level 8
10:45-12:00 p.m.	Client Needs and Requirements: Current Practice vs. Expectations. Panel: Norbert F. Wall, SREA, MAI, Moderator Charles Ajalat, Esq. Panke Bradley Dr. Robert Kevin Brown, FCA Dr. Robert H. Zerbst, SRPA, MAI	Peachtree Ballroom Level 8
12:00-1:15 p.m.	Lunch	Plaza Ballroom, Level 9
1:15-2:15 p.m.	Identification and Delineation of Real Estate Market Research Dr. James A. Graaskamp, SREA, CRE	Peachtree Ballroom, Level 8
2:15-3:00 p.m.	Identification of Current Good Professional Practice: Historical Background and Trends Jared W. Shlaes, CRE, MAI	
3:00-3:15 p.m.	Coffee Break	Reception Area, Level 8
3:15-4:00 p.m.	A Proposed Restructuring of Real Estate Market Analysis Dr. Maury Seldin, CRE Homer Hoyt Institute, of Maryland	Peachtree Ballroom, Level 8
4:00-5:00 p.m.	The New Look in Real Estate Market Research Panel: Dr. Willian N. Kinnard, Jr., Moderator Robert L. Foreman Dr. James A. Graaskamp Dr. Stephen D. Messner Norbert F. Wall	
6:00-7:30 p.m.	Reception	Plaza Ballroom Level 9

Friday, October 12, 1984

7:30-9:00 a.m.	Continental Breakfast	Reception Area, Level 8
9:00-10:15 a.m.	Case Discussion: Market Positioning, Aggregate Analysis Dr. Halbert C. Smith, SREA, CRE, Moderator Dr. Bill Mundy, MAI W. Marvin Waldo	Peachtree Ballroom, Level 8
10:15-10:30 a.m.	Coffee Break	Reception Area, Level 8
10:30-11:45 a.m.	Case Discussion: Market Segmentation, Motivation Norbert F. Wall, Moderator Robert L. Siegel	Peachtree Ballroom Level 8
11:45-1:00 p.m.	Lunch	Plaza Ballroom, Level 9
1:15-2:15 p.m.	Case Discussion: Product Research, Channels of Marketing Jared W. Shlaes, Moderator Bodo Lemke Rudy Umscheid	Peachtree Ballroom, Level 8
2:15-3:00 p.m.	Future Prospects for Real Estate Market Analysis: Data, Tools, Concepts Dr. Stephen D. Messner,, SRPA, CCIM, Moderator Donald E. Snyder Keith Wardell	
3:00-3:15	Coffee Break	Reception Area, Level 8
3:15-4:30 p.m.	Residential Marketing Research: The Ray Ellison Case Dr. James A. Graaskamp, Moderator ✳ James Tilton, Presenter	Reception Area, Level 8
4:30-5:00 p.m.	Symposium Summary and Review Dr. Maury Seldin Dr. William N. Kinnard, Jr.	
5:00 p.m.	Adjournment	

Saturday, October 13, 1984:

PROGRAMMING FOR SOCIETY MEMBERS ONLY

7:30-9:00 a.m.	Continental Breakfast for Attendees and Spouses	Reception Area Level 9
9:00-10:30 a.m.	Annual Forecasting Panel: Mortgage Markets, Money and Capital Markets, The U.S. Economy Dr. William N. Kinnard, Jr., Moderator James E. Gibbons, SREA, MAE, CRE Dr. Dennis Jacobe Dr. Halbert C. Smith, SREA, CRE	Plaza Ballroom, Level 9
10:30-10:45 a.m.	Coffee Break	Reception Area, Level 9
10:45-12:00	Annual SREA Open Forum (For SREA-designated members only) David N. Peterson, Moderator	Plaza Ballroom, Level 9
12:00 Noon	Adjournment	

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CONTEMPORARY APPRAISAL OF LARGE INCOME PROPERTIES

Presented by

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

Sponsored by North Carolina Chapter
of the American Institute of Real Estate Appraisers

Inn on the Plaza
Asheville, North Carolina

April 20, 1984

CONTEMPORARY APPRAISAL THEORY AND THE INCOME APPROACH

Presented By

James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

FIRST HOUR

I. The basic premises of the contemporary approach stem from the fundamental belief that pricing is a behavioral science, that analysis should be inductive rather than deductive wherever possible, and that appraised values are intended to serve as a benchmark for some decision process.

A. A price is a social transaction and the behavior of the parties and configuration of the transaction reflects a consensus at some point in time between external market forces sufficiently strong to impose on the outcome and internal forces on the supply side sufficiently strong to pursue their own self-perceived interests.

Notice that the above does not presume:

1. Both demand and supply forces to have alternatives of equal indifference.

2. Negotiation abilities of equal force, or

3. Cash maximization as their sole criteria - all of which characterize the traditional approach.

B. The contemporary view sees appraisal as a limited and fictional case of feasibility analysis which, in turn, is a limited case in problem solving which, in turn, is part of a larger planning framework.

C. Appraisal as a fictional feasibility study is a model of a decision process and, therefore, like all models is constrained by the following elements:

1. What is the nature of the question?

2. What quantity and quality of data may be available?

3. What theory or hypothesis may edit and focus the available data as a tentative answer to the question?

4. What techniques and data management can be used reliably by the analysts?

5. What techniques and data management have credibility with the ultimate decision maker hiring the analyst?

6. What techniques and data management are cost effective in terms of the dollar consequences of the decision?

D. Functions of appraisal differ dramatically and lead to multiple definitions of value.

1. Validation (mortgage loans)

2. Benchmarking performance (pension funds)

3. Confrontation (legal cases)

4. Counseling (investment decisions)

II. In that light, the sequence of steps required of the contemporary/appraisal process referred to by Wisconsin students as RATGRAM is as follows:

A. What is the issue for which the appraisal is sought as a benchmark?

B. What are the attributes of the property in terms of alternative courses of action for their productive use?

C. Given the alternatives, what is the most probable use?

D. Given the most probable use, who is the most probable buyer in terms of class, motivation profile, or market position? (See Exhibit 1.)

E. Given the most probable use and most probable buyer assumptions, there are three approaches to predicting most probable price:

   1. Inference from past transactions involving properties of similar potential and buyers of similar motivation.

   2. Failing adequate transaction data, it is then acceptable to simulate the pricing methods of the most probable buyer.

   3. Failing to find either similar properties or articulate buyers, the appraiser is then permitted to use normative methods which indicate what might happen if buyer and seller were as smart as the appraiser.

F. With an initial estimate of value, it may then be modified for external conditions unique to the parties, the place, or the time.

G. The adjusted value must then be tested to demonstrate that results at that price would be consistent with the minimum goals of all major parties to the transaction.

H. Since the appraiser is predicting price under conditions of uncertainty and many different market terms, the appraisal conclusion must be expressed as a central tendency within a transaction zone which is qualified by financial terms and/or critical assumptions about unknowable facts.

   1. Although the Institute uses fair market value and most probable price interchangeably, that is a travesty on the work of modern theorists and a deliberate attempt to confuse or negate the implied criticism of traditional ways by contemporary analysts. See Exhibits 2 & 3.

EXHIBIT 3

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.

Source: P. 8, The Appraisal of 25 N. Pinckney, Editor James A. Graaskamp.

Critical Issues That Define Appraisal Process

Function of the Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee simple private rights unencumbered	Cash market present value (As opposed to most probable selling price)	Present value income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (nonparticipating)	Encumbered fee simple private rights plus additional rights pledged	Regulations - market value Underwriting - solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus nonvested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business start-up plus control of monopolistic market position controls	Most probable sales price within perceived costs of creating an alternative	Land, structure, personalty, and intangible assets and good will plus artifactual profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

EXHIBIT 1

EXHIBIT 2

FAIR MARKET VALUE

The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

Fundamental assumptions and conditions presumed in this definition are

1. Buyer and seller are motivated by self-interest.
2. Buyer and seller are well informed and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash, its equivalent, or in specified financing terms generally available for the property type in its locale on the effective appraisal date.
5. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report.

Source: American Institute of Real Estate Appraisers, The Appraisal of Real Estate, 8th ed., (Chicago: American Institute of Real Estate Appraisers, 1983), p. 33.

2. Contemporary theory recognizes explicitly the errors in forecasting, the role of financial terms, and the reality of bargaining position.

I. These general precepts are then expanded into an appraisal report outline of the general type included in Exhibit 4.

J. Upon review of the more detailed outline and the limited time that we have, I would like to demonstrate a manual market inference system, an automated market comparison system, an income simulation method, and a computer test model.

III. Three Basic Methods of Appraisal

Ratcliff concludes that most appraisals are concerned with prediction of a future event, a transaction price. Since an appraisal method is a forecasting tool, forecasting is best done with some past experience. Failing that, the best method is simulation of the real estate market process.

A. Given reliable information on past market behavior, the preferred method of appraisal is to process the data, statistically if possible, to derive a prediction of future price behavior under given conditions and with means for estimating the reliability of the prediction.

1. Statistical prediction if possible.

2. Statistical rules for defintiion of a data set at the least.

B. Should market data be unavailable or inconclusive, the appraiser is forced to resort to the second method of appraisal, namely the construction of a real estate market model of factors which reflect his understanding of how buyers and sellers might behave.

1. The income approach and the cost approach are submodels of how an investor is supposed to behave.

EXHIBIT 4

CONTEMPORARY REAL ESTATE APPRAISAL REPORT OUTLINE

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value aplied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12 Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

EXHIBIT 4 (continued)

C. Special assumptions or instructions that are provided by others

D. Definition of value, which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals, and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief sttement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)

EXHIBIT 4 (continued)

3. In short, it is useful to subdivide improvements into subsystems:

   a. Foundation system
   b. Structural system
   c. Vertical circulation
   d. Horizontal circulation
   e. Floor system
   f. Ceiling system
   g. Roof system
   h. Internal wall system
   i. External wall system
   j. HVAC system
   k. Communications system
   l. Traffic separation system
   m. Security system
   n. Life safety system
   o. Waste removal system

4. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
5. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
6. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
7. Current uses and tenancies of improvements, if any
8. Environmental impact attributes of improvements on environs

C. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternaitve tenancies and uses
4. Replacement of existing improvements or program with new uses

EXHIBIT 4 (continued)

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative use strategies for legal-political compatibility
2. Testing alternative use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justsify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

EXHIBIT 4 (continued)

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of method leads to simulation in E or normative methods in F

E. Simulation of Probable Buyer Decision Process if Market Comparison Approach is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

EXHIBIT 4 (continued)

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report
B. Certification of Independent Appraisal Judgment
C. Statement of Limiting Conditions that Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

EXHIBIT 4 (continued)

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

2. After-tax investment models are another submodel of market behavior, but while these may measure demand from the buyer's viewpoint, it may not measure the minimum price expected by the seller who also has a tax model to consider. In using the second approach, the appraiser must be very careful to indicate price on the supply side representing minimum expections (Vs) of the seller.

C. Should there be no sales and no way to verify how buyers would review the specific property (utility case - rate base or kilowatt production?), then the appraiser falls back to normative methods.

1. Normative means what the buyer would do if he were as smart as the appraiser and motivated only by a desire to maximize wealth.

2. The traditional income approach or the cost approach are normative models unless it can be proven buyers behave accordingly.

3. After-tax cash flow models are normative models until it can be shown how these models value property.

D. Highest and best use or most probable use in order to identify most probable user and buyer, requires analysis and explicit recognition of possible uses which are:

1. Legal/political acceptability

2. Physical/technical feasibility

3. Effective demand and marketability

4. Financial viability

5. Community compatibility

(See Exhibit 5.)

EXHIBIT 5

"Highest and best use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applied specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.

Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D., SRPA, Ballinger Publishing Co., Cambridge, Mass., 1975. (Emphasis added.)

IV. New Issues and New Appraisal Techniques

It is generally recognized that the real estate market is dependent upon substantial amounts of credit to support effective demand so that real estate prices and perhaps values vary with the terms and supply of credit generally available in the marketplace. Indeed the old timers have seen the definition of fair market value gradually move away from the firm premise of cash to the seller to a somewhat more subjective condition of terms generally available in the market.

A. The pressure of double digit inflation is eroding many of the appraisers' favorite simplifications of the market model:

1. The long-term fixed interest mortgage, amortized from property productivity is gone.

2. The simple division of income between the mortgage and the equity component is smothered in participating mortgages, limited partnerships, convertible mortgages and seller financing.

3. As the government had removed general subsidies to real estate finance such as regulation Q, it has made greater use of specific interest subsidies to selected special groups.

4. Real estate markets must be defined not only in terms of use, age, income, but also access to capital.

5. Moreover, most properties exist in a 3-tier market, utility to house to activity, commodity and money speculation, and as part of a going concern.

6. The 3-tier market can be further subdivided by the nature of permits or other entitlements that are site specific and define risk of a vested or non-vested opportunity.

B. Volatile money market conditions and the widespread use of creative financing leave the appraiser in considerable difficulty in defining typical market terms, cash equivalent prices or the relationship of fair market value to transaction price. Does the client want fair market price, most probable price, going concern value, contributory value, investment value, or liquidating value in event of delinquency and foreclosure?

C. The impact of these elements is significantly different for problems involving:

1. Income investment properties

2. Economic development properties

3. Multi-family residential properties

4. Single family residential properties

D. The impact of financing in each situation requires that we go back to basics. The appraiser or his client must define:

1. What is the function of the appraisal?

2. Which rights are to be appraised? People buy interests in real estate income, entitlements to business opportunities as well as fee simple title.

3. Eighth edition definition of value in Exhibit 2 requires specificity of financial terms and value increment assigned to financing.

4. Where is the definition explicit about value impact of leases in place?

5. How is productivity allocated to the agents of production?

CONTEMPORARY APPRAISAL - INCOME APPROACH--APPLIED

Presented By

James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

SECOND HOUR

I. Traditional techniques of market comparison and capitalized income lack reliable data or fail to represent market behavior, leading to greater reliance on discounted cash flows for large income properties.

   A. Sales prices are engineered by accountants to some degree to shift asset values among various classifications for land, structure, personalty, intangibles, capital gains and losses and ordinary gains and losses, making market comparison anything but objective (not to mention adjustments for non-market financing discussed in second day).

   B. Similarly, the income approach has great difficulty in applying the truism that income value is the present value of income plus the present value of reversion.

      1. There is the problem of defining net operating income in terms of what is attributable to the real estate (aside from financing effect on cash throw off).

      2. There is the problem of defining the net reversion to equity in an uncertain future (aside from financing effect on mortgage balance).

      3. There is the problem of selecting a conversion process which reduces income cash flows and reversionary cash flows to a single present value.

C. Neither revenue, nor expenses, nor debt service are constant over time anymore, so that NOI/OAR is no longer a useful valuation model. Instead rents, vacancies, expenses, and financing must be staged using a spread sheet for both income and the reversion. Lenders may share in appreciation and owner and lender may share the risk of variable interest and the first principal payment.

D. The problem of defining real property as tangible or intangible.

1. Property refers to things and objects capable of ownership.

2. Real property refers to the legal rights, interests, and benefits inherent in the ownership of real estate.

3. What is inherent?

4. Is the residual claim the right to receive cash flow from income property subject to any prior claims?

5. How is cash flow allocated among land, labor, capital, and management...and public licenses?

E. The definition of economic rent attributable to the real estate:

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?

a. For example--does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?

2. Is the real estate income from retailing of space or from wholesaling of space?

a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.

3. Is the income for extraordinary services or intangible assets rather than customary?

   a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.

4. Ancillary to rather than integral with the project.

   a. Can services be acquired off premises such as janitorial or utilities?

5. IRS classification as 1250 property (real) or 1231 property (personalty) and Section 453, 453A and B, or Section 38 (tangible) or Section 45 (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

F. Problem of defining or forecasting a reversion:

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships or long term commodity/money ratios.

2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?

   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested, and excluded from fair market value?

4. Can the appraiser simulate alternative speculative gains for most probable price?

5. When a premium is paid anticipating syndication of condominium conversion, should there be an adjustment for purchase of a business opportunity? Does fair market value include management fees for conversion?

G. Referring back to functions and the accounting/appraisal interface, consider that accounting theory distinguishes values according to the following in order to fit the function of the accounting task:

1. Exit value assuming completion of normal business cycle in an orderly fashion (benchmarking).

2. Exit value assuming abrupt liquidation (construction loan validation).

3. Replacement value with asset of current technology.

4. Reproduction value of asset at original state of technology.

5. Market value in an organized market for tangible goods.

6. Current value as original cost indexed for dollar devaluation.

7. Discounted value of future receipts at interest factor.

8. Value of asset not yet charged to consumption or production.

II. Case Study of an appraisal of a 50-year old high rise office building in the CBD with vacancy problems, utility problems, and management problems. (See Exhibits 1 through 9.)

A. Revenues reflected loss of a major tenant (State of Wisconsin), lack of demand for retail space on the first floor, a soft market for B-class space, and a reluctance of management and tenants to use pass-throughs for operating costs.

B. It was necessary to do a spread sheet indicating a gradual reduction of vacancy loss, a gradual updating of existing leases with pass-through clauses, and investment in critical energy conservation.

C. Resale price is tied to projected net income and gross with a debt cover ratio and a cash-on-cash yield. Loan-to-value ratio is irrelevant. (See The Appraisal Journal, January 1981, "DCR/RE Cap Rate Tables for Today's Financing," p. 15.)

EXHIBIT 1

CASE STUDY - SEMINAR
EXCERPTED FROM APPRAISAL OF OFFICE BUILDING

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EXHIBIT 1 (Continued)

SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE/RETAIL SPACE IN MADISON C-4 ZONE

Parking 25%	5 = Ample private parking on site or available on contract within the same block. 3 = Limited parking on premises 0 = Little or no surface parking on premises.
Location 20%	5 = In the blocks of East and West Mifflin St. or North and South Carroll St., across from the Capitol Square 3 = In the blocks of North and South Pinckney St., across from the Capitol Square, or in the 100 block of West Washington, or adjacent to General Executive Facilities. 1 = Off of the Capitol Square
First Floor Retail Lease in Place at Time of PUrchase 15%	5 = Strong lease in place. 3 = Strong lease in place for part of first floor. 0 = Lease expires in less than 6 months or vacant.
Need for Renovation of Office Space at Time of Purchase 15%	5 = No renovation required. 3 = Modest renovation required. 1 = Intensive renovation required.
Visual Quality of Office Entrance 10%	5 = Excellent design and location. 3 = Indifferent design and/or location. 1 = Poorly defined and/or adjacent to incompatible uses.
Vacancies in Existing Office Space at Time of Purchase 15%	5 = Less than 10% of net rentable area (NRA). 3 = More than 10% of NRA. 0 = Vacant

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE/ WEIGHT	#1 30 W. Mifflin	#2 50 E. Mifflin	#3 16 N. Carroll	#4 123 W. Washington	#5 102 N. Hamilton	#6 212 E. Washington	Subject 110 E. Main
	Rating/Weighted Rating						
Parking 25%	5/1.25	3/.75	0/0	0/0	3/.75	3/.75	3/.75
Location 20%	5/1.00	5/1.00	5/1.00	3/.60	1/.20	3/.60	3/.60
First Floor Retail Lease In Place 15%	5/.75	5/.75	0/0	3/.45	3/.45	0/0	1/.15
Need for Renovation 15%	5/.75	1/.15	3/.45	5/.75	1/.15	1/.15	3/.45
Visual Quality of Office Entrance 10%	5/.50	3/.30	3/.30	5/.50	3/.30	3/.30	1/.10
Vacancies In Existing Office Space 15%	5/.75	0/0	5/.75	5/.75	0/0	0/0	1/.15
Total Weighted Score	5.00	2.95	2.50	3.05	1.85	1.80	2.20
Selling Price	$2,555,500	$850,000	$615,270	$2,896,000	$330,000	$472,000	X
Total Net Rentable Area (NRA)	65,000 sq. ft.	38,500 sq. ft.	35,725 sq. ft.	138,000 sq. ft.	28,000 sq. ft.	38,000 sq. ft.	74,000 sq. ft.
Price Per Square Foot (NRA)	$39.30	$22.10	$17.20	$21.00	$11.80	$12.40	
Price Per Square Foot of NRA / Total Weighted Score	7.86	7.49	6.88	6.89	6.38	6.89	

EXHIBIT 2

EXHIBIT 3

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD
(With Standardized Weighted Point Scores)

Comparable Property	Selling Price per NRA	Weighted Point Score	Price per NRA / Weighted Point Score (x)
1	$39.30	5.00	7.86
2	22.10	3.45	7.49
3	17.20	2.50	6.88
4	21.00	3.05	6.89
5	11.80	1.85	6.38
6	12.40	1.80	6.89
		TOTAL	42.39

$$\text{Central Tendency (Mean} = \bar{x}) = \frac{\Sigma x}{n} = \frac{42.39}{6} = 7.07$$

$$\text{Dispersion (Standard deviation} = s) = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}} = \sqrt{\frac{1.38}{5}} = .525$$

where:

x	$\bar{x}$	$\lvert(x-\bar{x})\rvert$	$\Sigma(x-\bar{x})^2$	n	$n-1$
7.86 - 7.07 =		.79	.62	6	5
7.49 - 7.07 =		.42	.18		
6.88 - 7.07 =		.19	.04		
6.89 - 7.07 =		.18	.03		
6.38 - 7.07 =		.69	.48		
6.89 - 7.07 =		.18	.03		
			1.38		

Value Range: $\bar{x} \pm s = 7.07 \pm .53$

Estimate of Value of Subject Property =

NRA of subject (74,000 S.F.) * Weighted point score of subject (2.2) *

[Sample mean of price per NRA per total weighted score ± (Dispersion * t value)]
[7.07 ± (.53 * t value)]

	Confidence Level: 68% (t = 1.000)	@ n-1 = 5; 90% (t = 2.015)
High Estimate:[1]	$1,240,000	$1,320,000
Central Tendency:	1,150,000	1,150,000
Low Estimate:	1,060,000	980,000

[1] All value estimates are rounded.

SCHEDULE OF RENTAL REVENUES[1] FOR THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof								
B Level Vault-Vacant	700	3.00	--	$ 2,100	$ 2,100	$ 2,270	$ 2,270	$ 2,450
B Level-Showroom & Office	4000	3.00	--	12,000	12,000	12,960	12,960	14,000
A Level-Storage	400	4.00	6/30/80	1,600	2,400	2,600	2,800	3,000
Honeywell Phone Box	--	--	--	600	600	600	650	650
Total-Lower Level	5100			$16,300	$17,100	$18,430	$18,680	$20,100
First Floor								
Chez Vous-112	454	4.80	10/1/76 - 9/30/81	$ 2,180	$ 2,290	$ 2,360	$ 2,360	$ 2,360
Chez Vous-114	1000	4.80	10/1/76 - 9/30/81	4,810	5,030	5,200	5,200	5,200
North Entry	2000	9.00	--	18,000	19,500	21,000	22,500	24,000
South Entry-Leaf & Ladle[4]	3500	9.00	1/1/80 - 12/30/84	31,500	33,130	33,950	36,670	39,600
Total-First Floor	6954			$56,490	$59,950	$62,510	$66,730	$71,160
Second Floor								
201 Vacant	150	6.50	--	$ 970	$ 970	$ 1,050	$ 1,050	$ 1,140
202 State[5]	600	6.70	7/1/79 - 6/30/80	4,020	4,320	4,320	4,670	4,670
203-4 Vacant[5]	543	6.20	9/1/78 - 8/31/79	3,370	3,640	3,640	3,640	3,930
205-6 State	506	7.00	3/1/78 - 5/31/80	3,540	3,820	3,820	4,120	4,120
207-8 Homecrafts	386	7.20	1/1/79 - 12/31/81	2,780	2,850	3,000	3,000	3,080
209-10 State[5]	451	6.25	11/1/79 - 5/31/80	2,820	3,040	3,040	3,280	3,280
211 Dr. Regez	219	7.00	--	1,600	1,730	1,730	1,870	1,870
212-14 Dr. Wierwill	700	6.50	4/1/78 - 3/31/81	4,570	4,900	4,900	4,900	5,210
215 Vacant	415	6.75	7/1/78 - 6/30/79	2,800	3,020	3,020	3,270	3,270
216 UPI	500	7.50	5/1/80 - 4/30/81	3,750	4,050	4,050	4,370	4,370
218-19 Rape Crisis Center	816	7.00	1/1/80 - 12/31/81	5,840	6,120	6,260	6,530	6,690
220-21 State[5]	1400	6.25	12/1/79 - 5/31/80	8,750	9,450	9,450	10,200	10,200
Total-Second Floor	6686			$44,810	$47,910	$48,280	$50,900	$51,830

EXHIBIT 4

EXHIBIT 4 (Continued)

SCHEDULE OF RENTAL REVENUES[1] FOR THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor								
301 Vacant	150	5.75	--	$ 860	$ 860	$ 930	$ 930	$ 1,000
302-3 State[5]	1179	5.75	--	6,780	7,320	7,320	7,900	7,900
304 State[5]	230	6.70	--	1,540	1,660	1,660	1,800	1,800
305-8 State[5]	942	6.70	--	6,300	6,800	6,800	7,360	7,360
309 The Journal Co.	232	7.20	9/1/79 - 8/31/80	1,810	1,880	1,970	2,030	2,120
310-11 State[5]	456	6.70	--	3,050	3,300	3,300	3,560	3,560
312 Vacant	234	5.75	--	1,340	1,450	1,450	1,570	1,570
313-14 Dr. R. Meng	482	7.20	6/1/79 - 5/31/80	3,490	3,730	3,750	4,000	4,030
315 Vacant	731	6.70	10/1/79 - 9/30/80	5,000	5,080	5,310	5,480	5,630
316-19 Wisc. Builders Assoc.	1091	7.00	1/1/80 - 12/31/80	7,810	8,180	8,360	8,730	8,940
320-24 Vacant	1363	7.00	--	9,540	10,300	10,300	11,130	11,130
Total-Third Floor	7090			$47,520	$50,560	$51,150	$54,490	$55,040
Fourth Floor								
401 Vacant	150	6.40	--	$ 960	$ 960	$ 1,040	$ 1,040	$ 1,120
402 Furst, Carlson Inc.	648	6.40	5/1/79 - 4/30/80	4,350	4,370	4,700	4,730	5,090
403-11 State	2147	6.75	1/1/80 - 12/31/81	14,500	14,880	15,670	16,100	16,960
412 Vacant	202	6.40	--	1,290	1,290	1,400	1,400	1,500
413-14 Wisconsin Alliance of Cities	679	6.80	--	4,980	5,020	5,420	5,420	5,850
415 State[5]	259	7.00	3/1/79 - 2/28/81	1,830	1,940	1,970	2,100	2,130
416-19 State[5]	1370	6.00	vacated 6/30/80	8,220	8,880	8,880	9,590	9,590
420-20a State[5]	560	6.70	vacated 6/30/80	3,750	3,750	4,050	4,050	4,370
421-22 State	300	6.70	vacated 6/30/80	2,010	2,010	2,170	2,170	2,340
423-24 Ed Konkol	340	6.60	9/1/79 - 8/31/80	2,240	2,240	2,420	2,420	2,620
Total-Fourth Floor	6655			$44,130	$45,340	$47,720	$49,020	$51,570

SCHEDULE OF RENTAL REVENUES[1] FOR THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fifth Floor								
501 E. C. Barton	150	7.60	--	$ 1,240	$ 1,270	$ 1,270	$ 1,380	$ 1,380
502 Vacant	842	7.50	--	6,310	6,820	6,820	7,360	7,360
503-5 Vacant	810	7.50	--	6,070	6,070	6,440	6,800	6,800
506-19 State	3922	6.25	11/1/79 - 10/31/83	24,500	24,500	24,500	30,590	31,770
520 State-Bd. of Aging	555	6.70	7/1/79 - 6/30/81	3,950	4,000	4,270	4,330	4,940
521-22 Dr. Coryell	339	7.20	7/1/79 - 6/30/80	2,440	2,690	2,740	2,920	2,950
523-24 Green Bay Press Gazette	337	7.60	9/1/79 - 8/31/82	2,560	2,690	2,760	2,760	2,760
Total-Fifth Floor	6955			$47,070	$48,040	$48,800	$56,140	$57,960
Sixth Floor								
601 Vacant	150	6.70	--	$ 1,000	$ 1,000	$ 1,080	$ 1,080	$ 1,170
602-4 State[5]	1473	6.00	vacated 6/30/80	8,840	9,540	9,540	10,300	10,300
605 Vacant	204	6.40	-- to 6/30/80 then mo. - mo.	1,300	1,300	1,410	1,410	1,520
606-10 State	1000	6.70	vacated 11/30/80	7,370	7,500	7,500	8,100	8,100
611 The Evjue Foundation	286	7.00	11/1/79 - 10/31/83	2,000	2,000	2,160	2,160	2,330
612-14 State	647	7.50	--	4,850	4,850	4,850	5,080	5,240
615 Tenney Bldg.	344	7.00	3/1/79 - 2/28/81	2,400	2,400	2,600	2,600	2,800
616 John Barsness	850	6.00	vacated 5/31/80	5,170	5,520	5,590	5,950	6,020
617 Bill Ward	250	6.70	vacated 5/31/79	1,940	2,120	2,120	2,300	2,300
618-19 State	494	8.00	--	3,950	3,950	4,270	4,270	4,610
620-24 Vacant	1262	6.70		8,450	9,130	9,130	9,860	9,860
Total-Sixth Floor	6960			$47,270	$49,310	$50,250	$53,110	$54,250
Seventh Floor								
701 Lawton & Cates	150	5.75	6/1/79 - 5/31/83	$ 930	$ 970	$ 1,100	$ 1,050	$ 1,090
702-19 Lawton & Cates	5417	5.75	6/1/79 - 5/31/83	33,600	35,100	36,450	37,850	39,160
720-24 Vacant	1106	7.00	--	7,740	7,740	8,360	8,360	9,030
Total-Seventh Floor	6673			$42,270	$43,810	$45,910	$47,260	$49,280

EXHIBIT 4 (Continued)

SCHEDULE OF RENTAL REVENUES[1] FOR THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms. as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Eighth Floor								
801 Wisconsin Radio News	150	7.00	to 6/30/80	$ 1,050	$ 1,050	$ 1,130	$ 1,130	$ 1,220
802-5 State	1536	7.55	to 10/31/83	11,600	11,600	11,600	12,060	12,520
806-7 Dr. Hannis	470	7.50	9/1/79 - 8/31/80	3,040	4,000	4,000	4,210	4,320
808-22 State	4580	6.00	7/1/79 - 6/30/80	27,480	36,620	37,100	37,100	39,580
823-24 Dr. Boyle	319	7.60	9/1/79 - 8/31/80	2,780	2,880	3,040	3,120	3,120
Total-Eighth Floor	7075			$46,750	$56,150	$56,870	$57,620	$60,760
Ninth Floor								
901 Millman & Robertson	150	8.00	1/1/80 - 12/31/80	$ 1,230	$ 1,300	$ 1,340	$ 1,400	$ 1,400
902 Wisc. Ins. Alliance	864	7.00	6/1/79 - 5/31/80	6,400	6,480	6,910	7,000	7,000
903-6 Mulcahy & Wherry	980	8.00	1/1/79 - 12/31/81	8,070	8,530	8,750	9,210	9,210
907 Robert Uehling	225	8.00	4/1/80 - 3/31/81	1,810	1,960	1,980	2,110	2,110
909-10 Larry Hall	700	6.00	6/1/79 - 5/31/80	4,520	4,550	4,870	4,900	4,900
911 Dr. Schmitz	248	7.75	1/1/79 - 12/31/80	1,920	1,970	2,060	2,140	2,230
912-19 Devine Insurance	2580	7.00	4/1/80 - 3/31/83	18,060	18,060	18,180	19,350	19,350
921 State	575	7.00	vacated 7/1/80	4,020	4,350	4,350	4,700	4,700
922-23 Judicial Commission	355	6.50	5/1/79 - 4/30/81	2,300	2,500	2,500	2,700	2,700
924-25 Dr. Rundell	339	7.20	6/1/79 - 5/31/80	2,650	2,600	2,860	2,880	2,880
Total-Ninth Floor	7016			$50,980	$52,300	$53,800	$56,390	$56,480
Tenth Floor								
1001 Victor Lind	150	6.80	11/1/79 - 10/31/80	$ 1,050	$ 1,200	$ 1,250	$ 1,300	$ 1,350
1002 Wisc. Assoc. of Indep. Colleges	864	6.50	1/1/80 - 12/31/80	5,760	6,050	6,190	6,480	6,650
1003-4 Wisc. Canners & Freezers	756	8.00	5/1/79 - 4/30/80	6,050	6,050	6,530	6,530	7,050
1005-8 Boelter Co.	911	6.80	12/1/79 - 11/30/80	6,370	6,650	6,880	7,200	7,400
1009-10 Vacant	455	6.50	--	2,950	3,190	3,190	3,450	3,450
1011-13 Dr. Doll	727	6.65	6/1/79 - 5/31/80	5,230	5,270	5,640	5,670	6,100
1014 Vacant	229	6.25	--	1,430	1,430	1,540	1,540	1,670
1015-18 State	1616	7.50	11/1/79 - 10/31/83	12,120	12,120	12,120	12,600	13,090
1019-21 Vacant	680	6.70	vacated 2/29/80	5,380	5,440	5,870	5,910	6,350
1022 Herb Walsh	171	8.00	12/1/79 - 11/30/80	1,420	1,490	1,490	1,540	1,600
1023-24 Dane Co. Advocate for Battered Women	331	7.20	8/1/79 - 7/31/80	2,610	2,600	2,840	2,900	3,070
Total-Tenth Floor	6890			$50,370	$51,570	$53,540	$55,120	$57,780
Annual Totals for	74,054 sq. ft.			$493,960	$522,120	$537,260	$565,460	$586,210

EXHIBIT 4 (Continued)

NOTES TO SCHEDULE OF RENTAL REVENUES FOR THE
PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

[1]The annualized gross rental revenue for the period from April 30, 1980 through April 29, 1981 is consistent with the actual lease terms, if at market rents, as of April 30, 1980. Increases in rents are assumed to take place according to lease terms and conditions; an increase of 8 percent is used at lease renewal dates. This factor was taken from a survey of office rent increases in Class B buildings on and near the Capitol Square in Madison and is the current rate used by the Tenney Building manager.

[2]The annual rental market rate is given as of April 30, 1980. Only one tenant in Rooms 909-10 is considered to be below market rent at $4.73/square foot; therefore the rent for this space is calculated at a market rate of $6.00/square foot. Market rents are also imputed to spaces used by the building owner.

[3]Of the 87 rental space units in the Tenney Building as of April 30, 1980, there are 62 leases in place, but 54 of those terminate between 1980 and 1982. Only eight have leases that extend beyond April 30, 1982.

[4]The Leaf and Ladle Restaurant began its lease of 3500 sq. ft. of the first floor retail space on January 1, 1980. The restaurant had closed its door by October 1, 1980, and the remodeled space is once again on the market. The rental rate of $9.00 with an annual escalator of 8% per year commencing in the second year is considered comparable for the area. A most probable investor might consider an escalator basdd upon a percentage of gross sales to encourage rental of this space if restaurant use is most likely; the projected revenues probably would not increase as rapidly as forecast.

[5]The state has given notice that it will vacate these spaces by June 30, 1980.

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof[1]									
B level - Vault	700	100	3.00	12	$ 2,100				
	700	100	3.00	12		$ 2,100			
	700	100	3.25	12			$ 2,270		
	700	50	3.25	6				$ 1,140	
	700	50	3.50	6					$ 1,140
B Level									
Showroom and Office	4,000	100	3.00	12	12,000				
	4,000	100	3.00	6		6,000			
	4,000	50	3.25	6			3,250		
	4,000	50	3.25	6				3,250	
	4,000	50	3.50	3					1,750
A Level - Storage	400	100	7.00	6				1,400	
	400	100	7.50	9					2,250
Total - Lower level					$14,100	$ 8,100	$ 5,520	$ 5,790	$ 5,140
First Floor									
112 East Main	454	100	5.20	8		$ 1,570			
	454	100	5.20	12			$ 2,360		
	454	100	5.20	4				$ 780	
114 East Main	1,000	100	5.20	8		3,480			
	1,000	50	5.20	12			2,600		
	1,000	50	5.20	4				860	
Leaf & Ladle	3,500	100	9.00	7	18,370				
	3,500	100	9.50	3		8,310			
	3,500	100	10.50	3				9,190	
	3,500	100	11.30	3					$ 9,890
North Entry	2,000	100	9.00	9	13,500				
Total - First Floor					$31,870	$13,360	$ 4,960	$10,830	$ 9,890

EXHIBIT 5

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Second Floor[3]									
201	150	100	6.50	12	$ 900				
	150	100	6.50	12		$ 900			
	150	100	7.00	12			$ 1,050		
	150	100	7.00	12				$ 1,050	
	150	100	7.60	12					$ 1,140
202	600	100	6.70	6	2,010				
	600	50	7.20	12		2,160			
	600	50	7.20	12			2,160		
	600	50	7.80	6				1,170	
	600	50	7.80	3					580
203-4	543	100	6.20	12	3,370				
	543	50	6.70	12		1,820			
	543	50	6.70	12			1,820		
	543	50	6.70	9				1,360	
205-6	506	100	7.00	6	1,770				
	506	50	7.50	12		1,900			
	506	50	7.50	12			1,900		
	506	50	8.15	9				1,550	
	506	50	8.15	6					1,030
209-10	451	100	6.25	6	1,410				
	451	50	6.75	12		1,520			
	451	50	6.75	12			1,520		
	451	50	7.30	9				1,230	
215	415	100	6.75	12	2,800				
	415	100	7.30	6		1,510			
	415	100	7.30	3			760		
218-19	816	100	8.00	8				4,370	
	816	100	8.20	12					6,690
220-21	1,400	100	6.25	6	4,370				
	1,400	50	6.75	12		4,720			
	1,400	50	6.75	6			2,360		
	1,400	50	7.30	6				2,560	
Total - Second Floor					$16,630	$14,530	$11,570	$13,290	$ 9,440

EXHIBIT 5 (Continued)

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor[3]									
301	150	100	5.75	12	$ 860				
	150	100	5.75	12		$ 860			
	150	100	6.20	12			$ 930		
	150	100	6.20	12				$ 930	
	150	100	6.70	12					$ 1,000
302-3	1,179	100	5.75	6	3,390				
	1,179	50	6.20	12		3,650			
	1,179	50	6.20	12			3,650		
	1,179	50	6.70	6				3,950	
304	230	100	6.70	6	770				
	230	100	7.20	12		1,660			
	230	100	7.80	6					900
305-8	942	100	6.70	6	3,150				
	942	50	7.20	12		3,390			
	942	50	7.20	12			3,390		
	942	50	7.80	3					1,830
310-11	456	100	6.70	6	1,530				
	456	50	7.20	12		1,640			
	456	50	7.20	12			1,640		
312	234	100	5.75	12	1,340				
	234	100	6.20	12		1,450			
	234	100	6.20	12			1,450		
	234	100	6.70	12				1,570	
	234	100	6.70	12					1,570
315	731	100	6.70	4	1,610				
320-24	1,363	100	7.00	12	9,540				
	1,363	100	7.60	6		5,150			
Total - Third Floor					$22,190	$17,800	$11,060	$ 6,450	$ 5,300

EXHIBIT 5 (Continued)

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fourth Floor									
401	150	100	6.40	12	$ 960				
	150	100	6.40	12		$ 960			
	150	100	6.90	12			$ 1,040		
	150	100	6.90	12				$ 1,040	
	150	100	7.45	12					$ 1,120
412	202	100	6.40	12	1,290				
	202	100	6.40	12		1,290			
	202	100	6.90	12			1,400		
	202	100	6.90	12				1,400	
	202	100	7.40	12					1,500
416-19	1,370	100	6.00	6	4,110				
	1,370	50	6.50	12		4,450			
	1,370	50	6.50	12			4,450		
	1,370	50	7.00	12				4,800	
	1,370	50	7.00	6					2,400
420-20a	560	100	6.70	6	1,880				
	560	50	6.70	12		1,870			
	560	50	7.20	9			1,520		
Total - Fourth Floor					$ 8,240	$ 8,570	$ 8,410	$ 7,240	$ 5,020
Fifth Floor									
502	842	100	7.50	12	$ 6,310				
	842	50	8.00	12		$ 3,410			
	842	50	8.00	12			$ 3,410		
	842	50	8.75	6				$ 3,410	
520	555	100	7.70	6			2,130		
	555	50	7.80	12				2,160	
	555	50	8.90	9					$ 1,850
Total - Fifth Floor					$ 6,310	$ 3,410	$ 5,540	$ 5,570	$ 1,850

EXHIBIT 5 (Continued)

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Sixth Floor									
601	150	100	6.70	12	$ 1,000				
	150	100	6.70	12		$ 1,000			
	150	100	7.20	9			$ 810		
602-4	1,473	100	6.00	6	4,420				
	1,473	50	6.50	12		4,770			
	1,473	50	6.50	12			4,770		
	1,473	50	7.00	9				$ 3,870	
	1,473	50	7.00	6					$ 2,580
605	204	100	6.40	12	1,300				
	204	100	6.40	12		1,300			
	204	100	6.90	12			1,410		
	204	100	6.90	9				1,060	
617	250	100	7.75	4	640				
620-24	1,262	100	6.70	12	8,450				
	1,262	100	7.20	6		4,540			
	1,262	100	7.20	6			4,540		
	1,262	50	7.80	9				3,690	
Total - Sixth Floor					$15,810	$11,610	$11,530	$ 8,620	$ 2,580
Seventh Floor									
No Vacancies Projected									
Eighth Floor									
801	150	100	7.00	10	$ 880				
	150	100	7.00	12		$ 1,050			
	150	100	7.50	6			$ 560		
Total - Eighth Floor					$ 880	$ 1,050	$ 560	0	0

EXHIBIT 5 (Continued)

SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS FOR
THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Ninth Floor									
909-10	700	100	6.50	6		$ 2,280			
	700	100	7.00	6			$ 2,440		
922-23	355	100	7.00	12			2,500		
	355	100	7.60	6				$ 1,350	
Total - Ninth Floor					0	$ 2,280	$ 4,940	$ 1,350	0
Tenth Floor									
1009-10	455	100	6.50	12	$ 2,950				
	455	100	7.00	12		$ 3,190			
	455	100	7.00	9			$ 2,390		
1014	229	100	6.25	12	1,430				
	229	100	6.25	12		1,430			
	229	100	6.70	6				770	
1019-20	680	100	6.70	1	380				
Total - Tenth Floor					$ 4,760	$ 4,620	$ 2,390	$ 770	0
TENNEY BUILDING TOTALS[4]					$120,790	$85,330	$66,480	$59,910	$39,220

EXHIBIT 5 (Continued).

NOTES TO SCHEDULE OF VACANCIES BY FLOOR AND BY LEASE TERMS
FOR THE PERIOD OF APRIL 30, 1980 THROUGH APRIL 29, 1985

[1]The lower level space has a continued record of vacancy; it is assumed that until the space is made more marketable by remodeling, rents will not keep pace with the market. Uses other than a showroom for the 4000 sq. ft. will need to be explored; subdividing the larger space for office space and/or storage space are possibilities.

[2]It is assumed that the smaller office spaces from 200-500 square feet will experience less overall vacancy than the larger spaces. There appears to be a trend toward several small independent businessmen sharing a common secretarial staff; some of the larger vacant suites could be remodeled for this type of use.

[3]The second and third floors have the greatest amount of vacancy due to the exodus of State tenants. By the end of June, 1980, the State's move alone will cause 44% of the second floor vacancies; the third floor will experience a vacancy rate of 39.5% due to loss of State tenants; the State related vacancy rates on the fourth and sixth floors will be 29% and 21% respectively. A most probable buyer will have to anticipate a large capital investment in 1980 to remodel and refurbish the Building to make it competitive in the Class B office market that already has a large supply of space available on and near the Square.

[4]Vacancies are assumed to gradually decrease between 1981 and 1983; a most probable buyer will institute a vigorous marketing program which will involve research of space needs in the area and remodeling which will be targeted to those needs.

EXHIBIT 5 (Continued)

Schedule of Projected Revenues and Expenses From April 30, 1980 Through April 29, 1985

	4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Revenues:					
Gross Income	$493,960	$522,120	$537,260	$565,460	$586,210
Less: Vacancies	(120,790) (24.5%)	(85,330) (16.3%)	(66,480) (12.4%)	(59,910) (10.6%)	(39,220) (6.7%)
Effective Gross	373,170	436,790	470,780	505,550	546,990
Parking Rentals	12,960	12,960	12,960	14,000	14,000
Total Revenues	$386,130	$449,750	$483,740	$519,550	$560,990
Expenses:[1]					
Accounting & Legal	4,200	4,640	5,120	5,650	6,240
Building Security[2]	21,840	24,100	26,620	29,390	32,440
Insurance	7,000	7,730	8,530	9,420	10,400
Maintenance[3]	28,850	31,850	35,160	38,820	42,860
Wage & Salaries	60,000	66,240	73,130	80,730	89,130
Payroll Taxes	11,500	12,700	14,020	15,470	17,080
Repairs	14,880	16,430	18,130	20,020	22,100
Telephone	1,600	1,770	1,950	2,150	2,380
Utilities[4]	90,600	101,470	107,560	114,380	122,020
Office Expenses[5]	7,040	7,520	8,250	8,840	9,690
Management[6]	22,390	26,320	27,540	30,280	32,570
Concourse Special Assessment	2,360	2,410	2,630	2,550	2,480
Total Operating Expenses Before R.E. Taxes[7]	($272,260)	($303,180)	($328,640)	($357,700)	($389,390)
Net Operating Income Before R.E. Taxes	$113,870	$146,570	$155,100	$161,850	$171,600
Real Estate Taxes[8]	(26,680)	(28,000)	(29,400)	(30,880)	(32,420)
Net Operating Income	$ 87,190	$118,570	$125,700	$130,970	$139,180

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[1] Expenses

In general, expenses are projected to increase according to the average annual change of 10.4% in the All Item Consumer Price Index over the past five years. (See amended Exhibit 27).

[2] Building Security

Security personnel is hired from 10 P.M. to 6 A.M. on weekdays with 24 hour coverage on the weekends. The building is open to the public from 6 A.M. to 6 P.M. each weekday. The continuing problems created by the presence of bars and adult entertainment places across the street make this security protection mandatory.

[3] Maintenance

This account includes an elevator maintenance contract at $9,060 a year.

[4] Utilities

At present the Tenney Building consumes approximately 55,000 to 70,000 gallons of No. 2 fuel oil per year depending upon the weather. The cost of fuel has increased as follows:

January 12, 1979	.43/gallon
October 1, 1979	.77/gallon
February 1, 1980	.95/gallon

In thirteen months the cost has risen 121%. Though the Tenney Building is converting to natural gas on its primary boiler, the cost of natural gas is also volatile. Over the past five years natural gas has had an average annual increase of 17.6% for the commercial time-of-use consumer, according to Milton Spiros, Madison Gas & Electric Co.

The installation of combination storm windows throughout the building should help to conserve fuel costs. To stabilize utility costs it is assumed management will place energy cost escalators in renewed leases; therefore in the pro forma income statement utility costs are escalated at 12 percent annually with 50 percent of the increase passed through to the tenant after year 2.

[5] Office expenses include rental of space in the Tenney Building for management operations.

[6] Management costs are computed as 6% of effective gross office revenue with 4% allowed for management and 2% for leasing commissions for space turnover.

EXHIBIT 5 (Continued)

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[7]Total operating expenses are calculated before including real estate taxes for ease in using the MRCAP discounted cash flow program.

[8]Real estate taxes are calculated as 5.4% of gross revenues in the first year and increased at 5% per annum thereafter. These calculations are based on the following fact and assumptions:

1. The assessed value as of 1/1/80 is $1,200,000.
2. The mill rate is assumed to increase slightly (approximately 1%) after several years of decrease.
3. Taxes will continue to increase due to inflated city budgets and decreasing state aids.

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH

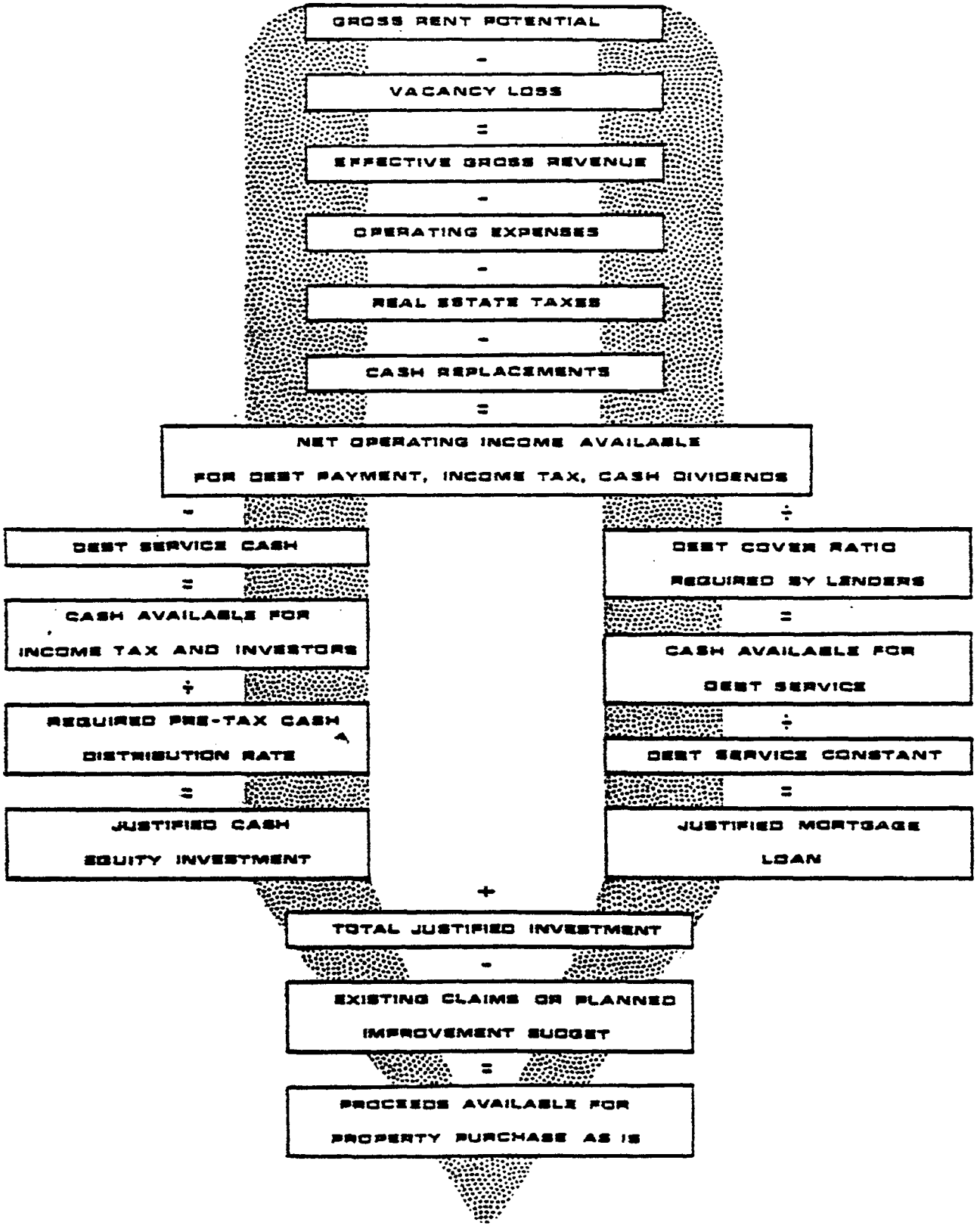

EXHIBIT 7

4. Conversion of Net Income to Present Value

The MRCAP program from the National EDUCARE library of programs, previously described, is used to convert net income to a present value after taxes as of April 30, 1980, for the Tenney Building at the end of a five-year holding period.

C. Assumptions Used in MRCAP

The MRCAP discounted cash flow program can solve for a justified project value by specifying the ratio of net income to debt service acceptable to an institutional mortgage lender. Given the interest rate and term available as of April 30, 1980, the program will solve for the justified amount of mortgage and for justified cash equity, assuming typical before-tax cash-on-cash investor requirements for office buildings, with potential for inflation sensitive rents. Exhibit 28 is a simplified flow chart depicting the steps in solving for the justified project budget.

On April 30, 1980, prudent lenders will require a minimum debt cover ratio of 1.3 and equity investors expect no less than 6 percent cash-on-cash.

1. Inputs into MRCAP Program

   a. Debt cover ratio = 1.3

   b. Before tax cash-on-cash requirements = 6%

   c. Project holding period = 5 years

EXHIBIT 7 (Continued)

d. Real estate taxes = historical pattern suggests real estate taxes at 5.4 percent of first year's gross with an annual inflation factor of 5% (see assumptions discussed below)

e. Discount rate = 13% (present value factor used to discount cash flow)

f. Reinvestment rate = 6% after tax rate applied to after tax cash flow

g. Resale price = 10 times net operating income in year of sale

h. Resale cost rate = 4%

i. Working capital reserves from equity to cover one month's expenses = $30,000

j. Investor marginal income tax rate = 50%

k. Land = $340,000, as of most recent appraisal for IRS

l. Buildings = 60% of total improvement value

m. Mechanicals and site improvements = 40% of total improvement value

n. Elevators = remaining book value of $73,000

o. Improvements for Energy Conservation = a total of $54,000 which includes $43,000 for storm windows and $11,000 for natural gas conversion unit.

p. Tenant Improvements = $50,000 for carpeting and partitions as needed to upgrade vacant office space

q. Investment Credit Dummy = to allow for tax benefit of investment credit in first year for capital improvement for energy conservation

r. Mortgage = principal amount determined by debt cover ratio; interest rate a minimum of 12% with a 20-year term, paid monthly, on the first mortgage and 13% interest and an 8-year term for the second mortgage

EXHIBIT 7 (Continued)

2. Real Estate Tax Assumptions

Real estate taxes are a function of assessed value (or fair market value when assessed value is 100 percent of market value) and the net mill rate; therefore, real estate taxes are estimated as a function of gross rental income. During the past two years, real estate taxes have been between 5 percent and 6 percent of the Building's potential gross rental income. As a result of tests of several values between 5 percent and 6 percent, it is determined that 5.4 percent of gross rental revenues best represents the historical pattern of the Building's real estate taxes. MRCAP is programmed to use 5.4 percent of the first year's gross rental income to compute the first year's real estate taxes and then provides for a growth factor of 5 percent to increase the taxes each year thereafter.

D. Analysis of Test Results

Four runs of the MRCAP program were done using different assumptions about the amount of real estate taxes that would be paid on the subject property. Taxes and net mill rates for the past three years on the subject property have been:

Year	1977	1978	1979
Real Estate Taxes	$33,118.75	$29,951.95	$25,340.93
Net Mill Rate	.026495	.024153	.022036

Real estate taxes estimated at various percentages of the first year's projected gross and inflated 5 percent a year gave these results in the MRCAP runs:

EXHIBIT 7 (Continued)

Percentage of First Year's Gross Rental Revenue	Real Estate Taxes				
	1980	1981	1982	1983	1984
5.0	$24,698	$25,933	$27,230	$28,591	$30,021
5.4	$26,674	$28,008	$29,408	$30,878	$32,422
5.8	$28,650	$30,082	$31,586	$33,166	$34,824
6.0	$29,638	$31,119	$32,675	$34,309	$36,025

The real estate taxes estimated at 5.4 percent of the first year's gross rent best approximates the shift from a decreasing to an increasing net mill rate that can now be expected due to an anticipated decrease in state aids to cities. Rising costs of local government can be expected to be borne by the local taxpayer.

The input and output for the MRCAP program using real estate taxes estimated at 5.4 percent of gross rental revenue are found in Exhibit 29.

If taxes are a conservative 5.4 percent of gross rental revenue, MRCAP substantiates the fair market value of $1,150,000 estimated by the market comparison approach to value.

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EXHIBIT 8

MRCAP INPUT AND OUTPUT--
JUSTIFIED CAPITAL BUDGET WITH
REAL ESTATE TAXES AT 5.4% OF
FIRST YEAR'S GROSS RENT

```
MRCAP        09:49CST    12/20/80

ENTER INPUT FILE NAME?TENNEY


THE PROGRAM MRCAP IS THE PROPERTY OF
MICHAEL L. ROBBINS
C/O REAL ESTATE DYNAMICS INC.
4701 WINNEQUAH RD.
MONONA, WISC.

USER NO. 66

(608)-221-1120


NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS OR
COMPUTATIONAL FORMAT USED IN THIS PROJECTION WILL
BE ACCEPTABLE TO TAXING AUTHORITIES.

**10.00 LIB CHG APPLIED
```

R E P O R T S E C T I O N N U M B E R 1 PAGE 1

* GROSS RENT	$ 554378.	* RATE OF GROWTH OF GROSS RENT	0.0432
* EXPENSES	$ 330234.	* RATE OF GROWTH OF EXPENSES	0.0936
* R E TAXES	$ 29478.	* RATE OF GROWTH OF R E TAXES	0.0500
INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	2.0000
* VACANCY RATE	0.1375	WORKING CAPITAL LOAN RATE	0.1400
EQUITY DISCOUNT	0.1300	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0400	REINVESTMENT RATE	0.0600
WKG CAPITAL RS	$ 30000.	CAPITAL RESER INTEREST RATE	0.
INITIAL COST	$ 1091502.	INITIAL EQUITY REQUIRED	$ 486009.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

INITIAL COST DERIVED THROUGH BACKDOOR TYPE 3 USING 2 MORTGAGES

PRO FORMA

INVESTMENT ANALYSIS OF

BUILDING

FOR

REPORT SECTION NUMBER 2 PAGE 1

COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
1LAND	0.	1	25.	0	$	340000.	0
BUILDING	0.80	1	29.	2	$	338221.	0
HVAC	0.90	1	9.	2	$	225481.	0
ELEVATORS	0.90	1	4.	2	$	73000.	0
ENERGY CONSERVATION	0.90	1	5.	2	$	54000.	0
TENANT IMPROVEMENTS	0.90	1	10.	4	$	50000.	0
INVESTMENT CREDIT BU	1.00	1	1.	2	$	10800.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.1200	1	20	20	$	531493.	0.487
SECOND MORTGAGE	0.1300	1	8	8	$	104000.	0.095

EXHIBIT 8 (Continued)

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
1	GROSS INCOME	506920.	535080.	550220.	579460.	600210.
2	LESS VACANCY	120790.	85330.	66480.	59910.	49820.
3	LESS REAL ESTATE TAXES	26674.	28008.	29408.	30878.	32422.
4	LESS EXPENSES	272260.	303180.	328640.	357700.	389390.
5	NET INCOME	87196.	118562.	125692.	130972.	139178.
6	LESS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
7	LESS INTEREST	76472.	74515.	72298.	69785.	66938.
8	TAXABLE INCOME	-65599.	-20351.	-10048.	-1443.	26726.
9	PLUS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
10	LESS PRINCIPAL PAYMENTS	14730.	16687.	18904.	21417.	24263.
11	CASH THROW-OFF	-4006.	27361.	34490.	39770.	47976.
12	LESS TAXES	0.	0.	0.	0.	13363.
13	LESS RESERVES	0.	0.	0.	0.	0.
14	CASH FROM OPERATIONS	0.	27361.	34490.	39770.	34613.
15	WORKING CAPITAL LOAN	0.	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	27361.	34490.	39770.	34613.
17	TAX SAVING ON OTHER INCOME	32799.	10175.	5024.	721.	0.
18	SPENDABLE CASH AFTER TAX	32799.	37536.	39514.	40491.	34613.

EXHIBIT 8 (Continued)

MARKET VALUE & REVERSION

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
19	END OF YEAR MARKET VALUE	871962.	1185625.	1256921.	1309717.	1391778.
20	LESS RESALE COST	34878.	47425.	50277.	52389.	55671.
21	LESS LOAN BALANCES	620764.	604077.	585173.	563756.	539493.
22	PLUS CUM. CASH RESERVES	25994.	25994.	25994.	25994.	25994.
23	BEFORE TAX NET WORTH	242314.	560117.	647466.	719566.	822608.
24	CAPITAL GAIN (IF SOLD)	-181096.	182544.	313511.	426719.	551596.
25	CAPITAL GAINS TAX	-36219.	36509.	62702.	85344.	110319.
26	MINIMUM PREF. TAX	0.	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP.	1500.	2438.	2897.	2950.	2657.
28	TOTAL TAX ON SALE	-16610.	38946.	65599.	88294.	112977.
29	AFTER TAX NET WORTH	258924.	521171.	581867.	631273.	709632.

BEFORE TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
30	RETURN ON NET WORTH B/4 TAX	-0.5014	1.4245	0.2175	0.1728	0.2099
31	CHANGE IN NET WORTH B/4 TAX	-243696.	317803.	87349.	72100.	103042.
32	ORIG EQUITY CASH RTNB/4 TAX	-0.0082	0.0563	0.0710	0.0818	0.0987
33	ORIG EQUITY PAYBACK B/4 TAX	0.0000	0.0563	0.1273	0.2091	0.2803
34	B/4 TAX PRESENT VALUE	846386.	1092030.	1126006.	1142995.	1174189.

AFTER TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
35	RETURN ON NET WORTH AFR TAX	-0.3998	1.1578	0.1923	0.1545	0.1790
36	CHANGE IN NET WORTH AFR TAX	-227086.	262248.	60696.	49406.	78359.
37	ORIG EQUITY CASH RTNAFR TAX	0.0675	0.0772	0.0813	0.0833	0.0712
38	ORIG EQUITY PAYBACK AFR TAX	0.0675	0.1447	0.2260	0.3093	0.3806
39	AFTER TAX PRESENT VALUE	893655.	1102069.	1124564.	1133307.	1150092.

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
40	NET INCOME-MARKET VALUE RTO	0.1000	0.1000	0.1000	0.1000	0.1000
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7696	0.7894	0.8165	0.8280	0.8547

INPUT FILE

09:48CST 12/20/80

```
110 1,.      BUILDING.        DAVIS
120 10,1980,0,1,1,0,5,74000
130 20,3,2,1,3,,06,2,2
140 40,493960,522120,537260,565460,586210
150 50,12960,12960,12960,14000,14000
160 60,120790,85330,66480,59910,39220
170 70,,054,,05,*
180 80,272260,303180,328640,357700,389390
190 100,,13,,50,,0c
200 101,0,10,2
210 102,,14,1,,04,0
220 103,0,30000,0,0
230 200,1,LAND
240 201,1,340000,0,0
250 202,1,1,25,0
260 200,2,BUILDING
270 201,2,,60,,80,2
280 202,2,1,29,0
290 200,3,HVAC
300 201,3,,40,,90,2
310 202,3,1,9,0
320 200,4,ELEVATORS
330 201,4,73000,,90,2
340 202,4,1,4,0
350 200,5,ENERGY CONSERVATION
360 201,5,54000,,90,2
370 202,5,1,5,0
380 200,6,TENANT IMPROVEMENTS
390 201,6,50000,,90,4
400 202,6,1,10,0
410 200,7,INVESTMENT CREDIT DUMMY
420 201,7,10800,1,0,2
430 202,7,1,1,0
440 300,1,FIRST MORTGAGE
450 301,1,1,0,,12,0,20
460 302,1,12,1,20,0
470 303,1,0,0,0,0
480 300,2,SECOND MORTGAGE
490 301,2,104000,,13,0,8
500 302,2,12,1,8,0
510 303,2,0,0,0,0
520 400,9
530 403,99,1,2,3,4,5
540 999,99
```

EXHIBIT 9

V A L T E S T

A DEMONSTRATION PACKET

PREPARED BY

LANDMARK RESEARCH, INC.

MADISON, WISCONSIN

PREPARED FOR

THE REAL ESTATE ANALYSTS NORTHSTAR USERS GROUP

SEPTEMBER 24 AND 25, 1982

COSTA MESA, CALIFORNIA

VALTEST

DEMONSTRATION 1

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? J
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 5000
   N.O.I. YEAR  2? 5000
   N.O.I. YEAR  3? 6000
   N.O.I. YEAR  4? 6000
   N.O.I. YEAR  5? 7000
4. ACQUISITION COST: ? 50000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? .8, .12, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .8, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? N
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
           17% - 46%  (1978 LAW, EFFECTIVE 1979)
           16% - 46%  (1981 LAW, EFFECTIVE 1982)
           15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

           (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .46, .46
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

EXHIBIT 9 (Continued)

DEMONSTRATION 1 (Cont.)

AFTER TAX CASH FLOW PROJECTION
J
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$50,000.	MTG. AMT.:	$40,000.	
NOI 1ST YR:	$5,000.	MTG. INT.:	12%	
ORG. EQUITY:	$10,000.	MTG. TERM:	25. YRS	
CTO 1ST YEAR:	$-55.	DEBT SERVICE 1ST YEAR:		$5,055.
		MTG. CONST.:	.1263869	
IMP. #1 VALUE:	$40,000.	IMP. #1 LIFE:	15.	
INC. TX RATE:	46%			
SALE YR RATE:	46%	OWNER: CORPORATION		

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
RESIDENTIAL PROPERTY

LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	5000.	4785.	4667.	-4453.	-2049.	1994.
2.	5000.	4751.	4122.	-3874.	-1783.	1728.
3.	6000.	4713.	3641.	-2355.	-1084.	2029.
4.	6000.	4669.	3216.	-1887.	-869.	1814.
5.	7000.	4620.	2841.	-462.	-214.	2159.
	$29000.	$23539.	$18488.	$-13031.	$-5999.	$9722.

EXHIBIT 9 (Continued)

DEMONSTRATION 1 (Cont.)

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$38,261.
PROCEEDS BEFORE TAXES:	$21,739.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$21,739.

1ST YR B4 TAX EQ DIV:	-.5548%
AVG DEBT COVER RATIO:	1.1473

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$60,000.
LESS BASIS:	$31,512.
TOTAL GAIN:	$28,488.
EXCESS DEPRECIATION:	$5,155.
CAPITAL GAIN:	$23,333.
ORDINARY GAIN:	$5,155.

TAX ON ORDINARY GAIN:	$2,371.
TAX ON CAPITAL GAIN:	$6,533.
PLUS MORTGAGE BAL:	$38,261.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$47,166.

NET SALES PROCEEDS AFTER TAX:	$12,834.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS 20.6487% AND AFTER TAXES IS 19.5605%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

EXHIBIT 9 (Continued)

DEMONSTRATION 1 (Cont.)

MORTGAGE ANALYSIS
J
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	5000.	4785.	270.	5055.	.989	39730.
2.	5000.	4751.	304.	5055.	.989	39426.
3.	6000.	4713.	343.	5055.	1.187	39083.
4.	6000.	4669.	386.	5055.	1.187	38697.
5.	7000.	4620.	435.	5055.	1.385	38261.
AVG	$5,800.				1.147	

DISTRIBUTION OF CASH THROW-OFF
J

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-55.	-55.	0.
2.	-55.	-55.	0.
3.	945.	945.	0.
4.	945.	945.	0.
5.	1945.	1945.	0.
	3723.	3723.	0.

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$38,261.
PROCEEDS BEFORE TAXES:	$21,739.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$21,739.

CASH THROW-OFF = 0% REVERSION = 0%

EXHIBIT 9 (continued)

DEMONSTRATION 1 (Cont.)

DEPRECIATION SCHEDULE
J
IMPROVEMENT # 1
175% D.B.
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	4666.7	2666.7	2000.0	35333.3
2.	4122.2	2666.7	1455.6	31211.1
3.	3641.3	2666.7	974.6	27569.8
4.	3216.5	2666.7	549.8	24353.3
5.	2841.2	2666.7	174.6	21512.1
TOTAL	18487.9	13333.3	5154.6	

EQUITY ANALYSIS
J
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$5,000.	$10,325.	$-55.	-.0055	-.0054
2.	5,000.	10,685.	-55.	-.0055	-.0052
3.	6,000.	11,028.	945.	.0945	.0856
4.	6,000.	11,414.	945.	.0945	.0827
5.	7,000.	11,850.	1,945.	.1945	.1641

ORIGINAL EQUITY: $ 10000

VALTEST

DEMONSTRATION 2

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? CARDINAL-2
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 81745
   N.O.I. YEAR  2? 81920
   N.O.I. YEAR  3? 98910
   N.O.I. YEAR  4? 108800
   N.O.I. YEAR  5? 119680
4. ACQUISITION COST: ? 1007000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 647000, .15236, 30, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .149, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .781, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  196625
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 1
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 1
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?N
   THE MAXIMUM FEDERAL INDIVIDUAL ORDINARY RATE COULD BE:
           70% (PRE-1981 LAW)
           50% (1981 LAW, EFFECTIVE 1982)

           (PLUS STATE RATE)

    ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .5, .5
9. RESALE PRICE (NET OF SALE COSTS) ? 1258750
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  11
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  11
```

EXHIBIT 9 (Continued)

DEMONSTRATION 2 (Cont.)

AFTER TAX CASH FLOW PROJECTION
CARDINAL-2
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$1,007,000.	MTG. AMT.:	$647,000.		
NOI 1ST YR:	$81,745.	MTG. INT.:	15.236%		
ORG. EQUITY:	$360,000.	MTG. TERM:	30. YRS		
CTO 1ST YEAR:	$-17,893.	DEBT SERVICE 1ST YEAR:		$99,638.	
		MTG. CONST.:	.15400037		
IMP. #1 VALUE:	$150,043.	IMP. #1 LIFE:	15.		
IMP. #2 VALUE:	$786,467.	IMP. #2 LIFE:	15.		
INC. TX RATE:	50%				
SALE YR RATE:	50%	OWNER: INDIVIDUAL			

DEPRECIATION IMPROVEMENT #1 : STRAIGHT LINE
DEPRECIATION IMPROVEMENT #2 : STRAIGHT LINE
RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	81745.	98500.	62434.	-79190.	-236221.	218328.
2.	81920.	98313.	62434.	-78828.	-39415.	21697.
3.	98910.	98097.	62434.	-61622.	-30812.	30084.
4.	108800.	97845.	62434.	-51480.	-25741.	34903.
5.	119680.	97552.	62434.	-40307.	-20154.	40196.
	$491055.	$490307.	$312170.	$-311427.	$-352343.	$345207.

NOTE: 1ST YEAR'S TAX REDUCED BY $196,625. FOR TAX CREDIT (IMP #2)

EXHIBIT 9 (Continued)

DEMONSTRATION 2 (Cont.)

RESALE PRICE:	$1,258,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

1ST YR B4 TAX EQ DIV:	-4.9703%
AVG DEBT COVER RATIO:	.9857

RESALE PRICE:	$1,258,750.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$1,258,750.
LESS BASIS:	$694,830.
TOTAL GAIN:	$563,920.
EXCESS DEPRECIATION:	$0.
CAPITAL GAIN:	$563,920.
ORDINARY GAIN:	$0.

TAX ON ORDINARY GAIN:	$0.
TAX ON CAPITAL GAIN:	$112,784.
PLUS MORTGAGE BAL:	$639,115.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$751,899.

NET SALES PROCEEDS AFTER TAX:	$506,851.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $1,258,750.
THE MODIFIED I.R.R. BEFORE TAXES IS 10.5005% AND AFTER TAXES IS 22.2744%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 11%, AND OPPORTUNITY COST OF 11%

EXHIBIT 9 (Continued)

DEMONSTRATION 2 (Cont.)

DISTRIBUTION OF CASH THROW-OFF
CARDINAL-2

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-17893.	-17893.	0.
2.	-17718.	-17718.	0.
3.	-728.	-728.	0.
4.	9162.	9162.	0.
5.	20042.	20042.	0.
	-7136.	-7136.	0.

RESALE PRICE:	$1,258,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

CASH THROW-OFF = 0% REVERSION = 0%

MORTGAGE ANALYSIS
CARDINAL-2
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	81745.	98500.	1139.	99638.	.820	645861.
2.	81920.	98313.	1325.	99638.	.822	644537.
3.	98910.	98097.	1541.	99638.	.993	642995.
4.	108800.	97845.	1793.	99638.	1.092	641202.
5.	119680.	97552.	2086.	99638.	1.201	639115.
AVG	$96,211.				.986	

EQUITY ANALYSIS
CARDINAL-2
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$81,745.	$379,032.	$-17,893.	-.0497	-.0472
2.	81,920.	398,075.	-17,718.	-.0492	-.0445
3.	98,910.	400,345.	-728.	-.0020	-.0018
4.	108,800.	402,138.	9,162.	.0254	.0228
5.	119,680.	404,224.	20,042.	.0557	.0496

ORIGINAL EQUITY: $ 360000

EXHIBIT 9 (Continued)

DEMONSTRATION 2 (Cont.)

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 1
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	10002.9	10002.9	.0	140040.1
2.	10002.9	10002.9	.0	130037.3
3.	10002.9	10002.9	.0	120034.4
4.	10002.9	10002.9	.0	110031.5
5.	10002.9	10002.9	.0	100028.7
SUB-TOTAL	50014.3	50014.3	.0	

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 2
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	52431.1	52431.1	.0	734035.9
2.	52431.1	52431.1	.0	681604.7
3.	52431.1	52431.1	.0	629173.6
4.	52431.1	52431.1	.0	576742.5
5.	52431.1	52431.1	.0	524311.3
SUB-TOTAL	262155.7	262155.7	.0	
TOTAL	312170.0	312170.0	.0	

V A L T E S T - DEMONSTRATION 3

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? SELL AT LOSS TEST
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? Y
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0

   EFFECTIVE GROSS REVENUE YEAR  1? 13800
   EFFECTIVE GROSS REVENUE YEAR  2? 14210
   EFFECTIVE GROSS REVENUE YEAR  3? 1000
   EFFECTIVE GROSS REVENUE YEAR  4? 15080
   EFFECTIVE GROSS REVENUE YEAR  5? 15530

   VAR OP EXPENSE (%) YEAR  1? 6
   VAR OP EXPENSE (%) YEAR  2? 5
   VAR OP EXPENSE (%) YEAR  3? 0

   FIXED OP EXPENSE YEAR  1? 3700
   FIXED OP EXPENSE YEAR  2? 3920
   FIXED OP EXPENSE YEAR  3? 4160
   FIXED OP EXPENSE YEAR  4? 4410
   FIXED OP EXPENSE YEAR  5? 4670
4. ACQUISITION COST: ? 66000 .
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 49500, .18, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .25, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .55, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  9075
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y *
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175*
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 2
   ENTER D.B. %: ? 175*                          *For Illustrative
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N      Purposes Only
   IS PROPERTY RESIDENTIAL? Y OR N? N
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
           17% - 46%  (1978 LAW, EFFECTIVE 1979)
           16% - 46%  (1981 LAW, EFFECTIVE 1982)
           15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

           (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .4, .4
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?Y
   ENTER CASH THROW-OFF (%), PROCEEDS BEFORE TAXES (%):  5, 5
11. ENTER OWNER S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

DEMONSTRATION 3 (Cont.)

AFTER TAX CASH FLOW PROJECTION
SELL AT LOSS TEST
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$66,000.	MTG. AMT.:	$49,500.		
NOI 1ST YR:	$9,272.	MTG. INT.:	18%		
ORG. EQUITY:	$16,500.	MTG. TERM:	25. YRS		
CTG 1ST YEAR:	$258.	DEBT SERVICE 1ST YEAR:		$9,014.	
		MTG. CONST.:	.1820916		
IMP. #1 VALUE:	$16,500.	IMP. #1 LIFE:	15.		
IMP. #2 VALUE:	$36,300.	IMP. #2 LIFE:	15.		
INC. TX RATE:	40%				
SALE YR RATE:	40%	OWNER: CORPORATION			

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
DEPRECIATION IMPROVEMENT #2 : 175% D.B.
NON-RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROW-OFF: 5% REVERSION: 5%

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	9272.	8914.	6160.	-5803.	-11397.	11643.
2.	9580.	8907.	5441.	-4770.	-1909.	2447.
3.	-3210.	8853.	4607.	-16870.	-6749.	-5475.
4.	9916.	8866.	4246.	-3197.	-1280.	2137.
5.	10084.	8837.	3750.	-2505.	-1003.	2019.
	$35641.	$44377.	$24404.	$-33145.	$-22338.	$12771.

NOTE: 1ST YEAR'S TAX REDUCED BY $9,075. FOR TAX CREDIT (IMP #2)

EXHIBIT 9 (Continued)

DEMONSTRATION 3 (Cont.)

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

1ST YR B4 TAX EQ DIV: 1.4881%
AVG DEBT COVER RATIO: .7908
AVG DEFAULT RATIO: 1.1581

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$567.
NET RESALE PRICE:	$59,433.
LESS BASIS:	$41,596.
TOTAL GAIN:	$17,838.
TAX DEPRECIATION:	$24,404.
CAPITAL GAIN:	$0.
ORDINARY GAIN:	$17,838.

TAX ON ORDINARY GAIN:	$7,135.
TAX ON CAPITAL GAIN:	$0.
PLUS MORTGAGE BAL:	$48,670.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$55,805.

NET SALES PROCEEDS AFTER TAX:	$3,629.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS -12.4777% AND AFTER TAXES IS 5.4951%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

EXHIBIT 9 (Continued)

DEMONSTRATION 3 (Cont.)

DISTRIBUTION OF CASH THROW-OFF
SELL AT LOSS TEST

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	258.	246.	13.
2.	566.	538.	28.
3.	-12224.	-12224.	0.
4.	902.	857.	45.
5.	1070.	1016.	53.
	-9427.	-9567.	140.

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

CASH THROW-OFF = 5% REVERSION = 5%

EQUITY ANALYSIS
SELL AT LOSS TEST
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$9,272.	$16,613.	$246.	.0149	.0148
2.	9,580.	16,747.	538.	.0326	.0321
3.	-3,210.	29,131.	-12,224.	-.7408	-.4196
4.	9,916.	29,324.	857.	.0520	.0292
5.	10,084.	29,554.	1,016.	.0616	.0344

ORIGINAL EQUITY: $ 16500

EXHIBIT 9 (Continued)

DEMONSTRATION 3 (Cont.)

MORTGAGE ANALYSIS
SELL AT LOSS TEST
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.	DEFAULT RATIO
1.	9272.	8901.	113.	9014.	1.029	49387.	.981
2.	9580.	8879.	135.	9014.	1.063	49253.	.960
3.	-3210.	8853.	161.	9014.	-.356	49092.	13.224
4.	9916.	8821.	192.	9014.	1.100	48900.	.940
5.	10084.	8784.	230.	9014.	1.119	48670.	.931
AVG	$7,128.				.791		1.158

REVENUE AND EXPENSE REPORT
SELL AT LOSS TEST
DATE 9/14/82
****

YEAR	EFF GROSS REV	% RATE	% VAR OP	$ FIXED OP	NOI
1.	$13,800.	6.%	$828.	$3,700.	$9,272.
2.	$14,210.	5.%	$711.	$3,920.	$9,580.
3.	$1,000.	5.%	$50.	$4,160.	$-3,210.
4.	$15,080.	5.%	$754.	$4,410.	$9,916.
5.	$15,530.	5.%	$777.	$4,670.	$10,084.
	$59,620.		$3,119.	$20,860.	$35,641.

EXHIBIT 9 (Continued)

DEMONSTRATION 3 (Cont.)

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 1
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	1925.0	1100.0	1925.0	14575.0
2.	1700.4	1100.0	1700.4	12874.6
3.	1502.0	1100.0	1502.0	11372.5
4.	1326.8	1100.0	1326.8	10045.8
5.	1172.0	1100.0	1172.0	8873.7
SUB-TOTAL	7626.3	5500.0	7626.3	

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 2
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	4235.0	2420.0	4235.0	32065.0
2.	3740.9	2420.0	3740.9	26324.1
3.	3304.5	2420.0	3304.5	25019.6
4.	2919.0	2420.0	2919.0	22100.7
5.	2578.4	2420.0	2578.4	19522.2
SUB-TOTAL	16777.8	12100.0	16777.8	
TOTAL	24404.0	17600.0	24404.0	

CONTEMPORARY APPRAISAL - MARKET COMPARISON APPROACH

Presented by

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

THIRD HOUR

I. Inference from Weighted Point System Comparisons

Application from Market Comparison Approach requires correct definition of a common denominator to be used as a unit of comparison to establish degree of sameness before adjusting for less significant differences.

A. Selection of a comparable unit as the basis for comparison; should reflect user or investor viewpoint as to source of productivity.

1. Conventional physical units should be tested or compared to see which one explains the greatest percentage of variance.

2. Adjusted prices should be tested to see if variance is greater or less on the average per unit after adjustments.

B. In The Appraisal of 25 N. Pinckney sales demonstrated that shop keepers purchased per unit of first floor space while real estate developers purchased per unit of gross floor area.

C. The computer makes it possible to test a single linear regression comparing adjusted sales price to a number of alternative independent variables to select the one unit which reduces the variance between sales the most. (See Exhibit 1.)

EXHIBIT 1

CORRELATION COEFFICIENTS AND R^2 OF SALES PRICE

Space Unit	Correlation	R^2
First floor frontage (frt)	0.745	55.5%
Lot area	0.908	82.4
First floor (1st fl)	0.790	62.4
First floor + Upper floors (upp fl)	0.933	87.0
1st fl + .05 (upp fl)	0.919	84.5
2(1st fl) + upp fl	0.919	84.5
(1st fl) x (frt)	0.784	61.5
[1st fl + 0.5 (upp fl)] x (frt)	0.864	74.6
[2(1st fl) + upp fl)] x (frt)	0.864	74.6
(1st fl + upp fl) x (frt)	0.874	76.4

D. Linear regression has more everyday application to appraisal than multiple regression. In the U.S. regression is used for intermediate analysis rather than for setting price as the dependent variable. It has limited use for pricing because:

1. Theory:

   a. Violation of data requirements of independence, normally distributed error, degrees of freedom, etc.

   b. Comparison of subject to mean of set

   c. Where market comparison is sameness or set theory, not statistical variance within a heterogeneous group

   d. Responsibility of appraiser to select comps and make specific adjustments

2. Practice:

   a. Lack of adequate comparables

   b. Failure of appraiser to view all properties and set adjustments

   c. Inability to communicate with credibility to property owner to jury

E. Basic steps for market comparison approach using price per point per unit

1. Define the unit of comparison

2. Set up an ordinal scale for property variables of importance to the buyer

3. Convert ordinal scale for each variable to a cardinal scale, using common denominator of 100 percent to determine weighted point score for property.

4. Establish weighted price per point per unit for each comparable and the subject

5. Divide dollars per unit by point score

6. Determine mean price per point per unit using linear and straight averaging techniques

F. Some case examples:

1. Burned-out hotel (See Exhibit 2).

2. Large acreage site (See Exhibit 3).

3. Industrial site (See Exhibit 4).

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by alderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered nonconforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio—housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation—smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 2

EXHIBIT 2 (Continued)

SCALE FOR SCORING COMPARABLE SALE ATTRIBUTES

Location 15%	5 = Corner lot with high visibility on major traffic artery 3 = Inside lot with low visibility on major traffic artery 1 = Inside lot with low visibility on secondary street
Investor Perception of Neighborhood Image 15%	5 = Strong identification with Square (within 1 block) or established commercial or residential area 3 = Neutral investor attitude 1 = General identification with deteriorated neighborhood
Structural Condition of Improvements 25%	5 = Fire-resistant construction, well maintained, operational, marketable 3 = Ordinary mill construction (brick bearing walls-wood beams), poorly maintained, needs mechanical work 1 = Boarded up and/or partially damaged or vandalized
Reuse Potential 30%	5 = Dominant commercial/retail reuse potential with anticipation of Landmark designation with 1981 tax laws applied 4 = Dominant commercial/retail reuse potential with anticipation of Landmark designation prior to 1981 tax law 3 = Residential reuse potential with 1981 tax laws applied 2 = Residential reuse potential prior to 1981 tax law 1 = Warehouse 0 = Improvements demolished leaving land only

EXHIBIT 2 (Continued)

Bargaining Position of Seller 15%	5 = Income adequate to carry property or seller with strong asset position 3 = Little or no steady income but seller not known to be under financial pressures 1 = Building owner known to have financial pressures or multiple liens on property

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE	WEIGHT	Rating/Weighted Rating							
		#1 Frautschi 215-219 King	#2 Sutherland Elec. 323 E. Wilson	#3 Fess Hotel 123 E. Doty	#4 Miller Horne 714 Williamson	#5 Miller Horne 722 Williamson	#6 Atrium 25 N. Pinckney	#7 Old Sorority 10 Langdon	Cardinal Hotel SUBJECT
Location	15%	3/ .45	5/ .75	5/ .75	3/ .45	3/ .45	1/ .15	3/ .45	5/ .75
Investor Perception of Neighborhood Image	15%	3/ .45	3/ .45	5/ .75	1/ .15	1/ .15	5/ .75	5/ .75	1/ .15
Structural Condition of Improvements at Time of Sale	25%	3/ .75	5/1.25	1/ .25	5/1.25	5/1.25	3/ .75	1/ .25	1/ .25
Reuse Potential	30%	4/1.2	1/ .30	4/1.2	2/ .60	4/1.2	4/1.2	4/1.2	5/1.5
Bargaining Position of Seller	15%	5/ .75	3/ .45	1/ .15	3/ .45	1/ .15	1/ .15	1/ .15	3/ .45
Total Point Score		3.6	3.2	3.1	2.9	3.2	3.0	2.8	3.1

EXHIBIT 2 (Continued)

	#1 Frautschi 215-219 King	#2 Sutherland Elec. 323 E. Wilson	#3 Fess Hotel 123 E. Doty	#4 Miller Horne 714 Williamson	#5 Miller Horne 722 Williamson	#6 Atrium 25 N. Pinckney	#7 Old Sorority 10 Langdon
Nominal Sale Price	$320,000	$165,000	$120,000	$148,000	$300,000	$150,000	$91,000
Date of Sale	November 1978	July 1979	January 1975	January 1979	November 1981	April 1977	July 1981
Terms of Sale	Land contract $50,000 - down 270,000 - 2 yrs 10% Year 1 6% Year 2	Cash to seller	Land contract	Land contract $23,000 down 125,000 @ 9 3/4% - 5 years	Land contract	$100,000 cash 50,000 seller 2nd subordinated to construction loan	Cash to seller
Adjustment for:							
Terms of Sale	Discount 10%	No adjustment	5% Finder's fee for $320,000 construction loan	Reduce to $140,000	Discount 20% for creative financing	Discount 2nd-20%	None
Time of Sale (5%/year from 1/1/79 on)	Appreciate 17.5%	Appreciate 15%	Appreciate 17.5%	Appreciate 17.5%	Appreciate 2.5%	Appreciate 17.5%	Appreciate 5%
Adjusted Price for Terms and Time	$338,400	$189,750	$121,500	$164,500	$246,000	$164,500	$95,550
Land Area	21,728 SF	8,221 SF	8,712 SF	8,712 SF	17,424 SF	8,712 SF	6,720 SF
Adjustment for Land Area Differences @ $5.00/SF	($108,640)	($41,105)	($43,560)	($43,560)	($87,120)	($43,560)	($33,600)
Adjusted Price less Allowance for Land Value	$229,760	$148,645	$77,940	$120,940	$158,880	$120,940	$61,950
Gross Building Area (GBA) (Square Feet)	21,000 SF	17,790 SF	9,330 SF	28,000 SF	30,000 SF	16,060 SF	10,500 SF
Adjusted Price per Square Foot of GBA	$10.94/SF of GBA	$8.36/SF of GBA	$8.35/SF of GBA	$4.32/SF of GBA	$5.30/SF of GBA	$7.53/SF of GBA	$5.90/SF of GBA
Total Point Score	3.6	3.2	3.1	2.9	3.2	3.0	2.8
Price per Square Foot/Point Score	$3.04	$2.61	$2.69	$1.49	$1.66	$2.51	$2.11

EXHIBIT 2 (Continued)

EXHIBIT 2 (Continued)

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Adjusted Selling Price per SF of GBA	Weighted Point Score	Price per SF / Weighted Point Score (x)
1	$10.94	3.6	$3.04
2	8.36	3.2	2.61
3	8.35	3.1	2.69
4	4.32	2.9	1.49
5	5.30	3.2	1.66
6	7.53	3.0	2.51
7	5.90	2.8	2.11
		TOTAL	$16.11

Central Tendency $= \frac{\Sigma x}{n} = \frac{16.11}{7} = 2.30$

Dispersion $= \sqrt{\frac{\Sigma(x-\bar{x})^2}{(n-1)}} = \sqrt{\frac{1.9417}{6}} = .569$

where:

x		$\bar{x}$		$\lvert(x-\bar{x})\rvert$	$(x-\bar{x})^2$	n	$n-1$
3.04	-	2.30	=	.74	.5476	7	6
2.61	-	2.30	=	.31	.0961		
2.69	-	2.30	=	.39	.1521		
1.49	-	2.30	=	.81	.6561		
1.66	-	2.30	=	.64	.4096		
2.51	-	2.30	=	.21	.0441		
2.11	-	2.30	=	.19	.0361		
				$\Sigma(x-x)^2$ =	1.9417		

EXHIBIT 2 (Continued)

Value range: x ± dispersion = 2.30 ± .57

Gross Building Area	x	Weighted Point Score	x (Central Tendency ± Dispersion) =
17,900 SF	x	3.1	x (2.30 ± .57) =

High Estimate of $159,256 or $160,000

Central Tendency of $127,627 or $130,000

Low Estimate of $95,998 or $100,000

All value estimates are rounded

EXHIBIT 3

COMPARABLE VACANT LARGE LOT LAND SALES

SALE NUMBER	LOCATION	AVAILABILITY OF SEWER AND WATER	ZONING	SALE DATE	GRANTOR	GRANTEE	PRICE	ACRES	PRICE PER ACRE
4	Highway 50	No	Ag	12/76	Rudy Industrial Park, Inc.	Wis. Electric Power Company	$700,475	155.66	$ 4,500
5	Highway 158	No	Ag	6/79	Pitts	City of Kenosha	$696,920	133.00	$ 5,240
19	Highway G	No	Ag	11/77		Thomas Campbell	$188,373	53.87	$ 3,500
32	Highway 158	Yes	Comm	1980		Shopko	$415,800	75.60	$ 5,500

EXHIBIT 3 (Continued)

WEIGHTED SCORE MATRIX FOR COMPARABLE LARGE SITE LAND SALES BASED UPON PRICE SENSITIVE ATTRIBUTES

ATTRIBUTE	WEIGHT	#4 WEPCO (HWY 50)	#5 KENOSHA INDUSTRIAL PARK	#19 CAMPBELL (HWY G)	#32 SHOPKO	SUBJECT (COMMERCIAL/ RETAIL)
Physical Attributes		[1]				
Size of Site	20%	1/ .20	1/ .20	5/1.00	3/ .60	1/ .20
Site Topography	10%	3/ .30	3/ .30	3/ .30	1/ .10	5/ .50
Linkages						
Highway Frontage	30%	5/1.50	5/1.50	1/ .30	5/1.50	5/1.50
Availability of Rail	10%	5/ .50	5/ .50	1/ .10	1/ .10	1/ .10
Availability of Utilities	20%	1/ .20	5/1.00	1/ .20	5/1.00	1/ .20
Use	10%	1/ .10	1/ .10	5/ .50	3/ .30	3/ .30
TOTAL POINT SCORE	100%	2.80	3.60	2.40	3.60	2.80
Sale Price		$700,475	$696,920	$188,375	$415,800	—
Date of Sale		12/76	6/79	11/77	6/76	—
Time Adjustment [2]		+ 2%	- 2%	0%	+ 4%	—
Adjusted Sale Price		$609,413 [3]	$648,136 [4]	$188,373	$432,432	1,655,280
Acres		155.66	133	53.87	75.6	127
Adjusted Price per Acre		$3,915	$4,873	$3,500	$5,720	—
Total Point Score		2.80	3.60	2.40	3.60	2.80
Price per Acre Point Score		$1,398	$1,354	$1,458	$1,589	—

EXHIBIT 3 (Continued)

POINT SCORE ADJUSTMENT PROCESS -
LARGE SITE LAND SALES

MOST PROBABLE PRICE COMPUTATION USING MEAN PRICE PER POINT EQUATION METHOD

Number of sales = 4
Subject Size = 154.5

		SUBJECT	COMPARABLE SALES -- POINT SCORES			
			4	5	19	32
$ PRICE/ACRE --->			3915.00	4873.00	3500.00	5720.00
FACTORS	WEIGHTS					
1 UTILITIES	.2	1	1	5	1	5
2 FRONTAGE	.3	5	5	5	1	5
3 SIZE	.2	1	1	1	5	3
4 RAIL	.1	1	5	5	1	1
5 TOPOG	.1	5	3	3	3	1
6 USE	.1	3	1	1	5	3
7						
8						
9						
10						
	1					

FACTORS x WEIGHTS	SUBJECT	COMPARABLE SALES			
		4	5	19	32
1 UTILITIES	.2	.2	1	.2	1
2 FRONTAGE	1.5	1.5	1.5	.3	1.5
3 SIZE	.2	.2	.2	1	.6
4 RAIL	.1	.5	.5	.1	.1
5 TOPOG	.5	.3	.3	.3	.1
6 USE	.3	.1	.1	.5	.3
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
TOTAL SCORE	2.8	2.8	3.6	2.4	3.6

EXHIBIT 3 (Continued)

CALCULATION OF MOST PROBABLE PRICE
USING MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE SALE NUMBER	ADJUSTED SELLING PRICE PER ACRE	WEIGHTED POINT SCORE	PRICE PER ACRE PER WEIGHTED POINT SCORE
1	3915	2.8	1398.21
2	4873	3.6	1353.61
3	3500	2.4	1458.33
4	5720	3.6	1588.89
5	0	.00001	.00
6	0	.00001	.00
7	0	.00001	.00
8	0	.00001	.00
9	0	.00001	.00
10	0	.00001	.00
			5799.05

Central Tendency (Mean):

The mean price per acre per point ($\bar{x}$) = $\frac{5799.048}{4}$ = 1449.762

Where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	$n-1$
1398.214	1449.762	-51.5476	2657.157	4	3
1353.611	1449.762	-96.1508	9244.975		
1458.333	1449.762	8.571429	73.46939		
1588.889	1449.762	139.1270	19356.32		
0	1449.762	0	0		
0	1449.762	0	0		
0	1449.762	0	0		
0	1449.762	0	0		
0	1449.762	0	0		
0	1449.762	0	0		
			31331.92		

Dispersion about the mean = the square root of $\frac{(x - \bar{x})^2}{n - 1}$ = 102.1958

Therefore,

The Value Range is : 1449.762 +/- 102.1958

or 1347.566 to 1551.958

Since the subject's point score is: 2.8

Score	x	Value	=	$/ACRE
2.8		1347.566		3773.19
2.8		1449.762		4059.33
2.8		1551.958		4345.48

Since the acreage of the subject is: 154.5

It follows that:

	$/ACRE	x	ACRES	=	Estimated Value		
Low Estimate	3773.19	x	154.5	=	582957.9	or	583000
Central Tendency	4059.33	x	154.5	=	627166.5	or	627000
High Estimate	4345.48	x	154.5	=	671376.7	or	671000

EXHIBIT 3 (Continued)

EXHIBIT 3 (Continued)

Computation of Least Squares Fit of Sales Price and Property Score

[STEP 1]

Sale	Y	X	Y^2	X^2	XY
1	3915	2.8	15327225	7.840000	10962
2	4873	3.6	23746129	12.96000	17542.8
3	3500	2.4	12250000	5.760000	8400
4	5720	3.6	32718400	12.96000	20592
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
	18008	12.4	84041754	39.52000	57496.8

[STEP 2]

$$\bar{Y} = \frac{\text{The sum of Y's}}{n} = 4502$$

$$\bar{X} = \frac{\text{The sum of X's}}{n} = 3.1$$

[STEP 3]

$$\text{The sum of } y^2\text{'s} = (\text{The sum of } Y^2\text{'s}) - n(\bar{Y})^2$$

$$= 2969738.$$

$$\text{The sum of } x^2\text{'s} = (\text{The sum of } X^2\text{'s}) - n(\bar{X})^2$$

$$= 1.080000$$

$$\text{The sum of } xy = (\text{The sum of } XY) - n(\overline{XY})$$

$$= 1672$$

EXHIBIT 3 (Continued)

[STEP 4]

b = slope of price point relationship

$$= \frac{\text{The sum of xy}}{\text{The sum of } x^2} = 1548.148$$

[STEP 5]

a = intercept

$$= \bar{Y} - b\bar{X} = -297.259$$

[STEP 6]

$$\text{Syx} = \text{The square root of } \frac{(\text{The sum of } y^2\text{'s}) - b(\text{The sum of xy})}{n - 2}$$

$$= 1524.011$$

[STEP 7]

$$r = \frac{\text{The sum of xy}}{\text{The square root of } (\text{The sum of } x^2\text{'s}) \times (\text{The sum of } y^2\text{'s})}$$

$$= .9336096$$

$$r^2 = .8716270$$

EXHIBIT 3 (Continued)

[STEP 8]

Subject Value = 3988.67 Estimated by Regression Equation: y = a + bX

COMPARABLE NUMBER	WEIGHTED POINT SCORE	ESTIMATED PRICE PER ACRE	ACTUAL PRICE PER ACRE	RESIDUAL ERROR
4	2.8	3988.67	3915	73.67
5	3.6	5064.22	4873	191.22
19	2.4	3450.89	3500	-49.11
32	3.6	5064.22	5280	-215.78
	0	.00	0	.00
	0	.00	0	.00
	0	.00	0	.00
	0	.00	0	.00
	0	.00	0	.00
	0	.00	0	.00
		NET ERROR		.00

EXHIBIT 4

EXCERPTED FROM APPRAISAL OF INDUSTRIAL SITE

C. Adjustments for Differences to Relate the Comparables to the Subject Property

To estimate the fair market value of the subject property, based upon the sale prices of the comparables, adjustments are made to account for the differences in the price sensitive attributes of the comparables and the subject propery. The comparable properties and the subject property are scored according to the scale detailed in Exhibit 9.

The subject site, which contains 2.5 acres, receives a score of 3 because it is an average sized lot. Since it does not command a more highly visible corner location, a score of 1 is given.

Linkages are extremely sensitive to price. Sites located in major retail areas command higher prices than do warehouses and light manufacturing sites. No retail uses are in sight of the subject so a score of 1 is given. International Lane, a traffic collector, feeds into Packers Avenue, a major arterial, so the subject receives a score of 3. A bus line on Packers Avenue is within two to three blocks of the subject to yield a score of 3. Electricity, telephone, and natural gas lines are available in the general area, but there are no curbs, gutters,

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

SCALE FOR SCORING COMPARABLE SALES
BASED UPON PRICE SENSITIVE ATTRIBUTES

PHYSICAL ATTRIBUTES = 35%

Size 20%	5 = Less than 1 acre 3 = 1 to 4 acres 1 = Greater than 4 acres
Corner Location 15%	5 = Yes 3 = Next to corner on a major road 1 = No

LINKAGES = 50%

Proximity to Major Retail Area 20%	5 = Near a shopping center 3 = Near strip retail area 1 = No retail uses in sight
Access to Major Highways 15%	5 = On a major boulevard or highway 3 = On a traffic collector 1 = On a side street
Availability of Madison Metro 5%	5 = On a bus line 3 = Within 2-3 blocks of bus line 1 = None
Availability of Utilities 10%	5 = Water, sewer, gas, curb, and gutter 3 = Water, sewer, gas 1 = None

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

DYNAMIC ATTRIBUTES = 15%

Positive Public Recognition of Street/Location 5%	5 = High visibility or recognition of location 3 = Average 1 = Relatively unknown
Perceived Adverse Influences 5%	5 = None 3 = Noise/Odor/Visual Problems 1 = Physically threatening
Immediate View from Property Frontage 5%	5 = Well-landscaped office, shops, and residential 3 = Office/warehouses well-screened and partially landscaped 1 = Assortment of office/warehouse uses with inadequate screening and/or poorly maintained or vacant

EXHIBIT 4 (Continued)

or sidewalks. A score of 3 is given the subject for the availability of utilites.

Dynamic attributes, (the public's perceptions of the property's attributes) contribute to value. Since International Lane is a well-known location with positive public recognition, the subject is given a score of 5. Since the noise from planes landing and taking off could be disruptive, the subject receives a 3. The view from the subject is marred by old barracks converted to offices and warehouse buildings that would no longer meet the more stringent architectural controls now in existence in Truax Air Park West, so the subject receives a score of 1.

Each comparable is scored in a similar manner; the weighted point score matrix which details the calculation of a total point score for both the comparable and the subject is found in Exhibit 10.

The price per square foot for each comparable is divided by its point score and the results are also found in Exhibit 10.

The mean point score per square foot is applied to the point score of the subject to indicate a central tendency value of $111,000, or $1.01 per square foot. These calculations are detailed in Exhibit 11.

The range of estimates yields a high of $123,500, or $1.13 per square foot and a low of $98,000, or $0.90 per square foot.

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

WEIGHTED POINT SCORE MATRIX FOR COMPARABLE SALES
BASED UPON PRICE SENSITIVE ATTRIBUTES

ATTRIBUTE	WEIGHT	#1 1905 ABERG AVENUE	#2 1801 COMMERCIAL AVENUE
Physical Attributes		[1]	
Size of Site	20%	3/ .60	1/ .20
Corner Location	15%	1/ .15	1/ .15
Linkages			
Proximity to Retail	20%	3/ .60	1/ .20
Access to Major Roads	15%	5/ .75	3/ .45
Availability of City Bus	5%	3/ .25	5/ .25
Availability of Utilities	10%	5/ .50	5/ .50
Dynamic Attributes			
Public Recognition	5%	5/ .25	3/ .15
Perceived Adverse Factors	5%	3/ .15	5/ .25
View from Site	5%	1/ .05	1/ .05
	100%		
TOTAL POINT SCORE		3.30	2.20
Sale Price		$80,000	$181,150
Date of Sale		8/82	10/80
Land Area (SF)		53,426 (1.23 A)	175,547 (4.03 A)
Price per Square Foot		$1.50	$1.03
Total Point Score		3.30	2.20
Price per SF/Point Score		$0.45	$0.47

[1] Explanation of weighted score: point score/score x weight

EXHIBIT 9 (Continued)

ATTRIBUTE	WEIGHT	#3 3520 PACKERS AVENUE	#4 814 ATLAS AVENUE (Backs on to Cottage Grove Rd.)	#5 LOT 1, BLK. 7, MADISON INDUSTRIAL SUB., #1	#6 2447 ADVANCE (a.k.a. 4701 Pflaum Road)	#7 LOT 6, BLK. 3, MADISON INDUSTRIAL SUB., #1
Physical Attributes		[1]				
Size of Site	20%	5/1.00	3/ .60	3/ .60	3/ .60	5/1.00
Corner Location	15%	5/ .75	1/ .15	1/ .15	5/ .75	1/ .15
Linkages						
Proximity to Retail	20%	3/ .60	3/ .60	1/ .20	1/ .20	1/ .20
Access to Major Roads	15%	3/ .45	5/ .75	1/ .15	3/ .45	1/ .15
Availability of City Bus	5%	5/ .25	5/ .25	1/ .05	1/ .05	1/ .05
Availability of Utilities	10%	5/ .50	5/ .50	5/ .50	5/ .50	5/ .50
Dynamic Attributes						
Public Recognition	5%	1/ .05	3/ .15	1/ .05	5/ .25	1/ .05
Perceived Adverse Factors	5%	3/ .15	5/ .25	5/ .25	5/ .25	5/ .25
View from Site	5%	1/ .05	3/ .15	3/ .15	3/ .15	3/ .15
	100%					
TOTAL POINT SCORE		3.80	3.40	2.10	3.20	2.50
Sale Price		$30,000	$125,000	$70,000	$60,000	$20,900
Date of Sale		2/79	6/83	9/82	9/82	9/82
Land Area (SF)		21,747 (0.50)	80,613 (1.85 A)	73,109 (1.68 A)	45,472 (1.04 A)	22,997 (0.53 A)
Price per Square Foot		$1.55 [2]	$1.55	$0.96	$1.32	$0.91
Total Point Score		3.80	3.40	2.10	3.20	2.50
Price per SF/Point Score		$0.41	$0.46	$0.46	$0.41	$0.36

[1] Explanation of weighted score: point score/score x weight
[2] This older sale is adjusted upward 12 percent for time. (1.12 x $1.38 = $1.55)

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

ATTRIBUTE	WEIGHT	#8 LOT 2, BLK. 6. MADISON INDUSTRIAL SUB., #1	#9 4484 ROBERTSON ROAD MADISON IND. SUB., #1	SUBJECT LOT 2, CSM 928
Physical Attributes		[1]		
Size of Site	20%	5/1.00	3/ .60	3/ .60
Corner Location	15%	1/ .15	1/ .15	1/ .15
Linkages				
Proximity to Retail	20%	1/ .20	1/ .20	1/ .20
Access to Major Roads	15%	1/ .15	1/ .15	3/ .45
Availability of City Bus	5%	1/ .05	1/ .05	3/ .15
Availability of Utilities	10%	5/ .50	5/ .50	3/ .30
Dynamic Attributes				
Public Recognition	5%	1/ .05	1/ .05	5/ .25
Perceived Adverse Factors	5%	5/ .25	5/ .25	3/ .15
View from Site	5%	3/ .15	3/ .15	1/ .05
	100%			
TOTAL POINT SCORE		2.50	2.10	2.30
Sale Price		$32,000	$98,600	N/A
Date of Sale		2/82	1/82	N/A
Land Area (SF)		24,975 (0.57)	98,600 (2.26 A)	109,493 (2.51 A)
Price per Square Foot		$1.28	$1.00	N/A
Total Point Score		2.50	2.10	2.30
Price per SF/Point Score		$0.51	$0.48	N/A

[1] Explanation of weighted score: point score/score x weight

EXHIBIT 4 (Continued)

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Adjusted Selling Price per SF	Weighted Point Score	Price per SF / Weighted Point Score
1	$1.50	3.30	$0.45
2	1.03	2.20	0.47
3	1.55	3.80	0.41
4	1.55	3.40	0.46
5	0.96	2.10	0.46
6	1.32	3.20	0.41
7	0.91	2.50	0.36
8	1.28	2.50	0.51
9	1.00	2.10	0.48
		TOTAL	$4.01

Central Tendency [1] = $\frac{\Sigma x}{n} = \frac{4.01}{9} = .44$

Dispersion = $\sqrt{\frac{\Sigma (x-\bar{x})^2}{(n-1)}} = \sqrt{\frac{.0168}{8}} = .05$

[1] x = Sum of Price per SF / Weighted Point Score

n = Number of Observations

$\bar{x}$ = Average Price per SF / Weighted Point Score

EXHIBIT 4 (Continued)

EXHIBIT 9 (Continued)

where:

x	$\bar{x}$	$\lvert(x-\bar{x})\rvert$	$(x-\bar{x})^2$	n	$n-1$
.42	.44	.02	.0004	9	8
.47	.44	.03	.0009		
.41	.44	.03	.0009		
.46	.44	.02	.0004		
.46	.44	.02	.0004		
.41	.44	.03	.0009		
.36	.44	.08	.0064		
.51	.44	.07	.0049		
.48	.44	.04	.0016		

$$\Sigma(x - \bar{x})^2 = .0168$$

Value range for subject property:

$$\bar{x} \pm \text{dispersion} = \$0.44 \pm .05$$

Square Footage of Subject x Weighted Point Score x (Central Tendency ± Dispersion) =

109,493 x 2.30 x ($0.44 ± .05) =

High Estimate of $123,500 or $1.13 per square foot

Central Tendency of $111,000 or $1.01 per square foot

Low Estimate of $98,000 or $0.90 per square foot

EXHIBIT 4 (Continued)

As a check on the appropriateness of the appraiser's selection and weighting of price sensitive factors, the point scores calculated for each comparable is multiplied by the mean price per square foot per point score to predict or estimate the actual selling price of each comparable. The results are as follows:

COMPARABLE NUMBER	WEIGHTED POINT SCORE	ESTIMATED PRICE/SF	ACTUAL PRICE/SF	RESIDUAL ERROR
1	3.30	1.45	1.50	-.05
2	2.20	0.96	1.03	-.07
3	3.80	1.67	1.55 (adj.)	+.12
4	3.40	1.50	1.55	-.05
5	2.10	0.92	0.96	-.04
6	3.20	1.41	1.32	+.09
7	2.50	1.10	0.91	+.19
8	2.50	1.10	1.28	-.18
9	2.10	0.92	1.00	+.08
			NET RESIDUAL ERRORS	+.09

There appears to be a tight fit between the estimated and the actual price; so it can be concluded that the selection and weighing of the price sensitive factors successfully reflected buyer behavior.

EXHIBIT 4 (Continued)

The market comparable approach is sensitive to the appraiser's ability to predict buyer perceptions in a changing market. The weighted point scores are an attempt to capture these perceptions. Consequently, this calculated value is only the initial step in determining the final price estimate. This initial transaction zone must be adjusted in light of certain external factors such as the buyer's alternative option to lease surrounding land from Dane County instead of buying in fee which, in turn, will be affected by the current cost of financing land purchases, the income tax consequences of buy versus lease decision, and the effect of the Consumer Price Index (CPI) escalator upon rental rates for leased land. Other external factors include the effect of the Truax Air Park covenants upon the quality of future development in the area, and the future expansion of the Dane County Regional Airport.

SPECIAL PROBLEMS FOR LARGE INCOME PROPERTY APPRAISAL AND APPRAISAL CONTRACTS

Presented By

James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

FOURTH HOUR

I. Support for the appraiser's judgment as to highest and best use requires far more detail than before, particularly for properties in transition or candidates for rehabilitation, industrial bonding as blighted, or special tax treatment.

A. The approved definition of highest and best use requires recognition (Exhibit 1) of alternative courses of action which are legal, plausible, technically doable, and financially viable at a proven level of effective demand. Moreover, the use must be consistent with community plans and objectives, particularly community fiscal plans.

B. Review the selection of a most probable use for a flophouse hotel in Exhibit 2.

C. Consider the demonstration and discussion of best use provided from an actual appraisal (Exhibits 3 and 4).

D. Cash equivalency to be consistent with the definition of fair market value is the subject of major debate (see Exhibit 5):

1. Strictly enforced, it tends to over-discount prices to a point where the seller would not have sold.

2. Typically represents sale of financing to benefit both parties.

3. There is growing evidence that in many cases the buyer and seller have shared the costs of seller financing so that fair market value is closer to the midpoint between nominal sales price and deferred points discounted for institutional interest rates.

EXHIBIT 1

"Highest and best use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applied specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.

Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D., SRPA, Ballinger Publishing Co., Cambridge, Mass., 1975. (Emphasis added.)

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by alderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered nonconforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio—housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation—smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 2

EXHIBIT 3

DEMONSTRATION OF SELECTION OF BEST USE SCENARIO FOR
VACANT OFFICE TOWER REQUIRING
COMPLETE MECHANICAL RENOVATION

B. Alternative Uses for Pyare Square

A combination of the physical characteristics of the property and the general demand characteristics of the Hilldale area suggest the following alternative scenarios for use of the subject property (Appendix D):

Scenario #1: The building would be remodeled into multi-tenant office space of class A on floors 4 to 14 and class B on floors 1 to 3.

Scenario #2: The building would be modified into residential apartments on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #3: The building would be modified into residential condominiums on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #4: The building would be modified into a hotel facility with hotel rooms on floors 4 to 14, a restaurant on floor 3, and seminar and office space on the remainder.

C. Economic Ranking of Alternatives

The alternative uses that might be plausible for the subject property can first be ranked in terms of the general budget parameters inherent in revenues and expenses for each. The best financial alternatives must then be screened for effective demand, political acceptability, and risk. In order to reveal the general range of justified investment on the existing property, the appraiser developed a logic of converting rents to justified investment by determining a market rent for each use and assuming an acceptable cash breakeven point[1] for financial planning and budgeting. This process capitalizes funds available for debt service or cash dividends into amounts of justified investment. This residual approach can be misleading if there are small errors in the cash-flow forecast, but if estimating bias is consistent when applied to the alternative uses, it does rank the alternatives in terms of their ability to pay for the subject property as is. The logic of this process is provided in Exhibit 15; the cost assumptions and calculations are provided in Appendix D.

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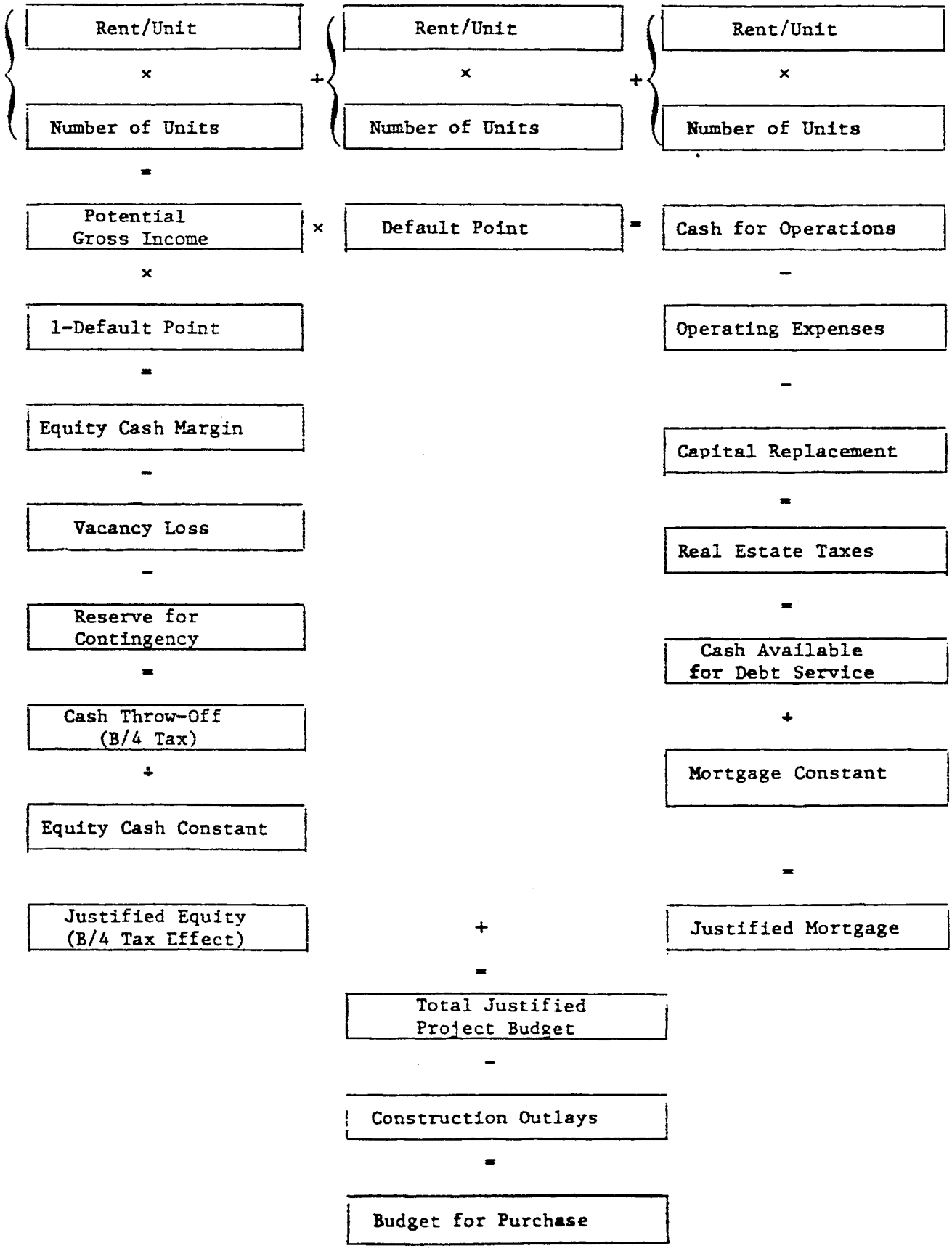
[1] The ratio of cash expenses, real estate taxes, and debt service to potential gross income.

EXHIBIT 15

BASIC LOGIC FOR RANKING ALTERNATIVE PROGRAM SCENARIOS BY JUSTIFIED PURCHASE BUDGET



A summary of these calculations from the Appendix are provided in Exhibit 16. A preliminary ranking based on a cash-justified investment (Line 3, Exhibit 16), without regard to future reversion value, demonstrates that Scenario 1 is the preferable use of the structure as is.

D. Ranking of Alternatives

In terms of estimating risks, Scenario 1 offers more certainty in regard to construction budget because multi-tenant office use is more similar to the previous use. Less extensive remodeling plans imply that fewer problems will arise. In Scenarios 2, 3, and 4, all new plumbing facilities and windows are required for floors 4 to 14. The same improvements simply need refurbishing if the building remains office use. In addition, the market for a high-rise residential or hotel facility is largely untested in the Hilldale area, but office use has been expanding. A change from office use of Pyare Square carries business risks that are difficult to ascertain, and the costs incurred in those risks could be great.

E. Political Compatibility of Alternatives

According to the village administrator of Shorewood Hills, all four of the scenarios would be politically acceptable because the village wants to see improvement of the building. However, Scenarios 2, 3, and 4 require a zoning change that must be approved by the village--an effort that is likely to be more time-consuming than futile.

Although condominiums are a relatively new idea to Shorewood Hills, the community boasts of being a residential suburb, and so a well-conceived plan should pass the board. A hotel use, however, is questionable and would be subject to serious scrutiny because demand is not evident. Office use appears to be most probable in light of the fact that costs are lower, zoning is proper, and demand is evident.

F. Conclusions

Since the estimated residual justified purchase prices of Scenarios 1 and 3 are fairly close, the choice in determining the most probable fitting use relates to the higher costs of converting to residential coupled with the risks involved in tapping an untested market. A prudent investor would seek to stabilize his income by choosing the less speculative scenario. A review of the summary feasibility data in Exhibit 17 supports the conclusion that the most probable use of the subject property in the opinion of the appraiser is Scenario 1.

The most probable use of the subject property would be renovation to a multi-tenant office building.

EXHIBIT 16

SUMMARY OF BUDGETS FOR ALTERNATIVE USE SCENARIOS

Budget Stem	Scenario #1	Scenario #2	Scenario #3	Scenario #4
1. Cost to construct	(2,509,975)	(2,414,225)	(2,668,140)	(2,569,600)
2. Justified investment for property as is	2,897,566	1,409,513	2,868,983	(4,662,172)
3. Total justified investment in subject property as is	387,591	(1,004,712)	200,843	(7,231,772)

EXHIBIT 17

SUMMARY MATRIX OF FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario #1	Scenario #2	Scenario #3	Scenario #4
Justified Investment in subject	387,600	Negative	200,843	Negative
Remodeling Risks	Moderate	Significant	Significant	Serious
Effective Market demands	Positive	Positive	Questionable	Soft
Political acceptability	Strong	Strong	Strong	Mixed
Financial Risk	Depends on marketing ability in projecting new image for the building	Depends on desire to live in a high-rise	Depends on desire to own a home in a high-rise	Financial risk is great--Hilldale is not a major office center nor a stop for travellers.

EXHIBIT 3 (Continued)

EXHIBIT 4

B. Most Probable Price

A number of transactions involving the sale and purchase of multi-story office facilities have occurred in the greater Madison metropolitan area. This makes it possible to infer from past transactions the probable price and range of sales price involving the subject property and the most probable buyer defined above. In order to reconcile the important differences between the subject property and past transactions, a ranking system will be used. This system, shown in Exhibit 13, yields a weighted score point total for each property. The weighting of the features distinguishes the most probable buyer. The point totals are a measure of the desirability of the given property to the most probable buyer. The time-adjusted cash equivalent price of each comparable can then we weighted for a property point total that provides a common denominator for comparison purposes. The common denominator can be further refined by weighting it for net rentable area. The result is a cash equivalent dollar/point square foot figure, which is then related to the cash equivalent sales price by computing the mean price per point. This statistical process produces the predicted price per unit, or central tendency, and therefore a means to estimate the range and reliability of the sale price prediction, or standard error.

SCALE FOR SCORING COMPARABLES ON PROBABLE BUYER CONSIDERATIONS

Location	5 = Neighborhood of stable or increasing prices 3 = Neighborhood of stagnant prices 1 = Neighborhood of declining or deteriorating prices
Vacancy at sale	5 = Mostly occupied, 10% or less vacancy 3 = Partially occupied 1 = Vacant at time of sale
Building condition and remodeling required	5 = Minimal improvements required, good condition 3 = Average renovation, fair condition 1 = Empty shell, major renovation required, poor condition
Accessibility	5 = Easily accessible, visible entrance or entrances 3 = Some accessibility problems 1 = Very difficult access, one-way streets or no islands
Parking	5 = Adequate, available parking 3 = Limited, expensive parking 1 = No parking

EXHIBIT 4 (Continued)

C. Market Comparison Approach to Probable Price

The first problem in real estate market comparison is to define the unit by which the comparison proceeds. Recent comparable sales that were arm's-length transactions, located in office or retail nodes, ordinary mid/high-rise construction types, and preferably sold as vacant shells were collected. Exhibit 14 summarizes the comparable sales selected for use in predicting the most probable price for the subject property. Of the eight sales, one was for cash, the balance required some type of nonmarket seller-financing.

SUMMARY OF COMPARABLE SALES

Property	Date of Sale	Terms of Sale
110 E. Main	10/76	land contract
149 E. Wilson	8/78	seller-financing
16 N. Carroll	9/74	installment
137 E. Wilson	10/78	cash
301 N. Broom	11/79	land contract
212 E. Washington	12/77	seller-financing
102-110 N. Hamilton	7/77	land contract
202 N. Henry	3/79	land contract

For each of the eight selected comparables, shown in Exhibits 15 to 22, attributes thought to greatly influence buyer behavior were scored. Location in a neighborhood of stable or increasing prices was believed to be desired by the prudent investor. Vacancy presented a depressing effect on price and was therefore viewed as a negative factor. The amount of renovation required to bring the building into compliance with codes was recognized as a negative influence on price. Well-maintained, concrete structures were preferred over those with poor maintenance or ordinary construction. Accessibility also affects price with a negative influence recognized for those buildings with difficult access paths, constrained by poor visibility. Inadequate on-site or off-site parking is an important factor that impacts on price. The final weighted matrix is presented in Exhibit 23.

Exhibit 24 displays the calculations used to obtain the predicted price for the subject property and an estimate of the reliability of the prediction.

EXHIBIT 23

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES OF 4610 UNIVERSITY AVENUE

Feature	Weight	Weight/Weighted Ratings								
		110 E. Main	149 E. Wilson	16 N. Carroll	137 E. Wilson	301 N. Broom	212 E. Washington	102-110 Hamilton	202 Henry	Pyare Square
Location	.10	3/.3	3/.3	3/.3	3/.3	5/.5	3/.3	3/.3	5/.5	5/.5
Vacancy	.20	3/.6	1/.2	5/1.0	1/.2	1/.2	1/.2	3/.6	1/.2	1/.2
Building condition & remodeling required	.35	3/1.15	1/.35	3/1.15	1/.35	1/.35	1/.35	3/1.15	1/.35	1/.35
Accessibility	.15	1/.15	1/.15	1/.15	1/.15	1/.15	3/.45	1/.15	1/.15	3/.45
Parking	.20	1/.2	1/.2	1/.2	1/.2	5/1.0	5/1.0	1/.2	1/.2	3/.6
Total weighted score	100%	2.4	1.2	2.8	1.2	2.2	2.3	2.4	1.4	2.1
Time-adjusted cash equivalent (TACE) price[1]		$1,391,008	$270,694	$781,741	$271,200	$96,570	$574,209	$395,464	$262,933	...
Total net rentable area (NRA)		76,000	32,000	35,725	25,500	5,760	38,000	28,000	24,000	84,969
TACE price per sq.ft.(NRA)		$18.30	$8.46	$21.88	$10.64	$16.77	$15.11	$14.12	$10.96	...
Mean price per point per sq. ft.		$7.63	$7.05	$7.82	$8.86	$7.62	$6.57	$4.88	$7.82	...

[1]See Appendix F for cash equivalency calculations.

EXHIBIT 4 (Continued)

EXHIBIT 4 (Continued)

EXHIBIT 24

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Selling Price per NRA	Weighted Point Score	Price per NRA / Weighted Point Score = (x)
1	$18.30	2.4	$7.63
2	8.46	1.2	7.05
3	21.88	2.8	7.82
4	10.64	1.2	8.86
5	16.77	2.2	7.62
6	15.11	2.3	6.57
7	14.12	2.4	5.88
8	10.96	1.4	7.82
		Total	$59.25

Central tendency $(\bar{x}) = \frac{\Sigma x}{n} = \frac{59.25}{8} = 7.41$

Dispersion (std. dev.=s) $= \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}} = \sqrt{\frac{5.71}{7}} = .90$

where:

x		$\bar{x}$		$\lvert(x-\bar{x})\rvert$	$(x-\bar{x})^2$	n	$n-1$
7.63	-	7.41	=	.22	.05	8	7
7.05		7.41		.36	.13		
7.82		7.41		.41	.17		
8.86		7.41		1.45	2.10		
7.62		7.41		.21	.04		
6.57		7.41		.84	.71		
5.88		7.41		1.53	2.34		
7.82		7.41		.41	.17		
					5.71		

Value range: $\bar{x} \pm s = 7.41 \pm .90$ [8.31,6.51]

Estimate of value of subject property =

NRA of subject × Weighted point score × [Sample mean of price per NRA per total weighted score ± s]

(84,969) × (2.1) × [7.41 ± .90]

High estimate:[1] $1,480,000
Central tendency: $1,320,000
Low estimate: $1,160,000

[1]All value estimates are rounded.

EXHIBIT 5

NET PRESENT VALUE UNDER L.C. FINANCING AND BALLOON PAYOUT ACCORDING TO CONTRACT ON 12/31/85

	1979		1980		1981		1982 - 84 4 years	
Down Payment	$500,000		$250,000		$250,000			
	3,576	(2A)	5,364	(3A)	11,145	(3B)	$ 67,710	(12C)
	$503,576		33,435	(9B)	50,787	(9C)		
			$288,799		$311,932			
						Balance	2,450,000	
							$2,517,710	

NET PRESENT VALUE CONVENTIONAL LOAN

	1979				
Down Payment	$862,000				
	--			Balance	2,404,022
Cash year 1	$503,576	$288,799	$311,932		
		.884666	.796455		
Cash year 2	255,491	$255,491			
Cash year 3	248,440		248,440		
Cash year 4	48,551			$67,710	
Cash year 5	43,710			67,710	
Cash year 6	39,351			67,710	
Cash year 7	$1,317,332				$2,517.710
	$2,456,451	Total Cash Equivalency (Versus $3,450,000 nominal selling price)			

INCOME PREPORTED (Contract)	GROSS INCOME	$499,249
	NET INCOME	196,548

MARKET RENT LEVELS

At least gross	$450,000
Less 40% expense	180,000
NOI	$270,000

$$OAR = \frac{270,000}{2,456,451} = .109915$$

$$SP/Unit = \frac{2,456,451}{168} = 14,622$$

Example Problem: Cash Equivalent Price - Existing Mortgage plus Purchase Money Mortgage

Given the following information, determine the cash equivalent price of the transaction:

Sale Price	$1,000,000
Existing Mortgage (assumed)	Balance $682,052 Mo. Pmt. $6,039.20 Contract rate 8.5% Expired Term 6 years Remaining Term 19 years
Purchase Money Mortgage	$200,000 @ 10% Amortization over 20 years, balloon in 10 years
Current Financing	14,5%, 20 year amortization with 10 year balloon

A. What is the equity investment?
B. What is the balance outstanding on the existing (assumed) mortgage in 10 years?
C. What is the payment on the PMM?
   What is the balance outstanding EOY 10?
D. What is the cash equivalent price of the transaction?

Suggested Solution - II
Existing Mortgage plus PMM

A. $117,948

B. $454,781

C. $ 1,930
   $146,049

D. Equity	$117,948
Assumed Existing Mortgage	
PW $6,039.20, 120 mos. @ 14.5%	$381,535
PW $454,781, EOY 10 @ 14.5%	
Purchase Money Mortgage	
PW $1,930, 120 mos. @ 14.5%	$121,931
PW $146,049, EOY 10 @ 14.5%	$ 34,558
Total (Cash Equivalent Price)	$763,581

* Courtesy of Byrl Boyce

IX. PROBLEM (CASH EQUIVALENCY)*
*Courtesy of A. Robert Parente, SREA, MAI.

An income producing property (special purpose) was resold by the Midland National Bank on a "workout." The terms of the sale were as follows:

Sale Price:	$1,178,808, no cash by purchaser, i.e., 100% debt financing
Terms of Financing:	First year - interest only at a rate of 4-1/2% and payable monthly
	Second year - interest only at a rate of 6% and payable monthly
	For the next 23 years - principal and interest at 8-1/2%, payable monthly

The property (a 12,000 sq. ft., 3-year old restaurant building) was purchased on November 10, 1977 for $1,178,808. Typical terms of financing at that time (11/77) were 9-3/4% interest for 25 years on a 75% loan-to-value ratio. It is estimated that equity required a 12-15% return.

Questions:

A. What are the monthly interest costs in years 1 and 2?

B. What is the constant on the amortized portion of the mortgage?

C. What is the monthly payment on the mortgage?

D. What is the unadjusted sales price per square foot for use in the DSC approach?

E. What is the cash equivalent price assuming 100% financing were typical in the market?

F. What is the cash equivalent price assuming an equity yield requirement of 12% 15%?

G. What is the adjusted sales price per square foot under each of the conditions set forth above?

Suggested Solution - IX
Problem (Cash Equivalency)

A. Year 1: $4,420.53
Year 2: $5,894.04

B. f = .09913

C. $9,737.97

D. $1,178,808 ÷ 12,000 = $98.23/sq. ft.

E. PW i Costs Year 1 @ 9-3/4% = $ 50,347.92
PW i Costs Year 2 @ 9-3/4% = 60,918.28
PW Amortization payments
Years 3-25 @ 9-3/4% = 881,198.63

Cash Equivalent Price
(100% Financing) = $992,464.83*

*$186,343.17 less than face value of note

$992,464.83 ÷ 12,000 = $82.71/sq. ft.

F. Discount Rates given Y = 12%, Y = 15%, m = 75% i = 9.75%

	Y = 12%		Y = 15%	
Mortgage	.75 x .0975	= .073125	.75 x .0975	= .073125
Equity	.25 x .12	= .03	.25 x .15	= .0375
Discount Rate (r)		= .103125	Discount rate (r)	= .110625

	PWCF @ 10.3125%	PWCF @ 11.0625%
Year 1	$ 50,198.33	$ 49,999.88
Year 2	60,399.42	59,715.07
Years 3-25	835,796.73	780,188.86
	$946,394.48**	$889,903.81***

$232,413.52 below face *$288,904.19 below face

G. $946,394.48 ÷ 12,000 = $78.87/sq. ft.

$889,903.81 ÷ 12,000 = $74.16/sq. ft.

* Courtesy of Byrl Boyce

II. Critique of a Real Estate Appraisal requires some understanding of the institutions of appraisal, the normative economic logic of appraisal, and the elements of reform of the appraisal process already at work.

A. Political compromises in the 1930s led to the appraisal doctrine which defined fair market value as that which results from synthesis of three normative approaches to value based on the economics of before tax income.

B. Marshallian economics presumes stability of currency and interest rates. Appraisers and their customers confuse normative models to establish a fair price with behavior models that would predict the most probable price at which a property would sell.

C. Normative methods are not predictive of price but nine times out of ten appraisers are supposed to predict the price at which a property would sell under specific circumstances.

D. If the appraisal is to serve as a benchmark for a decision under specific circumstances, or purposes, then it should not be governed by conditions characteristic of an efficient market since real estate is not known for market efficiency.

E. Widespread acceptance of appraisal models is a function of the cost of reeducation, on-the-job training, word processing, and data processing, and that is being drastically altered by electronics and communication advances.

F. A consistent theory for reconstructing appraisal has been prepared by Professor R. U. Ratcliff but its tenets are being adapted at the grassroots level by individuals rather than considered by the controlling committee of the professional societies.

G. Factors which have delayed appraisal reforms include:

1. Compensation system which separates responsibility for payment of appraisal fee from beneficiary of objective useful analysis with a corresponding decline on reliance by financial institutions in the lending process, etc.

2. Lack of understanding of the variety of services in terms of appraisal, feasibilty analysis, or consulting which a professionally designated appraiser might offer. The right product depends on asking the right questions.

3. Fear of appraisal societies that a retreat from old principles will discredit appraisal designations and existing regulatory monopolies and therefore contribute toward further competitive erosion by the accountants and the engineers and the investment bankers.

4. Postponement of reform pending merger of the major appraisal societies, an effort recently frustrated by a membership vote which will trigger significant competition and public efforts which lack the benefit of significant reform of the profession and its out-of-date educational programs.

H. A common sense appraisal outline representing the Ratcliff approach would be as follows:

1. What is the issue?

2. What are the basic appraisal problems in the issue?

3. What definition of value is most appropriate?

4. What implicit assumptions are inherent in the value definitions?

5. What explicit assumptions are provided by others?

6. What is the most probable use of the property?

7. What is a profile of the most probable buyer of the property?

8. What level of behaviorial transaction forecasting can be applied?

   a. Inference from market sales
   b. Simulation from actual buyer calculus
   c. Standard normative models for prudent buyers

9. What externalities should be considered as modifying the expected transaction range?

10. How does the most probable price test in light of criteria presumed in the buyer profile?

I. To critique an appraisal provided as a benchmark of a mortgage loan and to classify the appraiser as contemporary or old guard, the reader should look to the following elements.

1. Definition of value - is the classic definition or defined as the most probable price at which it would sell subject to specific financing terms?

2. Does the interest to be appraised represent fee title encumbered or does it include entitlement to the financing requested or subject to financing appropraite to regulated institutional standard?

3. For a proposed project does the appraisal assume completion and therefore a future appraisal date and does it assume absorption of the units into the market in a stated period of time? If so, it must prove absorption, capture rate, and construction as reasonable assumptions or it has sidestepped the critical issue of indirect cost.

4. Does it discard any of the three approaches at the outset as inappropriate or does it wait until the report reaches the section called synthesis?

5. In using the market approach for an appraisal, does the report indicate buyer motivation on comparable sales or current status of the comparable? Does the appraiser use basic statistics for adjustment or arbitrary percentage or flat dollar shifts in value? Does it provide the standard error of the investment or the mean price?

6. In using the market approach for an appraisal, does the report indicate buyer motivation on comparable sales or current status of the comparable? Does the appraiser use basic statistics for adjustment or arbitrary percentage of flat dollar shifts in value? Does it provide the standard error of the investment or the mean price?

7. In doing the income approach, does the appraiser use normalized income or cash flows over time, and in capitalizing the income does he use market rates, Ellwood rates, or cash on cash mortgage equity? Only the latter is reliable for mortgage loan purposes.

8. In doing the cost approach, does the appraiser show the entrepreneurial compensation or is that buried in over-estimated construction costs? Hard dollar costs should be the lowest of three estimates, not the highest as advocated by appraisal textbooks. The spread is the developer's fee for the entrepreneurial contribution to land, labor, and capital.

9. Does the appraiser provide a test on the after tax basis of either his resale assumptions on which his income appraoch depends or his conclusion as to most probable price at which it would sell? These tests might include something like VALTEST. The resulting financial ratios discussed previously, or a front door approach to demonstrate the rents implied by a given cost of acquisition.

10. Check the statement of limiting conditions to see what applies relative to underlying assumptions and limitations on use.

III. Because the client of the appraiser faces unique liabilities in the United States as a pension fund trustee (Employees Retirement Securities Act) or as a party to a partial sale of a real estaet interest under the Securities Act of 1983, appraisal assignments are becoming the subject of highly detailed contract negotiations. These contracts specify appraisal content and method.

A. Example of contract with specified format for information contained (PMI Exhibit 6).

B. Example of contract controlling methods and assumptions (FARA Exhibit 7).

C. Appraisal reform is occurring because customers contract for it rather than because of leadership from the professional society.

D. Cash flow models predominate for pension fund work where each lease is detailed (Exhibit 8).

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First Asset Realty Advisors

First Bank Place
Minneapolis, MN 55480

APPRAISAL ENGAGEMENT LETTER

TO:

RE: Property Identification

Dear _____:

On behalf of First Asset Realty Advisors (FARA), we would like to engage your services for the appraisal of the above property to determine the fair market value of the legal interests owned by a Commingled Fund as of (date of appraisal). To that end and before accepting the assignment, the appraiser should consider the following requirements as to definition and procedure:

1. Fair market value shall be defined as the most probable price at which the property would sell to a knowledgeable buyer on a given date if placed on the market for a reasonable length of time by a well informed seller assuming:

   a. Cash to the seller or cash plus debt owed or assumed by the buyer, where appropriate.
   b. Fee title will be encumbered by leases in place and possible other covenants. Appraiser must indicate remaining market value of these other leasehold or non-possessory interests.
   c. The appropriate exposure on the market has occurred prior to the date of sale.

2. Fee title may be encumbered by leases, mortgages, as well as possible conditional use permits and private covenants. FARA is obligated to provide access to all of the appropriate documents at the office of _____ located at _____ during normal business hours. The appraiser is expected to read the leases, mortgage instruments and other encumbrances and relate to them appropriately. If existing debt is assumable by another buyer, then the appraiser can value the sale as cash to the seller with the buyer accepting the mortgage(s) already in place if that would be consistent with the most probable buyer's self interest. Otherwise the trustees of the Commingled Fund management (FARA) are interested in a value which is the most probable cash price to the seller and with the buyer accepting the existing encumbrances in terms of leases and covenants, etc.

EXHIBIT 7 (Continued)

3. When using the market comparison approach, the appraiser must document each comparable sale as to grantor, grantee, public record, plot plan and photograph as well as basic details of construction and existing encumbrances, terms of sale, and seller motivation. Buyer motivation is profiled as an assumption by the appraiser. All calculations necessary to adjust engineered prices to cash equivalencies must be documented and explained as well as any and all adjustments to relate the comparable price to the subject property must be itemized and explained so that the reader can repeat the mathematical adjustments.

4. The income approach must use discounted cash flow from a ten-year forecast (and your own forecast, if different) in which all the property's existing leases are detailed individually. The rationale for roll-over vacancies, absorptions, and expense projections must be itemized with a series of footnotes in the manner of a fully detailed accounting income and balance sheet statement. Income projections should account for current market lease rates with explanations of all assumptions used. Normalized income methods including investment bond, Ellwood or net income multipliers are not acceptable.

5. The appraiser must document his opinion as to the appropriate discount rate applied to each segment of the cash throw-off and after tax cash flow as appropriate, together with financing terms assumed.

6. A cost approach based upon a responsible service or professional should be supplied with the initial appraisal. If it is not used in the final valuation, then a discussion on why it is not used is required. The appraiser is expected to carefully inspect the property and report his own independent views on the quality of maintenance, deferred maintenance, and tenant housekeeping.

7. The appraiser is regarded as the eyes and property inspector of FARA. To put the property in context, the appraiser must supply a separate market analysis section to include current market conditions, an evaluation of projects which are competitive alternatives in the market area of the appraiser, an indication of rent structures, vacancy and absorption rates, and in the case of a new building, some indication as to rentup success and source of tenants. Wherever possible, the appraiser is to indicate the ownership and character of investment position in competitive properties and the property management or leasing term involved with each. The appraiser should include in his market analysis section an evaluation of the future projected market conditions over the ten-year holding period.

Following the initial appraisal at the time of acquisition, the appraiser will be asked to submit a letter of review 180 days after the date of the original appraisal indicating if he would modify any of his critial

assumptions at that time and, if so, indicating how this might affect his original value estimate as a specific dollar adjustment, up or down.

At the end of 360 days, the appraiser would be expected to perform a thorough review of his original appraisal, specifically focusing on the market approach (item 3), adjustments indicated for the income approach (items 4 and 5), and additions and amendments to market data (item 7). Aside from the specific instructions provided in paragraphs 1-7 above, it is anticipated that all work will be done according to the standards of the American Institute of Real Estate Appraisers, and it is further understood that the client for whom the appraisal is done for purposes of professional accountability is both First Asset Realty Advisors, Inc., and its operations agent, The Center Companies of Minneapolis, Minnesota. Purpose of the appraisal is to meet the asset valuation requirements of an open-ended, commingled real estate fund suitable for investment by pension fund programs subject to ERISA.

Please return both copies of this letter together with an indication of your fee for the appraisal services above by (date) with a separate quote for the initial appraisal, the 180 day review, and a 360 day reappraisal and an estimate of the date the appraisal will be completed. If this is your first assignment for FARA, please include a sample of your work, preferably of a similar property, in which you have provided for the necessary cash flow projections.

Yours very truly,

MALL

Rent Roll and Lease Summaries
June 30, 1982

Space No.	Tenant	No. of Twin City Stores	Tenant Rating	GLA Sq.Ft.	Lease Term From	To	Year		Base Rental	Base Rental/ Sq.Ft.	% Rent Formula	/Sq.Ft.
14.	Total Sports	1	National	10,000	11/1/78	1/11/94	15 yrs. 3 mo.	Yr. 1-3	$50,000	$5.00	4% over $1,250,000	($125)
								Yr. 4-7	$60,000	$6.00	4% over $1,500,000	($150)
								Yr. 8-10	$70,000	$7.00	4% over $1,750,000	($175)
						/		Yr. 11-15	$80,000	$8.00	4% over $2,000,000	($200)
17.	Oriental Arts, Inc.	1	Local	1,066	2/1/81	1/31/83	2 yrs.	Yr. 1	$ 8,925	$8.37	6% over $148,750	($140)
								Yr. 2	$ 9,975	$9.35	1% over $161,250	($151)
18.	Unassigned	--	--	(1,232)	--	--	--	--	$ 9,856	$8.00	1% over $166,250	($156)
											6% over $164,267	($133)
19.	Unassigned	--	--	(449)	--	--	--	--	$ 7,000	$15.59	10% over $70,000	($156)
20.	Unassigned	--	--	(873)	--	--	--	--	$12,000	$13.75	5% over $[illegible]0,000	($275)
21.	Photomill (3)	5	Local	1,536	10/1/78	1/31/89	10 yrs. 3 mos.	Yr. 1-3	$ 6,144	$4.00	6% over $102,400	($671)
								Yr. 4-7	$12,288	$8.00	6% over $204,800	($133)
								Yr. 8-10	$18,432	$12.00	6% over $307,200	($200)
22.	Hurrah	8	National	1,632	2/1/79	1/31/89	10 yrs.	--	$11,424	$7.00	6% over $190,400	($177)
23.		24	Reg.	4,966	11/1/78	1/31/94	15 yrs. 3 mos.	--	$32,279	$6.50	6% over $537,983	($108)
24.	Great	5	National	1,037	10/1/78	1/31/84	5 yrs. 3 mos.	Yr. 1	$10,000	$9.64	8% over $125,000	($121)
								Yr. 2-5	$15,000	$14.46	8% over $187,500	($181)
25.	The Book Center	1	Reg.	1,201	6/1/79	1/31/87	7 yrs. 8 mos.	Yr. 1-2	$ 9,608	$8.00	6% over $160,133	($100)
								Yr. 3-8	$12,010	$10.00	6% over $200,167	($167)
27.	Imports	1	Local	788	12/1/80	1/31/84	3 yrs. 2 mos.	--	$10,200	$12.00	6% over $170,000	($261)
	Total			66,142								

(3) Assigned to Photomill as of April 1, 1981

Rental Summary

	G.L.A. - S.F.	
Leased Space	56,364	(85.2%)
Unassigned Space	9,778	(14.8%)
Totals	66,142	(100.0%)

EXHIBIT 8

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1) and Reletting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
1.	Footwear	5,745	$ 19,964	$ 39,927	$ 39,927	$ 39,927	$ 39,927	$ 45,816	$ 51,705	$ 51,705	$ 51,705	$ 51,705	$ 25,835
2.	Fabric	10,179	$ 27,993	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 27,993
3.	Unassigned	813	$ 3,862	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 9,858	$ 9,858	$ 9,858	$ 9,858	$ 4,929
4.	Cedrics	1,586	$ 5,155	$ 10,309	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 18,083	$ 18,083	$ 18,083	$ 9,042
5.	Unassigned	2,100	$ 7,875	$ 15,750	$ 15,750	$ 15,750	$ 15,750	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 12,827
6.	Unassigned	4,288	$ 11,528	$ 23,056	$ 23,056	$ 23,056	$ 23,056	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 19,717
7.	Northwestern Book	5,495	$ 13,738	$ 27,475	$ 27,475	$ 27,475	$ 33,068	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 24,670
8.	Body Shoppe	1,795	$ 14,360	$ 14,360	$ 17,950	$ 17,950	$ 17,950	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 13,238
9.	Richards	1,612	$ 6,045	$ 12,090	$ 12,090	$ 12,090	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 19,693	$ 9,846
10.	Unassigned	1,255	$ 4,993	$ 8,785	$ 8,785	$ 8,785	$ 8,785	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 7,512
11.	House of Large Sizes	1,332	$ 4,329	$ 8,658	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 11,322	$ 11,322	$ 11,322	$ 5,661
12.	Video	2,186	$ 8,744	$ 17,488	$ 19,674	$ 19,674	$ 19,674	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 16,824
13.	Pizza	2,976	$ 8,793	$ 17,586	$ 17,586	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 33,856	$ 16,928
14.	Total Sports	10,000	$ 30,000	$ 60,000	$ 60,000	$ 60,000	$ 70,000	$ 70,000	$ 70,000	$ 80,000	$ 80,000	$ 80,000	$ 40,000
17.	Oriental	1,066	$ 4,988	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 13,290	$ 13,290	$ 13,290	$ 13,290	$ 6,645
18.	Unassigned	1,232	$ 4,928	$ 9,856	$ 9,856	$ 9,856	$ 9,856	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 8,428
19.	Shirt	449	$ 3,500	$ 7,000	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 11,402	$ 11,402	$ 11,402	$ 5,701

EXHIBIT 8 (Continued)

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1) and Releting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
20.	Diamond Center	873	$ 6,000	$ 12,000	$ 12,000	$ 12,000	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 23,759	$ 11,880
21.	Photomill	1,536	$ 6,144	$ 12,288	$ 12,288	$ 12,288	$ 12,288	$ 18,432	$ 18,432	$ 20,016	$ 20,016	$ 20,016	$ 10,008
22.	Hurrah	1,632	$ 5,712	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 18,608	$ 18,608	$ 18,608	$ 9,304
23.		4,966	$ 16,140	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 16,140
24.	Great	1,037	$ 7,500	$ 15,000	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 22,804	$ 22,804	$ 22,804	$ 11,400
25.	Book Center	1,201	$ 6,005	$ 12,010	$ 12,010	$ 12,010	$ 12,010	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 11,700
27.	Imports	788	$ 5,100	$ 10,200	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 13,669	$ 13,669	$ 13,669	$ 6,835
		66,142	$233,396	$451,662	$466,765	$470,011	$493,829	$545,698	$556,599	$592,153	$592,153	$616,314	$333,063

(1) Most lease anniversaries end 1/31 of any particular year. For cash flow projection purposes, we've assumed lease anniversary dates to be 12/31 of the preceding year. No material change results from this minor timing adjustment.

(2) Relet rental rates assume a 5% annual growth over the average rent currently generated from the existing tenant.

EXHIBIT 8 (Continued)

MALL
% Rent Computations

Tenant	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Fabrics	$40	--	622	3,192	5,967	8,965	7,701	11,198	14,975	19,052	23,546
Northwestern Book	--	--	--	551	1,396	--	--	--	2,500	5,813	--
Pizza	--	--	1,309	--	1,207	2,971	4,875	6,931	--	--	1,119
House of Large Sizes	--	--	--	--	--	578	1,424	2,337	1,991	3,056	4,206
Hurrah	--	--	707	1,678	2,726	3,858	5,081	--	643	2,183	3,846
	--	--	1,793	4,518	7,462	10,642	14,075	17,784	21,789	26,114	30,785
Great	3,420	4,894	3,617	5,337	7,193	9,197	11,363	13,701	16,227	18,955	22,296

EXHIBIT 8 (Continued)

MALL

Revenues	7/1 to 12/31 1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1/1 to 6/30 1992
Base Rents (1)	$233,396	$451,662	$466,765	$470,011	$493,829	$545,698	$556,599	$592,153	$ 592,153	$ 616,314	$ 333,063
Ground Rent (2)	$ 14,453	$ 28,907	$ 28,907	$ 33,243	$ 33,243	$ 33,243	$ 38,229	$ 38,229	$ 38,229	$ 43,964	$ 21,982
4 Rent (3)	$ 10,593	$ 13,660	$ 19,116	$ 28,830	$ 34,046	$ 47,074	$ 58,515	$ 67,783	$ 77,572	$ 98,565	$ 56,681
Real Estate Tax Recovery (4)	$ 69,741	$115,300	$121,400	$133,000	$139,800	$146,300	$157,300	$165,200	$ 173,300	$ 182,000	$ 95,600
Recovered Exp. (5)	$ 45,310	$ 95,100	$ 99,800	$104,800	$110,000	$115,600	$121,300	$127,400	$ 133,700	$ 140,400	$ 73,700
Total Gross Revenue	$373,493	$704,629	$735,988	$769,884	$810,918	$887,915	$931,943	$990,765	$1,014,954	$1,081,243	$ 581,026
Less Vacancy (6)	$ 43,935	$ 59,307	$ 61,775	$ 42,566	$ 44,889	$ 50,081	$ 39,200	$ 41,900	$ 44,500	$ 45,500	$ 24,700
Percentage	(12%)	(12%)	(12%)	(8%)	(8%)	(8%)	(6%)	(6%)	(6%)	(6%)	(6%)
Effective Gross Revenue	$329,558	$645,322	$674,213	$727,318	$766,029	$837,834	$892,743	$948,865	$ 970,454	$1,035,743	$ 556,326
Expenses											
Real Estate Taxes (7)	$ 84,000*	$153,000**	$138,000	$144,500	$152,000	$159,000	$167,300	$175,700	$ 184,400	$ 193,700	$ 101,700
Recoverable Exp. (8)	$ 39,400	$ 82,700	$ 86,800	$ 91,100	$ 95,700	$100,500	$105,500	$110,800	$ 116,300	$ 122,100	$ 64,100
Mgmt. (5%) (9)	$ 12,900	$ 24,700	$ 25,700	$ 26,600	$ 28,000	$ 31,300	$ 32,700	$ 34,900	$ 35,400	$ 37,900	$ 20,600
Reserves for Tenant Work (12)	0	$ 3,300	$ 1,500	0	$ 6,700	$ 4,600	$ 800	$ 6,600	0	$ 3,200	$ 7,500
Reserves for Repairs (10)	$ 3,500	$ 7,300	$ 7,700	$ 8,100	$ 8,400	$ 8,900	$ 9,300	$ 9,800	$ 10,300	$ 10,800	$ 17,500
Leasing Fees (11)	0	$ 10,300	$ 4,500	0	$ 20,800	$ 14,200	$ 2,200	$ 19,700	0	$ 9,000	$ 21,200
Total Expenses	$139,800	$281,300	$264,200	$270,200	$311,600	$318,500	$317,800	$357,500	$ 346,400	$ 376,700	$ 232,600
Net Operating Income	$189,758	$364,022	$410,013	$457,118	$454,429	$519,334	$574,943	$591,365	$ 624,054	$ 659,043	$ 323,726

* Includes specials of $21,604.82
** Includes specials of $22,000.00

EXHIBIT 8 (Continued)

1982 RECOVERABLE EXPENSES ANNUALIZED

For Mall,

Recoverable expenses for 1982 are shown below in the 1982 annualized budget:

Recoverable Expenses

Insurance		$ 8,400
Utilities		
Electric	$19,900	
Water and Sewer	$ 3,200	
Gas	$ 3,200	
		$26,300
Maintenance Services		
Snow Removal	$10,500	
Janitorial	$12,600	
Parking Lot Sweep	$ 3,000	
Trash	$ 400	
Rodent Control	$ 1,100	
Landscaping	$ 3,800	
Mall Music	$ 300	
		$31,700
Overload Security		$ 1,300
Supplies		
Maintenance	$ 3,000	
Electric	$ 600	
Landscaping	$ 1,300	
		$ 4,900
Repairs		
Electricity	$ 3,100	
Equipment	$ 2,500	
Plumbing	$ 600	
		$ 6,200
TOTAL RECOVERABLES		$78,800

Recoverable expenses have been increased at 5% per year, compounded.

EXHIBIT 8 (Continued)

BASIC ASSUMPTIONS TO CASH FLOW PROJECTIONS

Revenues

1. In completing the financial analysis, we projected a ten-year (from July 1, 1982 to July 1, 1992) cash flow projection. Rental revenues are based upon actual leases giving full recognition to all step-up rental provisions. For vacant space, economic rents were estimated based upon rent levels at competitive properties. Upon retetting, rental rates are projected as increasing 5% per year over current levels. A five-year term was assumed for all new leases.

2. The ground rent is adjusted according to the CPI change for all cities every three years. For example, the 1982 rent is based upon the CPI change from February 1978 to February 1981 (see Exhibit D in addenda). A 5% annual rate of inflation is assumed for each subsequent rental adjustment.

3. For tenants in occupancy for a year or more, historical sales were used as a benchmark for projected sales. For tenants, the calendar years 1982 through 1992 sales volumes were escalated at 8% per year. Percentage rent was calculated on a tenant-by-tenant and year-by-year basis using the percentage rent formula outlined in each lease.

4. The standard lease provides for all tenants to pay their pro-rata share of taxes. Since the projected vacancy allowance varies, tenant reimbursement is as follows:

	Vacancy	Tax Reimbursement
1982 (6 mos)	17	83%
1983-84	12	88%
1984-87	8	92%
1988-91	6	94%

5. The standard lease provides for 100% of all recoverable expenses to be reimbursed to the landlord by the tenants, collectively. Unlike the tax clause, the pro-rata share each tenant contributes is allocated between the gross leased and occupied space; consequently 100% of all recoverable expenses are paid collectively by the existing tenants. A 15% administrative charge is added to all reimbursable expenses (per the leases). Furthermore, based upon experience, 75% of the "Reserves for Structural Repairs" are reimbursable expenses.

6. A discussion for vacancy allowance is detailed in Item #4.

Basic Assumptions to Cash Flow Projections - Continued

Expenses

7. Real estate taxes for 1982 are detailed on page 1 of this report. For 1983 and thereafter, taxes have been escalated at a 5% annual rate of increase.

   Finally, in 1982 about $43,000 of special assessments will be billed to Burnhaven, including interest payable at 8%. Approximately one-half of the $43,000 is to be paid in 1982 and the balance in 1983 as scheduled in the cash flow projection.

8. Recoverable expenses for 1982 are shown in the 1982 annualized budget on the following page.

9. Property management expense is 5% of base, ground and percentage rents.

10. As per our discussions with properties, reserves for structural repairs are estimated at $.10 per square foot for the first three years and are increased at 5% per year thereafter.

11. For 1982, leasing fees are $2.25 per square foot of leased space. The fee is increased 5% per year, consistent with the increase in base rents. Leasing fees are expensed in the year incurred.

12. According to properties, tenant work is minimal for this type of mall. The cost is estimated at $.70 per square foot for 1982 and escalated at 8% per year thereafter. Tenant work is expensed in the year incurred.

EXHIBIT 8 (Continued)

Discounted Cash Flow Analysis - Continued

		Annual Cash Flow		Discount @ 17%		Present Worth
Last 6 mos.	1982	$ 189,758	x	.924500	=	$ 175,431
	1983	$ 364,022	x	.790171	=	$ 287,640
	1984	$ 410,013	x	.675360	=	$ 276,906
	1985	$ 457,118	x	.577230	=	$ 263,862
	1986	$ 454,429	x	.493359	=	$ 224,197
	1987	$ 579,334	x	.421674	=	$ 244,290
	1988	$ 574,943	x	.360405	=	$ 207,212
	1989	$ 591,365	x	.308039	=	$ 182,163
	1990	$ 624,054	x	.263281	=	$ 164,302
	1991	$ 659,043	x	.225026	=	$ 148,302
1st 6 mos.	1992	$ 323,726	x	.208037	=	$ 67,347
	*Rev.	$4,839,000	x	.208037	=	$1,006,000
						$3,247,652
						Rounded to
						$3,200,000

* Projected 1992 Resale Price

The 1992 resale price was estimated by adding the last six months income of 1991 and the first six months income of 1992 and capitalizing the total income at 13-1/2%.

$329,522	-	1991 (last six months)	
$323,726	-	1992 (first six months)	
$653,248	-	Capitalized @ 13-1/2%	$4,838,866
		Estimated 1992 Sale Price	$4,838,900

South Central Regional Conference
American Institute of Real Estate Appraisers
March 22, 1985
Westin Galleria Hotel
Dallas, Texas

EMERGING TRENDS IN REAL ESTATE VALUATION

Presented by
Prof. James A. Graaskamp, CRE, SREA
University of Wisconsin

I. Appraisal is a specialty in the rapidly evolving information business in a society where a majority of the people are involved in information processing. Appraisers systematically collect information, organize, analyze and interpret the data, reach decisions and communicate essential information to a client.

A. Real estate appraisal is a pivotal benchmark for decisions involving social equity (eminent domain and real estate taxes) validation of value for regulatory purposes (loans and pension security), benchmarking of asset management performance (pensions and fixed assets on balance sheets), and counseling for allocation of land uses and cost effective capital allocation. Ethical issues pervade the process.

B. Information processing by appraisers is similar to the work of accountants, lawyers, investment counselors, and insurance people.

C. Unlike accountants and others, appraisers receive little help from their professional organizations in the form of position papers which define appropriate methods for a particular question.

1. Financial Accounting Standards Board (FASB) that continually modifies generally accepted accounting principles to fit new problems such as mergers, current values of fixed assets, accounting for real estate operations, etc.

2. Securities people have the SEC, Midwest Securities Associations, and various licensing agencies.

3. The insurance education program is controlled by two independent organizations, the American College of Life Underwriters and the American College of Property and Casualty Underwriters.

4. Appraisers have no such independent fixed point. Even the Eighth edition of the Institute's textbook disclaims any responsibility for being a standard.

D. As a result, most disputes about appraisal and the misuse of appraisal occur on six simple basics:

1. Definition of real estate interests to be appraised
2. Definition of highest and best use
3. Definition of market value
4. Definition of what constitutes market comparison
5. What methods can be used to focus data on a problem?
6. Who is responsible for integrating information into a cohesive statement of circumstances and forecasts?

E. Because professional appraisal organizations make little effort to defend a standard and will define real estate and value any way desired by the client while hiding behind limiting conditions appraisal has become synonomous with disinformation.

1. Disinformation is military intelligence for providing information which appears to be correct in form and terminology so that the reader rationalizes to the wrong conclusion.

2. Disinformation in appraisal is a conspiracy of cooperation between the appraiser and his client to satisfy regulators, provide cover against future charges of incompetence or achieve other objectives in terms of income taxes, real estate taxes, divorce settlements, etc.

F. The information business has been further altered by low cost mini-computers which permit development of large data banks of unknown quality and word processing which carries boilerplate prose to industrial production standards.

1. Data banks lead to tempting misuse of statistics and software puts statistics in the hands of everybody.

2. The Home Loan Bank disallowed appraisal by regression because:

   a. Subject property was compared to the mean of the data base rather than a specific subset of comparables.
   b. The appraiser had not personally inspected the properties or confirmed terms of sale with grantor/grantee.
   c. Appraiser was not personally responsible for adjustments.

3. The information business requires careful definition of the problem for which information must be collected, organized, and reduced to a conclusion.

4. What are the ethics of data manipulation and communication?

G. The professional appraiser must push his organizations to define basic standards and must push his client to define the basic problem in order that contemporary appraisal can utilize modern information technique.

1. Definitions have been reactive rather than proactive

2. Appraiser must question client to move from problem perceived to the problem as understood.

3. Cleints will prescribe methods and assumptions germane to their purposes through letters of engagement.

4. Appraisal will reorganize as Councils of users (those who psy the cost of appraisal error - not those who pay the fee) and appraisers with a common interest.

5. Institutional regulators will prescribe appraisal standards, or as in the days of FHA, take over appraisal practice to protect their guarantys

II. In the information game there are three approaches to value decision, according to Dilmore, are (2) ORDER, (2) CHANCE, (3) BEAUTY.

A. ORDER assumes under everything is a universe in which the parts fit, information has a shape. Remember the test for color blindness, random dots in random colors until suddenly you see the red dots only as a letter or a number. As appraisers we look for the red dots. We try to organize data objectively which has been subjectively collective and perhaps naive.

B. CHANCE acknowledges the possibility of alternative outcomes in our little closed system. Imrpecision is inherent to behavioral science. No respectable scientist is afraid of the word error or variance. We know in part and see but through a glass darkly. We may be able to predict without always understanding cause and effect because of unknown cross-correlations.

C. BEAUTY can be a legitimate basis for constructing a hypothesis - elegance is the ultimate intuitive choice, judgment, or gut response. Models may be elegant and not fully understood but useful but useful and sometimes dangerous like Ellwood, regression and cost.

III. An elegant model for market comparison began with Ratcliff, evolved with Graaskamp and has been greatly improved by Dilmore for the appraisal of commercial property, vacant land and even condominiums.

A. Assume prices have been adjusted for terms of sale and time, and possibly you may choose to abstract out land values.

B. Search for an appropriate unit of comparison as a single variable in a linear regression by trying three or four unit concepts, such as:

1. Gross building area
2. Net leasable area
3. Cubage
4. Two times the first floor area plus gross building area
5. Barrels of cranberries rather than acres of cranberries
6. Number of bedrooms rather than square feet

C. Arrive at a price per unit as the first step in establishing a price algorithm.

D. Identify property attributes which distinguish subject properties qualitatively from one another and develop a simple scoring system.

1. 5-3-1 is one method but scores may become multipliers and lead to distortion.

2. Dilmore prefers:

Rating	Points
Excellent	26
Good	20
Average	15
Fair	13
Poor	10

EXHIBIT 1 - A

CORRELATION COEFFICIENTS AND R^2 OF SALES PRICE

Space Unit	Correlation	R^2
First floor frontage (frt)	0.745	55.5%
Lot area	0.908	82.4
First floor (1st fl)	0.790	62.4
First floor + Upper floors (upp fl)	0.933	87.0
1st fl + .05 (upp fl)	0.919	84.5
2(1st fl) + upp fl	0.919	84.5
(1st fl) x (frt)	0.784	61.5
[1st fl + 0.5 (upp fl)] x (frt)	0.864	74.6
[2(1st fl) + upp fl)] x (frt)	0.864	74.6
(1st fl + upp fl) x (frt)	0.874	76.4

EXHIBIT 1

RATGRAM STYLE

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE - RETAIL SPACE IN MADISON C-4 ZONING

LOCATION 10%	5 = High visibility 3 = Corner visibility limited 1 = Inside lot
EXPANSION POTENTIAL 30%	5 = Potential for significant increases of floor space 3 = Flexible layouts due to bay spacing and elevator position 1 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 25%	5 = Fully renovated and leased 3 = Long-term retail leases in place. Serviceable as retail in tired space. 1 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 20%	5 = Two passenger and freight 3 = Two passenger 1 = One passenger
FENESTRATION ON UPPER LEVEL 15%	5 = Large windows facing the Square 3 = Limited window area 1 = No windows

EXHIBIT 2

RATGRAM STYLE

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	10%	3/0.30	1/0.10	1/0.10	3/0.30	5/0.50	5/0.50
EXPANSION POTENTIAL AT TIME OF SALE	30%	3/0.90	1/0.30	1/0.30	5/1.50	3/0.90	3/0.90
CONDITION AT TIME OF SALE	25%	1/0.25	5/1.25	1/0.25	3/0.75	3/0.75	1/0.25
ELEVATORS IN PLACE	20%	5/1.00	3/0.60	1/0.20	3/0.60	1/0.20	1/0.20
FENESTRATION ON UPPER FLOORS	15%	1/0.15	5/0.75	5/0.75	1/0.15	3/0.45	3/0.45
TOTAL WEIGHTED SCORE	100%	2.60	3.00	1.60	3.30	2.80	2.30
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA/ WEIGHTED POINT SCORE		$5.86	$6.25	$5.77	$6.06	$6.08	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

EXHIBIT 3

WOOLWORTH - RATGRAM STYLE
1st RUN

**** WOOLWORTH DEMONSTRATION ****

Attributes = 5

Attribute Names, Prelim. Weights
LOCATION 20
EXPANSION POTENTIAL 20
CONDITION AT TIME OF SALE 20
ELEVATORS IN PLACE 20
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24
LOCATION 3
EXPANSION POTENTIAL 3
CONDITION AT TIME OF SALE 1
ELEVATORS IN PLACE 5
FENESTRATION ON UPPER FLOORS 1
Observ. # 2 14 W. MIFFLIN Price 18.75
LOCATION 1
EXPANSION POTENTIAL 1
CONDITION AT TIME OF SALE 5
ELEVATORS IN PLACE 3
FENESTRATION ON UPPER FLOORS 5
Observ. # 3 CENTRE SEVEN-5 & 7 N. PINCKNEY Price 9.23
LOCATION 1
EXPANSION POTENTIAL 1
CONDITION AT TIME OF SALE 1
ELEVATORS IN PLACE 1
FENESTRATION ON UPPER FLOORS 5
Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20
LOCATION 3
EXPANSION POTENTIAL 5
CONDITION AT TIME OF SALE 3
ELEVATORS IN PLACE 3
FENESTRATION ON UPPER FLOORS 1
Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99
LOCATION 5
EXPANSION POTENTIAL 3
CONDITION AT TIME OF SALE 3
ELEVATORS IN PLACE 1
FENESTRATION ON UPPER FLOORS 3

The Matrix:

20	20	20	20	20
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

Median = 5.861538
Mean = 5.913863
Standard Deviation = .5837666

Weights:
LOCATION = 20
EXPANSION POTENTIAL = 20
CONDITION AT TIME OF SAL = 20
ELEVATORS IN PLACE = 20
FENESTRATION ON UPPER FL = 20

Final Results:
Number of Combinations = 3125
Number of Combinations Adding to 100% = 381

Median = 6.060606
Mean = 6.00175
Standard Deviation = .1893479

Weights:
LOCATION = 10
EXPANSION POTENTIAL = 30
CONDITION AT TIME OF SAL = 25
ELEVATORS IN PLACE = 20
FENESTRATION ON UPPER FL = 15

EXHIBIT 3 (Continued)

WOOLWORTH - RATGRAM STYLE
2nd RUN

```
**** WOOLWORTH DEMONSTRATION ****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION  20
 EXPANSION POTENTIAL  20
 CONDITION AT TIME OF SALE  20
 ELEVATORS IN PLACE  20
 FENESTRATION ON UPPER FLOORS  20

 # of Observations = 5

Observ. #  1  WOLFF-KUBLY-30 N. CARROLL Price  15.24
        LOCATION  3
        EXPANSION POTENTIAL  3
        CONDITION AT TIME OF SALE  1
        ELEVATORS IN PLACE  5
        FENESTRATION ON UPPER FLOORS  1
Observ. #  2  14 W. MIFFLIN Price  18.75
        LOCATION  1
        EXPANSION POTENTIAL  1
        CONDITION AT TIME OF SALE  5
        ELEVATORS IN PLACE  3
        FENESTRATION ON UPPER FLOORS  5
Observ. #  3  CENTRE SEVEN-5 & 7 N. PINCKNEY Price  9.23
        LOCATION  1
        EXPANSION POTENTIAL  1
        CONDITION AT TIME OF SALE  1
        ELEVATORS IN PLACE  1
        FENESTRATION ON UPPER FLOORS  5
Observ. #  4  EMPORIUM-50 E. MIFFLIN Price  20
        LOCATION  3
        EXPANSION POTENTIAL  5
        CONDITION AT TIME OF SALE  3
        ELEVATORS IN PLACE  3
        FENESTRATION ON UPPER FLOORS  1
Observ. #  5  WOOLWORTH-2 W. MIFFLIN Price  16.99
        LOCATION  5
        EXPANSION POTENTIAL  3
        CONDITION AT TIME OF SALE  3
        ELEVATORS IN PLACE  1
        FENESTRATION ON UPPER FLOORS  3
The Matrix:
  10   30   25   20   15
   0   20   15   10    5
   5   25   20   15   10
  15   35   30   25   20
  20   40   35   30   25


 Median                 =  6.060606
 Mean                   =  6.00175
 Standard Deviation     =  .1893479

Weights:
LOCATION                =  10
EXPANSION POTENTIAL     =  30
CONDITION AT TIME OF SAL =  25
ELEVATORS IN PLACE      =  20
FENESTRATION ON UPPER FL =  15


 Final Results:
 Number of Combinations                =  3125
 Number of Combinations Adding to 100% =  381


 Median                 =  6.060606
 Mean                   =  6.00175
 Standard Deviation     =  .1893479

Weights:
LOCATION                =  10
EXPANSION POTENTIAL     =  30
CONDITION AT TIME OF SAL =  25
ELEVATORS IN PLACE      =  20
FENESTRATION ON UPPER FL =  15
```

EXHIBIT 4

WOOLWORTH - RATGRAM STYLE

CALCULATION OF MOST PROBABLE PRICE USING MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	2.60	$ 5.86
2	18.75	3.00	6.25
3	9.23	1.60	5.77
4	20.00	3.30	6.06
5	16.99	2.80	6.08
		TOTAL	$30.02

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $30.02

Mean Value ($\bar{x}$) = 30.02 ÷ 5 = $6.00

Standard Error of Mean Deviation = $\frac{\sqrt{\Sigma (x-\bar{x})^2}}{\frac{n-1}{\sqrt{n}}}$ = $0.09 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$5.86	$6.00	- $0.14	0.0196	5	4
6.25	6.00	0.25	0.0625		
5.77	6.00	- 0.23	0.0529		
6.06	6.00	0.06	0.0036		
6.08	6.00	0.08	0.0064		
			0.1450		

$$\frac{\sqrt{\frac{0.1450}{4}}}{\sqrt{5}} = \frac{0.190394}{2.23607} = 0.085147 \text{ or } \$0.09$$

Value Range of Price/Point Score: $6.00 ± $0.09

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 2.3, then:

High Estimate: $6.09 x 2.3 x 39,000 SF = $546,273 or $550,000 ($14.01/SF)

Central Tendency: $6.00 x 2.3 x 39,000 SF = $538,200 or $540,000 ($13.80/SF)

Low Estimate: $5.91 x 2.3 x 39,000 SF = $530,127 or $530,000 ($13.59/SF)

EXHIBIT 5

RATGRAM STYLE

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	2.60	$6.00	$15.60	$15.24	$ 0.36	2.4%
2	14 W. Mifflin Street	3.00	6.00	18.00	18.75	- 0.75	4.0
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	1.60	6.00	9.60	9.23	0.37	4.0
4	EMPORIUM 50 E. Mifflin Street	3.30	6.00	19.80	20.00	- 0.20	1.0
5	WOOLWORTH 2 W. Mifflin Street	2.80	6.00	16.80	16.99	- 0.19	1.1
					NET VARIANCE	$ - 0.41	

EXHIBIT 6

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON
IMPORTANT INVESTOR CONSIDERATIONS FOR
OFFICE - RETAIL SPACE IN MADISON
C-4 ZONING
DILMORE STYLE

LOCATION 15%	26 = High visibility 15 = Corner visibility limited 10 = Inside lot
EXPANSION POTENTIAL 30%	26 = Potential for significant increases of floor space 15 = Flexible layouts due to bay spacing and elevator position 10 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 40%	26 = Fully renovated and leased 15 = Long-term retail leases in place. Serviceable as retail in tired space. 10 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 15%	26 = Two passenger and freight 15 = Two passenger 10 = One passenger

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

DILMORE STYLE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	15%	15/2.25	10/1.50	10/1.50	15/2.25	26/3.90	26/3.90
EXPANSION POTENTIAL AT TIME OF SALE	30%	15/4.50	10/3.00	10/3.00	26/7.80	15/4.50	15/4.50
CONDITION AT TIME OF SALE	40%	10/4.00	26/10.40	10/4.00	15/6.00	15/6.00	10/4.00
ELEVATORS IN PLACE	15%	26/3.90	15/2.25	10/1.50	15/2.25	10/1.50	10/1.50
TOTAL WEIGHTED SCORE	100%	14.65	17.15	10.00	18.30	15.90	13.90
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA ÷ WEIGHTED POINT SCORE		$1.04	$1.09	$0.92	$1.09	$1.07	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

EXHIBIT 7

EXHIBIT 8

WOOLWORTH - DILMORE STYLE
1st RUN

```
***** WOOLWORTH-DILMORE STYLE *****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION 20
 EXPANSION POTENTIAL 20
 CONDITION AT TIME OF SALE 20
 ELEVATORS IN PLACE 20
 FENESTRATION ON UPPER FLOORS 20

 # of Observations = 5

Observ. # 1 WOLFF-KUBLY Price 15.24
        LOCATION 15
        EXPANSION POTENTIAL 15
        CONDITION AT TIME OF SALE 10
        ELEVATORS IN PLACE 26
        FENESTRATION ON UPPER FLOORS 10
Observ. # 2 14 W. MIFFLIN Price 18.75
        LOCATION 10
        EXPANSION POTENTIAL 10
        CONDITION AT TIME OF SALE 26
        ELEVATORS IN PLACE 15
        FENESTRATION ON UPPER FLOORS 26
Observ. # 3 CENTRE SEVEN Price 9.23
        LOCATION 10
        EXPANSION POTENTIAL 10
        CONDITION AT TIME OF SALE 10
        ELEVATORS IN PLACE 10
        FENESTRATION ON UPPER FLOORS 26
Observ. # 4 EMPORIUM Price 20
        LOCATION 15
        EXPANSION POTENTIAL 26
        CONDITION AT TIME OF SALE 15
        ELEVATORS IN PLACE 15
        FENESTRATION ON UPPER FLOORS 10
Observ. # 5 WOOLWORTH Price 16.99
        LOCATION 26
        EXPANSION POTENTIAL 15
        CONDITION AT TIME OF SALE 15
        ELEVATORS IN PLACE 10
        FENESTRATION ON UPPER FLOORS 15
The Matrix:
  20   20   20   20   20
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30


 Median                = 1.048765
 Mean                  = 1.012559
 Standard Deviation    = .1956356

Weights:
LOCATION                = 20
EXPANSION POTENTIAL     = 20
CONDITION AT TIME OF SAL = 20
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 20


 Final Results:
 Number of Combinations                 = 3125
 Number of Combinations Adding to 100% = 381


 Median                = 1.068553
 Mean                  = 1.024281
 Standard Deviation    = .1314307

Weights:
LOCATION                = 15
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 30
ELEVATORS IN PLACE      = 15
FENESTRATION ON UPPER FL = 10
```

EXHIBIT 8 (Continued)

WOOLWORTH - DILMORE STYLE
2nd RUN

**** WOOLWORTH-DILMORE STYLE ****

Attributes = 5

Attribute Names, Prelim. Weights
LOCATION 20
EXPANSION POTENTIAL 20
CONDITION AT TIME OF SALE 20
ELEVATORS IN PLACE 20
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # 1 WOLFF-KUBLY Price 15.24
LOCATION 15
EXPANSION POTENTIAL 15
CONDITION AT TIME OF SALE 10
ELEVATORS IN PLACE 26
FENESTRATION ON UPPER FLOORS 10
Observ. # 2 14 W. MIFFLIN Price 18.75
LOCATION 10
EXPANSION POTENTIAL 10
CONDITION AT TIME OF SALE 26
ELEVATORS IN PLACE 15
FENESTRATION ON UPPER FLOORS 26
Observ. # 3 CENTRE SEVEN Price 9.23
LOCATION 10
EXPANSION POTENTIAL 10
CONDITION AT TIME OF SALE 10
ELEVATORS IN PLACE 10
FENESTRATION ON UPPER FLOORS 26
Observ. # 4 EMPORIUM Price 20
LOCATION 15
EXPANSION POTENTIAL 26
CONDITION AT TIME OF SALE 15
ELEVATORS IN PLACE 15
FENESTRATION ON UPPER FLOORS 10
Observ. # 5 WOOLWORTH Price 16.99
LOCATION 26
EXPANSION POTENTIAL 15
CONDITION AT TIME OF SALE 15
ELEVATORS IN PLACE 10
FENESTRATION ON UPPER FLOORS 15
The Matrix:

15	30	30	15	10
5	20	20	5	0
10	25	25	10	5
20	35	35	20	15
25	40	40	25	20

Median = 1.068553
Mean = 1.024281
Standard Deviation = .1314317

Weights:
LOCATION = 15
EXPANSION POTENTIAL = 30
CONDITION AT TIME OF SAL = 30
ELEVATORS IN PLACE = 15
FENESTRATION ON UPPER FL = 10

Final Results:
Number of Combinations = 3125
Number of Combinations Adding to 100% = 381

Median = 1.068553
Mean = 1.043603
Standard Deviation = 7.084803E-02

Weights:
LOCATION = 15
EXPANSION POTENTIAL = 30
CONDITION AT TIME OF SAL = 40
ELEVATORS IN PLACE = 15
FENESTRATION ON UPPER FL = 0

EXHIBIT 9

WOOLWORTH BUILDING
CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	14.65	$1.04
2	18.75	17.15	1.09
3	9.23	10.00	0.92
4	20.00	18.30	1.09
5	16.99	15.90	1.07
		TOTAL	$5.21

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $5.21

Mean Value ($\bar{x}$) = $5.21 ÷ 5 = $1.04

Standard Error of Mean Deviation = $\frac{\sqrt{\Sigma(x-\bar{x})^2}}{\sqrt{n-1}}$ = $0.03 where:

x	$\bar{x}$		$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$1.04	- $1.04	=	$0.00	0.0000	5	4
1.09	- 1.04	=	0.05	0.0025		
0.92	- 1.04	=	- 0.12	0.0144		
1.09	- 1.04	=	0.05	0.0025		
1.07	- 1.04	=	0.03	0.0009		
				0.0203		

$$\frac{\sqrt{\frac{0.0203}{4}}}{\sqrt{5}} = \frac{0.071239}{2.23607} = 0.031859 \text{ or } \$0.03$$

EXHIBIT 9 (Continued)

Value Range of Price/Point Score: $1.04 ± $0.03

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 13.90, then:

High Estimate: $1.07 x 13.90 x 39,000 SF = $580,047 or $580,000 ($14.87/SF)

Central Tendency: $1.04 x 13.90 x 39,000 SF = $563,784 or $560,000 ($14.46/SF)

Low Estimate: $1.01 x 13.90 x 39,000 SF = $547,521 or $550,000 ($14.04/SF)

COMPARISON OF WOOLWORTH DEMONSTRATION - RATGRAM STYLE AND WOOLWORTH - DILMORE STYLE

	RATGRAM STYLE	DILMORE STYLE	% VARIANCE RATGRAM TO DILMORE
Estimated Value Central Tendency	$540,000	$560,000	3.7%

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	14.65	$1.04	$15.24	$15.24	$ 0.00	0.0%
2	14 W. Mifflin Street	17.15	1.04	17.84	18.75	- 0.91	4.9
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	10.00	1.04	10.40	9.23	1.17	12.7
4	EMPORIUM 50 E. Mifflin Street	18.30	1.04	19.03	20.00	- 0.97	4.9
5	WOOLWORTH 2 W. Mifflin Street	15.90	1.04	16.54	16.99	- 0.45	2.6
					NET VARIANCE	$ - 1.16	

EXHIBIT 10

3. Develop a weighted point score by assigning weights to each category first on an intutitive basis and then refine to reduce dispersion of predictive prices for each comparable.

4. The object is to create a algorithm which is the price per point per unit that best explains the comparable prices and is then applied to the subject property to estimate the central tendency and range of a predictive market comparison price.

E. The system offers a number of advantages because:

1. It is easy for a reader or a jury to replicate appraisal judgments for establishing points.

2. One can demonstrate that the pricing algorithm works for past sales and may therefore be relevant to the next sale of a similar property.

3. Once a property has been rated it can stay in the data base unchanged since each property is not compared to the subject property but rather to a standard scale. As a result it is possible to build a data base for small office buildings, industrial land, free standing retail, etc., adding new sales as you go. The system is compatible with simple information processing and decision theory.

4. An excellent book for appraisers is The Complete Problem Solver by John Hayes, published by Franklin Press Institute, 1981. It discusses various types of decision model for conditions certain, uncertain, or competitive. The weighted point system is one legitimate type of model.

5. The use of non-parametric lattice statistics removes the subjectivity from the weighting system and may also eliminate attributes thought to be important but not required by the pricing model.

F. We have used the system in tax court boards of review, and eminent domain. It reduces the range of error and is consistent with the objective of inference from past sales and identification of the red dots in the data.

IV. More emphasis is now being placed on discounted cash flows than ever before but the tough data base information problem are in the definition and timing of revenues and expenses properly allocated to the real estate.

A. First there is the question of which revenues are real estate revenues and which revenues should be assigned to personal property, tangible and intangible, or to management.

1. Real estate income is by the floor and management income is the spread between retail rates and wholesale rates.

2. Revenue from sale of utilities and janitorial service is not real estate income, nor is the 15% management charge tacked on CAM.

3. Premium rents to be in a shopping center can be assigned, in part, to franchise revenue rather than real estate.

B. The revenue section of an appraisal using the income approach requires a spread sheet of significant complexity, like that of FINSIM, which might be tabbed as follows:

Base rent on shops
Percentage rent on shops
Indexed increment on shop base
CAM from shops
Base rent on office building
Index on office space
Amortization of office tenant improvements
Reimbursables
Escalators
CAM
Parking on contract
Parking from public operation
Communication moorings
Equals: GROSS REVENUE
Less: Base rent vacancy loss
Reimbursable collection losses
Total CAM collections
Franchise fees
Equals: EFFECTIVE GROSS REVENUE
Less: Accrued operating expenses
Equals: Net income from operations
Less: Rent concession for renewals
Less: Leasing commissions
Less: Tenant improvements
Equals: Cash from operations

C. Exhibit 11 details lease data, index revenue, reimbursement revenue, and percentage lease revenue as well as vacancy loss by rental space.

D. Appraisers have never been trained as accountants so it is inevitable that there will be some merger of effort among accountants and appraisers. CPA's may provide a complete projection of cash flows which the appraiser will then put a value on. The CPA may be in the appraisal shop or the appraiser may be in the CPA shop.

E. Appropriate expense reimbursements and charges will need to be analyzed by property managers, mechanical engineers, and in some cases structural engineers so that ultimately the appraisal shop will be a clinic of specialties in which the appraiser converts the technical data of other information specialties to a forecast of market value.

V. There are many specialty areas where appraisers and those relying on appraisals need to define the desired product and parameters of appropriate appraisal descretion and assumptions. Several obvious ones are pensions, secondary mortgage market guarantors and eminent domain litigation. Standards will be imposed by the customer rather than the appraisal profession.

A. Appraisal seminars are given to the wrong people. They should be given to those who purchase or rely on appraisals to teach them what to demand of their professional sources.

B. One device for control of a specialty is a standardized letter of engagement, such as provided in Exhibit 12. A few years ago this would have been seen as tampering with the appraiser; today it is correctly defining the appraisal problem.

1. Definition of value
2. Definition of interests to be appraised
3. Definition of accounting procedures to be followed
4. Definition of data to be reported
5. Definition of appraisal models

C. Regulatory organizations will produce their own set of rules to direct the appraisal process for single family loans, farm loans, credit enhanced loans, tax exempt financing collateral, etc.

EXHIBIT 11 (Continued)

Discounted Cash Flow Analysis - Continued

		Annual Cash Flow		Discount @ 17%		Present Worth
Last 6 mos.	1982	$ 189,758	x	.924500	=	$ 175,431
	1983	$ 364,022	x	.790171	=	$ 287,640
	1984	$ 410,013	x	.675360	=	$ 276,906
	1985	$ 457,118	x	.577230	=	$ 263,862
	1986	$ 454,429	x	.493359	=	$ 224,197
	1987	$ 579,334	x	.421674	=	$ 244,290
	1988	$ 574,943	x	.360405	=	$ 207,212
	1989	$ 591,365	x	.308039	=	$ 182,163
	1990	$ 624,054	x	.263281	=	$ 164,302
	1991	$ 659,043	x	.225026	=	$ 148,302
1st 6 mos.	1992	$ 323,726	x	.208037	=	$ 67,347
	*Rev.	$4,839,000	x	.208037	=	$1,006,000
						$3,247,652
						Rounded to
						$3,200,000

* Projected 1992 Resale Price

The 1992 resale price was estimated by adding the last six months income of 1991 and the first six months income of 1992 and capitalizing the total income at 13-1/2%.

$329,522 - 1991 (last six months)
$323,726 - 1992 (first six months)

$653,248 - Capitalized @ 13-1/2% $4,838,866
Estimated 1992 Sale Price $4,838,900

REAL ESTATE FEASIBILITY ANALYSIS

AND

CREATIVE PROBLEM SOLVING

Presented by:

Professor James A. Graaskamp
University of Wisconsin - Madison
School of Business

May 28-29, 1985

Doubletree Hotel - Orange, California

Sponsored by:
Chapter 5
American Institute of Real Estate Appraisers
Los Angeles, California

REAL ESTATE FEASIBILITY

Presented by

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University of Wisconsin, School of Business

FIRST HOUR

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is a cash cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and includes architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital. Money is an energy transfer system.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.

4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

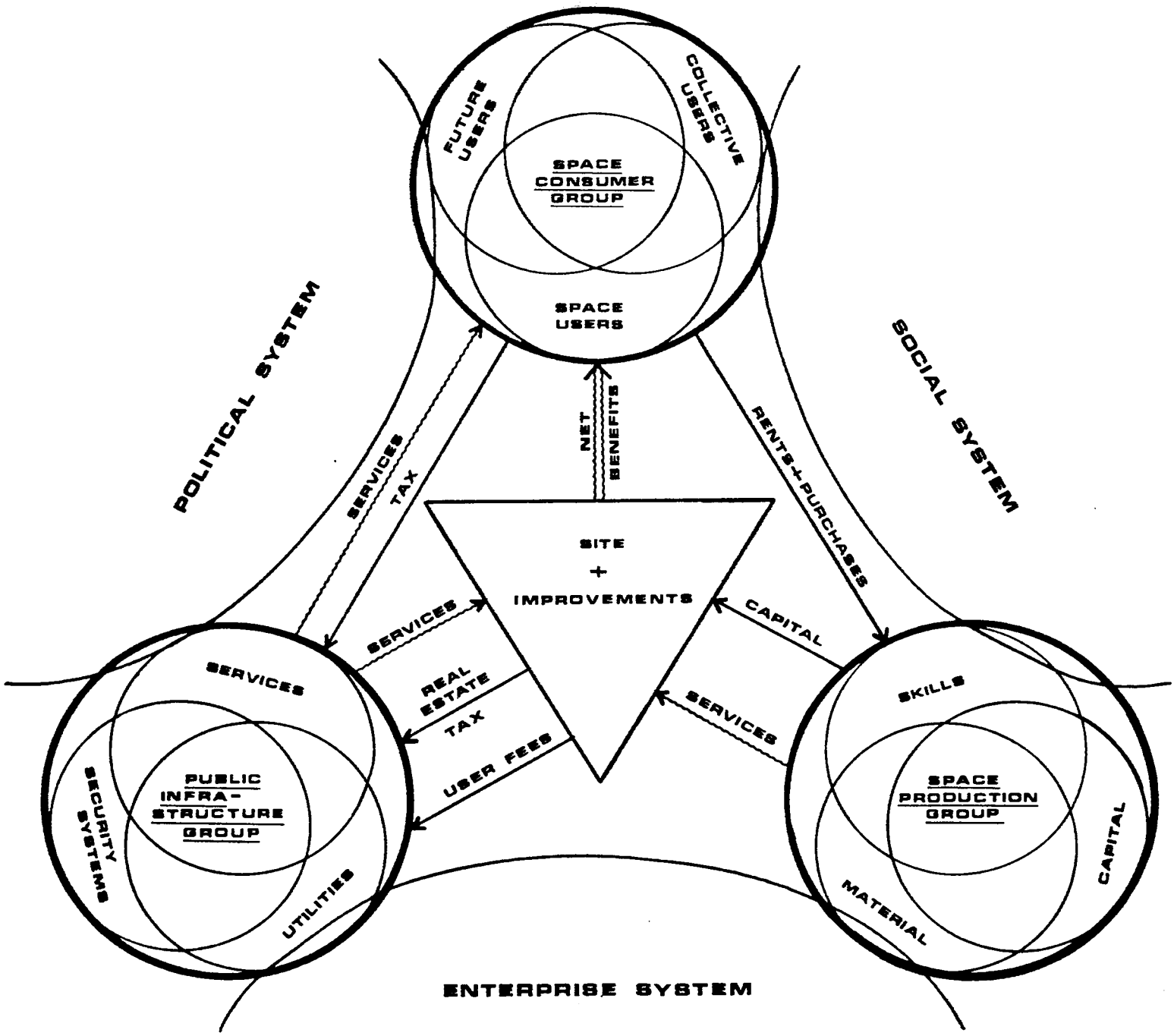
C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1.)

1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency--cash breakeven at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:

1. Physical attributes
2. Legal-political attributes
3. Linkage attributes
4. Dynamic attributes
5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment, and community priorities for land use has resulted in redefinition of the most basic concept in appraisal;



THE REAL ESTATE PROCESS

i.e., highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept -
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.
> P. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

> "Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined

from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl Boyce, Ph.D., SRPA, Ballinger Publishing Co., Cambridge, Mass., 1975. (Emphasis added.)

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, and the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced by concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.
3. The most probable use will be something less than the most fitting use depending upon topical constraints imposed by current political factors, the state of real estate technology, and short-term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.
2. The individual consumer with needs and budget is the drive wheel.
3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.
4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objective, and to which any solution must adapt.
2. Form-giving elements are those variables within the artists control, i.e., options or alternatives at a particular time.
3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the content.
4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.
5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. An enterprise is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on the one hand, and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The systems engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form-giver.

REAL ESTATE FEASIBILITY

Presented by

Professor James A. Graaskamp, Ph.D, CRE, SREA
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SECOND HOUR

I. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

> "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

1. The nature of a decision process must be made explicit.
2. Defining a problem in terms of inherent characteristics must be addressed today.
3. The nature of risk and risk management must be made explicit because the definition implies uncertainty by means of a subjective probability, "reasonable likelihood of succeeding."
4. There is a need to identify and measure the weight elements of success.
5. There is a need to identify and dimension the limited resources of the client in terms of personnel, expertise, cash, and time for commitment and completion.
6. Definition of decision process and problem lead to proper description of work project for the analyst.

C. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical-aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

D. These basic elements and definitions then lead to the requirement of a correct report title. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of set may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: Economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts of forms of organization, and politician briefs.
5. Architectural and engineering studies: alternative building envelopes, structural solutions, and net usable space and space relationships, together with technical resolutions of problems in the physical context adequate for budgeting and marketing work.
6. Compatibility studies: project impact on various groups affected in terms of their attitudes, expectations and vested interests in the status quo and community goals.
7. Financial studies: cash flow budgets, potential risk and sensitivity analysis, fiscal impact analysis, and alternative sources of capital, tax implications, etc.

E. Feasibility analysis is a sub-topic within the generally expanding literature of problem solving. Any Counselor or problem solver is urged to read the following:

1. The Art of Problem Solving, Russell L. Ackoff, John Wiley & Sons, New York, 1978.
2. The Complete Problem Solver, John R. Hayes, The Franklin Institute Press, Philadelphia, 1981.
3. Strategic Planning in Emerging Companies, Steven C. Brandt, Addison-Wesley Publishing Company, 1981.

Ackoff subdivides any problem into five types of components:

1. The decision maker--the person or persons faced with the problem as a group or individual.

2. The controllable variables--those aspects of the problem situation the decision maker can control.

3. The uncontrolled variables--those aspects of the problem situation the decision maker cannot control but those which, together with the controlled variables can effect the outcome of his choice. The uncontrolled variables may be quantitative or qualitative, but together they define the problem environment, in the language of Ackoff, or the context in the language of Christopher Alexander.

4. Constraints imposed from within or without on the values of the controlled and uncontrolled variables. For example, the consumer places a limit on how much he is willing to pay for rent, although rent levels themselves are often set by cost factors beyond his control.

5. The possible outcomes produced jointly by the decision makers choice and the uncontrolled variable.

Ackoff further refines problem solving:

> A problem is said to be solved when the decision maker selects those values of the controlled variables which maximize the value of the outcome; that is, when he has optimized. If he selects values of the controlled variables that do not maximize the value of the outcome but produce an outcome that is good enough, he has resolved the problem by satisficing. There is a third possibility: he may dissolve the problem. This is accomplished by changing his values so that the choices available are no longer meaningful. For example, the

problem of selecting a new car may be dissolved by deciding that the use of public transportation is better than driving oneself. It may also be dissolved by moving to within walking distance from work so that driving is no longer required. We use "solving" loosely to cover all three alternatives.

Ackoff also points out that many problem solvers are reactive responding to the immediate irritation which leads us "to walk into the future facing the past - we move away from, rather than toward something. This often results in unforeseen consequences that are more distasteful than the deficiencies removed." Recall D.D.T. Problem should be proactive by specifying the ideal outcome and looking for ways to move in that direction. "The chances of overlooking relevant consequences are minimized when we formulate a problem in terms of approaching ideals ... focusing on an ideal reveals the relationships between things that can be done in the future and tends to make us feel simultaneously with sets of interacting threats and opportunities, to treat them as a whole, as a system of problems.

From that it is important to learn that:

Planning is dealing with sets of interacting problems
Problem solving is finding alternative routes to approach an ideal solution
Feasibility analysis is testing a specified course of action for its likelihood of fulfilling the ideal
An appraisal is a ficticious feasibility study in which human behavior is assumed to be normative

F. The Hayes text is a rich collection of problem solving and decision making methods. Hayes believes that problems should be represented with doodles, flow charts, simple diagrams, or other graphics. He sees the problem solving process as correctly representing the goal, correctly specifying the initial state of affairs, correctly specifying the differences between the current state of affairs and the goal, the restrictions in moving toward the goal and operators available to advance affairs to the goal. He defines decision technique for conditions of certainty, uncertainty, or competitive conflict. Hayes develops for strategic viewpoints:

1. The mini-max strategy which assumes that "nature is against us" so that the object is to choose the strategy that will minimize the disaster, although it has the unfortunate property that may also eliminate the best possible outcome.

2. The maxi-max strategy chooses the course of action which could provide the best of the best possible outcomes, but it does not defend you against the possibility of enjoying the worst possible outcome.

3. The Hurwitz strategy allows a compromise between the pessimistic and the very optimistic strategies above while allowing one to modify the probabilities with a factor for the level of optimism or pessimism of the decision maker.

4. Minimizing maximum regret strategy may be most significant for real estate investors as in phasing the project or buying standby credit at an exorbitant rate.

G. Hayes describes four general types of decisions which require different decision procedures: decisions under certainty, under risk, under uncertainty, and under conflict. In the case of certainty the facts are known and static, and it is only necessary to rank in terms of desirability. Consider four student apartments as described in Exhibit 1. Hayes demonstrates five different methods which may be useful for making decisions under certainty:

1. Dominance which determines that one alternative dominates if it is at least as good as the other properties and is better in one attribute on at least one property. (See Exhibit 2.)
2. The lexicographic method which ranks like a dictionary specifying the most important attributes first and then resolving ties in ranking by going to the second most important attribute second. The weakness is that the selection process ignores all but the most important attributes so that the selection may have serious unattractive secondary attributes.
3. Additive weighting takes all attributes into account but gives them different weights depending on value systems of observer. It does not recognize interactions of attributes so it can lead to inappropriate decisions by ignoring interactions just as lexicographics ignore minor attributes. (See Exhibit 3.)
4. Effectiveness indices take into account interactions, such as the profitability index which takes present value of premises relative to total capital budget.

EXHIBIT 1

Student Apartments

A1		A2	
brightness:	always needs artificial lighting	size of rooms:	cramped
cleanliness:	needs vacuuming	noise level:	usually quiet
kitchen:	new stove, sink, and refrigerator	general repairs:	needs no repairs
noise level:	frequently noisy	brightness:	very bright throughout the day
size of rooms:	average	cleanliness:	needs vacuuming
general repair:	needs no repairs	landlord attitude:	cordial
distance from place of employment:	15 minutes	distance from place of employment:	60 minutes
landlord attitude:	indifferent	kitchen:	stove, sink, and refrigerator in good condition
A3		**A4**	
distance from place of employment:	20 minutes	general repair:	needs no repairs
brightness:	fairly bright	brightness:	very bright
landlord attitude:	very friendly	noise level:	often quiet
cleanliness:	ready to move in	size of rooms:	small
kitchen	stove, sink, & refrigerator, old but useable	distance from place of employment:	45 minutes
noise level:	sometimes noisy	kitchen:	stove & refrigerator in good condition
general repair:	needs one week repair work	landlord attitude:	cordial
size of rooms:	comfortable	cleanliness:	ready to move in

EXHIBIT 2

Alternatives

	1	2	3	4
Distance in Minutes	15 Min	60 Min	20 Min	45 Min
Size of Rooms	Average	Cramped	Comfortable	Small
Kitchen	New stove, etc.	Stove, etc. in good condition	Stove, etc. old but useable	Stove, etc. in good condition
General Repair	Needs no Repair	Needs no Repair	Needs one Week work	Needs no Repair
Cleanliness	Needs Vacuuming	Needs Vacuuming	Ready to Move in	Ready to Move in
Noise Level	Frequently Noisy	Often Quiet	Sometimes Noisy	Often Quiet
Brightness	Always needs artificial light	Very Bright	Fairly Bright	Very Bright
Landlord	Indifferent	Cordial	Very Friendly	Cordial

Only one alternative dominates another in this problem: Alternative 4 dominates Alternative 2. Alternative 4 is as good as Alternative 2 in "kitchen," "general repair," "noise level," "brightness," and "landlord," and it is better in "distance," "size," and "cleanliness." Alternative 1 does not dominate Alternative 2 because, while it is better in some properties, such as "distance," it is worse in others.

EXHIBIT 3

Alternative Apartments

	1	2	3	4	Weight
Distance in Minutes	15 Min (4)	60 Min (1)	20 Min (3)	45 Min (2)	7
	28	7	21	14	
Size of Rooms	Average (3)	Cramped (1)	Comfortable(4)	Small (2)	4
	12	4	16	8	
Kitchen	New stove, etc. (5)	Stove, etc. in good condition (4)	Stove, etc. old but useable (3)	Stove,etc. in good condition (4)	3
	15	12	9	12	
General Repair	Needs no Repair (5)	Needs no Repair (5)	Needs one Week work (2)	Needs no Repair (5)	2
	10	10	4	10	
Cleanliness	Needs Vacuuming (4)	Needs Vacuuming (4)	Ready to Move in (5)	Ready to Move in (5)	1
	4	4	5	5	
Noise Level	Frequently Noisy (2)	Often quiet (4)	Sometimes Noisy (3)	Often quiet (4)	1
	2	4	3	4	
Brightness	Always needs artificial light (1)	Very bright (5)	Fairly Bright (3)	Very Bright (5)	1
	1	5	3	5	
Landlord	Indifferent(3)	Cordial (5)	Very Friendly (4)	Cordial (5)	1
	3	5	4	5	
Sum of Value X Weight	75	51	65	63	

5. Satisficing approach requires the decision maker to identify the minimum value he is willing to accept for each of the attributes, rejecting alternatives which fail the test, and accepting the first alternative which meets all the minimal values tests. (For example, a building with a debt cover ratio no less than 1.2, a cash on cash yield of 9%, leasable area no less than 60,000 square feet in an office building no more than five years old with one parking stall per 300 square feet of G.L.A.) (See Exhibit 4.)

H. Summary of systems in Exhibit 5.

Success may be measured by any of the above systems with lists of attributes selected by the analyst as relevant tests of alternative courses of action, such as:

1. A check list of physical attributes
2. A check list of critical linkage attributes
3. A check list of dynamic behavioral attributes
4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash breakeven, rate of capital recapture, loan ratios or sensitivity to specified contingencies
6. Probability distributions of alternative outcomes and standard error
7. Psychological gratifications
8. Specified legal attributes
9. Measures of impact on environment

I. Data base management on personal computers will require that you learn to use decision rules dealing with certainty, conflict, and difference by understanding the advantages and disadvantages of each rule.

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EXHIBIT 4

Worksheet Containing MUSTS and WANTS,

With Appropriate Weights Added, For a House-Purchase

MUST OBJECTIVES: Resource Limits and Requirments

Down payment not to exceed $10,000
Monthly payment (principal, interest, taxes, and insurance) not to exceed $300
Minimum of four bedrooms
Minimum of two bathrooms
Location outside of downtown area, within 45-minutes driving time to office parking lot
Occupancy within 60 days

WANT OBJECTIVES: Best use of resources, maximum results and returns, minimum disadvantage

	Weight
Minimum down payment	6
Lowest monthly payment	10
Location conveniently close to work	7
Able to use present furnishings, drapes	5
Shelter for two cars	4
Public transportation nearby	4
Location convenient to elementary and high schools	8
Location convenient to shopping center, stores	7
Workshop and storage space available	2
Stable resale value	7
Attractive; modern style and appearance	5
Good landscaping; trees, shrubs	4
Large play area for kids	5
Large, modern kitchen with a view	2
Large, comfortable family room	3
Location on quiet street, in good neighborhood	4
Minimum maintenance cost to house	7
Minimum risk - tax increase or special assessments	4

Source: Page 198, The Rational Manager by Charles H. Kepner and Benjamin B. Tregoe.

EXHIBIT 5

Decision Making Methods

Method	Type	Use this method	Cost of computation required	Number of alternatives examined
Dominance	Optimizing	for preliminary screening of alternatives	low	all
Lexicography	Optimizing	when attributes are very different in weight	very low	all
Additive Weighting	Optimizing	when it is important to find the best alternative	high	all
Effectiveness Index	Optimizing	when it is very important to get best alternative	very high	all
Satisficing	Non-optimizing	when the cost of examining the whole set of alternatives is very high	very low	some

REAL ESTATE FEASIBILITY

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THIRD HOUR

I. Problem Perceived by the Client

The original problem as perceived by the client is generally ill-defined or misdirected as the problem becomes understood by the analyst.

A. There are several reasons for the shift in perception by both parties, such as:

1. Implicit assumptions by the client as to the services offered by a real estate appraiser
2. Implicit assumptions and poor sequencing in the decision process
3. The bias of viewpoint, because everyone is an expert on real estate
4. A bias introduced by training, previous experience, or peer group controlling the client

B. The consultant must begin by attempting to discover the sequence or protocol of decisions which have brought the client to that point to discover what has been taken for granted, what has been overlooked, and what will be needed.

C. Education can't provide the tools for this critical initial step in the relationship between counselor and client. Ackoff pointed out that educators generally produce only competence, communicativeness, and concern while the characteristics that makes for outstanding managers are courage and creativity. Hayes goes on to define creativity as "A special kind of problem solving, that is the act of solving an ill-defined problem. Ill-defined problems are those which require problem solvers to contribute to the definition of the problem from their own resources."

D. The consultant must structure the initial interview and subsequent intermediate report sessions to ask the client explicitly about the following:

1. His concept as to the "essence" of his business
2. His preferred method of meeting entrepreneurial risk
3. His preferred method of dealing with governmental regulation and news media
4. His preferred method of personnel compensation
5. His style of value decision trade-offs between qualitative and quantitative issues
6. His perception of his risk position and his risk utility "curve"
7. His personal non-business objective
8. His reasons for being involved with real estate (a simple question revealing, in most cases, tremendous naivete and lack of in-depth preparation by the client)

E. In the process of developing the assignment with the client, keep in mind the following questions:

1. What is the Problem at hand?
2. From what Viewpoint or Perspective should the problem be analyzed?
3. What Judgments seem to be appropriate?
4. What Assumptions should be adopted?
5. Is the resulting Premise realistic?
6. What Derivation Process should be applied?
7. What Conclusion results?
8. What Alternative choices are available?

F. Since the problem perceived by the client may be poorly defined, the analyst needs to convert the stated problem into a sequence of issues which relate to the enterprise decision process outlined earlier. (See Exhibit 1.)

1. That stated question, "How much should I pay for the land?" is a step in implementation of the program. Go back to the statement of objectives, "Why do I need to invest in land?" and the search for opportunities, "How did we choose this piece of land?"

2. In general, you must discover what has been done, what explicit assumptions have been made, what implicit assumptions seem to be operating, and who made the decisions thus far. (See Exhibit 2.)

EXHIBIT 1

SCOPE OF SERVICES

BASIC BUSINESS	BASIC SERVICES	COMPONENT ACTIVITIES	INFORMATION TRACTS & CRITICAL DETAILS
Real Estate Investment Analysis	Development Coordination	Planning & Programming	Analysis of Economic Context Re: Past Growth Trends Economic Base & Volatility Strengths & Weaknesses Recent Trends & Changes Future Economic Outlook including - Growth Potential - Growth Constraints - Investment Considerations
		Site & Use Analysis	
	Development Feasibility Analysis	Economic Analysis of Region	
		Construction Cost Analysis	Analysis of Specific Property Types Re: Past Directions of Growth Major Growth Factors Future Growth Areas Sub-Area Differentiation Historic Supply/Demand Relationships Future Demand Trends Absorption Capacity Recent Trends & Projected Construction
		Highest & Best Use Analysis	
		Market Analysis	
		Marketability Analysis	
	Appraisal	Location Analysis	Analysis of Specific Property Types Re: Rent Levels & Trends Vacancy Levels & Trends Quality Differences Locational Differences Lease Terms & Differences
		Rent & Vacancy Survey	
		Market Price Analysis	
	Income Property Analysis (potential or previous acquisitions & problem properties)	Value-Price Determination	Analysis of a Specific Property Re: Revenue Assumptions (1st year & Growth) Expense Assumptions (1st year & Growth) Reserves and Capital Replacement Req'ts Financing Assumptions Depreciation Assumptions Resale Assumptions Return Comparisons
		Financial Return Analysis	
		Transaction Structuring	
	Acquisition, Sale, Trade, Refinancing Assistance	Hold/Sell/Refinance/Evaluation	Formulation of Investment Criteria Re: Economic expectations (nat'l & local) Realistic Return Levels for alternate markets and property types Risk/return tradeoffs Diversification (geographic & prop. type) Management Strategies Alternate investment vehicles
		Investment Strategy Formulation	
		Acquisition Negotiation	
		Sale & Debt Packaging	
	Property Management & Analysis	Property Search & Evaluation	Formulation of Search Methodology Re: Comparison/Selection of Markets Identification/Solicitation of available properties Contact with Owners and/or Brokers Determination of Market Preference Points (Cap rates, cash-on cash returns, expense ratios, and market trends) Approximation of Value to Buyer Determination of Upside Potential
		Buyer Identification	
	Management Assistance	Management Analysis & Planning	

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EXHIBIT 2

FEASIBILITY ASSIGNMENT AND ACCOUNTABILITY WORKSHEET
XYZ APPRAISAL COMPANY
XXX STREET ANYWHERE, U.S.A.

Name of Client: _____ Date: _____

Assignment Description: _____

FEASIBILITY INPUT	PROVIDED BY	APPROVED BY	SEQUENCE AND DATE AVAILABLE
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
(Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group, 210 Michigan Theater Building, Ann Arbor, Michigan 48108.

3. A useful technique is always to reverse the question or place it in some hierarchy of values.

   a. For industrial real estate assume that working capital is preferrable to fixed assets. Therefore,
   b. Own no real estate - shift real estate problems by purchasing procedures.
   c. If you can't shift space needs, lease short term
   d. If you want the option of long term leases, negotiate a long term lease for rental discount and then give back part of the discount if you cancel under a change of conditions clause.
   e. Own or build only as last resort

4. One creative think system recommends conversion of new problem by analogy to old format; retail location is useful for any multi-tenant space just as commodity terms made describe a mortgage. Familiar problems may need a purge of conventional answers by conversion to strange analogies.

G. Another way of understanding the problem is to relate it to scope of services you can offer, as in Exhibit 1, or the ideal way to approach a solution for the client. For example:

1. It is preferred to identify locational need and use requirements of a user before searching for a specific site. (See Exhibit 3.)

2. If the site is already owned by a specific client, it is then necessary to adapt the use to the specific limitations of the site. (See Exhibit 4.)

3. In the absence of a site in search of a use or a use in search of a site, the problem is to search for an investment opportunity in real estate. (See Exhibit 5.)

4. Limitations of a site owned may require the consultant to solve both a disposition and an acquisition problem.

H. Definition of a report medium and viewpoint of an intended audience is critical in the early stages of defining the assignment.

I. In distinguishing between judgment and assumptions, the analyst may need to be an expert on experts, helping to select members of a team of specialists under the control of a generalist.

EXHIBIT 3

Analysis Process: In Search of a Use(s) For a Site

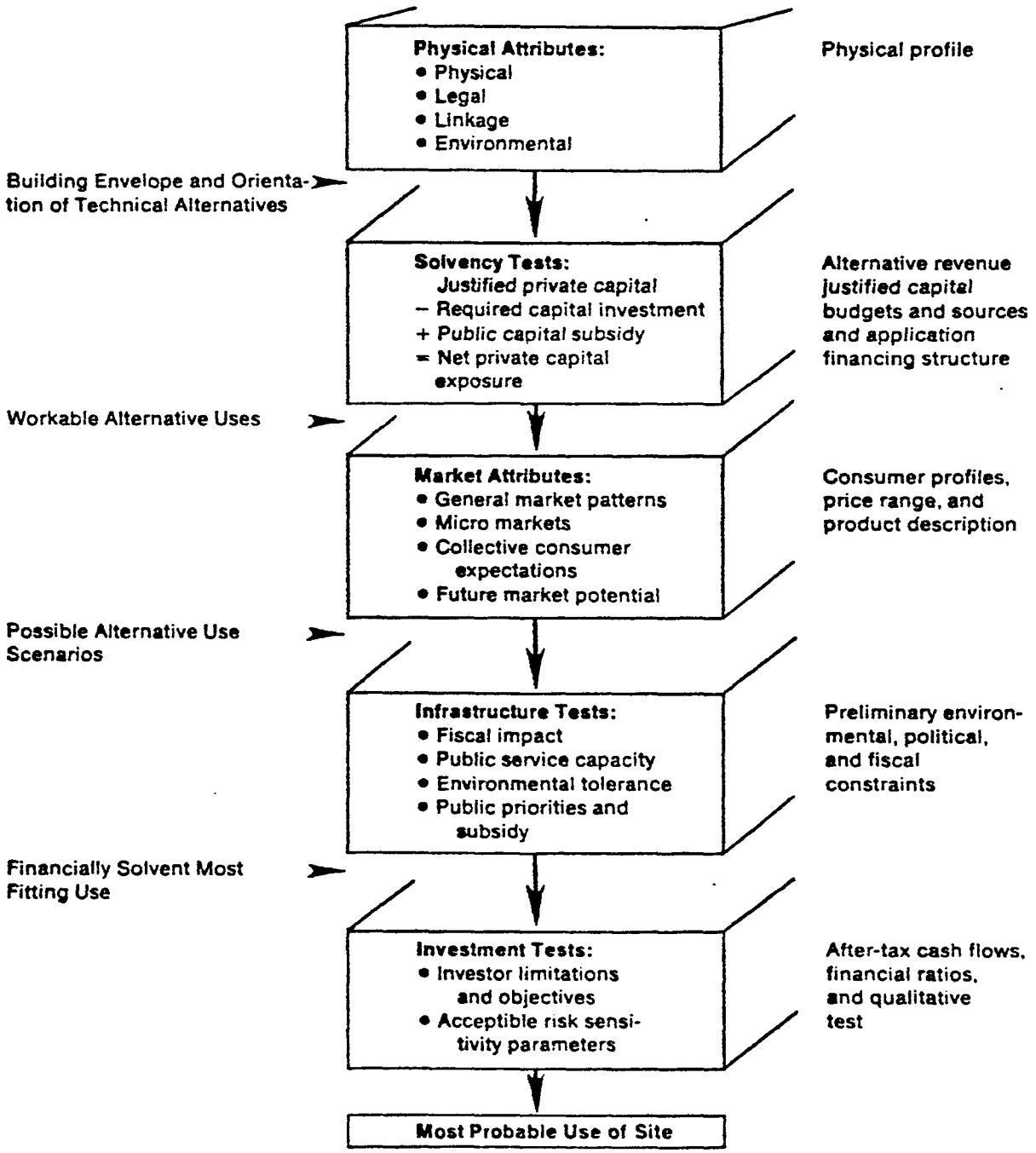


EXHIBIT 4

Analysis Process: The Search For a Site For a Use(s)

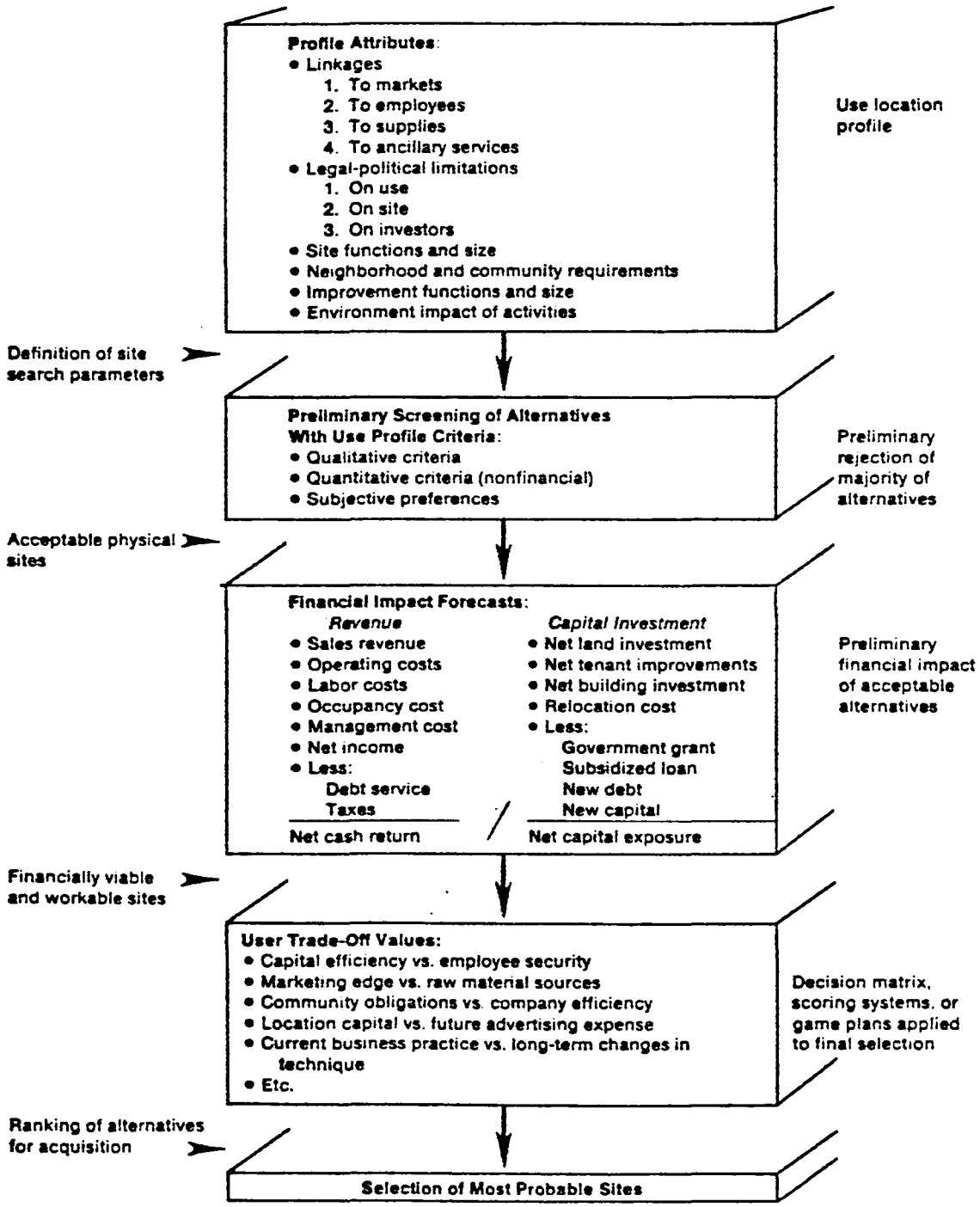
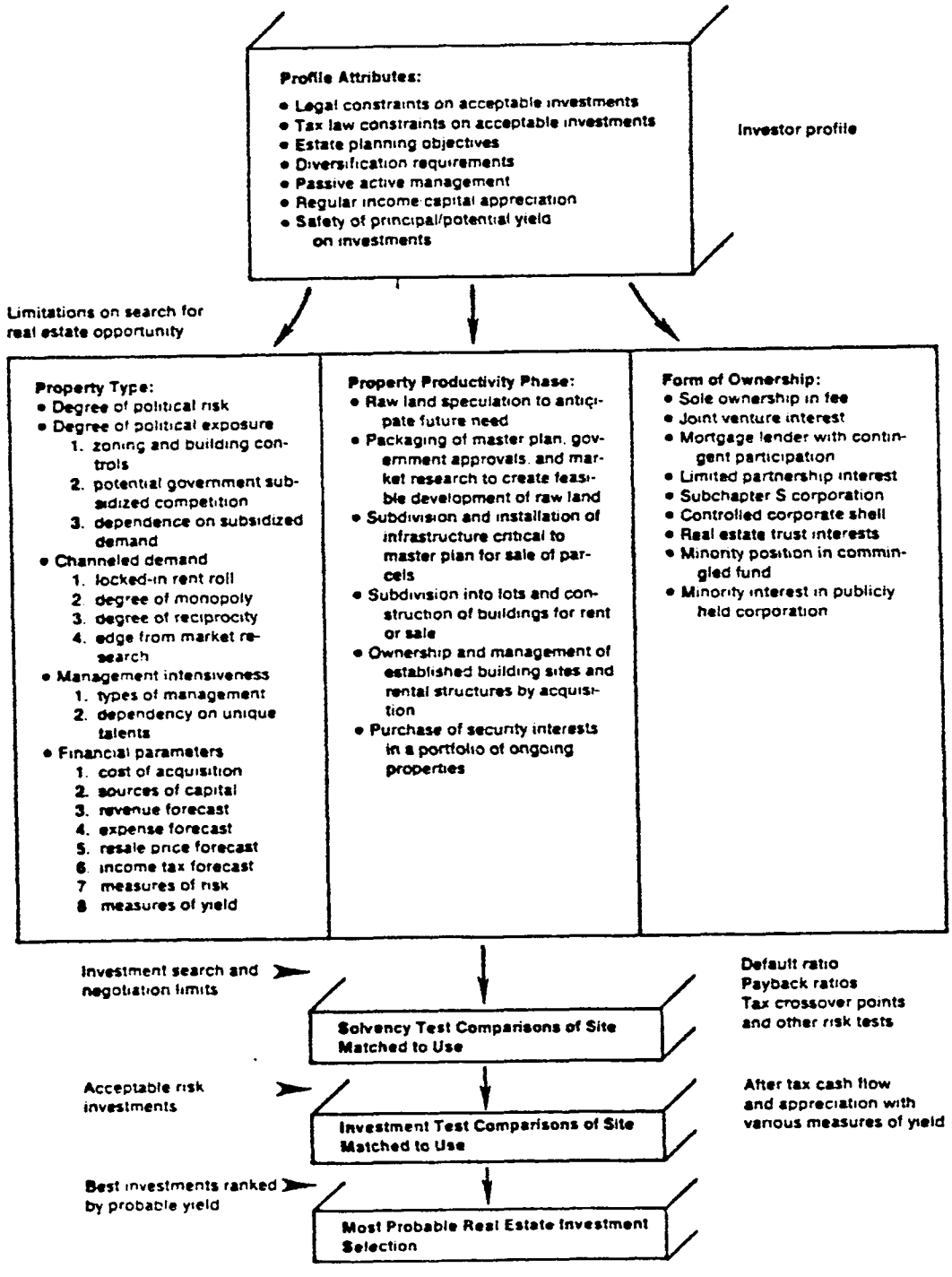


EXHIBIT 5

Process for Investor Selection of Real Estate



REAL ESTATE FEASIBILITY

Presented By

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin School of Business

FOURTH HOUR

ANALYSIS OF LAND AND IMPROVEMENTS

I. BASIC CONCEPTS

Site analysis begins with a specific site and structures or stems from the market revenue approach as a set of site specifications which will control the search for alternatives. Today there is no such thing as raw land or a vacant lot. A site suitability study recognizes every site as having:

A. Static attributes--physical characteristics of size, shape, topography, soils, etc.

B. Legal attributes--public controls, private agreements, and potential legislation defining use.

C. Linkage attributes--relationships to other sites which may tend to generate movements of goods and people to the subject site.

D. Dynamic attributes--characteristics which affect behavior such as visability, prestige, or feeling of fear or anxiety.

E. Environmental impact attributes on physical, social, or economic factors both on and off the site.

II. PHYSICAL ATTRIBUTES

Static site attributes which begin to narrow the potential market alternative uses should include both the facts and their implications for productive use in such topic areas as:

A. Size, shape, and lot area

B. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

C. Water table, wells, streams, ponds, storm water swales, shoreland edges, bulkhead lines, flood plain designations, etc.

D. Flora and fauna which enhance marketability or which might cause environmental impact litigation.

E. Concealed utility easements, old foundations, etc.

F. Existing on-site utility services and capacity.

G. Access points to public thoroughfares or private right-of-ways.

H. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

I. Landmark attributes or historical site features

J. Define physical system sub-systems

1. Foundation system
2. Structural system
3. Floor system
4. Ceiling system
5. Roof system
6. Exterior wall system
7. Interior wall system
8. Horizontal circulation system
9. Vertical circulation system
10. Life-safety system
11. HVAC system
12. Site circulation system
13. Social control system

III. LEGAL ATTRIBUTES

Legal attributes should move from specific limitations on the site imposed by rights of others to private covenants, private controls, etc. It is important to recognize not only the black letter law but the composition of those authorities who have discretionary responsibility for interpretation, enforcement, or amendment of these controls relative to future uses of the site.

A. Legal interests, vested or continued of other persons in the site.

B. Legal description, its accuracy, and implied transfers.

C. All local ordinances defining alternative setback lines and height limitations in order to identify alternative building envelopes permissable on the site.

D. Private covenants limiting use, reuse, or modification of the property (urban renewal covenants, landmark building facade bequests, etc.)

E. Applicable zoning and building code limitations on use and the critical constraints of each relative to floor area ratio (FAR) bulk, parking requirements, dwelling units (DU), etc.

F. Special zoning options which may be available at owner's option such as rezoning, down-zoning, PUD zoning, etc.

G. Special controls imposed by other communities through extra-territorial zoning, tax conservancy commitments, urban renewal districts, tax increment districts, county regulation of subdivision, and overlapping jurisdiction.

H. Special state constraints on uses affecting shorelands, state highways, state airports, etc., including state industrial building codes.

I. Special federal constraints such as airport approach zone districts, harbor and river commissions, office of environmental protection, Department of Housing and Development (HUD), provisions for the handicapped (HEW), and many more.

J. Since the building process takes time, impending legislation is important, and regulations require interpretation or public hearings so that public attitudes and expectations may modify black letter law.

K. A hidden source of regulation are the rules which control the lending institutions which lend the money. For example, they cannot lend on any properties located in a designated flood plain except under certain conditions which include community participation in flood prevention programs.

L. Attitudes of sewer, water, and highway commissions.

M. Planner's views of physical barriers to restrict "sprawl".

N. Following the legal attribute inventory, an analysis of the static and legal attributes should be summarized in terms of competitive advantages and disadvantages for costs, pricing, and marketing.

1. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

2. Some static or legal attributes can provide monopoly advantages because its suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Static attributes will also help identify "best use" or the most probable buyer.

4. Lack of fit between static site attributes and merchandising data is a basic cause of unsuccessful projects.

IV. LINKAGES

Linkage attributes have to do with functional network relationships or points of interaction with activity centers which may generate users or provide the infrastructure which support the site.

A. Streets, sidewalks, rail, and transit systems serving the site.

B. Access points.

C. Utility services are linkages, too.

D. Capacity of existing systems to absorb unit volume generated on site and implications for off-site improvements budgets.

E. Relationship of subject site to generators of potential needs and uses for the subject site.

F. Neighborhood demographics (population, age, employment, income, etc.)

G. Relationship to competitive alternatives and projects and exposure to interception of linkages.

V. DYNAMIC ATTRIBUTES

Dynamic attributes have to do with the mental or emotional responses which a site or project stimulates as it affects decision-making behavior. These decision makers may be property buyer, regulators of site use, customers of establishments located on the site, or peer groups which set community attributes or make decisions for others by proxy (Board of Elderly Care Organization).

A. Image conditioning of the approach zone.

B. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

C. Anxiety factors of access and security.

D. Noise as a function of traffic count or of nearby land uses.

E. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

F. Political images established for a site by the public positions of local politicians or vested interest groups.

G. Historical community reputation and values attached to the project site and structures.

1. Recycling of old buildings within existing urban areas is fashionable among architects and the upper class.

2. Recycling may establish historical roots and images.

H. Perceived supply and demand factors.

VI. OFF-SITE ENVIRONMENTAL IMPACTS

The real estate product today must respond not only to the needs of the individual consumer in the market place but to the collective community of consumers which represent the community political environment. The landscape builds like a reef, the cumulative bones of thousands of individual decisions. This decade will witness a final transition from relative laissez faire attitudes of land as a commodity to highly democratic regulation of land as a public resource and land use as a privilege granted by the public. If the proposal won't sell at City Hall, there will be no opportunity to market the product to individuals. Therefore, the project must consider in its feasibility procedures and in constraints imposed by pre-architectural programs the impact on the environment of:

A. Physical factors of the environment.

1. Soil stability and water tables beyond the site boundaries.

2. Eutrophication of lakes and streams.

3. Disruption of environmental edges, plant, and wildlife areas.

4. Impact on energy resources.

5. Contribution to social disintegration.

6. Aesthetic and urban design.

B. Social factors of the environment.

1. Displacement of existing residents and neighborhood units.

2. Contribution to social integration or mobility barriers.

3. Contribution to land use heterogeneity.

4. Contribution to regional and community master plans.

C. Economic factors of the environment.

1. Direct impact on real estate tax revenues.

2. Direct impact on other governmental revenue.

3. Direct impact on incremental government.

4. Secondary contributions to local government revenues.

5. Secondary cost burdens created for local communities.

D. Real estate business ethic environment.

1. Impact on supply equilibrium.

2. Impact on associated contractors.

3. Impact on families of project sponsor.

4. Ligitimacy of financing structure.

E. Silhouette of proposed project in terms of public perception of impact.

F. Relationship of impact assessment to:

1. Scale of project.

2. Vulnerability of project sponsor to secondary consequences of political discretion.

3. Stamina of project sponsor in the face of public pressure.

VII. MOST PROBABLE USE MATRIX

Definition of the site attributes permits the appraiser or the planner to hypothesize some alternative uses for the site. (Exhibit 1.) The appraiser should be able to set up a series of back door, revenue to justified budget parameters for these uses to suggest the parameters within which cash flows might crunch.

This technique is not unlike the residual approach, it has the same potential for misleading, but when combined with a sensitivity approach, does identify the conditions critical for financial solvency.

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by alderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered nonconforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio--housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation--smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331 -	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 1

REAL ESTATE FEASIBILITY

Presented By

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin School of Business

FIFTH HOUR

I. FINANCIAL PARAMETERS AND ANALYSIS

The forecasting of future money returns to a present investment is the ultimate business problem and the dynamics of these problems explains the actions of consumer, producer, and the society.

A. An investment in a bond can be defined as to when it begins in time, when it is sold, when coupons are collectible, and total costs and total receipts under alternative outcomes. Thus, yield is easily computed and risk depends on whether you can rely on the promisor.

B. Real estate financial forecasting seldom enjoys such a rigid set of financial specifications and therefore seldom enjoys conservative conditions of certainty. An investment in real estate really means somebody "bought" a set of assumptions.

   1. Risk is the potential variance between assumptions and realizations between proforma prospects and the historical balance sheet and P & L statements.

   2. Degree of professionalism is measured, ultimately, by the care with which assumptions are made and supported by careful research.

C. Basic cash flow analysis depends on four essential set of assumptions:

   1. Schedule of cash outlays (capital costs and expenses.)

   2. Schedule of cash receipts (periodic and reversions).

   3. Net cash flows for each period (negative and positive).

   4. Devices for comparison of alternatives

5. However, it quickly becomes apparent when accounting for the dollars "in and out" that not all dollars are the same. Some are current expenses while others represent acquisition of assets and many are shared with local and federal government through various tax processes.

D. A single period proforma is the first test of financial parameters.

1. A given purchase price can be converted to a necessary rent level in the market (Front Door Approach, see Exhibit 1).

2. A given market rent level can be converted to a justified capital budget (Back Door Approach, see Exhibit 2).

3. While lenders prefer debt cover ratios for back door approach, equity investors should prefer risk orienated Default Ratio Approach (Exhibit 3).

E. Basic elements of proforma can then be expanded over time to include the following assumptions:

1. Definition of desired profit centers

2. Definition of time line over which events will still take place

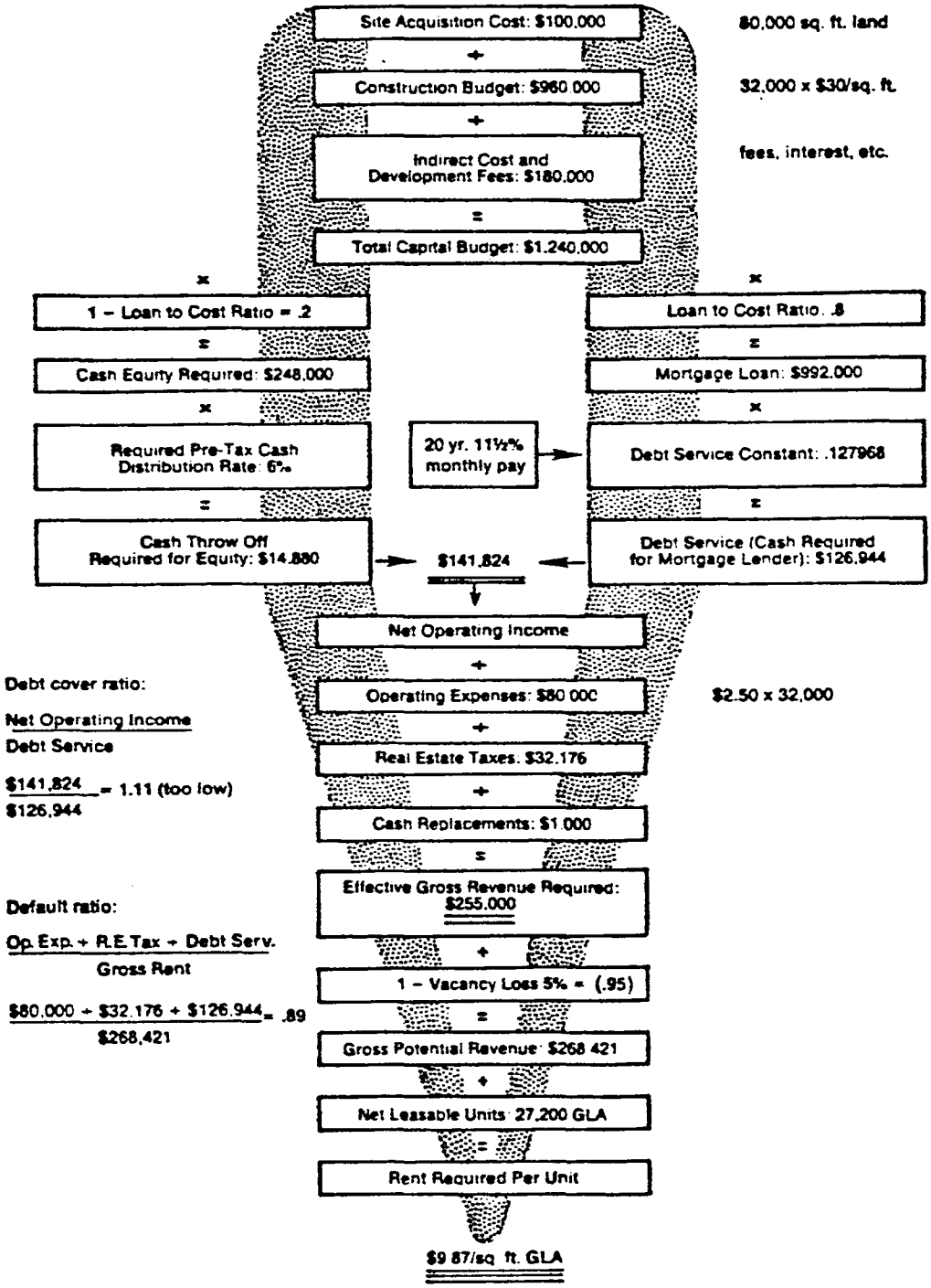
3. Assumptions on the capital budget and sequence of source and application of funds.

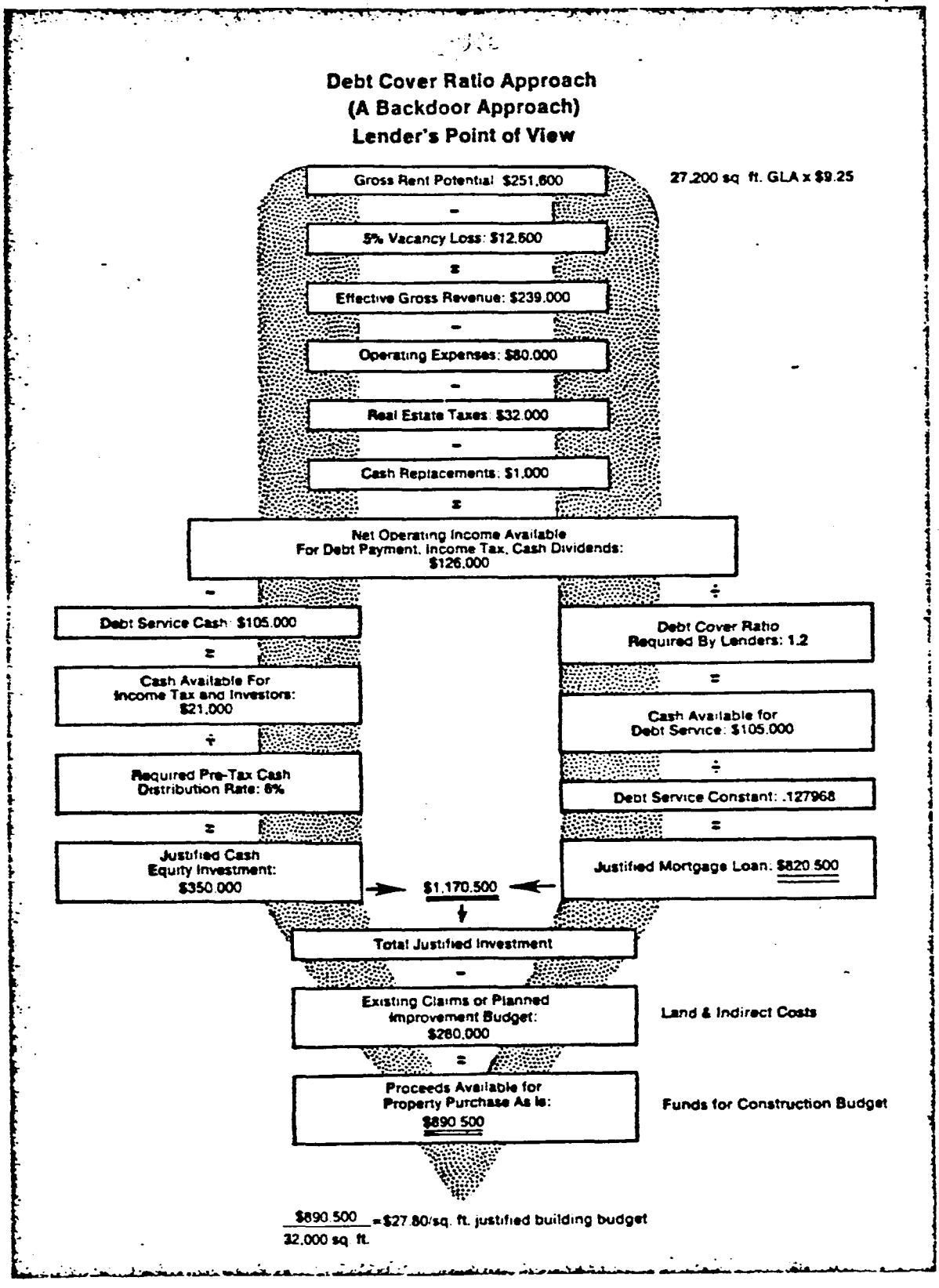
   a. Direct construction or purchase cost
   b. Indirect and capitalized carrying cost

4. Financial plan

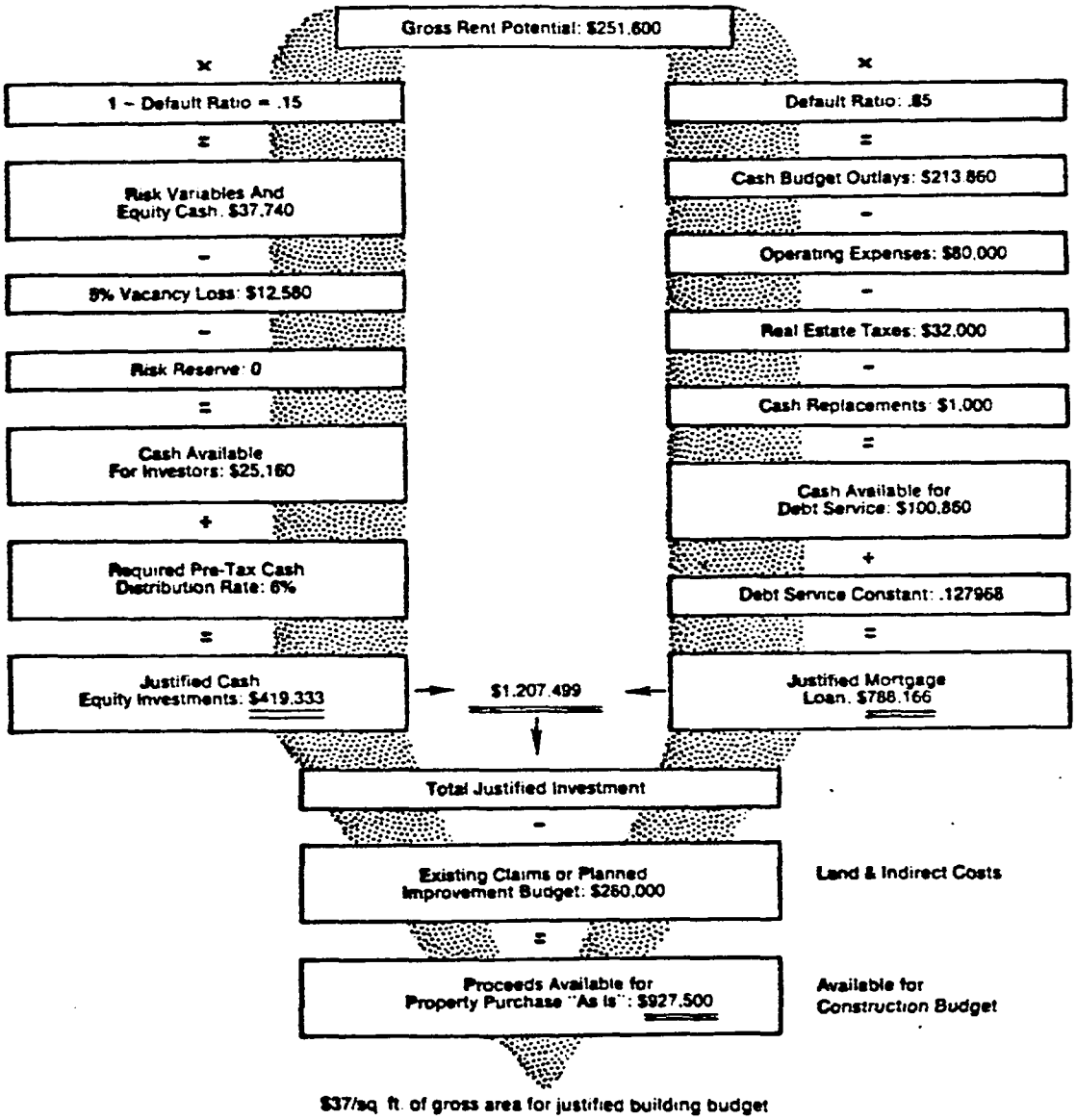
   a. Credit amounts and terms
   b. Equity amounts and terms
   c. Holding power

Loan to Cost Ratio Approach
(Frontdoor Approach)




Debt Cover Ratio Approach
(A Backdoor Approach)
Lender's Point of View
Gross Rent Potential $251,600
27,200 sq ft. GLA x $9.25
5% Vacancy Loss: $12,600
Effective Gross Revenue: $239,000
Operating Expenses: $80,000
Real Estate Taxes: $32,000
Cash Replacements: $1,000
Net Operating Income Available For Debt Payment, Income Tax, Cash Dividends: $126,000
Debt Service Cash: $105,000
Cash Available For Income Tax and Investors: $21,000
Required Pre-Tax Cash Distribution Rate: 6%
Justified Cash Equity Investment: $350,000
Debt Cover Ratio Required By Lenders: 1.2
Cash Available for Debt Service: $105,000
Debt Service Constant: .127968
Justified Mortgage Loan: $820,500
$1,170,500
Total Justified Investment
Existing Claims or Planned Improvement Budget: $280,000
Land & Indirect Costs
Proceeds Available for Property Purchase As Is: $890,500
Funds for Construction Budget
$890,500 / 32,000 sq. ft. = $27.80/sq. ft. justified building budget

Default Ratio Approach
(Another Backdoor Approach)
Developer's Point of View



5. Profits classified as to type and tax

   a. Cash from operations
   b. Cash from capital gains
   c. Cash surplus from financing
   d. Cash from tax savings on other income

6. Selected measures of profitability

   a. Definition of investment
   b. Definition of profit
   c. Selected ratios of profit to investment

7. Selected measures of risk

   a. Payback periods
   b. Capacity for variance
   c. Variance controls

F. For a rental investment property, the general format for determining after-tax cash flows for each period or year would generally be as follows:

PART I. ANNUAL (PERIODIC) RETURNS TO INVESTORS

1. Estimate potential gross cash income; Cash income from space sales

2. Deductions from potential gross

   a. Normal vacancy
   b. Seasonal income loss
   c. Collection losses
   d. Franchise fees, deposits returned, etc.

3. Add "other" income from service sales

4. Derive <u>effective gross income</u>

5. Deduct <u>operating expenses</u> (on expected cash outlay without accrual reserves)

   a. Fixed expenses
   b. Variable expenses
   c. Repairs and maintenance
   d. Replacements

6. Derive net_operating_income (NOI)

7. Deduct annual_debt_service

   a. Contract interest
   b. Supplementary variable interest
   c. Principal amortization

8. Derive cash_throw-off

9. Add back principal_payments_and_replacements

10. Deduct tax_depreciation_allowance

11. Derive taxable_income

12. Determine marginal_income_tax on real estate income

13. Deduct income tax from cash throw-off (H)

14. Derive after-tax_cash_flow

15. Add tax_savings_on_other_income (if K is negative)

16. Add surplus_from_refinancing

17. Derive spendable_after-tax_cash

PART II. RESALE (REVERSION) RETURNS TO INVESTOR

1. Estimated_resale_price (end of period)

2. Deduct broker's commission and other transaction_costs

3. Derive effective_gross_proceeds from sale

4. Deduct all credit claims outstanding (end of period)

   a. Short and long term note balances due
   b. Prepayment penalties
   c. Deduct equity shares to non-owner interest

5. Derive pre-tax reversion to equity

6. Deduct tax claims on ownership interest

   a. Deduct capital gains tax
   b. Deduct income tax on disallowed accelerated depreciation
   c. Deduct surtax on taxable preferential income

7. Derive after-tax resale proceeds to investor

(See Exhibit 4)

G. Financial risk is the variance between proforma budgets and historical accounting of results. Since loss of assets or of income expectations from static perils can be minimized by means of insurance devices for prediction and leveling of shock losses, financial risk management then becomes a matter of shaping incentives to reduce dynamic risks and provide a cushion or tolerance for surprise in the financial parameters of the enterprise.

H. The first level of risk analysis are gross statements of the maximum potential loss and the cushion for partial losses.

   1. The loan to value ratio is an inexact measure of the maximum potential loss to the lender to a presumed salvage value of an asset. One minus the LTV plus the amount of personal guarantee is the measure of the borrower's maximum potential loss.

   2. Financial judgment expects that the maximum potential loss would be only a fraction of net worth of either party.

EXHIBIT 4

P R O F O R M A

INVESTMENT ANALYSIS OF

FOR

DEMO.PROBLEM

R E P O R T S E C T I O N N U M B E R 1 PAGE 1

* GROSS RENT	$ 74368.	* RATE OF GROWTH OF GROSS RENT	0.0000
* EXPENSES	$ 4738.	* RATE OF GROWTH OF EXPENSES	0.0000
* R E TAXES	$ 5868.	* RATE OF GROWTH OF R E TAXES	0.0000
* INCOME TAX RATE	0.5000	PROJECT VALUE GROWTH OF	5.0000
* VACANCY RATE	0.0688	WORKING CAPITAL LOAN RATE	0.1200
EQUITY DISCOUNT	0.0970	EXTRAORDINARY EXPENSES	$ 0.
RESALE COST	0.0650	REINVESTMENT RATE	0.0700
WKG CAPITAL RS	$ 0.	CAPITAL RESER INTEREST RATE	0.0000
INITIAL COST	$ 429674.	INITIAL EQUITY REQUIRED	$ 107419.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

R E P O R T S E C T I O N N U M B E R 2 PAGE 1

C O M P O N E N T S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 87304.	0
IMPROVEMENTS	0.90	1	33.	4	$ 342370.	0

M O R T G A G E S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 322254	0.750

EXHIBIT 4 (Continued)

P R O F O R M A

INVESTMENT ANALYSIS OF

FOR

DEMO.PROBLEM

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1979	1980	1981	1982
1	GROSS RENT	74368.	74368.	74368.	74368.
2	LESS VACANCY	5114.	5114.	5114.	5114.
3	LESS REAL ESTATE TAXES	5868.	5868.	5868.	5868.
4	LESS EXPENSES	4738.	4738.	4738.	4738.
5	NET INCOME	58648.	58648.	58648.	58648.
6	LESS DEPRECIATION	15562.	14855.	14180.	13535.
7	LESS INTEREST	30903.	30638.	30346.	30025.
8	TAXABLE INCOME	12183.	13155.	14122.	15088.
9	PLUS DEPRECIATION	15562.	14855.	14180.	13535.
10	LESS PRINCIPAL PAYMENTS	2634.	2899.	3191.	3512.
11	CASH THROW-OFF	25111.	25111.	25111.	25111.
12	LESS TAXES	6091.	6578.	7061.	7544.
13	LESS RESERVES AT 730.000	730.	730.	730.	730.
14	CASH FROM OPERATIONS	18290.	17803.	17320.	16837.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	18290.	17803.	17320.	16837.
17	TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18	SPENDABLE CASH AFTER TAXES	18290.	17803.	17320.	16837.

EXHIBIT 4 (Continued)

REPORT SECTION NUMBER 4 PAGE 1

CASH FLOW ANALYSIS

		1979	1980	1981	1982
	MARKET VALUE				
19	BY METHOD - 5 - AT 0.0000	429674.	429674.	429674.	429674.
20	LESS RESALE COST	27929.	27929.	27929.	27929.
21	LESS LOAN BALANCES	319621.	316722.	313531.	310019.
22	PLUS CUM. CASH RESERVES	730.	1460.	2190.	2920.
23	B/4 TAX NET WORTH	82854.	86483.	90404.	94646.
24	CAPITAL GAIN (IF SOLD)	-18591.	-9254.	83.	9421.
25	CAPITAL GAINS TAX	-3718.	-1851.	17.	1884.
26	TAX PREFERENCE TAX	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP	3112.	5871.	8292.	10391.
28	TOTAL TAX ON SALE	1253.	4946.	8309.	12275.
29	AFTER TAX NET WORTH	81601.	81537.	82095.	82370.

REPORT SECTION NUMBER 5 PAGE 1

YEAR OF ANALYSIS

		1979	1980	1981	1982
	BEFORE TAX RATIO ANALYSIS				
30	RETURN ON NET WORTH B/4 TAX	0.0051	0.3469	0.3357	0.3247
31	CHANGE IN NET WORTH B/4 TAX	-24565.	3629.	3921.	4242.
32	CASH RTN ON ORIG CASH EQUIY	0.2338	0.2338	0.2338	0.2338
33	PERCENT ORIG EQUITY PAYBACK	0.1703	0.3360	0.4972	0.6540
34	PRESENT VALUE OF PROJECT	420678.	437887.	453529.	467748.

EXHIBIT 4(Continued)

REPORT SECTION NUMBER 6 PAGE 1

YEAR OF ANALYSIS		1979	1980	1981	1982
AFTER TAX RATIO ANALYSIS					
35	RETURN ON NEW WORTH AFT TAX	-0.0701	0.2174	0.2193	0.2084
36	CHANGE IN NET WORTH AFT TAX	-25818.	-63.	558.	276.
37	CASH RTN ON ORIG CASH EQUIY	0.1703	0.1657	0.1612	0.1567
38	PERCENT ORIG EQUITY PAYBACK	0.1703	0.3360	0.4972	0.6540
39	PRESENT VALUE OF PROJECT	413317.	421485.	429041.	435362.
40	NET INCOME-MARKET VALUE RTO	0.1365	0.1365	0.1365	0.1365
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.5936	0.5936	0.5936	0.5936

REPORT SECTION NUMBER 7 PAGE 1

YEAR OF ANALYSIS		1979	1980	1981	1982
MODIFIED INTERNAL RATE OF RETURN ANALYSIS					
RETURN ANALYSIS WITHOUT SALE					
41	CUM. AFT TAX SPENDABLE CASH	18290.	37373.	57309.	78158.
44	MOD. I.R.R. ON ORIG EQUITY	-0.8297	-0.4102	-0.1889	-0.0764
45	MOD. I.R.R. ON CUM. EQUITY	-0.8297	-0.4102	-0.1889	-0.0764
RETURN ANALYSIS WITH SALE					
46	CUM. CASH LESS ORIG EQUITY	-7528.	11492.	31985.	53110.
47	CUM. CASH LESS CUM. EQUITY	-7528.	11492.	31985.	53110.
48	MOD I.R.R. ON ORIG EQUITY	-0.0701	0.0521	0.0908	0.1057
49	MOD I.R.R. ON CUM. EQUITY	-0.0701	0.0521	0.0908	0.1057

EXHIBIT 4 (Continued)

REPORT SECTION

SENSITIVITY ANALYSIS

ANALYSIS YEAR IS 2 = 1980

DEFAULT RATE - NEEDED -		0.8300	0.8300	0.8300	0.8300
DEFAULT RATE - ACTUAL -		0.7979	0.7979	0.7979	0.7979
DIFFER -		0.0321	0.0321	0.0321	0.0321

TO CHANGE THE DEFAULT RATE .01
CHANGE ANY ONE OF THE FOLLOWING

CASH OUTLAYS		1979	1980	1981	1982
REAL ESTATE TAXES	BY	0.0917	0.0917	0.0917	0.0917
TOTAL EXPENSES	BY	0.1135	0.1135	0.1135	0.1135
FIXED EXPENSES	BY	0.1135	0.1135	0.1135	0.1135
VARIABLE EXPENSES	BY	0.0000	0.0000	0.0000	0.0000
TOTAL INTEREST PMTS.	BY	0.0181	0.0182	0.0184	0.0186
TOTAL PRINCIPAL PMTS.	BY	0.2119	0.1926	0.1750	0.1590
WORKING CAPITAL LOAN	BY	0.0000	0.0000	0.0000	0.0000
GROSS INCOME	BY	-0.0080	-0.0080	-0.0080	-0.0080
FIXED INCOME	BY	-0.0080	-0.0080	-0.0080	-0.0080
VARIABLE INCOME	BY	0.0000	0.0000	0.0000	0.0000

COMPONENTS		1979	1980	1981	1982
INITIAL INVESTMENT	BY	0.0917	0.0917	0.0917	0.0917
LAND	BY	0.4452	0.4452	0.4452	0.4452
IMPROVEMENTS	BY	0.1033	0.1033	0.1033	0.1033
ENTREPRENEURIAL SKIL	BY	-0.9866	-0.9866	-0.9866	-0.9866

MORTGAGES		1979	1980	1981	1982
FIRST MORTGAGE	BY	0.0166	0.0166	0.0166	0.0166

EXHIBIT 4 (Continued)

REPORT SECTION

SENSITIVITY ANALYSIS

ANALYSIS YEAR IS 2 = 1980

TO CHANGE CASH RETURN BEFORE TAXES BY 1000.
CHANGE ANY ONE OF THE FOLLOWING

CASH OUTLAYS		1979	1980	1981	1982
REAL ESTATE TAXES	BY	0.0415	0.0415	0.0415	0.0415
TOTAL EXPENSES	BY	0.0514	0.0514	0.0514	0.0514
FIXED EXPENSES	BY	0.0514	0.0514	0.0514	0.0514
VARIABLE EXPENSES	BY	0.0000	0.0000	0.0000	0.0000
TOTAL INTEREST PMTS.	BY	0.0082	0.0082	0.0083	0.0084
TOTAL PRINCIPAL PMTS.	BY	0.0960	0.0872	0.0792	0.0720
WORKING CAPITAL LOAN	BY	0.0000	0.0000	0.0000	0.0000
GROSS INCOME	BY	0.0045	0.0045	0.0045	0.0045
FIXED INCOME	BY	0.0045	0.0045	0.0045	0.0045
VARIABLE INCOME	BY	0.0000	0.0000	0.0000	0.0000

COMPONENTS		1979	1980	1981	1982
INITIAL INVESTMENT	BY	0.0415	0.0415	0.0415	0.0415
LAND	BY	0.2015	0.2015	0.2015	0.2015
IMPROVEMENTS	BY	0.0468	0.0468	0.0468	0.0468
ENTREPRENEURIAL SKIL	BY	-0.4466	-0.4466	-0.4466	-0.4466

MORTGAGES		1979	1980	1981	1982
FIRST MORTGAGE	BY	0.0075	0.0075	0.0075	0.0075

3. Conventional wisdom of the lender is that the pain of loss for the equity position will be sufficient to generate payment in almost all events or that the guarantees will be adequate to reduce minimum loss to zero.

4. Net income ratio:

$$\frac{\text{Net income}}{\text{Purchase price + additional cost - Overall rate or cap rate should reveal danger of reversed leverage}}$$

5. The fallacy of such first level, over-simplified regulatory ratios is that value is the same as cash, that paper capital is as significant as cash available to meet the monthly payment, and that investor incentives are found solely or primarily below the net income level.

I. Second level ratios begin to analyze and measure the relationship of specific assumptions one to another and in a way which provides relative measures of incentive, importance, and contribution to financial insecurity.

1. Construction loan to marginal cash cost of the borrower is such a balance sheet test ratio. The increment in risk of maximum loss for the borrower is the increase in his maximum potential loss as a result of financing the project.

2. Debt cover ratio:

$$\frac{\text{Net operating income}}{\text{Debt service}}$$

3. Default ratio:

$$\frac{\text{Operating expenses + real estate taxes + short term debt + interest + principal payments}}{\text{Gross rent}}$$

4. Payback ratio:

$$\frac{\text{Cumulative spendable cash}}{\text{Original budget - original debt + amount of personal guarantees}}$$

5. Spendable cash = distributable cash from operations + refinancing surplus + tax savings to other income + cash profits for services rendered.

6. All of these second level ratios assume a revenue stream called effective gross rent will simply be reallocated by the natural heirarchy of the income statement. That premise involves the major assumption of any enterprise, i.e., there are an adequate number of customers who prefer and who can afford the enterprise product.

J. Third level risk ratios are those which link the space-time product to the money-time reflections in balance sheets and P & L statements. These ratios require some primary research.

1. Building efficiency ratio:

$$\frac{\text{Gross leasable area}}{\text{Gross buildng area}} \quad \text{or} \quad \frac{\text{Usable area}}{\text{Gross leasable area}}$$

or

$$\frac{\text{Gross leasable area}}{\text{Total site area}} \quad \text{or} \quad \frac{\text{Rentable area}}{\text{Usable area}}$$

or

$$\frac{\text{Building surface area}}{\text{Gross leasable area}}$$

2. Vacancy ratio:

$$\frac{\text{Space unit x \# of units x rental payment periods per year x turnover rate x rental payments lost x rent}}{\text{\# of units x \# of payments x rent per period}} = \text{(gross rent)}$$

1-bedroom apartments x 20 x 50% turnover x 1 month lost x $200/mo.

$$\frac{20 \times 50\% \times 1 \times 200}{20 \times 12 \times 200}$$

$$\frac{2000}{48000} = \frac{1}{24} = 4.2\%$$

3. Absorption rate:

$$\frac{\text{Units sold or leased per period}}{\text{Total supply of units available for sale or lease}}$$

4. Capture rate:

$$\frac{\text{Units in specific project sold or leased per period}}{\text{Total competitive units sold or leased per period}}$$

5. Sensitivity models or tables permit measurement of a change in one variable as compared to all other variables to establish the parameters of tolerance or to identify the most useful areas for further modification of the financial structure.

6. A significant weakness of second level ratios is the fact that they do not deal with time or the opportunity costs of money for comparison of investments with alternative patterns of cash outlays and receipts.

K. Third level ratios modify comparisons for the influence of time, between one period and another or for cumulative periods of time. Prospective rates of return compare one time period with another while retrospective rates are concerned

with cumulative results. Probability models display the frequency distribution over time of alternative outcomes when certain variables are permitted to vary according to some pattern and parameter.

Prospective rates

1. Return on net worth before tax:

$$\frac{\text{Cash throw-off} + \text{change in net worth}}{\text{Net worth at end of previous period}}$$

2. Return on net worth after tax:

$$\frac{\text{Spendable cash} + (\text{change in net worth} - \text{change in taxes on sale or transfer})}{\text{Net worth at end of previous period} - \text{taxes on sale or transfer}}$$

3. Cash on cash before taxes:

$$\frac{\text{Cash throw-off}}{\text{Total cash budget less original debt}}$$

4. Cash on cash after tax:

$$\frac{\text{Distributable cash} + \text{tax savings to other income}}{\text{Total cash budget less original debt}}$$

Retrospective rates

5. Internal rate of return is that rate which makes the net present value difference between the present value of outlays and the present value of receipts equal to zero.

6. The modified internal rate of return (weighted average portfolio return) is the internal rate of return which makes the net present value difference of the outlays discounted at the opportunity cost of money and the cumulative receipts compounded at the reinvestment rate equal to zero. (The only difference between MIRR and the financial management rate of return FMRR is that the latter uses an average cost of

capital rather than recognizing short-term financing of deficit operations.)

7. Profitability index:

$$\frac{\text{Net present value of return}}{\text{Total cost of acquisition}}$$

8. Net cumulative cash after taxes less original investment with and without resale proceeds after taxes on sale or transfer.

L. Sensitivity analysis involves fine tuning of controllable variables and testing of tolerance of project for variance or surprise. There are many computer systems which permit testing of physical plan (Exhibit 5) or tax and finance implications (Exhibit 6).

M. New attempts to create real estate indexes of performance by property type over time are now experimental.

1. Problems in accounting standardization.

2. Problems in accounting/appraisal interface.

3. Problems in appraisal standard practice.

EXHIBIT 5

CASH FLOW PRO FORMA USING PARAMETER NORMS

SHOPPING CENTER CASE STUDY

DATE: 3/11/ 79
BLDG: 1
RUN : 1

GROSS SQUARE FEET IN BUILDING: 60242.
BUILDING EFFICIENCY : 100.0 PCT
NET LEASEABLE SQUARE FOOTAGE : 60242.

LAND AND CONSTRUCTION COST : $ 1766571.
LOAN TO COST RATIO : 75.0 PCT
ORIGINAL LOAN AMOUNT : $ 1324929.

EQUITY REQUIREMENT : $ 441643.

PERMANENT INTEREST RATE : 9.625 PCT
TERM OF LOAN 27. YEARS

ANNUAL DEBT SERVICE : $ 137885.

	ANNUAL DOLLARS
GROSS INCOME : 60242. SQ FT AT $ 3.67	221088.
LESS: VACANCY OF 3.77 PCT	8335.
GROSS EFFECTIVE INCOME	212753.
OPERATING EXPENSES: 60242. SQ FT AT $ 0.77	46386.
NET OPERATING INCOME	166367.
DEBT SERVICE (10.41 PCT CONSTANT)	137885.
PRO FORMA CASH FLOW	28482.

RETURN ON EQUITY 6.45 PERCENT

DEBT SERVICE COVERAGE: 1.207

DEFAULT RATIO : 83.35 PERCENT

PROGRAM STOP AT 17870

USED 17.97 UNITS
/COST OFF

ACCRUED CHARGES SINCE SIGNIN
$ 3.82 COMPUTER
6.35 CONNECT
5.70 CHARACTERS
$ 15.87 TOTAL
EFFICIENCY = 89.8
00028.09 CRU 0000.46 TCH 0041.46 KC

OFF AT 16:59CST 03/12/79

INPUT DATA LISTING

```
BUILDING ID      1
DATE    3   11   79

TITLES

TITLES                    SHOPPING CENTER CASE STUDY

SQ FT IN TRACT 255698.00

RUN NO.    1

      CONSTRUCTION-SHELL          0. SQ FT AT $  0.        $
      CONSTRUCTION-INTERIOR       0. SQ FT AT $  0.        $
      TOTAL BUILDING COST     60242. SQ FT AT $ 19.69      $
GRADE PARKING    654.55SQFT    275.00SPACES @ $  0.50

STRUCT. PKING      0.  SQFT      0.  SPACES @ $  0.

LANDSCAPING        0.
FF AND E           0.

RESTAURANT                      74538.00

 FEES
ARCHITECTURE       0.
ENGINEERING        0.
LOAN FEES      20000.00
CLOSING COSTS      0.
TAXES AND INS      0.
OPTIONAL TITLE  OPTIONAL EXPENSES
LEASING FEES                    10640.00

      CONSTRUCTION INTERIM RATE    10.000 PCT
      CONSTRUCTION PERIOD     8 MONTHS
      LAND INTERIM RATE IS  0.   PCT
 255698.00 SQUARE FEET AT $      1.30

INTERIM RATE      0.   PCT FOR    0.   MONTHS

COST PER MONTH      0.   FOR   0.   MONTHS

OTHER LAND COSTS      0.
```

EXHIBIT 5 (Continued)

CONSTRUCTION COST ESTIMATE

SHOPPING CENTER CASE STUDY

DATE: 3/11/ 79
BLDG: 1
RUN : 1

CONSTRUCTION COSTS			DOLLARS
TOTAL BUILDING COST	60242. SQ FT AT $ 19.69		$ 1186165.
GRADE PARKING	275. SPACES AT $ 327.		90001.
RESTAURANT			74538.
SUBTOTAL CONSTRUCTION			1350704.
LOAN ORIGINATION FEES		AT 1.5 PCT	20000.
LEASING FEES		AT 0.8 PCT	10640.
CUMULATIVE SUBTOTAL			1381344.
INTERIM INTEREST-CONSTRUCTION			
$ 1381344. AT 10.0 PCT FOR 8 MONTHS COMPOUNDED			52820.
TOTAL CONSTRUCTION COSTS			1434164.
LAND COSTS			
255698. SQ FT AT $ 1.30			332407.
INTERIM INTEREST-LAND			
TOTAL LAND COST			332407.
TOTAL LAND AND CONSTRUCTION COST			1766571.

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 1 OF 12

SITE	:	255698. SQUARE FEET	DATE 3-11- 79
BUILDING	:	60242. SQUARE FEET	BLDG 1
EFFICIENCY:		100.00 PCT(60242. SQ FT)	
LOAN RATIO:		75.00 PCT OF $ 1766571.	
LOAN	:	$ 1324929.	
EQUITY	:	$ 441643.	
FINANCING	:	27. YEARS 9.625 PCT	
OTR INCOME:		$ 0. ANNUALLY	RUN 1
EXPENSES	:	$ 0.77 PER SQ FT	

ANNUAL CASH FLOWS

VACANCY ALLOWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	3.77 PCT	4.00 PCT	5.00 PCT	6.00 PCT
$ 3.25	5641.	4134.	3683.	1726.	-232.
$ 3.50	20250.	18626.	18142.	16033.	13925.
$ 3.67	30184.	28482.	27973.	25762.	23551.
$ 3.75	34859.	33119.	32600.	30341.	28081.
$ 4.00	49467.	47612.	47058.	44648.	42238.

BREAKEVEN RENTAL RATES

VACANCY ALLOWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	3.77 PCT	4.00 PCT	5.00 PCT	6.00 PCT
	3.15	3.18	3.19	3.22	3.25

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 2 OF 12

SITE	: 255698. SQUARE FEET	DATE	3-11- 79
BUILDING	: 60242. SQUARE FEET	BLDG	1
EFFICIENCY:	100.00 PCT(60242. SQ FT)		
LOAN RATIO:	75.00 PCT OF $ 1766571.		
LOAN	: $ 1324929.		
EQUITY	: $ 441643.		
FINANCING	: 27. YEARS 9.625 PCT		
VACANCY	: 3.77 PCT OF LEASEABLE		
OTR INCOME:	$ 0. ANNUALLY	RUN	1

ANNUAL CASH FLOWS

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 0.70	$ 0.77	$ 0.80	$ 0.90	$ 1.00
$ 3.25	8351.	4134.	2326.	-3698.	-9722.
$ 3.50	22843.	18626.	16819.	10795.	4771.
$ 3.67	32698.	28482.	26674.	20650.	14626.
$ 3.75	37336.	33119.	31312.	25288.	19264.
$ 4.00	51829.	47612.	45805.	39780.	33756.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 0.70	$ 0.77	$ 0.80	$ 0.90	$ 1.00
	3.11	3.18	3.21	3.31	3.42

EXHIBIT 5 (Continued)

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 3 OF 12

SITE	: 255698. SQUARE FEET	DATE	3-11- 79
BUILDING	: 60242. SQUARE FEET	BLDG	1
EFFICIENCY:	100.00 PCT(60242. SQ FT)		
LOAN RATIO:	75.00 PCT OF $ 1766571.		
LOAN	: $ 1324929.		
EQUITY	: $ 441643.		
VACANCY	: 3.77 PCT OF LEASEABLE		
OTR INCOME:	$ 0. ANNUALLY	RUN	1
EXPENSES	: $ 0.77 PER SQ FT		

ANNUAL CASH FLOWS

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
$ 3.25	4134.	2716.	-135.	-453.	3109.
$ 3.50	18626.	17208.	14358.	14039.	17601.
$ 3.67	28482.	27063.	24213.	23894.	27456.
$ 3.75	33119.	31701.	28851.	28532.	32094.
$ 4.00	47612.	46194.	43343.	43025.	46587.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

RENTAL RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
	3.18	3.20	3.25	3.26	3.20

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 4 OF 12

SITE	: 255698. SQUARE FEET	DATE	3-11- 79
BUILDING	: 60242. SQUARE FEET	BLDG	1
LOAN RATIO:	75.00 PCT OF $ 1766571.		
LOAN	: $ 1324929.		
EQUITY	: $ 441643.		
FINANCING	: 27. YEARS 9.625 PCT		
VACANCY	: 3.77 PCT OF LEASEABLE		
OTR INCOME:	$ 0. ANNUALLY	RUN	1
EXPENSES	: $ 0.77 PER SQ FT		

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT 100.00 PCT 102.92 PCT 106.24 PCT 109.56 PCT

LOAN TO COST RATIO

RENTAL RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 3.25	17708.	12993.	3563.	4134.	8278.
$ 3.50	33586.	28390.	17998.	18626.	23194.
$ 3.67	44383.	38860.	27813.	28482.	33336.
$ 3.75	49464.	43787.	32432.	33119.	38109.
$ 4.00	65342.	59184.	46867.	47612.	53025.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT 100.00 PCT 102.92 PCT 106.24 PCT 109.56 PCT

LOAN TO COST RATIO

RENTAL RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
	2.97	3.04	3.19	3.18	3.11

EXHIBIT 5 (Continued)

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 5 OF 12

SITE : 255698. SQUARE FEET DATE 3-11- 79
BUILDING : 60242. SQUARE FEET BLDG 1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
FINANCING : 27. YEARS 9.625 PCT
VACANCY : 3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY RUN 1
EXPENSES : $ 0.77 PER SQ FT

ANNUAL CASH FLOWS

LOAN TO COST RATIO

RENTAL RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 3.25	13326.	9649.	4134.	-1382.	-5059.
$ 3.50	27819.	24142.	18626.	13111.	9434.
$ 3.67	37674.	33997.	28482.	22966.	19289.
$ 3.75	42312.	38635.	33119.	27604.	23927.
$ 4.00	56804.	53127.	47612.	42096.	38420.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

RENTAL RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
	3.02	3.08	3.18	3.27	3.34

EXHIBIT 5 (Continued)

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 6 OF 12

SITE	:	255698. SQUARE FEET	DATE 3-11- 79
BUILDING	:	60242. SQUARE FEET	BLDG 1
EFFICIENCY:		100.00 PCT(60242. SQ FT)	
LOAN RATIO:		75.00 PCT OF $ 1766571.	
LOAN	:	$ 1324929.	
EQUITY	:	$ 441643.	
REVENUE	:	$ 3.67 PER SQ FT	
OTR INCOME:		$ 0. ANNUALLY	RUN 1
EXPENSES	:	$ 0.77 PER SQ FT	

ANNUAL CASH FLOWS

FINANCING PARAMETERS

VACANCY RATES	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
3.00 PCT	30184.	28766.	25915.	25597.	29159.
3.77 PCT	28482.	27063.	24213.	23894.	27456.
4.00 PCT	27973.	26555.	23704.	23386.	26948.
5.00 PCT	25762.	24344.	21494.	21175.	24737.
6.00 PCT	23551.	22133.	19283.	18964.	22526.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

VACANCY RATES	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
3.00 PCT	3.15	3.18	3.23	3.23	3.17
3.77 PCT	3.18	3.20	3.25	3.26	3.20
4.00 PCT	3.19	3.21	3.26	3.27	3.20
5.00 PCT	3.22	3.24	3.29	3.30	3.24
6.00 PCT	3.25	3.28	3.33	3.34	3.27

EXHIBIT 5 (Continued)

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS — PAGE 7 OF 12

SITE	:	255698. SQUARE FEET	DATE 3-11- 79
BUILDING	:	60242. SQUARE FEET	BLDG 1
EFFICIENCY:		100.00 PCT(60242. SQ FT)	
LOAN RATIO:		75.00 PCT OF $ 1766571.	
LOAN	:	$ 1324929.	
EQUITY	:	$ 441643.	
REVENUE	:	$ 3.67 PER SQ FT	
VACANCY	:	3.77 PCT OF LEASEABLE	
OTR INCOME:		$ 0. ANNUALLY	RUN 1

ANNUAL CASH FLOWS

FINANCING PARAMETERS

EXPENSE RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
$ 0.70	32698.	31280.	28430.	28111.	31673.
$ 0.77	28482.	27063.	24213.	23894.	27456.
$ 0.80	26674.	25256.	22406.	22087.	25649.
$ 0.90	20650.	19232.	16381.	16063.	19625.
$ 1.00	14626.	13208.	10357.	10039.	13601.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

EXPENSE RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
$ 0.70	3.11	3.13	3.18	3.19	3.12
$ 0.77	3.18	3.20	3.25	3.26	3.20
$ 0.80	3.21	3.23	3.28	3.29	3.23
$ 0.90	3.31	3.34	3.39	3.39	3.33
$ 1.00	3.42	3.44	3.49	3.50	3.44

EXHIBIT 5 (Continued)

BEG FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS — PAGE 8 OF 12

SITE	: 255698. SQUARE FEET	DATE	3-11- 79
BUILDING	: 60242. SQUARE FEET	BLDG	1
LOAN RATIO:	75.00 PCT OF $ 1766571.		
LOAN	: $ 1324929.		
EQUITY	: $ 441643.		
FINANCING	: 27. YEARS 9.625 PCT		
REVENUE	: $ 3.67 PER SQ FT		
VACANCY	: 3.77 PCT OF LEASEABLE		
OTR INCOME:	$ 0. ANNUALLY	RUN	1

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT100.00 PCT102.92 PCT106.24 PCT109.56 PCT

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	49003.	43340.	32013.	32698.	37676.
$ 0.77	44383.	38860.	27813.	28482.	33336.
$ 0.80	42403.	36940.	26013.	26674.	31476.
$ 0.90	35803.	30540.	20013.	20650.	25276.
$ 1.00	29203.	24140.	14013.	14626.	19076.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT100.00 PCT102.92 PCT106.24 PCT109.56 PCT

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	2.90	2.97	3.12	3.11	3.04
$ 0.77	2.97	3.04	3.19	3.18	3.11
$ 0.80	3.00	3.07	3.22	3.21	3.14
$ 0.90	3.11	3.17	3.32	3.31	3.25
$ 1.00	3.21	3.28	3.43	3.42	3.35

EXHIBIT 5 (Continued)
PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 9 OF 12

SITE : 255698. SQUARE FEET DATE 3-11- 79
BUILDING : 60242. SQUARE FEET BLDG 1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
FINANCING : 27. YEARS 9.625 PCT
REVENUE : $ 3.67 PER SQ FT
VACANCY : 3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY RUN 1

ANNUAL CASH FLOWS

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	41891.	38214.	32698.	27183.	23506.
$ 0.77	37674.	33997.	28482.	22966.	19289.
$ 0.80	35867.	32190.	26674.	21159.	17482.
$ 0.90	29842.	26165.	20650.	15135.	11458.
$ 1.00	23818.	20141.	14626.	9110.	5434.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	2.95	3.01	3.11	3.20	3.26
$ 0.77	3.02	3.08	3.18	3.27	3.34
$ 0.80	3.05	3.11	3.21	3.31	3.37
$ 0.90	3.16	3.22	3.31	3.41	3.47
$ 1.00	3.26	3.32	3.42	3.51	3.58

EXHIBIT 5 (Continued)

PRO FORMA CASH FLOW TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 10 OF 12

SITE	: 255698. SQUARE FEET	DATE	3-11- 79
BUILDING	: 60242. SQUARE FEET	BLDG	1
EFFICIENCY:	100.00 PCT(60242. SQ FT)		
REVENUE	: $ 3.67 PER SQ FT		
VACANCY	: 3.77 PCT OF LEASEABLE		
OTR INCOME:	$ 0. ANNUALLY	RUN	1
EXPENSES	: $ 0.77 PER SQ FT		

ANNUAL CASH FLOWS

LOAN TO COST RATIO

FINANCING	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
27.YR 9.62PCT	37674.	33997.	28482.	22966.	19289.
27.YR 9.75PCT	36350.	32636.	27063.	21491.	17777.
27.YR 10.00PCT	33690.	29899.	24213.	18527.	14736.
30.YR 10.25PCT	33393.	29593.	23894.	18195.	14396.
25.YR 9.50PCT	36717.	33013.	27456.	21900.	18196.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

FINANCING	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
27.YR 9.62 PCT	3.02	3.08	3.18	3.27	3.34
27.YR 9.75 PCT	3.04	3.11	3.20	3.30	3.36
27.YR 10.00 PCT	3.09	3.15	3.25	3.35	3.42
30.YR 10.25 PCT	3.09	3.16	3.26	3.36	3.42
25.YR 9.50 PCT	3.04	3.10	3.20	3.29	3.36

EXHIBIT 5 (Continued)
SENSITIVITY TABLE

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS PAGE 11 OF 12

SITE : 255698. SQUARE FEET DATE 3-11- 79
BUILDING : 60242. SQUARE FEET BLDG 1
EFFICIENCY: 100.00 PCT OF GROSS
LOAN RATIO: 75.00 PCT OF $ 1766571.
EQUITY : $ 441643.
FINANCING : 27. YEARS 9.625 PCT
REVENUE : $ 3.67 PER SQ FT
VACANCY : 3.77 PCT OF LEASEABLE
PARK/OTHER: $ 0. ANNUALLY RUN 1
EXPENSES : $ 0.77 PER SQ FT
CONSTRUCTION AND LAND COST 1766571.
CONSTRUCTION INTERIM RATE 10.000 PCT
CONSTRUCTION PERIOD 8 MONTHS
LAND INTERIM RATE IS 0. PCT

EFFECT OF SELECTED CHANGES IN PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLOW	EFFECT ON CONSTRUCTION
DECREASE CONSTRUCTION COST $ 100,000	$ 11050.	$ -106179.
DECREASE CONSTRUCTION $ 1.00 PER SQ FT	6657.	-63964.
INCREASE CONSTRUCTION PERIOD 1 MONTH	-1198.	11511.
DECREASE CONST AND LAND INTERIM 1 PCT	590.	-5673.
DECREASE TOTAL LAND COST BY $ 332407.	34594.	
INCREASE BUILDING EFFICIENCY 1 PCT	1664.	
INCREASE RENTAL RATE $ .10 PER SQ FT	5797.	
DECREASE VACANCY RATE 1PCT	2211.	
DECREASE OPERATING RATE $ .10 PER SQ FT	6024.	
DECREASE PERMANENT RATE .25PCT	2821.	
DECREASE PERMANENT LOAN TERM BY 1 YEAR	-1136.	
DECREASE PERMANENT LOAN TERM BY 5 YEARS	-7252.	
DECREASE THE LOAN RATIO BY 5 PERCENT	9192.	

EQUIVALENT EFFECT TO YIELD
A $ 5000. INCREASE IN ANNUAL CASH FLOW

DECREASE CONSTRUCTION COSTS BY	$ 45249.
DECREASE CONSTRUCTION COST BY	$ 0.75 PER SQ FT
DECREASE LAND COST (NO INTERIM) BY	$ 48045.
DECREASE CONSTRUCTION PERIOD BY	4.2 MONTHS
DECREASE INTERIM INTEREST BY	8.47 PCT
INCREASE BUILDING EFFICIENCY BY	3.01 PCT
INCREASE RENT RATE BY	$ 0.09 PER SQ FT
DECREASE VACANCY BY	2.26 PCT
DECREASE EXPENSE RATE BY	$ 0.08 PER SQ FT
DECREASE PERMANENT RATE BY	0.44 PCT
INCREASE PERMANENT LOAN TERM BY	3.4 YEARS
DECREASE LOAN RATIO BY	2.7 PERCENT

EXHIBIT 6

V A L T E S T

A DEMONSTRATION PACKET

PREPARED BY

LANDMARK RESEARCH, INC.

MADISON, WISCONSIN

PREPARED FOR

THE REAL ESTATE ANALYSTS NORTHSTAR USERS GROUP

SEPTEMBER 24 AND 25, 1982

COSTA MESA, CALIFORNIA

VALTEST

DEMONSTRATION 1

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? J
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 5000
   N.O.I. YEAR  2? 5000
   N.O.I. YEAR  3? 6000
   N.O.I. YEAR  4? 6000
   N.O.I. YEAR  5? 7000
4. ACQUISITION COST: ? 50000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? .8, .12, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .8, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? N
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
           17% - 46%  (1978 LAW, EFFECTIVE 1979)
           16% - 46%  (1981 LAW, EFFECTIVE 1982)
           15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

           (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .46, .46
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

EXHIBIT 6 (Continued)
DEMONSTRATION 1 (Cont.)

AFTER TAX CASH FLOW PROJECTION
J
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$50,000.	MTG. AMT.:	$40,000.
NOI 1ST YR:	$5,000.	MTG. INT.:	12%
ORG. EQUITY:	$10,000.	MTG. TERM:	25. YRS
CTO 1ST YEAR:	$-55.	DEBT SERVICE 1ST YEAR:	$5,055.
		MTG. CONST.:	.1263869
IMP. #1 VALUE:	$40,000.	IMP. #1 LIFE:	15.

INC. TX RATE: 46%
SALE YR RATE: 46% OWNER: CORPORATION

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
RESIDENTIAL PROPERTY

LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	5000.	4785.	4667.	-4453.	-2049.	1994.
2.	5000.	4751.	4122.	-3874.	-1783.	1728.
3.	6000.	4713.	3641.	-2355.	-1084.	2029.
4.	6000.	4669.	3216.	-1887.	-869.	1814.
5.	7000.	4620.	2841.	-462.	-214.	2159.
	$29000.	$23539.	$18488.	$-13031.	$-5999.	$9722.

EXHIBIT 6 (Continued)

DEMONSTRATION 1 (Cont.)

RESALE PRICE:	$60,000.	1ST YR B4 TAX EQ DIV:	-.5548%
LESS MORTGAGE BALANCE:	$38,261.	AVG DEBT COVER RATIO:	1.1473
PROCEEDS BEFORE TAXES:	$21,739.		
LESS LENDER'S %:	$0.		
NET SALES PROCEEDS BEFORE TAXES:	$21,739.		

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$60,000.
LESS BASIS:	$31,512.
TOTAL GAIN:	$28,488.
EXCESS DEPRECIATION:	$5,155.
CAPITAL GAIN:	$23,333.
ORDINARY GAIN:	$5,155.

TAX ON ORDINARY GAIN:	$2,371.
TAX ON CAPITAL GAIN:	$6,533.
PLUS MORTGAGE BAL:	$38,261.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$47,166.

NET SALES PROCEEDS AFTER TAX:	$12,834.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS 20.6487% AND AFTER TAXES IS 19.5605%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

DEMONSTRATION 1 (Cont.)

MORTGAGE ANALYSIS
J
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	5000.	4785.	270.	5055.	.989	39730.
2.	5000.	4751.	304.	5055.	.989	39426.
3.	6000.	4713.	343.	5055.	1.187	39083.
4.	6000.	4669.	386.	5055.	1.187	38697.
5.	7000.	4620.	435.	5055.	1.385	38261.
AVG	$5,800.				1.147	

DISTRIBUTION OF CASH THROW-OFF
J

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-55.	-55.	0.
2.	-55.	-55.	0.
3.	945.	945.	0.
4.	945.	945.	0.
5.	1945.	1945.	0.
	3723.	3723.	0.

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$38,261.
PROCEEDS BEFORE TAXES:	$21,739.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$21,739.

CASH THROW-OFF = 0% REVERSION = 0%

DEMONSTRATION 1 (Cont.)

DEPRECIATION SCHEDULE

J

IMPROVEMENT # 1

175% D.B.

RESIDENTIAL

****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	4666.7	2666.7	2000.0	35333.3
2.	4122.2	2666.7	1455.6	31211.1
3.	3641.3	2666.7	974.6	27569.8
4.	3216.5	2666.7	549.8	24353.3
5.	2841.2	2666.7	174.6	21512.1
TOTAL	18487.9	13333.3	5154.6	

EQUITY ANALYSIS

J

****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$5,000.	$10,325.	$-55.	-.0055	-.0054
2.	5,000.	10,685.	-55.	-.0055	-.0052
3.	6,000.	11,028.	945.	.0945	.0856
4.	6,000.	11,414.	945.	.0945	.0827
5.	7,000.	11,850.	1,945.	.1945	.1641

ORIGINAL EQUITY: $ 10000

EXHIBIT 6 (Continued)

VALTEST

DEMONSTRATION 2

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? CARDINAL-2
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0
   N.O.I. YEAR  1? 81745
   N.O.I. YEAR  2? 81920
   N.O.I. YEAR  3? 98910
   N.O.I. YEAR  4? 108800
   N.O.I. YEAR  5? 119680
4. ACQUISITION COST: ? 1007000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 647000, .15236, 30, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .149, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .781, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  196625
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 1
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 1
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? Y
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?N
   THE MAXIMUM FEDERAL INDIVIDUAL ORDINARY RATE COULD BE:
          70% (PRE-1981 LAW)
          50% (1981 LAW, EFFECTIVE 1982)

          (PLUS STATE RATE)

    ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .5, .5
9. RESALE PRICE (NET OF SALE COSTS) ? 1258750
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  11
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  11
```

EXHIBIT 6 (Continued)

DEMONSTRATION 2 (Cont.)

AFTER TAX CASH FLOW PROJECTION
CARDINAL-2
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$1,007,000.	MTG. AMT.:	$647,000.
NOI 1ST YR:	$81,745.	MTG. INT.:	15.236%
ORG. EQUITY:	$360,000.	MTG. TERM:	30. YRS
CTO 1ST YEAR:	$-17,893.	DEBT SERVICE 1ST YEAR:	$99,638.
		MTG. CONST.:	.15400037
IMP. #1 VALUE:	$150,043.	IMP. #1 LIFE:	15.
IMP. #2 VALUE:	$786,467.	IMP. #2 LIFE:	15.
INC. TX RATE:	50%		
SALE YR RATE:	50%	OWNER: INDIVIDUAL	

DEPRECIATION IMPROVEMENT #1 : STRAIGHT LINE
DEPRECIATION IMPROVEMENT #2 : STRAIGHT LINE
RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	81745.	98500.	62434.	-79190.	-236221.	218328.
2.	81920.	98313.	62434.	-78828.	-39415.	21697.
3.	98910.	98097.	62434.	-61622.	-30812.	30084.
4.	108800.	97845.	62434.	-51480.	-25741.	34903.
5.	119680.	97552.	62434.	-40307.	-20154.	40196.
	$491055.	$490307.	$312170.	$-311427.	$-352343.	$345207.

NOTE: 1ST YEAR'S TAX REDUCED BY $196,625. FOR TAX CREDIT (IMP #2)

EXHIBIT 6 (Continued)

DEMONSTRATION 2 (Cont.)

RESALE PRICE:	$1,258,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

1ST YR B4 TAX EQ DIV:	-4.9703%
AVG DEBT COVER RATIO:	.9857

RESALE PRICE:	$1,258,750.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$1,258,750.
LESS BASIS:	$694,830.
TOTAL GAIN:	$563,920.
EXCESS DEPRECIATION:	$0.
CAPITAL GAIN:	$563,920.
ORDINARY GAIN:	$0.

TAX ON ORDINARY GAIN:	$0.
TAX ON CAPITAL GAIN:	$112,784.
PLUS MORTGAGE BAL:	$639,115.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$751,899.

NET SALES PROCEEDS AFTER TAX:	$506,851.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $1,258,750.
THE MODIFIED I.R.R. BEFORE TAXES IS 10.5005% AND AFTER TAXES IS 22.2744%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 11%, AND OPPORTUNITY COST OF 11%

EXHIBIT 6 (Continued)

DEMONSTRATION 2 (Cont.)

DISTRIBUTION OF CASH THROW-OFF
CARDINAL-2

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	-17893.	-17893.	0.
2.	-17718.	-17718.	0.
3.	-728.	-728.	0.
4.	9162.	9162.	0.
5.	20042.	20042.	0.
	-7136.	-7136.	0.

RESALE PRICE:	$1,258,750.
LESS MORTGAGE BALANCE:	$639,115.
PROCEEDS BEFORE TAXES:	$619,635.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$619,635.

CASH THROW-OFF = 0% REVERSION = 0%

MORTGAGE ANALYSIS
CARDINAL-2
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	81745.	98500.	1139.	99638.	.820	645861.
2.	81920.	98313.	1325.	99638.	.822	644537.
3.	98910.	98097.	1541.	99638.	.993	642995.
4.	108800.	97845.	1793.	99638.	1.092	641202.
5.	119680.	97552.	2086.	99638.	1.201	639115.
AVG	$96,211.				.986	

EQUITY ANALYSIS
CARDINAL-2
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$81,745.	$379,032.	$-17,893.	-.0492	-.0472
2.	81,920.	396,075.	-17,718.	-.0492	-.0445
3.	98,910.	400,345.	-728.	-.0020	-.0018
4.	108,800.	402,138.	9,162.	.0254	.0228
5.	119,680.	404,224.	20,042.	.0557	.0496

ORIGINAL EQUITY: $ 360100

EXHIBIT 6 (Continued)

DEMONSTRATION 2 (Cont.)

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 1
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	10002.9	10002.9	.0	140040.1
2.	10002.9	10002.9	.0	130037.3
3.	10002.9	10002.9	.0	120034.4
4.	10002.9	10002.9	.0	110031.5
5.	10002.9	10002.9	.0	100028.7
SUB-TOTAL	50014.3	50014.3	.0	

DEPRECIATION SCHEDULE
CARDINAL-2
IMPROVEMENT # 2
STRAIGHT LINE
RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	52431.1	52431.1	.0	734035.9
2.	52431.1	52431.1	.0	681604.7
3.	52431.1	52431.1	.0	629173.6
4.	52431.1	52431.1	.0	576742.5
5.	52431.1	52431.1	.0	524311.3
SUB-TOTAL	262155.7	262155.7	.0	
TOTAL	312170.0	312170.0	.0	

VALTEST - DEMONSTRATION 3

INPUT ASSUMPTIONS
****

```
1. ENTER PROJECT NAME ? SELL AT LOSS TEST
2. ENTER PROJECTION PERIOD ?  5
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? Y
   TO REPEAT PREVIOUS YEAR'S NOI/EGR FOR BAL OF PROJECTION ENTER 0

   EFFECTIVE GROSS REVENUE YEAR  1? 13800
   EFFECTIVE GROSS REVENUE YEAR  2? 14210
   EFFECTIVE GROSS REVENUE YEAR  3? 1000
   EFFECTIVE GROSS REVENUE YEAR  4? 15080
   EFFECTIVE GROSS REVENUE YEAR  5? 15530

   VAR OP EXPENSE (%) YEAR  1? 6
   VAR OP EXPENSE (%) YEAR  2? 5
   VAR OP EXPENSE (%) YEAR  3? 0

   FIXED OP EXPENSE YEAR  1? 3700
   FIXED OP EXPENSE YEAR  2? 3920
   FIXED OP EXPENSE YEAR  3? 4160
   FIXED OP EXPENSE YEAR  4? 4410
   FIXED OP EXPENSE YEAR  5? 4670
4. ACQUISITION COST: ? 66000 .
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 49500, .18, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? .25, 15
   IS THERE A SECOND IMPROVEMENT? Y OR N? Y
   ENTER RATIO OF IMP #2/TOTAL VALUE, LIFE OF IMP #2? .55, 15
   ENTER REHABILITATION TAX CREDIT FOR IMP #2:  9075
   IS STRUCTURE A CERTIFIED HISTORICAL LANDMARK? Y OR N?Y *
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 2
   ENTER D.B. %: ? 175*
   DEPRECIATION METHOD, IMPROVEMENT #2 ? 2
   ENTER D.B. %: ? 175*                          *For Illustrative
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N      Purposes Only
   IS PROPERTY RESIDENTIAL? Y OR N? N
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?Y
   CORPORATE FEDERAL ORDINARY TAX RATE COULD BE :
           17% - 46%  (1978 LAW, EFFECTIVE 1979)
           16% - 46%  (1981 LAW, EFFECTIVE 1982)
           15% - 46%  (1981 LAW, EFFECTIVE 1983 & THEREAFTER)
   MAXIMUM CORPORATE CAPITAL GAIN ALTERNATIVE TAX RATE IS 28%

           (PLUS STATE RATE)

   ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .4, .4
9. RESALE PRICE (NET OF SALE COSTS) ? 60000
10. IS THERE LENDER PARTICIPATION ?Y
   ENTER CASH THRU-OFF (%), PROCEEDS BEFORE TAXES (%):  5, 5
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

EXHIBIT 6 (Continued)

DEMONSTRATION 3 (Cont.)

AFTER TAX CASH FLOW PROJECTION
SELL AT LOSS TEST
DATE 9/14/82

DATA SUMMARY
****

ACQUISTN COST:	$66,000.	MTG. AMT.:	$49,500.		
NOI 1ST YR:	$9,272.	MTG. INT.:	18%		
ORG. EQUITY:	$16,500.	MTG. TERM:	25. YRS		
CTG 1ST YEAR:	$258.	DEBT SERVICE 1ST YEAR:		$9,014.	
		MTG. CONST.:	.1820916		
IMP. #1 VALUE:	$16,500.	IMP. #1 LIFE:	15.		
IMP. #2 VALUE:	$36,300.	IMP. #2 LIFE:	15.		
INC. TX RATE:	40%				
SALE YR RATE:	40%	OWNER: CORPORATION			

DEPRECIATION IMPROVEMENT #1 : 175% D.B.
DEPRECIATION IMPROVEMENT #2 : 175% D.B.
NON-RESIDENTIAL PROPERTY
CERTIFIED HISTORICAL STRUCTURE
LENDER PARTICIPATION: CASH THROW-OFF: 5% REVERSION: 5%

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS PROVIDED BY JEAN ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS COVERED BY A CONTRIBUTION FROM EQUITY IN THAT PERIOD

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	9272.	8914.	6160.	-5803.	-11397.	11643.
2.	9580.	8907.	5441.	-4770.	-1909.	2447.
3.	-3210.	8853.	4607.	-16870.	-6749.	-5475.
4.	9916.	8866.	4246.	-3197.	-1280.	2137.
5.	10084.	8837.	3750.	-2505.	-1003.	2019.
	$35641.	$44377.	$24404.	$-33145.	$-22338.	$12771.

NOTE: 1ST YEAR S TAX REDUCED BY $9,075. FOR TAX CREDIT (IMP #2)

EXHIBIT 6 (Continued)

DEMONSTRATION 3 (Cont.)

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

1ST YR B4 TAX EQ DIV:	1.4881%
AVG DEBT COVER RATIO:	.7908
AVG DEFAULT RATIO:	1.1581

RESALE PRICE:	$60,000.
LESS LENDER'S %:	$567.
NET RESALE PRICE:	$59,433.
LESS BASIS:	$41,596.
TOTAL GAIN:	$17,838.
TAX DEPRECIATION:	$24,404.
CAPITAL GAIN:	$0.
ORDINARY GAIN:	$17,838.

TAX ON ORDINARY GAIN:	$7,135.
TAX ON CAPITAL GAIN:	$0.
PLUS MORTGAGE BAL:	$48,670.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$55,805.

NET SALES PROCEEDS AFTER TAX:	$3,629.

IF PURCHASED AS ABOVE, HELD 5 YEARS & SOLD FOR $60,000.
THE MODIFIED I.R.R. BEFORE TAXES IS -12.4777% AND AFTER TAXES IS 5.4951%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

EXHIBIT 6 (Continued)

DEMONSTRATION 3 (Cont.)

DISTRIBUTION OF CASH THROW-OFF
SELL AT LOSS TEST

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	258.	246.	13.
2.	566.	538.	28.
3.	-12224.	-12224.	0.
4.	902.	857.	45.
5.	1070.	1016.	53.
	-9427.	-9567.	140.

RESALE PRICE:	$60,000.
LESS MORTGAGE BALANCE:	$48,670.
PROCEEDS BEFORE TAXES:	$11,330.
LESS LENDER'S %:	$567.
NET SALES PROCEEDS BEFORE TAXES:	$10,764.

CASH THROW-OFF = 5% REVERSION = 5%

EQUITY ANALYSIS
SELL AT LOSS TEST
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$9,272.	$16,613.	$246.	.0149	.0145
2.	9,580.	16,747.	538.	.0326	.0321
3.	-3,210.	29,131.	-12,224.	-.7408	-.4196
4.	9,916.	29,324.	857.	.0520	.0292
5.	10,084.	29,554.	1,016.	.0616	.0344

ORIGINAL EQUITY: $ 16500

EXHIBIT 6 (Continued)

DEMONSTRATION 3 (Cont.)

MORTGAGE ANALYSIS
SELL AT LOSS TEST
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.	DEFAULT RATIO
1.	9272.	8901.	113.	9014.	1.029	49387.	.981
2.	9580.	8879.	135.	9014.	1.063	49253.	.960
3.	-3210.	8853.	161.	9014.	-.356	49092.	13.224
4.	9916.	8821.	192.	9014.	1.100	48900.	.940
5.	10084.	8784.	230.	9014.	1.119	48670.	.931
AVG	$7,128.				.791		1.158

REVENUE AND EXPENSE REPORT
SELL AT LOSS TEST
DATE 9/14/82
****

YEAR	EFF GROSS REV	% RATE	% VAR OP	$ FIXED OP	NOI
1.	$13,800.	6.%	$828.	$3,700.	$9,272.
2.	$14,210.	5.%	$711.	$3,920.	$9,580.
3.	$1,000.	5.%	$50.	$4,160.	$-3,210.
4.	$15,080.	5.%	$754.	$4,410.	$9,916.
5.	$15,530.	5.%	$777.	$4,670.	$10,084.
	$59,620.		$3,119.	$20,860.	$35,641.

EXHIBIT 6 (Continued)

DEMONSTRATION 3 (Cont.)

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 1
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	1925.0	1100.0	1925.0	14575.0
2.	1700.4	1100.0	1700.4	12874.6
3.	1502.0	1100.0	1502.0	11372.5
4.	1326.8	1100.0	1326.8	10045.8
5.	1172.0	1100.0	1172.0	8873.7
SUB-TOTAL	7626.3	5500.0	7626.3	

DEPRECIATION SCHEDULE
SELL AT LOSS TEST
IMPROVEMENT # 2
175% D.B.
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	TAX DEP	BALANCE
1.	4235.0	2420.0	4235.0	32065.0
2.	3740.9	2420.0	3740.9	28324.1
3.	3304.5	2420.0	3304.5	25019.6
4.	2919.0	2420.0	2919.0	22100.7
5.	2578.4	2420.0	2578.4	19522.2
SUB-TOTAL	16777.8	12100.0	16777.8	
TOTAL	24404.0	17600.0	24404.0	

REAL ESTATE FEASIBILITY

Presented By

Professor James A. Graaskamp, Ph.D., CRE, SREA
Wisconsin School of Business

SIXTH HOUR

REAL ESTATE MARKETING REDEFINED

I. BASIC CONCEPTS AND MODELS

A. In a price economy cash solvency begins with cash revenue which in turn requires a consumer willing to spend in his own self-interest. Real estate project cash flows, growth in investment value, and all related premises of leverage, arbitrage, etc., presume some level of monopoly to avoid competition and exploit spatial inertia.

B. Free enterprise is the art of creating your own monopoly at appropriate points in time.

1. For products, monopoly requires control of raw material, design, services, and marketing channels.

2. For services, monopoly requires behavioral conditioning of consumer.

3. Real estate is both product and service.

4. Timing is concerned with a supply cycle and behavioral and demographic evolution.

5. Complexities require reduction of marketing perspective to very selected segments and time frames (market gaps and windows) which can be modeled.

C. Segmentation in both market research and merchandising to achieve monopoly reflect the following concepts:

1. Market studies are of the aggregate, uncontrollable variables and forces in longer time series within which the real estate enterprise must find opportunities for customers.

2. Merchandising studies are primary research of controllable variables in abbreviated time series with which the real estate enterprise can best operate within the sea of uncontrollable variables to capture opportunities.

3. Market research is a process of disaggregation from secondary data to refined segments which scale a subset of the population who may represent a merchandising opportunity. Merchandising research is concerned with how to capture some part of that opportunity with a buy/sell transaction.

4. Positioning is the strategic selection and tactical implementation of controllable variables to achieve enterprise goals within uncontrollable market trends. Positioning starts with a "P" because the ultimate research product is concerned with:

   a. Premise for monopoly at the margin
   b. Profile of prospect and supply segments within population (absorption rate)
   c. Profile of political power segments within permit process
   d. Psychology of the transactional decision to spend or vote
   e. Product and service standards
   f. Product and service differentiation
   g. Product and service pricing
   h. Penetration into prospect profiles (capture rate)
   i. Pace and phasing of production
   j. Promotional and motivational channels

5. Positioning at the strategic level is the sum total of decisions made to exploit aggregate opportunities and to avoid aggregate adverse factors or potentials indicated by data on effective demand and categories of supply. The subject areas of analysis are listed in number 4 but the abstraction level of data is not malleable by the decision maker. His enterprise can be maneuvered within these larger force fields.

6. Positioning at the tactical level is concerned with all the detail of controllable variables within the subject areas listed in number 4, but the decision maker can specify the exact form these elements will play in his enterprise. In short, positioning is the objective of decisions made and the questions addressed in market and merchandising research.

7. Thus the concept of segmentation also operates on two levels, the disaggregation of aggregate data, and the differentiation of product mix and promotion codes of merchandising.

8. Because the research objectives listed in number 4 require integration of market data and merchandising data within models which share certain premises and hypotheses, it follows that the seminar must also recognize and maintain these links to the final questions or decisions to be resolved in a land use decision.

D. Collective users operate politically to protect their perception of a real estate decision impact on their cash revenues, expenses, and future net worth. For purposes of favorably influencing the voting transaction (which can occur explicitly or implicitly) it is necessary to understand the political options available to various segments of collective consumers with a presumed vested interest in an enterprise decision.

1. Contiguous property owners
2. Organized neighborhood - tenant associations
3. Constituencies sharing common interests, such as age, school children, religion, professions, etc.
4. Community power structure and media bias.
5. Formal political district boards and councils
6. Public agencies regulating community infrastructure
7. Public agencies regulating financial institutions

E. Most feasibility cases require the analyst to create his own models with which to structure the data available and the data which must be researched.

1. Remember, models organize the analyst, the report, and the client.

   a. Models explain what you are going to do.
   b. Models make relationships and key assumptions explicit.
   c. Models permit clients to understand logic of conclusions and to test their own set of assumptions.

2. A market research model should be careful to recognize:

   a. What are the questions?
   b. What data is available - which is relevant?
   c. What theory is available to focus data on the questions?
   d. How will the results be communicated?
   e. What are the abilities of the analyst?
   f. What is the cost/benefit ratio between the model method and the question?

3. Market data models use aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on. It is useful to scale the size of the market potential of the opportunity area, but by itself aggregate market data is relatively unimportant to the success of most projects.

   a. Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental rage were newly rented, or how many square feet of leased office space were occupied.

4. Merchandising data models are generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

a. Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

5. A flow chart of the market research process is provided in Exhibit 1.

F. Alternative purposes of primary market research

1. To establish ratios for disaggregation of secondary data to focus on specific subsets or segments of the market (to scale market opportunity).

2. To profile consumer demographics, motivations, and dissatisfactions in comparable projects.

3. To profile fears of segments of collective users within a political coalition.

4. To survey professionals who serve ultimate consumers to identify trends in terms of office layouts, technical support systems required, financing, or motivations for future use conversions.

5. To generate a definition of the competitive standard for comparable projects.

6. To discover the competitive edge in terms of site/product/service/advertising to insulate project from direct price comparison shopping and competition.

G. Recognition of real estate as a subcomponent within a larger physical and behavioral system.

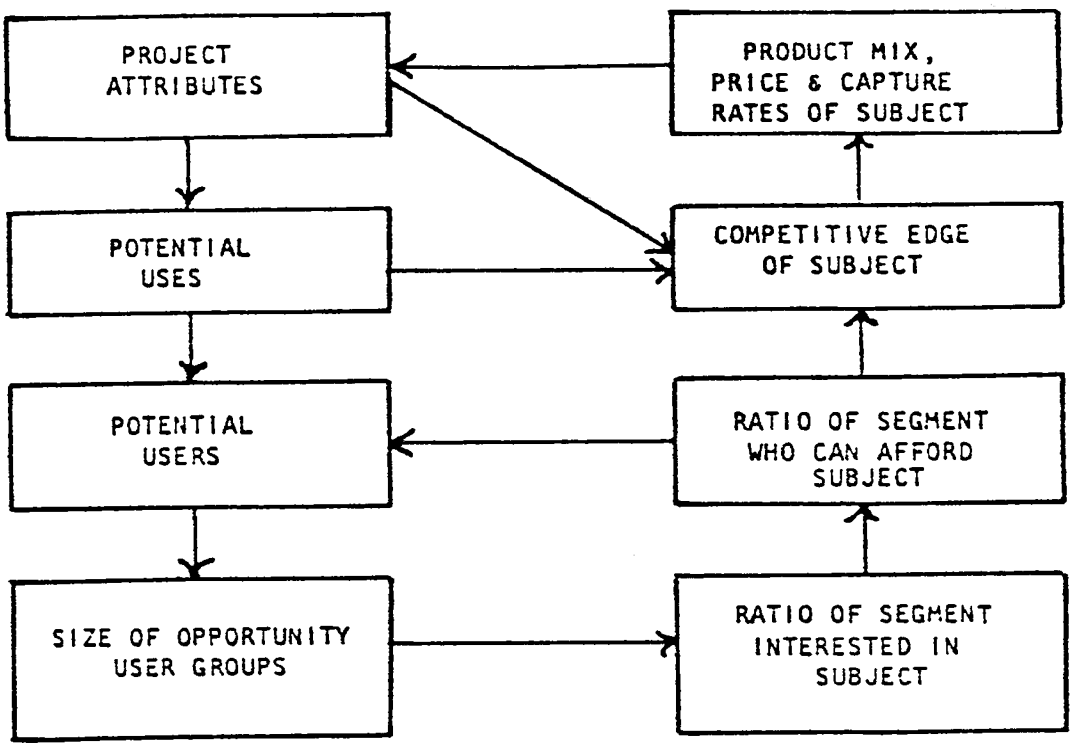
1. To contribute to the efficiency of the activity housed.

2. To contribute to the security of the establishment housed.

3. To reduce anxiety and stress of occupants housed.

EXHIBIT 1

SEGMENTATION LOGIC TREE



4. To enhance the public and self-image of the occupant.

H. Focusing on monopolistic merchandising targets.

1. Correctly recognizing the space-time product.

2. Correctly identifying who signs the check.

3. Correctly discovering what motivates the signature.

4. Providing acceptable justification for signing the check.

5. Phasing the project to fit the pace of the target group.

I. Combination of all elements relating to a site, in search of a use can then be integrated with financial analysis in a logic to screen alternative uses as suggested in Exhibit 2.

J. Consider Exhibit 3 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

1. Note that primary survey research is needed to create ratios with which to disaggregate secondary market data (i.e., census statistics).

2. Notice use of graphics to communicate complex process and data, ala Hayes.

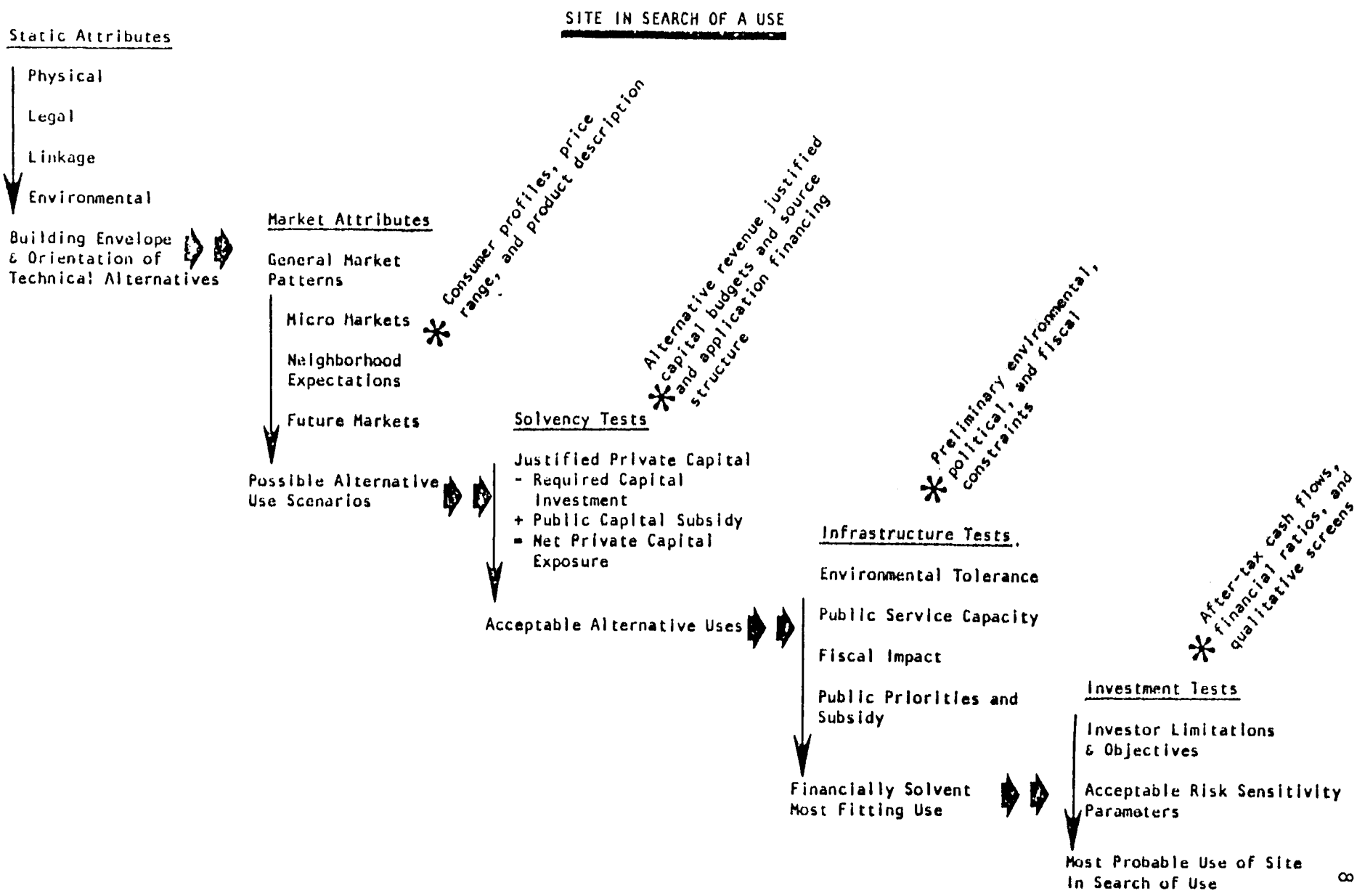
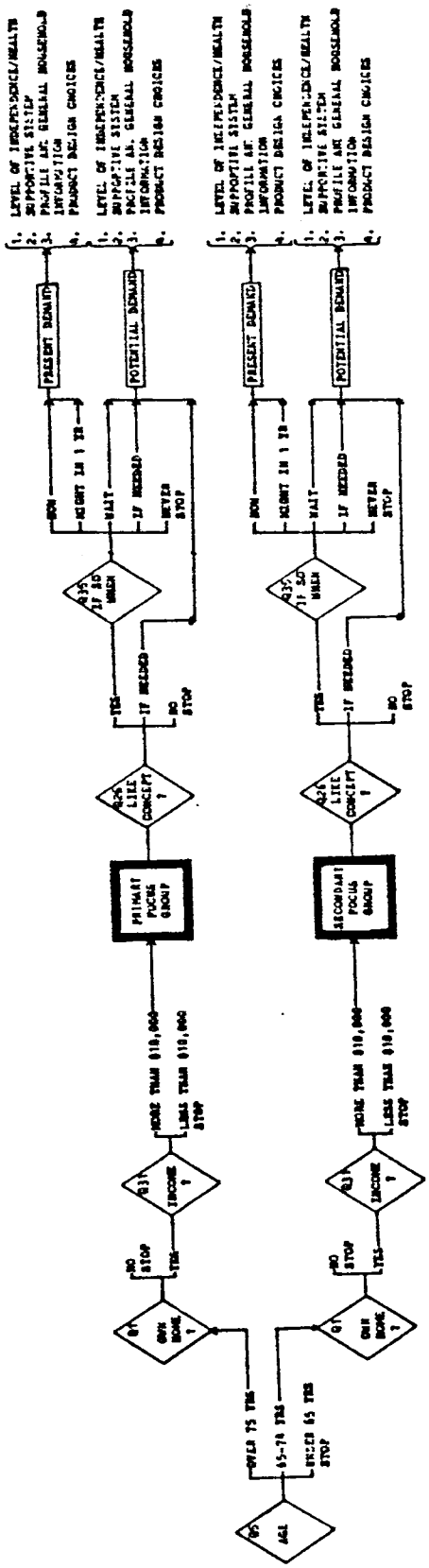

SITE IN SEARCH OF A USE
Static Attributes
Physical
Legal
Linkage
Environmental
Building Envelope & Orientation of Technical Alternatives
Market Attributes
General Market Patterns
Micro Markets
Neighborhood Expectations
Future Markets
Consumer profiles, price range, and product description
Possible Alternative Use Scenarios
Alternative revenue justified capital budgets and source and application financing structure
Solvency Tests
Justified Private Capital
- Required Capital Investment
+ Public Capital Subsidy
= Net Private Capital Exposure
Preliminary environmental, political, and fiscal constraints
Acceptable Alternative Uses
Infrastructure Tests
Environmental Tolerance
Public Service Capacity
Fiscal Impact
Public Priorities and Subsidy
After-tax cash flows, financial ratios, and qualitative screens
Financially Solvent Most Fitting Use
Investment Tests
Investor Limitations & Objectives
Acceptable Risk Sensitivity Parameters
Most Probable Use of Site In Search of Use

EXHIBIT 2

EXHIBIT 3

FLOW CHART OF LOGICAL STEPS TO
ESTIMATE PRESENT AND POTENTIAL EFFECTIVE DEMAND



SCREENS USED TO SUBSET MOST PROBABLE USERS
OF PROPOSED RETIREMENT CENTER

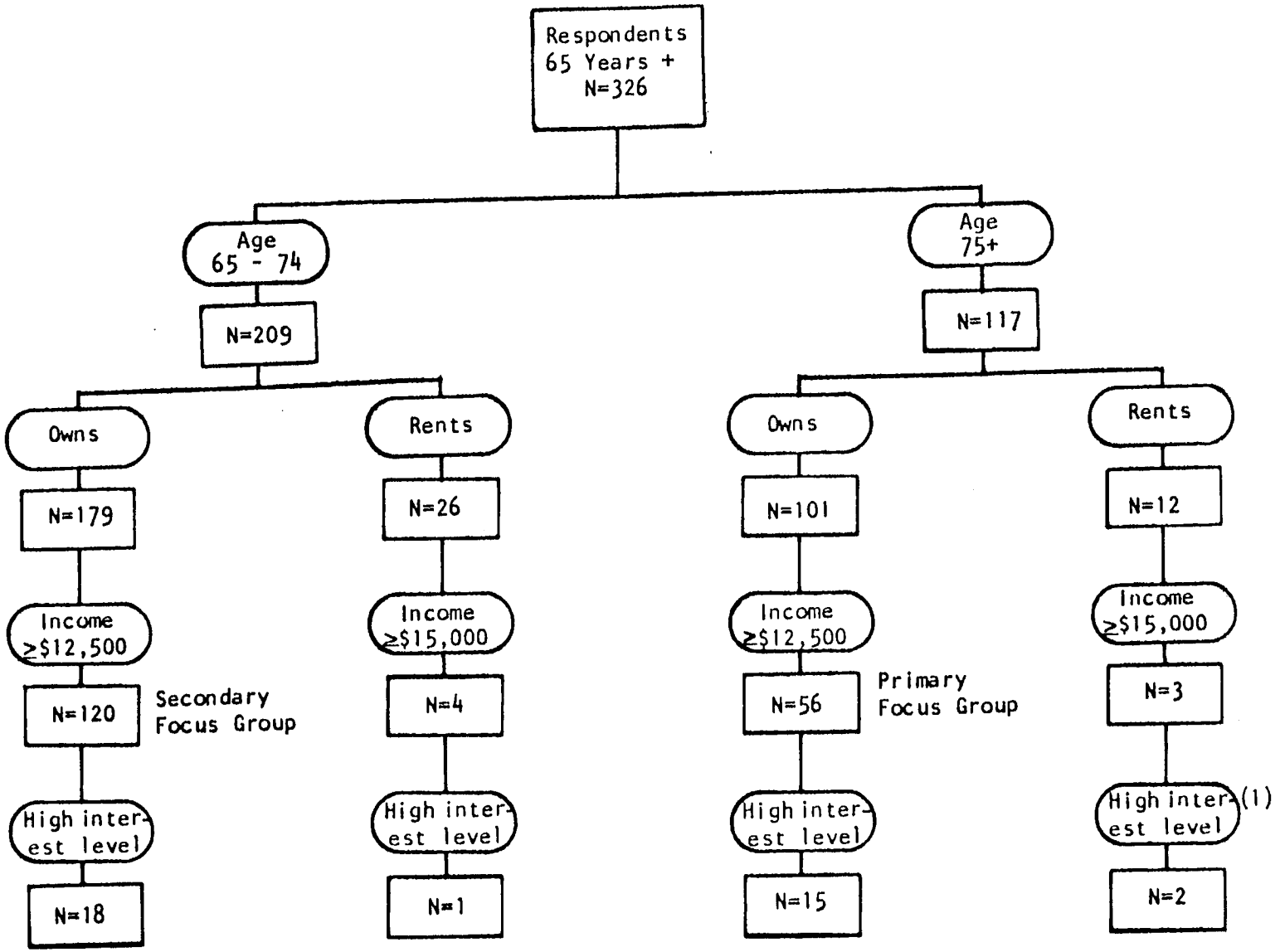


EXHIBIT 3 (Continued)

(1) High degree of interest in project is defined as those who answered Question #47 with a 1, 2, or 3 response. These respondents are interpreted as having serious interest now or interest in a year or so. See questionnaire in Appendix for exact wording of the question.

II. Market data provides a measure of potential scale of a market opportunity; the most important aspect of market analysis is forecasting the degree of market penetration or capture rate of specific development.

A. To reduce aggregate market data to a merchandising hypothesis, the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

1. Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

2. A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

3. A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its contribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

4. The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hours, or per hour of ice time.

5. Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

a. The salesman or the management paying his travel costs
b. The doctor or the clinic
c. The district manager or the corporate real estate manager
d. The ticket buyer or the promoter
e. The bowling league, team business manager, travel agency tour guide

6. The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

   a. A reverse directory or criss-cross telephone book
   b. Building directories of comparables
   c. Mailing lists of specialty publications
   d. License number spotting
   e. Guest registers
   f. Charge account mailing addresses

B. The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations. Unlike most consumer markets, the number of prospects is always low; think small!

   1. Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

   2. A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

C. Consider alternatives for segmentation of macro market models in Exhibit 4 using a branch diagram and definitions of detached family housing unit consumers in Exhibit 5.

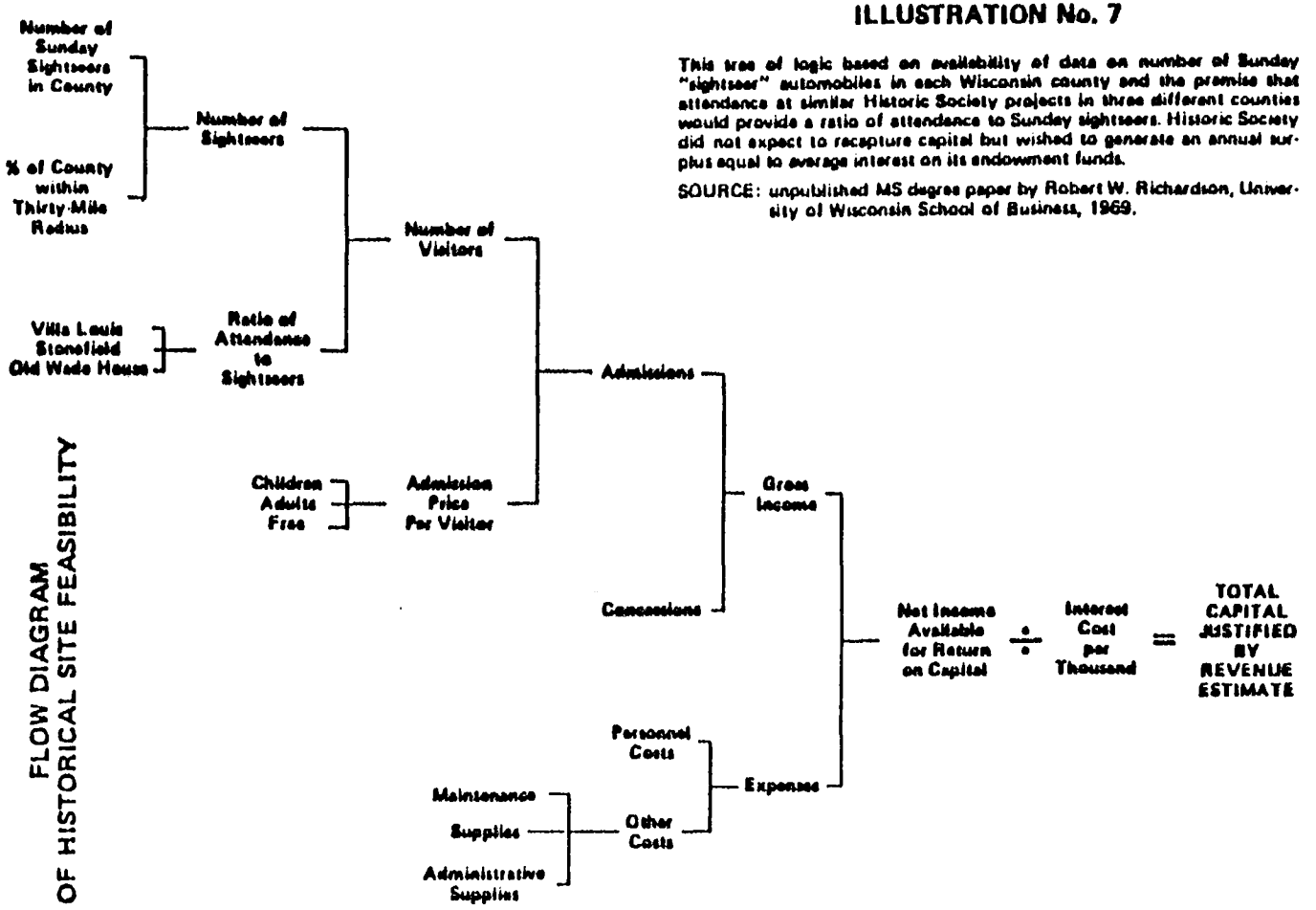
D. The ratio sought by the survey follow a precise reduction pattern:

   1. How many will consider moving?
   2. Of those, how many would consider staying in town?
   3. Of those, how many would consider an apartment?
   4. Of those remaining, who would consider an apartment in town, how many would consider a specific location?
   5. Notice the reduction process defines a subset of the elderly market - a micro-market.

ILLUSTRATION No. 7

This tree of logic based on availability of data on number of Sunday "sightseer" automobiles in each Wisconsin county and the premise that attendance at similar Historic Society projects in three different counties would provide a ratio of attendance to Sunday sightseers. Historic Society did not expect to recapture capital but wished to generate an annual surplus equal to average interest on its endowment funds.

SOURCE: unpublished MS degree paper by Robert W. Richardson, University of Wisconsin School of Business, 1969.



Source: James A. Graaskamp. A Guide to Feasibility Analysis, (Society of Real Estate Appraisers, 1972), p.40.

EXHIBIT 5

POTENTIAL MARKET SEGMENTS

I. Singles — Unmarried, active, mobile, many interests, entertain informally, few financial burdens, recreation oriented. Buy basic furniture, basic kitchen equipment, cars, stereos, and vacations.

II. Young Marrieds, #1 — Young couple, working wife, entertain informally, amateur gardeners, planning on family. Better off financially than they will be in the "family formation" future. Buy durables — cars, kitchen equipment, furniture, and vacations. Rate housing as a need for more living space.

III. Young Marrieds, #2 — Discretionary income available, deferring family, active, entertain informally and often, some formal entertaining, independent, dual-person working household, do-it-yourself buffs, sports car. Rate housing as an investment.

IV. Compact Family/Move Down — Discretionary income available, interested in no maintenance, informal living, some formal entertainment. Away from home often, occasional visits from family or guests, focus on both active and passive recreation.

V. Divorcees/With Children — Family oriented activity, limited entertainment, informal lifestyle, limited maintenance.

VI. Full Nest, #1 — Home purchasing at its peak, even though liquid assets are low. Dissatisfied with financial position, and amount of money saved. Conscious of monthly payments, family activities. Unemployed female with numerous interests, mostly child oriented. Lifestyle is casual and informal. Interested in new products, buy washers, dryers, T.V.'s, baby food, dolls, wagons, etc.

VII. Full Nest, #2 — Family move-up market, as financial position gets better, some wives work. Interested in larger sized packages. The most price/size sensitive group.

VIII. Established Family — Making monthly payment comfortably, some discretionary income as more wives work, approaching peak of economic and social lifestyle curve, some formal entertaining, older children and teenagers, many interests.

IX. Luxury Families — Have arrived, tremendous discretionary income, very formal house, don't entertain often, but when they do, it's formal, dine out often, no maintenance, privacy mandatory.

X. Empty Nester - Home ownership at its peak, more satisfied with financial position. Small or no debt. Family is often away from home, occasional visits from family. Mobile in attitude, but permanent in residence, near grandchildren, many hobbies, one child in college, one or two children married, self-sufficient couple.

XI. Active Retired — Still working two or three days per week, active either socially or politically in community or church affairs, self-sufficient, many hours away from home, do not entertain often, but when they do, it's semi-formal. Winter/summer residences. Likely to sell home before retirement.

XII. Retired — Drastic cut in income, dependent, limited activities outside community. Winter/summer residences.

E. Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

1. Confine vocabulary to basic 1000 words; avoid lingo.

2. Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 6.)

3. Always test the questionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

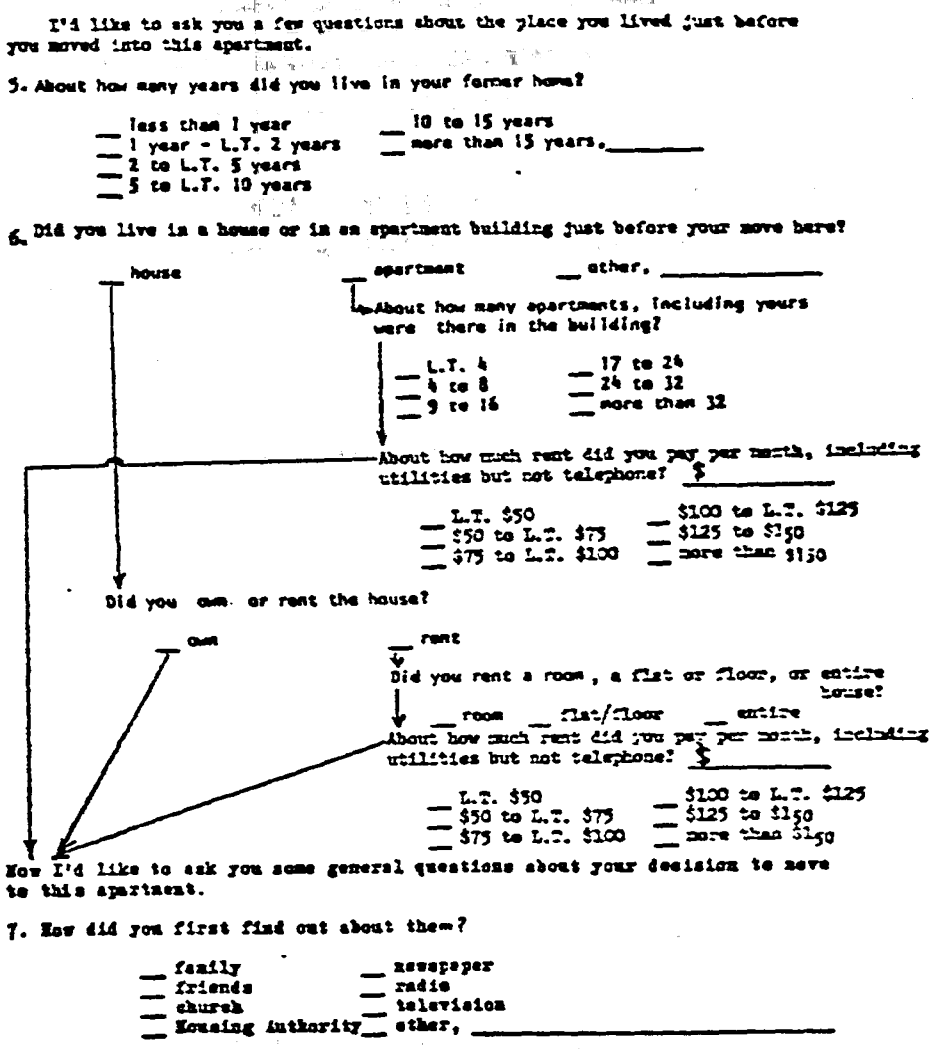
4. Questions may take different formats. (See Exhibit 6.)

F. The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

1. Probe for dissatisfaction with existing space or life style.
2. Probe for anxieties about uncontrollable trends and events.
3. Probe for desired social structure ties, real or imagined.

EXHIBIT 6

Simple Survey Formats for Classification of Subsets & Measurement of Preference



26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

G. The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

1. The telephone interview may be less expensive per question and fastest but is limited in the type and amount of questions which can be asked. Rifled to a project known to the analyst, it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself.

2. A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

3. Direct mail questionnaires may cost from 5 cents to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

4. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

   . Would you be at all uneasy if people of a different religion or race were to move in next to your home?

   . As you see it, what are some of the good points and the bad points of the present Governor of this state?

5. Sensitive questions on family income should be asked at the end of the interview while the opening questions should be of more general interest. When a question about income is asked, the response should permit some degree of obliqueness by the respondent.

   . The respondent can select a range of income or perhaps enter the answer with a letter A, 1, B, etc. in place of a dollar amount.

- If socio-economic questions are generally short and direct, they are a welcome contrast to the time consuming and thought provoking questions which preceded them.

6. Consider the following market model in Exhibit 7 and the apartment market questionnaire in Exhibit 8.

H. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankruptcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

I. A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.
2. Survey questions to create ratios require previous construction of a market model hypothesis.
3. Survey questions can discover latent political issues or provide a calm base for citizen input from those who rightfully dislike public hearings.
4. Survey questions and execution should not be done by planners or appraisers.

EXHIBIT 7

LOGIC FOR ESTIMATION OF EFFECTIVE DEMAND
FOR PROPOSED RETIREMENT CENTER

STEP 1:

$$\frac{\text{Number of households in sample with interested, qualified respondent(s)}}{\text{Number of households in sample}} = \text{Sample ratio}$$

STEP 2:

Number of households in population segmented by age * Sample ratio = Number of households in population segmented by age, income/assets, and degree of interest

STEP 3:

Number of households in population segmented by age income/assets and degree of interest * Capture rate = Estimate of number of units proposed project can capture from identifiable groups

STEP 4:

Developer must assume total unit demand will be the sum of units estimated in STEP 3 plus some units unanticipated from other communities and market segments.

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FEASIBILITY RESEARCH GROUP

CONSUMER MARKET RESEARCH FOR DECISION MAKERS

JOHN A. RASMUSSEN
Research Coordinator

MARCH, 1981
MILWAUKEE, WISCONSIN
APARTMENT AND CONDOMINIUM SURVEY

DEAR RESIDENT:

YOU CAN HELP PLAN NEW CONDOMINIUM APARTMENTS. WHILE YOU MAY NOT HAVE EVEN THOUGHT ABOUT A NEW HOME, YOUR INPUT IS NEEDED TO IDENTIFY THE HOUSING NEEDS AND PREFERENCES OF MILWAUKEE RESIDENTS.

THIS SURVEY IS BEING CONDUCTED BY FEASIBILITY RESEARCH GROUP, LTD., AN INDEPENDENT MARKET RESEARCH FIRM.

PLEASE FILL OUT THE ENCLOSED QUESTIONNAIRE AND RETURN IT IN THE POSTAGE-PAID ENVELOPE. THIS WILL ASSIST LOCAL HOUSING DEVELOPERS PLAN NEW HOUSING IN RESPONSE TO RESIDENT NEEDS AND PREFERENCES.

YOUR REPLY TO THE SURVEY IS CONFIDENTIAL. THE CODE NUMBER IS USED ONLY TO HELP US REMIND PEOPLE WHO HAVE NOT RETURNED THE SURVEY. NOT EVERY HOUSEHOLD IS SURVEYED SO EACH RESPONSE IS IMPORTANT.

PLEASE RETURN YOUR SURVEY IN THE POSTAGE PAID ENVELOPE AS SOON AS POSSIBLE.

VERY TRULY YOURS,

John A. Rasmussen

JOHN A. RASMUSSEN
RESEARCH COORDINATOR

YOUR OPINION COUNTS

527 E. Liberty St. Suite 208 • Ann Arbor, Michigan 48104 • 313/994-4454

EXHIBIT 8

INFORMATION ABOUT PRESENT RESIDENCE

1. Which of the following best describes your current residence?
   - .1 ☐ Single family residence
   - .2 ☐ Condominium
   - .3 ☐ Apartment (with elevator)
   - .4 ☐ Apartment (without elevator)
   - .5 ☐ Duplex
   - .6 ☐ Other, please specify _____

2. In which area of Greater Milwaukee do your currently live?
   - .1 ☐ Downtown
   - .2 ☐ Eastside
   - .3 ☐ Shorewood
   - .4 ☐ Whitefish Bay
   - .5 ☐ Fox Point
   - .6 ☐ Other, please specify _____

3. How long have you lived in your current residence?
   - .1 ☐ Less than 1 year
   - .2 ☐ 1—3 years
   - .3 ☐ 3—5 years
   - .4 ☐ 5—10 years
   - .5 ☐ over 10 years

4. Do you rent/own your current residence?
   - .1 ☐ Rent
   - .2 ☐ Own
   - .3 ☐ Neither rent nor own.

5. Please indicate the number of rooms in your current residence.
   - .1 Living Room ☐ Yes ☐ No
   - .2 Combination living/sleeping ☐ Yes ☐ No (Studio)
   - .3 Den/Study ☐ Yes ☐ No
   - .4 Formal Dining Room ☐ Yes ☐ No
   - .5 Dining area in Living Room ☐ Yes ☐ No
   - .6 Breakfast area in Kitchen ☐ Yes ☐ No
   - .7 Baths ☐ 1 ☐ 1½ ☐ 2 ☐ 2½ ☐ 3 ☐ other _____
   - .8 Bedrooms ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ other _____
   - .9 Laundry ☐ Basement ☐ Same floor as unit ☐ In your unit
   - .10 Balcony ☐ Yes ☐ No

6. How many parking spaces do you current have?
   - .1 ☐ 1 inside garage
   - .2 ☐ 2 inside garage
   - .3 ☐ 1 outside lot
   - .4 ☐ 2 outside lot
   - .5 ☐ street parking
   - .6 ☐ Do not own car

7. Do you rent/own your parking space?
   - .1 ☐ Rent
   - .2 ☐ Own
   - .3 ☐ Neither rent nor own.

8. If you own your residence what is its current value
   - .1 ☐ Under $50,000
   - .2 ☐ $50,000—$75,000
   - .3 ☐ $75,001—$100,000
   - .4 ☐ Over $100,000
   - .5 ☐ Don't know
   - .6 ☐ Not applicable

INFORMATION ABOUT PREVIOUS RESIDENCE

Which best describes your previous residence?
- .1 ☐ Single family
- .2 ☐ Condominum
- .3 ☐ Apartment (with elevator)
- .4 ☐ Apartment (without elevator)
- .5 ☐ Duplex
- .6 ☐ Other, please specify _____

10. Please indicate the city and zip code of your previous residence?
    - .1 City _____ .2 Zip Code _____

11. Did you rent or own your previous residence?
    - .1 ☐ Rent
    - .2 ☐ Own
    - .3 ☐ Neither rent nor own.

INFORMATION ABOUT FUTURE RESIDENCE

12. How long do you expect to live in your current residence before you make a move?
    - .1 ☐ Less than 1 year
    - .2 ☐ 1—3 years
    - .3 ☐ 3—5 years
    - .4 ☐ 5—10 years
    - .5 ☐ Over 10 years
    - .6 ☐ Don't know

13. What do you foresee will be the major reason for leaving your current residence?
    - .1 ☐ Job Transfer
    - .2 ☐ Divorce/Marriage
    - .3 ☐ Purchase benefits
    - .4 ☐ Larger home
    - .5 ☐ Smaller home
    - .6 ☐ Location
    - .7 ☐ Transportation Costs
    - .8 ☐ Increase in family size
    - .9 ☐ Decrease in family size
    - .10 ☐ Will never leave
    - .11 ☐ Other, please specify _____

EXHIBIT 8 (Continued)

14. Please rank the following of housing in order of preference for you next residence. (1 most perferred, 3 least preferred)
    - .1 ___ Single Family
    - .2 ___ Condominium
    - .3 ___ Rented Apartment

15. Please indicate the number of rooms you would prefer in your next residence.
    - .1 Living Room ☐ Yes ☐ No
    - .2 Combination living/sleeping ☐ Yes ☐ No (Studio)
    - .3 Den/Study ☐ Yes ☐ No
    - .4 Formal Dining Room ☐ Yes ☐ No
    - .5 Dining area in Living Room ☐ Yes ☐ No
    - .6 Breakfast area in Kitchen ☐ Yes ☐ No
    - .7 Baths ☐ 1 ☐ 1½ ☐ 2 ☐ 2½ ☐ 3 ☐ other _____
    - .8 Bedrooms ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ other _____
    - .9 Laundry ☐ Basement ☐ Same floor as unit ☐ in your unit
    - .10 Balcony ☐ Yes ☐ No

PROPOSED HOUSING

16. Several developers are currently selling or planning to build new condominium homes on the east side and near the downtown area of Milwaukee. Please indicate whether you have heard about or visited the sales offices of the following condominium homes.

	Heard About	Visited Sales office
1 The Atrium (State and Van Buren Adjacent to Juneau Village Shops)	☐	☐
2 Cathedral Place (Kilborn and Van Buren)	☐	☐
3 Diamond Towers (Prospect opposite Prospect Towers)	☐	☐
4 Lafayette Place (Prospect at Lafayette)	☐	☐
.5 L'Hermitage (Juneau at Jefferson)	☐	☐
.6 Other, please specify (Name and Location) Name_____ Location _____	☐	☐

17. Please indicate your preference for each of the follow condominium concepts.

	Most Prefer	Somewhat Prefer	Neutral Opinion	Somewhat Dislike	Most Dislike	No Opinion
.1 The Atrium — 14 story building — 172 condominium homes — 10 to 14 homes per floor — open center atrium 14 stories high	☐	☐	☐	☐	☐	☐
.2 Cathedral Place — 28 story building — 324 condominium homes — 8 to 16 homes per floor	☐	☐	☐	☐	☐	☐
.3 Diamond Towers on Prospect — 21 story building — 112 condominium homes — 4 to 6 homes per floor	☐	☐	☐	☐	☐	☐
.4 Lafayette Place — 15 story buiding — 62 condominium homes — 4 to 6 homes per floor	☐	☐	☐	☐	☐	☐
.5 L'Hermitage — Two-3 story buildings — 48 total condominium homes — 8 homes per floor	☐	☐	☐	☐	☐	☐

18. For your future housing, which location appeals to you most? Please refer to location map on back page.

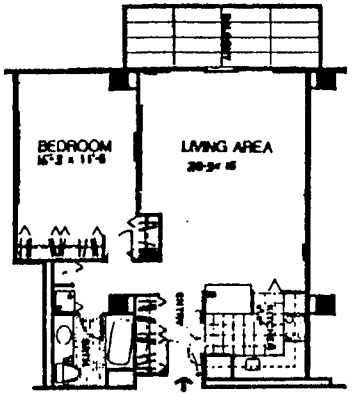
	Most Prefer	Somewhat Prefer	Neutral Opinion	Somewhat Dislike	Most Dislike	No Opinion
.1 Site 1—The Atrium (N. Van Buren, E. State St.)	☐	☐	☐	☐	☐	☐
.2 Site 2—Cathedral Place (N. Van Buren, E. State and Kilbourn)	☐	☐	☐	☐	☐	☐
.3 Site 3—Diamond Towers Prospect Ave.)	☐	☐	☐	☐	☐	☐
.4 Site 4—Lafayette (Prospect) and Lafayette)	☐	☐	☐	☐	☐	☐
.5 Site 5—L'Hermitage (Juneau, Jefferson, Jackson area)	☐	☐	☐	☐	☐	☐
.6 —None of the above, I prefer _____	☐	☐	☐	☐	☐	☐

EXHIBIT 8 (Continued)

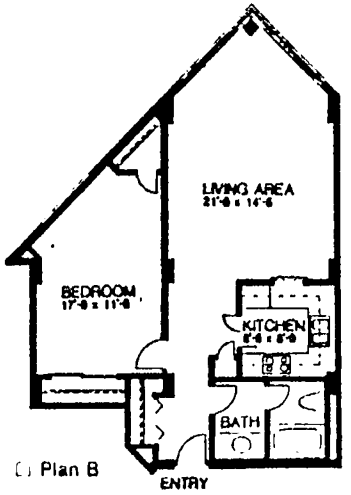
FUTURE HOUSING FLOOR PLAN PREFERENCE

19. The floor plans shown below represent plans for two proposed Milwaukee apartment condominium homes. Please review the plans and answer the two questions at the bottom of this page.

PLAN A — One Bedroom
One Bath
Inside Unit
775 sq ft.



PLAN B — One Bedroom
One Bath
Corner Unit
775 sq. ft.



.1 Which plan do you prefer? ☐ Plan A ☐ Plan B

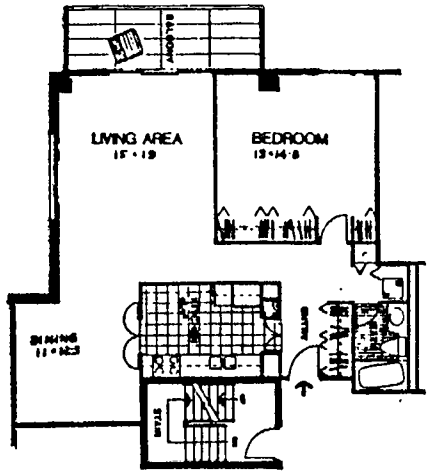
Comments _____

.2 Which plan would you expect to sell for the highest price?

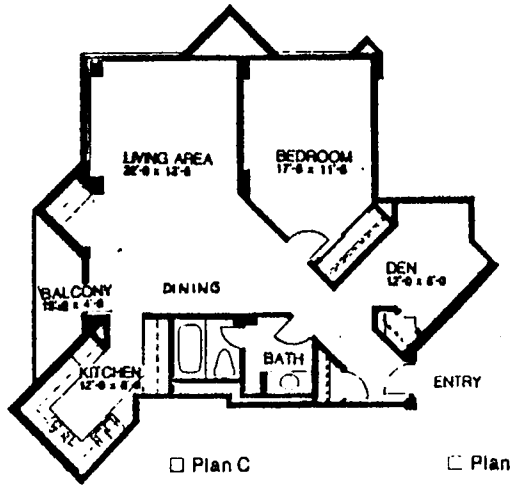
☐ Plan A ☐ Plan B

20. The following two floor plans represent larger size one bedroom plans. Please review the plans and answer the questions at the bottom of this page.

PLAN C — One bedroom
One Bath
Corner Unit
Dining Room
950 sq. ft.



PLAN D — One Bedroom
One Bath
Corner Unit
Den
935 sq. ft.



.1 Which plan do you prefer? ☐ Plan C ☐ Plan D

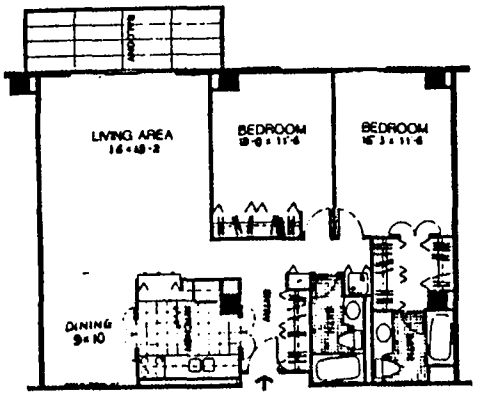
Comments _____

.2 Which plan would you expect to sell for the highest price?

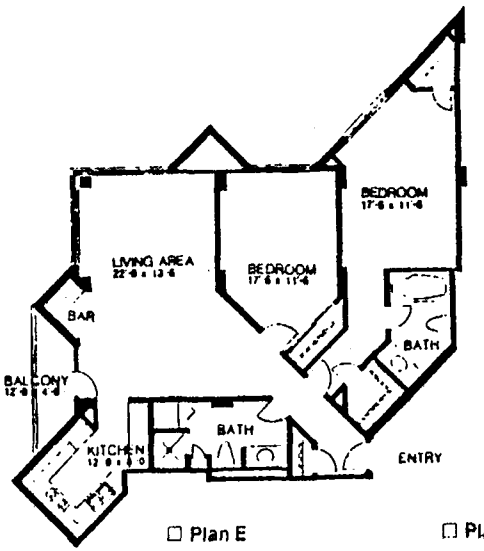
☐ Plan C ☐ Plan D

21. Please review the plans and answer the questions at the bottom of this page.

PLAN E — Two bedrooms
Two Baths
Inside Unit
1160 sq. ft.



PLAN F — Two Bedrooms
Two Baths
Corner Unit
1195 sq. ft.



.1 Which plan do you prefer? ☐ Plan E ☐ Plan F

Comments _____

.2 Which plan would you expect to sell for the highest price?
☐ Plan E ☐ Plan F

22. What type of parking do you prefer for your future residence?

.1 ☐ Inside (basement) garage parking
.2 ☐ Outside lot parking
.3 ☐ Street parking
.4 ☐ Do not need parking

23. Do you prefer to rent or own your parking space?

.1 ☐ Prefer to own parking space
.2 ☐ Prefer to rent
.3 ☐ Neither

24. How many parking spaces do you or your household require?

.1 _____

HOUSING AMENTIES

25. How important are the following considerations in selecting an apartment or condominium home?

		Very Important	Somewhat Important	Not Important
.1	Quality housing in neighborhood	☐	☐	☐
.2	Privacy from noise	☐	☐	☐
.3	View of Lake Michigan	☐	☐	☐
.4	View of Downtown Skyline	☐	☐	☐
.5	Quality of exterior construction	☐	☐	☐
.6	Quality of interior finish	☐	☐	☐
.7	Health Club in Building	☐	☐	☐
.8	Indoor Pool	☐	☐	☐
.9	Amount of storage space	☐	☐	☐
.10	Laundry area in apartment	☐	☐	☐
.11	Private Balcony	☐	☐	☐
.12	Safety sprinklers on all floors	☐	☐	☐
.13	Door man (24 hours)	☐	☐	☐
.14	Security entrance with T.V. monitor	☐	☐	☐
.15	Triple glazed windows	☐	☐	☐
.16	Semi-automatic car wash in garage	☐	☐	☐
.17	Other, please specify _____			

INFORMATION ABOUT FUTURE RESIDENCE

26. What is the maximum monthly rent/mortgage (including property taxes if mortgage) that you would pay for your preferred housing type?

.1	☐ Up to $250/month	.4	☐ $651—$850	.7	☐ $1251—$1450
.2	☐ $251—$450	.5	☐ $851—$1050	.8	☐ Over $1450
.3	☐ $451—$650	.6	☐ $1051—$1250	.9	☐ Don't know

27. If the cost of construction for your ideal residence is more than you are willing to pay, what would you give up?

.1	☐ Quality of construction	.5	☐ Central Air Conditioning
.2	☐ Room Size	.6	☐ Wet Bar
.3	☐ Amount of exterior open space	.7	☐ Dining Room
.4	☐ Garage Space	.8	☐ Kitchen eating area
.10	☐ Other, please specify _____	.9	☐ View of Lake Michigan

28. Have you ever considered buying an condominium apartment?
- .1 ☐ Yes, I/we bought an existing condominium
- .2 ☐ Yes, I/we considered buying a new condominium home
- .3 ☐ Yes, I/we considered buying an existing apartment
- .4 ☐ No, I/we prefer to rent

Comments _____

BACKGROUND INFORMATION

29. Please answer the following about the **Head of Household:**
- .1 Age: ☐ Under 25 ☐ 25—29 ☐ 30—34 ☐ 35—44 ☐ 45—54 ☐ 55—64 ☐ Over 65
- .2 Sex: ☐ Female ☐ Male
- .3 Schooling Completed: ☐ 8th grade or less ☐ Some high school ☐ High school diploma ☐ Some college ☐ College diploma ☐ Advanced degree
- .4 Marital Status: ☐ Single, never married ☐ Divorced, separated, or widowed ☐ Married

30. Please indicate the zip code where you (and your spouse) presently work:

Your		Spouse
_____	Zip Code	_____
☐	Not Applicable	☐

31. Do you have children? ☐ Yes ☐ No. If yes, how many children now live in your residence?
- .1 ☐ One ☐ Two ☐ Three ☐ Four ☐ Five ☐ None ☐ Other _____
- .2 What are the ages of the children living in your residence?

_____

32. In which category does your total annual household income fall?

.1	☐ $0—$9,999	.5	☐ $40,000—49,999
.2	☐ $10,000—$19,999	.6	☐ $50,000—59,999
.3	☐ $20,000—29,999	.7	☐ $60,000—69,999
.4	☐ $30,000—39,999	.8	☐ $70,000 or higher

How many individuals contribute to this income?

.1 ☐ One .2 ☐ Two .3 ☐ Three .4 ☐ Other _____

COMMENTS: _____

_____

_____

_____

THANK YOU FOR YOUR HELP!

Please return your survey in the postage paid envelope, as soon as possible.

Feasibility Research Group
527 E. Liberty St. Suite 208
Ann Arbor, Michigan 48104

EXHIBIT 8 (Continued)

18. For your future housing, which location appeals to you most?
Please refer to location map below and answer question 18 on page 5.

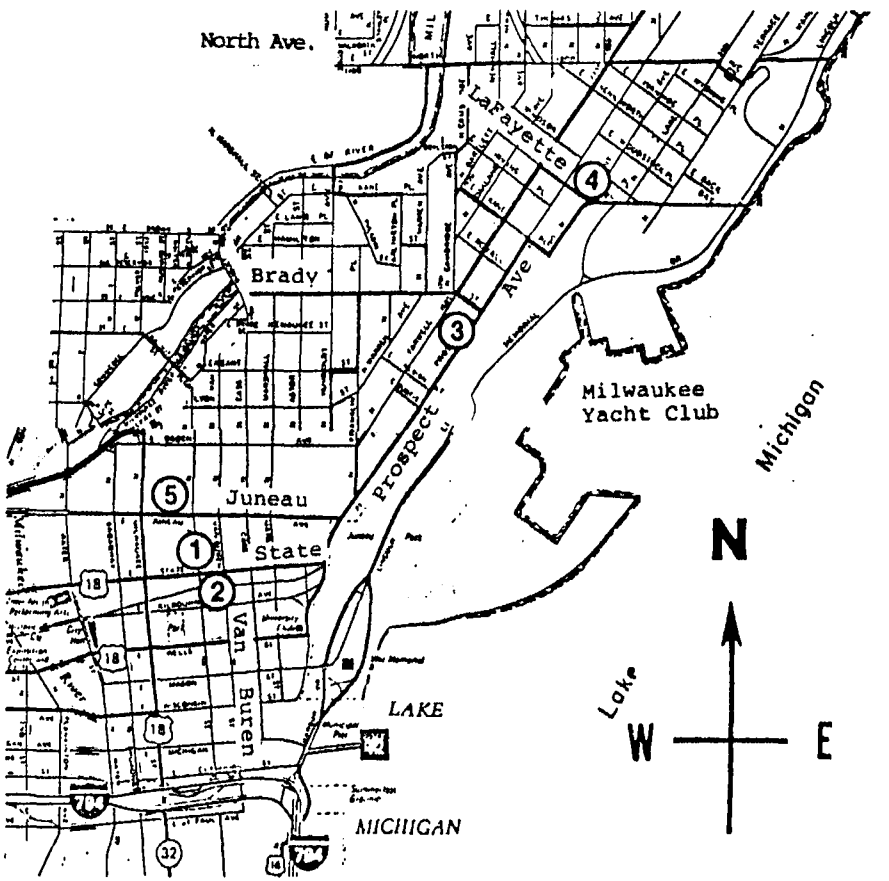


EXHIBIT 8 (Continued)

III. A good example of modeling market data through segmentation and survey for renovation in a small community is a project by Gruen Gruen + Associates for Santa Maria, California. The study was begun in 1972. Proposals were solicited in 1973 and the first phase of the project is operating as the Santa Maria Town Center with retail sales ahead of forecasts.

A. The Gruen's were able to convince the redevelopment agency to avoid any physical planning until a detailed analysis of the demand for alternative services that could attract people back to the downtown area was done. This EMAS study (economic market analysis study) flow chart is in Exhibit 9 and had the following outputs:

1. First, a full analysis of economic data and retail data was utilized to generate information about the type of tenancies that could realistically be expected to penetrate downtown markets.

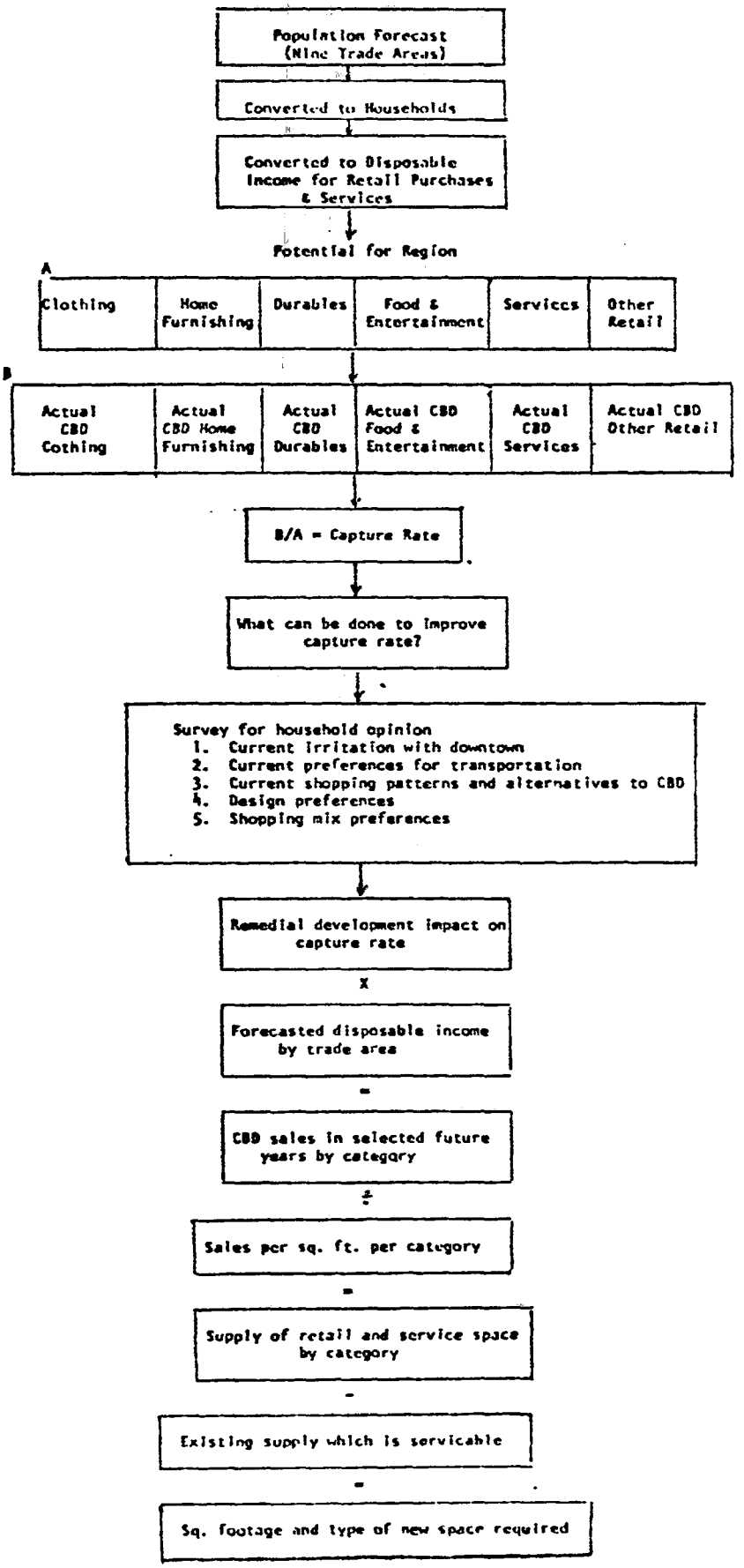
2. With a lease on tenancies, the Gruen's worked with an architect to provide sketches of alternative architectural styles and concepts to show residence in survey to see what type of treatments might strike the most positive response.

3. The EMAS should then be able to indicate the kind of tenancies that could survive downtown, suggest their dollar sales potential, and indicate at a preliminary level a design scheme.

4. At the same time, back door financial studies are done from rents from capital budgets to discover what would be feasible for the private developer and what components may need to be subsidized by the public.

5. Appraisers use the EMAS and suggested tenant mix as the basis for their value estimate in the after condition.

EXHIBIT 9


Population Forecast (Nine Trade Areas)
Converted to Households
Converted to Disposable Income for Retail Purchases & Services
Potential for Region
A
Clothing
Home Furnishing
Durables
Food & Entertainment
Services
Other Retail
B
Actual CBD Cothing
Actual CBD Home Furnishing
Actual CBD Durables
Actual CBD Food & Entertainment
Actual CBD Services
Actual CBD Other Retail
B/A = Capture Rate
What can be done to improve capture rate?
Survey for household opinion
1. Current irritation with downtown
2. Current preferences for transportation
3. Current shopping patterns and alternatives to CBD
4. Design preferences
5. Shopping mix preferences
Remedial development impact on capture rate
X
Forecasted disposable income by trade area
=
CBD sales in selected future years by category
÷
Sales per sq. ft. per category
=
Supply of retail and service space by category
-
Existing supply which is servicable
=
Sq. footage and type of new space required

Reprinted with permission of Dr. Claude Gruen & Nina Gruen of Gruen Gruen + Associates.

Excerpt With Permission From
Economic & Market Analysis Study for Downtown Santa Maria

Prepared for City of Santa Maria Redevelopment Agency
by Gruen Gruen + Associates

Thus, the relationship between survey derived indications of satisfaction and current expenditure patterns were sufficiently significant to warrant the use of survey responses to suggest the change in relative preferences that would be caused by an appropriately developed new shopping agglomeration in downtown Santa Maria. However, the rapid deterioration of this relationship with distance suggested that it be used very cautiously in Trade Areas 5 through 9. Therefore, in addition to considering the percentage of respondents who made no complaints, we also analyzed into the following three categories all the comments that were made in response to the interview question concerning the reasons for not shopping in downtown Santa Maria:

1. Complaints about physical deficiencies of the existing downtown that we have assumed the redevelopment will alleviate. (Remediable complaints)

2. Complaints concerning limited selection such as requests for a department store or more stores. (Remediable complaints)

3. Complaints about prices, the lack of a supermarket or other contemporai situations that we do not think the redevelopment programs will alter. (Irremediable complaints)

Table 10 presents the percentage of respondents making remediable complaints. These complaints were used in conjunction with the information about the relationship between the indications of satisfaction discussed above to adjust the present indicators of the proportion of expenditures on various items in downtown Santa Maria (the S variables originally presented in Table 4) to reflect the increase in consumer preferences for downtown Santa Maria that would result from the completion of a sales optimizing redevelopment program. We did not think the evidence warranted using these percentages of remediable complaints (%RC) directly by adding them to the previously revealed preference percentages ($1970) to get a new percentage ($1975, 1980, 1985). Instead, we adopted the following rules to get the new estimates of this preference variable:

	Trade Areas 1 through 4	Trade Areas 5 through 9
For Clothing	% RC x .964 + S_{1970}	Use % RC instead of S_{1970}
For Home Furnishings	% RC x .861 + S_{1970}	Use % RC instead of S_{1970}
For Other Retail	% RC x .017 + S_{1970}	1% + S_{1970}

Table 10

Percentage of Respondents Making Complaints
About Remediable Features of the Present Downtown
(Complaints About Physical Problems
or Inadequate Selection of Stores and Goods)

Trade Area	% Remediable Complaints
1	62.7
2	53.8
3	65.8
4	53.3
5	19.3
6	22.2
7	14.3
8	20.0
9	10.2

Source: Gruen Gruen + Associates telephone survey

Computations following these rules permitted us to develop the estimates of maximum percentage effective preference or penetration presented below in Table 11. The insertion of these percentages in the sales estimate generating equations we have been using throughout permits us to make the forecasts of potential sales summarized in Table 12. The forecast sales potential of almost $42 million in 1975 would have downtown Santa Maria capturing 26.4% of the region's sales. By 1985 potential sales climb to almost $58 million in spite of the fact that our model has downtown Santa Maria's share of the region's sales dropping slightly to 25.4%.

Table 11

Estimated Maximum Effective Preference (S)
or Percentage Penetration Possible
After Appropriate Redevelopment

Trade Area	Clothing	Home Furnishings	Other Retail
1	76.2	74.5	19.9
2	74.3	69.1	10.4
3	76.3	72.2	12.9
4	56.9	53.0	8.6
5	19.3	19.3	2.1
6	22.2	22.2	1.5
7	14.3	14.3	1.6
8	20.0	20.0	2.8
9	10.2	10.2	1.5

Source: Gruen Gruen + Associates

Estimated Downtown Santa Maria Future Sales Potential
(In Thousands of Dollars)

Trade Area	$ Available In Region 1975	Potential $ Sales In NDP 1975	$ Available In Region 1980	Potential $ Sales In NDP 1980	$ Available In Region 1985	Potential $ Sales In NDP 1985	% of Regional Sales to NDP
1	21,347	12,520	23,950	14,047	26,764	15,693	58.6
2	9,159	4,940	10,665	5,753	12,369	6,673	53.9
3	15,852	8,916	18,705	10,521	22,956	12,912	56.2
4	6,759	2,806	7,949	3,300	9,473	3,933	41.5
5	19,676	2,756	22,963	3,217	26,613	3,728	14.0
6	18,030	2,854	20,878	3,305	24,042	3,806	15.8
7	9,065	942	10,920	1,135	13,106	1,362	10.4
8.	25,355	3,729	31,043	4,566	38,198	5,618	14.7
9	33,589	2,527	42,857	3,224	53,925	4,057	7.5
Total	158,831	41,990	189,931	49,068	227,447	57,782	

Source: Gruen Gruen + Associates

EXHIBIT 10 (Continued)

EXHIBIT 10 (Continued)

Table 30

Proportion of Expenditures In Downtown

Trade Area	% Clothing	% Home Furnishings	% Other Retail	% Service
1	15.9	20.5	18.8	33.3
2	22.6	22.8	9.5	35.9
3	13.1	15.5	11.8	23.0
4	5.7	7.0	7.7	5.3
5	5.4	4.5	1.1	4.0
6	2.9	0.9	0.5	1.8
7	2.5	1.5	0.6	0.6
8	6.6	5.0	1.3	3.5
9	2.0	0.6	0.5	0.6

Source: Gruen Gruen + Associates telephone survey

Table 31

Banking, Repair, Beauty Parlor/Barber Shop and Similar Services Obtained Downtown By Consumers of Differing Incomes

Household Income	% Generally	% Occasionally	% Seldom
Under $7,000	43.7	22.9	16.0
$7,000-10,000	43.3	20.0	36.7
$10,000-15,000	60.7	12.5	26.8
Over $15,000	61.5	21.2	17.3

Source: Gruen Gruen + Associates downtown survey

6. Final stage was to write up a series of specifications or profiles on tenants, product design and components, and a cash flow analysis of the entire project from the viewpoint of the developer so he could see how much money there was to make. Then he would know that the city knew the financial aspects of the project. Developers were then asked to bid.

B. In the case of Santa Maria, three developers bid and the city picked Ernest Hahn to build the project. There was no demolition or site acquisition before the start of the EMAS. The entire project was done within a four year period. For the first six months of complete operation, June 1976 through December 1976, sales were approximately 15.6 million and the project was only 70% leased. The Mall did 4.9 million, Sears - 6.9 million, and a local department store - 3.7 million.

IV. Generalized Format of Merchandising Report Summary

Cash flows ultimately depend on sales or rental revenues and further refinements of the frontdoor-backdoor approaches depend on establishing an explicit set of assumptions about the geographical market area, the user segment within that market area, and so on. All you buy in a real estate investment is a set of assumptions about the market. Therefore, the analyst should provide and identify a marketing assumption checklist for the reader:

A. Definition of geographic and demographic market

1. Primary trade area to be served
2. Profile of prospects by current location, status, income, etc. in primary carefully segmented area.
3. Secondary trade area to be served
4. Profile of prospects by current location, status, income, etc. in secondary carefully segmented area.

B. Definition of principal competitors

1. Existing supply
2. Prospective supply with timeline advantage
3. Competitive standard package of project features
4. Unique features of successful competitors
5. Probable cause of unsuccessful competitors
6. Merchandising appeals of competitors
7. Definition of market penetration and competitive gap

C. Establishment of merchandising strategy logic

1. Competition

- Standard product
- Price and quality
- Competitive edge opportunity

2. Positioning strategy

- Sales themes
- Name and byline
- Site and unit features
- Strong sales points

3. Construction and architecture

- Sales area
- Models
- Entrance and signs
- Project amenities
- Roads and paving
- Site plan
- Construction schedule

D. Definition of prospect target for subject property

1. Recommendations on site location
2. Recommendations on site linkages and dynamics
3. Recommendations on building types and numbers
4. Recommendations on basic unit features
5. Recommendations on basic unit options
6. Recommendations on level of quality
7. Recommendations on basic price targets

E. Structuring the feasibility report

Ultimately the budget established for analysis and the need to communicate the findings represent a severe constraint on the feasibility process. Priorities and critical assumptions necessary to achieve the desired outcome must be separated from the great mass of detail and presented tersely.

1. Format of the report should rely on three elements:

   a. An executive summary which tersely identifies alternative courses of action and recommendations as to how client can make the choice.

b. A basic reference document which includes all the detail analysis.

c. A collection of reports by contributing professionals incorporated by reference.

2. To be terse the executive summary should depend on:

a. Simple charts of choices of alternative outcomes

b. Simple flow charts

c. Specific criteria used to measure "liklihood of success"

3. Statement of limiting conditions should first begin with a definition of the word "feasible": (as per Institute of Appraisal Terminology Handbook), and then state that it was the purpose of the study to define the context of the situation and the parameters within which a solution might be found to fit the major constraints with a reasonable liklihood of success. It should carefully point out that the generalist has made a series of explicit assumptions which may, nevertheless, need confirmation by more detailed study best done by specialists. The statement of limiting conditions should further emphasize the constraints and objectives placed on the study by identifying <u>who</u>:

a. Defined the constraints
b. Defined success
c. Provided the data and assumptions
d. Permitted key assumptions to remain untested for economy or speed
e. Accepted assumptions of conditions of uncertainty
f. Assembled proforma financial statements and projections
g. Executed feasibility confirmation of key assumptions with aid of specialists
h. Placed limitations on use and confidentiality

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The Economic Structure of Real Estate Syndications and Its Impact on Real Estate Assets

By Terry V. Grissom

Introduction to the Problem

As a result of the current economic environment, especially high to moderate interest rates and expectations of inflationary capital markets, the traditional methods of capital formulation for real estate projects have been curtailed for many investors and developers. Therefore, other sources and techniques of generating investment capital are being sought. The occurrence of negative leverage and the increased marketing of real estate as an investment contract suggests that more equity dollars might be placed in projects. The need to develop sources of equity dollars is being met by the use of equity syndication and/or equity participation. Much has been published on the legal and practical aspects of the creation and management of syndications. The major contributors to the literature in this area have been real estate finance textbooks and *The Real Estate Securities Journal*® of the REAL ESTATE SECURITIES AND SYNDICATION INSTITUTE® (RESSI®).[1, 2, 3]

Little has been published on the real estate economic ramifications of syndication and its potential impact of value estimation.[4, 5, 6, 7] The object of this article is to analyze the general economic structure of syndications in order to aid various decision makers in identifying the impact of syndication structures on the underlying real estate. In this manner syndication can be viewed as an alternative form of financing a project.

Nature of the Syndication Enterprise

Conducting an economic analysis of syndication structures is difficult due to the diverse nature of their organization. Syndications can have various ownership structures *(i.e.,* corporations, limited partnerships, joint ventures). They can be

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structured from the perspective of public and/or private offerings. Furthermore, they can deal with specified properties, blind pools or an individual property. Syndications are subject to various levels of regulation based upon the nature and organization of the program, its size and its objectives. Despite these reasons for variety, the majority of syndications have a similar thrust. They are investments that promise or propose certain returns over time for an investment or outlay of current dollars. Also, the sponsors in most syndications have similar objectives: 1) to maximize their own wealth and 2) to offer a marketable program.[8]

The major concerns of regulators, investors, sponsors and analysts are: 1) the real properties or property to comprise the syndication portfolio and 2) the compensation and fee structures considered in the syndication operations, *(i.e.,* the cost of the combined financing, management, diversification, and expertise package). These attributes also determine the marketability and comparative desirability of one syndication and its property or properties to other investment alternatives.

Syndicators/sponsors, investors, and regulators where a merit system is in force, are basically concerned with investment value concepts. However, a market comparative analysis enables one to qualify or empirically support economic decisions under various states of risk and/or uncertainty. The significance of the relationship of the two concepts to the economic analysis of syndication was illustrated in the 1981 adoption of a new definition of investment values by a joint committee of RESSI® and the American Institute of Real Estate Appraisers (AIREA). The new definition states that:

> Investment value is the present worth of the anticipated future benefits of an investment. When the characteristics of the investment meet the requirements of investors who typically make such an investment, the investment value estimated is actually market value.[9]

The Board of Governors of RESSI® adopted this definition but AIREA failed to concur. However, a few contemporary appraisal theorists support the spirit entailed in the RESSI® definition of investment value and its relationship to market value.[10, 11, 12]

The significance of identifying the appropriate value definition in the analysis of real estate problems is much like formulating the general hypothesis of scientific method; it allows the analyst to relate fitting techniques to the problem situations. As will be observed, in this article the definition enables the analysis to focus on the impact of economic structure as it affects comparative investment decisions.

The Institutional Constraints of the Syndication Structure

In investigating the nature of the syndication enterprise it is found that funds invested in the syndications are allocated to two basic entities: 1) the syndication

structure and 2) the property or properties held or to be held by the syndication.

It is also observed that the returns to the syndication accrue through the operation and marketing of the real estate or investment vehicle. The skills and abilities of the sponsors and syndication employees can contribute to the returns received by the real estate. Since the compensation is the dollar measure of the real estate expertise, then the loading of these costs into the investment analysis enables an understanding of the risk and return trade-off of various syndication structurings. Furthermore, a comparative sensitivity analysis will enable the investor, sponsor, regulator and real estate advisor to identify the preferable investment vehicle and/or syndication structuring.

In order to conduct the economic analysis it is necessary to understand the institutional parameters and loadings that may be structured into any given syndication deal. Sharon Laufer of the Texas Securities Board breaks the compensation plans for sponsors and syndication employees into three major groups:

I. Front End Fees/Expenses

   a) Organizational and Offering Expenses
   b) Acquisition Fees and Expenses
   c) Miscellaneous
   d) Insurance Brokerage Fees

II. Operational Fees/Expenses

   a) Partnership/Promotion Interest (program management or investment management fees)
   b) Property management/leasing fees
   c) Expenses (reimbursements)

III. Back-End Fee/Expenses

   a) Partnership/Promotional Interest (participation interest in sales proceeds)
   b) Resale Commission.

Returns and/or fees to the various investors in a syndication can be classified as:[13]

1. Guaranteed – This fee or return is paid regardless of funds available from the property(ies). They often have to be funded from reserves or from additional investor contributions.
2. Preferred returns – The returns receive first priority after guaranteed fees. The first priority returns are only distributed if the cash is available. Deficiencies are made up over time.

3. Residual returns – They are returns that are left over after the guaranteed and preferred returns are paid. The residual returns *(i.e.,* from cash flows or sales proceeds) are usually prorated between the investors and sponsors such as a 90-10% split.
4. Capital returns – These are the gains or lump sum capital amounts received at sale or through refinancing. The capital returns are usually prorated on the basis of a contractual agreement such as 75% to the investors and 25% to the sponsor.

The timing of the various syndication fees and their quality or duration can have a significant effect on the value, returns, and risk position of a syndication investment. An example of alternative compensation methods using the classifications above occurs when the sponsors reduce the acquisition fee or sales commission on the front-end so that for each 1% of reduced commission up front, they receive 3% in equity participation in the back-end loadings.

Methods of Analysis

The compensation plans and the various investor returns can be considered in the context of the Capital Outlay Required Revenue Model (CRA) and the Market Revenue Justified Investment Value Model (MRI).[14, 15] The interesting aspects of these models for syndications as well as other investments is that they allow the identification of four concerns needed in real estate decisions. They are: 1) an identification of the allocation or distribution of funds to various sources, 2) the required return that must be received given a specific capital outlay, or 3) the justified investment possible given market revenue potential, and 4) the identification of sensitivity between the required return on cost and the justified investment based on market rents.

In order to understand the economics of a syndication, a specific case will be used. The following property and financial information is applied within the traditional framework of the CRA and MRI models. The models are then expanded to consider a syndication structured as a limited partnership.

Case Application of MRI and CRA

Example Project:

— 300,000 Square Foot office building (GROSS)
— 87% efficiency ratio
— Net leasable area = 261,000 S.F.
— Cost per Square Foot: $50.00 (new)
— Loan to Value Ratio: 80%

— Mortgage terms: interest rate 14% compounded monthly, 30 year amortization period, three year roll over.
— Equity Dividend Rate 10%
— Operating Expenses
  1) Real estate taxes – 10% of gross income
  2) Operating Expenses (fixed and variable) – 18% of gross income
— Vacancy is 5%
— Market Rentals indicate a possible $10.00-$10.50 per square foot for comparable structures
— Breakeven point is 85% (a management decision based on the break-even points of previously managed properties).*

Application 1: CRA, Traditional Financing

(Real Estate) Cost New = $15,000,000

Equity
3,000,000 = 1 − M(1 − .80) = .20)
x .10 (Re) Equity Dividend Rate

*.80 L/V Ratio (M) → Debt $12,000,000

Mortgage Constant (R_M) = X .142185

300,000 = (CTO) cash throw off + Annual Debt Service (ADS) = $ 1,706,220

NOI = $2,006,220

Expense loadings as Percentages:

Real Estate Taxes	= 10%
+ Operating Expenses	= 18%
+ Vacancy	= 05%
Total Loading	= 33%

1 − Exp.

1 − .33 = .67

$$PGI = \frac{NOI}{1 = Exp.} = \frac{\$2,006,220}{.67} = \$2,994,358$$

PGI/NLA = $2,994,358/261,000 S.F. = $11.473/S.F.

Say $11.47/S.F.

*The breakeven point is a management decision stated as a ratio dividing the expenses and outflows of the project by the potential gross income to be received (see Reference 14). A similar model, the financial feasibility model uses a debt coverage ratio method (DCR); however, the significance of management to syndication performance recommends the use of the BEP concept.

If the market for comparable properties illustrates a possible rental of $11.47/S.F. or more, this is a viable project. If the market indicates a lower rental, the capital outlay can be exposed to a possible risk of loss as the result of market competition (principle of substitution). The comparison of the real estate market to the proposed real estate investment components of a given syndication enables a method for testing the assumptions of a syndication offer. The traditional MRI model can be used for the test.

Application 2: MRI, Traditional Financing

PGI = $2,610,000 (261,000 S.F. @ $10.00/S.F.)

*.85 / 1 − .85 → Cash Expenditures 2,218,500

Cash Margin
$391,500
130,500 Vacancy
$261,000 CTO

less:

÷ .10 (Re) Divide by Equity Dividend Rate

RE taxes (Retx) − 261,000
Operating Exp. − 469,800

Cash Available for Debt Service = 1,487,700

Divide by R_M .142185 / $10,463,129

$2,610,000 (JEA) Justified Equity Amount + Justified Mortgage Amount (JMA)

Justified Investment	$13,073,129
Value (JIV) Say	$13,073,000

As Application 2 shows, given a lower market rental, the expected income returns are not able to carry the equity and debt loads indicated by the original budget plans. The justified investment value is $1,927,000 less than the architectural cost. This would suggest a high degree of market risk associated with the real estate project as planned using traditional financing.

Expansion of the Models

Because the CRA and MRI are basically concerned with the allocation of funds between alternative sources they can be appropriately expanded to deal with the dual entity syndication structure.[16]

The models are expanded in Figures 1, 2, 3 and 4 to further illustrate the distribution of funds between the two entities. The distribution of funds then

allows the identification of the syndication structure on real estate assets. The numerical examples for the allocation of the syndication capital are extracted from actual syndication prospecti and are reinforced by discussions with representatives of the Texas Securities Board. The syndication capital allocations will be explained following Figure 2.

The marketing program of the syndication to be considered in Figure 2 will be composed of two equity investor groups and the general partner. The general partners will receive a 15% residual interest at the end although putting up no initial capital. The limited partner investor groups are comprised of one group that will receive a guaranteed dividend return of 6% and have a 44.4% ownership interest in the project. The second investor group will receive a 9% dividend return and have a 55.6% equity interest in the project. The guaranteed return shares earning 6% will be sold in $4,000 units. Five hundred (500) units are to be sold. The 9% return units are to be sold in $2,500 units (minimum initial cash purchase allowed by NASAA). One thousand (1,000) units will be sold. The expected maximum sell-out of shares will generate a gross proceeds to the example syndication of $4,500,000.

Explanation of Expenses and Logic Used in the Figures

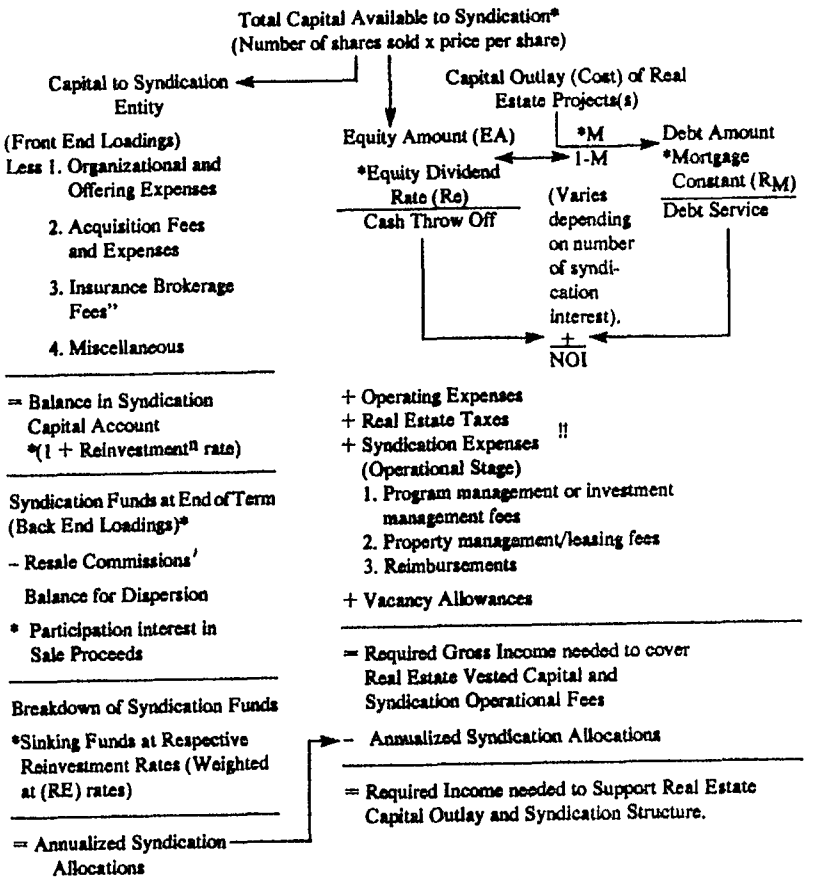
As stated earlier, the syndication vehicle is divided into two entities: the syndication and the real estate. The real estate side of the CRA Model is similar to the CRA model illustrated in Application 1 except for the need to segment and weight the various equity dividend rates (Re) witnessed in this syndication structure. The guaranteed return equity position has a 44.4% ownership interest and expects a 6% return. The second limited partnership position has a 55.6% interest and is seeking a 9% preferred (Re) return. The general partners will retain a 15% residual or subordinated interest after the investor's capital has been returned plus a 6% periodic accumulated return. The return of the limited partners' weighted rates is an effective 7.668% weighted equity dividend rate.

The other variance of the CRA Model in Figure 2 deals with the treatment of syndication operational expenses. These fees are included in this manner based on the interpretations of several syndication prospecti, discussions with the Securities Board and the literature.[17, 18, 19]

The syndication loadings during the operational stages are threefold. 1) The syndication/partnership interest deducted via the cash flow is the program or investment management fee. Investigation suggests they range from 5% to 6.25% as a fix rate and may go to 10% if a 4% to 6% cash distribution charge is included. It is usually taken as a residual position of operational income after debt (CTO). 2) The second operation fee taken is the property management/leasing fee. These fees are usually stated as a percentage of gross revenues (PGI). The observed percentages are 5% of PGI for residential and 6% for commercial. In some cases the rate can be staged in accord with the lease term. An example might be a rate of

Figure 1

Capital Outlay Required Revenue Model Considering Syndication Loadings



* The structure of this model directly considers the coverage of guaranteed and preferred returns. The residual and capital returns are considered only in an indirectly manner.

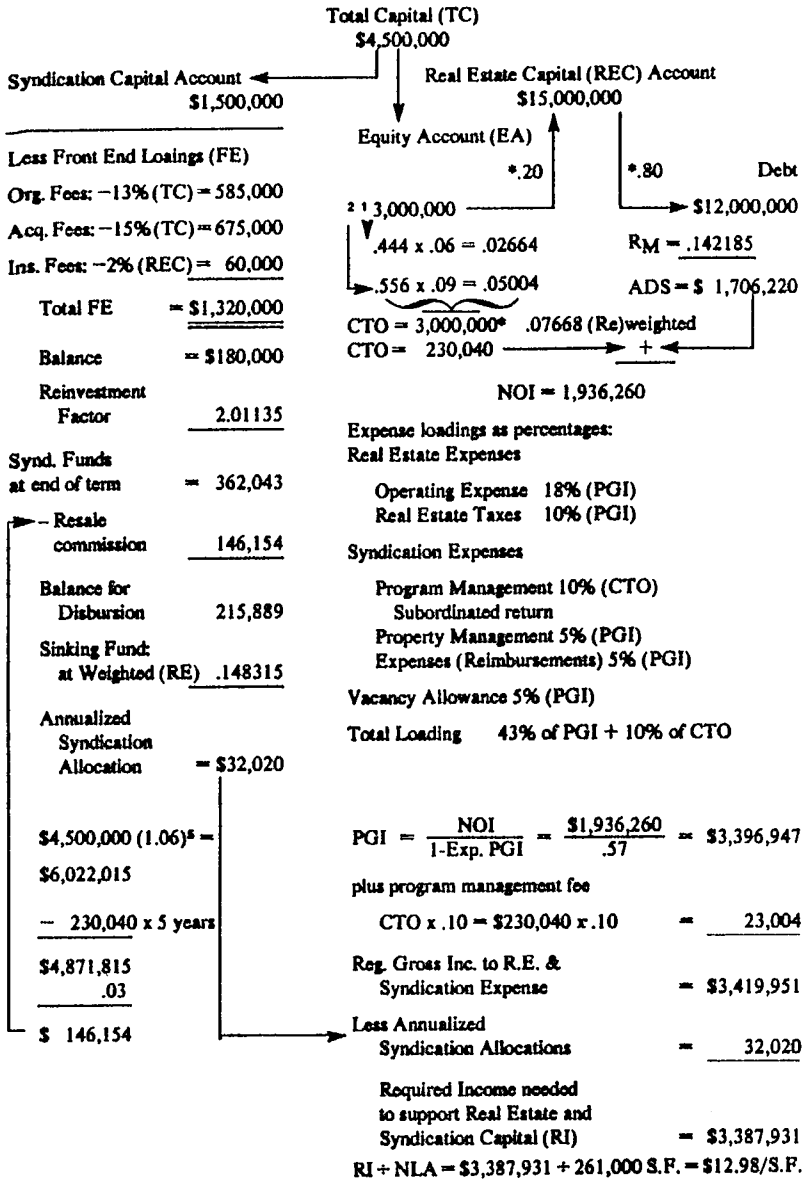
!! The program management fees may be deduced periodically from the annualized syndication allocations.

" The insurance brokerage fees may be spread over several years and deducted as additional operating expenses.

/ The resale commission is 6% maximum if an outside broker is used. If the sponsor participates in the resale of property in the syndicate's portfolio a 3% commission subordinated to a 100% return of the capital contribution plus an amount equal to 6% of the capital contributions calculated on per annum cumulative basis. Deducted from this buffer is the periodic cash distributed over the holding period (CTO).

Figure 2

Numerical Example of Capital Outlay Required Revenue
Model Considering Syndication Loadings



3% is charged if a 10 year lease net basis is signed and a 5% rate for a 5 year lease. 3) The expenses for reimbursements of capital from the syndication entity to the real estate is usually projected on the basis of 5% of PGI.

The left hand side of Figures 1 and 2 consider the syndication capital allocations. The policy of NASAA and numerous prospecti suggest that at least 80% of the capital funds raised must be invested in real estate. This can be reduced to 67% if a maximum of 80% debt is incurred for the purchase of property.* Based on these capital proceed allocations, 33% of the example's total capital is directed to the syndication account.

The front-end loading via their nature are deducted from the syndication account first. The first loading deduction is for organizational and offering fees. This deduction includes both organization and offering expenses that can range from 2.4 to 5% and selling (syndication shares) or underwriting expenses, which are usually around 8%. The total amount used in Figure 2 is 13%. The organization fees, etc. are normally taken as a percentage of gross proceeds. The second set of front-end loadings are the acquisition fees and expenses. They are the fees paid to the syndication employees (general partner) for acquiring the property to be included in the program. Note that these two loadings allow for a sales commission on a sale of the security shares. The acquisition fee is usually 14½% to 15% of the gross proceeds. The final front loadings typical of syndication are the insurance brokerage fee and allowance for miscellaneous expenses. The miscellaneous expenses can vary per specific case; however, the insurance fees are typically 2% of the real estate capital outlay. The insurance brokerage fee can be taken as an operational expense in some cases.

The deduction of the front-end loadings from the syndication account enables an estimation of any residual balance.** This balance is often placed in liquid investment alternatives such as savings accounts, money market funds, certificates of deposit, etc. The syndication group usually considers their marginal opportunity cost and perceived liquidity needs to choose the investment vehicle.[20] This is also the treatment of syndication shares that are received and will not be disbursed for some time. In our example the excess funds are invested in a liquid investment returning 15% over a 5 year holding period. This is the investment horizon specified in the prospectus and consistent with its prediction or forecast. The projection of the syndication fund over the holding period in this manner enables an approximation of the account available for distribution at the back-end.

*It is in this section of the prospectis that close scrutiny is recommended. Many offerings load syndication fees in a manner such that they often appear as real estate dollars.

**Some prospecti investigated show the acquisition fees as being amortized over the holding period. Further observation and experience has suggested that they are truly deducted on the front end.

On back-end loading is the resale commission. The NASAA-allowed resale commission is 6% (varying with region). If the sponsor participated in the resale, NASAA limits the commission to 3% subordinated to a 100% return of the capital contributions, plus a loading of 6% of capital contributions per annum. If an outside broker is used, the commission is based upon the value of the real estate at the end of the holding period. In this example since the sponsor is handling the resale, the fee is paid from the syndication account. The deduction of the resale commission enables an approximation of the syndication account available for disbursement to the various partnership interests. In this example the disbursement will be in accord with the 44.4-55.6% limited partner interest established at the initiation of the enterprise for a return of the capital contributed. The general partners will then participate in the appreciation. The sponsor's interest will be at 15% subordinated in the same manner as the resale commission.

Since the CRA Model is attempting to determine the income per unit of real estate required to recoup the total capital outlay, the balance of the syndication account is converted to an annualized income amount by use of a sinking fund method. The sinking fund is at the reinvestment rate of 15% because that is the potential rate of return representing the opportunities for investment lost by tying capital up in the syndication account. This annualized income allowance is then deducted from the required rent needed to carry the real estate investment and the operational syndication loadings. This negative adjustment is made because a lower rent is required than indicated by the typical CRA constraints due to the cash buffer afforded by the syndication account. (The author is aware that an accrual accounting procedure has been included in a solvency model.)

The results of the capital outlay required rent analysis indicates that a higher rent than charged in Application 1 should be charged to carry the syndication loadings. The difficulty in this is that the market may not compensate a parcel of real property for the additional loading charges required by a syndication for the skills, knowledge, and expertise of its employees. The point of initiation to understand the project's ability to carry the real estate and the various syndication loadings might be better observed by use of the Market Revenue Justified Investment Value Model (MRI). The MRI Model with syndication loadings is depicted in Figure 3 with a numerical example illustrated in Figure 4.

Figures 3 and 4 illustrate the impact of considering market constraints and the syndication operational expenses on the capital that is justified as an investment in the real estate. The MRI model in Figure 4 also considers the potential of syndication reserves (or in this case a drain, −$177.00) on the cash flow to the property. The influence of the MRI model as applied to the example case is that $3,541,396 or $541,396 more equity can be placed in the subject property(ies). The MRI application also suggests that a shift in the syndication structure should be altered given the market environment. The market origin supports a 54.5% guaranteed interest position to the overall project rather than a 44.4% position.

This preferred interest component is altered from 55.6% to 45.5% in relation to the overall project. Such a shift results from the lower rate required to the guaranteed position. However increased marketing efforts will be required because of the need to raise $2,452,500 in capital rather than $2,000,000 in the guaranteed interest market. At $4,000 per share this will require the sale of 113 more units. However, the preferred position need only generate $2,047,500 in capital. This is a decrease in required sales of approximately 181 units.

The trade-off at this point may be increased marketing cost and business risk for a decrease in the financial risk. The financial risk can be reduced since the guaranteed return will be paid for a lower cost of capital. However, even at a lower cost of capital, which infers more equity (JEA) should be placed in the project, less total capital is recommended as a justified investment in the real estate (JIV_{RE}).

Despite that less capital is justified as investment in the real estate, a concern is that more funds must be raised to cover all the needs of the syndication. This is referred to as the Required Syndication Investment Value (RSIV). The RSIV is $5,314,219. RSIV is calculated as follows:

The majority of front-end and back-end syndication fees are loaded via division into the justified equity investment in the real estate (JEA). This loading is done in order to establish the amount of funds that must be raised to support the investment in the real estate and further support the stated requirements of the syndication entity. This allocation is important since the real property is the direct productive agent of the investment vehicle. Also, any reduction in these syndication loadings may assure a viable project supported by a competitive offering in the market. The RSIV is determined by the plans of the sponsor. The sponsor's awareness of real estate markets, financing, and investment markets may lower the RSIV.

Given the institutional structure of syndication, the analyst must consider the need for an increase in required returns or a decrease in the justified investment as they both relate to a specified amount of venture capital. An understanding of the institutional structure leads to a different conclusion than the findings discussed earlier in Application 1.

In Application 1 using the CRA, an equity investment of $3,000,000 required a return of $11.47/S.F. (Gross Rent) to reward both the entity and debt portions of the investment as well as cover all the operation expenses. Under the syndication structure depicted in Figure 2, $4,500,000 of total capital was to be raised. Three million (67%) of the total capital is to be allocated to the real estate assets of the venture. The extended CRA model then suggests that the required rent under this syndication is $12.98/S.F.

Neither of these options compares favorably with the market rental of $10.00/S.F. The MRI model suggested a justified investment value of $13,073,000 with equity of $2,610,000 if traditional financing is used. If the syndication structure is considered the MRI model supports an investment of $12,100,000 in the real estate using $3,541,000 as an equity contribution. However, to initiate the

Figure 3

Market Revenue Justified Investment Value Model Considering Syndication Loadings

Potential Gross Income Based on Market Rental Rate Times NLA

Breakeven Point (BEP) → Cash Margin

Equity Account ← 1 – BEP

– Vacancy Allowance

– Reserves from Real Estate

+ Reserves from Syndication Account

= Cash Throw Off

Partitioning of CTO to Equity Interest

Limited Partners %

\+ 1. Guaranteed % + Re

\+ 2. Preferred % + Re

Less:

–1. Real Estate Taxes

–2. Operating Expenses

–3. Syndication Expenses

a. Program Management or Investment Management

b. Property Management/ Leasing Fees

= Cash Available for Debt Service

\+ Mortgage Constant (R_M)

Justified Equity (JEA) → + ← Justified Mortgage (JMA)

Funds from syndication available for participation interest in sales proceeds.

Breakdown of Syndication Funds – Based on % Equity Interest in Share of Expected Shares: i.e.: Share Price X Maximum number of shares – less Total of syndication loadings and projected equity amount

*Weighted Sinking Fund Factors at Respective Reinvestment Rates

= Total Potential Annualized Syndication Funds Available for Reserves

Justified Investment Value (in Real Estate)

Front End Loadings (as percentages):

1. Organizational and Offering Expenses

\+ 2. Acquisition Fees & Expenses

\+ 3. Insurance Brokerage Fees

\+ 4. Miscellaneous

= Accumulated % Front End Loadings

Back End Loadings:

\+ % Resale Commission (% JIV)

= Total Accumulated % Syndication Loadings

$$\frac{\text{JEA for Real Estate}}{1 - \text{Accumulated \% Syndication Loadings}} = \text{Justified Investment in Syndication } JIV_S$$

Figure 4

Numerical Example of Market Revenue Justified Investment Value Model Considering Syndication Loadings

Market Rents X NLA = PGI

$10.00 x 261,000 S.F. = $2,610,000

PGI = $2,610,000

Equity Account

*.85 → Cash Margin $2,218,500

*1-.85 → $391,500

130,500 Vac (5% PGI) Potential Reserves From Syndication

+(–177)

=260,823 CTO

*1) .444 → $115,805 + .06 = $1,930,090

2) .556 → 145,018 ÷ .09 = $1,611,306

(Might be linked to Reserves Available)

Less:

(10% PGI) RE tx	=	261,000
(18% PGI) Op. Exp.	=	469,800
(5% PGI) Prop. Mgt.	=	130,500
(5% PGI) Reimburse	=	130,500
(5% CTO) Inv. Mgt. Exclusive of Reserves	=	13,047
ADS	=	$1,213,653
R_M	+	.142185

$3,541,396 = Say $3,541,000

Justified Equity (JEA) + Justified Mortgage (JMA) $8,535,731

JIVRE = $12,077,127 = Justified Investment Value in Real Estate at $12,100,000

A. Front End Loadings as Percentages:

1.	Organization Fees	13% (TC)
2.	Acquisition Fees	15% (TC)
3.	Insurance Fees 2% x 67% = Total % FE	1.34% REC at 67% TC = 29.34%

B. +Back End-Resale Commission 6% x 67% 4.02 (REC)

Total Loadings 33.36%

Participation Interests

$ 4,000 x 500	=	2,000,000
$ 2,500 x 1,000	=	2,500,000
Total Shares Value	=	$4,500,000
Less:		
33.36% (FE + BE)	=	1,501,200
Estimated RE Equity		3,000,000
Total Syndication Funds Available for Reserves		– $1,200
S.F.F.		* .148315
		–$177.00

Required Syndication Investment Value (RSIV)

$$\frac{\text{(JEA)}}{1-.3336} = \frac{\$3,541,396}{.6664} = \$5,314,219$$

RSIV = Say $5,314,000

JEA = less: $3,541,396

Syndication Loadings $1,772,604

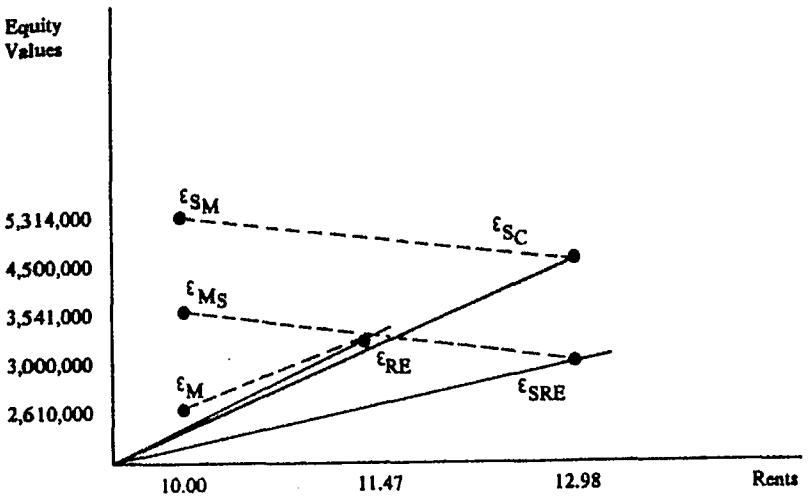
planned syndication structure, $5,314,000 total capital must be raised to generate the $3,541,000 equity suggested for the hard assets.

The significance of the variances between these various capital structures is illustrated in Figure 5.

Figure 5 illustrates the concept of income or rental elasticity. The elasticity is used to make a comparison between the traditional financing and the syndication structure as each relates to the real estate rental market. Elasticity can be considered as a method of measuring sensitivity. The sensitivity depicted in Figure 5 is the relative or proportional change in equity values given a percentage change in rent.

Figure 5

Value to Rental Elasticities[21]



*The dotted lines of elasticity are geometrically linear for convenience (see Appendix for details).

The percentage change in equity value given a percentage change in rental income is significant in that it allows the qualification of the economic structure of a syndication or financing in respect to market revenue risk. Since elasticity is a relative concept (elasticity is not to be confused with slope), a unit must be identified as the basis for the comparison or ratio analysis. The basis used for the traditional financing comparison is the architectural cost and required rent figures of the CRA model used in Application 1. The cost is used as the base because real estate decisions are often originated with an architectural plan. The concern then

is whether this plan be supported by the market demand. The equity contribution based upon the architectural cost is $3,000,000. The required rent is 11.47/S.F. The market indicates a $10.00 per square foot rental and a justified equity investment of $2,610,000 (via the MRI model). The base is represented by $^{\varepsilon}RE$. $^{\varepsilon}RE$ represents unitary elasticity (*i.e.*, $^{\varepsilon}RE = 1$). Unitary elasticity implies that for every percentage change in rent there is a proportional change in equity value. $^{\varepsilon}M$ to $^{\varepsilon}RS$ represents are arc elasticity between the MRI value using traditional financing and the cost. The $^{\varepsilon}M$ as point elasticity equals 1.014. The arc elasticity is .984.[22] What this implies is that as the rentals change by 2% there will be a corresponding change of 1.014% or .984% in equity value respectively. This increasing in positive elasticity suggests that the real estate deal under traditional or bank financing is subject to an increasing degree of market rental risk. The ability to make a decision between the two methods is improved when we compare the traditional elasticity measure to the rental elasticity under the syndication structure. The syndication elasticity is represented by line $^{\varepsilon}MS - {}^{\varepsilon}SRE$ in Figure 5. The syndication structure has a point elasticity of −.7855 and an arc elasticity of −1.5678. This elasticity represents the difference between the justified investment in the real estate versus the planned equity investment in real estate proposed by the syndication structure. It also compares the market and required rents.

The aid to decision making comes in illustrating that not only is the allowed equity investment greater under the syndication structure but also the sensitivity of the equity is less subject to market rental fluctuation $^{\varepsilon}MS < {}^{\varepsilon}M$ ($-.7855 < 1.014$) or $^{\varepsilon}MS - {}^{\varepsilon}SRE < {}^{\varepsilon}M - {}^{\varepsilon}RE$ ($-1.5678 < -.984$). The market rental sensitivity of the real estate under the syndication financing is less than the market rental risk of the real estate under the traditional financing structure.

Furthermore, it is observed that the rental elasticity of the syndication $^{\varepsilon}SM - {}^{\varepsilon}SC$ is less than but close to unity (1). $^{\varepsilon}SM$ as a point equals −.7879. Its arc elasticity equals −1.56346. The overall syndications sensitivity is similar or parallels to some degree the riskiness of the real estate in the syndication.

The syndication structure in relation to the market (Figures 1, 2, 3 and 4) suggest that more equity dollars can be invested in the real estate but less total dollars can be placed in hard assets. However, in this case the financial structure of the syndication may be beneficial because the equity position of the limited partners is less sensitive to market rental fluctuations.

Conclusions

Awareness of the economic structure of syndications can aid the investor, regulator, and other decision maker in identifying several considerations needed for investment value decisions. One consideration is that the proposed method allows the identification of the manner in which dollars invested in the syndication

are allocated. The allocation can be between the real estate or the syndication enterprise. The allocation of funds can also be further stratified within these two entities.

Second, the MRI-CRA model enables a limited testing of investment financial structure against market performance for similar properties or competitive syndications. The use of cross-elasticities as well as income elasticities is an area of research that may further aid analysis in this area.

Third, these models enable the decision maker to identify possible measures of finance and market risk. In identifying the types of risk, one can choose to offset one type of risk with the other. The choice will depend on the investor's financial exposure and/or economic preferences.

Finally, many real estate analysts such as appraisers often limit their concern to the real estate assets in the syndication's portfolio. Real estate academicians cannot afford this luxury. This article suggests that as alternative financing can alter real estate values, so too can the structure of syndications. The development of skills to recognize the compensation of the various factors of production involved in real estate enterprises other than the real estate assets (land and capital) alone will enhance the ability of the analyst or decision maker to meet the growing demand for more comprehensive business valuations.

The future expectations of demand for comprehensive valuation services are illustrating a need for business schools to teach a more integrated or generalist approach towards the various functional areas in their curriculum. The synergistic economic structures of real estate investments and syndications are business activities that will require decisions needing value estimates. The growing tendency to view real estate as an investment contract suggests that future real estate markets may be based on the unit of value per share. Therefore, the structure of the enterprise, the management and their impact on the real estate assets in terms of value estimation will become increasingly more difficult to separate. The study of real estate syndications and securities is an appropriate area to begin. The structure of syndication (security offers) entailing a financing, management, and diversification scenario package have a definite impact on real estate values (in terms of the principles of substitution and anticipation). This impact is such that traditional appraisal assumptions such as eminent domain definitions of market value, average management and general asset markets for a property type do not represent economic reality. Inductive analysis and a reconsideration of the economic assumptions are the foundations.

APPENDIX

Elasticity (ε) is concerned with the percentage change in one variable in response to a percentage change in another. The changes are stated as a ratio:

$$\varepsilon_I = \frac{\Delta V}{V} / \frac{\Delta I}{I}$$

where: V = value or cost
I = Income or rent
Δ = connotes a change.

The ratio of concern is the percentage change in value as it relates to a percentage change in income (or rent). The elasticity considered in Figure 5 is much like income elasticity. Therefore, the elasticity over a range will approach 1 (unity).

The variables considered in Figure 5 used the cost and required rent of the traditional CRA model as unitary elasticity with basic consideration given to traditional real estate financing. The cost and required rent of the syndication CRA model were used as unitary elasticity in showing the impact of market rental risk and real estate value sensitivity under the syndication model. The CRA model for the overall syndication was also used to show the market rental risk of the syndication enterprise.

The elasticity measures can be identified as a point or as an arc. Note the process approaches 1 (unity) as long as the elasticity is positive. If negative, then the percentage response increases the distance from one.

Real Estate Asset Sensitivity to market rental change under different economic structures.

Elasticity Measures

		Arc	Point
Traditional	$\varepsilon_M - \varepsilon_{RE}$	.984	1.014
Syndication	$\varepsilon_{MS} - \varepsilon_{SRE}$	−1.5678	−.7855

Syndication Sensitivity to market rental change under different syndication structures.

	Arc	Point
$\varepsilon_{SM} - \varepsilon_{SC}$	−1.56346	−.7879

The syndication elasticity is increasing to 1 (going towards the base). This is because the syndication elasticity is less than unity. The syndication structure's elasticity parallels the responsiveness of the real estate assets within the syndication. This complies with the logic of the elasticity measure since the syndica-

tions operation is buffered from direct real estate market changes by the various syndication loadings and the advantageous cost of capital to the syndication.

An alternative form of analysis would be to investigate the cross-elasticity of the various syndication structures (the CRA structure versus the MRI structure) and alternative financing vehicles. This methodology is the subject of further research.

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the project or investment management fees and the mangement fees. An extension was necessary to appropriately consider the front end and back end loadings.

17. Zerbst, pp. 40-57.
18. Examples of the various prospecti investigated are the McNeil Real Estate Fund XII Ltd., The Carlyle Real Estate Limited Partnership XII and the JMB Groups.
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Book Review

REAL ESTATE SYNDICATION

Reviewed by Mark Lee Levine, SRS

This one-volume text is entitled *Real Estate Syndication.* Written by Stephen P. Jarchow, the book was published in 1985 by John Wiley & Sons, Inc., under its professional books division. The text focuses on various aspects of syndication, including tax, securities and business issues.

The material, as stated by the author, is directed toward ". . . anyone involved with the industry (of syndication), including syndicators, brokers, lawyers, accountants, investors and advisors."

Although this is certainly a wide range of people who might find use for the text, the book is written in a more technical sense, mainly for attorneys and CPAs, as well as others dealing on the technical side of syndication.

The text could be considered to have a broader application than syndications. As an example, various aspects in the text discuss partnership rules which would be applicable to either a syndication or a general partnership.

The text includes chapters on the syndication business, choice of a business entity, general partnership law, partnership taxation, special allocations, partner and partnership transactions, disposition of syndication interests, examination of cost recovery and credits, structuring deductions as to tax issues, miscellaneous tax considerations, overview of securities laws, discussion of public offerings, syndications involving foreign investors, and special concerns involving lawyers and accountants. In addition, there is a chapter on investment analysis, and various documents are contained in the appendix which are helpful for general reference. The appendix includes such items as the Uniform Partnership Act, regulations, Regulation D, Guide 5, the North American Securities Administrators Association Statement of Policy relative to real estate offerings, as well as a syndication checklist and an acquisition summary.

There are also summary documents and samples with regard to partnership agreements, offering memorandums and various other documents used in syndication, such as promissory notes, subscription agreements and questionnaires for investors.

Mark Lee Levine, SRS, is a Professor at the University of Denver. He is also active in the real estate field through Levine, Ltd., REALTORS®, and is a practicing attorney with Levine & Pitler, P.C., Denver, CO.

Mr. Levine received his Ph.D. in Business Administration from Century University; J.D. from the University of Denver Law School; LL.M. from the New York University School of Law; P.A.P. from Northwestern University Graduate School of Management; and B.S., magna cum laude, from Colorado State University.

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LEASE RATE ANALYSIS

KING COUNTY INTERNATIONAL AIRPORT

for

KING COUNTY, WASHINGTON

AUGUST 1982

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September 21, 1982

Mr. Chris J. Loutis
Manager
King County Real Property Division
500 Fifth Avenue, Room 500-A
Seattle, WA 98104

Dear Mr. Loutis:

Transmitted with this letter is the report, "Lease Rate Analysis-King County Airport," completed for you by Mundy, Jarvis & Associates, Inc. This appraisal examined the fair market rental of two properties leased by The Boeing Company at the King County International Airport, one parcel of 249,919 square foot referred to as the Eastside Parcel, and one of 4,906,379 square foot, referred to as the Westside Parcel.

The analysis was directly supervised by Bill Mundy, Ph.D., MAI, and carried out by Judith Chaney, MBA. This project began on May 28, 1982 and was completed during August 1982. Revisions were made in conjunction with Robert Foreman, MAI, who is preparing a separate report for King County.

Our research began with an intensive analysis of the King County International Airport and the surrounding neighborhood. This included interviews with over 100 land users in the neighborhood and an extensive analysis of the demand for different types of space in the South Seattle subarea based on an economic base analysis of the Seattle consolidated area by Bill Mundy. On the basis of that research it was determined that the highest and best use of the subject property would be a mixed-use business, industrial, and distribution park including such uses as office, aircraft service and sales, warehousing, manufacturing, and a complementary line of retail establishments such as restaurants and office supplies. Lance Meuller & Associates has provided a site plan which demonstrates how the property could be developed.

On the basis of this highest and best use analysis, ten comparable sales were researched, five corresponding to the Eastside Parcel and five to the Westside Parcel. In addition, comparable leases from King County, the Port of Seattle, private parties, and the Seattle School District were examined. These data indicated a fair market rent as of July 1, 1982 of $.60 per square foot per year for the Eastside Parcel and $.38.5 for the Westside Parcel. Both these figures are inclusive of the 12.84% leasehold tax.

This appraisal is subject to the assumptions and limiting additions included in the report. It has been a pleasure preparing this for you. If you have any questions or further comments, please do not hesitate to contact us.

Sincerely,

MUNDY, JARVIS & ASSOCIATES, INC.

Bill Mundy, Ph.D., MAI
President

Judith Chaney, MBA
Research Analyst

dc

Enclosure

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APPENDICES

A. Telephone Questionnaire

B. Economic Base Model

C. Comparable Sales

D. Professional Qualifications

SUMMARY OF PERTINENT INFORMATION

Purpose of the Report

The purpose of this research by Mundy, Jarvis & Associates, Inc. was to determine the fair market rental of the 5,156,298 square feet of land leased by the Boeing Company at the King County International Airport as of July 1, 1982.

Research Design

There were several distinct steps in the research process for this assignment. The first was an orientation of our staff and that of Lance Mueller & Associates to the King County International Airport (Boeing Field). The site was inspected by Bill Mundy and Judith Chaney of Mundy, Jarvis & Associates and by Lance Mueller and Robert Fadden of Lance Mueller & Associates.

The next step was an analysis of the surrounding neighborhood which examined changes in land use as well as an inventory of present uses. The neighborhood for this purpose was defined as the area south of Spokane Street, west of Interstate 5, east of West Marginal Way, and north of 118th Street South.

Presently this area is a complex and diverse transportation and industrial center serving the Seattle Consolidated Area, the Pacific Northwest Region, national and worldwide markets. Heavy manufacturing and port-related activities such as transportation, shipping and storage are found within the IH (Heavy Industrial) zone, while warehousing, distribution, and Boeing manufacturing and testing facilities dominate the IG (General Industrial) and M (Manufacturing) zones.

The examination of land use patterns was augmented by telephone interviews with 102 major businesses in the area defined above. These interviews not only confirmed the land use changes found earlier but also indicated the reasons for those changes from the land user's point of view.

The most important locational factors cited by these respondents concerned access, such as access to the freeway (17.9%), a central location (17.2%) and being close to their customers (17.2%). Another major consideration was that they were able to find a site large enough for their business in the south-end industrial area (15.7%).

Table 6 discusses the locational disadvantages to the south-end industrial area which were mentioned by our respondents. The major factor was that there was no longer enough space in the area for the firm to expand (19.6%) followed by the concern that the location was too costly, either because of high rent or high taxes (17.6%). Interestingly, there

were 134 advantages cited and only 51 disadvantages. This difference would seem to indicate that many firms are satisfied with their location in the south-end industrial area.

The final step in the analysis of these interviews was to develop a profile of businesses located in the south-end industrial area over the past 17 years. This information is shown on Table 7. When the current tenant or the previous user were classified by major SIC categories, as shown in Table 6, many categories showed little change over time either in absolute number of businesses or in relative percentages. These stable categories were agriculture, construction, and finance, insurance, and real estate (FIR).

The number of manufacturing, transportation, and wholesale businesses has increased substantially over the past 17 years from 51 to 80 firms in our sample. The relative importance of these industries, however, has actually declined as the number of other types of businesses (e.g., services) have grown even faster. This differential clearly illustrates the diversification occurring in the Duwamish Valley.

In summary, the Duwamish Valley is experiencing significant changes in land use trends. As Seattle expands south, the remaining residential areas in the Valley are disappearing along with older businesses that depended on a residential neighborhood. Heavy demand from water and rail dependent industries has swallowed up large undeveloped parcels and led to more intensive land use. The increasing number of service - oriented industries and smaller wholesale/distribution firms has created demand for mixed use industrial/business park developments.

The information about businesses which are economically viable in the area was combined with an analysis of the economy of the region to make estimates of square feet of space which will be demanded in that area through 1995 by SIC (Standard Industrial Classification) category. Demand for nonaviation uses was based on the Economic Base Model of the Seattle Consolidated Area which was developed by Mundy, Jarvis & Associates and which is updated annually. Demand for general aviation uses was developed from interviews with tenants at the King County International Airport, with Don Smith, Manager of the Airport, and with other airport managers in the Puget Sound Region.

By 1995 this includes site demand of 89,000 square feet of retail space, 116,000 square feet of office, 418,000 square feet of office/ warehouse and 307,000 feet of warehouse.

Next an analysis of the highest and best use of the property leased by Boeing was performed. The subject property consists of two irregularly shaped sites. One, on the westside of the airport is 4,906,379 square feet; the other, on the eastside, is 249,919 square feet. The difference in size and location necessitated a separate highest and best use determination for each.

It was determined that general aviation was the best use of the eastside parcel, including fixed base operators, aircraft hangers and tie downs, and other aircraft-related uses. An analysis was made of comparable leases, both aviation and nonaviation, which gave an indication of fair market rent. Little weight was given to existing aviation leases at the Airport because they have not been negotiated at fair market rent levels. The Port's leases indicate a rate of 60¢, as do the private leases. The School District lease is not firm enought to rely on at this time. Taking all these indicators into consideration, it is our opinion the fair market rent based on comparable leases is 60¢ per square foot a year effective rate of 53¢ contract rate exclusive of the 12.48% leasehold tax.

Another approach examined sales of comparable property to determine the fair market value of the eastside property. These sales were compared to the subject on the basis of general location, access, zoning, shape, size, time of sale, level of improvements, and location in the City vs. the County.

The general location of the comparables was quite similar to the subject since all are within the Duwamish Valley industrial area. All properties have excellent road access though East Marginal Way can be congested and has restricted left hand turns. Airport Way at the airport is less congested although it is only two lanes. All properties were zoned industrial and were not adjusted on this basis.

The subject was superior to all the comparables because it has airport access. The interview data discussed earlier, however, suggested that this access is not important to nonaviation users, so it was not judged to be important in adjusting the sales data. Waterway access is critical for some manufacturing companies and unimportant to others. The comparable leases, discussed earlier, showed no significant difference in rate between the Port properties which had water access and the private properties which did not. No adjustment to the sales data, therefore, was made because of water frontage.

The subject is roughly rectangular in shape and thus is superior to Comparables 4 and 5.

Time of sale was adjusted at 5% a year based on a regression analysis of over 100 sales of property up to 10 acres in the Duwamish Valley between 1978 and 1983. All properties were similar in level of improvements.

Finally, the interview data indicated a preference for being in King County rather than Seattle because of lower taxes. Comparable 4 is similar to the subject on that basis; the other comparables are inferior.

In reconciliating the sale comparables, the most weight was given to Sales 1 and 2; Comparable 1 is the most recent and 2 the most similar in

size. The indicated price for the subject is $5.50 per square foot. This estimate is well supported by Sales 4 and 5 at $5.50 per square foot and Comparable 3 at $5.00 per square foot.

This value was then capitalized to yield another indication of fair market rent. These indicators suggest a capitalization rate of about 11% would be appropriate at the King County International Airport. Multiplying the indicated land value of $5.50 per square foot times 11% yields a rent rate of 60.0¢. The two indicators were correlated to produce an estimated fair market rent of 60¢ per square foot per year.

An analysis of the probable rate of return which would be generated by each feasible use at the airport concluded that a mixed use business/ industrial park with aviation and nonaviation uses would be the highest and best use of the westside parcel. Given the size of the westside parcel, its frontage on West Marginal Way, the airport location and favorable exposure from Interstate 5, we are of the opinion this site would be a strong candidate for a mixed use business, industrial and distribution park with a complementary line of retail establishments such as restaurant(s), office supplies and furniture, and business services such as travel agents. A mixed use business park development as a highest and best use is supported by the trend of land uses found in the area and by such successful developments as Benaroya Business Park and Fischer Business Park. Lance Mueller and Associates analyzed the site to determine the feasibility of various use options and completed a site plan which illustrates how this parcel could be developed to meet existing and projected demand in the area. An exhaustive search was made for sales of large parcels of undeveloped land which were purchased for development as mixed use business/industrial parks. Many of these sales were located on the fringes of urban growth in Renton, Kent and Bellevue. In addition comparable sales near Paine Field in Snohomish County were examined.

Most weight was given to Comparables 6 (Evergreen East) and 7 (Bellevue Airfield). Land Comparable No. 6 with an indicated value of $3.50 per square foot is very similar to the subject although there is superior demand for the subject as well as a superior level of improvements. The Bellevue Airfield is a very important indication of the fact that the market is placing a higher value on industrial parks than airfields as one use replaces another. This sale supports the land use trends that were discussed earlier in the vicinity of the King County Airport. The sale by Cabot, Cabot, and Forbes to Boeing Computer Services indicates a value of $3.45 to $3.55. Taking these sales as well as the other sales into consideration, the indicated sales price for the subject is $3.50 per square foot.

This land value was capitalized at the rate of 11% on the basis discussed earlier for the eastside parcel. Capitalizing $3.50 at 11% gives a annual rent per square foot of 38.5¢, rounded to 38¢.

INTRODUCTION

Purpose of the Report

The purpose of this research by Mundy, Jarvis and Associates, Inc. was to determine the fair market rental of the 5,156,298 square feet of land leased by the Boeing Company at the King County International Airport. The legal descriptions of the subject property are retained in our files.

Research Participants

The work on this project was completed under the supervision of Bill Mundy, Ph.D., MAI. Judith Chaney, MBA, designed the research, analyzed the data, and wrote the final report. Mike Griffin was responsible for obtaining and refining the comparable lease and sales information. Jean Bosch, Director of Survey Research, supervised the interviews with 100 major land users in the vicinity of the King County Airport. The site plan for the proposed highest and best use was provided by Robert Fadden, Lance Mueller & Associates. Francie Morgan completed the other graphics.

We would also like to acknowledge the assistance of Thomas E. Coulton and Robert C. Martin of the King County Real Property Division, and of Donald Smith, Manager, King County International Airport.

This work was conducted in conjunction with an appraisal by Robert Foreman, MAI.

Research Timeframe

The project began on May 28, 1982. An interim report was submitted to King County on July 7, 1982, which contained preliminary lease and sales comparables. The analysis was refined during the month of July and the final report written during August.

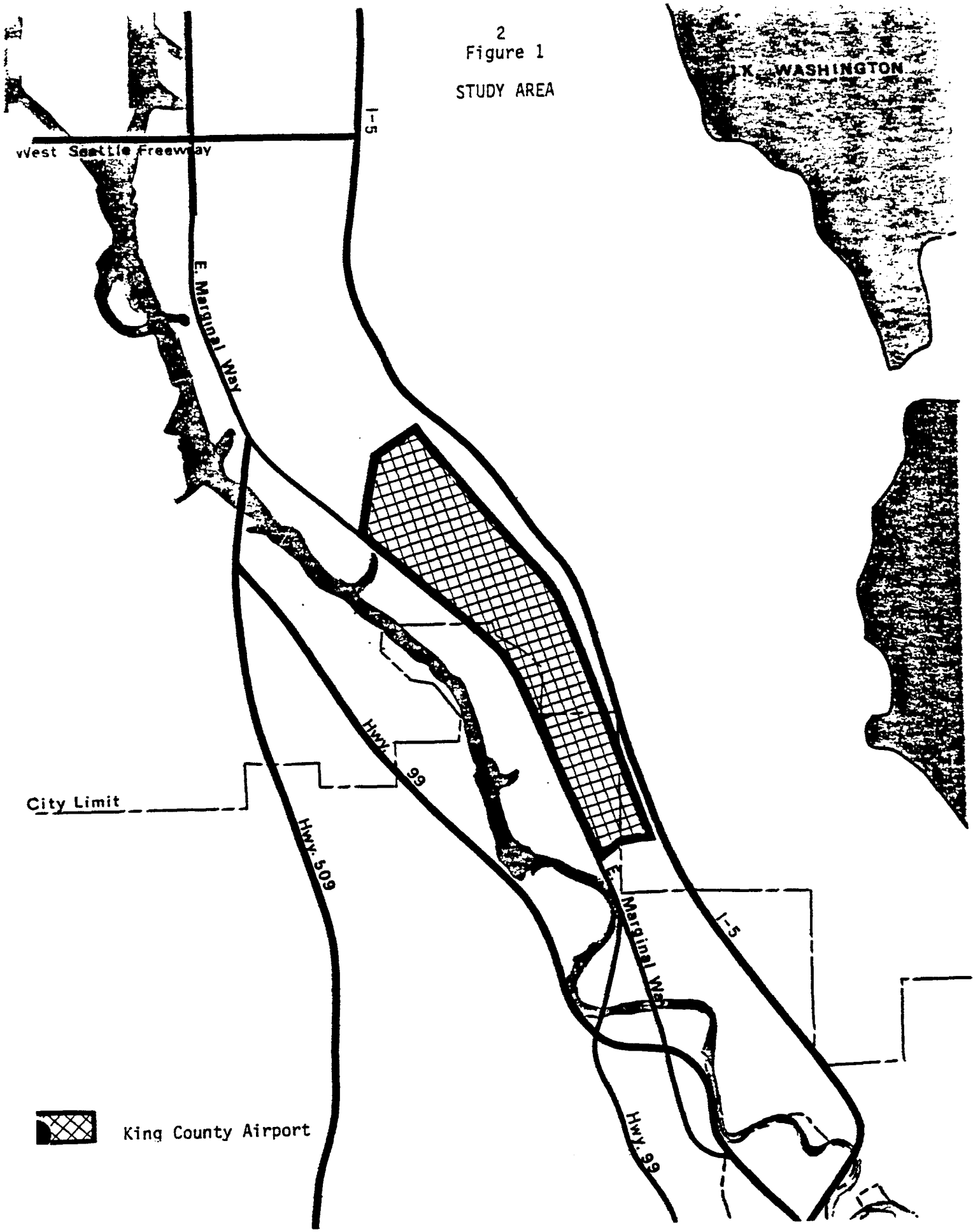
Research Design

There were several distinct steps in the research process for this assignment. The first was an orientation of our staff and that of Lance Mueller & Associates to the King County International Airport (Boeing Field). The site was inspected by Bill Mundy and Judith Chaney of Mundy, Jarvis & Associates and by Lance Mueller and Robert Fadden of Lance Mueller & Associates.

The next step was an analysis of the surrounding neighborhood which examined changes in land use as well as an inventory of present uses. The neighborhood for this purpose was defined as the area south of Spokane Street, west of Interstate 5, ease of West Marginal Way, and north of 118th Street South, as shown on Figure 1.

Figure 1

STUDY AREA



The examination of land use patterns was augmented by telephone interviews with 102 major businesses in the area defined above. These interviews not only confirmed the land use changes found earlier but also indicated the reasons for those changes from the land user's point of view.

The information about businesses which are economically viable in the area was combined with an analysis of the economy of the region to make estimates of square feet of space which will be demanded in that area through 1995 by SIC (Standard Industrial Classification) category. Demand for nonaviation uses was based on the Economic Base Model of the Seattle Consolidated Area which was developed by Mundy, Jarvis & Associates and which is updated annually. Demand for general aviation uses was developed from interviews with tenants at the King County International Airport, with Don Smith, Manager of the Airport, and with other airport managers in the Puget Sound Region.

Next an analysis of the highest and best use of the property leased by Boeing was performed. The subject property consists of two irregularly shaped sites. One, on the westside of the airport is 4,906,379 square feet; the other, on the eastside, is 249,919 square feet. The difference in size and location necessitated a separate highest and best use determination for each.

It was determined that general aviation was the best use of the eastside parcel, including fixed base operators, aircraft hangers and tie downs, and other aircraft-related uses. An analysis was made of comparable leases, both aviation and nonaviation, which gave an indication of fair market rent. Another approach examined sales of comparable property to determine the fair market value of the eastside property. This value was then capitalized to yield another indication of fair market rent. The two indicators were correlated to produce an estimated fair market rent of 60¢ per square foot per year.

An appropriate lease rate for the subject property was determined by correlating comparable rents with a fair rate of return on the value of the land.

An analysis of the probable rate of return which would be generated by each feasible use at the airport concluded that a mixed use business/-industrial park with aviation and nonaviation uses would be the highest and best use of the westside parcel. Lance Mueller and Associates analyzed the site to determine the feasibility of various use options and completed a site plan which illustrates how this parcel could be developed to meet existing and projected demand in the area. An exhaustive search was made for sales of large parcels of undeveloped land which were purchased for development as mixed use business/industrial parks. Many of these sales were located on the fringes of urban growth in Renton, Kent and Bellevue. In addition comparable sales near Paine Field in Snohomish County were examined. These indicators of value were adjusted to the subject parcel to arrive at a final estimate of land value if developed

for the highest and best use. This land value was multiplied by an appropriate rate of return to determine fair market rent of 38¢ per square foot per year.

DEFINITION OF VALUE

Market rent is "the rental income that a property would most probably command on an open market as indicated by current rentals being paid for comparable space (as of the effective date of appraisal)" (The Appraisal of Real Estate, 1978, pg. 136).

The market value of the subject property is "the highest price in terms of money that a property would bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus" (The Appraisal of Real Estate, 1978. pg. 23).

DATE OF APPRAISAL

The date of the fair market rent estimate is July 1, 1982.

THE SUBJECT PROPERTY

Site Description

The King County International Airport is located in the Duwamish Valley in the southern industrial region of Seattle, Washington. As shown in Figure 1 the Seattle-King County boundary jags through the airport, but it is under the sole jurisdiction of King County.

There is access from Interstate 5 to the east at the north end (Michigan Street) and the south end (Boeing Access Road) as well as from East Marginal Way (Highway 181) on the west. The Duwamish Waterway parallels the west boundary at a distance of about 1/4 mile. Figure 2 is a photograph of the airport looking northwest.

There are a number of leases for land and some for land and improvements at the airport both to private companies and public agencies. The Boeing parcels dominate the land uses as shown in Figure 3.

The Boeing Company presently leases 5,156,298 s.f. at the King County International Airport under eight separate leases. The leases became effective in 1952 and 1955 and are for periods of 40, 65, and 75 years. Table 1 summarizes the existing leases and Figure 4 shows these properties.

Figure 2

KING COUNTY INTERNATIONAL AIRPORT

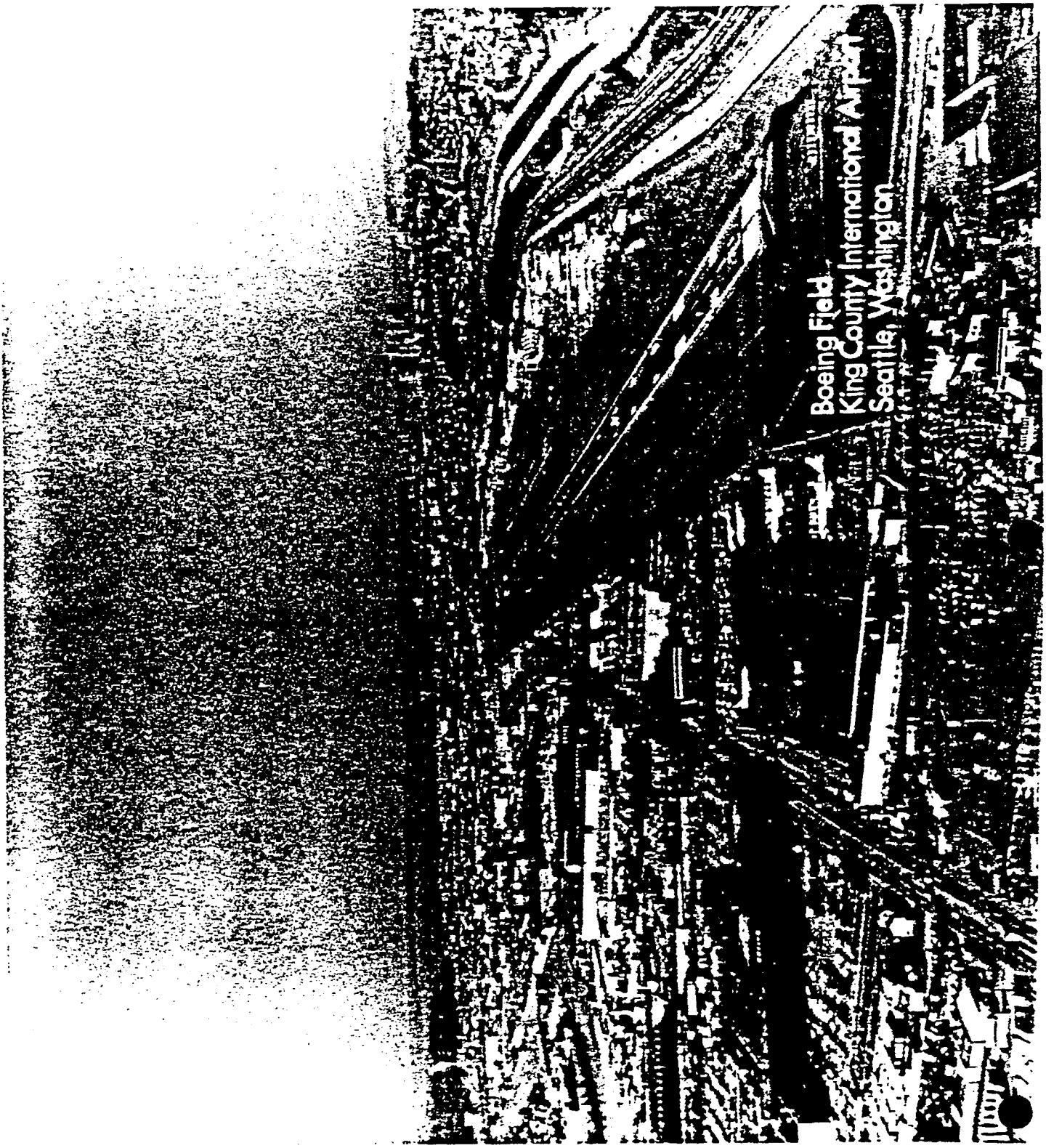
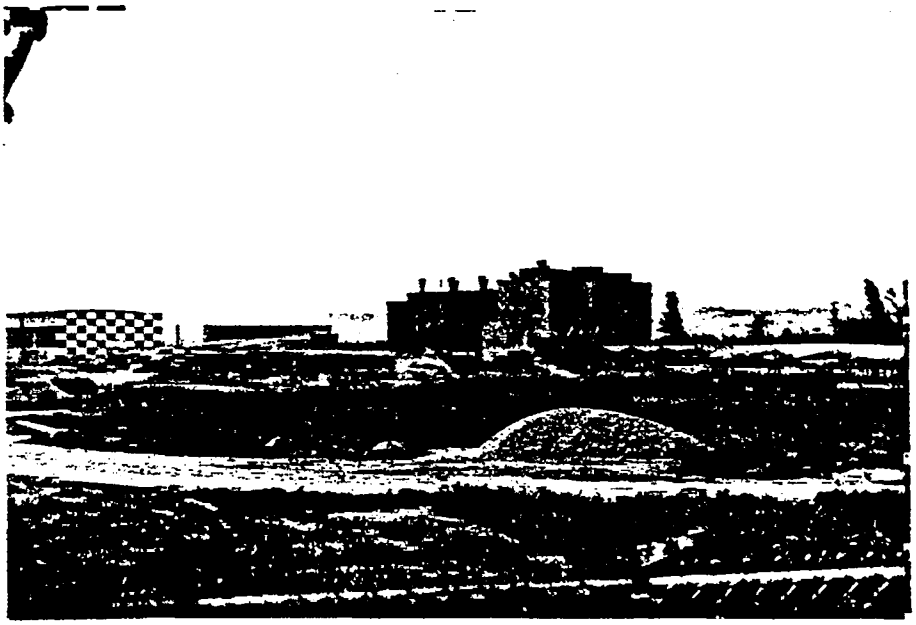


Figure 4

VIEWS OF THE SUBJECT PROPERTY



Camera facing southwest toward Westside Parcel.



Camera facing east toward Westside Parcel.

Figure 4 (Con't)



Camera facing southwest toward the Eastside Parcel.



Camera facing northwest toward the Eastside Parcel.

Table 1
Summary of Boeing Leases

Lease Term	Eastside Area	Westside Area	Total Area	1981 Revenue
40 Years	-0-	711,082 s.f.	711,082 s.f.	$38,662.36
65 Years	-0-	190,545[1]	190,545	14,862.51
75 Years	249,919 s.f.	4,004,752	4,254,671	264,664.98
Total Area	249,919 s.f.	4,906,379	5,156,298	318,189.85

Source: King County International Airport
Mundy, Jarvis & Associates, Inc.

[1]Plus an easement of 45,810 s.f.

The present eastside annual rental rate is 17.16¢, and the westside annual rental rate is 5.43¢. Under the lease terms Boeing is guaranteed access to and use of the runways and operational airport areas, but does not pay landing fees or fuel flowage fees. Boeing does pay for its utilities and maintains a fire fighting capability as does King County. Boeing, but not King County, may delete areas from the leases upon six months' written notice.

As Figure 3 shows, the total area leased by Boeing historically has been divided into the eastside and the westside parcels. Because of the great difference in size, location, and use, the areas were analyzed separately in this report as well.

The Eastside Parcel

This property consists of 249,919 square feet (5.74 acres) located on the west side of East Perimeter Road. It is adjacent to the southeast side of the terminal and administration offices. Direct access is from East Perimeter Road which is a two lane service road for the airport.

The property is roughly rectangular in shape, is level, and has all utilities and sewer. Zoning is General Industrial with the additional lease restriction of aviation - related uses. There is a height restriction of approximately 20 feet at the western boundary to over 60 feet at the eastern boundary.

The existing improvements are the property of the Boeing Company and did not enter into the subsequent analysis.

The Westside Parcel

The westside property is composed of the 12 parcels described below. For the purpose of this analysis, they have been considered as one piece of property because the leases are extensively cross referenced and because the property has one lessee who uses the land for a common purpose. In an economic sense, these 12 parcels are a single property.

Table 2
The Westside Parcels

Parcel	Square Feet	Acres
Parcel 2	3,824,753	87.80
Parcel 2A	89,000	2.04
Parcel 3	19,730	.45
Parcel 4	71,269	1.64
Parcel 11	190,545	4.37
Parcel 14 (Elect bldg.)	77,000	1.77
Parcel 15 (Elect bldg.)	42,222	.97
Parcel 17 (Tank Test N)	51,271	1.18
Parcel 18 (Tank Test S)	20,539	.47
Parcel 19 (Jet Fueling)	425,375	9.77
Parcel 20 (Jet Fueling)	43,755	1.00
Sound Suppressor Site	50,920	1.17
Total Westside	4,906,199	112.63

Source: King County International Airport
Mundy, Jarvis & Associates, Inc.

As Figure 3 shows, there are two areas which break up the westside property -- the FAA control tower on the south and a narrow strip on the north. The property is generally level.

Access is via East Marginal Way on the western boundary of the property. It is zoned General Industrial with the additional lease restriction of aviation - related uses. There is a side slope height restriction beginning at the east boundary of the property which increases at a ratio of 7 to 1.

All utilities and sewers are available and the existing buildings are the property of the lessee. The parcels have been variously improved with concrete and asphalt, and some parcels are bare land.

LOCATION DATA

The Seattle Standard Consolidated Area

The King County International Airport lies within the Seattle Standard Consolidated Area (SSCA) which is composed of King, Pierce, and Snohomish Counties in Washington State. Like many other metropolitan areas, the SSCA was first settled and grew because of plentiful natural resources: farmland, timber, fish and a deep water port. Over the years, harnessing the abundent water flow has led to cheap hydroelectric power.

Recently, the natural amenities, coupled with a highly skilled workforce and the influence of the Boeing Company, have encouraged the development of local high technology companies as well as the immigration of such firms from other parts of the country. Finally, Seattle is becoming an important service and financial center for the Pacific Northwest, as well as for Alaska and the Pacific Rim Countries, further broadening the economic base of the region.

The first Boeing aircraft in 1916 heralded the beginning of a company which has become the major employer in the Consolidated Area. The number of people employed by Boeing has varied enormously dependent on military spending and the prosperity of commercial airlines. Figure 5 shows how this company has impacted employment in the Seattle metropolitan area since 1965.

Despite the current slump, the underlying base of the economy in the Consolidated Area is strong. The diversification into high technology, services, and financial firms has lessened the impact of any one employer, including the Boeing Company.

For a comprehensive discussion of the SSCA the reader is referred to Appendix B where the economic base of the metropolitan area is discussed.

The Duwamish Valley

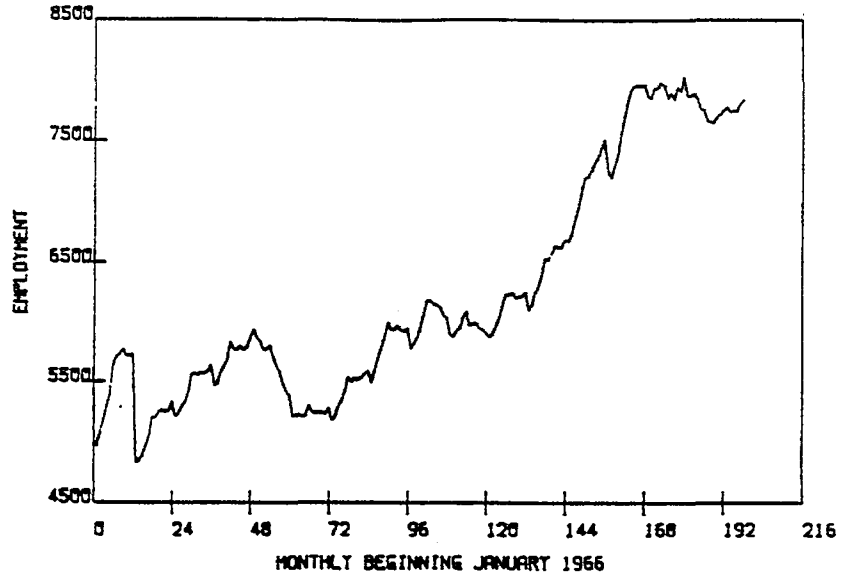
Historical Development

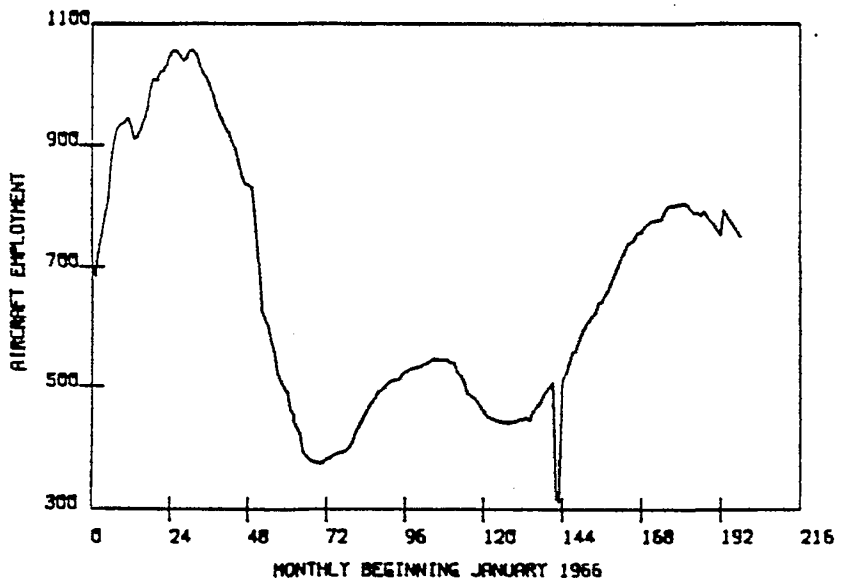
The immediate neighborhood of the King County International Airport is the Duwamish Valley, as shown in Figure 6. As the map shows, this area is composed of five census tracks (93, 99, 108, 109, 112) in Seattle as well as a small portion of census tract 263 in King County.

Development of the Duwamish Valley has centered around use of the Duwamish Waterway, although the waterway has been only one of many attractive features in the valley. The tidal flats of the Duwamish Valley were first developed in the early 1900's because they offered inexpensive land close to Seattle. As Seattle expanded, the tidal flats were filled with material from excavation in Seattle.

Figure 5

EMPLOYMENT TRENDS FOR SEATTLE SMSA - 1/1966 TO 6/1982





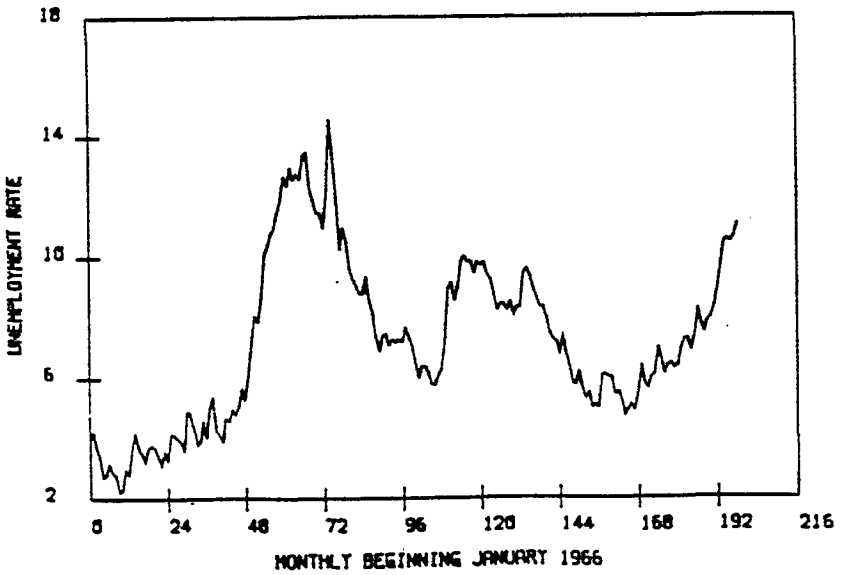
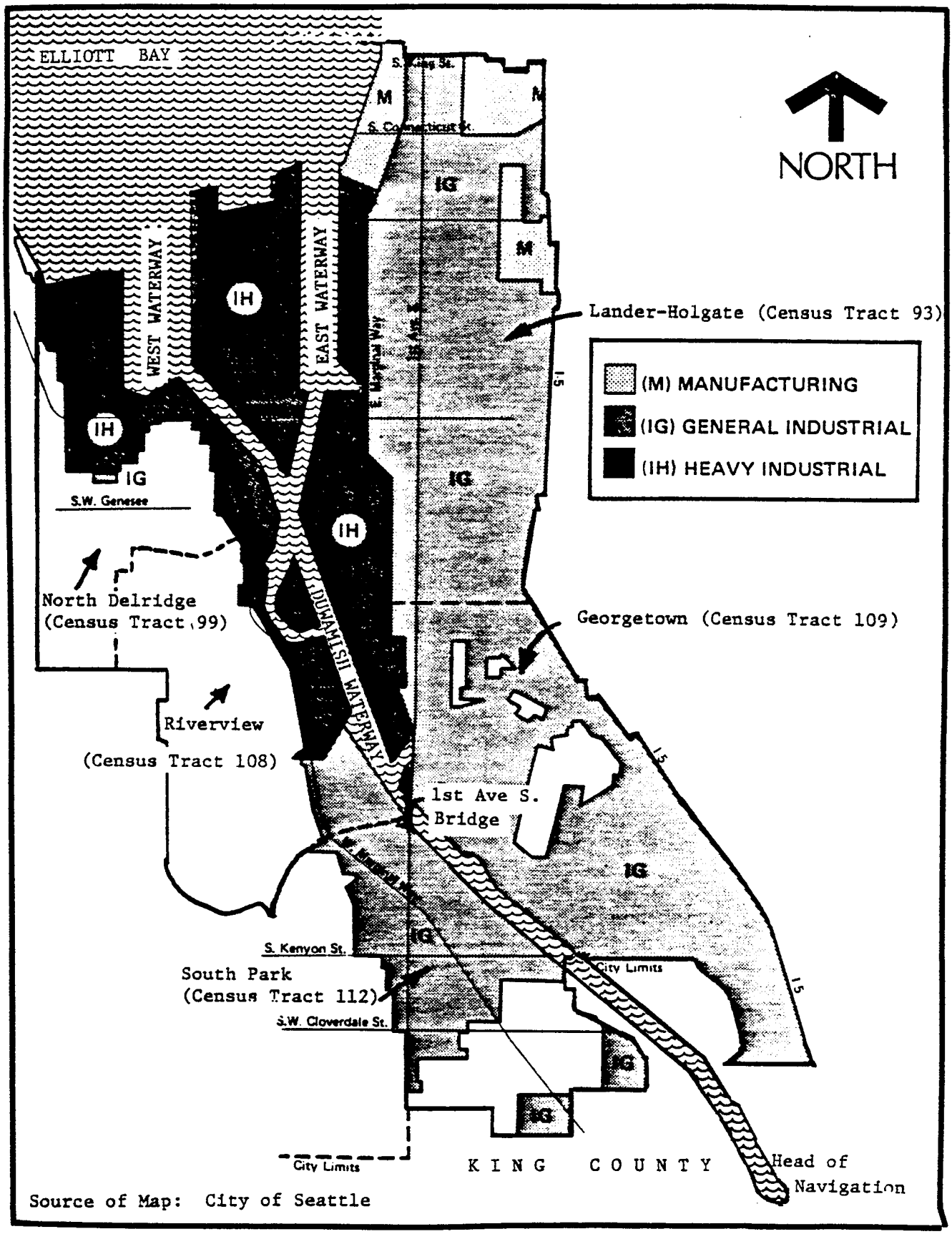


Figure 6
THE DUWAMISH VALLEY



Source of Map: City of Seattle

By 1931 the Duwamish River was straightened for use as a commercial waterway and Harbor Island was built at the mouth of the river. Industrial development continued south from Seattle along the waterway, and the Boeing Company moved into the area. Boeing has become the major employer in the Duwamish Industrial Valley although it has not used the Duwamish River extensively. Other companies dependent on water transportation continued to move into the valley between 1920 and 1940.

In the 1960's the development of containerized cargo shipment increased the demand for large parcels of land with waterfront access. This need was met by sites on and near Harbor Island.

Presently, the Port of Seattle is sponsoring a plan by the Corps of Engineers which would improve the Federal navigation channel in the east, west, and Duwamish Waterways to allow larger cargo vessels to use the waterway. If approved the project would be completed in 1990.

Over 97% of the land within study area shown in Figure 6 is industrially zoned. Presently this area is a complex and diverse transportation and industrial center serving the Seattle Consolidated Area, the Pacific Northwest Region, national and worldwide markets. Heavy manufacturing and port-related activities such as transportation, shipping and storage are found within the IH (Heavy Industrial) zone, while warehousing, distribution, and Boeing manufacturing and testing facilities dominate the IG (General Industrial) and M (Manufacturing) zones. Table 3 shows the distribution of these businesses by acres.

Table 3

Land Use by SIC Category
(1974 - 1976)

SIC Category	Number of Acres	Percent
Construction	49.1	1.5
Manufacturing	927.7	28.1
Transportation, Communication, Utilities	1,235.20	37.4
Wholesale Trade	301.0	9.1
Retail Trade	143.5	4.3
Finance, Insurance, Real Estate	144.1	4.4
Public Administration	234.0	7.1
Residential	57.6	1.7
Vacant Lot	178.6	5.4
Vacant Unit	31.3	.9
Total	3302.1	99.9

Source: Mundy, Jarvis & Associates, Inc.
"Industrial Area Background Report",
Vol. II, City of Seattle. Office of Policy and Evaluation,
pp. 64-75.

Note: Acreage also includes Boeing Plant No. 2, Isaacson Steel, Kenworth Trucks adjacent to King County International Airport and south of city limits.

Examination of these SIC categories shows many industries which are access - dependent. In the transportation, communication, and utilities group are maritime-released transportation industries. Manufacturing is concentrated in four major SIC groups - aircraft (Boeing), cement, glass and gypsum production. Boeing, of course, needs airport access while the other industries rely on the Duwamish Waterway for importing raw materials used in production. The steel manufacturers on Harbor Island are tied to truck and rail transport. Finally, the Port of Seattle operates a large number of container and noncontainer terminals and supporting warehouses.

South Park

The South Park/Duwamish Annexation Area is 920 acres in unincorporated King County directly adjacent to existing city limits and directly west of the King County International Airport. This area has a residential district to the west and major industries to the east including Boeing, Kenworth Truck Company, Monsanto, Jorgenson Steel and Issacson Steel. If the annexation were approved by the Seattle City Council, the King County Boundary Review Board, and the voters, zoning for the industrial area east of the Duwamish would not change, but those businesses would be subject to city taxes. Benefits provided would include city sewer, utilities, and fire protection, as well as road improvements. The major businesses in the area have started a legal battle to prevent annexation which is yet to be resolved. If the plan proceeds as described in the Final EIS (November 1981) the airport property would not be directly affected. It would, however, be the only remaining property with good access to the airport, the Duwamish, railroads and I-5, and the low tax benefits of being in unincorporated King County. Figure 7 shows this area.

Present Land Use

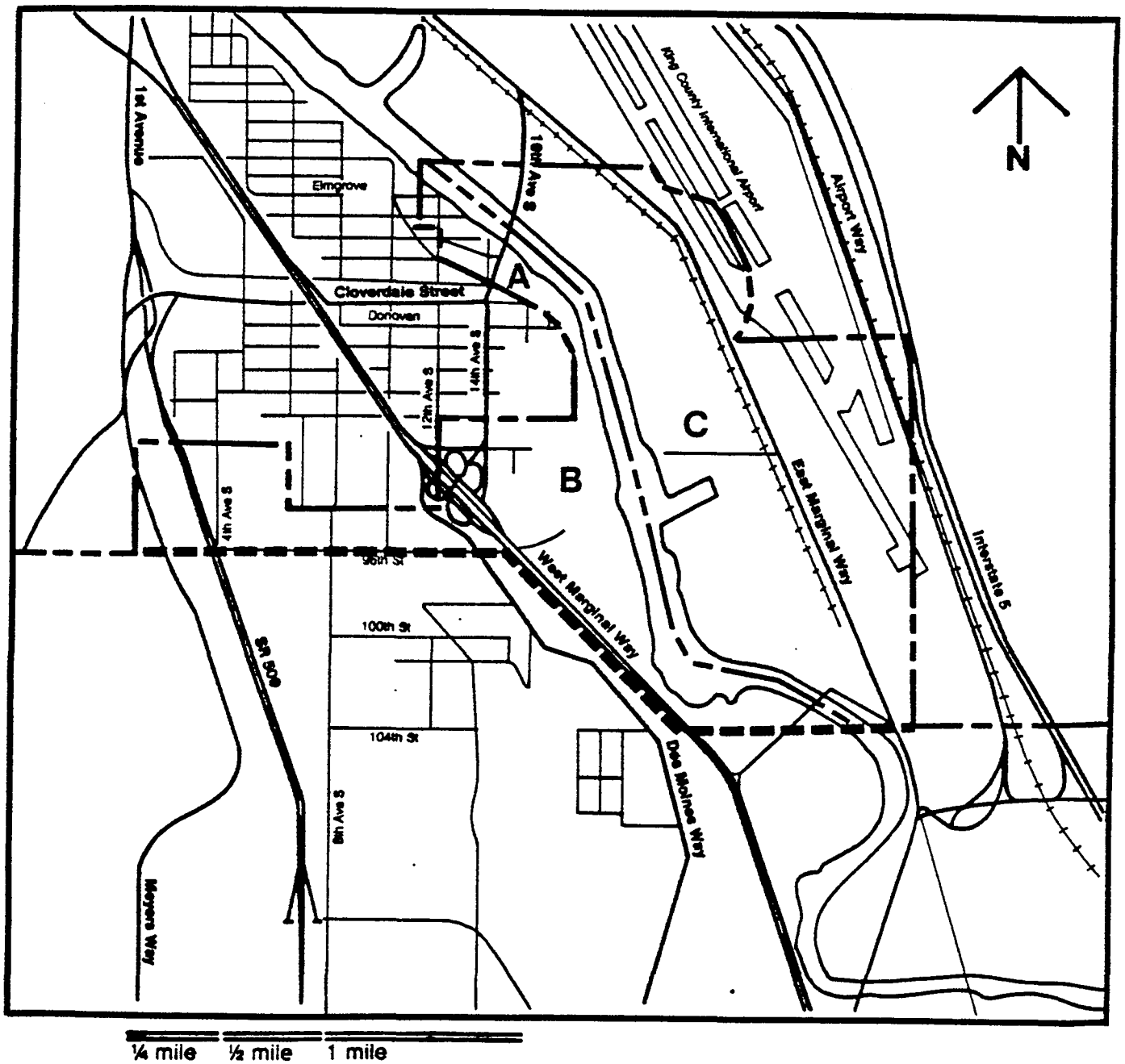
Current land use trends were examined by interviewing 102 major nonaviation land users in the area shown on Figure 1. These firms were selected on a stratified basis. Within one mile of the site all businesses were contacted. Between one and three miles the larger businesses were selected and beyond three miles only major land users were chosen. Of the firms contacted, approximately 95% completed the survey. The questionnaire is shown in Appendix A.

The purpose of these telephone interviews was to determine the distribution of significant businesses in the area and to assess the locational attributes of the site for their business. Finally, we attempted to determine who had occupied the site before the present user to pinpoint specific changes in land usage. The data are not directly comparable to those on Table 3; this information is the number of firms, the former is number of acres.

Table 4 shows the businesses we interviewed classified by major Standard Industrial Classification (SIC) categories. As this table shows, the majority of the businesses were wholesale dealers in durable goods, such as machinery, auto parts, furniture, and appliances. Table 4 also indicates a wide variety of firms are located in the area. Many of these such as the nursery and the businesses oriented towards residential neighborhoods, such as personal services, and retail trade are businesses that have been in their present location for 20 to 30 years. Overall, these 100 firms had been at their present locations for an average of 13.4 years, with a range between two months and 70 years.

Figure 7

SOUTH PARK ANNEXATION AREA



A Residential/Commercial/Industrial Strip
B Industrial Area (on west side of Duwamish)
C Industrial Area (on east side of Duwamish)

Existing City Limits
Proposed Annexation Boundary

Source: FEIS, November 20, 1981

The next question was whether the business had previously been located within the south-end industrial area. The respondents were fairly evenly divided on this question, with 43.8% having had their previous location outside of the south-end industrial area. The remaining businesses relocated to this area from another spot within the area (24.0%) or had originated at their present site (43.8%). This information confirms data collected by Mundy, Jarvis & Associates in previous studies which shows that business firms tend to prefer to remain within the same general area as their present location when relocation becomes necessary.

Table 4
Businesses Interviewed

SIC Category	Number of Interviews	Percent of Interviews
Agriculture, Nursery	1	1.0%
Construction	2	2.0
Manufacturing	24	23.5
Transportation	7	6.9
Wholesale Trade	49	48.0
Retail Trade	7	6.9
Finance, Insurance & Real Estate	2	2.0
Services	10	9.8
Total	102	100.1%

Note: Percents may not sum to 100% due to rounding error.

Source: Mundy, Jarvis & Associates, Inc.

The most important locational factors cited by these respondents concerned access, such as access to the freeway (17.9%), a central location (17.2%) and being close to their customers (17.2%). Another major consideration was that they were able to find a site large enough for their business in the south-end industrial area (15.7%). This information is shown on Table 5.

Table 5
Locational Advantages to the Southend Industrial Area

Advantage	Number of Responses	Percent of Responses
Freeway Access	24	17.9%
Central Location	23	17.2
Close to Customers	23	17.2
Site Large Enough	21	15.7
Railroad Access	10	7.5
Parking Available	8	6.0
Duwamish Waterway Access	7	5.2
Close to the Boeing Company	3	2.2
Close to Truck Lines	3	2.2
Close to Competitors	3	2.2
High Traffic Volume	3	2.2
All Other Responses	6	4.5
Total	134	100.0%

Source: Mundy, Jarvis & Associates, Inc.

To test directly the value of proximity to the King County International Airport, we asked the respondents to rate the importance of that proximity on the following scale: 1 = must have; 3 = neutral; 5 = major inconvenience. Overall the respondents gave access to the King County and international airport a rating of 2.9, neutral. They were also asked to rank access to the Duwamish Waterway on the same scale. The mean rating was 2.8.

These interviews specifically excluded businesses located at the King County International Airport since these firms were interviewed more intensively in personal interviews. For the 102 nonaviation respondents discussed above, the airport is not an important location factor.

Table 6 discusses the locational disadvantages to the south-end industrial area which were mentioned by our respondents. The major factor was that there was no longer enough space in the area for the firm to expand (19.6%) followed by the concern that the location was too costly, either because of high rent or high taxes (17.6%). Interestingly, there were 134 advantages cited and only 51 disadvantages. This difference would seem to indicate that many firms are satisfied with their location in the south-end industrial area. As Table 6 shows, only three firms (5.9%) indicated that they are planning a move in the near future.

Table 6
Locational Disadvantages to the Southend Industrial Area

Disadvantage	Number of Responses	Percent of Responses
Not Enough Space	10	19.6%
Too Costly (Rent/Taxes)	9	17.6
Too Noisy	7	13.7
Unpleasant Environment	4	7.8
Not Enough Parking	4	7.8
Plan to Move Soon	3	5.9
Too Far from Customers	3	5.9
All Other Responses	11	21.6
Total	51	99.9%

Note: Percent may not sum to 100% due to rounding error.

Source: Mundy, Jarvis & Associates, Inc.

The final step in the analysis of these interviews was to develop a profile of businesses located in the south-end industrial area over the past 17 years. This information is shown on Table 7. When the current tenant or the previous user were classified by major SIC categories, as shown in Table 6, many categories showed little change over time either in absolute number of businesses or in relative percentages. These stable categories were agriculture, construction, and finance, insurance, and real estate (FIR).

The number of manufacturing, transportation, and wholesale businesses has increased substantially over the past 17 years from 51 to 80 firms in our sample. The relative importance of these industries, however, has actually declined as the number of other types of businesses (e.g., services) have grown even faster. This differential clearly illustrates the diversification occurring in the Duwamish Valley.

In summary, the Duwamish Valley is experiencing significant changes in land use trends. As Seattle expands south, the remaining residential areas in the Valley are disappearing along with older businesses that depended on a residential neighborhood. Heavy demand from water and rail dependent industries has swallowed up large undeveloped parcels and led to more intensive land use. The increasing number of service - oriented industries and smaller wholesale/distribution firms has created demand for mixed used industrial/business park developments.

Industrial parks are more than a mix of industrial, warehouse, and office users. Using a master plan, the developer controls the mix of

Table 7

Business Profile Over Time

Type of Business	1982 N	1982 %	1980 N	1980 %	1975 N	1975 %	1970 N	1970 %	1965 N	1965 %
Agriculture	1	1.0	1	1.1	1	1.3	1	1.4	1	1.5
Construction	2	2.0	2	2.2	3	3.8	2	2.8	2	3.0
Manufacturing	24	23.5	24	25.8	22	27.8	19	26.4	18	26.9
Transportation	7	6.9	7	7.5	5	6.3	4	5.6	2	3.0
Wholesale Trade	49	48.0	45	48.4	38	48.1	35	48.6	31	46.3
Retail Trade	7	6.9	6	6.5	7	8.9	8	11.1	8	11.9
FIR	2	2.0	2	2.2	1	1.3	1	1.4	1	1.5
Services	10	9.8	6	6.5	2	2.5	2	2.8	2	3.0
Government	0	0.0	0	0.0	0	0.0	0	0.0	2	3.0
Subtotal	102	100.1	93	100.2	79	100.0	72	100.1	67	100.1
Unknown	0	-	9	-	23	-	30	-	35	-
Total	102	100.1	102	100.2	102	100.0	102	100.1	102	100.1

Source: Mundy, Jarvis & Associates, Inc.

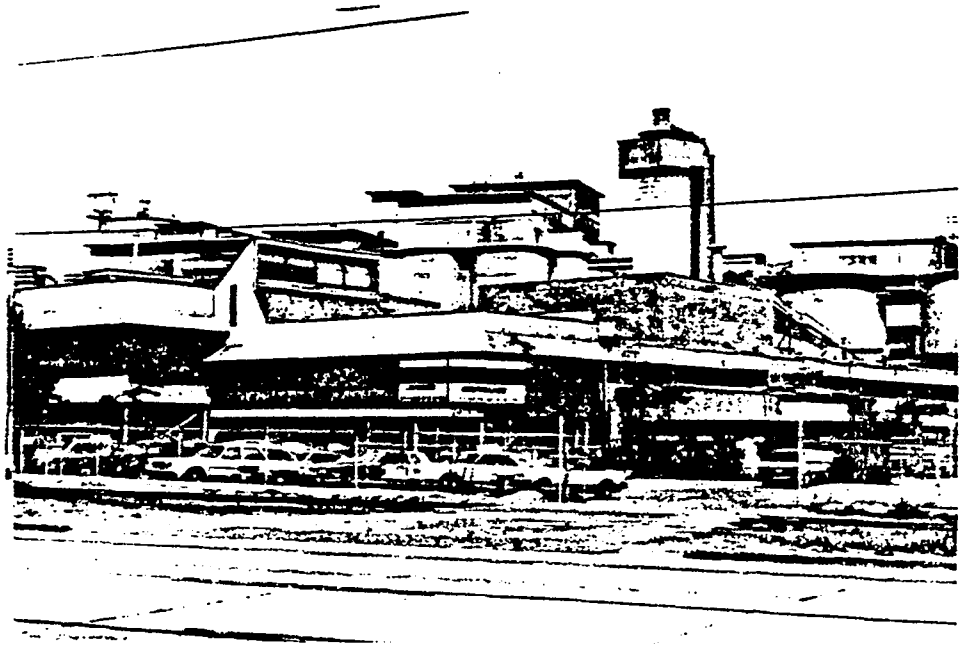
tenants and appearance of the property. Improvements include underground utilities, uniform site grading, landscaping, planned circulation patterns, sign restrictions, mandatory setbacks and controlled construction materials. This care in development leads to an industrial area which is clean and nonpolluting and which is compatible with residential neighborhoods. Rail and truck access is crucial.

While many industrial parks have been built in outlying areas (Kent, Everett, the Eastside) several innovative ventures in south Seattle have been successful. The Benaroya Business Park at 5950 6th Avenue South has 70 acres and 1.5 million square feet of developed space with railroad access. Similarly, the Fisher Industrial Center at 4th Avenue South and South Atlantic Street with 3+ acres has 80,000 square feet of space. The main deterent to similar developments in the Duwamish Valley is the lack of large tracts of properly zoned land. Assemblage is a time-consuming and costly process. Figure 8 shows the difference between the older heavy manufacturing companies and the newer office and industrial park developments in the neighborhood of the subject property. The Boeing leasehold, particularly the westside parcel, is a unique opportunity in the southend because of its large size and excellent accessibility.

Figure 8
SOUTH SEATTLE SUBAREA
LAND USE TRENDS

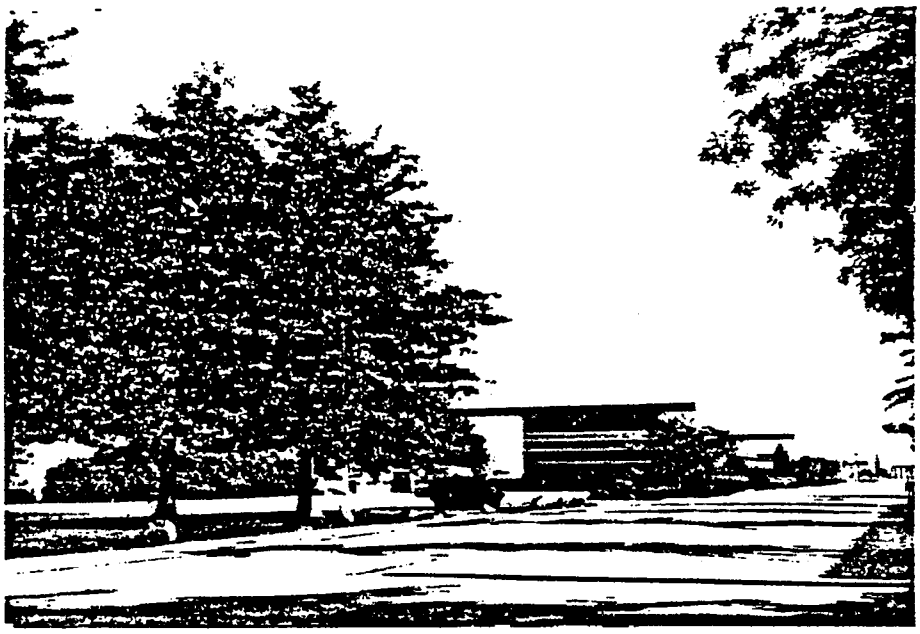


Older Heavy Industrial Users.



Older Heavy Industrial Users.

Figure 8 (Con't)

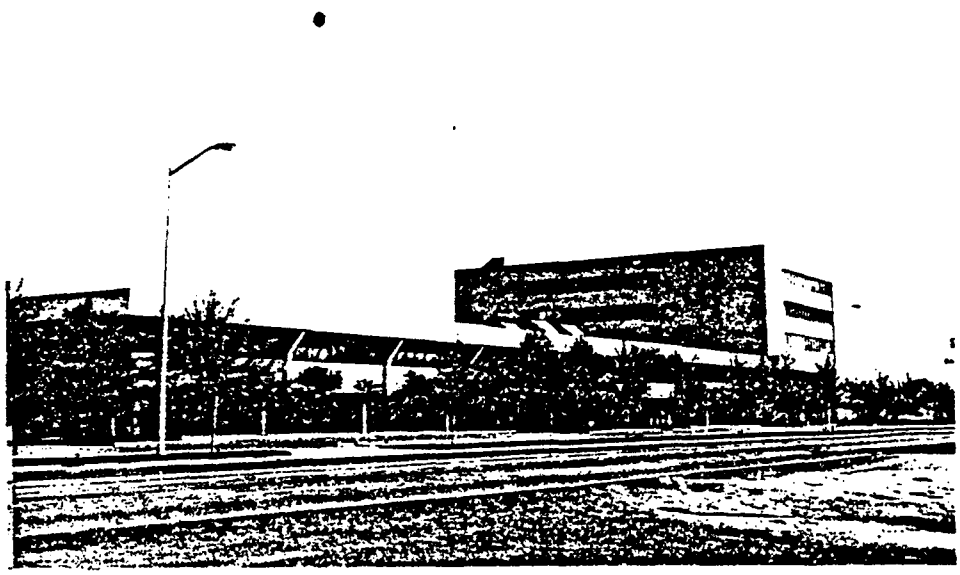


Benaroya Business Park

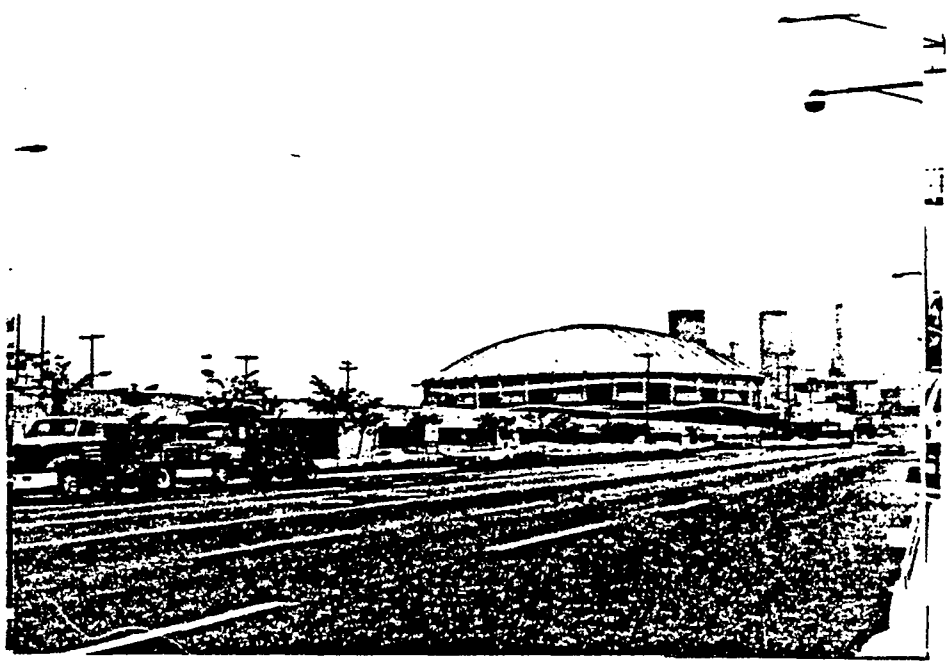


Seattle Design Center

Figure 8 (Con't.)



6100 Building
6100 4th Avenue South



Fisher Industrial Park

HIGHEST AND BEST USE ANALYSIS

Definition of Highest and Best Use

The objective of this research was to determine the fair market rental of the property leased by the Boeing Company at the King County International Airport. The fair market rental is defined as "the rental income that a property would most probably command on the open market as indicated by current rentals being paid for comparable space as of the effective date of the appraisal" (Real Estate Appraisal Terminology, Byrl N. Boyce, Ed., 1975). The determination of what constitutes comparable properties depends on a highest and best use analysis. This analysis identified the use(s) that return the highest rental to the subject property. Comparable leases are those of properties used at this highest and best use.

Another method of determining fair market rental besides direct market comparables is to determine the fair market value of the subject property and a fair rate of return on value. This rate of return may be found by comparing the return on competing investment opportunities or by developing a capitalization rate from the marketplace. Both methods of estimating fair market rental were used in this analysis.

Land is valued as if vacant and available for its highest and best use. Highest and best use is defined as

> That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal.
>
> Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. (Real Estate Appraisal Terminology, Byrl N. Boyce, Ed., 1975.)

The subject property, both the westside and eastside parcels, is zoned IG, general industrial. King County is not planning any zoning changes at the airport; the legally allowable uses under the present zoning are industrial, heavy and light manufacturing, and retail businesses and services. The business inventory discussed earlier demonstrated that all of these uses are found in the immediate neighborhood of the subject property.

The current leases have further restrictions on permitted activities. Section 12, page 30 of the Basic Comprehensive 75-year lease and Section 7 of the 65-year lease state that

> Lessee is leasing the Leased Property and is acquiring the interests, rights, and privileges granted hereunder for aircraft manufacturing or aircraft industrial purposes or for other business, manufacturing or industrial purposes or operations relating to, identified with or in some way dependent upon the use, operation or maintenance of the Airport.

The 40-year lease for the electronics building states that

> The lessee is leasing the leased property primarily for the purpose of constructing thereon one or more buildings . . . to be used, among other things, for the testing, repairing, installing, maintaining, manufacturing, developing, designing and modifying of electronic equipment, apparatus, parts or devices used in or in connection with aircraft.

Furthermore,

> All of the property involved in this lease is, or is to be, devoted to airport purposes, including those purposes designated in . . . (the paragraph quoted above). The installation of a building to be used for these purposes is contemplated and this lease shall be cancelled if Lessee fails to construct such building within or prior to three years from the date of this lease.

It is our opinion, based on the research performed by Robert Foreman, MAI and cited in his letter to the King County Division of Real Estate (August 5, 1982), that these restrictions in the present lease do not constitute a restriction on future uses of the property to aviation-related uses only.

Physically, the site is adequate for all permitted uses in size, access, and utilities available. The smaller eastside parcel may be inadequate for some large-scale operations, such as concrete manufacturing, but it is large enough to support smaller scale repair and manufacturing operations as well as retail and office uses. The height restrictions on this parcel, discussed earlier, do not preclude typical industrial buildings.

While the westside parcel is sufficiently large to support any permitted use, the irregular shape coupled with the nonleased strips which divide the property pose some problems. The height limitations on this parcel would permit typical industrial development with required parking located in the most restricted areas.

Once uses which are physically possible and legally permitted were identified, the next step in the highest and best use analysis was to determine which uses are economically viable through an analysis of market demand. Demand must be sufficient within a reasonable developmental timeframe to support the proposed use. Often it can be demonstrataed that a particular development will draw market support from existing competing developments which are inferior to the proposed project. In this case, however, we have taken a more conservative approach which focuses on meeting unmet demand that will be created by incremental additions to the labor force through 1995. Market demand for each use was projected using an economic base model of the King-Snohomish-Pierce Counties region which was developed by Mundy, Jarvis & Associates, Inc. and is updated annually. These regional projections were then refined to the South Seattle subarea which contains the subject property.

The Economic Base Model

An analysis of the demand for space by various types of users in South Seattle was made using the Economic Base developed by Mundy, Jarvis & Associates, Inc. This technique looks at changes in employment patterns in the Seattle consolidated area, including Everett, Seattle, and Tacoma. The overall trends are broken down to specific types of industries and specific sub-areas within the consolidated area to determine actual demand for commercial, industrial, and residential space. Appendix B is the complete regional model.

Distribution of Employment to Sub-Market Areas

Once employment projections for the consolidated area were made, they were dissagregated to sub-market areas based on their historical share of employment. Data on the share of employment for each sub-market area was obtained from the Washington State Employment Security Department, Puget Sound Council of Governments and data from a sampling of 912 business establishments located in Snohomish, King and Pierce Counties. Employment was also dissagregated by employment category, such as construction, durable manufacturing, etc. These data are shown in Table 8 (Employment Distribution, in Percent, Seattle SCA).

Based on the distribution shown in Table 8 (Employment Distribution) and the employment projections for 1982 through 1995 employment was distributed to the Seattle area. This is the shaded area shown in Figure 8. The projections assume that Seattle's proportion of employment, by each employment category, will remain constant through the 1982 through 1995 period.

Importantly, these numbers represent additions to the Seattle labor force assuming that space is provided in the Seattle area to accommodate these employment additions. If this space is not provided migration from the Seattle area will occur to other areas within the SCA. This is especially important in categories such as manufacturing, wholesale trade and certain service categories where industrial sites are required which, even today, are in extremely short supply (given requirements such as size, plottage, and access). Based on our employment projections and the distribution of employment for Seattle we can expect to see employment additions in Seattle, given the above assumptions, as shown in Table 9 (Seattle Employment Additions, 1983-1995).

South Seattle Employment Additions

From the Seattle information employment was dissagregated to South Seattle (Figure 9). The basis for this dissagregation was information on 216 firms located in South Seattle which were a portion of the 912 firms interviewed in the Seattle SCA. The South Seattle share of employment, by employment category, as well as the probable increase in South Seattle

Table 8

Employment Distribution (in %) for Seattle SCA

Category	Rural Snohomish	Everett	N. King S. Snohomish	Seattle	E. King	S.E. King	So. King	Pierce
Construction	.187	.61	.56	2.131	.592	.268	.344	.84
Durable Mfg.	.846	1.28	1.90	7.187	2.399	1.252	.602	1.57
Non-Durable Mfg.	.137	.21	.17	1.777	.573	.162	.048	.84
Transportation, Communications & Utilities	.187	.39	.31	3.832	.354	.172	.172	.67
Wholesale Trade	.759	.21	.29	3.603	.440	1.128	.201	.80
Retail Trade	.137	.09	.24	8.381	3.048	2.351	.086	2.85
Finance, Insurance, Real Estate	.05	.41	.05	5.151	.459	.038	.038	.75
Services	.548	.96	.96	10.712	1.472	.736	.554	3.10
Government	.548	1.08	1.24	5.619	1.825	1.328	.975	3.69
Total	3.40	5.24	5.73	49.02	11.16	7.43	3.02	15.11

Source: Mundy, Jarvis & Associates, Inc.

Table 9

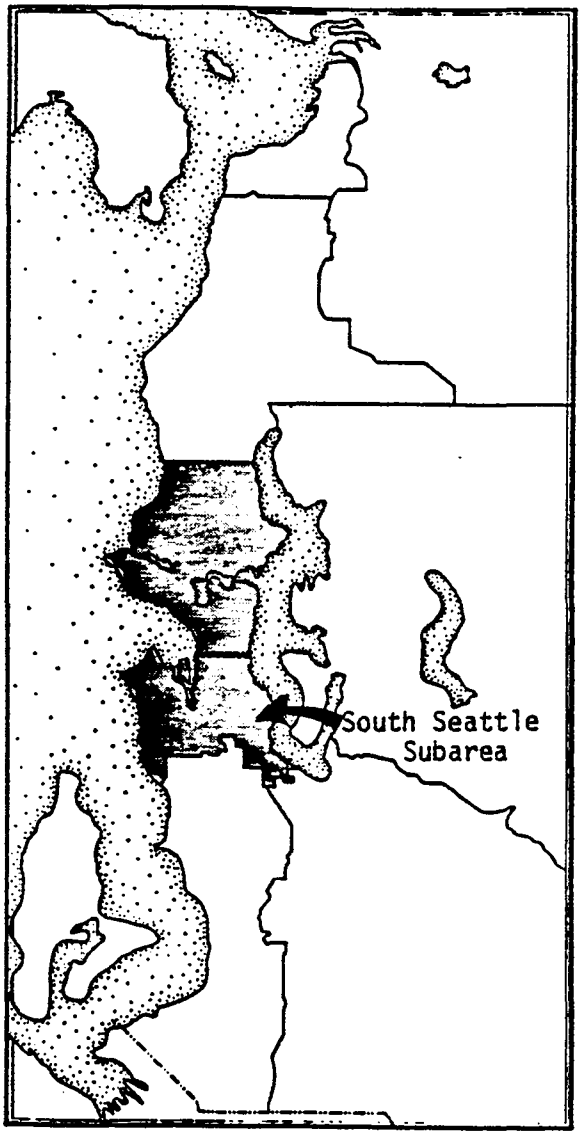
Seattle Employment Additions
1983-1995

		1982	1983	1984	1985	1990	1995
Total Employment (000)		896.0	928.6	975.7	1022.9	1115.1	1232.4
Net Employment Addition (000)			32.6	47.1	47.2	92.2	117.3
Seattle Share, by Type							
Construction	(2.13%)		690	1,000	1,010	1,960	2,500
Durable Mfg.	(7.187%)		2,340	3,390	3,390	6,630	8,430
Non-Durable Mfg.	(1.777%)		580	840	840	1,640	2,080
Transportation, Communication & Utilities	(3.832%)		1,250	1,800	1,810	3,530	4,490
Wholesale Trade	(3.603%)		1,170	1,700	1,700	3,320	4,230
Retail Trade	(8.381%)		2,730	3,950	3,960	7,730	9,830
Finance, Insurance Real Estate	(5.151%)		1,680	2,430	2,430	4,750	6,040
Services	(10.712%)		3,490	5,050	5,060	9,880	12,670
Government	(5.619%)		1,830	2,650	2,650	5,180	6,590

Source: Mundy, Jarvis & Associates

Figure 9

SOUTH SEATTLE SUBAREA



Seattle

employment for the years 1983 through 1995 are shown in Table 10 (South Seattle Employment Additions, 1983-1995). Once again, it is important to remember that these employment additions are based on the assumption that facilities will be available in the South Seattle area to accommodate this net increase in employment.

Demand Analysis

Given the probable additions to the South Seattle labor force we are in a position to make estimates of probable space needs. Space estimates for the subject site are based on three important variables, which are discussed in the following paragraphs.

The first is employment additions to the area, which are taken from Table 10 (South Seattle Employment Additions).

The second variable is typical square feet per employees found for different business establishments in each of the employment categories. These square feet per employee ratios are based on more than 2,000 interviews Mundy, Jarvis & Associates, Inc. has conducted with firms in the Pacific Northwest where information has been sought on the type of business, number of employees in that establishment and the amount of area either owned or leased by that establishment. This data is from a proprietary data base of Mundy, Jarvis & Associates, Inc. which is continually updated as research studies are performed.

The third variable is the site capture ratio. This ratio is our opinion of the percentage of increased space demand that could be captured at the subject site. It takes into consideration such important market related variables as transportation systems, types of facilities to be offered at the subject site, the competitive characteristics of the marketplace including vacancy, rents, and quality of competitive space.

Space demand for South Seattle is shown in Table 11 (South Seattle Space Demand). Two different types of demand are shown. The first is incremental demand. This is demand that is created as the labor force in an area expands. The second type of demand is latent demand. Latent demand is that demand existing in the marketplace which is inadequately served for one reason or another. This might be from obsolete facilities or facilities which are demolished for one reason or another. The sum of incremental and latent demand yields total demand. The market capture ratio is then applied to total demand to yield the probable number of square feet required at the site, in net rentable square feet.

These demand figures were then dissagregated into different types of space categories including retail, office, office-warehouse, warehouse and its equivalent, light industrial. Those demand figures are shown in Table 12 (Space Demand by Type).

Table 10

South Seattle Employment Additions
1983-1995

	South Seattle Share(1)	1983	1984	1985	1990	1995
Construction	45.3%	310	450	460	890	1,130
Durable Manufacturing	41.6%	970	1,410	1,410	2,760	3,510
Non-Durable Mfg.	39.2%	230	330	330	640	820
Transportation, Communications & Utilities	18.8%	240	340	340	660	840
Wholesale Trade	46.2%	540	780	780	1,530	1,950
Retail Trade	28.7%	780	1,130	1,140	2,220	2,820
Finance, Insurance & Real Estate	2.1%	40	50	50	100	130
Service	11.2%	390	570	570	1,110	1,420
Government	10.0% (e)	180	270	270	520	660

Notes: (1) Based on employment data on 216 South Seattle firms.
(e) Mundy, Jarvis & Associates estimate. Specific data on this category not available.

Source: Mundy, Jarvis & Associates, Inc.

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These demand figures were then dissagregated into different types of space categories including retail, office, office-warehouse and warehouse. Those demand figures are shown in Table 11 (Space Demand, by Type).

Table 10

South Seattle Space Demand

	SF/ Empl. (1)	Site Capture (%)	1983 Empl. Inc.	1983 Demand in Sq. Ft. Incremental	1983 Latent (2)	1983 Total	1983 Site	1984 Empl. Inc.	1984 Demand in Sq. Ft. Incremental	1984 Latent	1984 Total	1984 Site
Construction	200	10	310	62,000	6,200	68,200	6,820	450	90,000	9,000	99,000	9,900
Dur. Mfg.	350	2	970	339,500	33,950	373,450	7,469	1,410	493,500	49,350	542,850	10,857
Non-dur. Mfg.	350	2	230	80,500	8,050	88,550	1,771	330	115,500	1,550	127,050	2,541
TCU	220	15	240	52,800	5,280	58,080	8,712	340	74,800	7,480	82,280	12,342
Wholesale Trade	500	10	540	270,000	27,000	297,000	29,700	780	390,000	39,000	429,000	42,900
Retail Trade	500	2	780	390,000	39,000	429,000	8,580	1,130	565,000	56,500	621,500	12,430
FIR	275	20	40	11,000	1,100	12,100	2,420	50	13,750	1,375	15,125	3,025
Service	350	15	390	136,500	13,650	150,150	22,523	570	199,500	19,950	219,450	32,917
Gov't.	220	5	180	39,600	3,960	43,560	2,178	270	59,400	5,940	65,340	3,267
Total				1,381,900	138,190	1,520,090	90,173		2,001,450	200,145	2,201,595	130,100

Table 10 (con't.)

	1995						
	SF/ Empl. (1)	Site Capture (%)	Demand in Sq. Ft. Empl. Inc.	Incremental	Latent (2)	Total	Site
Construction	200	10	1,130	226,000	22,600	248,600	24,860
Dur. Mfg.	350	2	3,510	1,228,500	122,850	1,351,350	27,027
Non-dur. Mfg.	350	2	820	287,000	28,700	315,700	6,314
TCU	220	15	840	184,800	18,480	203,280	30,492
Wholesale Trade	500	10	1,950	975,000	97,500	1,072,500	107,250
Retail Trade	500	2	2,820	1,410,000	141,000	1,551,000	31,020
FIR	275	20	130	35,750	3,575	39,325	7,865
Service	350	15	1,420	497,000	49,700	546,700	82,005
Gov't.	220	5	660	145,200	14,520	159,720	7,986
Total				4,989,250	498,925	5,488,175	324,819

Source: Mundy, Jarvis & Associates, Inc.

Table 10 (con't.)

	SF/ Empl. (1)	Site Capture (%)	1985 Empl. Inc.	1985 Demand in Sq. Ft. Incremental	1985 Latent (2)	1985 Total	1985 Site	1990 Empl. Inc.	1990 Demand in Sq. Ft. Incremental	1990 Latent	1990 Total	1990 Site
Construction	200	10	460	92,000	9,200	101,200	10,120	890	178,000	17,800	195,800	19,580
Dur. Mfg.	350	2	1,410	493,500	49,350	542,850	10,857	2,760	966,000	96,600	1,062,600	21,252
Non-dur. Mfg.	350	2	330	115,500	11,550	127,050	2,541	640	224,000	22,400	246,400	4,928
TCU	220	15	340	74,800	7,480	82,280	12,342	660	145,200	14,520	159,720	23,958
Wholesale Trade	500	10	780	390,000	39,000	429,000	42,900	1,530	765,000	76,500	841,500	84,150
Retail Trade	500	2	1,140	570,000	57,000	627,000	12,540	2,220	1,110,000	111,000	1,221,000	24,420
FIR	275	20	50	13,750	1,375	15,125	3,025	100	27,500	2,750	30,250	6,050
Service	350	15	570	199,500	19,950	219,450	32,917	1,110	388,500	38,850	427,350	64,102
Gov't.	220	5	270	59,400	5,940	65,340	3,267	520	114,400	11,440	125,840	6,292
Total				2,008,450	200,845	2,209,295	117,971		3,918,600	391,860	4,310,460	254,732

Table 11

South Seattle Space Demand

	SF/ Empl. (1)	Site Capture (%)	1983 Empl. Inc.	1983 Demand in Sq. Ft. Incremental	Latent (2)	Total	Site	1984 Empl. Inc.	1984 Demand in Sq. Ft. Incremental	Latent	Total	Site
Construction	200	10	310	62,000	6,200	68,200	6,820	450	90,000	9,000	99,000	9,900
Dur. Mfg.	350	2	970	339,500	33,950	373,450	7,469	1,410	493,500	49,350	542,850	10,857
Non-dur. Mfg.	350	2	230	80,500	8,050	88,550	1,771	330	115,500	1,550	127,050	2,541
TCU	220	15	240	52,800	5,280	58,080	8,712	340	74,800	7,480	82,280	12,342
Wholesale Trade	500	10	540	270,000	27,000	297,000	29,700	780	390,000	39,000	429,000	42,900
Retail Trade	500	2	780	390,000	39,000	429,000	8,580	1,130	565,000	56,500	621,500	12,430
FIR	275	20	40	11,000	1,100	12,100	2,420	50	13,750	1,375	15,125	3,025
Service	350	15	390	136,500	13,650	150,150	22,523	570	199,500	19,950	219,450	32,917
Gov't.	220	5	180	39,600	3,960	43,560	2,178	270	59,400	5,940	65,340	3,267
Total				1,381,900	138,190	1,520,090	90,173		2,001,450	200,145	2,201,595	130,180

	SF/ Empl. (1)	Site Capture (%)	1985 Empl. Inc.	1985 Demand in Sq. Ft. Incremental	Latent (2)	Total	Site	1990 Empl. Inc.	1990 Demand in Sq. Ft. Incremental	Latent	Total	Site
Construction	200	10	460	92,000	9,200	101,200	10,120	890	178,000	17,800	195,800	19,580
Dur. Mfg.	350	2	1,410	493,500	49,350	542,850	10,857	2,760	966,000	96,600	1,062,600	21,252
Non-dur. Mfg.	350	2	330	115,500	11,550	127,050	2,541	640	224,000	22,400	246,400	4,928
TCU	220	15	340	74,800	7,480	82,280	12,342	660	145,200	14,520	159,720	23,958
Wholesale Trade	500	10	780	390,000	39,000	429,000	42,900	1,530	765,000	76,500	841,500	84,150
Retail Trade	500	2	1,140	570,000	57,000	627,000	12,540	2,220	1,110,000	111,000	1,221,000	24,420
FIR	275	20	50	13,750	1,375	15,125	3,025	100	27,500	2,750	30,250	6,050
Service	350	15	570	199,500	19,950	219,450	32,917	1,110	388,500	38,850	427,350	64,102
Gov't.	220	5	270	59,400	5,940	65,340	3,267	520	114,400	11,440	125,840	6,292
Total				2,008,450	200,845	2,209,295	117,971		3,918,600	391,660	4,310,460	254,732

Table 11 (con't.)

	1995						
	SF/ Empl. (1)	Site Capture (%)	Empl. Inc.	Demand in Sq. Ft. Incre-mental	Latent (2)	Total	Site
Construction	200	10	1,130	226,000	22,600	248,600	24,860
Dur. Mfg.	350	2	3,510	1,228,500	122,850	1,351,350	27,027
Non-dur. Mfg.	350	2	820	287,000	28,700	315,700	6,314
TCU	220	15	840	184,800	18,480	203,280	30,492
Wholesale Trade	500	10	1,950	975,000	97,500	1,072,500	107,250
Retail Trade	500	2	2,820	1,410,000	141,000	1,551,000	31,020
FIR	275	20	130	35,750	3,575	39,325	7,865
Service	350	15	1,420	497,000	49,700	546,700	82,005
Gov't.	220	5	660	145,200	14,520	159,720	7,986
Total				4,989,250	498,925	5,488,175	324,819

Source: Mundy, Jarvis & Associates, Inc.

Table 11

Space Demand - by Type
(in square feet of NRA, rounded)

Year	Retail(1)	Office(2)	Office-Warehouse(3)	Warehouse(4)	Total
1983	8,580	11,420	40,480	29,700	90,180
1984	12,430	16,190	58,660	42,900	130,180
1985	12,540	16,410	58,660	42,900	130,510
1990	24,420	31,920	114,240	84,150	254,730
1995	31,020	40,710	145,840	107,250	324,820

Notes: (1) Includes retail trade.
(2) Includes construction, finance, insurance, real estate, government.
(3) Includes durable and non-durable mfg., transportation, communications and utilities, and service.
(4) Includes wholesale trade.

Source: Mundy, Jarvis & Associates, Inc.

Table 12

Space Demand by Type
(in square feet of NRA, rounded)

Year	Retail(1)	Office(2)	Office-Warehouse(3)	Warehouse(4)	Total
1983	8,580	11,420	40,480	29,700	90,180
1984	12,430	16,190	58,660	42,900	130,180
1985	12,540	16,410	58,660	42,900	130,510
1990	24,420	31,920	114,240	84,150	254,730
1995	31,020	40,710	145,840	107,250	324,820
Total	88,990	116,650	417,880	306,900	930,420

Notes: (1) Includes retail goods and services.
(2) Includes construction, finance, insurance, real estate, government.
(3) Includes durable and non-durable manufacturing, transportation, communication and utilities, and services.
(4) Includes wholesale trade.

Source: Mundy, Jarvis & Associates, Inc.

These demand projections must be considered the minimum level of demand since they are based solely on changes in the regional economy. If a parcel the size of the westside property were available, the market would be truly national in scope. Development would require the financial, planning, and marketing resources of a major development company. The finished property would be marketed to attract new businesses to the region, perhaps even national headquarters of companies with significant holdings in the Pacific Northwest. Burlington Northern's recent move to Seattle illustrates the potential demand from the corporate market.

Aviation Demand

The Economic Base Model includes demand for office, industrial and warehouse space generated by general aviation users under such SIC categories as 37-"Manufacturing, Transportation Equipment" and 45--"Transportation and Public Utilities, Transportation by Air." Demand

for parking space for aircraft, however, is a special use not covered by the model. Demand for this use was determined through interviews with airport managers and managers of businesses at the King County International Airport who lease space for private aircraft. All these sources indicated that there is a strong demand for tie-downs and hanger space. Typical rental rates are $75 per month for a tie-down of about 2,500 square feet and $550 per month for hanger space for a twin engine plane. While these rates are well below the return generated by more intensive uses, they do provide a rent on otherwise unuseable land, such as that with a low height restriction.

Interviews with present tenants at the airport indicated that there is a high demand for general aviation space of the type provided by Fixed Base Operators (FBO). For example, Seattle Flight Service now leases 243,300 square feet. They indicated they could absorb as much more space and use it for tie-down leases, parking, hangers, and servicing. Orville Tosch who has a 6,000 square foot hanger is turning away repair work because of a lack of space and of skilled employees. Federal Express indicated a need for 14,000 to 15,000 square feet in the next 3 to 5 years. The pending closure of the Bellevue Airfield will increase the pressure at the King County International Airport to handle service for the small private aircraft.

The Highest and Best Use

Given the strong demand from general aviation users and the unique location with airfield access, it was determined that general aviation was the highest and best use of the eastside parcel. This use would include offices, repair facilities, flight training schools, aircraft service and storage, and light manufacture of aircraft parts.

The economic base analysis suggests demand for numerous uses as shown in Table 12. By 1995 this includes site demand of 89,000 square feet of retail space, 116,000 square feet of office, 418,000 square feet of office/warehouse and 307,000 feet of warehouse. Given the size of the westside parcel, its frontage on West Marginal Way, the airport location and favorable exposure from Interstate 5, we are of the opinion this site would be a strong candidate for a mixed use business, industrial and distribution park with a complementary line of retail establishments such as restaurant(s), office supplies and furniture, and business services such as travel agents. A mixed use business park development as a highest and best use is supported by the trend of land uses found in the area and by such successful developments as Benaroya Business Park and Fischer Business Park.

After making our highest and best use determination, the next step was to select appropriate sale and rent comparables. The sale comparables were used to determine the land value which was then capitalized to estimate the fair market rental. The rent comparables were used for the direct market data approach to estimating fair market rent.

APPENDIX A

Telephone Questionnaire

USER INVENTORY

Hello. My name is _____ and I am with Mundy, Jarvis. We are doing a survey of major land users for King County. May I ask you a few questions:

1. Name of Company_____

2. Address_____

3. Contact_____Phone #_____

4. Nature of Business_____

_____

_____(SIC)

5. How long have you been in this location?_____Years

6. Was your previous location within the Southend industrial area?

Harbor Ave to Marginal way, south to S. 118th(A. Grocer's Coop.) to I-5 on the east?

_____this has been our only location.

_____Yes

_____No

7. Who was in this location before you?

_____

What was the nature of their business?_____

_____

_____

_____

8. What are the advantages to this location for your business?

_____

_____

_____

9. What are the disadvantages?

_____

_____

_____

10. How important is proximity to the Duwamish Waterway to your company on a scale from 1 to 5 where,

1 = must have
2 = nice but not essential
3 = indifferent
4 = minor drawback
5 = major inconvenience

11. On the same scale how would you rate proximity to Boeing Field?_____

Thank you.

APPENDIX B

Economic Base Model

THE SEATTLE METROPOLITAN AREA ECONOMIC BASE

The need for commercial and residential real estate is directly tied to the economic base of an area. As the area's economic base changes so do other "non-basic" or support sectors. Housing and commercial real estate services are several of the more important support sectors. Therefore, to understand the present and probable future need for real estate services it is important to understand the "workings" of the area's economic base. The Seattle area economic base is discussed in five sections which follow, beginning with a brief review of the area's resources and history. We then compare Seattle's recent growth on a national and regional basis. A shift-share analysis analyzes the components comprising the Seattle area economy and how those components have changed over time. Then, a "minimum requirements" economic base model for the economy is developed whereby employment projections are made using two different growth scenarios for the period 1982 through 2000. From the employment projections a demographic model is developed whereby population and housing projections are made.

For the purpose of this analysis, the Seattle Consolidated Area is defined by King, Snohomish and Pierce Counties. Therefore, the Seattle area economic base includes the major cities, such as Seattle, Everett, and Tacoma, minor municipalities, such as Arlington, Issaquah, and Puyallup, and the unincorporated areas of Snohomish, King, and Pierce Counties.

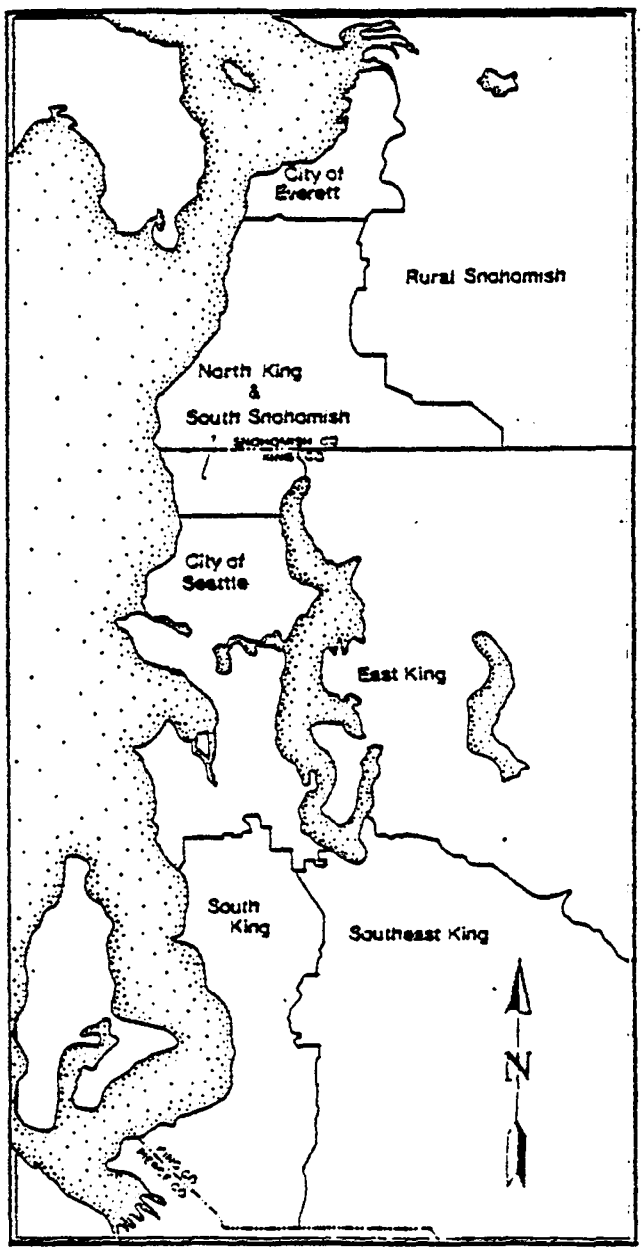
The three-county area was divided into eight sub-markets. These areas represent independent "micro" economics. The sub-market area boundaries are shown in Figure 1.

Area Resources and History

Like many cities in the United States, Seattle, Tacoma and Everett owe their existence to a plentiful supply of important natural resources. Even though the Puget Sound area was "discovered" by Captain George Vancouver in 1775--charting many of our present landmarks including Mt. Rainier, Mt. Hood, Admiralty Inlet and Hood Canal--it wasn't until the 1850's that the forest resources of Puget Sound were tapped. In 1870 the population of Walla Walla and Olympia still remained greater than that of Seattle. The area was dependent upon shipping and forestry until Seattle was linked by rail (the Great Northern Railroad) to Tacoma and cities to the south, which were tied to Sacramento, California. Sacramento, in turn, was linked to Omaha, Nebraska by the Central Pacific Railroad. The link to Seattle was completed in 1893.

In 1889 Washington produced four percent of the nation's lumber output. Washington remained first in lumber output until 1938, when surpassed by Oregon. Also important were pulp and plywood production.

Figure 1


City of Everett
Rural Snohomish
North King & South Snohomish
City of Seattle
East King
South King
Southeast King
N

The Seattle area was pulled up by its bootstraps from a severe recession in 1897 by the Alaska gold rush, thereby establishing Seattle as a major port and outfitting point for Alaska trade, and then soon to follow, trade to the Orient. The area's deep water ports also fostered a large shipbuilding industry. In 1891 the government selected Bremerton as a site for its Naval shipyard, where warships were produced for World Wars I and II. Many ships were also produced during this same period in Seattle, where employment increased from 6,000 prior to World War II, to 140,000 in 1943.

The Seattle area has also benefitted from an impressive agricultural industry that established itself in central and eastern Washington in the early 1900's. Early-day eastern Washington wheat farming was important. Then with the completion of Grand Coulee Dam and the opening of the Columbia Basin to agriculture in 1948 the agricultural industry made another surge. Also related to the Grand Coulee development was the provision of cheap hydroelectric power which in 1941 attracted the state's first aluminum manufacturer, Alcoa.

Until recently the one major industry that was not dependent on regional natural resources was aerospace. Starting in 1916 with William Boeing's first airplane, Boeing and the aerospace industry have contributed to impressive growth and economic well-being for this area and its residents. However, it has also caused many recessions and grief. A chronology of change at Boeing and in the aerospace industry from 1916 through 1979 is depicted in Table 1.

TABLE 1
SEATTLE'S AEROSPACE INDUSTRY

Period	Employment	Event
1916-1939	0-7,000+	William Boeing's B&W Twin Float sport seaplane launched. The beginning of Pacific Aeroproducts Company.
1940	7,600	Mobilization for World War II.
1944	44,000	Production of Flying Fortress and Superfortress.
1946	10,000	Sales decrease from $600 million to $14 million in 2 years.
1947		Introduction of B-47 followed by B-52.
1960*	58,000	First commercial jet - Boeing 707.
1962	73,300	Diversification into missles and space.
1964	52,000	Retrenchment due to several major defense contract losses.
1968	104,500	Expansion due to 707/727 success; intensive airline orders.
1971	37,500	SST contract loss; softness in commercial aircraft market.
1978	58,700	Diversification, expanding commercial aircraft orders, and success in military contracts.
1979	76,800	Introduction of 757/767; Everett plant's major expansion.
1980	80,550	Workforce peaks with 299 commercial plan deliveries and 757/767 startup.
1981	79,700	Workforce decreases slightly due to softness in national economy and decreasing 727/747 orders. Commercial deliveries - 257.
3/82	74,000	Workforce declines due to falling commercial aircraft production.

*All aerospace employment.
Source: Mundy, Jarvis & Associates, Inc.

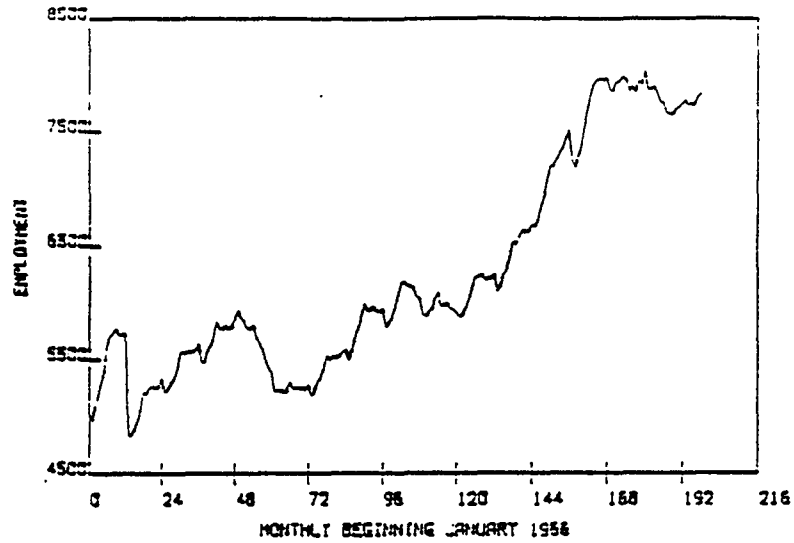
As with the development of any economy, there are certain events that are very instrumental in an area's development. A chronology of those events is shown below:

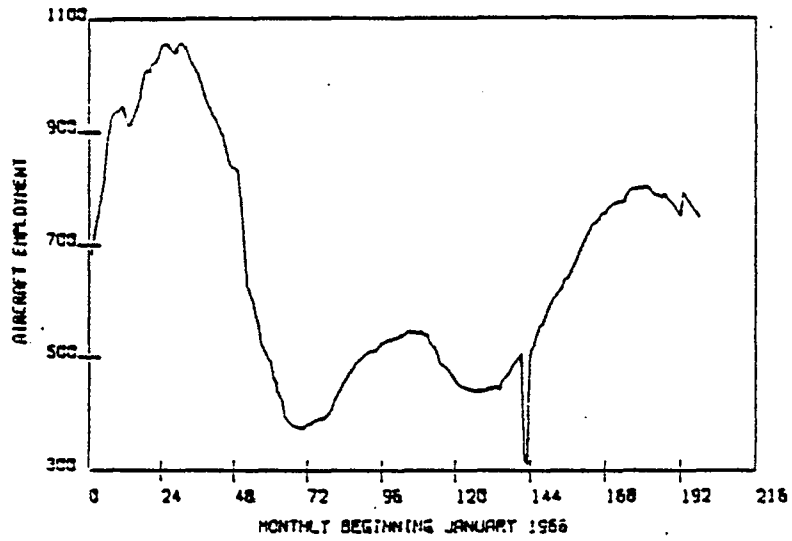
1878	Rail connection from Seattle to the Renton and Newcastle coal mines.
1883	Northern Pacific transcontinental railroad reaches Tacoma via Columbia River route.
1885	First pulp mill in Washington Territory at Camas.
1889	Statehood.
1889	Fires destroy major parts of both Seattle and Spokane.
1891	Bremerton navy yard established.
1893	Great Northern Railroad reaches terminus and Yukon begins.
1900	Northern Pacific sells 900,000 acres of timberland to Frederick Weyerhaeuser; one of several major sales of railroad land-grant properties.
1905	Washington gains first place in output of lumber.
1905	Pacific Car and Foundry established.
1909	Milwaukee Railroad completed to Seattle and Tacoma.
1909	Alaska-Yukon-Pacific Exposition, Seattle.
1914	Panama Canal opened, aiding cargo shipments to East Coast.
1916	Pacific Aero Products Company (later, the Boeing Company), founded in Seattle.
1917	Lake Washington Ship Canal opened; Fort Lewis established.
1918	World War I. Puget Sound shipyards employ 50,000.
1926	Washington State lumber production at all-time high.
1929	Great Northern Railroad completes Cascade Tunnel.
1940	State's first primary aluminum plant in operation at Vancouver, Washington.
1941	Grand Coulee Dam completed.

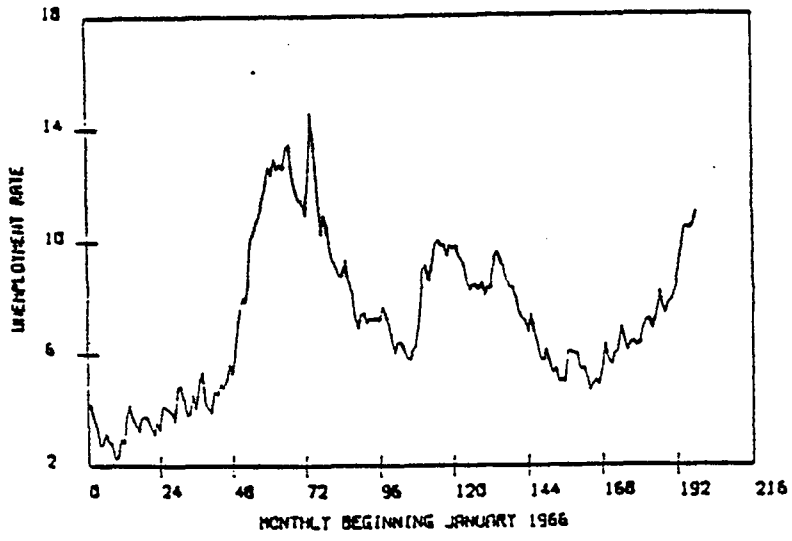
1943	World War II shipbuilding employs 140,000 in the state.
1947	Kaiser Aluminum takes over government-built aluminum plants at Spokane and Tacoma.
1949	Seattle-Tacoma International Airport opened.
1955	The Boeing Company enters the commercial jet transport market.
1956	Natural gas becomes available by pipelines from the Southwest and Canada.
1962	Century 21 - Seattle World's Fair.
1966	Intalco Aluminum, Bellingham, builds Washington's sixth aluminum plant.
1966	Boeing opts to build the 747 superjet.
1968	Major oil field discovered at Prudhoe Bay on Alaska's North Slope.
1978	Boeing announces the 757 and 767 commercial jets.

Figure 2 shows how employment, unemployment and aircraft employment have changed in the Seattle metropolitan area since 1965. The relationship between changes in aircraft employment and changes in Seattle's total employment and unemployment are vividly shown. As aircraft employment increased dramatically during the 1967 through 1968 period, so did the area's total employment, with a slight lag, approximating one year. Then, with Boeing's loss of the SST contract and the downturn in the airline industry and subsequent aircraft orders, aircraft employment dropped dramatically. This is directly correlated with the increase in the unemployment rate. The annual peaks and troughs are related, to a large extent, to the seasonal nature of many major industries, especially contract construction, fishing, food processing, lumber and wood products. The causes of these changes and probable future changes that will occur in employment and thereby the area's economic base are discussed in the next two sections.

Figure 2


EMPLOYMENT
8500
7500
6500
5500
4500
0
24
48
72
96
120
144
168
192
216
MONTHLY BEGINNING JANUARY 1956


AIRCRAFT EMPLOYMENT
1100
900
700
500
300
0
24
48
72
96
120
144
168
192
216
MONTHLY BEGINNING JANUARY 1956


UNEMPLOYMENT RATE
18
14
10
6
2
0
24
48
72
96
120
144
168
192
216
MONTHLY BEGINNING JANUARY 1956

Shift-Share Analysis

A region may grow either because it has industries that are growing nationally or because it is gaining an increasing proportion of industries, regardless of whether these industries are growing or not. The shift-share analysis formalizes these two separate effects.

The share analysis addresses the first portion of the problem, the proportion of national industry totals found within each region. It provides a snapshot of a region's structure vis-a-vis the national economy. This is, however, only a static analysis.

The shift analysis studies the region's structure from a dynamic standpoint. It is concerned with regional changes in economic activity between two defined points in time and concentrates on whether the regional change is greater than or less than the national average change. The shift measures the difference between the actual regional change and the change that would have occurred had the region grown at statewide or national average rates. This is a measure of an area's industrial advantage.

Average annual employment for 1965 and 1982 (February) by industry is shown for the Seattle area, the State of Washington and the United States in Table 2 (Shift-Share Analysis). The first six columns of the Table show the 1965 and 1980 employment for Seattle, Washington State and the United States respectively. In the right hand columns the Seattle Metropolitan Area's share of Washington State employment and United States employment is shown. In the last columns the total shift statistics are shown. The implications of the statistics are discussed in the paragraphs below.

Table 2

Seattle SCA Shift-Share Analysis
(Number of Jobs in 000 except US in 000,000)

	Seattle SCA		WA. State		United States		Share for Seattle Wash.		Share for Seattle U.S. (10⁴)		Shift for Seattle WA	Shift for Seattle US
	1965	1982	1965	1982	1965	1982	1965	1982	1965	1982		
Construction	24.4	40.8	46.4	72.1	3.29	3.78	,53	.57	7.42	10.79	2.89	12.77
Manufacturing	136.5	185.3	227.0	289.6	18.06	19.36	.60	.64	7.56	9.58	11.16	39.06
Durable	102.6	150.7	156.0	208.4	10.41	11.51	.66	.72	9.86	13.09	13.64	37.26
Lumber & Wood	13.6	12.7	46.9	39.7	.61	.61	.29	.32	22.30	20.82	1.19	- .90
Furniture	2.1	2.0	2.8	2.7	.43	.46	.75	.74	4.88	4.35	- .02	- .25
Stone, Clay, Glass	2.7	3.0	5.4	5.7	.63	.69	.50	.53	4.29	5.08	.15	.47
Primary Metal	4.1	4.7	11.7	14.6	1.30	1.02	.35	.32	3.15	4.61	-.42	1.48
Fabricated Metal	6.2	8.5	6.9	11.6	1.27	1.49	.90	.73	4.88	5.71	-1.92	1.23
Machinery	5.1	7.6	8.6	15.1	1.74	2.44	.59	.50	2.93	3.11	-1.36	.45
Electrical	2.4	8.6	2.8	10.5	1.66	2.08	.86	.82	1.45	4.14	-.40	5.59
Transportation	66.4	91.1	68.7	97.0	1.74	1.73	.97	.94	38.16	52.66	-2.65	25.08
Aircraft	56.8	78.2	57.0	78.4	.62	NA	.99	.99	91.61	-	-	-
Ship Building	5.4	9.0	6.7	13.5	.13	NA	.81	.67	41.54	-	-	-
Other	4.2	3.5	5.0	5.1	.99	NA	.84	.69	4.24	-	-	-
Non-Durable	28.4	35.0	71.0	81.2	7.66	7.84	.40	.43	3.71	4.46	2.62	5.93
Food	12.5	12.1	26.2	27.9	1.76	1.61	.48	.43	7.10	7.52	-1.21	.67
Apparel	2.6	2.9	4.5	5.3	1.35	1.20	.58	.56	1.93	2.42	-.16	.59
Paper	6.1	4.5	19.8	16.1	.63	.67	.31	.28	9.68	6.72	-.46	-1.99
Printing	4.9	8.7	9.2	15.6	.98	1.30	.53	.56	5.00	6.69	.39	2.20
Chemicals	2.3	1.9	8.5	9.0	.91	1.09	.27	.21	2.52	1.73	-.53	-.86
Trans., Comm., Util.	36.7	59.0	61.7	85.8	4.04	5.05	.60	.69	9.08	11.68	7.96	13.12
Whlse. & Ret. Trade	112.7	223.9	198.9	369.1	12.72	20.60	.57	.61	8.86	10.87	14.76	41.38
Fin., Ins., R.E.	30.4	65.6	44.4	90.4	3.02	5.34	.68	.73	10.07	12.28	3.71	11.85
Services	68.4	185.9	123.3	309.3	9.489	18.80	.55	.60	7.52	9.89	14.32	44.43
Government	91.6	145.8	193.1	317.3	10.07	16.18	.47	.46	9.10	9.01	-4.72	-1.38
Total	503.3	889.3	896.6	1,536.7	82.14	90.26	.56	.58	6.13	9.85	26.68	336.25

Note: 1982 data for February. Columns will not total since "Other" categories have been deleted.

Seattle's Employment Share

Seattle's employment share is compared, in the following paragraphs, with both the State of Washington and the United States.

Seattle-Washington State. The Seattle Consolidated Area accounted for 56% of Washington employment in 1965. This has increased to 58% for the present period. Considerable growth has occurred in all major employment categories except government. Increases have been consistently in the 4% to 5% range except transportation, communications and utilities which has increased by 9%. The proportion of employment by category for 1965 and 1982 is shown below.

Employment Category	1965	1982
Contract Construction	53%	57%
Manufacturing	60%	64%
Transportation, Communications & Utilities	60%	69%
Wholesale & Retail Trade	57%	61%
Finance, Insurance & Real Estate	68%	73%
Service	55%	60%
Government	47%	46%
Overall Share	56%	58%

Employment in durable manfacturing increased at a rate greater than non-durable manufacturing, 6% versus 3%. Several areas in durable manufacturing where Seattle's share of State Employment has eroded significantly include fabricated metal products and machinery manufacturing. For non-durable categories Seattle's position has also eroded in several major categories including food processing, apparel manufacturing, paper production and chemical processing.

Seattle - United States. In 1965 Seattle's share of United States employment was 0.613%. This has increased to 0.985% to 1982, a 61% increase in its employment share over the last 17 years.

Contract construction has enjoyed the greatest proportionate change in its share, increasing by 45%. Service was second with a 32% increase. Manufacturing, wholesale and retail trade and finance, insurance, real estate all increased in the 20% range. The shares of employment and proportionate increases are shown below.

Employment Category	1965	1982	% Change
Contract Construction	.742%	1.079%	45%
Manufacturing	.756%	.958%	27%
Transportation, Communications & Utilities	.908%	1.868%	29%
Wholesale & Retail Trade	.886%	1.087%	23%
Finance, Insurance & Real Estate	1.007%	1.228%	22%
Service	.752%	.989%	32%
Government	.910%	.901%	-1%
Overall Share	.613%	.985%	61%

In the manufacturing sector, durable manufacturing's share increased by 33%, due mainly to significant employment increases in the transportation sector, fueled by Boeing and its sub-contractors. The share decreased in lumber and wood products, and furniture manufacturing.

For non-durable employment growth in Seattle's share was nominal, 20%. Chemical and paper and allied products decreased, the other categories increased.

Seattle's Employment Shift

The employment shift measures the regional change in comparison to change both on a state level and United States level. This variable shows clearly which sectors are doing well in the Seattle Consolidated Area.

Over the last 17 years a significant shift has occurred in favor of Seattle and Washington State. Ranked in order of magnitude of change are the following categories.

Service

Wholesale, retail trade

Manufacturing, mainly durable manufacturing and transportation equipment

Transportation, communications and utilities

Contract construction

Finance, insurance and real estate

Government

Four basic employment categories in manufacturing, transportation and electrical equipment manufacturing have performed significantly better than the United States. Two categories have not grown as fast, lumber and wood products and furniture manufacturing. Seattle in comparison to Washington has performed "at par", losing slightly in most durable manufacturing categories and gaining in other durable manufacturing.

For non-durable manufacturing there has been a slight shift in Seattle's favor, mainly occurring in other non-durable manufacturing when comparing Seattle to Washington. The shift has been in favor of non-durable manufacturing, printing, food processing and apparel when comparing Seattle with the United States.

A table detailing the employment for Seattle, Washington State and the United States as well as Seattle's share of employment and the shift occurring in favor of Seattle was shown in Table 2 (Seattle SCA, Shift-Share Analysis).

SEATTLE'S NEIGHBORS

Over the last decade (1970 through September 1981) employment in the United States increased by 29%. In comparison, employment in the five West Coast states increased by 43.3%. On a state-by-state basis the increases have been:

California:	42.5%
Oregon:	42.4%
Idaho:	56.1%
Montana:	43.6%
Washington:	46.1%*

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* Using Washington data from 1971 (the bottom of the Boeing "bust") indicates a 48.0% increase.

These data are also displayed in Figure 3 (Rate of Employment Growth, 1970 to September 1981) and Figure 4 (Employment Increase, 1970 to September 1981).

For the West Coast, California has captured the majority of absolute employment change, increasing by 2.9 million over the decade. This equals 75% of the West Coast employment increase. Oregon increased by 317,000 (8% of the West Coast Employment Increase) and Washington by 514,000 (13%). Importantly, 60% of Washington's employment increase occurred in the Seattle Consolidated Area (Snohomish, King and Pierce Counties).

Figure 3

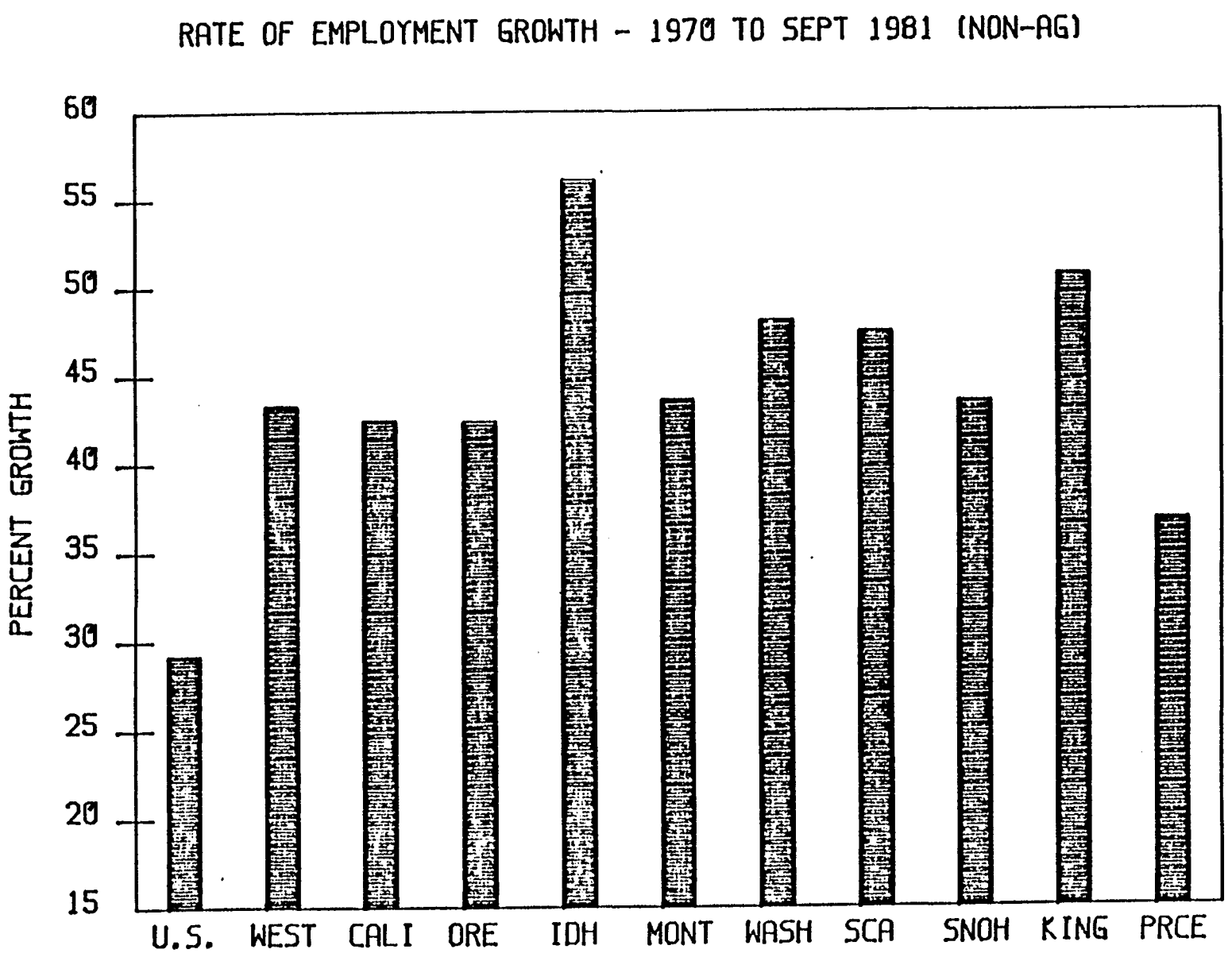
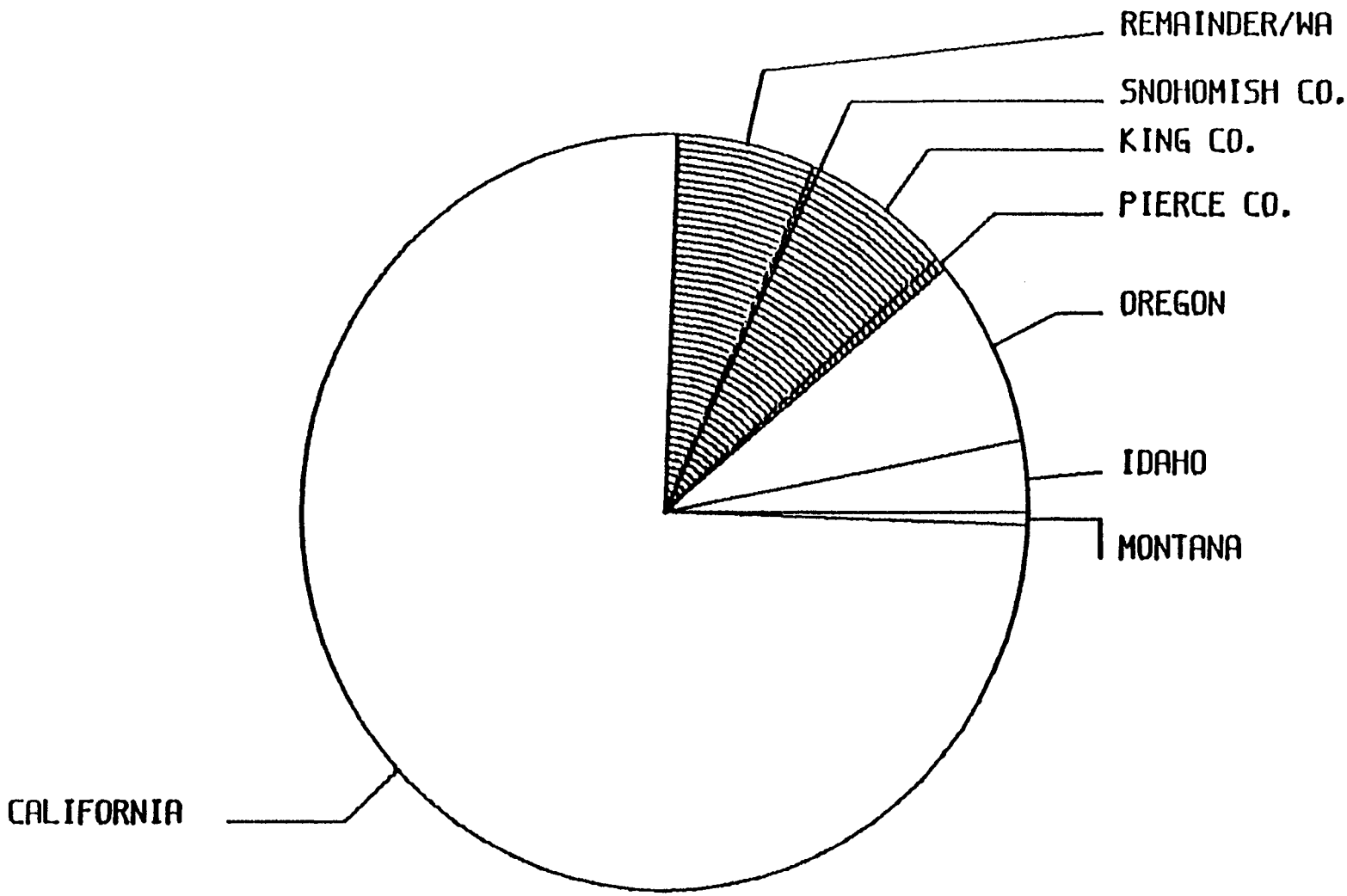

RATE OF EMPLOYMENT GROWTH - 1970 TO SEPT 1981 (NON-AG)
PERCENT GROWTH
60
55
50
45
40
35
30
25
20
15
U.S.
WEST
CALI
ORE
IDH
MONT
WASH
SCA
SNOH
KING
PRCE

Figure 4

EMPLOYMENT INCREASE - 1970 TO SEPT 1981 (000'S)



Minimum Requirements Approach

The following analysis is based on one of several economic base analysis techniques. It is a "middle-range" analysis, the minimum requirements method.*

The minimum requirements method is based on the assumption that a "minimum" number of employees in any metropolitan area are required to provide such necessary goods as groceries and services. Excesses above this minimum are employees engaged in export activities: Producing goods and services locally and selling them beyond the boundaries of the metropolitan area (aircraft for instance) are export activities that provide the growth and dynamics for an area vis-a-vis a stagnating "no-growth" economy.

The minimum requirements approach provides the analyst with insight into what makes a particular economy "tick". It is a method of assessing the extent to which an area's industries sell outside the local economy. The portion of an industry that sells within the local economy is termed service, since it is needed to serve the needs of the area's residents. Retail trade is an example of an industry with a large service component, because it sells mostly within the local economy. The portion of an industry that sells outside the local economy is termed basic or export, because it generates a net flow of income from which necessary imports are financed. Aircraft manufacturing is an example of an industry with a large basic component, because it sells mostly outside the local economy. The majority of industries fall somewhere between the extremes of retail trades and aircraft manufacturing and have both basic and service components.

As an urban area grows in size there is a tendency toward self-sufficiency. An area the size of Moses Lake, Washington (population 10,900) for example, is on the average about 68% export (basic) and 32% service, or a ratio of one export to less than one-half service employee. In comparison, a metropolitan area of approximately 300,000 inhabitants (Spokane, Washington) has a ratio of 50% export to 50% service and a city the size of Seattle (some 1.7 million), may have a ratio of 40% export to 60% service. Research shows that the export to service ratio has been slowly changing with time, moving toward an increasing proportion of service workers.

A minimum requirements analysis disaggregates a local economy into two major parts, the export or basic component and the service component. By determining the composition of each sector and how that composition changes with time, it is possible to gain valuable insight into how the local economy performs, upon which industries the economy is dependent, and how it may perform in the future. Employment in the Seattle-Everett-Tacoma area was broken down by industry and by basic and service components, and is shown in Table 3 for 1970 to 1981 and Table 4 for 1982.

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*Ullman, Edward, Michael F. Dacey and Harold Brodsky,

The Economic Base of American Cities, The University of Washington Press, Seattle, Washington, 1969.

TABLE 3

BASIC AND SERVICE EMPLOYMENT IN
SEATTLE-EVERETT-TACOMA

1970

	% TOTAL EMPOY.	% MIN. REQ.	BASIC	% BASIC	SERVICE	% SERV.	SERVICE DEFICIT	TOTAL
Construction	4.8	3.3	9.2	30.9	20.5	69.1	0.0	29.7
Manufacturing	23.8	9.2	40.9	61.4	57.2	38.6	0.0	148.1
Durable	18.5	6.1	77.0	67.0	37.9	33.0	0.0	114.9
NonDurable	5.3	3.1	13.9	42.0	19.3	58.0	0.0	33.2
T.C.U.[1]	7.4	5.0	14.6	32.0	31.1	68.0	0.0	45.7
Trades	22.3	16.5	36.4	26.2	102.5	73.8	0.0	138.9
Wholesale	6.3	3.5	17.5	44.7	21.8	55.3	0.0	39.3
Retail	16.0	13.0	18.8	18.9	80.8	81.1	0.0	99.6
F.I.R.[2]	6.6	4.1	15.7	38.2	25.5	61.8	0.0	41.2
Services	15.9	17.7	0.0	0.0	99.1	100.0	10.9	99.1
Government	19.1	9.8	57.9	48.7	60.9	51.3	0.0	118.8
TOTAL		65.6	213.8		407.7		10.9	621.5

SOURCE: Bill Mundy & Associates, Inc.

(All employment figures in thousands.)

[1] Transportation, Communication and Utilities
[2] Finance, Insurance and Real Estate

Table 4

Basic and Service Employment in
Seattle-Everett-Tacoma
April 1982

	Employment		Min.	Basic		Service		
	Total	%	Req.(%)	No.	%	No.	%	Deficit
Construction	38.3	4.3	3.3	8.7	22.7	29.6	77.3	0
Manufacturing	186.1	20.7	9.2	103.5	55.6	82.6	44.4	0
Durable	151.2	16.8	6.1	96.4	63.8	54.8	36.2	0
Non-durable	35.0	3.9	3.1	7.2	20.5	27.8	79.5	0
T.C.U. (1)	56.5	6.3	5.0	11.6	20.6	44.9	79.4	0
Trade	216.5	24.1	16.5	68.4	31.6	148.1	68.4	0
Wholesale	64.5	7.2	3.5	33.1	51.3	31.4	48.7	0
Retail	152.0	16.9	13.0	35.3	23.2	116.7	76.8	0
FIR (2)	64.9	7.2	4.1	28.1	43.3	36.8	56.7	0
Service	182.6	20.3	17.7	23.7	13.0	158.9	87.0	0
Government	149.9	16.7	9.8	61.9	41.3	88.0	58.7	0
Total	897.7		65.6	305.9		588.9		

Source: Mundy, Jarvis & Associates, Inc., 6/1982

Notes: All employment figures in thousands
(1) Transportation, communications and utilities
(2) Finance, insurance and real estate.
Columns may not add due to rounding errors

MUNDY, JARVIS & ASSOCIATES, INC.
SEATTLE • PORTLAND • ANCHORAGE

Basic Employment

After partitioning employment into basic and service components by industry, basic employment was further analyzed to determine historical trends. Table 5 reports basic employment broken down by seven sectors in both numerical and percentage form. The following paragraphs discuss the trends evident in basic employment since 1970.

Contract Construction

Basic employment in 1970 was 9,200 and comprised 4.3% of all basic employment in the consolidated area. By 1974, basic employment had fallen to 5,400 or 2.3% of total basic employment, due to the 1971 Boeing layoffs and a recession in the housing industry. Consequently, the demand for housing grew faster than the supply. This situation helped stimulate housing construction in the late 1970's and by 1979, basic employment had grown to 24,400 or 7.9% of total basic employment. In 1980, basic employment fell to 21,300 or 6.7% of total basic employment as a result of tight money market conditions. The 1980 basic employment probably would have been lower if it were not for a surge in the construction of office space in Seattle and Bellevue. Since 1980 construction employment has continued its downward trend, now at 8,700 basic employees (38,300 total), slightly higher than the 1974 low. Major construction projects continue to provide support for this category (i.e., Bellevue offices, Seattle hotels, I-90, Bangor).

Durable Manufacturing

In 1970, durable manufacturing was the backbone of the local economy. Basic durable employment was at 77,000 or 36.0% of total basic employment. When the federal government canceled plans to build the SST in 1971, the Boeing Company was forced to reduce the size of its work force. Basic durable employment fell to 54,900 or 26.9% of total basic employment. By 1974, basic durable employment had risen to 74,800 or 32.3% of total basic employment. By 1976, however, it had fallen back to 62,800 or 25.7% of total basic employment. With the introduction of the Boeing 757 and 767 aircraft and the acquisition of government defense contracts to build cruise missles, aircraft employment has grown substantially. Also, the development of the electronics industry has contributed to an increase in basic employment and the diversification of the local economy. Thus, by 1981 basic employment in durable manufacturing had increased to 98,500. Through April 1982 all durable manufacturing categories were showing weakness, however the weakness is especially noticeable in aircraft employment, accounting for more than 50% of the year-to-year decline.

Non-Durable Manufacturing

In 1970, basic employment in nondurable manufacturing was 13,900 or 6.5% of total basic employment. By 1975, basic durable employment had declined to 11,600 or 5.2% of total basic employment. Growth in food and kindred products, apparel, and printing and publishing helped push basic

TABLE 5

BASIC EMPLOYMENT IN CONSOLIDATED AREA
1970 - 1980

	1970		1971		1972		1973		1974		1975		1976		1977		1978	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Constr.	9.2	4.3	6.8	3.3	5.7	2.7	6.5	2.9	5.4	2.3	7.6	3.4	8.4	3.4	13.3	5.1	19.2	6.9
Manufac.	90.9	42.5	69.1	33.8	71.7	33.9	81.6	36.5	87.1	37.6	84.2	37.7	74.9	30.7	77.5	29.9	92.1	33.1
Durable	77.0	36.0	54.9	26.9	57.6	27.2	69.0	30.9	74.8	32.3	72.6	32.5	62.8	25.7	64.4	24.9	76.6	27.5
NonDur	13.9	6.5	14.2	6.9	13.5	6.7	12.6	5.6	12.3	5.3	11.6	5.2	12.1	5.0	13.1	5.0	15.5	5.6
T.C.U.	14.6	6.8	14.5	7.1	13.4	6.3	13.0	5.8	12.2	5.3	10.0	4.5	12.6	5.2	12.5	4.8	11.8	4.2
Trades	36.4	17.0	37.4	18.5	39.0	18.4	40.7	18.2	42.5	18.4	54.1	24.2	55.6	22.8	60.5	23.4	66.5	23.9
Whlsale	17.5	8.2	17.2	8.4	17.2	8.1	18.3	8.2	20.1	8.7	25.5	11.4	25.4	10.4	28.4	11.0	29.7	10.7
Retail	18.8	8.8	20.7	10.1	21.8	10.3	22.5	10.0	22.5	9.7	28.6	12.8	30.2	12.4	32.9	12.4	35.1	13.2
F.I.R.	15.7	7.3	16.0	7.8	16.6	7.8	16.9	7.6	17.1	7.4	17.1	7.7	17.1	7.0	19.3	7.5	22.1	7.9
Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.3	5.6	2.5	8.2	3.4	11.2	4.3	12.4	4.5
Govrnmt	57.9	27.1	65.3	31.9	68.3	32.3	66.4	29.7	66.4	28.7	67.5	30.2	66.8	27.4	64.7	25.0	63.0	22.7
Total Basic	213.8	100.0	204.4	100.0	211.5	100.0	223.3	100.0	231.4	100.0	233.2	100.0	243.6	100.0	258.9	100.0	278.1	100.0
Total Service	407.7		389.9		403.2		425.8		421.2		425.7		464.4		493.8		547.4	
GRAND TOTAL	621.5		594.3		614.7		649.1		672.6		648.9		708.0		752.7		834.5	

NOTE: In thousands of employees.

Source: Bill Mundy & Associates, Inc.

Table 5 (con't)

1979		1980		1981		1982	
n	%	n	%	n	%	n	%
24.4	7.9	21.3	6.7	13.8	5.6	8.7	3.6
107.5	34.8	109.9	34.5	106.6	42.7	103.5	42.4
92.5	30.0	97.5	30.6	98.5	39.5	96.4	39.5
15.0	4.8	12.4	3.9	8.1	3.2	7.2	2.9
12.3	4.0	13.6	4.3	12.2	4.9	11.6	4.8
67.6	21.9	65.7	20.6	67.5	27.1	68.4	28.0
32.2	10.4	32.0	10.0	33.0	13.2	33.1	13.6
35.4	11.5	33.7	10.6	35.2	14.1	35.3	14.5
23.5	7.6	24.0	7.5	26.6	10.7	28.1	11.5
13.0	4.2	17.2	5.4	22.1	8.9	23.7	9.7
60.6	19.6	66.9	21.0	61.7	24.7	61.9	25.4
308.8	100.0	318.6	100.0	310.5	100.0	305.9	100.0
589.0		607.7		605.9		588.9	
897.8		926.3		916.4		897.7	

non-durable employment to 15,500 or 5.6% of total basic employment in 1978. Since 1979 there has been a steady erosion in non-manufacturing employment due mainly to decreasing employment in food and kindred products as well as printing and publishing. However, all categories have shown some weakness. Food and kindred products declines are related to closures of food processing plants in the area, printing and publishing to the general economic slow down.

Transportation, Communication and Utilities

Basic T.C.U. employment in 1970 was 14,600 or 6.5% of total basic employment. By 1975, basic T.C.U. employment declined to 10,000 or 4.5% of total basic employment. In spite of an increase in total T.C.U. employment, from 44,200 in 1975 to 59,900 in 1980, basic T.C.U. employment increased only to 13,600 and the percentage of total basic T.C.U. employment fell to 4.3%. This is because employment increases have been in the service component, rather than the basic component, to serve the needs of the expanding population. Basic employment in this sector has declined only nominally since 1980 and has exhibited substantial stability since 1976.

Wholesale Trades

In 1970, 17,500 workers or 8.2% of total basic employment were in wholesale trades. As of 1975, this figure had grown steadily to 25,500 or 11.4% of total basic employment. By 1980, basic wholesale trade employment had increased to 32,000 or 10.0% of total basic employment and by April 1982 it had increased to 33,100 employees (10.7%). This increase is evidence of the increasing importance of the Seattle SCA as a major transshipment point to regions outside the SCA.

Retail Trades

In spite of having a large service component, retail trade continues to sell to customers outside the local economy. In 1970, basic retail trade employment was at 18,800 or 8.8% of total basic employment. By 1975, basic employment had grown to 28,600 or 12.8% of total basic employment. By 1978, 35,100 or 13.2% of total basic employment was in retail trades. This figure declined to 33,700 or 10.6% of total basic employment as growth failed to keep pace with that of other sectors of the economy. The overall increase in basic retail trade employment was due to growth in restaurants and taverns. Employment in automotive dealers and service stations was also responsible for much of the growth between 1974 and 1978, but has fallen on hard times due to the current economic recession. Since 1978 basic employment has remained static. Interesting dynamics occur in this and the service category during periods of employment and economic weakness, which are discussed in the service section.

Finance, Insurance and Real Estate

The finance, insurance and real estate category accounted for 15,700 (7.3%) of basic employment. Even though the proportion of basic employees fluctuated considerably between 1970 and 1976, the number was remarkably constant. In 1977 significant changes started to occur in this category as the Seattle SCA began to take on a more regional financial services center role. Since 1976 basic employment increases in this category have been growing at a steady rate, from 17,100 individuals in 1976 (7.0% basic) to a current level of 28,100 or 9.1% of basic employment.

Services

In spite of its name, not all employment in the service category is service employment, because many of the services available in Seattle are also sold outside the local economy. Although this may foster some degree of confusion, we now have some 5.4% of total basic employment employed in services. This includes business services, such as accountants or data processing consultants, who sell their services to businesses in Spokane or Fairbanks. In 1970 we were in a position of having a service deficit. Thimeans that the Seattle area had to import services from other areas to serve the needs of the local economy, or, the needs were simply not being adequately met. In 1974, however, the Seattle area began to export services to other areas. Increases in basic service employment have continued unabatted since then. This was due primarily to increases in business services and health services. Other services such as legal, hotel and lodging, social services, educational and personal services all registered increases.

Interestingly, retail trade and services have held constant and risen (respectively) during this recent recession. An analysis performed in the Seattle economy after the 1971 local recession indicated that these two sectors show surprising stability during economic downturns, not resulting in a "negative" multiplier effect as is often popularly believed. The retail trade sector is how exhibiting this character. Basic service employment has continued to increase due, in part, to the increasing financial importance of the area and also because of the rapid employment increases in business services (i.e., advertising, consulting and management, commercial R&D), health and legal services.

Government

While the government does not normally sell its services it certainly provides them. Seattle has become a major regional government center. Basic employment in government goes to serving needs outside the local economy. For example, the Federal Regional Training Center is located in Seattle and serves the needs of Washington, Idaho, Oregon and Alaska. Consequently, government accounted for 27.1% of total basic employment in 1970. This was second only to durable manufacturing. In 1971, with the layoffs at Boeing and the sharp decline in durable manufacturing, basic

employment in government increased to 65,300 or 31.9% of total basic employment. By 1972 it had increased to 68,300 or 32.3%. Since 1972 basic government employment has been slowly decreasing. In 1980 there was an increase in both federal and state and local employment. Most recently government employment has dropped or remained constant, comparable with 1979 figures.

Employment Projections

Given the recent trends in basic employment it is possible to make assumptions about future trends and develop employment projections. The projections are based on the following assumptions: First, since more precision is possible in making short term projections than long term projections, it is assumed that the long term trends will be extensions of short term trends with a gradual decline in the growth rates. Second, the national trend of migration into the area will continue at a strong rate. Third, there is a continued trend toward more service-type employment. The final assumption concerns the effects of the current economic recession. Projection "A" assumes that the effects of the recession are currently at their peak and recovery will begin by mid-1982. It is anticipated in this projection that growth will be steady but gradual.

Projection "A"

Contract Construction

Basic employment in commercial and industrial contract construction will remain at present levels. This is due to the large number of commercial real estate development projects committed and underway in the SCA. We anticipate a slight moderating of interest rates during the latter one-half of 1982 and into 1983, which will encourage residential construction only slightly. For the mid and longer terms we expect contract construction to increase at a rate similar to that for the 1970-77 period.

Durable Manufacturing

Basic employment in durable manufacturing has been eratic over the last decade because of the influence of Boeing and the aircraft industry. While the aerospace industry will continue to play a major role, the local economy has become more diverse and less dependent on it. This trend is expected to continue in the future. Aerospace employment is expected to increase, but not as rapidly as employment in other high-technology industries. Electronic-related industries have a particularly bright future. Companies such as John Fluke Manufacturing, Interface Mechanisms, Criton Industries, Physio-Control and Data I/O will contribute significantly to basic employment. Also, the location of major electronics manufacturers like Hewlett-Packard, Fairchild Camara and Honeywell are expected to stimulate employment growth in the area. The lumber and wood products industry has been especially hard hit by the current recession, it is expected to make a modest recovery when housing starts pick up again nation-wide. Growth in other durable manufacturing industries such as, fabricated metals, machinery or stone, clay and glass products, are expected to lag behind that of the high-technology industries. Growth in basic employment is expected to increase at a rate typical of the past decade until 1990, then gradually slow. The type of increase will vary, favoring light industry to heavy.

Non-Durable Manufacturing

Basic non-durable employment has also been erratic over the last decade, but not as much as in durable manufacturing. Basic non-durable employment has been decreasing in the past few years because of in-migration increasing the size of the population, which in turn, generated a stronger demand for non-durable goods within the local economy. Basic non-durable employment has failed to keep pace with this growth trend. In-migration is expected to continue and basic non-durable employment is expected to increase, and even "catch up" ground lost since 1978-79. Over the long-term growth is expected to be moderate. Employment in processed foods, especially convenience foods and beverages, apparel, printing and publishing and chemicals are expected to grow most rapidly. Basic employment in paper products, however, is expected to decline.

Transportation, Communications and Utilities

Basic T.C.U. employment has declined during the 1970's. Railroad transportation is expected to show a healthy short-term growth rate as Burlington Northern relocates its headquarters here. We expect more corporate and related BN facilities to find their way to the Seattle SCA - over the next five years - than has been announced to date. The long-promised trade with China is just beginning to be realized. It won't reach a significant level in the immediate future because their import needs do not match our leading exports. However, in the long run, trade with China will help to stimulate basic employment in transportation. We expect trade with other Pacific Rim countries, especially Japan, to continue at healthy levels. Also, the development of natural resources in Alaska will help to stimulate basic employment in transportation.

Communications, such as television, radio and telephone, are also expected to contribute to growth in basic employment. Employment in utilities, including electricity, natural gas, water and sewer services is expected to be for service use only.

Wholesale and Retail Trades

The growth of basic employment in this sector over the past decade, showing only a slight moderation during the current recession. The current recession is expected to constrain growth for 1982, especially in such areas as automobiles and home furnishings. Growth in basic employment is expected to be generated in areas like food stores, general merchandise, restaurants, and so forth. After recovering from the recession growth is expected to continue at a rate equal to that of the past decade until 1990, then increase at a decreasing rate.

Finance, Insurance and Real Estate

Seattle is rapidly becoming the major financial center for the Northwest. Basic employment has grown steadily over the past decade - especially the last five years - and this trend is expected to continue. The largest banks in the state--Seattle First National, Rainier, First Interstate Bank and Peoples -- are headquartered in Seattle. These financial institutions can be expected to participate in the growth of the Pacific Northwest. With the introduction of interstate banking the largest banks in the country are expected to open or expand branches in Seattle. Many, in fact, already have including the largest; Bank of America, Chase and Citibank. Locally headquartered insurances companies such as Safeco, Pemco and Unigard are expected to contribute growth in basic employment. Other major insurance companies have regional headquarters in Seattle, including Aetna, Prudential and Equitable, to serve the needs of the Pacific Northwest. Basic employment is expected to grow much more rapidly than the average of the past decade, then taper off starting in 1990.

Services

Since 1974 the growth of basic service employment has been outstanding and the trend is expected to continue. Much of this growth will be generated by the hotel and lodging industry. The new Westin Tower, the newly remodeled Olympic Hotel and other new hotels under construction (Sheraton, the Madison) and in planning (both in Seattle and Tacoma) will help generate basic employment. Business services, such as advertising, computer and data processing services, research an development laboratiories, architectural and engineering and accounting services, and medical services will also contribute to the growth of basic service employment. Basic service employment is expected to grow at a rate similar to its 1974 to 1982 rate then taper off slightly.

Government

While government has been a major source of basic employment in the past, future growth is likely to be slow. New policies of the Reagan administration will constrain employment growth at all levels. Federal employment will decrease. State Government, even though it will have to pick up a larger burden from the federal government will decline moderately. County and local governments, who depend on C.E.T.A. funds and revenue sharing, will be hard-pressed. Growth at the county and local level - in terms of basic employment - will remain constant.

Projection "B"

Contract Construction

A severe recession and slow recovery will keep growth in basic construction employment well below the average rate of the 1970's. Tight money market conditions will keep residential construction at minimal levels through mid-1982. Growth in basic construction employment will be powered by industrial and commercial construction at this time. After 1982 pent-up housing demand and easing money market conditions will increase employment in residential construction. From that point basic employment will follow the same trend as under Projection "A".

Durable Manufacturing

Basic durable employment trends will follow those of Projection "A", except that aircraft manufacturing is assumed to hold constant at present levels. Electronics and high-technology industries are expected to provide the impetus for growth in basic employment.

Other Sectors

The remaining sectors--non-durable manufacturing, transportation, communication and utilities, wholesale and retail trades, finance, insurance and real estate, services, and government--will follow the same basic employment trends as under Projection "A", except they are slightly lower.

Figure 5 shows the employment projections for 1982 to 2000, based on the growth assumptions discussed above. These are translated into the numerical projections shown in Table 6 (Employment Projection A). In this table service employment is added based on the 1970-1980 basic: service ratio to obtain total employment. The growth trend for total employment (Projection A) is shown in Figure 5 (Employment - Projection A, 1970-2000).

Table 6

Employment Projection A
1982-2000
(000)

	1982	1983	1984	1985	1990	1995	2000
Contract Construction	8.5	10.2	14.0	16.0	10.2	15.0	17.0
Manufacturing	102.7	103.8	108.3	113.9	128.0	143.1	159.7
Durable	95.7	96.0	98.6	100.9	113.0	126.5	141.7
Non-durable	7.0	7.8	9.7	13.0	15.0	16.6	18.0
T.C.U.	11.8	12.2	13.1	14.0	15.0	15.7	16.2
Trade	69.7	73.2	76.2	79.4	88.0	94.3	101.0
Wholesale	33.7	35.5	37.0	38.4	43.0	46.3	50.0
Retail	36.0	37.7	39.2	41.0	45.0	48.0	51.0
FIR	29.2	31.2	33.1	35.2	40.2	44.3	48.0
Service	25.0	28.0	31.0	34.0	41.3	46.5	52.0
Government	61.0	60.5	59.6	59.0	60.5	64.6	66.0
Total Basic	307.9	319.1	335.3	351.5	383.2	423.5	459.9
Total Service	588.1	609.5	640.4	671.4	731.9	808.9	878.4
Total Employment	896.0	928.6	975.7	1,022.9	1,115.1	1,232.4	1,338.3

Source: Mundy, Jarvis & Associates, Inc.

Distribution of Employment to Sub-Market Areas

Once employment projections were made, they were dissagregated to sub-market areas based on their historical share of employment. Data on the share of employment for each sub-market area was obtained from the Washington State Employment Security Department, Puget Sound Council of Governments and data from a sampling of 912 business establishments located in Snohomish, King and Pierce Counties. Employment was also dissagregated by employment category, such as construction, durable manufacturing, etc. This data is shown in Table 7 (Employment Distribution, in Percent, Seattle SCA).

Based on the distribution shown in Table 7 (Employment Distribution) and the employment projections for 1982 through 1995 employment was distributed to the Seattle area. This is the shaded area shown in Figure 6. The projections assume that Seattle's proportion of employment, by each employment category, will remain constant through the 1982 through 1995 period.

Importantly, these numbers represent additions to the Seattle labor force assuming that space is provided in the Seattle area to accommodate these employment additions. If this space is not provided migration from the Seattle area will occur to other areas within the SCA. This is especially important in categories such as manufacturing, wholesale trade and certain service categories where industrial sites are required which, even today, are in extremely short supply (given size, plottage, access, etc. requirements). Based on our employment projections and the distribution of employment for Seattle we can expect to see employment additions in Seattle, given the above assumption, as is shown in Table 8 (Seattle Employment Additions, 1983-1995).

South Seattle Employment Additions

From the Seattle information employment was dissagregated to South Seattle. The basis for this dissagregation was information on 216 firms located in South Seattle which were a portion of the 912 firms interviewed in the Seattle SCA. The South Seattle share of employment, by employment category as well as the probable increase in South Seattle employment for the years 1983 through 1995 are shown in Table 9 (South Seattle Employment Additions, 1983-1995). Once again, it is important to remember that these employment additions are based on the assumption that facilities will be available in the South Seattle area to accommodate this net increase in employment.

South Seattle Space Demand

Given the probable additions to the South Seattle labor force we are in a position to make estimates of probable space needs. Space estimates

Figure 5

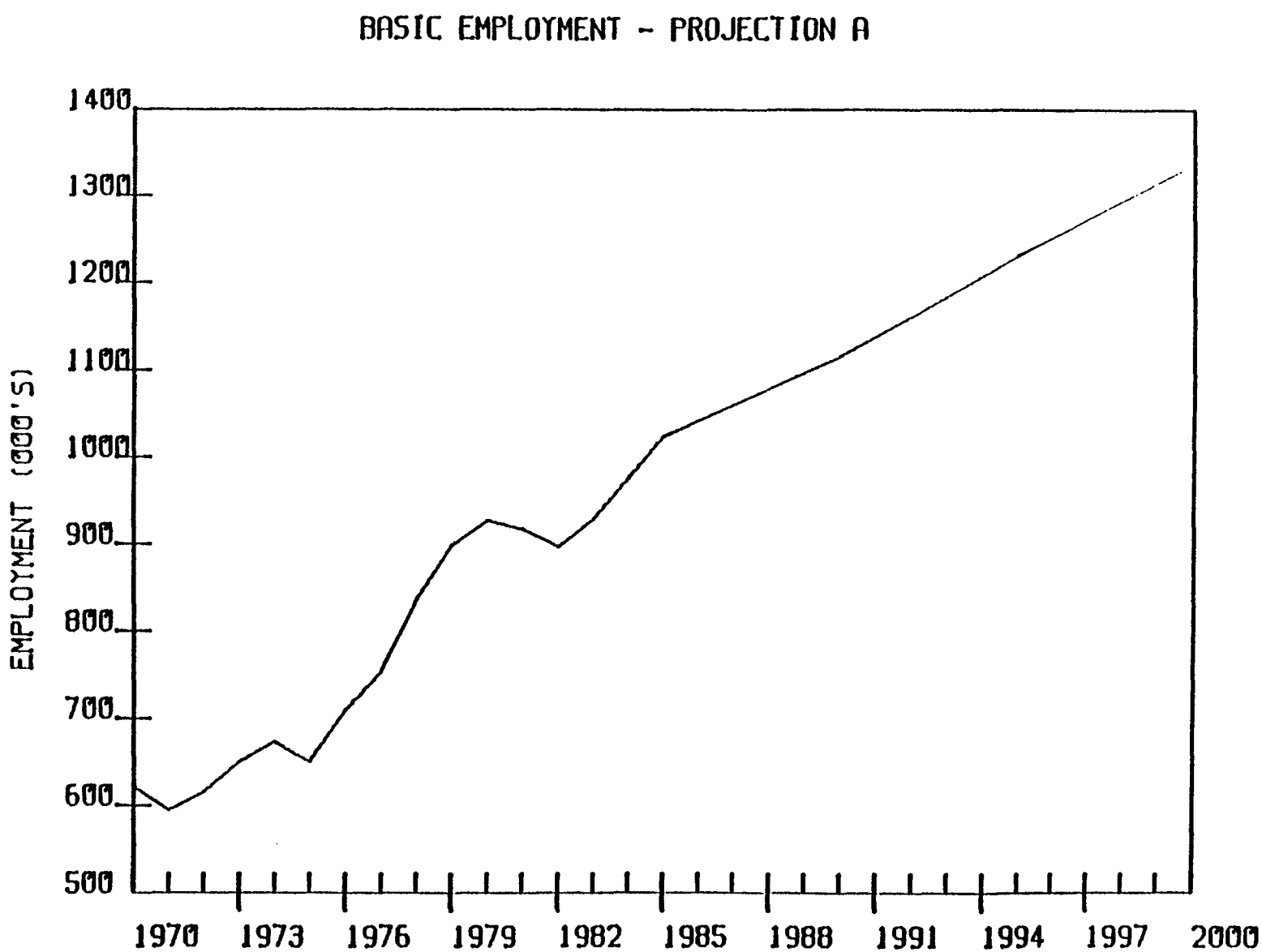

BASIC EMPLOYMENT - PROJECTION A
EMPLOYMENT (000'S)
1400
1300
1200
1100
1000
900
800
700
600
500
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000

Table 7

Employment Distribution (in %) for Seattle SCA

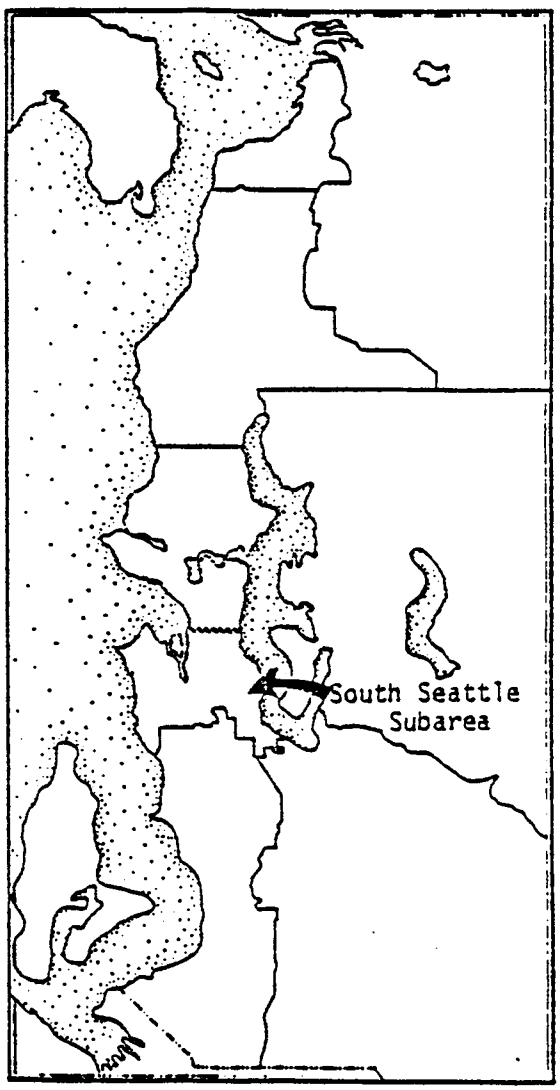
Category	Rural Snohomish	Everett	N. King S. Snohomish	Seattle	E. King	S.E. King	So. King	Pierce
Construction	.187	.61	.56	2.131	.592	.268	.344	.84
Durable Mfg.	.846	1.28	1.90	7.187	2.399	1.252	.602	1.57
Non-Durable Mfg.	.137	.21	.17	1.777	.573	.162	.048	.84
Transportation, Communications & Utilities	.187	.39	.31	3.832	.354	.172	.172	.67
Wholesale Trade	.759	.21	.29	3.603	.440	1.128	.201	.80
Retail Trade	.137	.09	.24	8.381	3.048	2.351	.086	2.85
Finance, Insurance, Real Estate	.05	.41	.05	5.151	.459	.038	.038	.75
Services	.548	.96	.96	10.712	1.472	.736	.554	3.10
Government	.548	1.08	1.24	5.619	1.825	1.328	.975	3.69
Total	3.40	5.24	5.73	49.02	11.16	7.43	3.02	15.11

Source: Mundy, Jarvis & Associates, Inc.

MUNDY, JARVIS & ASSOCIATES, INC.
SEATTLE • PORTLAND • ANCHORAGE

Figure 6

SOUTH SEATTLE SUBAREA



Seattle

Table 8

Seattle Employment Additions
1983-1995

		1982	1983	1984	1985	1990	1995
Total Employment (000)		896.0	928.6	975.7	1022.9	1115.1	1232.4
Net Employment Addition (000)			32.6	47.1	47.2	92.2	117.3
Seattle Share, by Type							
Construction	(2.13%)		690	1,000	1,010	1,960	2,500
Durable Mfg.	(7.187%)		2,340	3,390	3,390	6,630	8,430
Non-Durable Mfg.	(1.777%)		580	840	840	1,640	2,080
Transportation, Communication & Utilities	(3.832%)		1,250	1,800	1,810	3,530	4,490
Wholesale Trade	(3.603%)		1,170	1,700	1,700	3,320	4,230
Retail Trade	(8.381%)		2,730	3,950	3,960	7,730	9,830
Finance, Insurance Real Estate	(5.151%)		1,680	2,430	2,430	4,750	6,040
Services	(10.712%)		3,490	5,050	5,060	9,880	12,670
Government	(5.619%)		1,830	2,650	2,650	5,180	6,590

Source: Mundy, Jarvis & Associates

MUNDY, JARVIS & ASSOCIATES, INC.
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Table 9

South Seattle Employment Additions
1983-1995

	South Seattle Share(1)	1983	1984	1985	1990	1995
Construction	45.3%	310	450	460	890	1,130
Durable Manufacturing	41.6%	970	1,410	1,410	2,760	3,510
Non-Durable Mfg.	39.2%	230	330	330	640	820
Transportation, Communications Utilities	18.8%	240	340	340	660	840
Wholesale Trade	46.2%	540	780	780	1,530	1,950
Retail Trade	28.7%	780	1,130	1,140	2,220	2,820
Finance, Insurance & Real Estate	2.1%	40	50	50	100	130
Service	11.2%	390	570	570	1,110	1,420
Government	10.0% (e)	180	270	270	520	660

Notes: (1) Based on employment data on 216 South Seattle firms.
(e) Mundy, Jarvis & Associates estimate. Specific data on this category not available.

Source: Mundy, Jarvis & Associates, Inc.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES

Presented by

Prof. James A. Graaskamp
School of Business
University of Wisconsin

Alabama Chapter No. 32

and

South Alabama -

Northwest Florida Chapter No. 49

AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS
Summer Seminar 1985

Sandestin Beach Hilton
Destin, Florida

July 26, 1985

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ARIZONA CHAPTER NO. 41

AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

Sheraton Plaza Tempe
Tempe, Arizona

October 9, 1985

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES

Presented by

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

INTRODUCTION

I. INTRODUCTION TO CONTEMPORARY ISSUES

Appraisal of real estate income properties is a critical social function with high ethical requirements because it is a pivotal benchmark for decisions involving social equity, validation of financial institution assets for regulatory purposes, governance of private contracts, and benchmarking of the effectiveness of asset manager.

A. Appraisal is a specialty in the rapidly evolving information business. Appraisers systematically collect information, organize and analyze the data, and reach decisions about value while communicating essential information to a client. This is similar to the work of:

   1. Accountants

   2. Insurance managers

   3. Security and investment counselors

   4. Lawyers

B. Unlike accountants and others, appraisers receive little help from their professional organizations in the form of position papers which define appropriate methods for a particular question.

   1. Accounting has the Financial Accounting Standards Board (FASB) that continually modifies generally accepted accounting principles to fit new problems such as mergers, current values of fixed assets, accounting for real estate operations, etc.

   2. Securities people have the Midwest Securities Association.

   3. The insurance education program is controlled by two independent organizations, the American College of Life Underwriters and the American College of Property and Casualty Underwriters.

4. Appraisers have no such independent fixed point. Even the Eighth Edition of the Institute textbook disclaims any responsibility for being a standard. The flyleaf of the Eighth Edition says:

> "FOR EDUCATION PURPOSES ONLY
> The opinions and statements set forth herein are those of the individual members of the Institute's editorial staff and do not necessarily reflect the viewpoint of the American Institute of Real Estate Appraisers or its individual members."

C. As a result, the appraisal process is evolving into one of the following:

1. The art of disinformation as in military intelligence where the appraiser is implicitly part of a conspiracy with his client to provide documents that satisfy regulators, provide cover against future charges of negligence, or provide bargaining points for income tax, real estate tax, divorce settlements, partnership dissolution, and other negotiations.

2. The discipline of rigid format and language for purposes of standardization at the expense of relevance and as an alternative to qualifications of the appraiser's judgment as opposed to form filling ability.

3. A counseling assignment wherein the appraiser must select and match the basic elements of the appraisal assignment to the requirements of the decision for which the appraisal is sought as a benchmark.

D. Distinguishing carefully between advocacy and suitability, the ethical and professional appraiser must counsel his client on the basics to establish a fit between the appraisal and the issue for which it is required as a benchmark, including, but not limited to:

1. Definition of real estate interests to be appraised

2. Definition of highest and best use
3. Definition of market value
4. Definition of what constitutes market comparison
5. Definition of accounting rules for the income approach
6. Definition of the economic context assumed
7. Definition of buyer and seller perspectives
8. Definition of rules for anticipating future benefits
9. Definition of who is considered an independent observer

CONTEMPORARY ISSUES AND METHODS FOR
APPRAISING COMMERCIAL PROPERTIES
(Continued)

II. BASIC PREMISES OF CONTEMPORARY APPRAISAL

The basic premises of the contemporary approach stem from the fundamental belief that pricing is a behavioral science, that analysis should be inductive rather than deductive wherever possible, and that appraised values are intended to serve as a benchmark for some decision process.

A. A price is a social transaction and the behavior of the parties and configuration of the transaction reflects a concensus at some point in time between external market forces sufficiently strong to impose on the outcome and internal forces on the supply side sufficiently strong to pursue their own self-perceived interests. (See Exhibit 1.)

Notice that the above does not presume:

1. Both demand and supply forces to have alternatives of equal indifference.

2. Negotiation abilities of equal force, or

3. Cash maximization as their sole criteria - all of which characterize the traditional approach.

B. The contemporary view sees appraisal as a limited and fictional case of feasibility analysis which, in turn, is a limited case in problem solving which, in turn, is part of a larger planning framework.

C. Appraisal as a fictional feasibility study is a model of a decision process and, therefore, like all models is constrained by the following elements:

1. What is the nature of the question?

2. What quantity and quality of data may be available?

3. What theory or hypothesis may edit and focus the available data as a tentative answer to the question?

4. What techniques and data management can be used reliably by the analysts?

5. What techniques and data management have credibility with the ultimate decision maker hiring the analyst?

6. What techniques and data management are cost effective in terms of the dollar consequences of the decision?

D. Functions of appraisal differ dramatically and lead to multiple definitions of value.

1. Validation (mortgage loans)

2. Benchmarking performance (pension funds)

3. Confrontation (legal cases)

4. Counseling (investment decisions)

CONTEMPORARY ISSUES AND METHODS FOR
APPRAISING COMMERCIAL PROPERTIES
(Continued)

III. THE PROCESS OF CONTEMPORARY APPRAISAL

In that light, the sequence of steps required of the contemporary appraisal process referred to by Wisconsin students as RATGRAM is as follows:

A. What is the issue for which the appraisal is sought as a benchmark?

   1. Problem perceived redefined to the problem as understood

   2. Statutory or financial

   3. Perspective in time, viewpoint, and continuum as going concern

B. What are the attributes of the property and the potential for productive alternative courses of action for future use

   1. Responsibility for engineering, marketing, or legal/political assumptions

   2. What special enhancements or encumbrances are to be valued as additional sticks in the bundle of rights to be appraised

   3. Opportunities for monopoly in space, place, or time

C. Given the basic alternatives, what is the most probable use matrix relevant to the appraisal purpose

   1. English Royal Institute of Chartered Surveyors (RICS) distinguish between existing use and all possible uses

   2. With or without zoning change

   3. With or without possible assemblage value

   4. With or without administrative rule recognition

5. With or without opportunity cost doctrine

D. Given the most probable use, who is the most probable buyer in terms of class, motivation profile, or market position? (See Exhibit 3.)

E. Given the most probable use and most probable buyer assumptions, there are three approaches to predicting most probable price:

1. Inference from past transactions involving properties of similar potential and buyers of similar motivation.

2. Failing adequate transaction data, it is then acceptable to simulate the pricing methods of the most probable buyer.

3. Failing to find either similar properties or articulate buyers, the appraiser is then permitted to use normative methods which indicate what might happen if buyer and seller were as smart as the appraiser.

F. With an initial estimate of value, it may then be modified for external conditions unique to the parties, the place, or the time.

G. The adjusted value must then be tested to demonstrate that results at that price would be consistent with the minimum goals of all major parties to the transaction.

H. Since the appraiser is predicting price under conditions of uncertainty and many different market terms, the appraisal conclusion must be expressed as a central tendency within a transaction zone which is qualified by financial terms and/or critical assumptions about unknowable facts.

1. Although the Institute uses fair market value and most probable price interchangeably, that is a travesty on the work of modern theorists and a deliberate attempt to confuse or negate the implied criticism of traditional ways by contemporary analysis. (See Exhibits 1 and 2.)

2. Contemporary theory recognizes explicitly the errors in forecasting, the role of financial terms, and the reality of bargaining position.

I. These general precepts are then expanded into an appraisal report outline of the general type included in Exhibit 4.

J. We believe it is important that every appraisal first report fair market value strictly defined as cash to the seller for the real estate interest as a standard point of departure and that value enhancements and encumbrances then be reported in reference to that base number. Most probable price will only be the same as fair market value where the most probable buyer behaves as though he were the most prudent man buying only returns attributable to land and building.

EXHIBIT 1

CONTEMPORARY DEFINITION OF MOST PROBABLE PRICE

"Most Probable Selling Price", as defined by Professor Richard U. Ratcliff:

> The most probable selling price is that selling price which is most likely to emerge from a transaction involving the subject property if it were exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type. [1]

---

[1] Unpublished quotation, Richard U. Ratcliff speaking on his book Valuation for Real Estate Decisions, Santa Cruz, CA, Democratic Press, 1972.

EXHIBIT 2

CURRENT OFFICIAL DEFINITION OF FAIR MARKET VALUE

The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

Fundamental assumptions and conditions presumed in this definition are

1. Buyer and seller are motivated by self-interest.

2. Buyer and seller are well informed and are acting prudently.

3. The property is exposed for a reasonable time on the open market.

4. Payment is made in cash, its equivalent, or in specified financing terms generally available for the property type in its locale on the effective appraisal date.

5. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report. [1]

[1] American Institute of Real Estate Appraisers, The Appraisal of Real Estate, Eighth Edition, Chicago, IL, 1983, p. 33.

EXHIBIT 3

SAMPLE PROFILES OF MOST PROBABLE USE AND BUYER

The most probable use of the subject property would be as a shell for conversion to three small retail units on the first floor, four townhouses in the three-story structure, and two 700 square feet office modules with skylights in the second-story structure.

A review of sales on the Square and along the State Street Mall reveals that the buyers of these properties have been either a local businessman who was seeking a new location for his business or a professional real estate investor who was willing and able to execute extensive renovation and re-leasing. Those comparables that were bought by businessmen primarily for their own use were small and narrow; the larger buildings, similar in size to the subject property or larger, were purchased by professional developers who already had other commitments in the downtown area. The old Leath Furniture building, which was purchased by amateur businessmen for use as a restaurant, is again available for rent because the new owners discovered that their intended use was not compatible with building codes. Three of the seven comparables were partially occupied by the new owner; five were financed by the seller with a 10 percent to 15 percent down payment and a land contract at 8 percent; six were sold for significantly less than May 1, 1976, assessed valuation; and in six of them, the first floor was subdivded into retail rental units with about 20 feet of frontage each.

Therefore, the most probable buyer will be a professional real estate developer who expects to remodel and redirect marketing of the subject property. The most probable buyer expects generous land contract terms and resale, before or after conversion, to a small group of participating equity investors. The professional investor will negotiate only after the owner has had the property on the market for a protracted period of time and is willing to sell it well below assessed valuation.

EXHIBIT 4

CONTEMPORARY REAL ESTATE APPRAISAL REPORT OUTLINE

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value aplied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12 Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

EXHIBIT 4 (continued)

C. Special assumptions or instructions that are provided by others

D. Definition of value, which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals, and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief sttement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)

EXHIBIT 4 (continued)

3. In short, it is useful to subdivide improvements into subsystems:

   a. Foundation system
   b. Structural system
   c. Vertical circulation
   d. Horizontal circulation
   e. Floor system
   f. Ceiling system
   g. Roof system
   h. Internal wall system
   i. External wall system
   j. HVAC system
   k. Communications system
   l. Traffic separation system
   m. Security system
   n. Life safety system
   o. Waste removal system

4. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
5. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
6. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
7. Current uses and tenancies of improvements, if any
8. Environmental impact attributes of improvements on environs

C. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternaitve tenancies and uses
4. Replacement of existing improvements or program with new uses

EXHIBIT 4 (continued)

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative use strategies for legal-political compatibility
2. Testing alternative use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justsify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

EXHIBIT 4 (continued)

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of method leads to simulation in E or normative methods in F

E. Simulation of Probable Buyer Decision Process if Market Comparison Approach is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

EXHIBIT 4 (continued)

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report
B. Certification of Independent Appraisal Judgment
C. Statement of Limiting Conditions that Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

EXHIBIT 4 (continued)

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

IV. THREE BASIC METHODS OF APPRAISAL

Dilmore has the most basic philosophical view of the three approaches to value while Ratcliff has the most operational sense of researching and forecasting value.

A. Dilmore refers to the three approaches as order, chance, and beauty

1. Assuming order, there is a universe in which the parts fit and we shave away the chaotic mass of information until we find the critical pattern. Like the test for color blindness, the appraiser is looking for the pattern of red dots in a field of random dots of various colors which appear to be scattered.

2. Chance acknowledges the possibility that in the closed system there may be possibilities which were not considered or that there may be an error. No respectable scientist is afraid of the word "error". In appraisal, imprecision is built into the process of choosing data subjectively before we attempt to treat it objectively.

3. Beauty simply recognizes intuition and elegance in our forecasting model may be legitimate reasons for its use. Intuitive reactions, qualitative judgments, or gut feelings are a form of aesthetics in the decision process.

B. Ratcliff concludes that most appraisals are concerned with prediction of a future event, a transaction price. Since an appraisal method is a forecasting tool, forecasting is best done with inference from selected past experience. Failing that, the best method is simulation of the real estate market process.

1. Given reliable information on past market behavior, the preferred method of appraisal is to process the data, statistically if possible, to derive a prediction of future price behavior under given conditions and with means for estimating the reliability of the prediction.

2. Statistical prediction if possible.

3. Set theory for definition of a data set at the least.

C. Should market data be unavailable or inconclusive, the appraiser is forced to resort to the second method of appraisal, namely the construction of a real estate investment or decision model of factors which reflect his understanding of how buyers and sellers might behave.

1. The income approach and the cost approach are submodels of how an investor is supposed to behave.

2. After-tax investment models are another submodel of market behavior, but while these may measure demand from the buyer's viewpoint, it may not measure the minimum price expected by the seller who also has a tax model to consider. In using the second approach, the appraiser must be very careful to indicate price on the supply side representing minimum expectations (Vs) of the seller.

D. Should there be no sales and no way to verify how buyers would review the specific property (utility case - rate base or kilowatt production?), then the appraiser falls back to normative methods.

1. Normative means what the buyer would do if he were as smart as the appraiser and motivated only by a desire to maximize wealth.

2. The traditional income approach or the cost approach are normative models unless it can be proven buyers behave accordingly.

3. After-tax cash flow models are normative models until it can be shown that buyers and sellers use cash flow to value property.

E. Highest and best use or most probable use in order to identify most probable user and buyer, requires analysis and explicit recognition of possible uses which are:

1. Legal/political acceptability

2. Physical/technical feasibility

3. Effective demand and marketability

4. Financial viability

5. Community compatibility

(See Exhibits 5, 6, and 7.)

F. Most probable use presumes economic feasibility while many projects today require only financial solvency due to special enhancements or encumbrances which modify the operating characteristics of the property. These are not inherent in fee simple title but require expansion of the definitions of legal interests to be acquired; the appraiser may require legal support for presuming the transferability of these enhancements or a cost for elimination for an encumbrance.

1. Enhancements include special entitlements under land use control laws, subsidized financing program, financial reserves which travel with the title and the assumable financing, and all manner of profit centers provided by operating agreements which may be assignable under certain review procedures.

2. Encumbrances such as licenses, easements, and leases may be removed depending on relative positions of buyer and seller which are not within the American rule that fee simple title is the sum of the parts.

3. Economic surplus for the user is not adjusted for economic costs to external parties unless the political system can find methods to internalize these opportunity costs as anticipated in the definition of best use in Exhibit 5.

4. Fair market value may take the premise that existing leases will run out their term while most probable price may reflect a probability of renegotiation betewen landlord and tenant for mutual benefit or background information which makes it impossible for the status quo to persist.

   a. Check Dunn and Bradstreet on the tenants
   b. Analyze reported sales volume relative to breakeven point
   c. Analyze opportunity cost of the status quo

COFFEE BREAK

EXHIBIT 5

DEFINITION OF HIGHEST AND BEST USE

That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal.

Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. See Interim Use.

Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.

Source: Byrl N. Boyce, Real Estate Appraisal Terminology, Revised Edition, AIREA, SREA, Ballinger, Cambridge, Mass., 1981, p. 107-108.

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by alderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered non-conforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio--- housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation---smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 6

EXHIBIT 7

DEMONSTRATION OF SELECTION OF BEST USE SCENARIO FOR
VACANT OFFICE TOWER REQUIRING
COMPLETE MECHANICAL RENOVATION

B. Alternative Uses for Pvare Square

A combination of the physical characteristics of the property and the general demand characteristics of the Hilldale area suggest the following alternative scenarios for use of the subject property (Appendix D):

Scenario #1: The building would be remodeled into multi-tenant office space of class A on floors 4 to 14 and class B on floors 1 to 3.

Scenario #2: The building would be modified into residential apartments on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #3: The building would be modified into residential condominiums on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #4: The building would be modified into a hotel facility with hotel rooms on floors 4 to 14, a restaurant on floor 3, and seminar and office space on the remainder.

C. Economic Ranking of Alternatives

The alternative uses that might be plausible for the subject property can first be ranked in terms of the general budget parameters inherent in revenues and expenses for each. The best financial alternatives must then be screened for effective demand, political acceptability, and risk. In order to reveal the general range of justified investment on the existing property, the appraiser developed a logic of converting rents to justified investment by determining a market rent for each use and assuming an acceptable cash breakeven point[1] for financial planning and budgeting. This process capitalizes funds available for debt service or cash dividends into amounts of justified investment. This residual approach can be misleading if there are small errors in the cash-flow forecast, but if estimating bias is consistent when applied to the alternative uses, it does rank the alternatives in terms of their ability to pay for the subject property as is. The logic of this process is provided in Exhibit 15; the cost assumptions and calculations are provided in Appendix D.

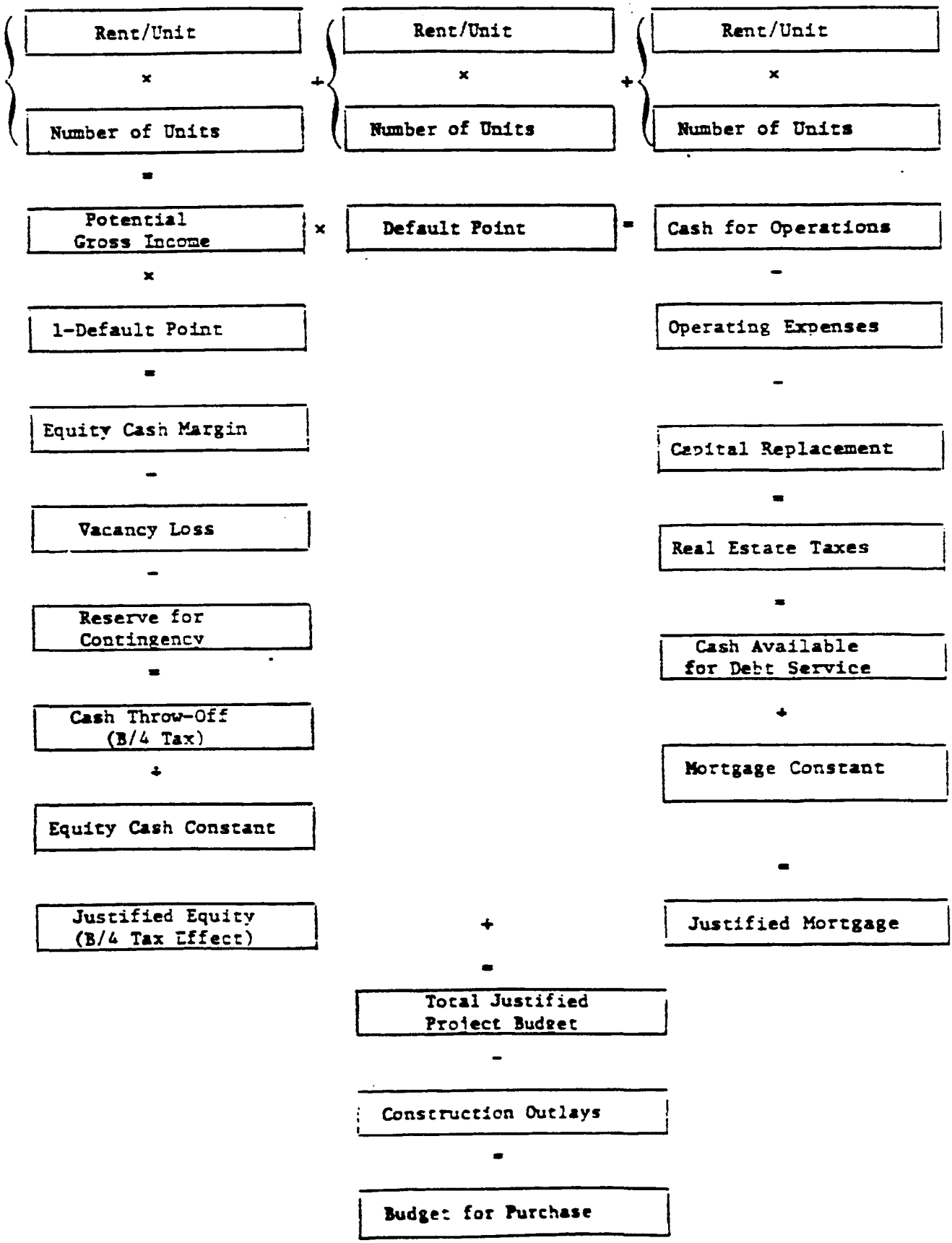
---

[1] The ratio of cash expenses, real estate taxes, and debt service to potential gross income.

EXHIBIT 7 (Continued)

EXHIBIT 15

BASIC LOGIC FOR RANKING ALTERNATIVE PROGRAM SCENARIOS BY JUSTIFIED PURCHASE BUDGET



A summary of these calculations from the Appendix are provided in Exhibit 16. A preliminary ranking based on a cash-justified investment (Line 3, Exhibit 16), without regard to future reversion value, demonstrates that Scenario 1 is the preferable use of the structure as is.

D. Ranking of Alternatives

In terms of estimating risks, Scenario 1 offers more certainty in regard to construction budget because multi-tenant office use is more similar to the previous use. Less extensive remodeling plans imply that fewer problems will arise. In Scenarios 2, 3, and 4, all new plumbing facilities and windows are required for floors 4 to 14. The same improvements simply need refurbishing if the building remains office use. In addition, the market for a high-rise residential or hotel facility is largely untested in the Hilldale area, but office use has been expanding. A change from office use of Pyare Square carries business risks that are difficult to ascertain, and the costs incurred in those risks could be great.

E. Political Compatibility of Alternatives

According to the village administrator of Shorewood Hills, all four of the scenarios would be politically acceptable because the village wants to see improvement of the building. However, Scenarios 2, 3, and 4 require a zoning change that must be approved by the village—an effort that is likely to be more time-consuming than futile.

Although condominiums are a relatively new idea to Shorewood Hills, the community boasts of being a residential suburb, and so a well-conceived plan should pass the board. A hotel use, however, is questionable and would be subject to serious scrutiny because demand is not evident. Office use appears to be most probable in light of the fact that costs are lower, zoning is proper, and demand is evident.

F. Conclusions

Since the estimated residual justified purchase prices of Scenarios 1 and 3 are fairly close, the choice in determining the most probable fitting use relates to the higher costs of converting to residential coupled with the risks involved in tapping an untested market. A prudent investor would seek to stabilize his income by choosing the less speculative scenario. A review of the summary feasibility data in Exhibit 17 supports the conclusion that the most probable use of the subject property in the opinion of the appraiser is Scenario 1.

The most probable use of the subject property would be renovation to a multi-tenant office building.

EXHIBIT 16

SUMMARY OF BUDGETS FOR ALTERNATIVE USE SCENARIOS

Budget Stem	Scenario #1	Scenario #2	Scenario #3	Scenario #4
1. Cost to construct	(2,509,975)	(2,414,225)	(2,668,140)	(2,569,600)
2. Justified investment for property as is	2,897,566	1,409,513	2,868,983	(4,662,172)
3. Total justified investment in subject property as is	387,591	(1,004,712)	200,843	(7,231,772)

EXHIBIT 17

SUMMARY MATRIX OF FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario #1	Scenario #2	Scenario #3	Scenario #4
Justified Investment in subject	387,600	Negative	200,843	Negative
Remodeling Risks	Moderate	Significant	Significant	Serious
Effective Market demands	Positive	Positive	Questionable	Soft
Political acceptability	Strong	Strong	Strong	Mixed
Financial Risk	Depends on marketing ability in projecting new image for the building	Depends on desire to live in a high-rise	Depends on desire to own a home in a high-rise	Financial risk is great--Hilldale is not a major office center nor a stop for travellers.

EXHIBIT 7 (Continued)

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

V. DECISION THEORY AND IMPROVED METHODS FOR THE MARKET COMPARISON APPROACH

There are a number of basic books on decision theory which the appraiser should read to better understand alternative appraisal models available in the age of the micro computer. One such book is The Complete Problem Solver, by John R. Hayes, Franklin Institute Press, Philadelphia, PA, 1981. It is useful to look at the problem of market comparison approaches to value as a decision model in the complex world where a limited number of facts have to be focused on the problem.

A. Hayes described four general types of decisions which require different decision procedures.

1. Decisions under certainty

2. Decisions under risk

3. Decisions under uncertainty

4. Decisions under conflict

B. Many appraisal decision systems are modeled under the methods in Exhibit 8. (Page 157)

C. Hayes distinguishes between risk where we can calculate probability, such as gambling, or uncertainty where there is an element of chance which can't be calculated. Decisions under conflict are like moves in chess or strategy where the outcome must anticipate countermoves by other players in the game. Appraisal pricing decisions are either decisions under certainty or decisions under conflict. Between sharp distinctions for risk and uncertainty, there is a broad area in which we operate under judgmental probability.

D. A guide for the bewildered decisionmaker can be found by answering the following questions relative to the decision tree in Exhibit 9.

1. Is this a decision under certainty?

2. Does it involve costly search?

3. Is this a decision under conflict?

4. Can you estimate the relevant probabilities with reasonable accuracy?

5. Does the decision involve catastrophic outcomes?

E. Appraisal decision theory for economic behavior fits the theory of "bounded rationality" which describes economic decision processes today. A short definition of bounded rationality is included in Exhibit 10.

F. Market inference is the preferred method of valuation if we can discover a pricing pattern in the random dots of properties and transactions. The search for pattern must also be consistent with appraisal protocol.

1. Valuation directly from a regression formula violates appraisal protocol if the appraiser has not inspected all of the comparables used, because the subject property is compared to a hypothetical mean property from the set of observations, and because the appraiser is not directly responsible for the selection or weights given the attributes selected as the basis of comparison. Moreover, the amount of data points were limited relative to the number of variables which were thought to be relevant so that the risk characteristic of statistical variance were also suspect.

2. Market comparison is set theory using a limited number of subjectively selected properties in a relatively objective comparison on a few factors thought to be highly correlated to prices paid. An additive weighting system is one method for managing the information integration for a market comparison.

G. One influential method is to develop a pricing algorithm which provides an estimated price for each comparable and then presumes the same algorithm can be applied to the subject property. The steps involved are as follows:

1. Adjust prices for terms of sale and time on comparable properties. Comparable properties would be those bought for renovation, or for the owners own use, etc. You may choose to abstract out land values where size or locational quality is significantly different.

2. Selecting a proper unit of comparison

3. Developing a hierarchy of significant attributes thought to affect price and scoring each property on a point system

4. Developing a weighting system to rank the relative importance of ordinal attribute scores on a cardinal scale

5. Developing a price per weighted point per unit of comparison

6. Testing the price weighting formula for best estimate of the sales price of actual comparables in order to minimize dispersion and variance between actual price and price estimated by formula

7. Application of a price per point formula to the subject property to estimate range of alternative prices

8. Adjustment of predicted price for unique externalities such as land, financing, or non-transferable license

H. Search for an appropriate unit of comparison as a single variable in a linear regression by trying three or four unit concepts, such as: (See Exhibit 11.)

1. Gross building area

2. Net leasable area

3. Cubage

4. Two times the first floor area plus gross building area

5. Barrels of cranberries rather than acres of cranberries

6. Number of bedrooms rather than square feet

I. Arrive at a price per unit as the first step in establishing a price algorithm

J. Identify property attributes which distinguish subject properties qualitatively from one another and develop a simple scoring system

1. 5-3-1 is one method, but scores may become multipliers and lead distortion

2. Dilmore prefers:

Rating	Points
Excellent	26
Good	20
Average	15
Fair	13
Poor	10

K. See selection of examples in Exhibits 11 through 24.

L. The market comparison approach presumes that the appraiser can match sales price to the real estate interest required and the productivity anticipated by the buyer and the seller or that differences in each transaction can be factored out.

1. Litigation always involves kid stuff arguments involving gross rent multipliers where rents include or exclude utilities, furnishings, and window air conditioners.

2. In recent years cash equivalency adjustments for seller financing have further distorted the growth or adjusted sales price.

3. More subtle are the sales prices which are engineered by accountants and lawyers to shift asset values among asset classifications for land, structure, inventory, control of management contracts, accounting periods for related parties for tax purposes, public accounting figures, or balance sheet diplomacy.

4. The public is further confused by engineered sales prices to support syndication prospecti of $90 million on a single office building which was also appraised for $35 million in the same month for taxes.

5. Market comparable sales are suspect when one party names the price if the other names the terms; the appraiser has adapted his style so that the customer names the value and the appraiser gets to define the real estate interests appraised and the limiting conditions which control the relevancy and reality of his report.

6. Discounted cash flows defined by proper accounting become a more sensitive and more realistic appraisal tool than the market comparison method.

M. The traditional normalized net operating income divided by the cap rate should be recognized as a market comparison approach of the income multiplier family. There are imaginary "cap rates" out there, the reciprocals of price earnings ratios, which benchmark prices, but should not be confused with a true income approach.

1. Appraisers must be careful not to confuse thumbnail benchmarks for valuation procedures and never confuse market multipliers with contemporary income simulation methods.

2. There is a danger that appraisers use street talk and conventional wisdom as a market determined rate as in "Phoenix is a 9 percent cap rate town, or "Indianapolis has a net income multiplier of 9-1/2." These are applied without sensitivity to differences among properties or sensitivity to present values.

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EXHIBIT 8

DECISION MAKING METHODS
UNDER CERTAINTY

Method	Type	Use this method:	Cost of computation required	Number of alternatives examined
Dominance	optimizing	for preliminary screening of alternatives	low	all
Lexicography	optimizing	when attributes are very different in weight	very low	all
Additive Weighting	optimizing	when it is important to find the best alternative	high	all
Effectiveness Index	optimizing	when it is *very* important to get best alternative	very high	all
Satisficing	non-optimizing	when the cost of examining the whole set of alternatives is very high	very low	some

Source: John R. Hayes, The Complete Problem Solver, 1981, The Franklin Institute Press, Philadelphia, PA, p. 157.

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EXHIBIT 9

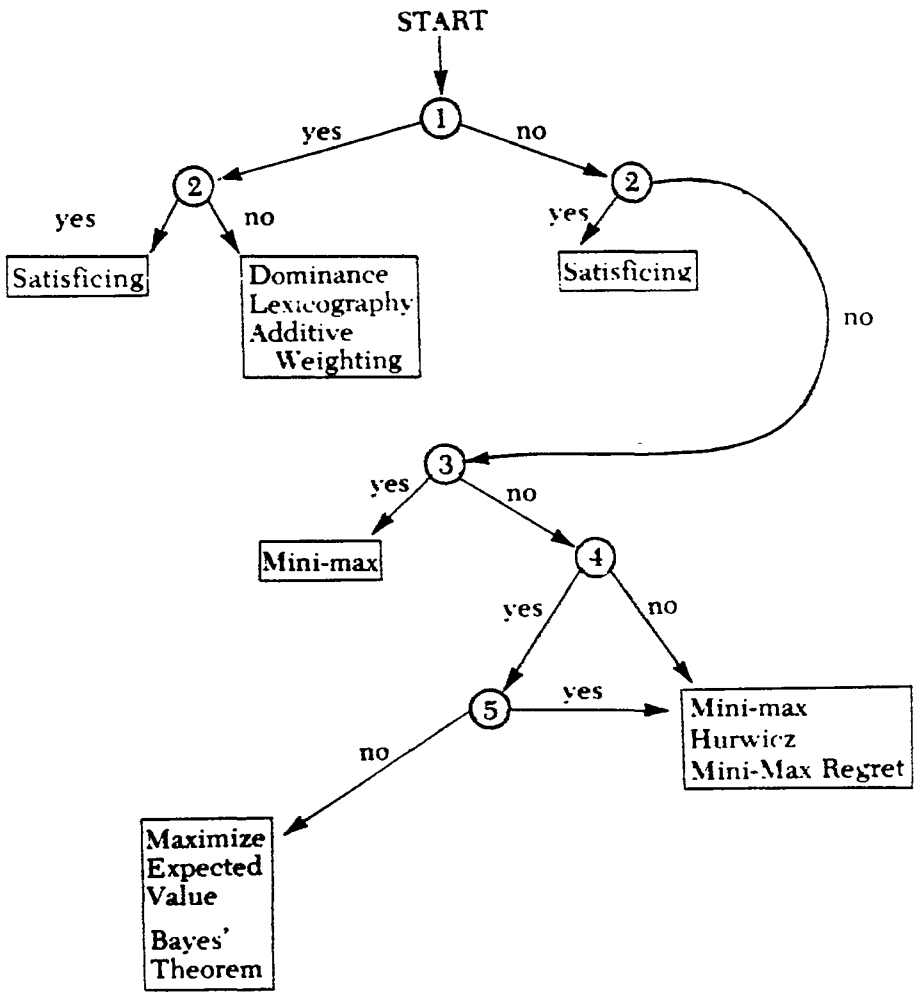

Figure 2. A Decision Tree for Choosing a Decision Procedure

Source: John R. Hayes, The Complete Problem Solver, 1981, The Franklin Institute Press, Philadephia, PA, p. 180.

EXHIBIT 11

CORRELATION COEFFICIENTS AND R^2 OF SALES PRICE

Space Unit	Correlation	R^2
First floor frontage (frt)	0.745	55.5%
Lot area	0.908	82.4
First floor (1st fl)	0.790	62.4
First floor + Upper floors (upp fl)	0.933	87.0
1st fl + .05 (upp fl)	0.919	84.5
2(1st fl) + upp fl	0.919	84.5
(1st fl) x (frt)	0.784	61.5
[1st fl + 0.5 (upp fl)] x (frt)	0.864	74.6
[2(1st fl) + upp fl)] x (frt)	0.864	74.6
(1st fl + upp fl) x (frt)	0.874	76.4

EXHIBIT 12

RATGRAM STYLE

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE - RETAIL SPACE IN MADISON C-4 ZONING

LOCATION 10%	5 = High visibility 3 = Corner visibility limited 1 = Inside lot
EXPANSION POTENTIAL 30%	5 = Potential for significant increases of floor space 3 = Flexible layouts due to bay spacing and elevator position 1 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 25%	5 = Fully renovated and leased 3 = Long-term retail leases in place. Serviceable as retail in tired space. 1 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 20%	5 = Two passenger and freight 3 = Two passenger 1 = One passenger
FENESTRATION ON UPPER LEVEL 15%	5 = Large windows facing the Square 3 = Limited window area 1 = No windows

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	10%	3/0.30	1/0.10	1/0.10	3/0.30	5/0.50	5/0.50
EXPANSION POTENTIAL AT TIME OF SALE	30%	3/0.90	1/0.30	1/0.30	5/1.50	3/0.90	3/0.90
CONDITION AT TIME OF SALE	25%	1/0.25	5/1.25	1/0.25	3/0.75	3/0.75	1/0.25
ELEVATORS IN PLACE	20%	5/1.00	3/0.60	1/0.20	3/0.60	1/0.20	1/0.20
FENESTRATION ON UPPER FLOORS	15%	1/0.15	5/0.75	5/0.75	1/0.15	3/0.45	3/0.45
TOTAL WEIGHTED SCORE	100%	2.60	3.00	1.60	3.30	2.80	2.30
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA/ WEIGHTED POINT SCORE		$5.86	$6.25	$5.77	$6.06	$6.08	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

```
# Attributes = 5

Attribute Names, Prelim. Weights
 LOCATION 20
 EXPANSION POTENTIAL 20
 CONDITION AT TIME OF SALE 20
 ELEVATORS IN PLACE 20
 FENESTRATION ON UPPER FLOORS 20

 # of Observations = 5

Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24
        LOCATION 3
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 5
        FENESTRATION ON UPPER FLOORS 1
Observ. # 2 14 W. MIFFLIN Price 18.75
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 5
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 5
Observ. # 3 CENTRE SEVEN-5 & 7 N. PINCKNEY Price 9.23
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 5
Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20
        LOCATION 3
        EXPANSION POTENTIAL 5
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 1
Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99
        LOCATION 5
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 3
The Matrix:
  20   20   20   20   20
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30


 Median              = 5.861538
 Mean                = 5.913863
 Standard Deviation  = .5837666

Weights:
LOCATION                = 20
EXPANSION POTENTIAL     = 20
CONDITION AT TIME OF SAL = 20
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 20


 Final Results:
 Number of Combinations              = 3125
 Number of Combinations Adding to 100% = 381


 Median              = 6.060606
 Mean                = 6.00175
 Standard Deviation  = .1893479

Weights:
LOCATION                = 10
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 25
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 15
```

```
**** WOOLWORTH DEMONSTRATION ****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION  20
 EXPANSION POTENTIAL  30
 CONDITION AT TIME OF SALE  25
 ELEVATORS IN PLACE  20
 FENESTRATION ON UPPER FLOORS  15

 # of Observations = 5

Observ. #  1  WOLFF-KUBLY-30 N. CARROLL Price  15.24
        LOCATION  3
        EXPANSION POTENTIAL  3
        CONDITION AT TIME OF SALE  1
        ELEVATORS IN PLACE  5
        FENESTRATION ON UPPER FLOORS  1
Observ. #  2  14 W. MIFFLIN Price  18.75
        LOCATION  1
        EXPANSION POTENTIAL  1
        CONDITION AT TIME OF SALE  5
        ELEVATORS IN PLACE  3
        FENESTRATION ON UPPER FLOORS  5
Observ. #  3  CENTRE SEVEN-5 & 7 N. PINCKNEY Price  9.23
        LOCATION  1
        EXPANSION POTENTIAL  1
        CONDITION AT TIME OF SALE  1
        ELEVATORS IN PLACE  1
        FENESTRATION ON UPPER FLOORS  5
Observ. #  4  EMPORIUM-50 E. MIFFLIN Price  20
        LOCATION  3
        EXPANSION POTENTIAL  5
        CONDITION AT TIME OF SALE  3
        ELEVATORS IN PLACE  3
        FENESTRATION ON UPPER FLOORS  1
Observ. #  5  WOOLWORTH-2 W. MIFFLIN Price  16.99
        LOCATION  5
        EXPANSION POTENTIAL  3
        CONDITION AT TIME OF SALE  3
        ELEVATORS IN PLACE  1
        FENESTRATION ON UPPER FLOORS  3
The Matrix:
  10   30   25   20   15
   0   20   15   10    5
   5   25   20   15   10
  15   35   30   25   20
  20   40   35   30   25


 Median                 =  6.060606
 Mean                   =  6.00175
 Standard Deviation     =  .1893479

Weights:
LOCATION                =  10
EXPANSION POTENTIAL     =  30
CONDITION AT TIME OF SAL =  25
ELEVATORS IN PLACE      =  20
FENESTRATION ON UPPER FL =  15


 Final Results:
 Number of Combinations                =  3125
 Number of Combinations Adding to 100% =  381


 Median                 =  6.060606
 Mean                   =  6.00175
 Standard Deviation     =  .1893479

Weights:
LOCATION                =  10
EXPANSION POTENTIAL     =  30
CONDITION AT TIME OF SAL =  25
ELEVATORS IN PLACE      =  20
FENESTRATION ON UPPER FL =  15
```

EXHIBIT 15

WOOLWORTH - RATGRAM STYLE

CALCULATION OF MOST PROBABLE PRICE USING MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	2.60	$5.86
2	18.75	3.00	6.25
3	9.23	1.60	5.77
4	20.00	3.30	6.06
5	16.99	2.80	6.08
		TOTAL	$30.02

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $30.02

Mean Value ($\bar{x}$) = 30.02/5 = $6.00

Standard Deviation = $\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$ = $0.19 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	$n-1$
$5.86	$6.00	-$0.14	0.0196	5	4
6.25	6.00	0.25	0.0625		
5.77	6.00	- 0.23	0.0529		
6.06	6.00	0.06	0.0036		
6.08	6.00	0.08	0.0064		
			0.1450		

$$\sqrt{\frac{0.1450}{4}} = \sqrt{0.03625} = 0.190394 \text{ or } \$0.19$$

EXHIBIT 15 (Continued)

Value Range of Price/Point Score: $6.00 ± $0.19

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 2.3, then:

High Estimate:	**$6.19 x 2.3 x 39,000 SF = $555,243 or $560,000 ($14.23/SF)**
Central Tendency:	**$6.00 x 2.3 x 39,000 SF = $538,200 or $540,000 ($13.80/SF)**
Low Estimate:	**$5.81 x 2.3 x 39,000 SF = $521,159 or $520,000 ($13.36/SF)**

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUHLY 30 N. Carroll Street	2.60	$6.00	$15.60	$15.24	$ 0.36	2.4%
2	14 W. Mifflin Street	3.00	6.00	18.00	18.75	- 0.75	4.0
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	1.60	6.00	9.60	9.23	0.37	4.0
4	EMPORIUM 50 E. Mifflin Street	3.30	6.00	19.80	20.00	- 0.20	1.0
5	WOOLWORTH 2 W. Mifflin Street	2.80	6.00	16.80	16.99	- 0.19	1.1
					NET VARIANCE	$ - 0.41	

EXHIBIT 16
RATGRAM STYLE

EXHIBIT 17

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE - RETAIL SPACE IN MADISON
C-4 ZONING
DILMORE STYLE

LOCATION 15%	26 = High visibility 15 = Corner visibility limited 10 = Inside lot
EXPANSION POTENTIAL 30%	26 = Potential for significant increases of floor space 15 = Flexible layouts due to bay spacing and elevator position 10 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 40%	26 = Fully renovated and leased 15 = Long-term retail leases in place. Serviceable as retail in tired space. 10 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 15%	26 = Two passenger and freight 15 = Two passenger 10 = One passenger

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

DILMORE STYLE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	15%	15/2.25	10/1.50	10/1.50	15/2.25	26/3.90	26/3.90
EXPANSION POTENTIAL AT TIME OF SALE	30%	15/4.50	10/3.00	10/3.00	26/7.80	15/4.50	15/4.50
CONDITION AT TIME OF SALE	40%	10/4.00	26/10.40	10/4.00	15/6.00	15/6.00	10/4.00
ELEVATORS IN PLACE	15%	26/3.90	15/2.25	10/1.50	15/2.25	10/1.50	10/1.50
TOTAL WEIGHTED SCORE	100%	14.65	17.15	10.00	18.30	15.90	13.90
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA ÷ WEIGHTED POINT SCORE		$1.04	$1.09	$0.92	$1.09	$1.07	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

EXHIBIT 18

EXHIBIT 19

WOOLWORTH - DILMORE STYLE
1st RUN


```
**** WOOLWORTH-DILMORE STYLE ****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION 20
 EXPANSION POTENTIAL 20
 CONDITION AT TIME OF SALE 20
 ELEVATORS IN PLACE 20
 FENESTRATION ON UPPER FLOORS 20

 # of Observations = 5

Observ. # 1 WOLFF-KUBLY Price 15.26
        LOCATION 15
        EXPANSION POTENTIAL 15
        CONDITION AT TIME OF SALE 10
        ELEVATORS IN PLACE 26
        FENESTRATION ON UPPER FLOORS 10
Observ. # 2 14 W. MIFFLIN Price 18.75
        LOCATION 10
        EXPANSION POTENTIAL 10
        CONDITION AT TIME OF SALE 26
        ELEVATORS IN PLACE 15
        FENESTRATION ON UPPER FLOORS 26
Observ. # 3 CENTRE SEVEN Price 9.23
        LOCATION 10
        EXPANSION POTENTIAL 10
        CONDITION AT TIME OF SALE 10
        ELEVATORS IN PLACE 10
        FENESTRATION ON UPPER FLOORS 26
Observ. # 4 EMPORIUM Price 20
        LOCATION 15
        EXPANSION POTENTIAL 26
        CONDITION AT TIME OF SALE 15
        ELEVATORS IN PLACE 15
        FENESTRATION ON UPPER FLOORS 10
Observ. # 5 WOOLWORTH Price 16.99
        LOCATION 26
        EXPANSION POTENTIAL 15
        CONDITION AT TIME OF SALE 15
        ELEVATORS IN PLACE 10
        FENESTRATION ON UPPER FLOORS 15
The Matrix:
  20   20   20   20   20
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30


 Median              = 1.048765
 Mean                = 1.012589
 Standard Deviation  = .1956356

Weights:
LOCATION                = 20
EXPANSION POTENTIAL     = 20
CONDITION AT TIME OF SAL = 20
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 20


 Final Results:
 Number of Combinations                = 3125
 Number of Combinations Adding to 100% = 381


 Median              = 1.048553
 Mean                = 1.024281
 Standard Deviation  = .1314307

Weights:
LOCATION                = 15
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 30
ELEVATORS IN PLACE      = 15
FENESTRATION ON UPPER FL = 10
```

EXHIBIT 19 (Continued)

WOOLWORTH - DILMORE STYLE
2nd RUN

```
**** WOOLWORTH-DILMORE STYLE ****

# Attributes =  5

Attribute Names, Prelim. Weights
 LOCATION  20
 EXPANSION POTENTIAL  20
 CONDITION AT TIME OF SALE  20
 ELEVATORS IN PLACE  20
 FENESTRATION ON UPPER FLOORS  20

 # of Observations =  5

Observ. #  1  WOLFF-KUBLY Price  15.24
        LOCATION  15
        EXPANSION POTENTIAL  15
        CONDITION AT TIME OF SALE  10
        ELEVATORS IN PLACE  26
        FENESTRATION ON UPPER FLOORS  10
Observ. #  2  14 W. MIFFLIN Price  18.75
        LOCATION  10
        EXPANSION POTENTIAL  10
        CONDITION AT TIME OF SALE  26
        ELEVATORS IN PLACE  15
        FENESTRATION ON UPPER FLOORS  26
Observ. #  3  CENTRE SEVEN Price  9.23
        LOCATION  10
        EXPANSION POTENTIAL  10
        CONDITION AT TIME OF SALE  10
        ELEVATORS IN PLACE  10
        FENESTRATION ON UPPER FLOORS  26
Observ. #  4  EMPORIUM Price  20
        LOCATION  15
        EXPANSION POTENTIAL  26
        CONDITION AT TIME OF SALE  15
        ELEVATORS IN PLACE  15
        FENESTRATION ON UPPER FLOORS  10
Observ. #  5  WOOLWORTH Price  16.99
        LOCATION  26
        EXPANSION POTENTIAL  15
        CONDITION AT TIME OF SALE  15
        ELEVATORS IN PLACE  10
        FENESTRATION ON UPPER FLOORS  15
The Matrix:
  15   30   30   15   10
  5   20   20   5   0
  10   25   25   10   5
  20   35   35   20   15
  25   40   40   25   20


 Median                 =  1.068553
 Mean                   =  1.024281
 Standard Deviation     =  .1314337

Weights:
LOCATION                  =  15
EXPANSION POTENTIAL       =  30
CONDITION AT TIME OF SAL  =  30
ELEVATORS IN PLACE        =  15
FENESTRATION ON UPPER FL  =  10


 Final Results:
 Number of Combinations                 =  3125
 Number of Combinations Adding to 100%  =  381


 Median                 =  1.068553
 Mean                   =  1.043603
 Standard Deviation     =  7.084803E-02

Weights:
LOCATION                  =  15
EXPANSION POTENTIAL       =  30
CONDITION AT TIME OF SAL  =  40
ELEVATORS IN PLACE        =  15
```

EXHIBIT 20

WOOLWORTH BUILDING
CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	14.65	$1.04
2	18.75	17.15	1.09
3	9.23	10.00	0.92
4	20.00	18.30	1.09
5	16.99	15.90	1.07
		TOTAL	$5.21

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $5.21

Mean Value ($\bar{x}$) = $5.21 ÷ 5 = $1.04

Standard Deviation of the Mean = $\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$ = $0.07 where:

x	$\bar{x}$		$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$1.04	$1.04	=	$0.00	0.0000	5	4
1.09	1.04	=	0.05	0.0025		
0.92	1.04	=	- 0.12	0.0144		
1.09	1.04	=	0.05	0.0025		
1.07	1.04	=	0.03	0.0009		
				0.0203		

$$\sqrt{\frac{0.0203}{4}} = \sqrt{0.005075} = 0.071239 \text{ or } \$0.07$$

EXHIBIT 20 (Continued)

Value Range of Price/Point Score: $1.04 ± $0.07

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 13.90, then:

High Estimate: $1.11 x 13.90 x 39,000 SF = $601,731 or $600,000 ($15.43/SF)

Central Tendency: $1.04 x 13.90 x 39,000 SF = $563,784 or $560,000 ($14.46/SF)

Low Estimate: $0.97 x 13.90 x 39,000 SF = $525,837 or $530,000 ($13.48/SF)

COMPARISON OF WOOLWORTH DEMONSTRATION - RATGRAM STYLE AND WOOLWORTH - DILMORE STYLE

	RATGRAM STYLE	DILMORE STYLE	% VARIANCE RATGRAM TO DILMORE
Estimated Value Central Tendency	$540,000	$560,000	3.7%

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	$ OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUHLY 30 N. Carroll Street	14.65	$1.04	$15.24	$15.24	$ 0.00	0.0%
2	14 W. Mifflin Street	17.15	1.04	17.84	18.75	- 0.91	4.9
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	10.00	1.04	10.40	9.23	1.17	12.7
4	EMPORIUM 50 E. Mifflin Street	18.30	1.04	19.03	20.00	- 0.97	4.9
5	WOOLWORTH 2 W. Mifflin Street	15.90	1.04	16.54	16.99	- 0.45	2.6
					NET VARIANCE	$ - 1.16	

EXHIBIT 21

EXHIBIT 22

SAMPLE OF EXPERIMENTAL

AUTOMATED MARKET COMPARISON PROCESS.

DILMORE

AND

GRAASKAMP

EXHIBIT 22 (Continued)

SCALE FOR SCORING COMPARABLE SALES
BASED UPON PRICE SENSITIVE ATTRIBUTES
GOODWILL BUILDING

ATTRIBUTE	WEIGHT	SCORE
GROSS BUILDING AREA	30%	5 = Building less than 15,000 SF of GBA 3 = Building between 15,000 SF to 40,000 SF of GBA 1 = Building greater than 40,000 SF of GBA
LOCATION	30%	5 = Located in South Madison Industrial Park area with or without rail siding or along major highway with rail siding 3 = Located along or visible from a major road such as Highways 51, 151, 113, or 30 in a mixed use area without rail siding. 1 = Located in more isolated commercial mixed use area without rail siding
RATIO OF LAND TO GBA	10%	5 = Greater than 4:1 3 = Between 4:1 and 2.5:1 1 = Less than 2.5:1
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION USES	10%	5 = Efficient layout for accessibility of stored goods with adequate number of overhead doors and truck height loading docks 3 = Adequate layout with limited number of overhead doors and truck height docks 1 = Deep space with inadequate number of overhead doors and truck height doors
QUALITY OF HVAC SYSTEM	20%	5 = Fully insulated with heat in warehouse and office area 3 = Partially heated warehouse space and adequate heated office space 1 = Minimal heat, if any, in warehouse area and small heated office space

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES
SCORE/WEIGHTED SCORE

GOODWILL BUILDING

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 1115 O'Neill St.	COMPARABLE NO. 2 2810 Bryant St.	COMPARABLE NO. 3 910 Watson Ave.	COMPARABLE NO. 4 4401 Cottage Grove Rd.	COMPARABLE NO. 5 4610 - 4622 Fenrite Rd.	COMPARABLE NO. 6 3103 Watford Way	SUBJECT 2422 Pennsylvania
GROSS BUILDING AREA (GBA)	30%	5/1.50	3/0.90	1/0.30	3/0.90	5/1.50	5/1.50	3/0.90
LOCATION	30%	1/0.30	3/0.90	5/1.50	5/1.50	3/0.90	5/1.50	3/0.90
RATIO OF LAND TO GBA	10%	3/0.30	1/0.10	1/0.10	5/0.50	3/0.30	1/0.10	1/0.10
EFFICIENCY OF BUILDING DESIGN	10%	3/0.30	1/0.10	1/0.10	5/0.50	5/0.50	3/0.30	1/0.10
QUALITY OF HVAC SYSTEM	20%	5/1.00	3/0.60	3/0.60	1/0.20	5/1.00	1/0.20	5/1.00
TOTAL WEIGHTED SCORE	100%	3.40	2.60	2.60	1.60	4.20	1.60	3.00
CASH SELLING PRICE		$200,000	$212,000	$625,000	$525,000	$301,000	$209,000	
DATE OF SALE		6/27/84	6/12/83	6/30/83	1/4/82	2/29/84	6/30/82	
GROSS BUILDING AREA (GBA)		13,832 SF	19,760 SF	57,800 SF	34,517 SF	17,300 SF	14,000 SF	30,195 SF
CASH PRICE/ SF OF GBA		$14.46	$10.73	$10.81	$15.21	$17.40	$14.94	
CASH PRICE PER SF/ WEIGHTED POINT SCORE		$4.2529	$4.1269	$4.1577	$4.2250	$4.1429	$4.1500	

EXHIBIT 22 (Continued)

JUSTIFICATION OF COMPARABLE PRICE FORMULA
FOR THE GOODWILL BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE
VS. PREDICTED PRICE OF COMPARABLES
USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE SALE	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE PER SF OF GBA	ACTUAL PRICE PER SF OF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICES
1	1115 O'Neill Street	3.40	$4.18	14.21	14.46	- 0.25	1.7%
2	2810 Bryant Street	2.60	4.18	10.87	10.73	0.14	1.3%
3	901 Watson Avenue	2.60	4.18	10.87	10.81	0.06	0.6%
4	4401 Cottage Grove Road	3.60	4.18	15.05	15.21	- 0.16	1.1%
5	4610-22 Pemrite Road	4.20	4.18	17.56	17.40	0.16	0.9%
6	3103 Watford Way	3.60	4.18	15.05	14.94	0.11	0.7%
					NET VARIANCE	$ 0.06	

EXHIBIT 22 (Continued)

EXHIBIT 22 (Continued)

GOODWILL BUILDING

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	CASH SELLING PRICE PER SF OF GBA	WEIGHTED POINT SCORE	PRICE PER SF OF GBA/TOTAL WEIGHTED SCORE (x)
1	$14.46	3.40	$4.25
2	10.73	2.60	4.13
3	10.81	2.60	4.16
4	15.21	3.60	4.23
5	17.40	4.20	4.14
6	14.94	3.60	4.15
		TOTAL	$25.06

Total of $\frac{\text{Price per SF of GBA}}{\text{Total Weighted Score}}$ = $25.06

Mean Value (x) = $25.06/6 = $4.18

Standard Deviation = $\sqrt{\frac{\Sigma(x - \bar{x})\backslash 2}{n - 1}}$ = $0.05 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})\backslash 2$	n	n - 1
4.25	4.18	0.07	0.0049	6	5
4.13	4.18	= - 0.05	0.0025		
4.16	4.18	= - 0.02	0.0004		
4.23	4.18	= 0.05	0.0025		
4.14	4.18	= - 0.04	0.0016		
4.15	4.18	= - 0.03	0.0009		
			0.0128		

$\sqrt{\frac{0.0128}{5}}$ = 0.050596

ESTIMATED RANGE OF MOST PROBABLE SELLING PRICE
OF THE GOODWILL BUILDING

	SCORE FOR SUBJECT	MEAN VALUE +/- $0.05/POINT SCORE	PRICE/SF OF GBA	GBA OF SUBJECT	ESTIMATED VALUE
LOW ESTIMATE	3.00	$4.13	$12.39	30,195 SF	$374,116 or $374,000
CENTRAL TENDENCY	3.00	$4.18	$12.54	30,195 SF	$378,645 or $379,000
HIGH ESTIMATE	3.00	$4.23	$12.69	30,195 SF	$383,175 or $383,000

EXHIBIT 22 (Continued)

EXHIBIT 23

COMPUTER OUTPUT OF DILMORE QUANTITATIVE

POINT WEIGHTING PROGRAM

AND

COMPUTERIZATION OF

ALL OF THE MARKET COMPARISON

CALCULATIONS

EXHIBIT 23 (Continued)

**** GOODWILL 3 ****

Attributes = 5

Attribute Names, Prelim. Weights ← Preliminary weights selected by the appraisers
GROSS BUILDING AREA (GBA) 20
LOCATION 20
RATIO OF LAND TO GBA 20
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 20
QUALITY OF HVAC SYSTEM 20

# of Observations = 6 ← Comparable sales with score for each comparable

Observ. # 1 1115 O'NEILL ST Price 14.46
GROSS BUILDING AREA (GBA) 5
LOCATION 1
RATIO OF LAND TO GBA 3
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 3
QUALITY OF HVAC SYSTEM 5
Observ. # 2 2810 BRYANT ST Price 10.73
GROSS BUILDING AREA (GBA) 3
LOCATION 3
RATIO OF LAND TO GBA 1
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 1
QUALITY OF HVAC SYSTEM 3
Observ. # 3 901 WATSON AVE Price 10.81
GROSS BUILDING AREA (GBA) 1
LOCATION 5
RATIO OF LAND TO GBA 1
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 1
QUALITY OF HVAC SYSTEM 3
Observ. # 4 4401 COTTAGE GROVE RD Price 15.21
GROSS BUILDING AREA (GBA) 3
LOCATION 5
RATIO OF LAND TO GBA 5
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 5
QUALITY OF HVAC SYSTEM 1
Observ. # 5 4610-22 FERMITE RD Price 17.4
GROSS BUILDING AREA (GBA) 5
LOCATION 3
RATIO OF LAND TO GBA 3
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 5
QUALITY OF HVAC SYSTEM 5
Observ. # 6 3103 WATFORD WAY Price 14.94
GROSS BUILDING AREA (GBA) 5
LOCATION 5
RATIO OF LAND TO GBA 1
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION 3
QUALITY OF HVAC SYSTEM 1

The Matrix: ← Test matrix to select optimal combination of weights

20	20	20	20	20
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

EXHIBIT 23 (Continued)

Median = 4.565106 ← Initial results using appraiser's weights
Mean = 4.528223
Standard Deviation = .441591

Weights: ← Appraiser's initial weights
GROSS BUILDING AREA (GBA = 20
LOCATION = 20
RATIO OF LAND TO GBA = 20
EFFICIENCY OF BUILDING D = 20
QUALITY OF HVAC SYSTEM = 20

Final Results:
Number of Combinations = 3125 ← Iterations to select optimal weight
Number of Combinations Adding to 100% = 381

Median = 4.153846 ← Final results using optimal weights
Mean = 4.175902
Standard Deviation = 5.067353E-02

Weights: ← Optimal weights
GROSS BUILDING AREA (GBA = 30
LOCATION = 30
RATIO OF LAND TO GBA = 10
EFFICIENCY OF BUILDING D = 10
QUALITY OF HVAC SYSTEM = 20

EXHIBIT 23 (Continued)

COMPUTERIZATION OF ALL MARKET COMPARISON CALCULATIONS

```
Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 1

Load/edit file options    Current disk file: None

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options, return to main program

Enter selection number:

Enter selection number: 1

Enter new data

Enter heading for output:INDUSTRIAL WAREHOUSE

Enter number of attributes:? 5

Enter name for attribute: 1 ? GROSS BUILDING AREA (GBA)
      Preliminary weight: 1 ? 20
Enter name for attribute: 2 ? LOCATION
      Preliminary weight: 2 ? 20
Enter name for attribute: 3 ? RATIO OF LAND TO GBA
      Preliminary weight: 3 ? 20
Enter name for attribute: 4 ? EFFICIENCY OF BUILDING DESIGN
      Preliminary weight: 4 ? 20
Enter name for attribute: 5 ? QUALITY OF HVAC SYSTEM

Weight for QUALITY OF HVAC SYSTEM is 20, so that total of weights is 100.
```

EXHIBIT 23 (Continued)

```
Enter number of observations:? 6
Do you want to <1> Enter a unit price or
                <2> Enter a total price & size
Enter your choice: ? 1


Observation number 1 :
 Enter name 1 ? 1115 O'NEILL ST.
 Enter price 1 ? 14.46

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 1
 Score for RATIO OF LAND TO GBA? 3
 Score for EFFICIENCY OF BUILDING DESIGN? 3
 Score for QUALITY OF HVAC SYSTEM? 5

Observation number 2 :
 Enter name 2 ? 2810 BRYANT ST.
 Enter price 2 ? 10.73

 Score for GROSS BUILDING AREA (GBA)? 3
 Score for LOCATION? 3
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 1
 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 3 :
 Enter name 3 ?


 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 3 :
 Enter name 3 ? 910 WATSON AVE.
 Enter price 3 ? 10.81

 Score for GROSS BUILDING AREA (GBA)? 1
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 1
 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 4 :
 Enter name 4 ? 4401 COTTAGE GROVE RD.
 Enter price 4 ? 15.21

 Score for GROSS BUILDING AREA (GBA)? 3
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 5
 Score for EFFICIENCY OF BUILDING DESIGN? 5
 Score for QUALITY OF HVAC SYSTEM? 1
```

EXHIBIT 23 (Continued)

```
Observation number 5 :
 Enter name 5 ?


 Score for QUALITY OF HVAC SYSTEM? 1

Observation number 5 :
 Enter name 5 ? 4610-22 FEMRITE RD.
 Enter price 5 ? 17.40

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 3
 Score for RATIO OF LAND TO GBA? 3
 Score for EFFICIENCY OF BUILDING DESIGN? 5
 Score for QUALITY OF HVAC SYSTEM? 5

Observation number 6 :
 Enter name 6 ? 3103 WATFORD WAY
 Enter price 6 ? 14.94

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 3
 Score for QUALITY OF HVAC SYSTEM? 1


Enter subject property name:?  INDUSTRIAL WAREHOUSE


Enter the name of the designated unit of comparison
     (acre, square foot, etc.) ? SQUARE FOOT

Enter number of units of comparison for subject
     (acres, square feet, etc.) ? 30195

Enter attribute scores for subject property
GROSS BUILDING AREA (GBA)    ? 3
LOCATION                     ? 3
RATIO OF LAND TO GBA         ? 1
EFFICIENCY OF BUILDING DESIGN? 1
QUALITY OF HVAC SYSTEM       ? 5
```

EXHIBIT 23 (Continued)

```
Load/edit file options    Current disk file: None

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options; return to main program

Enter selection number: 5

Enter name for data file:? SAMPLE

Load/edit file options    Current disk file: SAMPLE

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options; return to main program

Enter selection number: 3


Project title: INDUSTRIAL WAREHOUSE

Unit prices   Search interval = 5

                GROSS LOCAT RATIO EFFIC QUALI   Price

Prel. wts.      20    20    20    20    20       -

1115 O'NEIL      5     1     3     3     5     $14.46

2810 BRYANT      3     3     1     1     3     $10.73

910 WATSON       1     5     1     1     3     $10.81

4401 COTTAG      3     5     5     5     1     $15.21

4610-22 FEM      5     3     3     5     5     $17.40

3103 WATFOR      5     5     1     3     1     $14.94

INDUSTRIAL       3     3     1     1     5       -

                    Press any key to continue
```

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

    1. Enter/edit/display/file input data
    2. Analyze quality point ratings
    3. Display output to screen
    4. Print output to printer
    5. Select options
    6. Quit

Enter your choice: ? 2
```

```
                    Pass # 1    Combination # 6

          Standard deviation = .4693161    Mean = 4.497911

Status        GROSS LOCAT RATIO EFFIC QUALI    S.D.       Mean
Prelim. Wts.   20    20    20    20     0     .441591   4.528223
```

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 3


Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 1
```

EXHIBIT 23 (Continued)

Weighted Matrix

Feature/ Attribute	GROSS BU	LOCATION	RATIO OF	EFFICIEN	QUALITY	Wtd. score
Initial weights	20	20	20	20	0	100
Final weights	30	30	10	10	20	100
1115 O'NEILL S	5/ 1.50	1/ 0.30	3/ 0.30	3/ 0.30	5/ 1.00	3.40
2810 BRYANT ST	3/ 0.90	3/ 0.90	1/ 0.10	1/ 0.10	3/ 0.60	2.60
910 WATSON AVE	1/ 0.30	5/ 1.50	1/ 0.10	1/ 0.10	3/ 0.60	2.60
4401 COTTAGE G	3/ 0.90	5/ 1.50	5/ 0.50	5/ 0.50	1/ 0.20	3.60
4610-22 FEMRIT	5/ 1.50	3/ 0.90	3/ 0.30	5/ 0.50	5/ 1.00	4.20
3103 WATFORD W	5/ 1.50	5/ 1.50	1/ 0.10	3/ 0.30	1/ 0.20	3.60
INDUSTRIAL WAR	3/ 0.90	3/ 0.90	1/ 0.10	1/ 0.10	5/ 1.00	3.00

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 2 (and 3)

Value Range Determination: Mean Price Per Point Method

Mean price per point:	$4.18
Dispersion About the Mean:	$0.05
Coefficient of Dispersion:	0.0121

Value Range Per Unit of Dispersion

	Subject Point Score		Mean (+/- One Standard Deviation)		Price Per Unit
Low Estimate	3.00	X	$4.13	=	$12.38
Central Tendency	3.00	X	$4.18	=	$12.53
High Estimate	3.00	X	$4.23	=	$12.68

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 4 (and 5)

Transaction Zone: Mean Price Per Point Method

Number of units in subject property: 30195

Low Estimate	$373,679	or	$374,000
Central Tendency	$378,274	or	$378,000
High Estimate	$382,869	or	$383,000

Transaction Zone: Linear Regression Method

a =-7.505322E-02 Standard Error of the Forecast = .2056632
b = 4.200016

Prediction equation: price =

30195 units X [-7.505322E-02 +(4.200016 +/- .2056632) X 3]

Low Estimate	$359,562	or	$360,000
Central Tendency	$378,192	or	$378,000
High Estimate	$396,822	or	$397,000

Press any key to continue

EXHIBIT 23 (Continued)

```
Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 6
```

Mean Price Per Point Method: Predicted vs. Actual Price for Comparables

	Predicted Price	Actual price	Error
1115 O'NEILL ST.	$14.20	$14.46	-$0.26
2810 BRYANT ST.	$10.86	$10.73	$0.13
910 WATSON AVE.	$10.86	$10.81	$0.05
4401 COTTAGE GROVE	$15.03	$15.21	-$0.18
4610-22 FEMRITE RD	$17.54	$17.40	$0.14
3103 WATFORD WAY	$15.03	$14.94	$0.09

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 7

Linear Regression Method: Predicted vs. Actual Price for Comparables

	Predicted Price	Actual price	Error
1115 O'NEILL ST.	$14.20	$14.46	-$0.26
2810 BRYANT ST.	$10.84	$10.73	$0.11
910 WATSON AVE.	$10.84	$10.81	$0.03
4401 COTTAGE GROVE	$15.05	$15.21	-$0.16
4610-22 FEMRITE RD	$17.57	$17.40	$0.17
3103 WATFORD WAY	$15.05	$14.94	$0.11

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 8

Project title: INDUSTRIAL WAREHOUSE

Unit prices Search interval = 5

	GROSS	LOCAT	RATIO	EFFIC	QUALI	Price
Prel. wts.	30	30	10	10	20	-
1115 O'NEIL	5	1	3	3	5	$14.46
2810 BRYANT	3	3	1	1	3	$10.73
910 WATSON	1	5	1	1	3	$10.81
4401 COTTAG	3	5	5	5	1	$15.21
4610-22 FEM	5	3	3	5	5	$17.40
3103 WATFOR	5	5	1	3	1	$14.94
INDUSTRIAL	3	3	1	1	5	-

Press any key to continue

EXHIBIT 23 (Continued)

```
Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 9
```

Computation Matrix

20	20	20	20	0
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

Press any key to continue

EXHIBIT 23 (Continued)

```
Display Output to Screen

Select output to be displayed:

 1. Weighted matrix for properties
 2. Value range determination: mean price per point method
 3. Value range per unit of dispersion
 4. Transaction zone: mean price per point method
 5. Transaction zone: linear regression method
 6. Mean price per point method: predicted vs. actual price for comparables
 7. Linear regression method: predicted vs. actual price for comparables
 8. Input data
 9. Computation matrix

<Return> to quit
Enter your choice: 10
```

```
Iterations

                    GROSS LOCAT RATIO EFFIC QUALI    S.D.        Mean
Prelim. Wts.         20    20    20    20    20    .441591    4.528223
Pass #  1            30    30    10    10    20    5.067353E-02  4.175902
Pass #  2            30    30    10    10    20    5.067353E-02  4.175902

Press any key to continue
```

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 5

Special options

Enter your selection:

1. Change search interval

<Return> for no changes
Enter your choice: ? 5
```

EXHIBIT 24

EXCERPTED FROM APPRAISAL OF INDUSTRIAL SITE

C. Adjustments for Differences to Relate the Comparables to the Subject Property

To estimate the fair market value of the subject property, based upon the sale prices of the comparables, adjustments are made to account for the differences in the price sensitive attributes of the comparables and the subject propery. The comparable properties and the subject property are scored according to the scale detailed in Exhibit 9.

The subject site, which contains 2.5 acres, receives a score of 3 because it is an average sized lot. Since it does not command a more highly visible corner location, a score of 1 is given.

Linkages are extremely sensitive to price. Sites located in major retail areas command higher prices than do warehouses and light manufacturing sites. No retail uses are in sight of the subject so a score of 1 is given. International Lane, a traffic collector, feeds into Packers Avenue, a major arterial, so the subject receives a score of 3. A bus line on Packers Avenue is within two to three blocks of the subject to yield a score of 3. Electricity, telephone, and natural gas lines are available in the general area, but there are no curbs, gutters,

EXHIBIT 24 (Continued)

EXHIBIT 9 (Continued)

SCALE FOR SCORING COMPARABLE SALES
BASED UPON PRICE SENSITIVE ATTRIBUTES

PHYSICAL ATTRIBUTES = 35%

Size 20%	5 = Less than 1 acre 3 = 1 to 4 acres 1 = Greater than 4 acres
Corner Location 15%	5 = Yes 3 = Next to corner on a major road 1 = No

LINKAGES = 50%

Proximity to Major Retail Area 20%	5 = Near a shopping center 3 = Near strip retail area 1 = No retail uses in sight
Access to Major Highways 15%	5 = On a major boulevard or highway 3 = On a traffic collector 1 = On a side street
Availability of Madison Metro 5%	5 = On a bus line 3 = Within 2-3 blocks of bus line 1 = None
Availability of Utilities 10%	5 = Water, sewer, gas, curb, and gutter 3 = Water, sewer, gas 1 = None

EXHIBIT 24(Continued)

EXHIBIT 9 (Continued)

DYNAMIC ATTRIBUTES = 15%

Positive Public Recognition of Street/Location 5%	5 = High visibility or recognition of location 3 = Average 1 = Relatively unknown
Perceived Adverse Influences 5%	5 = None 3 = Noise/Odor/Visual Problems 1 = Physically threatening
Immediate View from Property Frontage 5%	5 = Well-landscaped office, shops, and residential 3 = Office/warehouses well-screened and partially landscaped 1 = Assortment of office/warehouse uses with inadequate screening and/or poorly maintained or vacant

or sidewalks. A score of 3 is given the subject for the availability of utilites.

Dynamic attributes, (the public's perceptions of the property's attributes) contribute to value. Since International Lane is a well-known location with positive public recognition, the subject is given a score of 5. Since the noise from planes landing and taking off could be disruptive, the subject receives a 3. The view from the subject is marred by old barracks converted to offices and warehouse buildings that would no longer meet the more stringent architectural controls now in existence in Truax Air Park West, so the subject receives a score of 1.

Each comparable is scored in a similar manner; the weighted point score matrix which details the calculation of a total point score for both the comparable and the subject is found in Exhibit 10.

The price per square foot for each comparable is divided by its point score and the results are also found in Exhibit 10.

The mean point score per square foot is applied to the point score of the subject to indicate a central tendency value of $111,000, or $1.01 per square foot. These calculations are detailed in Exhibit 11.

The range of estimates yields a high of $123,500, or $1.13 per square foot and a low of $98,000, or $0.90 per square foot.

EXHIBIT 24 (Continued)

EXHIBIT 9 (Continued)

WEIGHTED POINT SCORE MATRIX FOR COMPARABLE SALES
BASED UPON PRICE SENSITIVE ATTRIBUTES

ATTRIBUTE	WEIGHT	#1 1905 ABERG AVENUE	#2 1801 COMMERCIAL AVENUE
Physical Attributes		[1]	
Size of Site	20%	3/ .60	1/ .20
Corner Location	15%	1/ .15	1/ .15
Linkages			
Proximity to Retail	20%	3/ .60	1/ .20
Access to Major Roads	15%	5/ .75	3/ .45
Availability of City Bus	5%	3/ .25	5/ .25
Availability of Utilities	10%	5/ .50	5/ .50
Dynamic Attributes			
Public Recognition	5%	5/ .25	3/ .15
Perceived Adverse Factors	5%	3/ .15	5/ .25
View from Site	5%	1/ .05	1/ .05
	100%		
TOTAL POINT SCORE		3.30	2.20
Sale Price		$80,000	$181,150
Date of Sale		8/82	10/80
Land Area (SF)		53,426 (1.23 A)	175,547 (4.03 A)
Price per Square Foot		$1.50	$1.03
Total Point Score		3.30	2.20
Price per SF/Point Score		$0.45	$0.47

[1] Explanation of weighted score: point score/score x weight

EXHIBIT 9 (Continued)

ATTRIBUTE	WEIGHT	#3 3520 PACKERS AVENUE	#4 814 ATLAS AVENUE (Backs on to Cottage Grove Rd.)	#5 LOT 1, BLK. 7, MADISON INDUSTRIAL SUB., #1	#6 2447 ADVANCE (a.k.a. 4701 Pflaum Road)	#7 LOT 6, BLK. 3, MADISON INDUSTRIAL SUB., #1
Physical Attributes		[1]				
Size of Site	20%	5/1.00	3/ .60	3/ .60	3/ .60	5/1.00
Corner Location	15%	5/ .75	1/ .15	1/ .15	5/ .75	1/ .15
Linkages						
Proximity to Retail	20%	3/ .60	3/ .60	1/ .20	1/ .20	1/ .20
Access to Major Roads	15%	3/ .45	5/ .75	1/ .15	3/ .45	1/ .15
Availability of City Bus	5%	5/ .25	5/ .25	1/ .05	1/ .05	1/ .05
Availability of Utilities	10%	5/ .50	5/ .50	5/ .50	5/ .50	5/ .50
Dynamic Attributes						
Public Recognition	5%	1/ .05	3/ .15	1/ .05	5/ .25	1/ .05
Perceived Adverse Factors	5%	3/ .15	5/ .25	5/ .25	5/ .25	5/ .25
View from Site	5%	1/ .05	3/ .15	3/ .15	3/ .15	3/ .15
TOTAL POINT SCORE	100%	3.80	3.40	2.10	3.20	2.50
Sale Price		$30,000	$125,000	$70,000	$60,000	$20,900
Date of Sale		2/79	6/83	9/82	9/82	9/82
Land Area (SF)		21,747 (0.50)	80,613 (1.85 A)	73,109 (1.68 A)	45,472 (1.04 A)	22,997 (0.53 A)
Price per Square Foot		$1.55 [2]	$1.55	$0.96	$1.32	$0.91
Total Point Score		3.80	3.40	2.10	3.20	2.50
Price per SF/Point Score		$0.41	$0.46	$0.46	$0.41	$0.36

[1] Explanation of weighted score: point score/score x weight
[2] This older sale is adjusted upward 12 percent for time. (1.12 x $1.38 = $1.55)

EXHIBIT 24(Continued)

EXHIBIT 9 (Continued)

ATTRIBUTE	WEIGHT	#8 LOT 2, BLK. 6. MADISON INDUSTRIAL SUB., #1	#9 4484 ROBERTSON ROAD MADISON IND. SUB., #1	SUBJECT LOT 2, CSM 928
Physical Attributes		[1]		
Size of Site	20%	5/1.00	3/ .60	3/ .60
Corner Location	15%	1/ .15	1/ .15	1/ .15
Linkages				
Proximity to Retail	20%	1/ .20	1/ .20	1/ .20
Access to Major Roads	15%	1/ .15	1/ .15	3/ .45
Availability of City Bus	5%	1/ .05	1/ .05	3/ .15
Availability of Utilities	10%	5/ .50	5/ .50	3/ .30
Dynamic Attributes				
Public Recognition	5%	1/ .05	1/ .05	5/ .25
Perceived Adverse Factors	5%	5/ .25	5/ .25	3/ .15
View from Site	5%	3/ .15	3/ .15	1/ .05
TOTAL POINT SCORE	100%	2.50	2.10	2.30
Sale Price		$32,000	$98,600	N/A
Date of Sale		2/82	1/82	N/A
Land Area (SF)		24,975 (0.57)	98,600 (2.26 A)	109,493 (2.51 A)
Price per Square Foot		$1.28	$1.00	N/A
Total Point Score		2.50	2.10	2.30
Price per SF/Point Score		$0.51	$0.48	N/A

[1] Explanation of weighted score: point score/score x weight

EXHIBIT 24 (Continued)

EXHIBIT 24 (Continued)

EXHIBIT 9 (Continued)

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

Comparable Property	Adjusted Selling Price per SF	Weighted Point Score	Price per SF / Weighted Point Score
1	$1.50	3.30	$0.45
2	1.03	2.20	0.47
3	1.55	3.80	0.41
4	1.55	3.40	0.46
5	0.96	2.10	0.46
6	1.32	3.20	0.41
7	0.91	2.50	0.36
8	1.28	2.50	0.51
9	1.00	2.10	0.48
		TOTAL	$4.01

Central Tendency [1] = $\frac{\Sigma x}{n} = \frac{4.01}{9} = .44$

Dispersion = $\sqrt{\frac{\Sigma (x-\bar{x})^2}{(n-1)}} = \sqrt{\frac{.0168}{8}} = .05$

[1] x = Sum of Price per SF / Weighted Point Score

n = Number of Observations

$\bar{x}$ = Average Price per SF / Weighted Point Score

EXHIBIT 24 (Continued)

EXHIBIT 9 (Continued)

where:

x	$\bar{x}$	$\lvert(x-\bar{x})\rvert$	$(x-\bar{x})^2$	n	n-1
.42	.44	.02	.0004	9	8
.47	.44	.03	.0009		
.41	.44	.03	.0009		
.46	.44	.02	.0004		
.46	.44	.02	.0004		
.41	.44	.03	.0009		
.36	.44	.08	.0064		
.51	.44	.07	.0049		
.48	.44	.04	.0016		

$$\Sigma(x - \bar{x})^2 = .0168$$

Value range for subject property:

$$\bar{x} \pm \text{dispersion} = \$0.44 \pm .05$$

Square Footage of Subject x Weighted Point Score x (Central Tendency ± Dispersion) =

109,493 x 2.30 x ($0.44 ± .05) =

High Estimate of $123,500 or $1.13 per square foot

Central Tendency of $111,000 or $1.01 per square foot

Low Estimate of $98,000 or $0.90 per square foot

As a check on the appropriateness of the appraiser's selection and weighting of price sensitive factors, the point scores calculated for each comparable is multiplied by the mean price per square foot per point score to predict or estimate the actual selling price of each comparable. The results are as follows:

COMPARABLE NUMBER	WEIGHTED POINT SCORE	ESTIMATED PRICE/SF	ACTUAL PRICE/SF	RESIDUAL ERROR
1	3.30	1.45	1.50	-.05
2	2.20	0.96	1.03	-.07
3	3.80	1.67	1.55 (adj.)	+.12
4	3.40	1.50	1.55	-.05
5	2.10	0.92	0.96	-.04
6	3.20	1.41	1.32	+.09
7	2.50	1.10	0.91	+.19
8	2.50	1.10	1.28	-.18
9	2.10	0.92	1.00	+.08
			NET RESIDUAL ERRORS	+.09

There appears to be a tight fit between the estimated and the actual price; so it can be concluded that the selection and weighing of the price sensitive factors successfully reflected buyer behavior.

EXHIBIT 24 (Continued)

The market comparable approach is sensitive to the appraiser's ability to predict buyer perceptions in a changing market. The weighted point scores are an attempt to capture these perceptions. Consequently, this calculated value is only the initial step in determining the final price estimate. This initial transaction zone must be adjusted in light of certain external factors such as the buyer's alternative option to lease surrounding land from Dane County instead of buying in fee which, in turn, will be affected by the current cost of financing land purchases, the income tax consequences of buy versus lease decision, and the effect of the Consumer Price Index (CPI) escalator upon rental rates for leased land. Other external factors include the effect of the Truax Air Park covenants upon the quality of future development in the area, and the future expansion of the Dane County Regional Airport.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

VI. THE INCOME APPROACH OR INVESTMENT SIMULATION APPROACH APPLIED TO LARGE INCOME PROPERTY

The basic concept of the income approach is that the property value is the present value of an income stream to the investor plus the present value of the reversion to the investor. That simple truism requires very disciplined, systematic, but internally consistent logic to carry off.

A. First there is the problem of defining the perspective of the buyer or buyer presumed by the issue for which the appraisal is required as a benchmark. This perspective will determine what revenues and expenses must be considered.

B. There is the problem of defining the source, amount, and timing of receipt in terms of accounting theory (cash or accrual) and in terms of business practice (receivables versus collections).

C. There is the problem of defining expenses attributable to the real estate as opposed to the occupancy as perceived by the most probable buyer.

D. Selection of a forecast period also determines necessary charges to operations for tenant improvement, leasing commissions, reserve for replacement and refurbishment, and other soft capital items to be amortized over nominal periods of time.

E. Then there is the problem of defining the most probable capital structure for buyer financing of the property assuming cash to the seller and/or assuming some seller financing.

F. There is the problem of selecting a conversion process with which to define a net reversion assumed for some future point in time in an uncertain future.

G. There is the problem of recognizing entitlements or submerged profit centers which can be controlled through purchase of real estate because real estate traditionally does not carefully delineate net income from real estate, personalty, intangible assets, captive consumers, or managment.

H. Given the complexities of the above, how do buyers convert cash flows, reversions, peripheral profit centers, and portfolio effects to a purchase price.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

VII. CONTEMPORARY APPRAISAL AND ACCOUNTING THEORY

Fundamental isues which will lead to standardization of perspective by the FASB, the American Appraisal organizations, and the European Common Market in which RICS played a major role.

A. Unwitting deviation from derivation of the income approach which:

1. Originally intended to measure economic surplus of an asset in terms of normalized net income projected over a mathematical line for the life of an asset;

2. Investment band theory shifted value to the sum of present value claims on the income, specifically liability valuation.

3. Equity valuation in the securites markets recognize claims from income were prioritized by risk and critical path of service provided. Earnings were irregular, related to investor tax status, and manipulated by marketing monopoly or operating control.

B. This evolution from economic surplus to claims on liabilities to going concern values has produced incredible confusion and opportunity for valuation disinformation because appraisers don't know any accounting.

1. Economic productivity requires accrual accounting

2. Financial productivity requires cash accounting

3. Going concern valuation requires profit center segregation and venture capital discounting based on source and application

C. Some computer systems for property management already have the feature of converting from accrual to cash accounting and several studies are underway to define acounting conventions for appraisers.

1. Exhibit 25 contains generalized theory for converting accrual accounting to cash accounting

2. Exhibit 26 contains an analysis of the feasibility of a small city office rehab project

3. Exhibit 27 contains the format for an income property pro forma on a cash accounting basis

4. Exhibit 28 contains an example of discounted cash flow without a computer

D. Accounting theory also distinguishes value by a variety of perspectives in order to fit the function of the accounting task to measure the appropriate economic aspect:

1. Exit value assuming completion of normal business cycle in an orderly fashion (benchmarking).

2. Exit value assuming abrupt liquidation (construction loan validation).

3. Replacement value with asset of current technology.

4. Reproduction value of asset at original state of technology.

5. Market value in an organized market for tangible goods.

6. Current value in an organized market for tangible goods.

7. Discounted value of future receipts at interest factor.

8. Value of asset not yet charged to consumption or production.

E. Discounted cash flow must also anticipate that the collectibility of CPI adjustments and pass-throughs as well as deferred rent concessions must be examined. The shorter the lease term and the lower the tenant investment in improvements, the less probability there is of collection.

1. The appraiser must not only read the leases, but determine the degree to which management has collected future adjustments as a measure of effective rents rather than contract rents.

2. However, the appraiser is not expected to be an auditor and his statement of limiting conditions should contain a clause indicating the presumption of the appraisal, i.e., that payments due the landlord have in fact been collected, does not represent a conclusion based on an audit of past operations.

3. Tenant improvements which will benefit the property after the lease has expired or greatly in excess of allowances in the original contract represent a form of rent guaranty which might be identified by the appraiser when making an assumption about the collectibility of all forms of reimbursements.

4. The appraiser should also note if property management is releasing under terms which convert old escalators to monthly reimburseables or CAM items which are collectible monthly on an anticipated average basis to be adjusted at the end of each fiscal year, significantly altering cash flows and the certainty of collection in the future.

F. The increasing use of CAM payments and the broadening scope of costs included introduce another problem in analyzing real estate reeceipts. Property managers generally include a 10 to 15 percent surcharge on actual outlays for the work of collecting and accounting for CAM; CAM contains a profit center for management. The appraiser must determine if that profit center belongs to the building owner to offset the general management fee or has been considerd as part of the compensation formula to the management function. In the latter case, it is clearly not real estate revenue to be capitalized into the value of the property.

   1. Management compensation forumlas have become more complex so that simple appraisal accounting for a percentage of effective gross plus a leasing commission can be very misleading.

   2. Formulas generally involve different leasing commissions for renewals versus replacement of tenants, construction supervision fees for renovations; tenant improvements, etc., as well as reimbursement for advertising, after-hours servicing, or negotiation of casualty losses.

   3. Construction supervision, tenant relations, as well as actual refurbishment expenses suggest how much is being invested in the future of the building, like R & D in a manufacturing corporation.

G. Fair market value presumes definition of economic rent attributable to the real estate as opposed to intangible assets or personal property.

   1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?

      a. For example--does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?

   2. Is the real estate income from retailing of space or from wholesaling of space?

a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.

3. Is the income for extraordinary services or intangible assets rather than customary?

a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.

4. Ancillary to, rather than integral with the project.

a. Can services be acquired off premises such as janitorial or utilities?

5. IRS classification as 1250 property (real) or 1231 property (personalty) and Section 453, 453A and B, or Section 38 (tangible) or Section 45 (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

H. Defining expenses attributable to the real estate is particularly difficult where you have a current occupancy/owner, such as a home office for a bank or insurance company. There are many distortions in the general ledger due to:

1. Superadequacy of maintenance.

2. Corporate accounting to shift or conceal division profits

3. Confusion of busines security with building operations

4. Deliberate concealment of corporate pet projects as building expense

5. Artificial corporate accounting charges for space or corporate services

I. Careful accounting distinctions are the critical differences in valuing property for real estate taxes, or liquidating value for a lender, or going concern value for a limited partnership or unit value of a comingled fund.

   1. Choice of the accounting format is also related to selection of the number of periods on a forecast. The assessor can accept short-term forecasts since there is opportunity for periodic review; the mortgage lender needs a longer term forecast to anticipate cyclical contractions of cash flow threatening the mortgage payment.

   2. However, what time frame is appropriate for valuing assets in a comingled fund? Large, unrecognized assets and negative cash flows have their payoff over the average lease term or longer; how should the valuation formula recognize these intangible assets?

J. Selection of a forecast period as five or ten years or more reflects purpose and sensitivity to value to long term assumptions and the curve of compound interest. Ten-year convention seems to be growing although a single lease rollover period is sufficient to strain the forecasting talents of most appraisers.

K. The decision by the Institute to require definition of fair market value with all cash to the seller before reporting a value attached to special financing provided by the seller is critical in providing the hope of its standard against which all manner of structuring can be related.

   1. Financing is not the only entitlement which enhances value beyond fair market value. There may be favorable leases, tax abatements, monopolies, and all manner of regulatory entitlements which are not included in fee simple title, but travel with the real estate. The increment attributable to these should generally be flagged as well.

2. Fee simple encumbered by leases is generally identified, but what about fee simple encumbered by special district rules, title flaws, or regulatory controls like those of the FERC?

L. Submerged profit centers are becoming much more significant due to management loads on CAM, back-end loads on finite financing agreements, and penalties for prepaid financing, cancelled contracts, windfall real estate tax returns, or sale of services and equipment leasing to the tenants. As control of property shifts to asset managers, so does control of the captive consumers within the building and the customer lists of potential tenant relocation in the future go to the benefit of the asset manager at the expense of the building owner.

M. Problem of defining or forecasting a reversion:

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships or long term commodity/money ratios.

2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?

   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested, and excluded from fair market value?

N. The most common reversion process is to estimate net income for the year after the year of sale--year six in a five-year forecast, or year eleven in a ten-year forecast.

1. This income is then capitalized at some rate, either a market rate at the time of the forecast or a more conservative rate to reflect aging of the proerty and the anticipation that it would be sold when the possibility of further increases in net income had declined significantly.

2. The critical question is how dependent is value on the change in retail price? Dilmore indicates there are seven sources of cash return which might each be discounted separately to represent the risk inherent in realizing the expected flow. These elements are:

   a. Return of original equity investment
   b. Value of cash flows at first year level
   c. Growth (decline) of cash flow stream
   d. Tax shelter of subject's cash flow
   e. Tax shelter of external income
   f. Growth of equity from amortization
   g. Growth of equity from value appreciation

3. See "Component Capitalization" by Gene Dilmore in Real Estate Issues, Spring-Summer 1985.

4. Perhaps the most important paragraph at the end of the Dilmore article, with reference to a simple future price or Monte Carlo resale price estimate is:

   "Whether the appraiser consideres this as an independent value indication from the income approach, or as a testing of the probable price indicated by analysis of the market data, is a matter of individual choice. In either case, a report section on externalities should follow these calculations giving consideration to the external facctors (money markets, investor moods, political contingencies, local phenomena altering market expectations, etc.) which can push the indicated price in either direction."

5. Probability models are not likely to be accepted soon for three practical limitations--appraisers have limiteed knowledge of statistics, decsion-makers prefer their subjective intuitions, and thoroughness may not be cost effective in terms of decisions to buy, sell, or lend.

6. There is a sensitivity algorithm called the Cady-Westby model which can directly compute changes in net present value or IRR or the break-even ratio which can occur for each one percent variance in key variables. It works quickly on a PC; it is based on response theory, but the algorithm represents high security information for nuclear power plant management. It will allow appraisers to avoid probability modeling just a set theory by-passes the problems with degrees of freedom in a limited data base.

EXHIBIT 25

RECONCILIATION OF ACCRUAL ACCOUNTING FOR PROPERTY PERFORMANCE AND CASH AVAILABLE FOR DISTRIBUTION AND DISCOUNTED CASH FLOW VALUES.

Year	1	2	3	4	5
Base Rents (Accrual)	20	20	20	20	20
Index	0	1	2	3	4
Operating Expense	4	4.20	4.40	4.60	4.80
Tenant Improvements	4	4	4	4	4
Taxes	1	1.10	1.20	1.30	1.40
Net Income	11	11.70	13.40	13.10	13.80
Unrecognized Assets and Amortized Expenses					
Rent Receivable	20	20	0	0	0
Expense Escalator	0	.20	.20	.20	.20
Tenant Improvements	16	0	0	0	0
Lease Commissions	10	0	0	0	0
Cash Distribution	-35	-8.50	+13.20	+12.90	+13.60

EXHIBIT 27

PRO FORMA INCOME PROPERTY FORMAT

(Cash Accounting Basis)

I. Expected Receipt
- Base rent (Monthly)
- Index to base rent (Annual adjustment to monthly base)
- Percentage rent (Quarterly estimate with fifth quarter adjustment)
- Amortized tenant improvements (Monthly, fixed)
- CAM (Monthly average with 14th month adjustment)
- Reimburseables (Annual pass through)
- Escalators with stop (Annual review)
- Interest on reserves (Quarterly sweep)
- Government transfer payments (Negotiated and deferred)
- Total receipts

II. Loss of Potential Receipts
- Vacancy losses
- Rent collection losses
- Reimbursement collection losses
- Receivables
- Concessions
- Total reduction in expected receipts

III. Actual Revenues for Operations

IV Gross Outlays for Operations
- CAM items
- Reimburseables
- Escalator items
- Owner costs
- Refurbishment
- Renewal tenant improvements
- Renewal lease commissions
- Total operating outlays

V. Total Cash from Operations

VI. Capital Charges
- Interest payments
- Principal payments
- Capital improvements

VII. Net Cash from Operations before Taxes
- + Transfers from cash reserves from previous period
- + Net increases in loan balances outstanding

VIII. Cash Available for Distribution and/or Taxes
- Less distribution and taxes
- = Net addition to cash reserves in following period

EXHIBIT 28

EXAMPLE OF DISCOUNTED CASH FLOW
WITH 100% EQUITY FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	0.924500	$175,431
1983	364,022	0.790171	287,640
1984	410,013	0.675360	276,906
1985	457,118	0.577230	263,862
1986	454,429	0.493359	224,197
1987	579,334	0.421674	244,290
1988	574,943	0.360405	207,212
1989	591,365	0.308039	182,163
1990	624,054	0.263281	164,302
1991	659,043	0.225026	148,302
First 6 Months of 1992	323,726	0.208037	67,347
	RESALE PRICE		
1992	4,839,000	0.208037	1,007,000
	PRESENT VALUE OF EQUITY		$3,248,652
	TOTAL VALUE WITH 100% EQUITY		$3,248,652
		ROUNDED	$3,200,000

EXHIBIT 28 (Continued)

EXAMPLE OF DISCOUNTED CASH
FLOW WITH CONVENTIONAL FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	ANNUAL DEBT SERVICE BASED ON DEBT COVER RATIO (DCR) OF 1.3 [1]	NOI LESS DEBT SERVICE EQUALS CASH THROW-OFF (CTO)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	140,000	$49,750	0.924500	$46,000
1983	364,022	280,000	84,000	0.790171	66,400
1984	410,013	280,000	130,000	0.675360	87,800
1985	457,118	280,000	177,100	0.577230	102,200
1986	454,429	280,000	174,400	0.493359	86,000
1987	579,334	280,000	299,300	0.421674	126,200
1988	574,943	280,000	295,000	0.360405	106,300
1989	591,365	280,000	311,400	0.308039	96,000
1990	624,054	280,000	344,100	0.263281	90,600
1991	659,043	280,000	379,000	0.225026	85,300
First 6 Months of 1992	323,726	140,000	183,700	0.208037	38,200
	RESALE PRICE	RESALE PRICE LESS MORTGAGE BALANCE [2]			
1992	4,839,000	3,042,000		0.208037	632,800
	PRESENT VALUE OF EQUITY				$1,563,800
	ORIGINAL MORTGAGE BALANCE				2,001,753
	TOTAL VALUE WITH CONVENTIONAL FINANCING				$3,565,553
				ROUNDED	$3,600,000

[1] Based on first full year NOI
[2] Maximum mortgage which NOI can carry, assuming a DCR Of 1.3, interest at 13.5 percent for a 25 year term with monthly payments, is $2,001,753. At the end of a ten year holding period the balance due is $1,797,196 or rounded $1,797,000.

EXHIBIT 28 (Continued)

EXAMPLE OF DISCOUNTED CASH FLOW WITH SELLER FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	ANNUAL DEBT SERVICE BASED ON DEBT COVER RATIO (DCR) OF 1.1 [1]	NOI LESS DEBT SERVICE EQUALS CASH THROW-OFF (CTO)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	$165,450	$24,300	0.924500	$22,500
1983	364,022	330,900	33,100	0.790171	26,200
1984	410,013	330,900	79,100	0.675360	53,400
1985	457,118	330,900	126,200	0.577230	72,900
1986	454,429	330,900	123,500	0.493359	60,900
1987	579,334	330,900	248,400	0.421674	104,800
1988	574,943	330,900	244,000	0.360405	88,000
1989	591,365	330,900	260,500	0.308039	80,200
1990	624,054	330,900	293,100	0.263281	77,200
1991	659,043	330,900	328,100	0.225026	73,800
First 6 Months of 1992	323,726	165,450	158,300	0.208037	33,000
	RESALE PRICE	RESALE PRICE LESS MORTGAGE BALANCE [2]			
1992	4,839,000	2,602,000		0.208037	541,300
	PRESENT VALUE OF EQUITY				1,234,200
	ORIGINAL MORTGAGE BALANCE				2,528,995
	TOTAL VALUE WITH SELLER FINANCING				$3,763,195
				ROUNDED	$3,800,000

[1] Based on first full year NOI

[2] Maximum mortgage which NOI can carry, assuming a DCR of 1.1, interest at 12.5 percent amortized over 25 years with monthly payments, is $2,528,995. At the end of a ten year holding period the balance due is $2,237,023 or $2,237,000, rounded.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

VIII. CONTEMPORARY MODELS FOR CONVERSION OF CASH FLOWS TO VALUE ESTIMATES

The new income approach for large income properties has become a hybrid of a CPA format and appraisal models for converting cash flows to value estimates.

A. Several computer software packages make it possible to detail and project large numbers of leases so that total project revenue is supported by a series of schedules as indicated by Exhibit 29. When using a discounted cash flow model, it is imperative to stay as close to cash accounting as possible.

B. All forms of reimbursement must reflect time lags, and collection losses and renewals should be charged for concessions on past due proposals. Appraisers would be well advised to introduce a limiting condition to the effect that:

> "Pro forma budgets and assumptions about actual collection of reimbursable expenses and supplemental rent are not based upon an actual audit of property operations and reflect only a business plan which could be accomplished through effective management."

C. Operating expenses for appraisers were traditionally divided between fixed variable and reserve for replacement. Today operating expenses should be organized by groups which reflect method of, or degree of, reimbursement by tenants.

1. Revenue projections can be prepared by a CPA or a property management firm with the computer systems to handle complex allocations, timing, and changeovers in leasing format. The appraiser explicitly recognized source and can allocate liability for same to the CPA or CPM who prepared the estimate.

2. Building owners or investment bankers may provide the computerized lease data base for the appraiser as a point of departure.

3. The critical functions of the appraiser will be to estimate:

   a. Rate of increase or decrease in operating expenses during the forecast period;

   b. Estimate the tenant turnover and resulting loss of income from vacancy, concession, and relocation costs;

   c. Estimate the rate and degree of application and collection of rental increases; and

   d. Estimate concessions required to keep existing tenants, including special tenant improvements and refurbishing.

4. Some clients are beginning to prescribe the specific assumptions for indexing rents and the ratio of tenant turnover and tenant renewal; again, these assumptions become significant limiting conditions on the appraisal report or the subject for extensive footnote discussion.

5. CAM expenses are prorated on space occupied rather than usable area, so be careful where you apply flat vacancy allowances. Parking may be fully leased even if the building has substantial vacancies; at the same time, hotel room rates and office rents may conceal parking charges which are reallocated to the parking concession, so that the appraiser may unwittingly double-count.

D. Many projects today are the beneficiaries of income generating reserves required of revenue bond issues, HODAG and UDAG grants, or municipal subsidy arrangements such as tax incremental financing. This income is part of the property value for mortgage loan purposes, but must be excluded for real estate tax purposes. The income from these reserves is generally available on a quarterly basis and the amount depends upon the reinvestment rate and allowable arbitrage at the times these reserves were created.

1. Reserves tied to the finances must be deducted from sales price on FNA or IRB financed deals, solely subject to the mortgage, or prices can be seriously overstated.

2. R-41b specifically permits recognition of supplementary income from services regularly offered to tenants, such as the elderly.

3. See Exhibits 31 and 32.

4. Elderly housing pro forma.

E. It is not necessary today to always use a mortgage equity approach. The conversion of net cash to present values may take several basic patterns.

1. Simple discounting of annual net cash by a project discount rate assuming no financing and reasonbly stable re-sale price as shown in Exhibit 30 done for a pension fund.

2. A simple mortgage equity approach using a five-year forecast and a debt cover ratio and other loan parameters based on natural averages of the American Council of Life Underwriters, Schedule M (see Exhibit 33).

3. A basic mortgage package presuming responsible underwriting plus the sale value of appreciable base and tax credits to a professional buyer for syndication. For example: syndicators might pay 35 percent of depreciable base plus 80 percent of first-year tax investment credit; more conservative syndicators might pay exactly one-half of the tax value of equity.

4. Custom crafted finance packages with variable rates, credit enhancements, interest rate caps, and participations become investment value situations which must be compared to fair market value so that the increment to value through the modification of the financial stand is revealed.

F. As a result of all of the above, the appraisal process is subdivided into those firms which knowingly or unwittingly exploit the lack of accounting precedent to generate high values in the fine art of commercial disinformation. On the other hand, a fully-professional firm will integrate professional specialties into a clinic shop which contains a CPA, a mechanical engineer, a physical planner, an information processor, and an appraiser. The fastest growing segment of appraisal is the business consulting firm opening an appraisal subsidiary. Arthur Andersen went from almost "0" to $16,000,000 last year, probably in third place behind the old-style firms of American Appraisal at $66,000,000 and Marshall and Stevens at $26,000,000. It is estimated that 20 percent of their volume is spent in marketing.

much closer range of per-unit prices of $41.20/sq.ft. to $78.55/sq.ft. The average sales price of these six sales is $57.20/sq.ft., whereas the average for all nine sales is slightly higher at $68.70/sq.ft.

Based on our analysis of the available market data and comparing these sales to the subject property, it is our opinion that, after adjusting for differences in location, age, size, physical condition, and economic characteristics, the indicated per- unit price for the subject property would range from $45/sq.ft. to $55/sq.ft., or a range of values of $3,830,000 to $4,680,000, calculated as follows:

85,058 sq.ft. @ $45/sq.ft. = $3,830,000 (rounded)
85,058 sq.ft. @ $55/sq.ft. = $4,680,000 (rounded)

INCOME APPROACH

Methodology

The Income Approach is a procedure in appraisal analysis where anticipated economic benefits to be derived from a property are converted into a value estimate through a capitalization process.

The principle of "anticipation" underlying this approach recognizes that a prudent investor recognizes a relationship between income and asset value.

The process of estimating anticipated economic benefits from a particular property therefore requires estimates of potential income; fixed and operating expenses including vacancy; existing, proposed, or probable debt costs (if applicable); and the selection of the most appropriate capitalization method.

The two most commonly utilized methods of processing net income into value are direct capitalization, where an overall rate is extracted directly from market sales in which the net income is known or closely estimated, and the discounted cash flow method, whereby anticipated future income streams and a reversionary value are discounted to a net present value estimate. In the valuation of the subject property, it is our opinion that the discounted cash flow method is the most appropriate valuation method, and thus, it will be given the most weight in our final analysis. This is due to the fact that the subject is a multi-tenant property with several existing leases. The discounted cash flow method automatically incorporates any rent loss or lease advantage into the final value indication by modeling the existing leases at their current rates and applying market rates at times of renewal, rollover, or turnover.

EXHIBIT 29 (Continued)

Discounted Cash Flow Method

By forecasting the anticipated income stream and determining a reversion at the termination of the holding period, the capitalization process may be applied to derive a value that a purchaser-investor would pay to receive the particular income stream. The capital sum estimate equated with the right to receive these benefits is derived through the application of a discounted cash flow model and is commonly known as the present value estimate. For clarification, the discounting process is defined in Real Estate Appraisal Terminology as follows:

> "A concept of time preference which holds that future income or benefits are worth less that the same income or benefits now, and that they decrease in value systematically as the time for their receipt is further deferred into the future. In appraisal analysis, discounting is the arithmetic procedure of applying a specific rate (usually) derived from the market to the anticipated future income stream in order to develop a present worth estimate."

Typical investors price real estate on their expectations of the magnitude of these benefits and their judgment of the risks involved. Our valuation endeavors to reflect the most likely actions of typical buyers and sellers of property interests similar to the subject. An analytical real estate computer model that simulates the behavioral aspects of the property and examines the results mathematically as an investor would, will be employed for the discounted cash flow analysis. Since investors are the basis of the marketplace in which the subject property will be bought and sold, this type of analysis is particularly germane to the appraisal problems at hand.

Investors in multi-tenant retail properties such as the subject typically made a forecast of net operating incomes and cash flows over a period of time ranging from 10 to 25 years. This projection is then utilized to determine a purchase price which will justify the degree of risk inherent in the proposed investment. A general outline summary of the major steps involved may be listed as follows:

1. Analysis of the current income stream; establishment of an economic (market) rent level for each direct tenant space; projection of future revenues annually for an eleven year period based upon existing leases, probable renewals at market rentals, and expected vacancy experience.

2. Analysis of projected escalation recovery income based upon clauses in existing and typical leases for protection against rising operating expenses and real estate taxes.

3. A projection of future property expenses based upon an analysis of the historical operating expenses; the property owners' projected budget; and the experiences of competitive properties;

4. A derivation of the most probable net operating income and pre-tax cash flows to be generated by the property by subtracting all property expenses from the effective gross income;

5. Estimation of a reversionary sale price based upon a capitalization of the net operating income in year eleven.

6. Determination of a yield rate (internal rate of return) which would attract a prudent investor to invest his money in a similar situation with comparable degrees of risk, non-liquidity, and management burdens;

7. Conversion of the pre-tax cash flows into a present value by discounting at an acceptable range of yield rates.

POTENTIAL GROSS INCOME

Existing Leases

The most current leasing information available indicates that 76,155 sq.ft., or 89.5% of the retail "strip" center's 85,058 total sq.ft. of leasable building area is currently leased. This occupied space involves 35 of the shopping center's 40 total lease spaces. Besides the "strip" center's retail tenant leases, additional rental income is provided to the subject property's ownership position from two ground leases; one for 4,900 sq.ft. leased by Savings and Loan Association improved with a bank branch facility and one for 174 sq. ft. leased by Photo Place and improved with a drive-in photo processing delivery/pick-up kiosk.

Savings' ground lease is for a 25-year term with three 10-year renewal options, and commenced 6/01/79 with a base annual rent of $17,940 or $3.66/sq.ft. An escalation clause calls for C.P.I. rent adjustments every five years not to exceed $4,488 per year. Current annual rent on this lease is $22,428, or $4.58/sq.ft. Photo Place's ground lease is for a 5-year term with two 5-year renewal options and commenced on 2/14/76 with a base annual rent of $3,000, or $17.24/sq.ft. An escalation clause calls for fixed increases to $3,600 and $4,200 annual for the first and second renewal options respectively. Current rent is $3,600, or $20.69/sq.ft.

Reference is hereby made to the March 1, 1985 Tenant Roster (Rent Roll) for a detailed description of tenants and lease terms and rates for occupied and vacant space, a copy of which is included in the Addendum of this report. Current potential base rental income for the subject property for 1985 (annualized) approximates $564,368 which includes projected rent for the five vacant spaces. This approximates $6.26/sq.ft. of leasable building area annually.

Certain changes to the aforementioned Tenant Roster have been utilized in our computerized discounted cash flow analysis model based on discussions with the subject's current property manager and existing tenants. Following is a brief summary of the most notable of these changes.

1. It appears a new lease out for signature to City Bicycle & Electronics (26802) has a high probability of being signed and, therefore, will be included in our analysis. This is a 3-year lease commencing on 6/1/85 with fixed minimum base rent only (no percentage rent) of $760/mo. for the first 12 months, $805/mo. for the second 12 months, and $855/mo. for the third 12 months.

2. A revised lease renewal incorporating two modifications desired by the tenant has also been sent out to Sportswear (26804) and, with a high probability of being signed, will also be included in our analysis. This is also a 3-year lease commencing on 4/1/85 with a fixed minimum base rent of $530/mo. for the first 12 months, with CPI adjustments for the second and third 12-month periods. This lease continues to include a percentage rental clause with a 6% percentage factor.

3. As noted on the Tenant Roster, the Outpost (26830) has experienced financial problems and has gone to a month-to-month tenancy through April of 1985 at which time it is anticipated this space will be leased under the terms of a new lease currently out for signature to Paul , to be used as an accounting office. This is a 3-year lease commencing on 4/1/85 with fixed minimum base rent only of $530/mo. for the first 12 months,

$562/mo. for the second 12 months, and $596/mo. for the third 12 months. Rental concessions of one month's free rent and installation of new floor tile and drop ceiling as tenant improvements to be provided by lessor have also been granted to the new lessee.

4. Dog Grooming (26832) has renewed their lease for three more years. See Tenant Roster for pertinent details.

5. A lease for a 279-square-foot space (26834-A) has recently been signed by John (dba John's Shoe Repair) for a 12-month period commencing 3/1/85 with fixed minimum base rent of $275/mo., or $0.99/SF. This lease is typical of others in this retail center (prorata share of CAM and taxes) with the exception that electricity is paid by the lessor. No provision for overage rent is included.

6. Glendale Federal Savings and Loan (26842), whose lease expires 5/31/85, has expressed a desire to move, but will apparently sign a lease renewal for one more year commencing 6/1/85 with four 6-month options. The initial minimum base rent is $1,050/mo. with stated increases to $1,110/mo. on 6/1/86 and $1,175 on 6/1/87 should renewal options be exercised. All other terms and conditions of the original lease to remain unchanged.

7. James Real Estate (26852) is assumed to vacate at the termination of the lease on 5/31/85. The property manager feels that it will take 3 to 5 months to release this particular space.

8. A 3-year lease renewal sent to City Fabricare (26866) on 3/1/85 has apparently been signed. Fixed minimum base rent is $1,120/mo. for the first 12 months, $1,185/mo. for the second 12 months, and $1,255/mo. for the third 12-month period. For purposes of calculating overage rent, the percentage factor will stay at 10%.

9. A new 5-year lease commencing 1/1/85 has been signed by City Florist (26870 D & E) with initial minimum base rent of $610.50/mo. with stated rent increases to $647/mo. for the second 12 months, $686/mo. for the third 12 months, $727/mo. for the fourth 12 months, and $771/mo. for the fifth 12-month period. Lessor also agrees to provide up to $3,000 of specified tenant improvements. No provision for overage rent is included in this new lease.

10. A 3-year lease renewal was recently signed by Swan, Carpenter and Wallis (26876) for 1,036 square feet (their original 686-square-foot space and the old 350-square-foot space (26870 F) previously occupied by Robert

03/08/85
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PREPARED--3/15/85

ANNUALIZED TENANT REVENUE FOR 1985

	SQUARE FOOTAGE	EXPI ATION	MINIMUM RENTAL INCOME	CPI ESCAL ATION	BASE RENTAL INCOME	CAM1 ESCAL ATION	RE TAXES ESCAL ATION	INSUR ESCAL ATION	TOTAL ESCAL ATION	GROSS RENTAL INCOME
CITY BICYCLE	965	5/88	9,048	0	9,048	565	346	64	975	10,023
SPORTSWEAR	740	3/88	6,360	0	6,360	433	266	49	748	7,108
FRAN@S FASHIONS	2,100	2/87	17,352	0	17,352	1,229	754	140	2,123	19,475
SC BEAUTY SALON	2,064	7/89	16,092	483	16,575	1,208	741	138	2,086	18,661
GRANNY@S DELIGHT	660	12/85	5,460	0	5,460	386	237	44	667	6,127
VACANT 1	835	2/88	7,014	0	7,014	489	300	56	844	7,858
MR T@S RESTAURANT	3,500	5/91	22,470	0	22,470	2,048	1,257	233	3,538	26,008
P	815	3/88	6,360	0	6,360	477	293	54	824	7,184
DOG GROOMING	312	12/87	3,010	0	3,010	183	112	21	315	3,325
JOHN'S SHOE REPAIR	279	2/86	3,300	0	3,300	163	100	19	282	3,582
VACANT 2	237	2/88	1,991	0	1,991	139	85	16	240	2,231
VACANT 3	1,250	2/88	9,750	0	9,750	731	449	83	1,264	11,014
GLENDALE FED S&L	1,315	5/88	12,506	0	12,506	769	472	88	1,329	13,836
VACANT 4	2,581	2/88	20,132	0	20,132	1,510	927	172	2,609	22,741
CURTIS CURRAL	2,632	1/88	17,760	0	17,760	1,540	945	176	2,660	20,420
INSURANCE	787	5/85	6,464	0	6,464	460	283	52	796	7,259
PAINE WEBBER	787	4/86	6,504	0	6,504	460	283	52	796	7,300
BARNACLE BILLS	2,480	3/93	19,195	0	19,195	1,451	890	165	2,507	21,702
ORIUENTAL GARDENS	2,560	9/93	17,906	0	17,906	1,498	919	171	2,588	20,494
SC FABRICARE	2,000	8/85	12,576	0	12,576	1,170	718	133	2,022	14,598
DORAL TRAVEL	1,250	12/86	10,320	0	10,320	731	449	83	1,264	11,584
CHAMBER@S CABLE	740	12/87	5,280	0	5,280	433	266	49	748	6,028
SC FLORIST	1,110	12/89	7,326	0	7,326	649	399	74	1,122	8,448
SC&W	1,036	7/87	8,702	261	8,963	606	372	69	1,047	10,010
HELMET INSURANCE	1,223	7/87	11,040	331	11,371	716	439	82	1,236	12,607
VALLEY NATIL BANK	2,090	3/88	18,792	0	18,792	1,223	750	139	2,113	20,904
CHEF@S CAFETERIA	3,215	1/99	22,800	0	22,800	1,881	1,154	214	3,250	26,050
SUPERIOR HEARING AID	1,050	6/88	8,808	317	9,125	614	377	70	1,061	10,186
CARRIAGE CLEANERS	1,815	3/89	13,471	0	13,471	1,062	652	121	1,835	15,306
YAUNCEY'S	1,070	8/87	8,800	213	9,093	626	384	71	1,082	10,175
SOC BARBER SHOP	840	4/90	6,839	0	6,839	491	302	56	849	7,688
SC COIN & ASTAMP	565	7/86	5,330	160	5,490	331	203	38	571	6,061
CASUAL WRAPPINGS	1,700	9/88	13,772	0	13,772	995	610	113	1,718	15,491
CAGNEY & ASSOC	1,250	12/89	9,744	0	9,744	731	449	83	1,264	11,008
KING DRUGS	15,569	10/ /	59,700	0	59,700	9,109	5,590	1,038	15,737	75,437
SC GIFDT & HARDWARE	6,650	5/94	18,753	0	18,753	3,891	2,388	444	6,722	25,475
BARTLETTS FURNITURE	4,040	5/93	15,695	0	15,695	2,364	1,451	269	4,084	19,779
RELIGIOUS BOOKSTORE	3,302	8/86	19,416	0	19,416	1,932	1,186	220	3,338	22,754
VACANT 5	4,000	2/88	21,600	0	21,600	2,340	1,436	267	4,043	25,643
HALLMARK CARD	2,050	6/93	16,222	0	16,222	1,199	736	137	2,072	18,294
SHIRTOWN	1,594	3/86	12,834	0	12,834	933	572	106	1,611	14,445
PHOTO PLACE	174	2/91	3,600	0	3,600	0	0	0	0	3,600
S&L	4,900	5/ 4	22,428	0	22,428	2,867	1,759	327	4,953	27,381
TOTALS	90,132		562,603	1,765	564,368	52,631	32,300	6,000	90,931	655,298

EXHIBIT 29 (Continued)

EXHIBIT 29 (Continued)

Holmstrom) commencing 8/1/84. Initial fixed minimum base rent is $725.20/mo. with stated rental increases to $768.71/mo. on 8/1/85 and $814.79 on 8/1/86. This is a typical triple-net lease with no overage provision. Furthermore, lessor has agreed to less than $300 of tenant improvements and lessee agrees to provide its own janitorial service.

11. Management is currently negotiating a 3-year lease renewal with National Bank (26880) whose present lease expires 3/31/85. The terms of this new lease include fixed minimum base rent of $1,568/mo. for the first 12 months, $1,662/mo. for the second 12 months, and $1,762/mo. for the third 12-month period. Although National Bank apparently would prefer a CPI adjustment and lower initial rent, it is the manager's opinion they will probably agree to these terms, which, therefore, will be included in our analysis.

12. A 5-year lease renewal has apparently been signed with City Barber Shop (26912) with initial minimum base rent of $575/mo. with annual CPI adjustments throughout the remainder of the lease starting 5/1/86. No overage provision is included and lessor agrees to install new floor tile and a drop ceiling.

13. & Associates (26924) recently signed a 5-year lease for 1,250 square feet with initial minimum base rent of $875/mo. (incorrectly shown on the Tenant Roster as $812/mo.) with annual COL adjustments throughout the remainder of the lease starting 1/1/86. Lessor has also agreed to grant lessee free rent consisting of the first three months of this new lease term, a $7,500 tenant improvement allowance, and one 5-year renewal option with terms to be negotiated.

A summary chart of Annualized Tenant Revenue for 1984 is shown on the facing page based on these changes with lease expiration dates reflecting our assumption that renewal options will be exercised where applicable.

SUMMARY OF COMPARABLE RENTALS

Rental #	Location	Lease Date Term/Option	N.R.A. (SF)	Floor	Monthly Unit Rate/ SF	Expense Provision	Comments
R-1	27388 Sun City Blvd.	----	----	----	---	---	----
R-2	Unit A. Japanese Restaurant	Offer 10	24,000	grnd	.65	nnn	As is, 3 mos. free rent.
R-3	Unit B. Cleaners	1-85 5	1,225	grnd	.75	nnn	C.P.I.
R-4	Unit C. Optometrist	12-84 5	1,225	grnd	.75	nnn	C.P.I.
R-5	Unit D.	Vacant	21,000	grnd	----	---	----
R-6	Unit E. Donut Shop	10-83 5	1,225	grnd	.79	nnn	C.P.I.
R-7	Unit F. Florist	11-84 5	1,225	grnd	.75	nnn	Year 1 = .69 2 = .70 3 = .75 4 = .75 5 = .75
R-8	Unit G.	Vacant	21,000	grnd	----	---	----
R-9	Unit H. Video Rental	4-84 5	2,053	grnd	.75	nnn	C.P.I.

EXHIBIT 29 (Continue)

Market Rent

In order to estimate the current fair market rental rate applicable to the subject's unoccupied space and projected fair market rental rates for lease spaces which become vacant and will be released at certain points in the future, we have attempted to gather comparable rental data in the City area. However, it should be noted that due to the small size of City in general, the limited amount of truly competitive retail space in the subject's immediate environs, and the prominence of the subject property as the only neighborhood shopping center of its size in City, we have placed the greatest weight on the large number of leases signed within the subject center during the last year in our fair market rental estimates.

Since our original appraisal last year, there has been no new retail development in the subject's primary trade area. The closest and most competitive property is still Downey Savings and Loan's 73,000-square-foot retail strip center at 27388 Sun City Boulevard. A recent rental survey of this property is summarized on the facing page and reveals that five lease spaces ranging in size from 1,225 SF to 2,053 SF have leased since October, 1983 at monthly rates ranging from $0.75 to $0.79 per square foot. Four of these leases have annual C.P.I. adjustments. Two 21,000-square-foot spaces are currently vacant in this complex (or 58% of the total N.R.A.) and there has been a recent offer for a third large square footage lease space (24,000 SF) at $0.65/SF, triple-net for 10 years with 3 months free rent. This facility

is felt to be superior to the subject with a nearby Safeway Supermarket and Sprouse Reitz Store effectively acting as anchor tenant for purposes of consumer drawing power. This structure is also newer (only 3 years old), of higher quality design and construction, and reflects superior locational characteristics, especially with respect to exposure.

The other competitive retail space in this area is Bradley Plaza, located on Bradley Road between Bob's Big Boy and McDonald's restaurant. Asking rates at this facility are slightly higher than the subject at $.75-$.85, full service, with tenants paying their own utilities. These rates also reflect superior quality of construction and would also require a slight downward adjustment for their semi-gross lease status.

Due to the significant amount of lease negotiations which have occurred within the subject property itself in the last eighteen months, both with regards to new leases signed as well as lease renewals, we have given considerable attention and weight to the subject's leasing activity in determining current fair economic rents for our discounted cash flow analysis. For purposes of projecting market rates we have categorized tenant space on the basis of size. In the 0 to 1,000-square-foot category there are currently 11 tenants with an average monthly rental rate of $.71/SF. There are currently 19 tenants in the 1,001 to 3,000-square-foot category with an average rental rate

of $.65/SF. Six of the remaining 7 lease spaces over 3,000 square feet are currently leased at an average rental rate of $.36/SF.

The following chart summarizes 18 of the most recent leases negotiated in the subject property during 1984/85.

1984/85 LEASE NEGOTIATIONS
CITY SHOPPING CENTER

Size (Sq. Ft.)	Tenant & Suite No.	Current Rent/SF Monthly	Current Rent/SF Annually	Term (yrs.) Status	Comm. Date
279	John's Shore Repair 26834 A	$ .99	$11.83	1	3/01/85
312	Dog Grooming 26832	$ .80	$ 9.65	3 Renewal	1/01/85
740	Sportswear 26804	$ .72	$ 8.59	3 Renewal	4/01/85
787	James R.E. 26852	$ .65	$ 7.78	1 New	6/01/84
815	Paul 26830	$ .65	$ 7.80	3 New	4/01/85
840	City Barber 26912	$ .68	$ 8.21	5 Renewal	5/01/85
965	S. C. Bicycle & Elec. 26802	$ .79	$ 9.45	3 Renewal	6/01/85
1,036	Swan, Carpenter & Wallis 26876	$ .70	$ 8.40	3 Renewal	8/01/84
1,110	City Florist 26870 D & E	$ .55	$ 6.60	5 Renewal	1/01/85
1,250	& Assoc. 26924	$ .70	$ 8.40	5 New	1/01/85
1,315	Glendale Federal S & L 26842	$ .80	$ 9.58	1 Renewal	6/01/85
2,000	City Fabricare 26866	$ .56	$ 6.72	3 Renewal	9/01/85

EXHIBIT 29 (Continued)

2,064	City Beauty Salon 26812	$ .65	$ 7.80	5 Renewal	8/01/84
2,090	National Bank 26880	$ .75	$ 9.00	3 Renewal	4/01/85
3,215	Chef's Cafeteria 26890	$ .59	$ 7.09	5 New	2/01/84
3,302	Religious Bookstore 26940	$ .45	$ 5.40	2 New	9/01/84
4,040	Bartlett's Furniture 26936	$ .35	$ 4.20	3 Renewal	6/01/84
6,650	S. C. Gift and Hardware 26932	$ .20	$ 2.40	10 Renewal	6/01/84

Based on the preceding analysis, we have estimated current fair market rental rates on an annual basis of $8.40/sq.ft., $7.80/sq.ft., and $5.40/sq.ft. for spaces 0 to 1,000 sq.ft., 1,001 to 3,000 sq.ft., and 3,001 sq.ft. and up, repectively. These estimates, as well our assumptions for future lease terms, rental concessions, probable occurrence of turnover for purposes of calculating tenant improvements and releasing commissions and projected market rental growth rates are summarized on the following page for each of the tenant categories.

C.P.I. Rental Escalation Income

All existing leases with annual or periodic C.P.I. rental adjustments have been modeled as such in our program for the current lease term as well as for renewal options where applicable.

EXHIBIT 29 (Continued)

03/08/85

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ANALYSIS TERM

3/85 THRU 12/95

98,132 SQFT

PREPARED--3/15/85

TENANT CATEGORIZATION ASSUMPTIONS

TENANT CATEGORY	NUMBER OF LEASES	TOTAL SQUARE FOOTAGE	WEIGHTED VACANCY ALLOWANCE	RENT CONCESSION	FUTURE LEASE TERM	PROBABLE FIRST OCCURRENCE	TURNOVER% RENEWAL NT OCCURRENC	1985 MARKET PER SQFT	MARKET THEREAFTER
0 TO 1000 SF SPACE	13	8,562	N.A.	NOTE A	3 YRS	30%	30%	8.40	INCREASING 6.0% ANNUALLY
1001 TO 3000 SF SPACE	21	36,228	N.A.	NOTE B	5 YRS	30%	50%	7.00	INCREASING 6.0% ANNUALLY
3001 SF & UP SPACE	7	48,276	N.A.	NOTE B	5 YRS	50%	30%	8.40	INCREASING 6.0% ANNUALLY
GROUND LEASES	2	5,074	N.A.	N.A.	5 YRS	20%	20%	21.93	INCREASING 6.0% ANNUALLY

NOTE A - TENANT BASE RENTAL INCOME UPON LEASES COMMENCING FROM 1985 TO 1995 (1 YRS.)
NOTE B - TENANT BASE RENTAL INCOME UPON LEASES COMMENCING FROM 1985 TO 1995 (3 YRS.)

EXPENSE ASSUMPTIONS

1. ADMINISTRATIVE	2,500 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
2. CLEANING	500.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
3. HVAC	1,700 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
4. LANDSCAPE & PAVING	3,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
5. MANAGEMENT	
C. ACTUAL	BEGINNING IN 1985 4.0% OF EFFECTIVE GROSS INCOME ANNUALLY
6. MAINTENANCE & REPAIRS	8,500 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
7. PAYROLL	21,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
8. UTILITIES	10,300 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
9. ADVERTISING & PROMOTIONS	1,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
10. PROPERTY TAXES	32,300 IN 1985, THEREAFTER STEPPED 2.0% ANNUALLY
11. INSURANCE	6,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
12. TENANT IMPROVEMENTS	COMPRISED OF 2 SUBACCOUNTS, AS FOLLOWS:
A. TURNOVERS LEASES	TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 SF & UP SPACE , GROUND PROBABLE NEW TENANT SPACE EXPENDED UPON LEASE COMMENCEMENT SF COST - 5.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
B. RENEWALS LEASES	TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 SF & UP SPACE , GROUND PROBABLE EXERCISED RENEWAL SPACE EXPENDED UPON LEASE COMMENCEMENT SF COST - 2.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
13. LEASING COMMISSIONS	COMPRISED OF 2 SUBACCOUNTS, AS FOLLOWS:
A. TURNOVERS 1 SF & UP SPACE , GROUND LEASES	FOR YEARS 1985 THRU 1995 AND TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 PROBABLE NEW TENANT SPACE EXPENDED UPON LEASE COMMENCEMENT COMMISSION/YR - 4.00%
B. RENEWALS 1 SF & UP SPACE , GROUND LEASES	FOR YEARS 1985 THRU 1995 AND TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 PROBABLE EXERCISED RENEWAL SPACE EXPENDED UPON LEASE COMMENCEMENT COMMISSION/YR - 2.00%
14. CAPITAL IMPROVEMENTS	50,000 IN 1985, THEREAFTER 10,000 ANNUALLY

Vacancy Allowance

Based on historical vacancy trends in Sun City in general for retail space and in light of the existing occupancy level in the subject, we have chosen to apply a 10% global vacancy factor to the subject's gross rental income in our computer model.

Overage Rental Income

The following chart shows the actual overage rental income for the subject property for 1981, 1982, 1983, and 1984.

Overage Rental Income History
City Shopping Center
1981-1985

Year	Overage Rent
1981	$24,771
1982	23,185
1983	15,514
1984	7,789
1985 (budget)	780

Overage rental income has been steadily decreasing over the past four years as evidenced by the preceding chart. Current overage income is being received primarily from only three tenants: City Florist, Fran's Fashions and Hallmark Cards. The two factors which have had the greatest effect on this downward trend are: 1) a continuing decline in retail sales in the City retail market and 2) a shift in emphasis by the subject property's management from overage provisions to rental escalations in the form of annual C.P.I. adjustments or fixed annual rental increases over the term of the lease (currently achieving 6% per annum rental increases). Taking these factors

into account, we have projected nominal overage rental income of $5,000 in 1985, $2,500 in 1986, with no overage projected for 1987 through the end of the holding period.

Operating Expenses

In an attempt to estimate reasonable expense projections over the ten-year time frame of our discounted cash flow analysis, we have reviewed actual expenses for the subject property for prior years, as well as the management's budget for expenses for 1985. A summary of our estimate of expenses for the subject is provided on a preceding facing page and is based on our review of these documents as well as discussions with of property management personnel and typical office building expense data on file with the Appraisal Division. Our growth projections are based on historical expense growth trends in Southern California as well as growth projections utilized by typical investors in similar discounted cash flow analyses for investment properties such as the subject.

Other Expenses

Tenant improvements include carpeting, replacement of ceiling tiles, painting, and general make-ready expenses for new tenants of existing lease spaces. This expense is estimated at $5.00/sq.ft. for turnovers and $2.00/sq.ft. for renewals and is projected to increase at the rate of 6% per year.

EXHIBIT 29 (Continued)

Leasing commissions have been estimated at 4% of total minimum base rent for turnover space and 2% for renewal space, based on current leasing practice for the subject property.

Major capital improvements were made during 1984 to the subject's roof and parking lot. Based on the 1985 budget, and assuming a nominal amount of recurring expenditures for parking lot, roof, and H.V.A.C. repairs, etc., we have estimated capital improvements of $50,000 during 1985, and $10,000 per year through the end of our analysis.

Expense Reimbursements

The subject leases typically provide for tenant reimbursement of expenses based on a full pro-rata share of taxes, insurance, and common area expense plus a 15% administrative surcharge calculated on all common area costs including utilities but excluding taxes, insurance, management, and administrative fees. Management is an owner's expense. For purposes of our computer model, we have assumed that all leases provide for tenant reimbursements on this basis.

Terminal Capitalization Rate and Estimated Reversion Value

Investors in office properties similar to the subject typically require terminal overall capitalization rates 50 to 200 basis points above going-in capitalization rates. As revealed by - most recent investor survey (Winter, 1984), a copy of which is included in the

Addendum of this report, these terminal capitalization rates required by typical institutional investors generally range from 8.5% to 12.0% with a central tendancy of 9% to 11%. The six comparable sales summarized earlier in this report reflect O.A.R.'s ranging from 9.25% to 10.18% with an average of 9.61%. Based on the available market evidence and considering the added risk of potentially new and competitive shopping center developments in City in the near future, we have decided to utilize a 10.5% overall capitalization rate by which to capitalize the 11th year's projected net operating income into a reversion value. From this amount, we have also deducted a 3.0% commission fee expense and $47,935 of leasing fees and other first-year expenses that would be incurred by a potential purchaser in 1995. Based on an 11th year net operating income of $933,272 and the above assumptions, a reversion value of $8,573,721 has been calculated and added to the 10th year's NOI before debt service before discounting these annual cash flows into a net present value indication.

Derivation of Discount Rate

In order to develop an indication of value by the Income Approach, it is necessary to establish an acceptable discount rate to discount the annual cash flows (NOI before debt service) and the reversion value.

Typical investors require a rate of return for investment quality property such as the subject which is greater than the safe or "riskless" rates offered for long-term treasury notes and bonds or high-grade corporate bonds. The difference between an investor's required rate of return and the safe rate is basically the premium necessary to compensate the investor for the added risks of inflation, management, and the lack of liquidity offered by a real estate investment.

As revealed by most recent summary of Institutional Investor Criteria For Investment contained in the Addendum of this report, major institutional investors are currently requiring before tax yield (discount) rates of 12% to 17% (all cash transactions) and 100 to 200 basis points above that for leveraged transactions.

In selecting an appropriate discount rate, we have considered available yields on alternate investments as well as the subject property's location, age, and condition relative to competing properties'. We have also taken into consideration its current leasing status and level of management and marketing. Based on the foregoing, it is our opinion that a 16% before-tax discount or yield rate would be required by a typical investor for a multi-tenant retail center such as the subject located in City.

Discounted Cash Flow Assumptions

In the formulation of our ten-year discounted cash flow model of the subject for investment analysis, we have made the following assumptions which are felt to be reasonable based on the available market evidence and support detailed in this report as well as our general knowledge of the real estate market and thought processes of typical investors.

1. Due to our March 15, 1985 date of valuation and the fact that our computer-generated discounted cash flow model initiates computations for the projection period as of the beginning of a given month, we have chosen a beginning computation date of March 1, 1985. As a result, the 1985 Cash Flow Pro-Forma Operating Statement reflects a partial year's income for the last ten months of the year. Furthermore, since all of the subsequent pro-formas are calculated on a calendar-year basis, our model, in essence, assumes a 9.833-year holding period although it is commonly referred to as a 10-year cash flow projection.

2. All of existing leases have been modeled utilizing their contract rental rates and lease terms over the initial lease term. Any free rent still remaining on these existing leases as of the initial date of our computer analysis has been incorporated into our DCF model. Any renewal options on the existing leases are assumed to be exercised at market rental rates.

3. All current vacant space is assumed leased as of 3/01/85 with one month's free rent per year of lease term given with no renewal options.

4. Rent Escalations: All new leases are also assumed to be written with an annual CPI adjustment. We have assumed an annual compound CPI growth rate of 6%.

5. For purposes of calculating tenant improvements and releasing commissions upon rollover/turnover, we have assumed a 50% probability that lease spaces will turnover upon initial and subsequent lease or renewal option expirations.

CASH FLOW PRO FORMA

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
INCOME:											
0 TO 1000 SF SPACE	57,488	74,795	76,614	81,172	84,858	87,363	95,972	101,799	104,295	114,384	121,244
1001 TO 3000 SF SPACE	220,514	290,818	297,620	314,195	325,746	336,977	341,852	355,706	401,772	432,807	448,293
3001 SF & UP SPACE	144,962	185,848	190,994	207,525	207,422	223,742	231,777	245,681	289,000	321,795	337,716
GROUND LEASES	21,670	28,828	28,428	28,428	32,853	36,814	35,525	35,427	35,427	35,427	130,175
MINIMUM BASE RENTAL INC.	452,654	577,082	601,663	631,321	650,879	684,897	705,125	738,533	831,294	903,612	1,037,429
CPI RENTAL ESCALATION	1,471	9,295	20,200	21,656	36,547	54,079	69,013	80,239	62,763	62,276	94,066
BASE RENTAL INCOME	454,125	587,177	621,863	652,977	687,426	738,976	774,139	818,772	894,057	965,889	1,131,495
CAM PASSTHRU	42,477	56,214	60,046	64,145	68,530	73,221	78,239	83,609	89,355	95,504	102,084
TAX PASSTHRU	26,069	32,946	33,605	34,277	34,963	35,662	36,375	37,103	37,845	38,601	39,374
INSURANCE PASSTHRU	4,042	6,360	6,742	7,146	7,575	8,029	8,511	9,022	9,563	10,137	10,745
GROSS RENTAL INCOME	527,513	682,697	722,256	758,546	798,494	855,888	897,264	948,505	1,030,820	1,110,131	1,283,697
LESS: VACANCY	52,751	68,270	72,226	75,855	79,849	85,589	89,726	94,851	103,082	111,013	128,370
LESS: RENT CONCESSIONS	3,911	9,720	14,634	40,264	11,574	12,164	22,828	21,995	79,489	34,369	18,098
EFFECTIVE RENTAL INCOME	470,851	604,707	635,397	642,427	707,070	758,135	784,710	831,660	848,248	964,748	1,137,230
OVERAGE RENT	4,167	2,500	0	0	0	0	0	0	0	0	0
EFFECTIVE GROSS INCOME	475,018	607,207	635,397	642,427	707,070	758,135	784,710	831,660	848,248	964,748	1,137,230
OPERATING EXPENSE:											
ADMINISTRATIVE	2,083	2,650	2,809	2,978	3,156	3,346	3,546	3,759	3,985	4,224	4,477
CLEANING	417	530	562	596	631	669	709	752	797	845	895
HVAC	1,417	1,802	1,910	2,025	2,146	2,275	2,411	2,556	2,710	2,872	3,044
LANDSCAPE & PARKING	2,500	3,180	3,371	3,573	3,787	4,015	4,256	4,511	4,782	5,068	5,373
MANAGEMENT	19,001	24,200	25,416	25,697	28,283	30,325	31,300	33,266	33,930	38,590	45,489
MAINTENANCE & REPAIRS	7,083	9,010	9,551	10,124	10,731	11,375	12,057	12,781	13,548	14,341	15,222
PAYROLL	17,500	22,260	23,596	25,011	26,512	28,103	29,789	31,576	33,471	35,479	37,600
UTILITIES	15,417	19,980	21,578	23,305	25,169	27,183	29,357	31,706	34,242	36,982	39,940
ADVERTISING & PROMOTIONS	833	1,060	1,124	1,191	1,262	1,338	1,419	1,504	1,594	1,689	1,791
TOTAL OPERATING EXPENSE	66,251	84,760	89,916	94,499	101,678	108,629	114,933	122,411	129,857	140,110	153,840
FIXED EXPENSE:											
PROPERTY TAXES	26,917	32,946	33,605	34,277	34,963	35,662	36,375	37,103	37,845	38,601	39,374
INSURANCE	5,000	6,360	6,742	7,146	7,575	8,029	8,511	9,022	9,563	10,137	10,745
TOTAL FIXED EXPENSE	31,917	39,306	40,347	41,423	42,537	43,691	44,886	46,124	47,408	48,738	50,119
NET OPERATING INCOME	376,850	483,141	505,135	506,505	562,854	605,815	624,891	663,125	671,783	775,900	933,272
OTHER EXPENSE:											
TENANT IMPROVEMENTS	8,640	26,834	27,640	82,540	27,591	28,218	49,281	80,539	113,912	78,274	29,777
LEASING COMMISSIONS	2,114	7,875	7,324	24,141	7,469	6,869	11,873	22,211	32,896	18,736	8,158
CAPITAL IMPROVEMENTS	41,667	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
NOI BEFORE DEBT SERVICE	324,430	439,271	459,970	389,823	517,794	560,736	554,536	550,375	515,775	668,890	885,336

** 1985 REFLECTS A PARTIAL YEAR BEGINNING 3 / 85 .

THESE ARE PROJECTIONS BASED ON INFORMATION DEEMED TO BE RELIABLE, AND ARE AN ATTEMPT TO PREDICT FUTURE EVENTS BASED ON CERTAIN ASSUMPTIONS.

6. We have taken a 10% global vacancy factor based on gross rental income.

7. In calculating a reversion value, we have assumed a 10.5% terminal capitalization applied to the 11th year's NOI from which is deducted a 3% sales commission and $47,935 of tenant improvements and resulting other first-year expenses in a reversion value of $8,573,721.

8. A final value indication was derived by discounting each respective year's NOI before debt service plus the reversion value at the end of the 10th year back to the beginning date of the computer analysis (March 1, 1985) by an annual discount or yield rate of 16%. Due to the small difference in timing between the date of valuation and the adjusted beginning date for computer computations, our final net present value computation for the annual cash flows will be assumed to be the same for both dates.

Conclusion of Discounted Cash Flow Analysis

Based upon our 10-year pro forma cash flow projection summarized on the facing page and present value computations summarized on the following facing page, we have concluded that the indicated value via the Income Approach for the subject property, as of March 15, 1985 is $4,290,000 (rounded).

The Income Approach analyzes and attempts to measure the investment qualities of the property appraised. Since the main objective in developing and owning a shopping center such as the subject is for investment purposes, the market for the property is most concerned with the net income benefits to be derived in the future. In this approach, a ten-year discounted cash flow analysis was prepared in order to estimate the present value of

EXHIBIT 29 (Continued)

the future income streams. In our opinion, this approach is considered the most reliable indication of value for the subject.

Discounted Cash Flow
Net Present Value Computation
City Professional Office Building

Cash Flow at end of Year	Cash Flow Amount	Discount Factor 2	Present Value As of 3/1/85
10	$9,242,611	.232361	$2,147,622
9	515,775	.269539	139,021
8	550,375	.312665	172,083
7	554,536	.362691	201,125
6	560,736	.420722	235,914
5	517,794	.488037	252,703
4	389,823	.566123	220,688
3	459,970	.656703	302,064
2	439,271	.761776	334,626
1	324,430	.883660	286,686
			$4,292,532
Rounded to			$4,290,000

Notes

1) Cash flow at the end of ten equals the sum of $8,573,721 reversion value and tenth year's net operating income before debt service of $668,890.

2) Due to the March 1, 1985 beginning computation date used in our computer model and for purposes of discounting respective cash flows back to this date, the discount factors shown reflect a 9.833-yr. time period for the cash flow at the end of the year ten, an 8.833-yr. time period for the cash flow at end of year nine, and so on, down to a .833-yr. time period for the cash flow at end of year one. The discount factors and present values shown have been calculated with compound interest accruing during the "odd period" between March 1, 1985 and December 31, 1985. For those persons interested in duplicating these calculations on the Hewlett Packard 12C handheld calculator, it is first necessary to press the "STO" key and then the "EEX" key to switch into the compound interest mode before entering the cash flow amounts (when initially turned on, the HP 12C is automatically in a simple interest mode). The discount factors shown are rounded to four significant digits although calculations are based on actual factors.

EXHIBIT 29 (Continued)

Direct Capitalization Method

As a check against the Discounted Cash Flow Analysis presented above, we have also estimated a value indication by the Direct Capitalization Method as summarized below. In this analysis, we have chosen to capitalize the annualized 1985 net operating income at a 10.25% overall capitalization rate and deducting therefrom other first-year expenses which would be incurred by a purchaser in 1985 (tenant improvements, leasing commissions, and capital improvements).

1985 Stabilized Pro Forma Income Statement

Base Rental Income	$ 544,950
Recapturable Expenses	88,066
Gross Rental Income	$ 633,016
Less: Vacancy	63,302
Rent Concessions	4,693
Effective Rental Income	$ 565,021
Overage Rent	5,000
Effective Gross Income	$ 570,021
Total Operating & Fixed Expenses	117,801
NET OPERATING INCOME	$ 452,220
Capitalize @ 10.25%	$4,411,902
Less: Other Expense (Tenant Improvements, Leasing Commissions, Capital Improvements)	62,904
Indicated Value	$4,348,998
Rounded to	$4,350,000

The indicated value of $4,350,000 via the Direct Capitalization Method provides reasonable support for the value indication via the Discounted Cash Flow Method but is given less weight in our final analysis as most investors for this type of property place the most emphasis on a similar discounted cash flow analysis.

EXHIBIT 29 (Continued)

Based on our analyses of the subject property's income-producing capabilities, but placing greater weight on the Discounted Cash Flow analysis presented above, we are of the opinion the market value of the leased fee interest in the subject property, subject to the existing leases, as of March 15, 1985 is:

FOUR MILLION THREE HUNDRED THOUSAND DOLLARS

($4,300,000)

MALL

Rent Roll and Lease Summaries
June 30, 1982

Space No.	Tenant	No. of Twin City Stores	Tenant Rating	G.L.A. Sq.Ft.	Lease Term From	Lease Term To	Year		Base Rental	Base Rental/ Sq.Ft.	% Rent Formula	/Sq.Ft.
14.	Total Sports	1	National	10,000	11/1/78	1/11/94	15 yrs. 3 mo.	Yr. 1-3	$50,000	$5.00	4% over $1,250,000	($125)
								Yr. 4-7	$60,000	$6.00	4% over $1,500,000	($150)
								Yr. 8-10	$70,000	$7.00	4% over $1,750,000	($175)
								Yr. 11-15	$80,000	$8.00	4% over $2,000,000	($200)
17.	Oriental Arts, Inc.	1	Local	1,066	2/1/81	1/31/83	2 yrs.	Yr. 1	$ 8,925	$8.37	6% over $148,750	($140)
								Yr. 2	$ 9,975	$9.35	7% over $161,250	($151)
18.	Unassigned	--	--	(1,232)	--	--	--	--	$ 9,856	$8.00	7% over $166,250	($156)
											6% over $164,267	($133)
19.	Unassigned	--	--	(449)	--	--	--	--	$ 7,000	$15.59	10% over $70,000	($156)
20.	Unassigned	--	--	(871)	--	--	--	--	$12,000	$13.75	5% over $[illegible],000	($275)
21.	Photomill (3)	5	Local	1,536	10/1/78	1/31/89	10 yrs. 3 mos.	Yr. 1-3	$ 6,144	$4.00	6% over $102,400	($471)
								Yr. 4-7	$12,288	$8.00	6% over $204,800	($133)
								Yr. 8-10	$18,432	$12.00	6% over $307,200	($200)
22.	Hurrah	8	National	1,632	2/1/79	1/31/89	10 yrs.	--	$11,424	$7.00	6% over $190,400	($177)
23.		24	Reg.	4,964	11/1/78	1/31/94	15 yrs. 3 mos.	--	$32,279	$6.50	6% over $537,983	($108)
24.	Great	5	National	1,037	10/1/78	1/31/84	5 yrs. 3 mos.	Yr. 1	$10,000	$9.64	8% over $125,000	($121)
								Yr. 2-5	$15,000	$14.46	8% over $187,500	($181)
25.	The Book Center	1	Reg.	1,201	6/1/79	1/31/87	7 yrs. 8 mos.	Yr. 1-2	$ 9,608	$8.00	6% over $160,133	($100)
								Yr. 3-8	$12,010	$10.00	6% over $200,167	($167)
27.	Imports	1	Local	788	12/1/80	1/31/84	3 yrs. 2 mos.	--	$10,200	$12.00	6% over $170,000	($241)
	Total			66,142								

(3) Assigned to Photomill as of April 1, 1981

Rental Summary

	G.L.A. - S.F.	
Leased Space	56,364	(85.21)
Unassigned Space	9,778	(14.81)
Totals	66,142	(100.04)

EXHIBIT 30

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1) and Reletting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
1.	Footwear	5,745	$ 19,964	$ 39,927	$ 39,927	$ 39,927	$ 39,927	$ 45,816	$ 51,705	$ 51,705	$ 51,705	$ 51,705	$ 25,835
2.	Fabric	10,179	$ 27,993	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 55,985	$ 27,993
3.	Unassigned	813	$ 3,862	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 7,724	$ 9,858	$ 9,858	$ 9,858	$ 9,858	$ 4,929
4.	Cedrics	1,586	$ 5,155	$ 10,309	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 11,895	$ 18,003	$ 18,003	$ 18,003	$ 9,042
5.	Unassigned	2,100	$ 7,875	$ 15,750	$ 15,750	$ 15,750	$ 15,750	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 20,101	$ 12,827
6.	Unassigned	4,288	$ 11,520	$ 23,056	$ 23,056	$ 23,056	$ 23,056	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 30,897	$ 19,717
7.	Northwestern Book	5,495	$ 13,738	$ 27,475	$ 27,475	$ 27,475	$ 33,068	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 38,660	$ 24,670
8.	Body Shoppe	1,795	$ 14,360	$ 14,360	$ 17,950	$ 17,950	$ 17,950	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 20,635	$ 13,230
9.	Richards	1,612	$ 6,045	$ 12,090	$ 12,090	$ 12,090	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 15,430	$ 19,693	$ 9,846
10.	Unassigned	1,255	$ 4,993	$ 8,785	$ 8,785	$ 8,785	$ 8,785	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 11,772	$ 7,512
11.	House of Large Sizes	1,332	$ 4,329	$ 8,658	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 9,990	$ 11,322	$ 11,322	$ 11,322	$ 5,661
12.	Video	2,186	$ 8,744	$ 17,488	$ 19,674	$ 19,674	$ 19,674	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 26,365	$ 16,826
13.	Pizza	2,976	$ 8,793	$ 17,586	$ 17,586	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 20,832	$ 33,856	$ 16,928
14.	Total Sports	10,000	$ 30,000	$ 60,000	$ 60,000	$ 60,000	$ 70,000	$ 70,000	$ 70,000	$ 80,000	$ 80,000	$ 80,000	$ 40,000
17.	Oriental	1,066	$ 4,988	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 10,412	$ 13,290	$ 13,290	$ 13,290	$ 13,290	$ 6,645
18.	Unassigned	1,232	$ 4,928	$ 9,856	$ 9,856	$ 9,856	$ 9,856	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 13,208	$ 8,428
19.	Shirt	449	$ 3,500	$ 7,000	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 8,934	$ 11,402	$ 11,402	$ 11,402	$ 5,701

EXHIBIT 30 (Continued)

EXHIBIT 30 (Continued)

MALL

Tenant by Tenant Base Rent Projections
Including Lease Step-ups (1) and Releting Activity (2)

Space No.	Tenant	Area Sq.Ft.	1982 6 mos.	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 6 mos.
20.	Diamond Center	873	$ 6,000	$ 12,000	$ 12,000	$ 12,000	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 16,885	$ 23,759	$ 11,880
21.	Photomill	1,536	$ 6,144	$ 12,288	$ 12,288	$ 12,288	$ 12,288	$ 18,432	$ 18,432	$ 20,016	$ 20,016	$ 20,016	$ 10,008
22.	Murrah	1,632	$ 5,712	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 11,424	$ 18,608	$ 18,608	$ 18,608	$ 9,304
23.		4,966	$ 16,140	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 32,279	$ 16,140
24.	Great	1,037	$ 7,500	$ 15,000	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 17,868	$ 22,804	$ 22,804	$ 22,804	$ 11,400
25.	Book Center	1,201	$ 6,005	$ 12,010	$ 12,010	$ 12,010	$ 12,010	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 18,347	$ 11,700
27.	Imports	788	$ 5,100	$ 10,200	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 11,807	$ 13,669	$ 13,669	$ 13,669	$ 6,835
		66,142	$233,396	$451,662	$466,765	$470,011	$493,829	$545,698	$556,599	$592,153	$592,153	$616,314	$333,861

(1) Most lease anniversaries end 1/31 of any particular year. For cash flow projection purposes, we've assumed lease anniversary dates to be 12/31 of the preceding year. No material change results from this minor timing adjustment.

(2) Relet rental rates assume a 5% annual growth over the average rent currently generated from the existing tenant.

EXHIBIT 30 (Continued)

MALL
% Rent Computations

Tenant	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Fabrica	940	--	622	3,192	5,967	8,965	7,703	11,198	14,975	19,052	23,544
Northwestern Book	--	--	--	551	1,396	--	--	--	2,508	5,813	--
Pizza	--	--	1,309	--	1,207	2,971	4,875	6,931	--	--	1,119
House of Large Sizes	--	--	--	--	--	570	1,424	2,337	1,991	3,056	4,206
Hurrah	--	--	707	1,678	2,726	3,858	5,081	--	643	2,183	3,846
	--	--	1,793	4,518	7,462	10,642	14,075	17,784	21,799	26,114	30,785
Great	3,420	4,894	3,617	5,337	7,193	9,197	11,363	13,701	16,227	18,955	22,296

MALL

Revenues	7/1 to 12/31 1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1/1 to 6/30 1992
Base Rents (1)	$233,396	$451,662	$466,765	$470,841	$493,829	$545,698	$556,599	$592,153	$ 592,153	$ 616,314	$ 333,863
Ground Rent (2)	$ 14,453	$ 28,907	$ 28,907	$ 33,243	$ 33,243	$ 33,243	$ 38,229	$ 38,229	$ 38,229	$ 43,964	$ 21,982
% Rent (3)	$ 10,593	$ 13,660	$ 19,116	$ 28,830	$ 34,046	$ 47,074	$ 58,515	$ 67,783	$ 77,572	$ 90,365	$ 56,688
Real Estate Tax Recovery (4)	$ 69,741	$115,300	$121,400	$133,000	$139,800	$146,200	$157,300	$165,200	$ 173,300	$ 182,000	$ 95,600
Recovered Exp. (5)	$ 45,310	$ 95,100	$ 99,800	$104,800	$110,000	$115,600	$121,300	$127,400	$ 133,700	$ 140,400	$ 73,700
Total Gross Revenue	$373,493	$704,629	$735,988	$769,884	$810,918	$887,915	$931,943	$990,765	$1,014,954	$1,081,243	$ 581,826
Less Vacancy (6)	$ 43,935	$ 59,307	$ 61,775	$ 42,566	$ 44,889	$ 50,081	$ 39,200	$ 41,900	$ 44,500	$ 45,500	$ 25,700
Percentage	(12%)	(12%)	(12%)	(8%)	(8%)	(8%)	(6%)	(6%)	(6%)	(6%)	(6%)
Effective Gross Revenue	$329,558	$645,322	$674,213	$727,318	$766,029	$837,834	$892,743	$948,865	$ 970,454	$1,035,743	$ 556,126
Expenses											
Real Estate Taxes (7)	$ 84,000*	$153,000**	$138,000	$144,500	$152,000	$159,000	$167,300	$175,700	$ 184,400	$ 193,700	$ 101,700
Recoverable Exp. (8)	$ 39,400	$ 82,700	$ 86,800	$ 91,100	$ 95,700	$100,500	$105,500	$110,800	$ 116,300	$ 122,100	$ 64,100
Mgmt. (5%) (9)	$ 12,900	$ 24,700	$ 25,700	$ 26,600	$ 28,000	$ 31,300	$ 32,700	$ 34,500	$ 35,400	$ 37,900	$ 20,600
Reserves for Tenant Work (12)	0	$ 3,300	$ 1,500	0	$ 6,700	$ 4,600	$ 800	$ 6,600	0	$ 3,200	$ 7,500
Reserves for Repairs (10)	$ 3,500	$ 7,300	$ 7,700	$ 8,100	$ 8,400	$ 8,900	$ 9,300	$ 9,800	$ 10,100	$ 10,800	$ 17,500
Leasing Fees (11)	0	$ 10,300	$ 4,500	0	$ 20,800	$ 14,200	$ 2,200	$ 19,700	0	$ 9,800	$ 21,200
Total Expenses	$139,800	$281,300	$264,200	$270,200	$311,600	$318,500	$317,800	$357,100	$ 346,400	$ 376,500	$ 232,600
Net Operating Income	$189,758	$364,022	$410,013	$457,118	$454,429	$519,334	$574,943	$591,765	$ 624,054	$ 659,243	$ 323,526

* Includes specials of $21,644.82
** Includes specials of $22,000.00

EXHIBIT 30 (Continued)

1982 RECOVERABLE EXPENSES ANNUALIZED

For Mall.

Recoverable expenses for 1982 are shown below in the 1982 annualized budget:

Recoverable Expenses

Insurance		$ 8,400
Utilities		
Electric	$19,900	
Water and Sewer	$ 3,200	
Gas	$ 3,200	
		$26,300
Maintenance Services		
Snow Removal	$10,500	
Janitorial	$12,600	
Parking Lot Sweep	$ 3,000	
Trash	$ 400	
Rodent Control	$ 1,100	
Landscaping	$ 3,800	
Mall Music	$ 300	
		$31,700
Overload Security		$ 1,300
Supplies		
Maintenance	$ 3,000	
Electric	$ 600	
Landscaping	$ 1,300	
		$ 4,900
Repairs		
Electricity	$ 3,100	
Equipment	$ 2,500	
Plumbing	$ 600	
		$ 6,200
TOTAL RECOVERABLES		$78,800

Recoverable expenses have been increased at 5% per year, compounded.

BASIC ASSUMPTIONS TO CASH FLOW PROJECTIONS

Revenues

1. In completing the financial analysis, we projected a ten-year (from July 1, 1982 to July 1, 1992) cash flow projection. Rental revenues are based upon actual leases giving full recognition to all step-up rental provisions. For vacant space, economic rents were estimated based upon rent levels at competitive properties. Upon relecting, rental rates are projected as increasing 5% per year over current levels. A five-year term was assumed for all new leases.

2. The ground rent is adjusted according to the CPI change for all cities every three years. For example, the 1982 rent is based upon the CPI change from February 1978 to February 1981 (see Exhibit D in addenda). A 5% annual rate of inflation is assumed for each subsequent rental adjustment.

3. For tenants in occupancy for a year or more, historical sales were used as a benchmark for projected sales. For tenants, the calendar years 1982 through 1992 sales volumes were escalated at 8% per year. Percentage rent was calculated on a tenant-by-tenant and year-by-year basis using the percentage rent formula outlined in each lease.

4. The standard lease provides for all tenants to pay their pro-rata share of taxes. Since the projected vacancy allowance varies, tenant reimbursement is as follows:

	Vacancy	Tax Reimbursement
1982 (6 mos)	17	83%
1983-84	12	88%
1984-87	8	92%
1988-91	6	94%

5. The standard lease provides for 100% of all recoverable expenses to be reimbursed to the landlord by the tenants, collectively. Unlike the tax clause, the pro-rata share each tenant contributes is allocated between the gross leased and occupied space; consequently 100% of all recoverable expenses are paid collectively by the existing tenants. A 15% administrative charge is added to all reimbursable expenses (per the leases). Furthermore, based upon experience, 75% of the "Reserves for Structural Repairs" are reimbursable expenses.

6. A discussion for vacancy allowance is detailed in Item #4.

Basic Assumptions to Cash Flow Projections - Continued

Expenses

7. Real estate taxes for 1982 are detailed on page 1 of this report. For 1983 and thereafter, taxes have been escalated at a 5% annual rate of increase.

   Finally, in 1982 about $43,000 of special assessments will be billed to Burnhaven, including interest payable at 8%. Approximately one-half of the $43,000 is to be paid in 1982 and the balance in 1983 as scheduled in the cash flow projection.

8. Recoverable expenses for 1982 are shown in the 1982 annualized budget on the following page.

9. Property management expense is 5% of base, ground and percentage rents.

10. As per our discussions with ... properties, reserves for structural repairs are estimated at $.10 per square foot for the first three years and are increased at 5% per year thereafter.

11. For 1982, leasing fees are $2.25 per square foot of leased space. The fee is increased 5% per year, consistent with the increase in base rents. Leasing fees are expensed in the year incurred.

12. According to ... properties, tenant work is minimal for this type of mall. The cost is estimated at $.70 per square foot for 1982 and escalated at 8% per year thereafter. Tenant work is expensed in the year incurred.

Discounted Cash Flow Analysis - Continued

		Annual Cash Flow		Discount @ 17%		Present Worth
Last 6 mos.	1982	$ 189,758	x	.924500	=	$ 175,431
	1983	$ 364,022	x	.790171	=	$ 287,640
	1984	$ 410,013	x	.675360	=	$ 276,906
	1985	$ 457,118	x	.577230	=	$ 263,862
	1986	$ 454,429	x	.493359	=	$ 224,197
	1987	$ 579,334	x	.421674	=	$ 244,290
	1988	$ 574,943	x	.360405	=	$ 207,212
	1989	$ 591,365	x	.308039	=	$ 182,163
	1990	$ 624,054	x	.263281	=	$ 164,302
	1991	$ 659,043	x	.225026	=	$ 148,302
Last 6 mos.	1992	$ 323,726	x	.208037	=	$ 67,347
	*Rev.	$4,839,000	x	.208037	=	$1,006,000
						$3,247,652
						Rounded to
						$3,200,000

* Projected 1992 Resale Price

The 1992 resale price was estimated by adding the last six months income of 1991 and the first six months income of 1992 and capitalizing the total income at 13-1/2%.

$329,522	- 1991 (last six months)		
$323,726	- 1992 (first six months)		
$653,248	- Capitalized @ 13-1/2%	$4,838,866	
	Estimated 1992 Sale Price	$4,838,900	

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES FROM
JANUARY 1, 1985, THROUGH DECEMBER 31, 1994 [1]

	ESTIMATED GROWTH RATES FROM 1987-1994 [2]	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
EFFECTIVE GROSS APARTMENT/SERVICE REVENUE [2]											
81 - 1 BR Apartment Units	5%	0	239501	321040	337092	353947	371644	390226	409737	430224	451735
60 - 2 BR Apartment Units	6%	0	266976	309093	327639	347297	368135	390223	413636	438454	464762
8 - 2 BR Deluxe Apartment Units	7%	0	47880	50719	54270	58069	62133	66483	71136	76116	81444
Service/Amenity Package - 149 Residents [3] (1st Occupant)	6%	0	435204	543635	576253	610828	647477	686326	727506	771156	817425
Service/Amenity Package - 37 Residents (2nd Occupant)	6%	0	68772	85907	91061	96525	102316	108455	114963	121861	129172
SUBTOTAL: EFFECTIVE GROSS APARTMENT/ SERVICE REVENUE		0	1058333	1310394	1386314	1466665	1551706	1641713	1736978	1837811	1944539
EFFECTIVE GROSS PARKING REVENUE [4]											
48 Attached Garages	5%	0	19114	21480	22554	23682	24866	26109	27415	28786	30225
60 Ancillary Attached Garages	5%	0	9360	14364	15082	15836	16628	17460	18333	19249	20212
SUBTOTAL: EFFECTIVE GROSS PARKING REVENUE		0	28474	35844	37636	39518	41494	43569	45747	48035	50436
LAUNDRY - EFFECTIVE GROSS REVENUE [5]	5%	0	1712	2118	2224	2335	2452	2575	2703	2838	2980
OTHER - EFFECTIVE GROSS REVENUE [5]	7%	0	16892	21300	22791	24386	26093	27920	29874	31965	34203
SUBTOTAL: EFFECTIVE GROSS REVENUE-RENT/SERVICE PARKING, LAUNDRY & OTHER SOURCES		0	1105411	1369656	1448965	1532904	1621745	1715776	1815303	1920649	2032158
INTEREST INCOME [6]											
Security Deposit @ 9%	0%	0	7599	8954	8954	8954	8954	8954	8954	8954	8954
Debt Service Reserve Fund @ 11.5%	0%	64400	64400	64400	64400	64400	64400	64400	64400	64400	64400
SUBTOTAL: INTEREST INCOME		64400	71999	73354	73354	73354	73354	73354	73354	73354	73354
TOTAL EFFECTIVE GROSS REVENUE [7]		64400	1177409	1443010	1522320	1606259	1695099	1789130	1888657	1994004	2105512

EXHIBIT 31

FOOTNOTES TO EXHIBIT 31 (Continued)

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES FROM JANUARY 1, 1985,
THROUGH DECEMBER 31, 1994

[1] Detailed calculations of projected potential and effective gross revenue are found in Appendix C. The potential gross revenue and vacancy loss from each revenue source for each year are shown.

[2] Vacancy Loss: Although completion of is targeted for the late fall of 1985, for purposes of this appraisal it is assumed that operations begin on January 1, 1986, and all pre-leased units are occupied at that time. Based upon occupancy/vacancy projections detailed in Exhibit III-6 the 81 one-bedroom units will have an average vacancy loss of 23 percent in 1986 and apartment rents will remain at the same level as in 1984-85. The average vacancy thereafter will be stable at 1.7 percent per year for tenant turnover.

The 60 two-bedroom units will have an average vacancy loss of 10 percent in 1986 and will then be stabilized at 1.7 annually for tenant turnover.

The eight deluxe two-bedroom units have a waiting list 1-1/4 years before the project is scheduled to open. Vacancy will be 0 percent in 1986 and will average 1 percent thereafter to account for the time needed to redecorate as tenancy changes.

Inflation Rate: Landmark Research, Inc.'s 1984 apartment rental survey in and in indicates a varying pattern of rental increases from February 1984 to November 1984. The City of Department of Planning and Development previously referenced study also indicates a steady increase in rents for one- and two-bedroom units. The data given for efficiencies and three-bedroom units were discovered to contain some distortions, but the one- and two-bedroom information appears to be consistent with the 1982 data and Landmark's information. Landmark's rental study and the City of comparative rent data for 1982 and 1984 are found in Appendix B of this appraisal.

FOOTNOTES TO EXHIBIT 31 (Continued)

Based upon historic market rent increases in and , comparative rents of other retirement centers in and on file in Landmark's office, changes in the consumer price index, and demand factors for unit types, the following inflation factors are projected for :

For one-bedroom units, the rental revenue is expected to increase annually from 1987 at 5 percent after the initial rent-up period.

The two-bedroom units will have a greater demand in the early years of the project; the market survey results and the pre-leasing unit mix confirm this consumer preference. The appraiser estimates that the two-bedroom monthly service charge at $675 per month was initially understated when compared with other and retirement center fees; because of the strong demand for two-bedroom units and the initial understatement of the total monthly service charge, the rent portion is expected to increase 3 percent in 1986 and is projected to increase at 6 percent annually thereafter.

The demand is high for the larger two-bedroom, 1.75 bath unit and therefore the rent is expected to increase 5 percent in 1986 and 7 percent per year thereafter, a rate which includes both a high demand and an inflationary factor.

[3] The monthly service package, as detailed in Exhibit III-8, is projected to increase at 6 percent per year. As residents learn to live in and fully utilize the varied spaces and services available in a well-managed retirement living center, the value of this package will increase in intrinsic value to each resident. The revenue from the service package varies with occupancy; in 1986 occupancy is estimated to be 83.5 percent and in 1987 and thereafter, occupancy is expected to average 98.4 percent overall.

[4] In 1986 the 48 attached garage stalls located on the south end of wings A and B are projected to experience a vacancy loss of 7.5 percent and an average of 1 percent thereafter. The rent is expected to increase by 2-1/2 percent in 1986 and at 5 percent thereafter.

FOOTNOTES TO EXHIBIT 31 (Continued)

The 60 ancillary enclosed garage stalls, expected to have a longer rent-up period, are projected to have a vacancy loss of 35 percent in 1986 and thereafter the vacancy loss is projected to be 5 percent annually. Rents will remain flat through 1986 and will then increase at the rate of 5 percent per year.

[5] Laundry revenue will vary with occupancy at 83.5 percent in 1986 and 98.4 percent in 1987 and thereafter. Laundry revenue will increase 2-1/2 percent in 1986 from the 1985 lease amount and thereafter the annual increase is estimated to be 5 percent per year. This percentage increase in laundry revenue anticipates greater use of the washer/dryer beyond the allowance limit as well as the effect of inflation.

Other income from the coffee shop, beauty shop, guest rooms, and other sources will vary with occupancy. In 1986 allowances for vacancy is 16.5 percent, and in 1987 and thereafter, vacancy loss is projected to be no more than 1.6 percent. The gross potential revenue from these sources is projected to remain at the 1985 base amount until 1987 when the residents will have gradually adapted to living in a retirement center and will make fuller use of these facilities and services. In 1987 and thereafter, revenue from other sources will increase at the rate of 7 percent per year.

[6] The interest earned on security deposits varies with occupancy; in 1986 only 83.5 percent of the potential security deposits were earning interest, but from 1987 on, interest was earned on 98.4 percent of the potential security deposits. Interest at 9 percent is expected to remain stable.

Interest earned on the Debt Service Reserve Fund does not vary with occupancy and the interest rate is projected to be stable at 11.5 percent.

[7] The total effective gross income for years 1985 through 1994 is entered into the discounted cash flow program MRCAP as fixed income net of vacancy losses. See Exhibit IV-10.

[redacted]

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES AND EXPENSES FROM JANUARY 1, 1985, THROUGH DECEMBER 31, 1994 [1]

		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
TOTAL EFFECTIVE GROSS REVENUE [1]		64400	1177409	1443010	1522320	1606259	1695099	1789130	1888657	1994004	2105512
EXPENSES	Base Amount First Year of Operation	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MANAGEMENT FEE [2]	5% effective gross before interest revenue	0	55270	68483	72448	76645	81087	85789	90765	96032	101608
FOOD SERVICE CONTRACT [3]	264771	0	221090	273560	287240	301602	316682	332516	349142	366599	384929
ADMINISTRATIVE [4]											
Personnel	75678	0	63191	78190	82100	86205	90515	95041	99793	104783	110022
Legal/Audit	10700	0	10700	11235	11800	12390	13010	13660	14343	15060	15813
Supplies, Dues & Advertising	5875	0	4900	6070	6380	6699	7034	7386	7755	8143	8550
SUBTOTAL: ADMINISTRATIVE	92253	0	78791	95495	100280	105294	110559	116087	121891	127986	134385
UTILITIES [5]											
Electricity	28700	0	24000	29370	30500	31720	32989	34308	35681	37108	38592
Water & Sewer	10700	0	8950	11050	11600	12180	12789	13428	14100	14805	15545
Gas	7600	0	6350	8000	7560	8089	8655	9261	9910	10603	11346
Telephone Service	12000	0	10020	12500	13270	14066	14910	15805	16753	17758	18824
SUBTOTAL: UTILITIES	59000	0	49320	60920	62930	66055	69343	72803	76443	80274	84307

EXHIBIT 32

MAINTENANCE [6]											
Personnel-Building Services	42430	0	35430	44260	46910	49725	52708	55871	59223	62776	66543
Grounds Care	4725	0	3950	4880	5130	5387	5656	5939	6236	6547	6875
Rubbish Removal	2650	0	2200	2740	2870	3014	3164	3322	3489	3663	3846
Janitorial Supplies & Services	5985	0	5000	6180	6490	6815	7155	7513	7889	8283	8697
Vehicle Usage & Maintenance	3600	0	3000	3720	3910	4106	4311	4526	4753	4990	5240
Building Repairs & Maintenance	9035	0	7530	9430	9990	10589	11225	11898	12612	13369	14171
Elevator Maintenance Contract	7000	0	7000	7350	7718	8103	8509	8934	9381	9850	10342
Parking Lot Repair	200	0	200	200	1700	1802	1910	2025	2146	2275	2411
Decorating	5250	0	5250	5850	6140	6447	6769	7108	7463	7836	8228
Exterminating	850	0	710	880	920	966	1014	1065	1118	1174	1233
Laundry Expense	300	0	260	320	330	347	364	382	401	421	442
SUBTOTAL: MAINTENANCE	82025	0	70550	85810	92108	97299	102785	108583	114710	121185	128028
ALL RISK INSURANCE [7]	14700	0	14700	15440	16200	17010	17861	18754	19691	20676	21710
OPERATING EXPENSES BEFORE R.E. TAXES		0	489721	599708	631206	663905	698317	734531	772642	812752	854966
REAL ESTATE TAX [8]	13300	11650	13300	150500	174100	182805	191945	201543	211620	222201	233311
TOTAL OPERATING EXPENSES		11650	503021	750208	805306	846710	890262	936073	984262	1034952	1088277
NET OPERATING INCOME (before reserves, debt service, and income taxes)		52750	674388	692802	717014	759549	804837	853057	904395	959052	1017235

EXHIBIT 32 (Continued)

FOOTNOTES TO EXHIBIT

[redacted]

SCHEDULE OF PROJECTED REVENUES AND EXPENSES FROM
JANUARY 1, 1985, THROUGH DECEMBER 1, 1994

[1] Total effective gross revenue is taken from Exhibit IV-8 which details each revenue component.

The operating expenses used for this project are based upon estimates made by [redacted] and checked for reasonableness against actual expenses experienced by other property managers in or from service suppliers. The annual inflation factor of 5 percent used to forecast most of the expenses is based upon the following pattern of changes in the Consumer Price Index and upon the premise that current Federal deficits will cause the inflation rate to accelerate gradually from recent lows.

1980	-	10.8%	
1981	-	8.1%	
1982	-	3.5%	
1983	-	3.5%	
1984	-	4.0%	(Annualized)

[2] The management fee is 5 percent of the effective gross revenue before interest revenue.

[3] The expense for the food service contract assumes that all residents will utilize the seven-day meal plan which entitles each resident to one full dinner/supper each day of the week. The monthly service charge also includes the charge for the seven-day meal plan. The rate of increase in food service has been relatively stable in the past few years. according to , President of in , from whom the quote of $3.90 per meal per day was obtained.

forecasts future price increases to be less than 5 percent per year, including increases both for food products and for labor. Food service charges are assumed to vary with occupancy. Full occupancy of 149 residents plus 37 second occupants will result in an initial food service cost of $264,771 (186 residents x 365 days x $3.90), but in 1986, at 83.5 percent occupancy, the expense is $221,090. In 1987 and thereafter, occupancy is assumed to remain stable at 98.4 percent with expenses increasing annually at 5 percent.

FOOTNOTES TO EXHIBIT (Continued)

[4] Administrative personnel include an administrator, a resident service coordinator, a secretary-bookkeeper, receptionists, and other part-time administrative assistants. Added to the estimated base salary cost of $63,065 is 20 percent for fringe benefits for a total base of $75,678. Salaries are estimated to increase at 5 percent annually and staff size will vary with occupancy. Legal and audit costs are fixed and are inflated at 5 percent per year. Supplies, dues, and advertising costs vary with occupancy and are inflated annually at 5 percent.

[5] The Electric Power Company in has experienced a 2 percent rate decrease in 1984 and less than a 1 percent decrease has been requested for 1985. A surplus of electricity generating capacity in Wisconsin will keep electricity costs stabilized for the near future. Costs are assumed to increase at a generous 4 percent per year.

Natural gas increases in September/October of 1984 were approximately 3 percent. Both pipeline and utility operators expect the commodity charge for natural gas to be flat in the future with only inflationary increases anticipated, according to a spokesman for Natural Gas Co. An inflation factor of 5 percent is assumed for both gas and sewer and water. Local telephone service will be included in the monthly service charge for each apartment. The basic quote of $12,000 from the telephone company for all telephone service is expected to inflate at 6 percent per year, higher than the anticipated inflation rate, because of the uncertainty of the telephone company's pricing policy.

[6] The personnel for building services include a full-time building service coordinator, a part-time general maintenance person and housekeepers to clean common areas and to provide monthly cleaning services for each apartment. The estimated salaries of $35,360 plus 20 percent for fringe benefits total $42,432. Salary increases for this type of work, more likely to be influenced by labor unions, are estimated to increase 6 percent annually.

Many of the maintenance services such as landscaping, rubbish removal, exterminating, and elevator maintenance are expected to be performed by contract. Parking lot repair and decorating expenses (the apartment portion of the total expenses) are expected to be minimal in the first two years of operation. An annual inflation factor of 5 percent is used to forecast expense increases for all maintenance categories except for labor. All maintenance expenses, except for the elevator contract, vary with occupancy or the age of the project.

FOOTNOTES TO EXHIBIT (Continued)

[7] An all-risk insurance policy is a fixed expense and the premium is estimated to increase at 5 percent annually. Insurance coverage during construction is included in the construction budget.

[8] Real estate assessments are made as of the first of January of each year based upon the value in place on that day. Taxes, based on January first assessments, are due and payable in the following year, or an annual, semi-annual, or quarterly basis. Land value in 1984 is estimated to be $462,000, or $3,100 per unit. The 1983 net mill rate for property located in County was 0.02232 based upon assessments at 95.94 percent of full market value. At full market value the mill rate would be 0.02232/0.9594, or 0.02326. In 1984 the assessments are at 88.47 percent of full market value and the mill rate has not yet been determined. Using the 1983 mill rate of 0.02232/0.8847 equals a 1984 mill rate of 0.02523. Average mill rate increases over the past four years range from 2.5 percent to 4.4 percent for and Counties. However, forecasting real estate tax increases, an annual increase of 5 percent is used because State and Federal governments are continually withdrawing their tax funds from local tax districts.

For 1984 real estate taxes, payable in 1985, a land value of $462,000 times a mill rate of 0.02523 yields taxes of $11,650. As of January 1, 1985, the contractor estimates $40,000 of site improvements will be added to the site. Therefore $462,000 plus $40,000, or $502,000 times 0.02649 (0.02523 x 1.05) is $13,300 for 1985 real estate taxes due in 1986. As of January 1, 1986, the project is expected to be 90 percent complete. Market value for real estate tax purposes of $40,000 per unit includes $3,100 per unit for land. Therefore, an improvement value of $5,900,400, which is 90 percent complete, plus land, taxed at 0.02781 (0.02649 x 1.05) yields real estate taxes of $150,500, payable in 1987. The completed project as of January 1, 1987, would be taxed at $174,100 based upon the previously stated assumptions and would increase at 5 percent per year thereafter.

Table M

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Loan Size Class Within Major Property Type, Second Quarter, 1984

Major Property Type Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Maturity (Years/Months)
APARTMENT - CONVENTIONAL	22	147,578	6,708	12.94%	12.92%	68.9%	10.2%	1.12	13.3%	9/10
Less than $1 million	1	923	923	*	*	*	*	*	*	*
$1 million - $3,999(000)	1	1,950	1,950	*	*	*	*	*	*	*
$4 million - $7,999(000)	13	72,005	5,539	12.78	12.82	70.8	10.3	1.12	13.3	10/4
$8 million - $14,999(000)	6	56,700	9,450	13.12	13.13	69.0	9.9	1.14	13.3	8/6
$15 million and over	1	16,000	16,000	*	*	*	*	*	*	*
COMMERCIAL RETAIL	34	578,040	17,001	12.91	12.74	65.8	10.5	1.30	13.2	10/11
Less than $1 million	1	900	900	*	*	*	*	*	*	*
$1 million - $3,999(000)	6	14,750	2,458	12.79	12.70	63.4	11.1	1.64	13.2	10/8
$4 million - $7,999(000)	10	53,765	5,376	13.06	13.01	64.8	10.7	1.26	13.4	8/11
$8 million - $14,999(000)	5	55,125	11,025	13.15	13.13	67.8	10.3	1.13	13.3	8/7
$15 million and over	12	453,500	37,792	12.75	12.66	66.4	9.9	1.25	12.9	14/1
OFFICE BUILDING	153	2,039,996	13,333	12.94	13.01	69.7	10.5	1.25	13.1	10/9
Less than $1 million	6	4,185	698	13.59	13.67	60.4	11.9	1.14	14.0	6/8
$1 million - $3,999(000)	43	106,296	2,472	13.07	13.03	70.7	10.9	1.19	13.2	8/7
$4 million - $7,999(000)	43	242,231	5,633	13.08	13.06	69.2	10.4	1.39	13.2	9/6
$8 million - $14,999(000)	24	256,054	10,669	12.38	12.38	71.3	10.4	1.18	12.6	13/9
$15 million and over	37	1,431,230	38,682	12.94	13.11	69.6	9.9	1.20	13.2	13/5
COMMERCIAL SERVICE	21	104,692	4,985	13.19	13.26	64.4	10.8	1.41	13.6	9/0
Less than $1 million	1	710	710	*	*	*	*	*	*	*
$1 million - $3,999(000)	11	24,027	2,184	13.25	13.22	68.9	11.4	1.23	13.6	9/7
$4 million - $7,999(000)	5	25,725	5,145	12.88	13.00	53.4	9.4	1.59	13.7	9/7
$8 million - $14,999(000)	2	17,000	8,500	*	*	*	*	*	*	*
$15 million and over	2	37,230	18,615	*	*	*	*	*	*	*

*Data not shown for a limited number of loans.

(cont'd)

Second Quarter, 1984 (Cont'd)

Major Property Type Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Maturity (Years/Months)
INSTITUTIONAL AND RECREATIONAL	1	5,000	5,000	*%	*%	*%	*%	*	*%	*
INDUSTRIAL	40	240,163	6,004	12.88	12.49	71.4	10.6	1.15	13.1	6/5
Less than $1 million	3	2,420	807	14.04	13.97	61.8	10.9	1.33	14.0	3/8
$1 million - $3,999(000)	18	38,912	2,162	13.01	12.94	72.4	11.0	1.18	13.2	6/8
$4 million - $7,999(000)	13	75,283	5,791	12.80	12.81	72.8	10.2	1.09	12.8	5/0
$8 million - $14,999(000)	2	23,559	11,780	*	*	*	*	*	*	*
$15 million and over	4	99,989	24,997	11.88	11.96	72.4	9.9	1.03	13.1	10/0
HOTEL AND MOTEL	11	101,732	9,248	13.34	13.30	48.7	11.0	1.85	13.8	8/9
$1 million - $3,999(000)	2	4,000	2,000	*	*	*	*	*	*	*
$4 million - $7,999(000)	5	27,982	5,596	13.37	13.39	44.2	11.4	1.54	14.7	11/4
$8 million - $14,999(000)	1	8,000	8,000	*	*	*	*	*	*	*
$15 million and over	3	61,750	20,583	13.33	13.28	54.1	9.9	1.71	13.3	6/8
MULTIPLE PROPERTY COMPLEX (All $15 million and over)	3	128,000	42,667	13.00	13.00	60.9	10.0	1.31	13.3	10/0
TOTAL	285	3,345,201	11,738	12.97	12.95	68.1	10.5	1.27	13.2	9/10

*Data not shown for a limited number of loans.

Note: Averages for capitalization rate, debt coverage ratio and percent constant may represent a fewer number of loans than the total for the specified category. Averages for interest rate are based on 273 loans. These include seven accrual loans with a mean accrual rate of 13.50% and a dollar-weighted average accrual rate of 13.67%. Nonrefundable fees were reported in connection with 31% of the total number and 42% of the amount committed. The comparable shares by property type ran 68% and 81% for apartments, 24% and 20% for commercial retail, 29% and 53% for office buildings, 24% and 24% for commercial services, 35% and 28% for industrial, and 9% and 17% for hotels and motels.

Data on sales comparisons must be obtained to indicate the basic characteristics of both the property and the transaction. This information should be assembled systematically, so that it can be presented in a standard format developed by the appraiser for ease of use and understanding by the client.

1. Transaction Data. The basic information about each comparable sales transaction that should be obtained by the appraiser includes:

   a. Date of sale.

   b. Volume and page of deed (in Recorder of Deeds' office, County Clerk's office, Town Clerk's office, etc.).

   c. Type of deed.

   d. Legal description of property.

   e. Names of grantor (seller) and grantee (buyer).

   f. Internal revenue stamps (or state documentary stamps after January 1, 1968). Federal stamps were affixed at the rate of $.55 per $500 (or fraction thereof) of consideration. These are often a useful *guide* to the consideration, but are not to be relied upon without verification.

   g. Amount of consideration, if indicated.

   h. Verified sales price (with principal or agent).

   i. Motivating forces or conditions of sale. This is to make sure that the transaction is a *bona fide*, arm's length transfer. Transactions within a family, under duress, or as an accommodation should be identified as such, and usually discarded for purposes of comparative analysis.

   j. Terms of financing. Financing definitely can influence value, as well as sales price. Generally speaking, the more favorable the financing that can be obtained, the higher the price that the purchaser will pay. This is an important point of comparison. It should be carefully identified in the early data gathering stage.

   k. Items of personalty included. Frequently, a real estate transfer includes items of personalty in the consideration. These must be deducted before the transaction can be utilized as a comparable sale.

2. Property Data. The appraiser should develop information on:

   a. Type and style of architecture.
   b. Size: area, number of rooms.
   c. Type of rooms and layout.
   d. Age and condition; effective age.
   e. Number of baths and bedrooms.
   f. Special features: fireplaces, built-in equipment, cabinetry.
   g. Accessory buildings: type, size, age and condition.
   h. Site: size, topography, etc.
   i. Zoning and deed restrictions.
   j. Location: market and neighborhood influence.
   k. Taxes and assessment.
   l. Listing price and length of time on market.
   m. Unusual elements of functional or locational obsolescence.

PROGRAM B -- CONTEMPORARY
INCOME PROPERTY APPRAISING

Speaker - James A. Graaskamp,
Ph.D., CRE, SREA

Recertification Credit - 7 hours

SOUTHEAST/GREAT LAKES
Joint Regional Appraisal Conference

American Institute of Real Estate Appraisers

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NASHVILLE, TENNESSEE

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES

Presented by

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin, School of Business

INTRODUCTION

I. INTRODUCTION TO CONTEMPORARY ISSUES

Appraisal of real estate income properties is a critical social function with high ethical requirements because it is a pivotal benchmark for decisions involving social equity, validation of financial institution assets for regulatory purposes, governance of private contracts, and benchmarking of the effectiveness of asset manager.

A. Appraisal is a specialty in the rapidly evolving information business. Appraisers systematically collect information, organize and analyze the data, and reach decisions about value while communicating essential information to a client. This is similar to the work of:

1. Accountants
2. Insurance managers
3. Security and investment counselors
4. Lawyers

B. Unlike accountants and others, appraisers receive little help from their professional organizations in the form of position papers which define appropriate methods for a particular question.

1. Accounting has the Financial Accounting Standards Board (FASB) that continually modifies generally accepted accounting principles to fit new problems such as mergers, current values of fixed assets, accounting for real estate operations, etc.
2. Securities people have the Midwest Securities Association.
3. The insurance education program is controlled by two independent organizations, the American College of Life Underwriters and the American College of Property and Casualty Underwriters.

4. Appraisers have no such independent fixed point. Even the Eighth Edition of the Institute textbook disclaims any responsibility for being a standard. The flyleaf of the Eighth Edition says:

> "FOR EDUCATION PURPOSES ONLY
> The opinions and statements set forth herein are those of the individual members of the Institute's editorial staff and do not necessarily reflect the viewpoint of the American Institute of Real Estate Appraisers or its individual members."

C. As a result, the appraisal process is evolving into one of the following:

1. The art of disinformation as in military intelligence where the appraiser is implicitly part of a conspiracy with his client to provide documents that satisfy regulators, provide cover against future charges of negligence, or provide bargaining points for income tax, real estate tax, divorce settlements, partnership dissolution, and other negotiations.

2. The discipline of rigid format and language for purposes of standardization at the expense of relevance and as an alternative to qualifications of the appraiser's judgment as opposed to form filling ability.

3. A counseling assignment wherein the appraiser must select and match the basic elements of the appraisal assignment to the requirements of the decision for which the appraisal is sought as a benchmark.

D. Distinguishing carefully between advocacy and suitability, the ethical and professional appraiser must counsel his client on the basics to establish a fit between the appraisal and the issue for which it is required as a benchmark, including, but not limited to:

1. Definition of real estate interests to be appraised

2. Definition of highest and best use

3. Definition of market value

4. Definition of what constitutes market comparison

5. Definition of accounting rules for the income approach

6. Definition of the economic context assumed

7. Definition of buyer and seller perspectives

8. Definition of rules for anticipating future benefits

9. Definition of who is considered an independent observer

E. BASIC PREMISES OF CONTEMPORARY APPRAISAL

The basic premises of the contemporary approach stem from the fundamental belief that pricing is a behavioral science, that analysis should be inductive rather than deductive wherever possible, and that appraised values are intended to serve as a benchmark for some decision process.

F. A price is a social transaction and the behavior of the parties and configuration of the transaction reflects a concensus at some point in time between external market forces sufficiently strong to impose on the outcome and internal forces on the supply side self-perceived interests. (See Exhibit 1.)

Notice that the above does not presume:

1. Both demand and supply forces to have alternatives of equal indifference.

2. Negotiation abilities of equal force, or

3. Cash maximization as their sole criteria -- all of which characterize the traditional approach.

G. The contemporary view sees appraisal as a limited and fictional case of feasibility analysis which, in turn, is a limited case in problem solving which, in turn, is part of a larger planning framework.

II CONTEMPORARY TRENDS CONTROLLING PURCHASE OF APPRAISAL

A benchmark for decision requires the purchaser of appraisal services to specify the problem, the acceptable practices, the protocols, and product as well as the business relationships which will control the appraiser/client relationship.

A. Procurement of appraisal services is becoming tightly controlled by new developments in the network of relationships which control real estate investments.

1. Regulatory controls on real estate lenders:

   a. R 41(b) or (c)
   b. FDIC rules including requirement for discounted cash flow analysis
   c. SEC due diligence requirements
   d. ERISA fiduciary requirements

2. Accounting/appraisal interface:

   a. Accrual versus cash accounting
   b. FASB study of European standards for fixed asset accounting
   c. Concepts of going concern, fixed asset allocation, market value, historical cost value, and forced liquidation values

3. Expanded definition of accounting firm services:

4. Development of standards for pension fund asset value and performance measures:

   a. Trade association concensus
   b. Standardized letters of engagement

5. Professional appraisal organizations increased enforcement of explicit definitions and procedures to restore credibility

   a. Protocols for information exchange while retaining true independence
   b. Better understanding of what sources provide pertinent information

B. To price his services the appraiser must fully understand his research task and the communication channelsthrough which his report will travel since his report will be constrained by:

1. What is the nature of the question?

2. What quantity and quality of data may be available?

3. What theory or hypothesis may edit and focus the available data as a tentative answer to the question?

4. What techniques and data management can be used reliably by the analysts?

5. What techniques and data management have credibility with the ultimate decision maker hiring the analyst?

6. What techniques and data management are cost effective in terms of the dollar consequences of the decision?

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

III. THE PROCESS OF CONTEMPORARY APPRAISAL

In that light, the sequence of steps required of the contemporary appraisal process referred to by Wisconsin students as RATGRAM is as follows:

A. What is the issue for which the appraisal is sought as a benchmark?

1. Problem perceived redefined to the problem as understood

2. Statutory or financial

3. Perspective in time, viewpoint, and continuum as going concern

B. What are the attributes of the property and the potential for productive alternative courses of action for future use

1. Responsibility for engineering, marketing, or legal/political assumptions

2. What special enhancements or encumbrances are to be valued as additional sticks in the bundle of rights to be appraised

3. Opportunities for monopoly in space, place, or time

C. Given the basic alternatives, what is the most probable use matrix relevant to the appraisal purpose

1. English Royal Institute of Chartered Surveyors (RICS) distinguish between existing use and all possible uses

2. With or without zoning change

3. With or without possible assemblage value

4. With or without administrative rule recognition

5. With or without opportunity cost doctrine

D. Given the most probable use, who is the most probable buyer in terms of class, motivation profile, or market position? (See Exhibit 3.)

E. Given the most probable use and most probable buyer assumptions, there are three approaches to predicting most probable price:

1. Inference from past transactions involving properties of similar potential and buyers of similar motivation.

2. Failing adequate transaction data, it is then acceptable to simulate the pricing methods of the most probable buyer.

3. Failing to find either similar properties or articulate buyers, the appraiser is then permitted to use normative methods which indicate what might happen if buyer and seller were as smart as the appraiser.

F. With an initial estimate of value, it may then be modified for external conditions unique to the parties, the place, or the time.

G. The adjusted value must then be tested to demonstrate that results at that price would be consistent with the minimum goals of all major parties to the transaction.

H. Since the appraiser is predicting price under conditions of uncertainty and many different market terms, the appraisal conclusion must be expressed as a central tendency within a transaction zone which is qualified by financial terms and/or critical assumptions about unknowable facts.

1. Although the Institute uses fair market value and most probable price interchangeably, that is a travesty on the work of modern theorists and a deliberate attempt to confuse or negate the implied criticism of traditional ways by contemporary analysis. (See Exhibits 1 and 2.)

2. Contemporary theory recognizes explicitly the errors in forecasting, the role of financial terms, and the reality of bargaining position.

I. These general precepts are then expanded into an appraisal report outline of the general type included in Exhibit 4.

J. We believe it is important that every appraisal first report fair market value strictly defined as cash to the seller for the real estate interest as a standard point of departure and that value enhancements and encumbrances then be reported in reference to that base number. Most probable price will only be the same as fair market value where the most probable buyer behaves as though he were the most prudent man buying only returns attributable to land and building.

EXHIBIT 1

CONTEMPORARY DEFINITION OF MOST PROBABLE PRICE

"Most Probable Selling Price", as defined by Professor Richard U. Ratcliff:

> The most probable selling price is that selling price which is most likely to emerge from a transaction involving the subject property if it were exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type. [1]

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[1] Unpublished quotation, Richard U. Ratcliff speaking on his book Valuation for Real Estate Decisions, Santa Cruz, CA, Democratic Press, 1972.

EXHIBIT 2

CURRENT OFFICIAL DEFINITION OF FAIR MARKET VALUE

The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress. [1]

Fundamental assumptions and conditions presumed in this definition are

1. Buyer and seller are motivated by self-interest.
2. Buyer and seller are well informed and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash, its equivalent, or in specified financing terms.
5. Specified financing, if any, may be the financing actually in place or on terms generally available for the property type in its locale on the effective appraisal date.
6. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report.

[1] American Institute of Real Estate Appraisers, The Appraisal of Real Estate, Eighth Edition, Chicago, IL, 1983, p. 33.

EXHIBIT 3

SAMPLE PROFILES OF MOST PROBABLE USE AND BUYER

The most probable use of the subject property would be as a shell for conversion to three small retail units on the first floor, four townhouses in the three-story structure, and two 700 square feet office modules with skylights in the second-story structure.

A review of sales on the Square and along the State Street Mall reveals that the buyers of these properties have been either a local businessman who was seeking a new location for his business or a professional real estate investor who was willing and able to execute extensive renovation and re-leasing. Those comparables that were bought by businessmen primarily for their own use were small and narrow; the larger buildings, similar in size to the subject property or larger, were purchased by professional developers who already had other commitments in the downtown area. The old Leath Furniture building, which was purchased by amateur businessmen for use as a restaurant, is again available for rent because the new owners discovered that their intended use was not compatible with building codes. Three of the seven comparables were partially occupied by the new owner; five were financed by the seller with a 10 percent to 15 percent down payment and a land contract at 8 percent; six were sold for significantly less than May 1, 1976, assessed valuation; and in six of them, the first floor was subdivded into retail rental units with about 20 feet of frontage each.

Therefore, the most probable buyer will be a professional real estate developer who expects to remodel and redirect marketing of the subject property. The most probable buyer expects generous land contract terms and resale, before or after conversion, to a small group of participating equity investors. The professional investor will negotiate only after the owner has had the property on the market for a protracted period of time and is willing to sell it well below assessed valuation.

EXHIBIT 4

CONTEMPORARY REAL ESTATE APPRAISAL REPORT OUTLINE

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value aplied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12 Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

EXHIBIT 4 (continued)

C. Special assumptions or instructions that are provided by others

D. Definition of value, which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals, and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief sttement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)

EXHIBIT 4 (continued)

3. In short, it is useful to subdivide improvements into subsystems:

   a. Foundation system
   b. Structural system
   c. Vertical circulation
   d. Horizontal circulation
   e. Floor system
   f. Ceiling system
   g. Roof system
   h. Internal wall system
   i. External wall system
   j. HVAC system
   k. Communications system
   l. Traffic separation system
   m. Security system
   n. Life safety system
   o. Waste removal system

4. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
5. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
6. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
7. Current uses and tenancies of improvements, if any
8. Environmental impact attributes of improvements on environs

C. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternaitve tenancies and uses
4. Replacement of existing improvements or program with new uses

EXHIBIT 4 (continued)

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative use strategies for legal-political compatibility
2. Testing alternative use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justsify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

EXHIBIT 4 (continued)

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of method leads to simulation in E or normative methods in F

E. Simulation of Probable Buyer Decision Process if Market Comparison Approach is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

EXHIBIT 4 (continued)

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report
B. Certification of Independent Appraisal Judgment
C. Statement of Limiting Conditions that Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

EXHIBIT 4 (continued)

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

IV. THREE BASIC METHODS OF APPRAISAL

Dilmore has the most basic philosophical view of the three approaches to value while Ratcliff has the most operational sense of researching and forecasting value.

A. Dilmore refers to the three approaches as order, chance, and beauty

1. Assuming order, there is a universe in which the parts fit and we shave away the chaotic mass of information until we find the critical pattern. Like the test for color blindness, the appraiser is looking for the pattern of red dots in a field of random dots of various colors which appear to be scattered.

2. Chance acknowledges the possibility that in the closed system there may be possibilities which were not considered or that there may be an error. No respectable scientist is afraid of the word "error". In appraisal, imprecision is built into the process of choosing data subjectively before we attempt to treat it objectively.

3. Beauty simply recognizes intuition and elegance in our forecasting model may be legitimate reasons for its use. Intuitive reactions, qualitative judgments, or gut feelings are a form of aesthetics in the decision process.

B. Ratcliff concludes that most appraisals are concerned with prediction of a future event, a transaction price. Since an appraisal method is a forecasting tool, forecasting is best done with inference from selected past experience. Failing that, the best method is simulation of the real estate market process.

1. Given reliable information on past market behavior, the preferred method of appraisal is to process the data, statistically if possible, to derive a prediction of future price behavior under given conditions and with means for estimating the reliability of the prediction.

2. Statistical prediction if possible.

3. Set theory for definition of a data set at the least.

C. Should market data be unavailable or inconclusive, the appraiser is forced to resort to the second method of appraisal, namely the construction of a real estate investment or decision model of factors which reflect his understanding of how buyers and sellers might behave.

1. The income approach and the cost approach are submodels of how an investor is supposed to behave.

2. After-tax investment models are another submodel of market behavior, but while these may measure demand from the buyer's viewpoint, it may not measure the minimum price expected by the seller who also has a tax model to consider. In using the second approach, the appraiser must be very careful to indicate price on the supply side representing minimum expectations (Vs) of the seller.

D. Should there be no sales and no way to verify how buyers would review the specific property (utility case - rate base or kilowatt production?), then the appraiser falls back to normative methods.

1. Normative means what the buyer would do if he were as smart as the appraiser and motivated only by a desire to maximize wealth.

2. The traditional income approach or the cost approach are normative models unless it can be proven buyers behave accordingly.

3. After-tax cash flow models are normative models until it can be shown that buyers and sellers use cash flow to value property.

E. Highest and best use or most probable use in order to identify most probable user and buyer, requires analysis and explicit recognition of possible uses which are:

1. Legal/political acceptability

2. Physical/technical feasibility

3. Effective demand and marketability

4. Financial viability

5. Community compatibility

(See Exhibits 5, 6, and 7.)

F. Most probable use presumes economic feasibility while many projects today require only financial solvency due to special enhancements or encumbrances which modify the operating characteristics of the property. These are not inherent in fee simple title but require expansion of the definitions of legal interests to be acquired; the appraiser may require legal support for presuming the transferability of these enhancements or a cost for elimination for an encumbrance.

1. Enhancements include special entitlements under land use control laws, subsidized financing program, financial reserves which travel with the title and the assumable financing, and all manner of profit centers provided by operating agreements which may be assignable under certain review procedures.

2. Encumbrances such as licenses, easements, and leases may be removed depending on relative positions of buyer and seller which are not within the American rule that fee simple title is the sum of the parts.

3. Economic surplus for the user is not adjusted for economic costs to external parties unless the political system can find methods to internalize these opportunity costs as anticipated in the definition of best use in Exhibit 5.

4. Fair market value may take the premise that existing leases will run out their term while most probable price may reflect a probability of renegotiation betewen landlord and tenant for mutual benefit or background information which makes it impossible for the status quo to persist.

   a. Check Dunn and Bradstreet on the tenants
   b. Analyze reported sales volume relative to breakeven point
   c. Analyze opportunity cost of the status quo

COFFEE BREAK

EXHIBIT 5

DEFINITION OF HIGHEST AND BEST USE

That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal.

Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. See Interim Use.

Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.

Source: Byrl N. Boyce, Real Estate Appraisal Terminology, Revised Edition, AIREA, SREA, Ballinger, Cambridge, Mass., 1981, p. 107-108.

FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario 1 Return to Former Use	Scenario 2 Purchase by Welfare Agency	Scenario 3 Conversion to Class B/C Office	Scenario 4 Conversion to Apartments with Office on 1st Floor	Scenario 5 Conversion to Apartments with Existing Bar	Scenario 6 Demolition and Sale of Site
Market Demand Risks	Demand very elastic relative to price unless room rates subsidized by welfare agencies	Welfare agencies lack capital resources to purchase and remodel facilities, given the absence of government funding	Office market becoming more price sensitive; would not accept neighborhood and lack of parking unless rents were lower than necessary to support remodeling	Strong demand for spacious two bedroom units in CBD area	Though there is a strong demand for affordable downtown housing, consumer survey shows tenant reluctance to live above noisy/potentially malodorous bar-restaurant	Soft market for vacant sites which cannot be assembled into larger plottage; parking revenues from 20 spaces inadequate to carry clearance costs
Legal/Political Acceptability	Inconsistent with long term City goals for Olin Place	Mixed acceptability as interim use as housing for transient males by some groups; favored by welfare advocates and disfavored by local residents	Neighborhood resistance to increased demand for street parking	Preferred use, given need for downtown housing and political statements by elderpersons for reduction of bar business in residential neighborhoods	Preferred use for housing is compromised by existing bar management agreement	Inconsistent with constituency favoring landmark designation
Technical Construction Problems and Capital Cost Risks	Failure to repair within one year may have jeopardized grandfathered non-conforming building conditions. Otherwise this use has lowest construction risks of Scenarios 1 through 5	Capital costs of renovation to state standards excessive for short term use	Variance needed for parking requirement of 1 stall per 300 SF to 1 stall per 2,500 SF of office space	Spacious apartments with views provide favorable rent/cost per SF ratio—housing code creates more remodeling risk than commercial code	Apartment mix cheapened by retaining existing bar operation—smaller units require more plumbing and bring less favorable rent/cost per SF ratio	None
Relative Investment Power Based Upon Revenue Generation Potential	$192,765	$120,380	$80,331	$103,220	($10,513)	$13,778
Special Income Tax Advantages or Public Subsidies Available	None	None	Rehabilitation tax credit of 20% for older commercial building conversion plus possible industrial bond financing	Possible historic landmark status for 25% rehabilitation tax credit plus tax incremental financing (TIF) assistance	Possible historic landmark status for 25% rehabilitation tax credit. TIF less likely because increase in tax is smaller	None
Real Estate Tax Consequences to City	Modest increase in assessed value	Loss of $194,300 tax base with tax-exempt agency as owner	Real estate tax base would be multiplied approximately 3 times the present assessment	Real estate tax base would be multiplied approximately 3 1/2 times the present assessment	Real estate tax base would be multiplied approximately 2 1/2 times the present assessment	Loss of approximately $140,000 of tax base

EXHIBIT 6

EXHIBIT 7

DEMONSTRATION OF SELECTION OF BEST USE SCENARIO FOR VACANT OFFICE TOWER REQUIRING COMPLETE MECHANICAL RENOVATION

B. Alternative Uses for Pyare Square

A combination of the physical characteristics of the property and the general demand characteristics of the Hilldale area suggest the following alternative scenarios for use of the subject property (Appendix D):

Scenario #1: The building would be remodeled into multi-tenant office space of class A on floors 4 to 14 and class B on floors 1 to 3.

Scenario #2: The building would be modified into residential apartments on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #3: The building would be modified into residential condominiums on floors 4 to 14 and class B office space on floors 1 to 3.

Scenario #4: The building would be modified into a hotel facility with hotel rooms on floors 4 to 14, a restaurant on floor 3, and seminar and office space on the remainder.

C. Economic Ranking of Alternatives

The alternative uses that might be plausible for the subject property can first be ranked in terms of the general budget parameters inherent in revenues and expenses for each. The best financial alternatives must then be screened for effective demand, political acceptability, and risk. In order to reveal the general range of justified investment on the existing property, the appraiser developed a logic of converting rents to justified investment by determining a market rent for each use and assuming an acceptable cash breakeven point[1] for financial planning and budgeting. This process capitalizes funds available for debt service or cash dividends into amounts of justified investment. This residual approach can be misleading if there are small errors in the cash-flow forecast, but if estimating bias is consistent when applied to the alternative uses, it does rank the alternatives in terms of their ability to pay for the subject property as is. The logic of this process is provided in Exhibit 15; the cost assumptions and calculations are provided in Appendix D.

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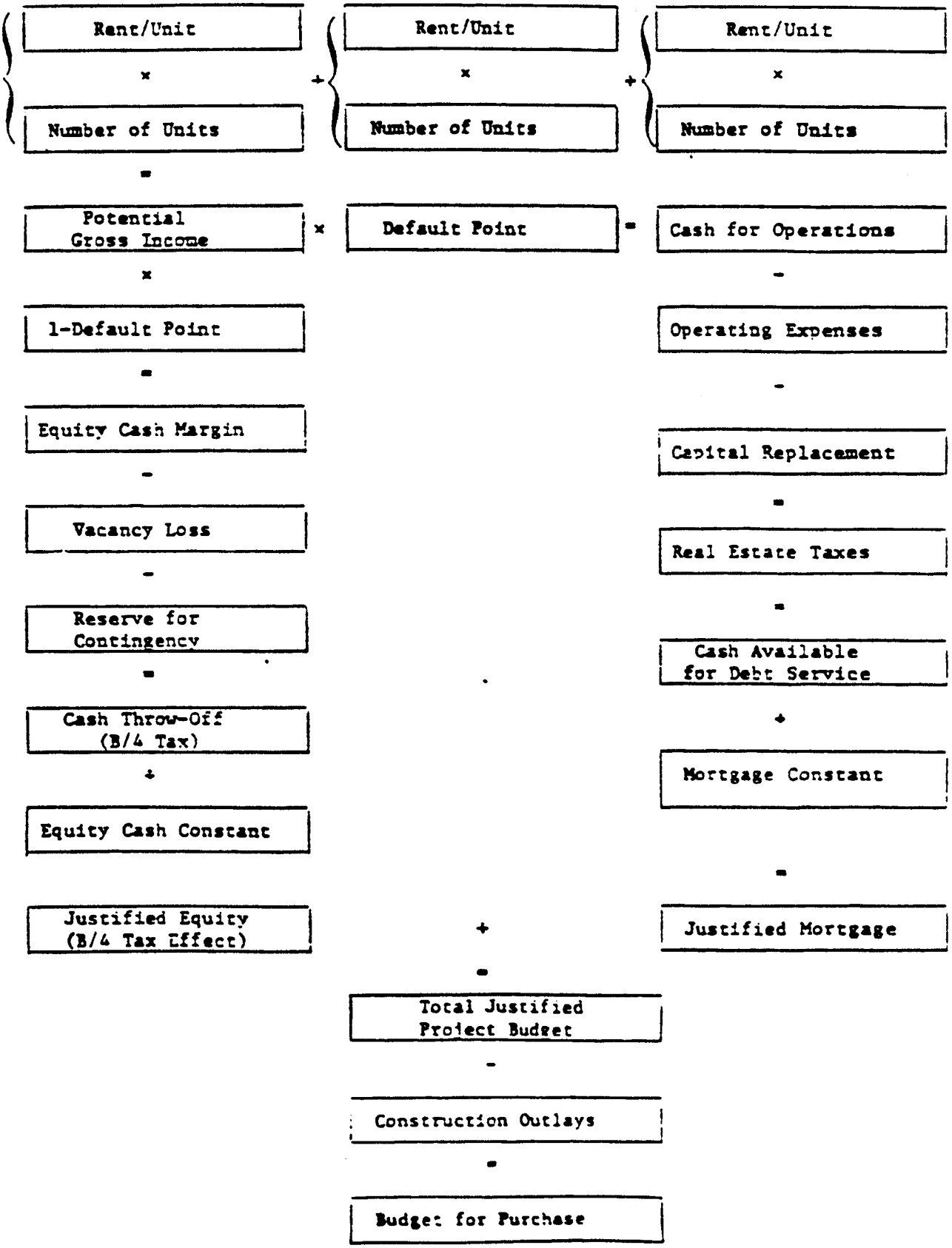
[1] The ratio of cash expenses, real estate taxes, and debt service to potential gross income.

EXHIBIT 7 (Continued)

BASIC LOGIC FOR RANKING ALTERNATIVE PROGRAM SCENARIOS BY JUSTIFIED PURCHASE BUDGET



A summary of these calculations from the Appendix are provided in Exhibit 16. A preliminary ranking based on a cash-justified investment (Line 3, Exhibit 16), without regard to future reversion value, demonstrates that Scenario 1 is the preferable use of the structure as is.

D. Ranking of Alternatives

In terms of estimating risks, Scenario 1 offers more certainty in regard to construction budget because multi-tenant office use is more similar to the previous use. Less extensive remodeling plans imply that fewer problems will arise. In Scenarios 2, 3, and 4, all new plumbing facilities and windows are required for floors 4 to 14. The same improvements simply need refurbishing if the building remains office use. In addition, the market for a high-rise residential or hotel facility is largely untested in the Hilldale area, but office use has been expanding. A change from office use of Pyare Square carries business risks that are difficult to ascertain, and the costs incurred in those risks could be great.

E. Political Compatibility of Alternatives

According to the village administrator of Shorewood Hills, all four of the scenarios would be politically acceptable because the village wants to see improvement of the building. However, Scenarios 2, 3, and 4 require a zoning change that must be approved by the village—an effort that is likely to be more time-consuming than futile.

Although condominiums are a relatively new idea to Shorewood Hills, the community boasts of being a residential suburb, and so a well-conceived plan should pass the board. A hotel use, however, is questionable and would be subject to serious scrutiny because demand is not evident. Office use appears to be most probable in light of the fact that costs are lower, zoning is proper, and demand is evident.

F. Conclusions

Since the estimated residual justified purchase prices of Scenarios 1 and 3 are fairly close, the choice in determining the most probable fitting use relates to the higher costs of converting to residential coupled with the risks involved in tapping an untested market. A prudent investor would seek to stabilize his income by choosing the less speculative scenario. A review of the summary feasibility data in Exhibit 17 supports the conclusion that the most probable use of the subject property in the opinion of the appraiser is Scenario 1.

The most probable use of the subject property would be renovation to a multi-tenant office building.

EXHIBIT 16

SUMMARY OF BUDGETS FOR ALTERNATIVE USE SCENARIOS

Budget Item	Scenario #1	Scenario #2	Scenario #3	Scenario #4
1. Cost to construct	(2,509,975)	(2,414,225)	(2,668,140)	(2,569,600)
2. Justified investment for property as is	2,897,566	1,409,513	2,868,983	(4,662,172)
3. Total justified investment in subject property as is	387,591	(1,004,712)	200,843	(7,231,772)

EXHIBIT 7 (Continued)

EXHIBIT 17

SUMMARY MATRIX OF FEASIBILITY OF ALTERNATIVE USES

Feasibility Factor	Scenario #1	Scenario #2	Scenario #3	Scenario #4
Justified Investment in subject	387,600	Negative	200,843	Negative
Remodeling Risks	Moderate	Significant	Significant	Serious
Effective Market demands	Positive	Positive	Questionable	Soft
Political acceptability	Strong	Strong	Strong	Mixed
Financial Risk	Depends on marketing ability in projecting new image for the building	Depends on desire to live in a high-rise	Depends on desire to own a home in a high-rise	Financial risk is great--Hilldale is not a major office center nor a stop for travellers.

EXHIBIT / (Continued)

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

V. DECISION THEORY AND IMPROVED METHODS FOR THE MARKET COMPARISON APPROACH

There are a number of basic books on decision theory which the appraiser should read to better understand alternative appraisal models available in the age of the micro computer. One such book is The Complete Problem Solver, by John R. Hayes, Franklin Institute Press, Philadelphia, PA, 1981. It is useful to look at the problem of market comparison approaches to value as a decision model in the complex world where a limited number of facts have to be focused on the problem.

A. Hayes described four general types of decisions which require different decision procedures.

1. Decisions under certainty
2. Decisions under risk
3. Decisions under uncertainty
4. Decisions under conflict

B. Many appraisal decision systems are modeled under the methods in Exhibit 8. (Page 157)

C. Hayes distinguishes between risk where we can calculate probability, such as gambling, or uncertainty where there is an element of chance which can't be calculated. Decisions under conflict are like moves in chess or strategy where the outcome must anticipate countermoves by other players in the game. Appraisal pricing decisions are either decisions under certainty or decisions under conflict. Between sharp distinctions for risk and uncertainty, there is a broad area in which we operate under judgmental probability.

D. A guide for the bewildered decisionmaker can be found by answering the following questions relative to the decision tree in Exhibit 9.

1. Is this a decision under certainty?

2. Does it involve costly search?

3. Is this a decision under conflict?

4. Can you estimate the relevant probabilities with reasonable accuracy?

5. Does the decision involve catastrophic outcomes?

E. Appraisal decision theory for economic behavior fits the theory of "bounded rationality" which describes economic decision processes today. A short definition of bounded rationality is included in Exhibit 10.

F. Market inference is the preferred method of valuation if we can discover a pricing pattern in the random dots of properties and transactions. The search for pattern must also be consistent with appraisal protocol.

1. Valuation directly from a regression formula violates appraisal protocol if the appraiser has not inspected all of the comparables used, because the subject property is compared to a hypothetical mean property from the set of observations, and because the appraiser is not directly responsible for the selection or weights given the attributes selected as the basis of comparison. Moreover, the amount of data points were limited relative to the number of variables which were thought to be relevant so that the risk characteristic of statistical variance were also suspect.

2. Market comparison is set theory using a limited number of subjectively selected properties in a relatively objective comparison on a few factors thought to be highly correlated to prices paid. An additive weighting system is one method for managing the information integration for a market comparison.

G. One influential method is to develop a pricing algorithm which provides an estimated price for each comparable and then presumes the same algorithm can be applied to the subject property. The steps involved are as follows:

1. Adjust prices for terms of sale and time on comparable properties. Comparable properties would be those bought for renovation, or for the owners own use, etc. You may choose to abstract out land values where size or locational quality is significantly different.

2. Selecting a proper unit of comparison

3. Developing a hierarchy of significant attributes thought to affect price and scoring each property on a point system

4. Developing a weighting system to rank the relative importance of ordinal attribute scores on a cardinal scale

5. Developing a price per weighted point per unit of comparison

6. Testing the price weighting formula for best estimate of the sales price of actual comparables in order to minimize dispersion and variance between actual price and price estimated by formula

7. Application of a price per point formula to the subject property to estimate range of alternative prices

8. Adjustment of predicted price for unique externalities such as land, financing, or non-transferable license

H. Search for an appropriate unit of comparison as a single variable in a linear regression by trying three or four unit concepts, such as: (See Exhibit 11.)

1. Gross building area

2. Net leasable area

3. Cubage

4. Two times the first floor area plus gross building area

5. Barrels of cranberries rather than acres of cranberries

6. Number of bedrooms rather than square feet

I. Arrive at a price per unit as the first step in establishing a price algorithm

J. Identify property attributes which distinguish subject properties qualitatively from one another and develop a simple scoring system

1. 5-3-1 is one method, but scores may become multipliers and lead distortion

2. Dilmore prefers:

Rating	Points
Excellent	26
Good	20
Average	15
Fair	13
Poor	10

K. See selection of examples in Exhibits 11 through 24.

L. The market comparison approach presumes that the appraiser can match sales price to the real estate interest required and the productivity anticipated by the buyer and the seller or that differences in each transaction can be factored out.

1. Litigation always involves kid stuff arguments involving gross rent multipliers where rents include or exclude utilities, furnishings, and window air conditioners.

2. In recent years cash equivalency adjustments for seller financing have further distorted the growth or adjusted sales price.

3. More subtle are the sales prices which are engineered by accountants and lawyers to shift asset values among asset classifications for land, structure, inventory, control of management contracts, accounting periods for related parties for tax purposes, public accounting figures, or balance sheet diplomacy.

4. The public is further confused by engineered sales prices to support syndication prospecti of $90 million on a single office building which was also appraised for $35 million in the same month for taxes.

5. Market comparable sales are suspect when one party names the price if the other names the terms; the appraiser has adapted his style so that the customer names the value and the appraiser gets to define the real estate interests appraised and the limiting conditions which control the relevancy and reality of his report.

6. Discounted cash flows defined by proper accounting become a more sensitive and more realistic appraisal tool than the market comparison method.

M. The traditional normalized net operating income divided by the cap rate should be recognized as a market comparison approach of the income multiplier family. There are imaginary "cap rates" out there, the reciprocals of price earnings ratios, which benchmark prices, but should not be confused with a true income approach.

1. Appraisers must be careful not to confuse thumbnail benchmarks for valuation procedures and never confuse market multipliers with contemporary income simulation methods.

2. There is a danger that appraisers use street talk and conventional wisdom as a market determined rate as in "Phoenix is a 9 percent cap rate town, or "Indianapolis has a net income multiplier of 9-1/2." These are applied without sensitivity to differences among properties or sensitivity to present values.

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EXHIBIT 8

DECISION MAKING METHODS UNDER CERTAINTY

Method	Type	Use this method:	Cost of computation required	Number of alternatives examined
Dominance	optimizing	for preliminary screening of alternatives	low	all
Lexicography	optimizing	when attributes are very different in weight	very low	all
Additive Weighting	optimizing	when it is important to find the best alternative	high	all
Effectiveness Index	optimizing	when it is *very* important to get best alternative	very high	all
Satisficing	non-optimizing	when the cost of examining the whole set of alternatives is very high	very low	some

Source: John R. Hayes, The Complete Problem Solver, 1981, The Franklin Institute Press, Philadelphia, PA, p. 157.

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EXHIBIT 9

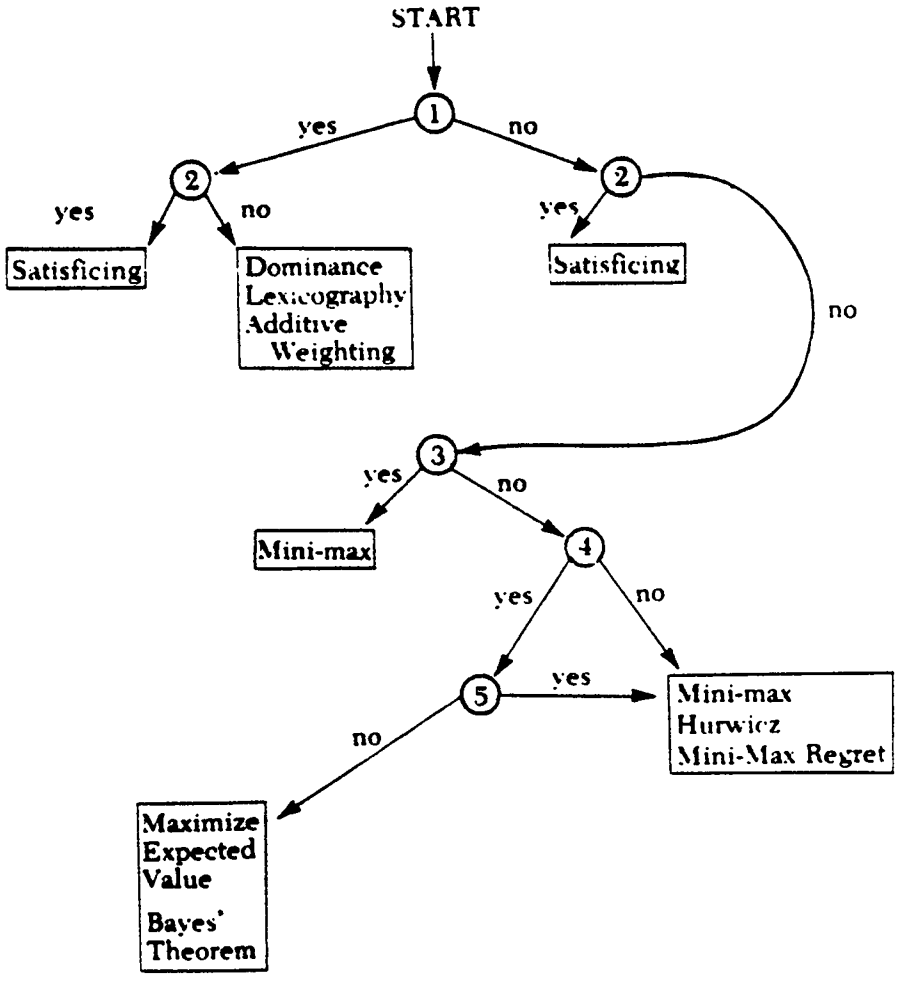

Figure 2. A Decision Tree for Choosing a Decision Procedure

Source: John R. Hayes, The Complete Problem Solver, 1981, The Franklin Institute Press, Philadephia, PA, p. 180.

EXHIBIT 11

CORRELATION COEFFICIENTS AND R^2 OF SALES PRICE

Space Unit	Correlation	R^2
First floor frontage (frt)	0.745	55.5%
Lot area	0.908	82.4
First floor (1st fl)	0.790	62.4
First floor + Upper floors (upp fl)	0.933	87.0
1st fl + .05 (upp fl)	0.919	84.5
2(1st fl) + upp fl	0.919	84.5
(1st fl) x (frt)	0.784	61.5
[1st fl + 0.5 (upp fl)] x (frt)	0.864	74.6
[2(1st fl) + upp fl)] x (frt)	0.864	74.6
(1st fl + upp fl) x (frt)	0.874	76.4

EXHIBIT 12

RATGRAM STYLE

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE - RETAIL SPACE IN MADISON C-4 ZONING

LOCATION 10%	5 = High visibility 3 = Corner visibility limited 1 = Inside lot
EXPANSION POTENTIAL 30%	5 = Potential for significant increases of floor space 3 = Flexible layouts due to bay spacing and elevator position 1 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 25%	5 = Fully renovated and leased 3 = Long-term retail leases in place. Serviceable as retail in tired space. 1 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 20%	5 = Two passenger and freight 3 = Two passenger 1 = One passenger
FENESTRATION ON UPPER LEVEL 15%	5 = Large windows facing the Square 3 = Limited window area 1 = No windows

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	10%	3/0.30	1/0.10	1/0.10	3/0.30	5/0.50	5/0.50
EXPANSION POTENTIAL AT TIME OF SALE	30%	3/0.90	1/0.30	1/0.30	5/1.50	3/0.90	3/0.90
CONDITION AT TIME OF SALE	25%	1/0.25	5/1.25	1/0.25	3/0.75	3/0.75	1/0.25
ELEVATORS IN PLACE	20%	5/1.00	3/0.60	1/0.20	3/0.60	1/0.20	1/0.20
FENESTRATION ON UPPER FLOORS	15%	1/0.15	5/0.75	5/0.75	1/0.15	3/0.45	3/0.45
TOTAL WEIGHTED SCORE	100%	2.60	3.00	1.60	3.30	2.80	2.30
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA/ WEIGHTED POINT SCORE		$5.86	$6.25	$5.77	$6.06	$6.08	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

EXHIBIT 13
RATGRAM STYLE

```
# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION 20
 EXPANSION POTENTIAL 20
 CONDITION AT TIME OF SALE 20
 ELEVATORS IN PLACE 20
 FENESTRATION ON UPPER FLOORS 20

 # of Observations = 5

Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24
        LOCATION 3
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 5
        FENESTRATION ON UPPER FLOORS 1
Observ. # 2 14 S. MIFFLIN Price 18.75
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 5
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 5
Observ. # 3 CENTRE SEVEN-5 & 7 N. PINCKNEY Price 9.23
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 5
Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20
        LOCATION 3
        EXPANSION POTENTIAL 5
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 1
Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99
        LOCATION 5
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 3
The Matrix:
  20   20   20   20   20
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30


 Median              = 5.861538
 Mean                = 5.913863
 Standard Deviation  = .5837666

Weights:
LOCATION                = 20
EXPANSION POTENTIAL     = 20
CONDITION AT TIME OF SAL = 20
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 20


 Final Results:
 Number of Combinations              = 3125
 Number of Combinations Adding to 100% = 381


 Median              = 6.040404
 Mean                = 6.00175
 Standard Deviation  = .1893479

Weights:
LOCATION                = 10
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 25
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 15
```

```
**** WOOLWORTH DEMONSTRATION ****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION 20
 EXPANSION POTENTIAL 30
 CONDITION AT TIME OF SALE 25
 ELEVATORS IN PLACE 20
 FENESTRATION ON UPPER FLOORS 15

 # of Observations = 5

Observ. # 1 WOLFF-KUBLY-30 N. CARROLL Price 15.24
        LOCATION 3
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 5
        FENESTRATION ON UPPER FLOORS 1
Observ. # 2 14 W. MIFFLIN Price 18.75
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 5
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 5
Observ. # 3 CENTRE SEVEN-5 & 7 N. PINCKNEY Price 9.23
        LOCATION 1
        EXPANSION POTENTIAL 1
        CONDITION AT TIME OF SALE 1
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 5
Observ. # 4 EMPORIUM-50 E. MIFFLIN Price 20
        LOCATION 3
        EXPANSION POTENTIAL 5
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 3
        FENESTRATION ON UPPER FLOORS 1
Observ. # 5 WOOLWORTH-2 W. MIFFLIN Price 16.99
        LOCATION 5
        EXPANSION POTENTIAL 3
        CONDITION AT TIME OF SALE 3
        ELEVATORS IN PLACE 1
        FENESTRATION ON UPPER FLOORS 3
The Matrix:
  10   30   25   20   15
   0   20   15   10    5
   5   25   20   15   10
  15   35   30   25   20
  20   40   35   30   25


 Median                = 6.060606
 Mean                  = 6.00175
 Standard Deviation    = .1893479

Weights:
LOCATION                = 10
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 25
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 15


 Final Results:
 Number of Combinations              = 3125
 Number of Combinations Adding to 100% = 381


 Median                = 6.060606
 Mean                  = 6.00175
 Standard Deviation    = .1893479

Weights:
LOCATION                = 10
EXPANSION POTENTIAL     = 30
CONDITION AT TIME OF SAL = 25
ELEVATORS IN PLACE      = 20
FENESTRATION ON UPPER FL = 15
```

EXHIBIT 15

WOOLWORTH - RATGRAM STYLE

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	2.60	$5.86
2	18.75	3.00	6.25
3	9.23	1.60	5.77
4	20.00	3.30	6.06
5	16.99	2.80	6.08
		TOTAL	$30.02

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $30.02

Mean Value ($\bar{x}$) = 30.02/5 = $6.00

Standard Deviation = $\sqrt{\frac{\Sigma (x-\bar{x})^2}{n-1}}$ = $0.19 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$5.86	$6.00	-$0.14	0.0196	5	4
6.25	6.00	0.25	0.0625		
5.77	6.00	- 0.23	0.0529		
6.06	6.00	0.06	0.0036		
6.08	6.00	0.08	0.0064		
			0.1450		

$$\sqrt{\frac{0.1450}{4}} = \sqrt{0.03625} = 0.190394 \text{ or } \$0.19$$

EXHIBIT 15 (Continued)

Value Range of Price/Point Score: $6.00 ± $0.19

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 2.3, then:

High Estimate:	$6.19 x 2.3 x 39,000 SF = $555,243 or $560,000 ($14.23/SF)
Central Tendency:	$6.00 x 2.3 x 39,000 SF = $538,200 or $540,000 ($13.80/SF)
Low Estimate:	$5.81 x 2.3 x 39,000 SF = $521,159 or $520,000 ($13.36/SF)

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	2.60	$6.00	$15.60	$15.24	$ 0.36	2.4%
2	14 W. Mifflin Street	3.00	6.00	18.00	18.75	- 0.75	4.0
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	1.60	6.00	9.60	9.23	0.37	4.0
4	EMPORIUM 50 E. Mifflin Street	3.30	6.00	19.80	20.00	- 0.20	1.0
5	WOOLWORTH 2 W. Mifflin Street	2.80	6.00	16.80	16.99	- 0.19	1.1
					NET VARIANCE	$ - 0.41	

EXHIBIT 16
RATGRAM STYLE

EXHIBIT 17

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE - RETAIL SPACE IN MADISON
C-4 ZONING
DILMORE STYLE

LOCATION 15%	26 = High visibility 15 = Corner visibility limited 10 = Inside lot
EXPANSION POTENTIAL 30%	26 = Potential for significant increases of floor space 15 = Flexible layouts due to bay spacing and elevator position 10 = Inflexibility of layout due to old bearing walls and elevator shafts
CONDITION AT TIME OF PURCHASE 40%	26 = Fully renovated and leased 15 = Long-term retail leases in place. Serviceable as retail in tired space. 10 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 15%	26 = Two passenger and freight 15 = Two passenger 10 = One passenger

WOOLWORTH BUILDING

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

SCORE/WEIGHTED SCORE

DILMORE STYLE

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 30 N. CARROLL WOLFF KUBLY	COMPARABLE NO. 2 14 W. MIFFLIN	COMPARABLE NO. 3 5 & 7 E. MIFFLIN CENTRE SEVEN	COMPARABLE NO. 4 50 E. MIFFLIN EMPORIUM	COMPARABLE NO. 5 2 W. MIFFLIN WOOLWORTH	SUBJECT
LOCATION	15%	15/2.25	10/1.50	10/1.50	15/2.25	26/3.90	26/3.90
EXPANSION POTENTIAL AT TIME OF SALE	30%	15/4.50	10/3.00	10/3.00	26/7.80	15/4.50	15/4.50
CONDITION AT TIME OF SALE	40%	10/4.00	26/10.40	10/4.00	15/6.00	15/6.00	10/4.00
ELEVATORS IN PLACE	15%	26/3.90	15/2.25	10/1.50	15/2.25	10/1.50	10/1.50
TOTAL WEIGHTED SCORE	100%	14.65	17.15	10.00	18.30	15.90	13.90
ADJUSTED SELLING PRICE [1]		$625,000	$750,000	$240,000	$850,000	$662,500	
DATE OF SALE		7/17/80	2/27/84	12/31/77	4/30/78	7/31/78	
GROSS BUILDING AREA (GBA)		41,000 SF	40,000 SF	26,000 SF	42,500 SF	39,000 SF	39,000 SF
ADJUSTED PRICE/GBA		$15.24	$18.75	$ 9.23	$20.00	$16.99	
ADJUSTED PRICE/GBA ÷ WEIGHTED POINT SCORE		$1.04	$1.09	$0.92	$1.09	$1.07	

[1] See Appendix _ for assumptions and calculations to determine adjusted selling price.

13

EXHIBIT 18

EXHIBIT 19

WOOLWORTH - DILMORE STYLE
1st RUN


```
**** WOOLWORTH-DILMORE STYLE ****

# Attributes = 5

Attribute Names: Prelim. Weights
 LOCATION  20
 EXPANSION POTENTIAL  20
 CONDITION AT TIME OF SALE  20
 ELEVATORS IN PLACE  20
 FENESTRATION ON UPPER FLOORS  20

 # of Observations =  5

Observ. #  1  WOLFF-KLELY Price  15.24
        LOCATION  15
        EXPANSION POTENTIAL  15
        CONDITION AT TIME OF SALE  10
        ELEVATORS IN PLACE  24
        FENESTRATION ON UPPER FLOORS  10
Observ. #  2  14 W. MIFFLIN Price  18.75
        LOCATION  10
        EXPANSION POTENTIAL  10
        CONDITION AT TIME OF SALE  24
        ELEVATORS IN PLACE  15
        FENESTRATION ON UPPER FLOORS  24
Observ. #  3  CENTRE SEVEN Price  9.23
        LOCATION  10
        EXPANSION POTENTIAL  10
        CONDITION AT TIME OF SALE  10
        ELEVATORS IN PLACE  10
        FENESTRATION ON UPPER FLOORS  24
Observ. #  4  EMPORIUM Price  20
        LOCATION  15
        EXPANSION POTENTIAL  24
        CONDITION AT TIME OF SALE  15
        ELEVATORS IN PLACE  15
        FENESTRATION ON UPPER FLOORS  10
Observ. #  5  WOOLWORTH Price  16.99
        LOCATION  24
        EXPANSION POTENTIAL  15
        CONDITION AT TIME OF SALE  15
        ELEVATORS IN PLACE  10
        FENESTRATION ON UPPER FLOORS  15
The Matrix:
  20   20   20   20   20
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30


 Median                =  1.048765
 Mean                  =  1.012559
 Standard Deviation    =  .1756356

Weights:
LOCATION                =  20
EXPANSION POTENTIAL     =  20
CONDITION AT TIME OF SAL =  20
ELEVATORS IN PLACE      =  20
FENESTRATION ON UPPER FL =  20


 Final Results:
 Number of Combinations                =  3125
 Number of Combinations Adding to 100% =  381


 Median                =  1.068553
 Mean                  =  1.024281
 Standard Deviation    =  .1314307

Weights:
LOCATION                =  15
EXPANSION POTENTIAL     =  30
CONDITION AT TIME OF SAL =  30
ELEVATORS IN PLACE      =  15
FENESTRATION ON UPPER FL =  10
```

**** WOOLWORTH-DILMORE STYLE ****

Attributes = 5

Attribute Names, Prelim. Weights
LOCATION 20
EXPANSION POTENTIAL 20
CONDITION AT TIME OF SALE 20
ELEVATORS IN PLACE 20
FENESTRATION ON UPPER FLOORS 20

# of Observations = 5

Observ. # : WOLFF-KUBLY Price 15.24
LOCATION 15
EXPANSION POTENTIAL 15
CONDITION AT TIME OF SALE 10
ELEVATORS IN PLACE 26
FENESTRATION ON UPPER FLOORS 10
Observ. # 2 14 W. MIFFLIN Price 18.75
LOCATION 10
EXPANSION POTENTIAL 10
CONDITION AT TIME OF SALE 26
ELEVATORS IN PLACE 15
FENESTRATION ON UPPER FLOORS 26
Observ. # 3 CENTRE SEVEN Price 9.23
LOCATION 10
EXPANSION POTENTIAL 10
CONDITION AT TIME OF SALE 10
ELEVATORS IN PLACE 10
FENESTRATION ON UPPER FLOORS 26
Observ. # 4 EMPORIUM Price 20
LOCATION 15
EXPANSION POTENTIAL 26
CONDITION AT TIME OF SALE 15
ELEVATORS IN PLACE 15
FENESTRATION ON UPPER FLOORS 10
Observ. # 5 WOOLWORTH Price 16.99
LOCATION 26
EXPANSION POTENTIAL 15
CONDITION AT TIME OF SALE 15
ELEVATORS IN PLACE 10
FENESTRATION ON UPPER FLOORS 15
The Matrix:

15	30	30	15	10
5	20	20	5	0
10	25	25	10	5
20	35	35	20	15
25	40	40	25	20

Median = 1.048553
Mean = 1.[illegible]4281
Standard Deviation = .1314337

Weights:
LOCATION = 15
EXPANSION POTENTIAL = 30
CONDITION AT TIME OF SAL = 30
ELEVATORS IN PLACE = 15
FENESTRATION ON UPPER FL = 10

Final Results:
Number of Combinations = 3125
Number of Combinations Adding to 100% = 381

Median = 1.048553
Mean = 1.04360[illegible]
Standard Deviation = 7.[illegible]E-[illegible]

Weights:
LOCATION = 15
EXPANSION POTENTIAL = 30
CONDITION AT TIME OF SAL = 40
[illegible]

EXHIBIT 20

WOOLWORTH BUILDING
CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	14.65	$1.04
2	18.75	17.15	1.09
3	9.23	10.00	0.92
4	20.00	18.30	1.09
5	16.99	15.90	1.07
		TOTAL	$5.21

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $5.21

Mean Value ($\bar{x}$) = $5.21 ÷ 5 = $1.04

Standard Deviation of the Mean = $\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$ = $0.07 where:

x	$\bar{x}$		$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$1.04	- $1.04	=	$0.00	0.0000	5	4
1.09	- 1.04	=	0.05	0.0025		
0.92	- 1.04	=	- 0.12	0.0144		
1.09	- 1.04	=	0.05	0.0025		
1.07	- 1.04	=	0.03	0.0009		
				0.0203		

$\sqrt{\frac{0.0203}{4}} = \sqrt{0.005075} = 0.071239$ or $0.07

EXHIBIT 20 (Continued)

Value Range of Price/Point Score: $1.04 ± $0.07

Since GBA of subject is 39,000 square feet and total weighted point score of subject is 13.90, then:

High Estimate: $1.11 x 13.90 x 39,000 SF = $601,731 or $600,000 ($15.43/SF)

Central Tendency: $1.04 x 13.90 x 39,000 SF = $563,784 or $560,000 ($14.46/SF)

Low Estimate: $0.97 x 13.90 x 39,000 SF = $525,837 or $530,000 ($13.48/SF)

COMPARISON OF WOOLWORTH DEMONSTRATION - RATGRAM STYLE AND WOOLWORTH - DILMORE STYLE

	RATGRAM STYLE	DILMORE STYLE	% VARIANCE RATGRAM TO DILMORE
Estimated Value Central Tendency	$540,000	$560,000	3.7%

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD
DILMORE STYLE

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	14.65	$1.04	$15.24	$15.24	$ 0.00	0.0%
2	14 W. Mifflin Street	17.15	1.04	17.84	18.75	- 0.91	4.9
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	10.00	1.04	10.40	9.23	1.17	12.7
4	EMPORIUM 50 E. Mifflin Street	18.30	1.04	19.03	20.00	- 0.97	4.9
5	WOOLWORTH 2 W. Mifflin Street	15.90	1.04	16.54	16.99	- 0.45	2.6
					NET VARIANCE	$ - 1.16	

EXHIBIT 21

EXHIBIT 22

SAMPLE OF EXPERIMENTAL

AUTOMATED MARKET COMPARISON PROCESS.

DILMORE

AND

GRAASKAMP

SCALE FOR SCORING COMPARABLE SALES BASED UPON PRICE SENSITIVE ATTRIBUTES

GOODWILL BUILDING

ATTRIBUTE	WEIGHT	SCORE
GROSS BUILDING AREA	30%	5 = Building less than 15,000 SF of GBA 3 = Building between 15,000 SF to 40,000 SF of GBA 1 = Building greater than 40,000 SF of GBA
LOCATION	30%	5 = Located in South Madison Industrial Park area with or without rail siding or along major highway with rail siding 3 = Located along or visible from a major road such as Highways 51, 151, 113, or 30 in a mixed use area without rail siding. 1 = Located in more isolated commercial mixed use area without rail siding
RATIO OF LAND TO GBA	10%	5 = Greater than 4:1 3 = Between 4:1 and 2.5:1 1 = Less than 2.5:1
EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION USES	10%	5 = Efficient layout for accessibility of stored goods with adequate number of overhead doors and truck height loading docks 3 = Adequate layout with limited number of overhead doors and truck height docks 1 = Deep space with inadequate number of overhead doors and truck height doors
QUALITY OF HVAC SYSTEM	20%	5 = Fully insulated with heat in warehouse and office area 3 = Partially heated warehouse space and adequate heated office space 1 = Minimal heat, if any, in warehouse area and small heated office space

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES
SCORE/WEIGHTED SCORE

GOODWILL BUILDING

ATTRIBUTE	WEIGHT	COMPARABLE NO. 1 1115 O'Neill St.	COMPARABLE NO. 2 2810 Bryant St.	COMPARABLE NO. 3 910 Macson Ave.	COMPARABLE NO. 4 4401 Cottage Grove Rd.	COMPARABLE NO. 5 4610 - 4622 Fenwick Rd.	COMPARABLE NO. 6 3103 Watford Way	SUBJECT 2422 Pennsylvania
GROSS BUILDING AREA (GBA)	30%	5/1.50	3/0.90	1/0.30	3/0.90	5/1.50	5/1.50	3/0.90
LOCATION	30%	1/0.30	3/0.90	5/1.50	5/1.50	3/0.90	5/1.50	3/0.90
RATIO OF LAND TO GBA	10%	3/0.30	1/0.10	1/0.10	5/0.50	3/0.30	1/0.10	1/0.10
EFFICIENCY OF BUILDING DESIGN	10%	3/0.30	1/0.10	1/0.10	5/0.50	5/0.50	3/0.30	1/0.10
QUALITY OF HVAC SYSTEM	20%	5/1.00	3/0.60	3/0.60	1/0.20	5/1.00	1/0.20	5/1.00
TOTAL WEIGHTED SCORE	100%	3.40	2.60	2.60	3.60	4.20	3.60	3.00
CASH SELLING PRICE		$200,000	$212,000	$625,000	$525,000	$301,000	$209,000	
DATE OF SALE		6/27/84	6/12/83	6/30/83	1/4/82	2/29/84	6/30/82	
GROSS BUILDING AREA (GBA)		13,832 SF	19,760 SF	57,800 SF	34,517 SF	17,300 SF	14,000 SF	30,195 SF
CASH PRICE/ SF OF GBA		$14.46	$10.73	$10.81	$15.21	$17.40	$14.94	
CASH PRICE PER SF/ WEIGHTED POINT SCORE		$4.2529	$4.1269	$4.1577	$4.2250	$4.1429	$4.1500	

EXHIBIT 22 (Continued)

JUSTIFICATION OF COMPARABLE PRICE FORMULA
FOR THE GOODWILL BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE
VS. PREDICTED PRICE OF COMPARABLES
USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE SALE	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE PER SF OF GBA	ACTUAL PRICE PER SF OF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICES
1	1115 O'Neill Street	3.40	$4.18	14.21	14.46	- 0.25	1.7%
2	2810 Bryant Street	2.60	4.18	10.87	10.73	0.14	1.3%
3	901 Watson Avenue	2.60	4.18	10.87	10.81	0.06	0.6%
4	4401 Cottage Grove Road	3.60	4.18	15.05	15.21	- 0.16	1.1%
5	4610-22 Fenrite Road	4.20	4.18	17.56	17.40	0.16	0.9%
6	3103 Watford Way	3.60	4.18	15.05	14.94	0.11	0.7%
					NET VARIANCE	$ 0.06	

EXHIBIT 22 (Continued)

GOODWILL BUILDING

CALCULATION OF MOST PROBABLE PRICE USING MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	CASH SELLING PRICE PER SF OF GBA	WEIGHTED POINT SCORE	PRICE PER SF OF GBA/TOTAL WEIGHTED SCORE (x)
1	$14.46	3.40	$4.25
2	10.73	2.60	4.13
3	10.81	2.60	4.16
4	15.21	3.60	4.23
5	17.40	4.20	4.14
6	14.94	3.60	4.15
		TOTAL	$25.06

Total of $\frac{\text{Price per SF of GBA}}{\text{Total Weighted Score}}$ = $25.06

Mean Value (x) = $25.06/6 = $4.18

Standard Deviation = $\sqrt{\frac{\Sigma(x - \bar{x})\backslash 2}{n - 1}}$ = $0.05 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})\backslash 2$	n	n - 1
4.25	4.18	0.07	0.0049	6	5
4.13	4.18	= - 0.05	0.0025		
4.16	4.18	= - 0.02	0.0004		
4.23	4.18	= 0.05	0.0025		
4.14	4.18	= - 0.04	0.0016		
4.15	4.18	= - 0.03	0.0009		
			0.0128		

$\sqrt{\frac{0.0128}{5}}$ = 0.050596

ESTIMATED RANGE OF MOST PROBABLE SELLING PRICE
OF THE GOODWILL BUILDING

	SCORE FOR SUBJECT	MEAN VALUE +/- $0.05/POINT SCORE	PRICE/SF OF GBA	GBA OF SUBJECT	ESTIMATED VALUE
LOW ESTIMATE	3.00	$4.13	$12.39	30,195 SF	$374,116 or $374,000
CENTRAL TENDENCY	3.00	$4.18	$12.54	30,195 SF	$378,645 or $379,000
HIGH ESTIMATE	3.00	$4.23	$12.69	30,195 SF	$383,175 or $383,000

EXHIBIT 22 (Continued)

EXHIBIT 23

COMPUTER OUTPUT OF DILMORE QUANTITATIVE

POINT WEIGHTING PROGRAM

AND

COMPUTERIZATION OF

ALL OF THE MARKET COMPARISON

CALCULATIONS

EXHIBIT 23 (Continued)

```
***** GOODWILL 3 *****

# Attributes = 5

Attribute Names, Prelim. Weights <---------- Preliminary weights selected
 GROSS BUILDING AREA (GBA)  20                 by the appraisers
 LOCATION  20
 RATIO OF LAND TO GBA  20
 EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  20
 QUALITY OF HVAC SYSTEM  20

 # of Observations = 6 <---------- Comparable sales with score for
                                     each comparable
Observ. #  1  1115 O'NEILL ST Price  14.46
        GROSS BUILDING AREA (GBA)  5
        LOCATION  1
        RATIO OF LAND TO GBA  3
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  3
        QUALITY OF HVAC SYSTEM  5
Observ. #  2  2810 BRYANT ST Price  10.73
        GROSS BUILDING AREA (GBA)  3
        LOCATION  3
        RATIO OF LAND TO GBA  1
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  1
        QUALITY OF HVAC SYSTEM  3
Observ. #  3  901 WATSON AVE Price  10.81
        GROSS BUILDING AREA (GBA)  1
        LOCATION  5
        RATIO OF LAND TO GBA  1
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  1
        QUALITY OF HVAC SYSTEM  3
Observ. #  4  4401 COTTAGE GROVE RD Price  15.21
        GROSS BUILDING AREA (GBA)  3
        LOCATION  5
        RATIO OF LAND TO GBA  5
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  5
        QUALITY OF HVAC SYSTEM  1
Observ. #  5  4610-22 FERMITE RD Price  17.4
        GROSS BUILDING AREA (GBA)  5
        LOCATION  3
        RATIO OF LAND TO GBA  3
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  5
        QUALITY OF HVAC SYSTEM  5
Observ. #  6  3103 WATFORD WAY Price  14.94
        GROSS BUILDING AREA (GBA)  5
        LOCATION  5
        RATIO OF LAND TO GBA  1
        EFFICIENCY OF BUILDING DESIGN FOR STORAGE AND DISTRIBUTION  3
        QUALITY OF HVAC SYSTEM  1
The Matrix:                          <---------- Test matrix to select optimal
  20   20   20   20   20                          combination of weights
  10   10   10   10   10
  15   15   15   15   15
  25   25   25   25   25
  30   30   30   30   30
```

EXHIBIT 23 (Continued)

```
Median                  =  4.565106
Mean                    =  4.528223
Standard Deviation      =  .441591
```

Initial results using appraiser's weights

```
Weights:
GROSS BUILDING AREA (GBA =  20
LOCATION                 =  20
RATIO OF LAND TO GBA     =  20
EFFICIENCY OF BUILDING D =  20
QUALITY OF HVAC SYSTEM   =  20
```

Appraiser's initial weights

```
Final Results:
Number of Combinations                  =  3125
Number of Combinations Adding to 100%   =  381
```

Iterations to select optimal weight

```
Median                  =  4.153846
Mean                    =  4.175902
Standard Deviation      =  5.067353E-02
```

Final results using optimal weights

```
Weights:
GROSS BUILDING AREA (GBA =  30
LOCATION                 =  30
RATIO OF LAND TO GBA     =  10
EFFICIENCY OF BUILDING D =  10
QUALITY OF HVAC SYSTEM   =  20
```

Optimal weights

```
Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 1

Load/edit file options    Current disk file: None

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options, return to main program

Enter selection number:


Enter selection number: 1

Enter new data

Enter heading for output:INDUSTRIAL WAREHOUSE

Enter number of attributes:? 5

Enter name for attribute: 1 ? GROSS BUILDING AREA (GBA)
      Preliminary weight: 1 ? 20
Enter name for attribute: 2 ? LOCATION
      Preliminary weight: 2 ? 20
Enter name for attribute: 3 ? RATIO OF LAND TO GBA
      Preliminary weight: 3 ? 20
Enter name for attribute: 4 ? EFFICIENCY OF BUILDING DESIGN
      Preliminary weight: 4 ? 20
Enter name for attribute: 5 ? QUALITY OF HVAC SYSTEM

Weight for QUALITY OF HVAC SYSTEM is 20, so that total of weights is 100.
```

EXHIBIT 23 (Continued)

```
Enter number of observations:? 6
Do you want to <1> Enter a unit price or
                <2> Enter a total price & size
Enter your choice: ? 1


Observation number 1 :
 Enter name 1 ? 1115 O'NEILL ST.
 Enter price 1 ? 14.46

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 1
 Score for RATIO OF LAND TO GBA? 3
 Score for EFFICIENCY OF BUILDING DESIGN? 3
 Score for QUALITY OF HVAC SYSTEM? 5

Observation number 2 :
 Enter name 2 ? 2810 BRYANT ST.
 Enter price 2 ? 10.73

 Score for GROSS BUILDING AREA (GBA)? 3
 Score for LOCATION? 3
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 1
 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 3 :
 Enter name 3 ?


 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 3 :
 Enter name 3 ? 910 WATSON AVE.
 Enter price 3 ? 10.81

 Score for GROSS BUILDING AREA (GBA)? 1
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 1
 Score for QUALITY OF HVAC SYSTEM? 3

Observation number 4 :
 Enter name 4 ? 4401 COTTAGE GROVE RD.
 Enter price 4 ? 15.21

 Score for GROSS BUILDING AREA (GBA)? 3
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 5
 Score for EFFICIENCY OF BUILDING DESIGN? 5
 Score for QUALITY OF HVAC SYSTEM? 1
```

EXHIBIT 23 (Continued)

```
Observation number 5 :
 Enter name 5 ?

 Score for QUALITY OF HVAC SYSTEM? 1

Observation number 5 :
 Enter name 5 ? 4610-22 FEMRITE RD.
 Enter price 5 ? 17.40

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 3
 Score for RATIO OF LAND TO GBA? 3
 Score for EFFICIENCY OF BUILDING DESIGN? 5
 Score for QUALITY OF HVAC SYSTEM? 5

Observation number 6 :
 Enter name 6 ? 3103 WATFORD WAY
 Enter price 6 ? 14.94

 Score for GROSS BUILDING AREA (GBA)? 5
 Score for LOCATION? 5
 Score for RATIO OF LAND TO GBA? 1
 Score for EFFICIENCY OF BUILDING DESIGN? 3
 Score for QUALITY OF HVAC SYSTEM? 1


Enter subject property name:?  INDUSTRIAL WAREHOUSE


Enter the name of the designated unit of comparison
     (acre, square foot, etc.) ? SQUARE FOOT

Enter number of units of comparison for subject
     (acres, square feet, etc.) ? 30195

Enter attribute scores for subject property
GROSS BUILDING AREA (GBA)     ? 3
LOCATION                      ? 3
RATIO OF LAND TO GBA          ? 1
EFFICIENCY OF BUILDING DESIGN? 1
QUALITY OF HVAC SYSTEM        ? 5
```

EXHIBIT 23 (Continued)

```
Load/edit file options    Current disk file: None

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options; return to main program

Enter selection number: 5

Enter name for data file:? SAMPLE

Load/edit file options    Current disk file: SAMPLE

1. Create new data file
2. Load existing disk file for editing
3. Display current data
4. Edit current data
5. Save current data to disk file
6. Clear (erase) all current data
7. Quit load/edit options; return to main program

Enter selection number: 3


Project title: INDUSTRIAL WAREHOUSE

Unit prices   Search interval = 5

                GROSS LOCAT RATIO EFFIC QUALI   Price

Prel. wts.      20    20    20    20    20       -

1115 O'NEIL      5     1     3     3     5     $14.46

2810 BRYANT      3     3     1     1     3     $10.73

910 WATSON       1     5     1     1     3     $10.81

4401 COTTAG      3     5     5     5     1     $15.21

4610-22 FEM      5     3     3     5     5     $17.40

3103 WATFOR      5     5     1     3     1     $14.94

INDUSTRIAL       3     3     1     1     5       -

                          Press any key to continue
```

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

    1. Enter/edit/display/file input data
    2. Analyze quality point ratings
    3. Display output to screen
    4. Print output to printer
    5. Select options
    6. Quit

Enter your choice: ? 2
```

Pass # 1 Combination # 6

Standard deviation = .4693161 Mean = 4.497911

Status	GROSS	LOCAT	RATIO	EFFIC	QUALI	S.D.	Mean
Prelim. Wts.	20	20	20	20	0	.441591	4.528223

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 3


Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 1
```

EXHIBIT 23 (Continued)

Weighted Matrix

Feature/ Attribute	GROSS BU	LOCATION	RATIO OF	EFFICIEN	QUALITY	Wtd. score
Initial weights	20	20	20	20	0	100
Final weights	30	30	10	10	20	100
1115 O'NEILL S	5/ 1.50	1/ 0.30	3/ 0.30	3/ 0.30	5/ 1.00	3.40
2810 BRYANT ST	3/ 0.90	3/ 0.90	1/ 0.10	1/ 0.10	3/ 0.60	2.60
910 WATSON AVE	1/ 0.30	5/ 1.50	1/ 0.10	1/ 0.10	3/ 0.60	2.60
4401 COTTAGE G	3/ 0.90	5/ 1.50	5/ 0.50	5/ 0.50	1/ 0.20	3.60
4610-22 FEMRIT	5/ 1.50	3/ 0.90	3/ 0.30	5/ 0.50	5/ 1.00	4.20
3103 WATFORD W	5/ 1.50	5/ 1.50	1/ 0.10	3/ 0.30	1/ 0.20	3.60
INDUSTRIAL WAR	3/ 0.90	3/ 0.90	1/ 0.10	1/ 0.10	5/ 1.00	3.00

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 2 (and 3)

Value Range Determination: Mean Price Per Point Method

Mean price per point:	$4.18
Dispersion About the Mean:	$0.05
Coefficient of Dispersion:	0.0121

Value Range Per Unit of Dispersion

	Subject Point Score		Mean (+/- One Standard Deviation)		Price Per Unit
Low Estimate	3.00	X	$4.13	=	$12.38
Central Tendency	3.00	X	$4.18	=	$12.53
High Estimate	3.00	X	$4.23	=	$12.68

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 4 (and 5)

Transaction Zone: Mean Price Per Point Method

Number of units in subject property: 30195

Low Estimate	$373,679	or	$374,000
Central Tendency	$378,274	or	$378,000
High Estimate	$382,869	or	$383,000

Transaction Zone: Linear Regression Method

a =-7.505322E-02 Standard Error of the Forecast = .2056632
b = 4.200016

Prediction equation: price =

30195 units X [-7.505322E-02 +(4.200016 +/- .2056632) X 3]

Low Estimate	$359,562	or	$360,000
Central Tendency	$378,192	or	$378,000
High Estimate	$396,822	or	$397,000

Press any key to continue

EXHIBIT 23 (Continued)

```
Display Output to Screen

Select output to be displayed:

 1. Weighted matrix for properties
 2. Value range determination: mean price per point method
 3. Value range per unit of dispersion
 4. Transaction zone: mean price per point method
 5. Transaction zone: linear regression method
 6. Mean price per point method: predicted vs. actual price for comparables
 7. Linear regression method: predicted vs. actual price for comperables
 8. Input data
 9. Computation matrix

<Return> to quit
Enter your choice: 6
```

Mean Price Per Point Method: Predicted vs. Actual Price for Comperables

	Predicted Price	Actual price	Error
1115 O'NEILL ST.	$14.20	$14.46	-$0.26
2810 BRYANT ST.	$10.86	$10.73	$0.13
910 WATSON AVE.	$10.86	$10.81	$0.05
4401 COTTAGE GROVE	$15.03	$15.21	-$0.18
4610-22 FEMRITE RD	$17.54	$17.40	$0.14
3103 WATFORD WAY	$15.03	$14.94	$0.09

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 7

Linear Regression Method: Predicted vs. Actual Price for Comparables

	Predicted Price	Actual price	Error
1115 O'NEILL ST.	$14.20	$14.46	-$0.26
2810 BRYANT ST.	$10.84	$10.73	$0.11
910 WATSON AVE.	$10.84	$10.81	$0.03
4401 COTTAGE GROVE	$15.05	$15.21	-$0.16
4610-22 FEMRITE RD	$17.57	$17.40	$0.17
3103 WATFORD WAY	$15.05	$14.94	$0.11

Press any key to continue

EXHIBIT 23 (Continued)

```
Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 8
```

Project title: INDUSTRIAL WAREHOUSE

Unit prices Search interval = 5

	GROSS	LOCAT	RATIO	EFFIC	QUALI	Price
Prel. wts.	30	30	10	10	20	-
1115 O'NEIL	5	1	3	3	5	$14.46
2810 BRYANT	3	3	1	1	3	$10.73
910 WATSON	1	5	1	1	3	$10.81
4401 COTTAG	3	5	5	5	1	$15.21
4610-22 FEM	5	3	3	5	5	$17.40
3103 WATFOR	5	5	1	3	1	$14.94
INDUSTRIAL	3	3	1	1	5	-

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 9

Computation Matrix

20	20	20	20	0
10	10	10	10	10
15	15	15	15	15
25	25	25	25	25
30	30	30	30	30

Press any key to continue

EXHIBIT 23 (Continued)

Display Output to Screen

Select output to be displayed:

1. Weighted matrix for properties
2. Value range determination: mean price per point method
3. Value range per unit of dispersion
4. Transaction zone: mean price per point method
5. Transaction zone: linear regression method
6. Mean price per point method: predicted vs. actual price for comparables
7. Linear regression method: predicted vs. actual price for comparables
8. Input data
9. Computation matrix

<Return> to quit
Enter your choice: 10

Iterations

		GROSS	LOCAT	RATIO	EFFIC	QUALI	S.D.	Mean
Prelim.	Wts.	20	20	20	20	20	.441591	4.528223
Pass #	1	30	30	10	10	20	5.067353E-02	4.175902
Pass #	2	30	30	10	10	20	5.067353E-02	4.175902

Press any key to continue

EXHIBIT 23 (Continued)

```
QP                Version 2.1

Program Choices Are:

1. Enter/edit/display/file input data
2. Analyze quality point ratings
3. Display output to screen
4. Print output to printer
5. Select options
6. Quit

Enter your choice: ? 5

Special options

Enter your selection:

1. Change search interval

<Return> for no changes
Enter your choice: ? 5
```

EXHIBIT 24

MOST RECENT KRAUS VERSION OF QP PROGRAM

Project Title: WOOLWORTH BUILDING

Total Prices Search Interval = 5 Unit of Comparison is: 39000

	Locat	Expan	Condi	Eleva	Fenes	Price	Units
Weights	10	30	25	20	15	-	-
30 N. Carro	3	3	1	5	1	625000	41000
14 W. Miffl	1	1	5	3	5	750000	40000
5 & 7 E. M	1	1	1	1	5	240000	26000
50 E. Miffl	3	5	3	3	1	850000	42500
2 W. Miffli	5	3	3	1	3	662500	39000
Woolworth	5	1	1	1	3	-	39000

Weighted Matrix

Attribute	Location	Expansio	Conditio	Elevator	Fenestra	WtdScr
Initial wts.	10	30	25	20	15	100
Final wts.	10	30	25	20	15	100
30 N. Carroll	3/ 0.30	3/ 0.90	1/ 0.25	5/ 1.00	1/ 0.15	2.60
14 W. Mifflin	1/ 0.10	1/ 0.30	5/ 1.25	3/ 0.60	5/ 0.75	3.00
5 & 7 E. Miff	1/ 0.10	1/ 0.30	1/ 0.25	1/ 0.20	5/ 0.75	1.60
50 E. Mifflin	3/ 0.30	5/ 1.50	3/ 0.75	3/ 0.60	1/ 0.15	3.30
2 W. Mifflin	5/ 0.50	3/ 0.90	3/ 0.75	1/ 0.20	3/ 0.45	2.80
Woolworth	5/ 0.50	1/ 0.30	1/ 0.25	1/ 0.20	3/ 0.45	1.70

Computation Matrix

10	30	25	20	15
0	20	15	10	5
5	25	20	15	10
15	35	30	25	20
20	40	35	30	25

EXHIBIT 24 (Continued)

Iterations

	Locat	Expan	Condi	Eleva	Fenes	S.D.	Mean
Prelim. Wts.	10	30	25	20	15	.1888357	6.001945
Pass # 1	10	30	25	20	15	.1888357	6.001945

Value Range Determination: Mean Price Per Point Method

Mean Price Per Point:	$6.00
Dispersion About the Mean:	$0.19
Coefficient of Dispersion:	0.0315

Value Range Per Unit of Dispersion

	Subject Point Score		Mean (+/- One Standard Deviation)		Price Per Unit
Low Estimate	1.70	X	$5.81	=	$9.88
Central Tendency	1.70	X	$6.00	=	$10.20
High Estimate	1.70	X	$6.19	=	$10.52

Transaction Zone: Mean Price Per Point Method

Number of 39000 in Subject Property: 39000

Low Estimate	$385,409	or	$390,000
Central Tendency	$397,929	or	$400,000
High Estimate	$410,449	or	$410,000

Coefficient of Variation = 0.03

EXHIBIT 24 (Continued)

Mean Price Per Point Method: Predicted vs. Actual Price for Comparables

	Predicted Price	Actual price	Error
30 N. Carroll	$639,807	$625,000	$14,807
14 W. Mifflin	$720,233	$750,000	-$29,767
5 & 7 E. Mifflin	$249,681	$240,000	$9,681
50 E. Mifflin	$841,773	$850,000	-$8,227
2 W. Mifflin	$655,412	$662,500	-$7,088

EXHIBIT 24 (Continued)

Transaction Zone: Linear Regression Method

a =-1.225254
b = 6.491588

Standard Error of the Forecast = .5333198
Coefficient of Variation = 0.03

Prediction Equation: Price =

-1.225254 +(6.491588 X 1.7) +/- .5333198

Low Estimate	$361,808	or	$360,000
Central Tendency	$382,607	or	$380,000
High Estimate	$403,407	or	$400,000

Linear Regression Method: Predicted vs. Actual Price for Comparables

	Predicted Price	Actual price	Error
30 N. Carroll	$641,768	$625,000	$16,768
14 W. Mifflin	$729,980	$750,000	-$20,020
5 & 7 E. Mifflin	$238,193	$240,000	-$1,807
50 E. Mifflin	$858,372	$850,000	$8,372
2 W. Mifflin	$661,097	$662,500	-$1,404

EXHIBIT 24 (Continued)

Adjustments for Qualitative Differences Among Comparable Properties

Each property has certain attributes which are observable and significant to the investor. However, specific unit dollar adjustments for the degree of presence or absence of these attributes cannot be measured by the appraiser. Therefore it is appropriate to set up an ordinal scoring matrix which can be converted to a weighted average score per unit in order to build a pricing algorithm for the subject property. As price sensitive attributes, the appraisers chose location, expansion potential, condition at time of sale, number of elevators in place, and upper level fenestration, since several of the former department stores had used the modern configuration of windowless brick perimeter walls.

Each of the sales was then ranked for relative value of location, expansion potential, condition at time of sale, number of elevators, and the availability of windows on the upper floors. The scoring system is detailed in Exhibit III-7. The weights assigned the attributes were generated from a

EXHIBIT 24 (Continued)

EXHIBIT III-7

WOOLWORTH BUILDING
SCALE FOR SCORING COMPARABLES ON
IMPORTANT INVESTOR CONSIDERATIONS FOR
OFFICE - RETAIL SPACE IN MADISON
C-4 ZONING

LOCATION 10%	5 = High visibility 3 = Corner visibility limited 1 = Inside lot
EXPANSION POTENTIAL 30%	5 = Potential for significant increases of floor space and supportive city planning 3 = Flexible layouts due to bay spacing and elevator position and supportive city planning 1 = Inflexibility of layout due to old bearing walls, and elevator shafts or non-supportive city planning
CONDITION AT TIME OF PURCHASE 25%	5 = Fully renovated and leased 3 = Long-term retail leases in place. Serviceable as retail in tired space. 1 = Vacant and in need of total rehabilitation. Short-term lease or large vacancy in need of total rehabilitation.
ELEVATORS AT TIME OF PURCHASE 20%	5 = Two passenger and freight 3 = Two passenger 1 = One passenger
FENESTRATION ON UPPER LEVEL 15%	5 = Large windows facing the Square 3 = Limited window area 1 = No windows

EXHIBIT 24 (Continued)

nonparametric statistics formula developed by Gene Dilmore. [1] The total weighted score given each of these Capitol properties can be found in Exhibit III-8. The adjusted selling price, date of sale, gross building area, and adjusted price for gross building area including basement area are provided in the lower half of Exhibit III-8.

It should be noted that the scores assigned the Woolworth Building at the time of sale in 1978 and as a subject property valued as of May 1, 1985, differ for expansion potential and condition at time of sale. Recognized retail needs on the Square have changed because redevelopment of the 100 Block of East Mifflin Street is underway and will absorb demand for small boutique space and fast-food outlets for the lunch crowd. Therefore, expansion potential has been reduced in a building already obsolete due to poor bay spacing and layout. Condition at time of sale has been reduced because the landlord is now responsible for refurbishing and marketing the second floor office space; when Woolworth leased the entire buiding, little was done to modernize the office area sublet to other tenants.

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[1] A member of the American Institute of Real Estate Appraisers (MAI) and of the Society of Real Estate Appraisers (SRPA) who has special expertise in statistics.

EXHIBIT 24 (Continued)

The object of the weighted scoring method is to divide the total weighted score into the adjusted price per square foot of gross building area to arrive at the adjusted price per square foot of gross building area per point. This number would be identical for each comparable if all the differences among the comparables could be correctly recognized and adjusted, an ideal which is not likely to happen. Therefore, the appraisers use the mean or average price per point per foot of gross building area as the pricing algorithm for the subject property.

Since the first objective is to reduce dispersion of the price per point per unit of building area, a computer program developed by Gene Dilmore is utilized to test the initial weights assigned by the appraisers to each price sensitive qualitative attribute until that combination of weights is found which best predicts the adjusted prices of the comparable property. The justification of the resulting comparable price formula is provided in Exhibit III-9, and it will be noted that a very close fit is obtained between the predicted price and the actual price, without exception. Therefore, the price per weighted point per square foot algorithm provides a basis for forecasting the market price of the Woolworth Building in 1985. The computer output of the Dilmore quantitative point weighting

JUSTIFICATION OF COMPARABLE PRICE FORMULA FOR
WOOLWORTH BUILDING
BY MEANS OF ANALYSIS OF VARIANCE OF ACTUAL SALE PRICE VS. PREDICTED PRICE
OF COMPARABLES USING MEAN PRICE PER POINT EQUATION METHOD

NO.	COMPARABLE PROPERTY	WEIGHTED POINT SCORE	MEAN PRICE PER POINT SCORE	PREDICTED PRICE/ SF GBA	ACTUAL PRICE/ SF GBA	VARIANCE	% OF VARIANCE TO ACTUAL PRICE
1	WOLFF KUBLY 30 N. Carroll Street	2.60	$6.00	$15.60	$15.24	$ 0.36	2.4%
2	14 W. Mifflin Street	3.00	6.00	18.00	18.75	- 0.75	4.0
3	CENTRE SEVEN 5 & 7 N. Pinckney Street	1.60	6.00	9.60	9.23	0.37	4.0
4	EMPORIUM 50 E. Mifflin Street	3.30	6.00	19.80	20.00	- 0.20	1.0
5	WOOLWORTH 2 W. Mifflin Street	2.80	6.00	16.80	16.99	- 0.19	1.1
					NET VARIANCE	$ - 0.41	

EXHIBIT 24 (Continued)

EXHIBIT III-9

EXHIBIT 24 (Continued)

program for the F. W. Woolworth comparable sales is shown in Appendix B.

C. Conclusion

Having determined the pricing algorithm that predicts the price of the comparable sales to a reasonable degree, it is then possible to apply the mean price per point per square foot of gross building area to the subject property as detailed in Exhibit III-10. Note that the base price per point per gross building area score is $6 and the standard error of the mean is plus or minus $0.19. Since the gross building area of the subject is 39,000 square feet including a full basement, and the total weighted point score for Woolworths is 1.7, in its present condition in the current market, using the same standards applied to the comparable properties, the market comparison price or cash value can be estimated as:

High Estimate:	$6.19 x 1.7 x 39,000 SF ($10.52/SF)	=	$410,397, or $410,000
Central Tendency:	$6.00 x 1.7 x 39,000 SF ($10.20/SF)	=	$397,800, or $400,000
Low Estimate:	$5.81 x 1.7 x 39,000 SF ($9.88/SF)	=	$385,203, or $385,000

THEREFORE THE APPRAISERS CONCLUDE THAT THE MARKET COMPARISON APPROACH FAIR MARKET VALUE WITH CASH TO THE SELLER WOULD SUGGEST A PRICE OF $400,000 AS OF MAY 1, 1985.

EXHIBIT 24 (Continued)

EXHIBIT III-10

WOOLWORTH BUILDING

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD

COMPARABLE PROPERTY	SELLING PRICE PER SF OF GBA	POINT SCORE	PRICE PER SF OF GBA/ TOTAL WEIGHTED SCORE (x)
1	$15.24	2.60	$ 5.86
2	18.75	3.00	6.25
3	9.23	1.60	5.77
4	20.00	3.30	6.06
5	16.99	2.80	6.08
		TOTAL	$30.02

Total of $\frac{\text{Price Per SF of GBA}}{\text{Total Weighted Score}}$ = $30.02

Mean Value ($\bar{x}$) = 30.02 ÷ 5 = $6.00

Standard Deviation of the Mean = $\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$ = $0.19 where:

x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$	n	n-1
$5.86	$6.00	= - $0.14	0.0196	5	4
6.25	6.00	= 0.25	0.0625		
5.77	6.00	= - 0.23	0.0529		
6.06	6.00	= 0.06	0.0036		
6.08	6.00	= 0.08	0.0064		
			0.1450		

$$\sqrt{\frac{0.1450}{4}} = \sqrt{0.03625} = 0.190394 \text{ or } \$0.19$$

CONTEMPORARY ISSUES AND METHODS FOR
APPRAISING COMMERCIAL PROPERTIES
(Continued)

VI. THE INCOME APPROACH OR INVESTMENT SIMULATION APPROACH APPLIED TO LARGE INCOME PROPERTY

The basic concept of the income approach is that the property value is the present value of an income stream to the investor plus the present value of the reversion to the investor. That simple truism requires very disciplined, systematic, but internally consistent logic to carry off.

A. First there is the problem of defining the perspective of the buyer or buyer presumed by the issue for which the appraisal is required as a benchmark. This perspective will determine what revenues and expenses must be considered.

B. There is the problem of defining the source, amount, and timing of receipt in terms of accounting theory (cash or accrual) and in terms of business practice (receivables versus collections).

C. There is the problem of defining expenses attributable to the real estate as opposed to the occupancy as perceived by the most probable buyer.

D. Selection of a forecast period also determines necessary charges to operations for tenant improvement, leasing commissions, reserve for replacement and refurbishment, and other soft capital items to be amortized over nominal periods of time.

E. Then there is the problem of defining the most probable capital structure for buyer financing of the property assuming cash to the seller and/or assuming some seller financing.

F. There is the problem of selecting a conversion process with which to define a net reversion assumed for some future point in time in an uncertain future.

G. There is the problem of recognizing entitlements or submerged profit centers which can be controlled through purchase of real estate because real estate traditionally does not carefully delineate net income from real estate, personalty, intangible assets, captive consumers, or managment.

H. Given the complexities of the above, how do buyers convert cash flows, reversions, peripheral profit centers, and portfolio effects to a purchase price.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

VII. CONTEMPORARY APPRAISAL AND ACCOUNTING THEORY

Fundamental isues which will lead to standardization of perspective by the FASB, the American Appraisal organizations, and the European Common Market in which RICS played a major role.

A. Unwitting deviation from derivation of the income approach which:

1. Originally intended to measure economic surplus of an asset in terms of normalized net income projected over a mathematical line for the life of an asset;

2. Investment band theory shifted value to the sum of present value claims on the income, specifically liability valuation.

3. Equity valuation in the securites markets recognize claims from income were prioritized by risk and critical path of service provided. Earnings were irregular, related to investor tax status, and manipulated by marketing monopoly or operating control.

B. This evolution from economic surplus to claims on liabilities to going concern values has produced incredible confusion and opportunity for valuation disinformation because appraisers don't know any accounting.

1. Economic productivity requires accrual accounting

2. Financial productivity requires cash accounting

3. Going concern valuation requires profit center segregation and venture capital discounting based on source and application

C. Some computer systems for property management already have the feature of converting from accrual to cash accounting and several studies are underway to define acounting conventions for appraisers.

1. Exhibit 25 contains generalized theory for converting accrual accounting to cash accounting

2. Exhibit 26 contains an analysis of the feasibility of a small city office rehab project

3. Exhibit 27 contains the format for an income property pro forma on a cash accounting basis

4. Exhibit 28 contains an example of discounted cash flow without a computer

D. Accounting theory also distinguishes value by a variety of perspectives in order to fit the function of the accounting task to measure the appropriate economic aspect:

1. Exit value assuming completion of normal business cycle in an orderly fashion (benchmarking).

2. Exit value assuming abrupt liquidation (construction loan validation).

3. Replacement value with asset of current technology.

4. Reproduction value of asset at original state of technology.

5. Market value in an organized market for tangible goods.

6. Current value in an organized market for tangible goods.

7. Discounted value of future receipts at interest factor.

8. Value of asset not yet charged to consumption or production.

E. Discounted cash flow must also anticipate that the collectibility of CPI adjustments and pass-throughs as well as deferred rent concessions must be examined. The shorter the lease term and the lower the tenant investment in improvements, the less probability there is of collection.

1. The appraiser must not only read the leases, but determine the degree to which management has collected future adjustments as a measure of effective rents rather than contract rents.

2. However, the appraiser is not expected to be an auditor and his statement of limiting conditions should contain a clause indicating the presumption of the appraisal, i.e., that payments due the landlord have in fact been collected, does not represent a conclusion based on an audit of past operations.

3. Tenant improvements which will benefit the property after the lease has expired or greatly in excess of allowances in the original contract represent a form of rent guaranty which might be identified by the appraiser when making an assumption about the collectibility of all forms of reimbursements.

4. The appraiser should also note if property management is releasing under terms which convert old escalators to monthly reimburseables or CAM items which are collectible monthly on an anticipated average basis to be adjusted at the end of each fiscal year, significantly altering cash flows and the certainty of collection in the future.

F. The increasing use of CAM payments and the broadening scope of costs included introduce another problem in analyzing real estate reeceipts. Property managers generally include a 10 to 15 percent surcharge on actual outlays for the work of collecting and accounting for CAM; CAM contains a profit center for management. The appraiser must determine if that profit center belongs to the building owner to offset the general management fee or has been considerd as part of the compensation formula to the management function. In the latter case, it is clearly not real estate revenue to be capitalized into the value of the property.

1. Management compensation forumlas have become more complex so that simple appraisal accounting for a percentage of effective gross plus a leasing commission can be very misleading.

2. Formulas generally involve different leasing commissions for renewals versus replacement of tenants, construction supervision fees for renovations, tenant improvements, etc., as well as reimbursement for advertising, after-hours servicing, or negotiation of casualty losses.

3. Construction supervision, tenant relations, as well as actual refurbishment expenses suggest how much is being invested in the future of the building, like R & D in a manufacturing corporation.

G. Fair market value presumes definition of economic rent attributable to the real estate as opposed to intangible assets or personal property.

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?

   a. For example--does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?

2. Is the real estate income from retailing of space or from wholesaling of space?

a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.

3. Is the income for extraordinary services or intangible assets rather than customary?

a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.

4. Ancillary to, rather than integral with the project.

a. Can services be acquired off premises such as janitorial or utilities?

5. IRS classification as 1250 property (real) or 1231 property (personalty) and Section 453, 453A and B, or Section 38 (tangible) or Section 45 (intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

H. Defining expenses attributable to the real estate is particularly difficult where you have a current occupancy/owner, such as a home office for a bank or insurance company. There are many distortions in the general ledger due to:

1. Superadequacy of maintenance.

2. Corporate accounting to shift or conceal division profits

3. Confusion of busines security with building operations

4. Deliberate concealment of corporate pet projects as building expense

5. Artificial corporate accounting charges for space or corporate services

I. Careful accounting distinctions are the critical differences in valuing property for real estate taxes, or liquidating value for a lender, or going concern value for a limited partnership or unit value of a comingled fund.

   1. Choice of the accounting format is also related to selection of the number of periods on a forecast. The assessor can accept short-term forecasts since there is opportunity for periodic review; the mortgage lender needs a longer term forecast to anticipate cyclical contractions of cash flow threatening the mortgage payment.

   2. However, what time frame is appropriate for valuing assets in a comingled fund? Large, unrecognized assets and negative cash flows have their payoff over the average lease term or longer; how should the valuation formula recognize these intangible assets?

J. Selection of a forecast period as five or ten years or more reflects purpose and sensitivity to value to long term assumptions and the curve of compound interest. Ten-year convention seems to be growing although a single lease rollover period is sufficient to strain the forecasting talents of most appraisers.

K. The decision by the Institute to require definition of fair market value with all cash to the seller before reporting a value attached to special financing provided by the seller is critical in providing the hope of its standard against which all manner of structuring can be related.

   1. Financing is not the only entitlement which enhances value beyond fair market value. There may be favorable leases, tax abatements, monopolies, and all manner of regulatory entitlements which are not included in fee simple title, but travel with the real estate. The increment attributable to these should generally be flagged as well.

2. Fee simple encumbered by leases is generally identified, but what about fee simple encumbered by special district rules, title flaws, or regulatory controls like those of the FERC?

L. Submerged profit centers are becoming much more significant due to management loads on CAM, back-end loads on finite financing agreements, and penalties for prepaid financing, cancelled contracts, windfall real estate tax returns, or sale of services and equipment leasing to the tenants. As control of property shifts to asset managers, so does control of the captive consumers within the building and the customer lists of potential tenant relocation in the future go to the benefit of the asset manager at the expense of the building owner.

M. Problem of defining or forecasting a reversion:

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships or long term commodity/money ratios.

2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?

   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested, and excluded from fair market value?

N. The most common reversion process is to estimate net income for the year after the year of sale--year six in a five-year forecast, or year eleven in a ten-year forecast.

1. This income is then capitalized at some rate, either a market rate at the time of the forecast or a more conservative rate to reflect aging of the proerty and the anticipation that it would be sold when the possibility of further increases in net income had declined significantly.

2. The critical question is how dependent is value on the change in retail price? Dilmore indicates there are seven sources of cash return which might each be discounted separately to represent the risk inherent in realizing the expected flow. These elements are:

   a. Return of original equity investment
   b. Value of cash flows at first year level
   c. Growth (decline) of cash flow stream
   d. Tax shelter of subject's cash flow
   e. Tax shelter of external income
   f. Growth of equity from amortization
   g. Growth of equity from value appreciation

3. See "Component Capitalization" by Gene Dilmore in Real Estate Issues, Spring-Summer 1985.

4. Perhaps the most important paragraph at the end of the Dilmore article, with reference to a simple future price or Monte Carlo resale price estimate is:

   "Whether the appraiser consideres this as an independent value indication from the income approach, or as a testing of the probable price indicated by analysis of the market data, is a matter of individual choice. In either case, a report section on externalities should follow these calculations giving consideration to the external facctors (money markets, investor moods, political contingencies, local phenomena altering market expectations, etc.) which can push the indicated price in either direction."

5. Probability models are not likely to be accepted soon for three practical limitations--appraisers have limiteed knowledge of statistics, decsion-makers prefer their subjective intuitions, and thoroughness may not be cost effective in terms of decisions to buy, sell, or lend.

6. There is a sensitivity algorithm called the Cady-Westby model which can directly compute changes in net present value or IRR or the break-even ratio which can occur for each one percent variance in key variables. It works quickly on a PC; it is based on response theory, but the algorithm represents high security information for nuclear power plant management. It will allow appraisers to avoid probability modeling just a set theory by-passes the problems with degrees of freedom in a limited data base.

EXHIBIT 25

RECONCILIATION OF ACCRUAL ACCOUNTING FOR PROPERTY PERFORMANCE AND CASH AVAILABLE FOR DISTRIBUTION AND DISCOUNTED CASH FLOW VALUES.

Year	1	2	3	4	5
Base Rents (Accrual)	20	20	20	20	20
Index	0	1	2	3	4
Operating Expense	4	4.20	4.40	4.60	4.80
Tenant Improvements	4	4	4	4	4
Taxes	1	1.10	1.20	1.30	1.40
Net Income	11	11.70	13.40	13.10	13.80
Unrecognized Assets and Amortized Expenses					
Rent Receivable	20	20	0	0	0
Expense Escalator	0	0	.30	.60	.90
Tenant Improvements	16	0	0	0	0
Lease Commissions	10	0	0	0	0
Cash Distribution	-35	-8.30	+13.10	+12.50	+12.90

EXHIBIT 27

PRO FORMA INCOME PROPERTY FORMAT

(Cash Accounting Basis)

I. Expected Receipt
- Base rent (Monthly)
- Index to base rent (Annual adjustment to monthly base)
- Percentage rent (Quarterly estimate with fifth quarter adjustment)
- Amortized tenant improvements (Monthly, fixed)
- CAM (Monthly average with 14th month adjustment)
- Reimburseables (Annual pass through)
- Escalators with stop (Annual review)
- Interest on reserves (Quarterly sweep)
- Government transfer payments (Negotiated and deferred)
- Total receipts

II. Loss of Potential Receipts
- Vacancy losses
- Rent collection losses
- Reimbursement collection losses
- Receivables
- Concessions
- Total reduction in expected receipts

III. Actual Revenues for Operations

IV Gross Outlays for Operations
- CAM items
- Reimburseables
- Escalator items
- Owner costs
- Refurbishment
- Renewal tenant improvements
- Renewal lease commissions
- Total operating outlays

V. Total Cash from Operations

VI. Capital Charges
- Interest payments
- Principal payments
- Capital improvements

VII. Net Cash from Operations before Taxes
- + Transfers from cash reserves from previous period
- + Net increases in loan balances outstanding

VIII. Cash Available for Distribution and/or Taxes
- Less distribution and taxes
- = Net addition to cash reserves in following period

EXHIBIT 28

EXAMPLE OF DISCOUNTED CASH FLOW
WITH 100% EQUITY FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	0.924500	$175,431
1983	364,022	0.790171	287,640
1984	410,013	0.675360	276,906
1985	457,118	0.577230	263,862
1986	454,429	0.493359	224,197
1987	579,334	0.421674	244,290
1988	574,943	0.360405	207,212
1989	591,365	0.308039	182,163
1990	624,054	0.263281	164,302
1991	659,043	0.225026	148,302
First 6 Months of 1992	323,726	0.208037	67,347
	RESALE PRICE		
1992	4,839,000	0.208037	1,007,000
	PRESENT VALUE OF EQUITY		$3,248,652
	TOTAL VALUE WITH 100% EQUITY		$3,248,652
		ROUNDED	$3,200,000

EXHIBIT 28 (Continued)

EXAMPLE OF DISCOUNTED CASH FLOW WITH CONVENTIONAL FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	ANNUAL DEBT SERVICE BASED ON DEBT COVER RATIO (DCR) OF 1.3 [1]	NOI LESS DEBT SERVICE EQUALS CASH THROW-OFF (CTO)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	140,000	$49,750	0.924500	$46,000
1983	364,022	280,000	84,000	0.790171	66,400
1984	410,013	280,000	130,000	0.675360	87,800
1985	457,118	280,000	177,100	0.577230	102,200
1986	454,429	280,000	174,400	0.493359	86,000
1987	579,334	280,000	299,300	0.421674	126,200
1988	574,943	280,000	295,000	0.360405	106,300
1989	591,365	280,000	311,400	0.308039	96,000
1990	624,054	280,000	344,100	0.263281	90,600
1991	659,043	280,000	379,000	0.225026	85,300
First 6 Months of 1992	323,726	140,000	183,700	0.208037	38,200
	RESALE PRICE	RESALE PRICE LESS MORTGAGE BALANCE [2]			
1992	4,839,000	3,042,000		0.208037	632,800
	PRESENT VALUE OF EQUITY				$1,563,800
	ORIGINAL MORTGAGE BALANCE				2,001,753
	TOTAL VALUE WITH CONVENTIONAL FINANCING				$3,565,553
				ROUNDED	$3,600,000

[1] Based on first full year NOI

[2] Maximum mortgage which NOI can carry, assuming a DCR of 1.3, interest at 13.5 percent for a 25 year term with monthly payments, is $2,001,753. At the end of a ten year holding period the balance due is $1,797,196 or rounded $1,797,000.

EXHIBIT 28 (Continued)

EXAMPLE OF DISCOUNTED CASH FLOW WITH SELLER FINANCING

YEAR	ANNUAL NET OPERATING INCOME (NOI)	ANNUAL DEBT SERVICE BASED ON DEBT COVER RATIO (DCR) OF 1.1 [1]	NOI LESS DEBT SERVICE EQUALS CASH THROW-OFF (CTO)	DISCOUNT FACTOR AT 17%	PRESENT VALUE OF EQUITY
Last 6 Months of 1982	$189,758	$165,450	$24,300	0.924500	$22,500
1983	364,022	330,900	33,100	0.790171	26,200
1984	410,013	330,900	79,100	0.675360	53,400
1985	457,118	330,900	126,200	0.577230	72,900
1986	454,429	330,900	123,500	0.493359	60,900
1987	579,334	330,900	248,400	0.421674	104,800
1988	574,943	330,900	244,000	0.360405	88,000
1989	591,365	330,900	260,500	0.308039	80,200
1990	624,054	330,900	293,100	0.263281	77,200
1991	659,043	330,900	328,100	0.225026	73,800
First 6 Months of 1992	323,726	165,450	158,300	0.208037	33,000
	RESALE PRICE	RESALE PRICE LESS MORTGAGE BALANCE [2]			
1992	4,839,000	2,602,000		0.208037	541,300
	PRESENT VALUE OF EQUITY				1,234,200
	ORIGINAL MORTGAGE BALANCE				2,528,995
	TOTAL VALUE WITH SELLER FINANCING				$3,763,195
				ROUNDED	$3,800,000

[1] Based on first full year NOI

[2] Maximum mortgage which NOI can carry, assuming a DCR of 1.1, interest at 12.5 percent amortized over 25 years with monthly payments, is $2,528,995. At the end of a ten year holding period the balance due is $2,237,023 or $2,237,000, rounded.

CONTEMPORARY ISSUES AND METHODS FOR APPRAISING COMMERCIAL PROPERTIES (Continued)

VIII. CONTEMPORARY MODELS FOR CONVERSION OF CASH FLOWS TO VALUE ESTIMATES

The new income approach for large income properties has become a hybrid of a CPA format and appraisal models for converting cash flows to value estimates.

A. Several computer software packages make it possible to detail and project large numbers of leases so that total project revenue is supported by a series of schedules as indicated by Exhibit 29. When using a discounted cash flow model, it is imperative to stay as close to cash accounting as possible.

B. All forms of reimbursement must reflect time lags, and collection losses and renewals should be charged for concessions on past due proposals. Appraisers would be well advised to introduce a limiting condition to the effect that:

> "Pro forma budgets and assumptions about actual collection of reimbursable expenses and supplemental rent are not based upon an actual audit of property operations and reflect only a business plan which could be accomplished through effective management."

C. Operating expenses for appraisers were traditionally divided between fixed variable and reserve for replacement. Today operating expenses should be organized by groups which reflect method of, or degree of, reimbursement by tenants.

1. Revenue projections can be prepared by a CPA or a property management firm with the computer systems to handle complex allocations, timing, and changeovers in leasing format. The appraiser explicitly recognized source and can allocate liability for same to the CPA or CPM who prepared the estimate.

2. Building owners or investment bankers may provide the computerized lease data base for the appraiser as a point of departure.

3. The critical functions of the appraiser will be to estimate:

   a. Rate of increase or decrease in operating expenses during the forecast period;

   b. Estimate the tenant turnover and resulting loss of income from vacancy, concession, and relocation costs;

   c. Estimate the rate and degree of application and collection of rental increases; and

   d. Estimate concessions required to keep existing tenants, including special tenant improvements and refurbishing.

4. Some clients are beginning to prescribe the specific assumptions for indexing rents and the ratio of tenant turnover and tenant renewal; again, these assumptions become significant limiting conditions on the appraisal report or the subject for extensive footnote discussion.

5. CAM expenses are prorated on space occupied rather than usable area, so be careful where you apply flat vacancy allowances. Parking may be fully leased even if the building has substantial vacancies; at the same time, hotel room rates and office rents may conceal parking charges which are reallocated to the parking concession, so that the appraiser may unwittingly double-count.

D. Many projects today are the beneficiaries of income generating reserves required of revenue bond issues, HODAG and UDAG grants, or municipal subsidy arrangements such as tax incremental financing. This income is part of the property value for mortgage loan purposes, but must be excluded for real estate tax purposes. The income from these reserves is generally available on a quarterly basis and the amount depends upon the reinvestment rate and allowable arbitrage at the times these reserves were created.

1. Reserves tied to the finances must be deducted from sales price on FNA or IRB financed deals, solely subject to the mortgage, or prices can be seriously overstated.

2. R-41b specifically permits recognition of supplementary income from services regularly offered to tenants, such as the elderly.

3. See Exhibits 31 and 32.

4. Elderly housing pro forma.

E. It is not necessary today to always use a mortgage equity approach. The conversion of net cash to present values may take several basic patterns.

1. Simple discounting of annual net cash by a project discount rate assuming no financing and reasonbly stable re-sale price as shown in Exhibit 30 done for a pension fund.

2. A simple mortgage equity approach using a five-year forecast and a debt cover ratio and other loan parameters based on natural averages of the American Council of Life Underwriters, Schedule M (see Exhibit 33).

3. A basic mortgage package presuming responsible underwriting plus the sale value of appreciable base and tax credits to a professional buyer for syndication. For example: syndicators might ıy 35 percent of depreciable base plus 80 percent of first-year tax investment credit; more conservative syndicators might pay exactly one-half of the tax value of equity.

4. Custom crafted finance packages with variable rates, credit enhancements, interest rate caps, and participations become investment value situations which must be compared to fair market value so that the increment to value through the modification of the financial stand is revealed.

F. As a result of all of the above, the appraisal process is subdivided into those firms which knowingly or unwittingly exploit the lack of accounting precedent to generate high values in the fine art of commercial disinformation. On the other hand, a fully-professional firm will integrate professional specialties into a clinic shop which contains a CPA, a mechanical engineer, a physical planner, an information processor, and an appraiser. The fastest growing segment of appraisal is the business consulting firm opening an appraisal subsidiary. Arthur Andersen went from almost "0" to $16,000,000 last year, probably in third place behind the old-style firms of American Appraisal at $66,000,000 and Marshall and Stevens at $26,000,000. It is estimated that 20 percent of their volume is spent in marketing.

much closer range of per-unit prices of $41.20/sq.ft. to $78.55/sq.ft. The average sales price of these six sales is $57.20/sq.ft., whereas the average for all nine sales is slightly higher at $68.70/sq.ft.

Based on our analysis of the available market data and comparing these sales to the subject property, it is our opinion that, after adjusting for differences in location, age, size, physical condition, and economic characteristics, the indicated per- unit price for the subject property would range from $45/sq.ft. to $55/sq.ft., or a range of values of $3,830,000 to $4,680,000, calculated as follows:

85,058 sq.ft. @ $45/sq.ft. = $3,830,000 (rounded)
85,058 sq.ft. @ $55/sq.ft. = $4,680,000 (rounded)

INCOME APPROACH

Methodology

The Income Approach is a procedure in appraisal analysis where anticipated economic benefits to be derived from a property are converted into a value estimate through a capitalization process.

The principle of "anticipation" underlying this approach recognizes that a prudent investor recognizes a relationship between income and asset value.

The process of estimating anticipated economic benefits from a particular property therefore requires estimates of potential income; fixed and operating expenses including vacancy; existing, proposed, or probable debt costs (if applicable); and the selection of the most appropriate capitalization method.

The two most commonly utilized methods of processing net income into value are direct capitalization, where an overall rate is extracted directly from market sales in which the net income is known or closely estimated, and the discounted cash flow method, whereby anticipated future income streams and a reversionary value are discounted to a net present value estimate. In the valuation of the subject property, it is our opinion that the discounted cash flow method is the most appropriate valuation method, and thus, it will be given the most weight in our final analysis. This is due to the fact that the subject is a multi-tenant property with several existing leases. The discounted cash flow method automatically incorporates any rent loss or lease advantage into the final value indication by modeling the existing leases at their current rates and applying market rates at times of renewal, rollover, or turnover.

Discounted Cash Flow Method

By forecasting the anticipated income stream and determining a reversion at the termination of the holding period, the capitalization process may be applied to derive a value that a purchaser-investor would pay to receive the particular income stream. The capital sum estimate equated with the right to receive these benefits is derived through the application of a discounted cash flow model and is commonly known as the present value estimate. For clarification, the discounting process is defined in Real Estate Appraisal Terminology as follows:

> "A concept of time preference which holds that future income or benefits are worth less that the same income or benefits now, and that they decrease in value systematically as the time for their receipt is further deferred into the future. In appraisal analysis, discounting is the arithmetic procedure of applying a specific rate (usually) derived from the market to the anticipated future income stream in order to develop a present worth estimate."

Typical investors price real estate on their expectations of the magnitude of these benefits and their judgment of the risks involved. Our valuation endeavors to reflect the most likely actions of typical buyers and sellers of property interests similar to the subject. An analytical real estate computer model that simulates the behavioral aspects of the property and examines the results mathematically as an investor would, will be employed for the discounted cash flow analysis. Since investors are the basis of the marketplace in which the subject property will be bought and sold, this type of analysis is particularly germane to the appraisal problems at hand.

EXHIBIT 29 (Continued)

Investors in multi-tenant retail properties such as the subject typically made a forecast of net operating incomes and cash flows over a period of time ranging from 10 to 25 years. This projection is then utilized to determine a purchase price which will justify the degree of risk inherent in the proposed investment. A general outline summary of the major steps involved may be listed as follows:

1. Analysis of the current income stream; establishment of an economic (market) rent level for each direct tenant space; projection of future revenues annually for an eleven year period based upon existing leases, probable renewals at market rentals, and expected vacancy experience.

2. Analysis of projected escalation recovery income based upon clauses in existing and typical leases for protection against rising operating expenses and real estate taxes.

3. A projection of future property expenses based upon an analysis of the historical operating expenses; the property owners' projected budget; and the experiences of competitive properties;

4. A derivation of the most probable net operating income and pre-tax cash flows to be generated by the property by subtracting all property expenses from the effective gross income;

5. Estimation of a reversionary sale price based upon a capitalization of the net operating income in year eleven.

6. Determination of a yield rate (internal rate of return) which would attract a prudent investor to invest his money in a similar situation with comparable degrees of risk, non-liquidity, and management burdens;

7. Conversion of the pre-tax cash flows into a present value by discounting at an acceptable range of yield rates.

POTENTIAL GROSS INCOME

Existing Leases

The most current leasing information available indicates that 76,155 sq.ft., or 89.5% of the retail "strip" center's 85,058 total sq.ft. of leasable building area is currently leased. This occupied space involves 35 of the shopping center's 40 total lease spaces. Besides the "strip" center's retail tenant leases, additional rental income is provided to the subject property's ownership position from two ground leases; one for 4,900 sq.ft. leased by Savings and Loan Association improved with a bank branch facility and one for 174 sq. ft. leased by Photo Place and improved with a drive-in photo processing delivery/pick-up kiosk.

Savings' ground lease is for a 25-year term with three 10-year renewal options, and commenced 6/01/79 with a base annual rent of $17,940 or $3.66/sq.ft. An escalation clause calls for C.P.I. rent adjustments every five years not to exceed $4,488 per year. Current annual rent on this lease is $22,428, or $4.58/sq.ft. Photo Place's ground lease is for a 5-year term with two 5-year renewal options and commenced on 2/14/76 with a base annual rent of $3,000, or $17.24/sq.ft. An escalation clause calls for fixed increases to $3,600 and $4,200 annual for the first and second renewal options respectively. Current rent is $3,600, or $20.69/sq.ft.

Reference is hereby made to the March 1, 1985 Tenant Roster (Rent Roll) for a detailed description of tenants and lease terms and rates for occupied and vacant space, a copy of which is included in the Addendum of this report. Current potential base rental income for the subject property for 1985 (annualized) approximates $564,368 which includes projected rent for the five vacant spaces. This approximates $6.26/sq.ft. of leasable building area annually.

Certain changes to the aforementioned Tenant Roster have been utilized in our computerized discounted cash flow analysis model based on discussions with the subject's current property manager and existing tenants. Following is a brief summary of the most notable of these changes.

1. It appears a new lease out for signature to City Bicycle & Electronics (26802) has a high probability of being signed and, therefore, will be included in our analysis. This is a 3-year lease commencing on 6/1/85 with fixed minimum base rent only (no percentage rent) of $760/mo. for the first 12 months, $805/mo. for the second 12 months, and $855/mo. for the third 12 months.

2. A revised lease renewal incorporating two modifications desired by the tenant has also been sent out to Sportswear (26804) and, with a high probability of being signed, will also be included in our analysis. This is also a 3-year lease commencing on 4/1/85 with a fixed minimum base rent of $530/mo. for the first 12 months, with CPI adjustments for the second and third 12-month periods. This lease continues to include a percentage rental clause with a 6% percentage factor.

3. As noted on the Tenant Roster, the Outpost (26830) has experienced financial problems and has gone to a month-to-month tenancy through April of 1985 at which time it is anticipated this space will be leased under the terms of a new lease currently out for signature to Paul , to be used as an accounting office. This is a 3-year lease commencing on 4/1/85 with fixed minimum base rent only of $530/mo. for the first 12 months,

$562/mo. for the second 12 months, and $596/mo. for the third 12 months. Rental concessions of one month's free rent and installation of new floor tile and drop ceiling as tenant improvements to be provided by lessor have also been granted to the new lessee.

4. Dog Grooming (26832) has renewed their lease for three more years. See Tenant Roster for pertinent details.

5. A lease for a 279-square-foot space (26834-A) has recently been signed by John (dba John's Shoe Repair) for a 12-month period commencing 3/1/85 with fixed minimum base rent of $275/mo., or $0.99/SF. This lease is typical of others in this retail center (prorata share of CAM and taxes) with the exception that electricity is paid by the lessor. No provision for overage rent is included.

6. Glendale Federal Savings and Loan (26842), whose lease expires 5/31/85, has expressed a desire to move, but will apparently sign a lease renewal for one more year commencing 6/1/85 with four 6-month options. The initial minimum base rent is $1,050/mo. with stated increases to $1,110/mo. on 6/1/86 and $1,175 on 6/1/87 should renewal options be exercised. All other terms and conditions of the original lease to remain unchanged.

7. James Real Estate (26852) is assumed to vacate at the termination of the lease on 5/31/85. The property manager feels that it will take 3 to 5 months to release this particular space.

8. A 3-year lease renewal sent to City Fabricare (26866) on 3/1/85 has apparently been signed. Fixed minimum base rent is $1,120/mo. for the first 12 months, $1,185/mo. for the second 12 months, and $1,255/mo. for the third 12-month period. For purposes of calculating overage rent, the percentage factor will stay at 10%.

9. A new 5-year lease commencing 1/1/85 has been signed by City Florist (26870 D & E) with initial minimum base rent of $610.50/mo. with stated rent increases to $647/mo. for the second 12 months, $686/mo. for the third 12 months, $727/mo. for the fourth 12 months, and $771/mo. for the fifth 12-month period. Lessor also agrees to provide up to $3,000 of specified tenant improvements. No provision for overage rent is included in this new lease.

10. A 3-year lease renewal was recently signed by Swan, Carpenter and Wallis (26876) for 1,036 square feet (their original 686-square-foot space and the old 350-square-foot space (26870 F) previously occupied by Robert

03/08/85
SCSHOP-II

PREPARED--3/15/85

ANNUALIZED TENANT REVENUE FOR 1985

	SQUARE FOOTAGE	EXPIRATION	MINIMUM RENTAL INCOME	CPI ESCALATION	BASE RENTAL INCOME	CAM ESCALATION	RE TAXES ESCALATION	INSUR ESCALATION	TOTAL ESCALATION	GROSS RENTAL INCOME
CITY BICYCLE	965	5/88	9,048	0	9,048	565	346	64	975	10,023
SPORTSWEAR	740	3/88	6,360	0	6,360	433	266	49	748	7,108
FRANES FASHIONS	2,100	2/87	17,352	0	17,352	1,229	754	140	2,123	19,475
SC BEAUTY SALON	2,064	7/89	16,092	483	16,575	1,208	741	138	2,086	18,661
GRANNYGS DELIGHT	660	12/85	5,460	0	5,460	386	237	44	667	6,127
VACANT 1	835	2/88	7,014	0	7,014	489	300	56	844	7,858
MR TES RESTAURANT	3,500	5/91	22,470	0	22,470	2,048	1,257	233	3,538	26,008
P	815	3/88	6,360	0	6,360	477	293	54	824	7,184
DOG GROOMING	312	12/87	3,010	0	3,010	183	112	21	315	3,325
JUAN'S SHOE REPAIR	279	2/86	3,300	0	3,300	163	100	19	282	3,582
VACANT 2	237	2/88	1,991	0	1,991	139	85	16	240	2,231
VACANT 3	1,250	2/88	9,750	0	9,750	731	449	83	1,264	11,014
GLENDALE FED S&L	1,315	5/88	12,506	0	12,506	769	472	88	1,329	13,836
VACANT 4	2,581	2/88	20,132	0	20,132	1,510	927	172	2,609	22,741
CURTIS CURRAL	2,632	1/88	17,760	0	17,760	1,540	945	176	2,660	20,420
INSURANCE	787	5/85	6,464	0	6,464	468	283	52	796	7,259
PAINE WEBBER	787	4/86	6,504	0	6,504	468	283	52	796	7,300
BARNACLE BILLS	2,480	3/93	19,195	0	19,195	1,451	890	165	2,507	21,702
ORIENTAL GARDENS	2,560	9/93	17,906	0	17,906	1,498	919	171	2,588	20,494
SC FABRICARE	2,000	8/85	12,576	0	12,576	1,170	718	133	2,022	14,598
DORAL TRAVEL	1,250	12/86	10,320	0	10,320	731	449	83	1,264	11,584
CHAMBERGS CABLE	740	12/87	5,200	0	5,200	433	266	49	748	6,028
SC FLORIST	1,110	12/89	7,326	0	7,326	649	399	74	1,122	8,448
SCAW	1,036	7/87	8,702	261	8,963	606	372	69	1,047	10,010
HEMET INSURANCE	1,223	7/87	11,040	331	11,371	716	439	82	1,236	12,607
VALLEY NATIL BANK	2,090	3/88	18,792	0	18,792	1,223	750	139	2,113	20,904
CHEFGS CAFETERIA	3,215	1/99	22,800	0	22,800	1,881	1,154	214	3,250	26,050
SUPERIOR HEARING AID	1,050	6/88	8,800	317	9,125	614	377	70	1,061	10,186
CARRIAGE CLEANERS	1,815	3/89	13,471	0	13,471	1,062	652	121	1,835	15,306
YAUNCEY S	1,070	8/87	8,800	213	9,093	626	384	71	1,082	10,175
SDC BANNER SHOP	840	4/90	6,839	0	6,839	491	302	56	849	7,688
SC COIN & ASTAMP	565	7/86	5,530	160	5,490	331	203	38	571	6,061
CASUAL WRAPPINGS	1,700	9/88	13,772	0	13,772	995	610	113	1,718	15,491
CAGNEY & ASSOC	1,250	12/89	9,744	0	9,744	731	449	83	1,264	11,008
LING DRUGS	15,569	10/ 7	59,700	0	59,700	9,189	5,590	1,038	15,737	75,437
SC GIFDT & HARDWARE	6,650	5/94	18,753	0	18,753	3,891	2,388	444	6,722	25,475
MARIETTS FURNITURE	4,040	5/93	15,695	0	15,695	2,364	1,451	269	4,084	19,779
RELIGIOUS BOOKSTORE	3,302	8/86	19,416	0	19,416	1,932	1,186	220	3,338	22,754
VACANT 5	4,000	2/88	21,600	0	21,600	2,340	1,436	267	4,043	25,643
HALLMARK CARD	2,050	6/93	16,222	0	16,222	1,199	736	137	2,072	18,294
SHIRTTOWN	1,594	3/86	12,834	0	12,834	933	572	106	1,611	14,445
FOTO PLACE	174	2/91	3,600	0	3,600	0	0	0	0	3,600
S&L	4,900	5/ 4	22,428	0	22,428	2,867	1,759	327	4,953	27,381
TOTALS	90,132		562,683	1,765	564,368	52,631	32,300	6,000	90,931	655,298

EXHIBIT 29 (Continued)

Holmstrom) commencing 8/1/84. Initial fixed minimum base rent is $725.20/mo. with stated rental increases to $768.71/mo. on 8/1/85 and $814.79 on 8/1/86. This is a typical triple-net lease with no overage provision. Furthermore, lessor has agreed to less than $300 of tenant improvements and lessee agrees to provide its own janitorial service.

11. Management is currently negotiating a 3-year lease renewal with National Bank (26880) whose present lease expires 3/31/85. The terms of this new lease include fixed minimum base rent of $1,568/mo. for the first 12 months, $1,662/mo. for the second 12 months, and $1,762/mo. for the third 12-month period. Although National Bank apparently would prefer a CPI adjustment and lower initial rent, it is the manager's opinion they will probably agree to these terms, which, therefore, will be included in our analysis.

12. A 5-year lease renewal has apparently been signed with City Barber Shop (26912) with initial minimum base rent of $575/mo. with annual CPI adjustments throughout the remainder of the lease starting 5/1/86. No overage provision is included and lessor agrees to install new floor tile and a drop ceiling.

13. & Associates (26924) recently signed a 5-year lease for 1,250 square feet with initial minimum base rent of $875/mo. (incorrectly shown on the Tenant Roster as $812/mo.) with annual COL adjustments throughout the remainder of the lease starting 1/1/86. Lessor has also agreed to grant lessee free rent consisting of the first three months of this new lease term, a $7,500 tenant improvement allowance, and one 5-year renewal option with terms to be negotiated.

A summary chart of Annualized Tenant Revenue for 1984 is shown on the facing page based on these changes with lease expiration dates reflecting our assumption that renewal options will be exercised where applicable.

SUMMARY OF COMPARABLE RENTALS

Rental #	Location	Lease Date Term/Option	N.R.A. (SF)	Floor	Monthly Unit Rate/ SF	Expense Provision	Comments
R-1	27388 Sun City Blvd.	----	----	----	---	---	----
R-2	Unit A. Japanese Restaurant	Offer 10	24,000	grnd	.65	nnn	As is, 3 mos. free rent.
R-3	Unit B. Cleaners	1-85 5	1,225	grnd	.75	nnn	C.P.I.
R-4	Unit C. Optometrist	12-84 5	1,225	grnd	.75	nnn	C.P.I.
R-5	Unit D.	Vacant	21,000	grnd	----	---	----
R-6	Unit E. Donut Shop	10-83 5	1,225	grnd	.79	nnn	C.P.I.
R-7	Unit F. Florist	11-84 5	1,225	grnd	.75	nnn	Year 1 = .69 2 = .70 3 = .75 4 = .75 5 = .75
R-8	Unit G.	Vacant	21,000	grnd	----	---	----
R-9	Unit H. Video Rental	4-84 5	2,053	grnd	.75	nnn	C.P.I.

EXHIBIT 29 (Continued)

Market Rent

In order to estimate the current fair market rental rate applicable to the subject's unoccupied space and projected fair market rental rates for lease spaces which become vacant and will be released at certain points in the future, we have attempted to gather comparable rental data in the City area. However, it should be noted that due to the small size of City in general, the limited amount of truly competitive retail space in the subject's immediate environs, and the prominence of the subject property as the only neighborhood shopping center of its size in City, we have placed the greatest weight on the large number of leases signed within the subject center during the last year in our fair market rental estimates.

Since our original appraisal last year, there has been no new retail development in the subject's primary trade area. The closest and most competitive property is still Downey Savings and Loan's 73,000-square-foot retail strip center at 27388 Sun City Boulevard. A recent rental survey of this property is summarized on the facing page and reveals that five lease spaces ranging in size from 1,225 SF to 2,053 SF have leased since October, 1983 at monthly rates ranging from $0.75 to $0.79 per square foot. Four of these leases have annual C.P.I. adjustments. Two 21,000-square-foot spaces are currently vacant in this complex (or 58% of the total N.R.A.) and there has been a recent offer for a third large square footage lease space (24,000 SF) at $0.65/SF, triple-net for 10 years with 3 months free rent. This facility

is felt to be superior to the subject with a nearby Safeway Supermarket and Sprouse Reitz Store effectively acting as anchor tenant for purposes of consumer drawing power. This structure is also newer (only 3 years old), of higher quality design and construction, and reflects superior locational characteristics, especially with respect to exposure.

The other competitive retail space in this area is Bradley Plaza, located on Bradley Road between Bob's Big Boy and McDonald's restaurant. Asking rates at this facility are slightly higher than the subject at $.75-$.85, full service, with tenants paying their own utilities. These rates also reflect superior quality of construction and would also require a slight downward adjustment for their semi-gross lease status.

Due to the significant amount of lease negotiations which have occurred within the subject property itself in the last eighteen months, both with regards to new leases signed as well as lease renewals, we have given considerable attention and weight to the subject's leasing activity in determining current fair economic rents for our discounted cash flow analysis. For purposes of projecting market rates we have categorized tenant space on the basis of size. In the 0 to 1,000-square-foot category there are currently 11 tenants with an average monthly rental rate of $.71/SF. There are currently 19 tenants in the 1,001 to 3,000-square-foot category with an average rental rate

of $.65/SF. Six of the remaining 7 lease spaces over 3,000 square feet are currently leased at an average rental rate of $.36/SF.

The following chart summarizes 18 of the most recent leases negotiated in the subject property during 1984/85.

1984/85 LEASE NEGOTIATIONS
CITY SHOPPING CENTER

Size (Sq. Ft.)	Tenant & Suite No.	Current Rent/SF Monthly	Current Rent/SF Annually	Term (yrs.) Status	Comm. Date
279	John's Shore Repair 26834 A	$ .99	$11.83	1	3/01/85
312	Dog Grooming 26832	$ .80	$ 9.65	3 Renewal	1/01/85
740	Sportswear 26804	$ .72	$ 8.59	3 Renewal	4/01/85
787	James R.E. 26852	$ .65	$ 7.78	1 New	6/01/84
815	Paul 26830	$ .65	$ 7.80	3 New	4/01/85
840	City Barber 26912	$ .68	$ 8.21	5 Renewal	5/01/85
965	S. C. Bicycle & Elec. 26802	$ .79	$ 9.45	3 Renewal	6/01/85
1,036	Swan, Carpenter & Wallis 26876	$ .70	$ 8.40	3 Renewal	8/01/84
1,110	City Florist 26870 D & E	$ .55	$ 6.60	5 Renewal	1/01/85
1,250	& Assoc. 26924	$ .70	$ 8.40	5 New	1/01/85
1,315	Glendale Federal S & L 26842	$ .80	$ 9.58	1 Renewal	6/01/85
2,000	City Fabricare 26866	$ .56	$ 6.72	3 Renewal	9/01/85

EXHIBIT 29 (Continued)

2,064	City Beauty Salon 26812	$ .65	$ 7.80	5 Renewal	8/01/84
2,090	National Bank 26880	$ .75	$ 9.00	3 Renewal	4/01/85
3,215	Chef's Cafeteria 26890	$ .59	$ 7.09	5 New	2/01/84
3,302	Religious Bookstore 26940	$ .45	$ 5.40	2 New	9/01/84
4,040	Bartlett's Furniture 26936	$ .35	$ 4.20	3 Renewal	6/01/84
6,650	S. C. Gift and Hardware 26932	$ .20	$ 2.40	10 Renewal	6/01/84

Based on the preceding analysis, we have estimated current fair market rental rates on an annual basis of $8.40/sq.ft., $7.80/sq.ft., and $5.40/sq.ft. for spaces 0 to 1,000 sq.ft., 1,001 to 3,000 sq.ft., and 3,001 sq.ft. and up, repectively. These estimates, as well our assumptions for future lease terms, rental concessions, probable occurrence of turnover for purposes of calculating tenant improvements and releasing commissions and projected market rental growth rates are summarized on the following page for each of the tenant categories.

C.P.I. Rental Escalation Income

All existing leases with annual or periodic C.P.I. rental adjustments have been modeled as such in our program for the current lease term as well as for renewal options where applicable.

EXHIBIT 29 (Continued)

03/08/85
BCSHOP11

ANALYSIS TERM
3/85 THRU 12/95
90,132 SQFT

PREPARED--3/15/85

TENANT CATEGORIZATION ASSUMPTIONS

TENANT CATEGORY	NUMBER OF LEASES	TOTAL SQUARE FOOTAGE	WEIGHTED VACANCY ALLOWANCE	RENT CONCESS N	FUTURE LEASE TERM	PROBABLE FIRST OCCUPANCY	TURNOVERS SUBSEQ NT OCCUPANCY	1985 MARKET PER SQFT	MARKET THEREAFTER
0 TO 1000 SF SPACE	13	8,562	N.A.	NOTE A	3 YRS	50%	50%	8.40	INCREASING 6.0% ANNUALLY
1001 TO 3000 SF SPACE	21	36,228	N.A.	NOTE B	5 YRS	50%	50%	7.00	INCREASING 6.0% ANNUALLY
3001 SF & UP SPACE	7	48,276	N.A.	NOTE B	5 YRS	50%	50%	5.40	INCREASING 6.0% ANNUALLY
GROUND LEASES	2	5,074	N.A.	N.A.	5 YRS	20%	20%	21.93	INCREASING 6.0% ANNUALLY

NOTE A - TENANT BASE RENTAL INCOME UPON LEASES COMMENCING FROM 1985 TO 1995 (1 MOS.)
NOTE B - TENANT BASE RENTAL INCOME UPON LEASES COMMENCING FROM 1985 TO 1995 (3 MOS.)

EXPENSE ASSUMPTIONS

1. ADMINISTRATIVE — 2,500 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
2. CLEANING — 500.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
3. HVAC — 1,700 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
4. LANDSCAPE & PARKING — 3,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
5. MANAGEMENT

C. ACTUAL — BEGINNING IN 1985 4.0% OF EFFECTIVE GROSS INCOME ANNUALLY

6. MAINTENANCE & REPAIRS — 8,500 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
7. PAYROLL — 21,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
8. UTILITIES — 10,500 IN 1985, THEREAFTER STEPPED 8.0% ANNUALLY
9. ADVERTISING & PROMOTIONS — 1,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
10. PROPERTY TAXES — 32,300 IN 1985, THEREAFTER STEPPED 2.0% ANNUALLY
11. INSURANCE — 6,000 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY
12. TENANT IMPROVEMENTS — COMPRISED OF 2 SUBACCOUNTS, AS FOLLOWS:

A. TURNOVERS LEASES — TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 SF & UP SPACE , GROUND
PROBABLE NEW TENANT SPACE EXPENSED UPON LEASE COMMENCEMENT
SF COST - 5.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY

B. RENEWALS LEASES — TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 3001 SF & UP SPACE , GROUND
PROBABLE EXERCISED RENEWAL SPACE EXPENSED UPON LEASE COMMENCEMENT
SF COST - 2.00 IN 1985, THEREAFTER STEPPED 6.0% ANNUALLY

13. LEASING COMMISSIONS — COMPRISED OF 2 SUBACCOUNTS, AS FOLLOWS:

A. TURNOVERS 1 SF & UP SPACE , GROUND LEASES — FOR YEARS 1985 THRU 1995 AND TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 300
PROBABLE NEW TENANT SPACE EXPENSED UPON LEASE COMMENCEMENT
COMMISSION/YR - 4.00%

B. RENEWALS 1 SF & UP SPACE , GROUND LEASES — FOR YEARS 1985 THRU 1995 AND TENANT CATEGORY(S) - 0 TO 1000 SF SPACE , 1001 TO 3000 SF SPACE , 300
PROBABLE EXERCISED RENEWAL SPACE EXPENSED UPON LEASE COMMENCEMENT
COMMISSION/YR - 2.00%

14. CAPITAL IMPROVEMENTS — 50,000 IN 1985, THEREAFTER 10,000 ANNUALLY

Vacancy Allowance

Based on historical vacancy trends in Sun City in general for retail space and in light of the existing occupancy level in the subject, we have chosen to apply a 10% global vacancy factor to the subject's gross rental income in our computer model.

Overage Rental Income

The following chart shows the actual overage rental income for the subject property for 1981, 1982, 1983, and 1984.

Overage Rental Income History
City Shopping Center
1981-1985

Year	Overage Rent
1981	$24,771
1982	23,185
1983	15,514
1984	7,789
1985 (budget)	780

Overage rental income has been steadily decreasing over the past four years as evidenced by the preceding chart. Current overage income is being received primarily from only three tenants: City Florist, Fran's Fashions and Hallmark Cards. The two factors which have had the greatest effect on this downward trend are: 1) a continuing decline in retail sales in the City retail market and 2) a shift in emphasis by the subject property's management from overage provisions to rental escalations in the form of annual C.P.I. adjustments or fixed annual rental increases over the term of the lease (currently achieving 6% per annum rental increases). Taking these factors

into account, we have projected nominal overage rental income of $5,000 in 1985, $2,500 in 1986, with no overage projected for 1987 through the end of the holding period.

Operating Expenses

In an attempt to estimate reasonable expense projections over the ten-year time frame of our discounted cash flow analysis, we have reviewed actual expenses for the subject property for prior years, as well as the management's budget for expenses for 1985. A summary of our estimate of expenses for the subject is provided on a preceding facing page and is based on our review of these documents as well as discussions with of property management personnel and typical office building expense data on file with the Appraisal Division. Our growth projections are based on historical expense growth trends in Southern California as well as growth projections utilized by typical investors in similar discounted cash flow analyses for investment properties such as the subject.

Other Expenses

Tenant improvements include carpeting, replacement of ceiling tiles, painting, and general make-ready expenses for new tenants of existing lease spaces. This expense is estimated at $5.00/sq.ft. for turnovers and $2.00/sq.ft. for renewals and is projected to increase at the rate of 6% per year.

EXHIBIT 29 (Continued)

Leasing commissions have been estimated at 4% of total minimum base rent for turnover space and 2% for renewal space, based on current leasing practice for the subject property.

Major capital improvements were made during 1984 to the subject's roof and parking lot. Based on the 1985 budget, and assuming a nominal amount of recurring expenditures for parking lot, roof, and H.V.A.C. repairs, etc., we have estimated capital improvements of $50,000 during 1985, and $10,000 per year through the end of our analysis.

Expense Reimbursements

The subject leases typically provide for tenant reimbursement of expenses based on a full pro-rata share of taxes, insurance, and common area expense plus a 15% administrative surcharge calculated on all common area costs including utilities but excluding taxes, insurance, management, and administrative fees. Management is an owner's expense. For purposes of our computer model, we have assumed that all leases provide for tenant reimbursements on this basis.

Terminal Capitalization Rate and Estimated Reversion Value

Investors in office properties similar to the subject typically require terminal overall capitalization rates 50 to 200 basis points above going-in capitalization rates. As revealed by - most recent investor survey (Winter, 1984), a copy of which is included in the

Addendum of this report, these terminal capitalization rates required by typical institutional investors generally range from 8.5% to 12.0% with a central tendancy of 9% to 11%. The six comparable sales summarized earlier in this report reflect O.A.R.'s ranging from 9.25% to 10.18% with an average of 9.61%. Based on the available market evidence and considering the added risk of potentially new and competitive shopping center developments in City in the near future, we have decided to utilize a 10.5% overall capitalization rate by which to capitalize the 11th year's projected net operating income into a reversion value. From this amount, we have also deducted a 3.0% commission fee expense and $47,935 of leasing fees and other first-year expenses that would be incurred by a potential purchaser in 1995. Based on an 11th year net operating income of $933,272 and the above assumptions, a reversion value of $8,573,721 has been calculated and added to the 10th year's NOI before debt service before discounting these annual cash flows into a net present value indication.

Derivation of Discount Rate

In order to develop an indication of value by the Income Approach, it is necessary to establish an acceptable discount rate to discount the annual cash flows (NOI before debt service) and the reversion value.

Typical investors require a rate of return for investment quality property such as the subject which is greater than the safe or "riskless" rates offered for long-term treasury notes and bonds or high-grade corporate bonds. The difference between an investor's required rate of return and the safe rate is basically the premium necessary to compensate the investor for the added risks of inflation, management, and the lack of liquidity offered by a real estate investment.

As revealed by most recent summary of Institutional Investor Criteria For Investment contained in the Addendum of this report, major institutional investors are currently requiring before tax yield (discount) rates of 12% to 17% (all cash transactions) and 100 to 200 basis points above that for leveraged transactions.

In selecting an appropriate discount rate, we have considered available yields on alternate investments as well as the subject propert 's location, age, and condition relative to competing properties'. We have also taken into consideration its current leasing status and level of management and marketing. Based on the foregoing, it is our opinion that a 16% before-tax discount or yield rate would be required by a typical investor for a multi-tenant retail center such as the subject located in City.

Discounted Cash Flow Assumptions

In the formulation of our ten-year discounted cash flow model of the subject for investment analysis, we have made the following assumptions which are felt to be reasonable based on the available market evidence and support detailed in this report as well as our general knowledge of the real estate market and thought processes of typical investors.

1. Due to our March 15, 1985 date of valuation and the fact that our computer-generated discounted cash flow model initiates computations for the projection period as of the beginning of a given month, we have chosen a beginning computation date of March 1, 1985. As a result, the 1985 Cash Flow Pro-Forma Operating Statement reflects a partial year's income for the last ten months of the year. Furthermore, since all of the subsequent pro-formas are calculated on a calendar-year basis, our model, in essence, assumes a 9.833-year holding period although it is commonly referred to as a 10-year cash flow projection.

2. All of existing leases have been modeled utilizing their contract rental rates and lease terms over the initial lease term. Any free rent still remaining on these existing leases as of the initial date of our computer analysis has been incorporated into our DCF model. Any renewal options on the existing leases are assumed to be exercised at market rental rates.

3. All current vacant space is assumed leased as of 3/01/85 with one month's free rent per year of lease term given with no renewal options.

4. Rent Escalations: All new leases are also assumed to be written with an annual CPI adjustment. We have assumed an annual compound CPI growth rate of 6%.

5. For purposes of calculating tenant improvements and releasing commissions upon rollover/turnover, we have assumed a 50% probability that lease spaces will turnover upon initial and subsequent lease or renewal option expirations.

SCENARIO II

DEFINED - 5/15/85

CASH FLOW PRO FORMA

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
INCOME:											
0 TO 1000 SF SPACE	57,480	74,795	76,614	81,172	84,858	87,363	95,972	101,799	104,295	114,704	121,244
1001 TO 2000 SF SPACE	220,514	290,810	297,620	314,195	325,746	336,977	341,852	355,786	401,777	432,807	440,295
2001 SF & UP SPACE	144,962	185,848	190,994	207,525	207,422	223,742	231,777	245,681	289,000	321,795	327,716
GROUND LEASES	21,698	20,828	28,428	28,428	32,853	36,814	35,525	35,427	35,427	35,427	138,175
MINIMUM BASE RENTAL INC.	452,654	577,082	681,663	631,321	650,879	684,897	705,125	738,533	831,294	902,612	1,027,429
CPI RENTAL ESCALATION	1,471	9,295	20,200	21,656	36,547	54,079	69,013	88,239	62,763	62,276	94,066
BASE RENTAL INCOME	454,125	587,177	621,863	652,977	687,426	738,976	774,139	818,772	894,057	965,089	1,121,495
CAM PASSTHRU	42,477	56,214	60,046	64,145	68,530	73,221	78,239	83,689	89,355	95,584	102,004
TAX PASSTHRU	26,869	32,946	33,685	34,277	34,963	35,662	36,375	37,103	37,845	38,601	39,374
INSURANCE PASSTHRU	4,042	6,368	6,742	7,146	7,575	8,029	8,511	9,022	9,563	10,137	10,745
GROSS RENTAL INCOME	527,513	682,697	722,256	758,546	798,494	855,888	897,264	948,585	1,030,820	1,110,131	1,283,697
LESS: VACANCY	52,751	68,270	72,226	75,855	79,849	85,589	89,726	94,851	103,082	111,013	128,370
LESS: RENT CONCESSIONS	3,911	9,720	14,634	40,264	11,574	12,164	22,820	21,995	79,489	34,369	18,090
EFFECTIVE RENTAL INCOME	470,851	604,707	635,397	642,427	707,070	758,135	784,718	831,660	848,248	964,748	1,137,230
OVERAGE RENT	4,167	2,500	0	0	0	0	0	0	0	0	0
EFFECTIVE GROSS INCOME	475,018	607,207	635,397	642,427	707,070	758,135	784,718	831,660	848,248	964,748	1,137,230
OPERATING EXPENSE:											
ADMINISTRATIVE	2,083	2,658	2,889	2,970	3,156	3,346	3,546	3,759	3,985	4,224	4,477
CLEANING	417	538	562	596	631	669	709	752	797	845	895
HVAC	1,417	1,802	1,910	2,025	2,146	2,275	2,411	2,556	2,710	2,872	3,044
LANDSCAPE & PARKING	2,500	3,180	3,371	3,573	3,787	4,015	4,256	4,511	4,782	5,068	5,373
MANAGEMENT	19,001	24,200	25,416	25,697	28,283	30,325	31,500	33,266	33,938	38,590	45,489
MAINTENANCE & REPAIRS	7,003	9,010	9,551	10,124	10,731	11,375	12,057	12,781	13,548	14,361	15,222
PAYROLL	17,500	22,260	23,596	25,011	26,512	28,103	29,789	31,576	33,471	35,479	37,608
UTILITIES	15,417	19,980	21,578	23,385	25,169	27,183	29,357	31,706	34,242	36,982	39,940
ADVERTISING & PROMOTIONS	833	1,060	1,124	1,191	1,262	1,338	1,419	1,504	1,594	1,689	1,791
TOTAL OPERATING EXPENSE	66,251	84,760	89,916	94,499	101,678	108,628	114,933	122,411	129,857	140,118	153,848
FIXED EXPENSE:											
PROPERTY TAXES	26,917	32,946	33,685	34,277	34,963	35,662	36,375	37,103	37,845	38,601	39,374
INSURANCE	5,000	6,368	6,742	7,146	7,575	8,029	8,511	9,022	9,563	10,137	10,745
TOTAL FIXED EXPENSE	31,917	39,306	40,347	41,423	42,537	43,691	44,886	46,124	47,408	48,738	50,119
NET OPERATING INCOME	376,850	483,141	505,135	506,505	562,854	605,815	624,891	663,125	671,783	775,900	933,272
OTHER EXPENSE:											
TENANT IMPROVEMENTS	8,640	26,834	27,848	82,548	27,591	28,218	49,281	88,539	113,912	78,274	29,777
LEASING COMMISSIONS	2,114	7,875	7,324	24,141	7,469	6,869	11,873	22,211	32,896	18,736	8,158
CAPITAL IMPROVEMENTS	41,667	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
NOI BEFORE DEBT SERVICE	324,430	439,271	459,978	389,823	517,794	560,726	554,536	550,375	515,775	668,890	885,336

** 1985 REFLECTS A PARTIAL YEAR BEGINNING 3 / 85 .

THESE ARE PROJECTIONS BASED ON INFORMATION DEEMED TO BE RELIABLE, AND ARE AN ATTEMPT TO PREDICT FUTURE EVENTS BASED ON CERTAIN ASSUMPTIONS.

EXHIBIT 29 (Continued)

6. We have taken a 10% global vacancy factor based on gross rental income.

7. In calculating a reversion value, we have assumed a 10.5% terminal capitalization applied to the 11th year's NOI from which is deducted a 3% sales commission and $47,935 of tenant improvements and resulting other first-year expenses in a reversion value of $8,573,721.

8. A final value indication was derived by discounting each respective year's NOI before debt service plus the reversion value at the end of the 10th year back to the beginning date of the computer analysis (March 1, 1985) by an annual discount or yield rate of 16%. Due to the small difference in timing between the date of valuation and the adjusted beginning date for computer computations, our final net present value computation for the annual cash flows will be assumed to be the same for both dates.

Conclusion of Discounted Cash Flow Analysis

Based upon our 10-year pro forma cash flow projection summarized on the facing page and present value computations summarized on the following facing page, we have concluded that the indicated value via the Income Approach for the subject property, as of March 15, 1985 is $4,290,000 (rounded).

The Income Approach analyzes and attempts to measure the investment qualities of the property appraised. Since the main objective in developing and owning a shopping center such as the subject is for investment purposes, the market for the property is most concerned with the net income benefits to be derived in the future. In this approach, a ten-year discounted cash flow analysis was prepared in order to estimate the present value of

EXHIBIT 29 (Continued)

the future income streams. In our opinion, this approach is considered the most reliable indication of value for the subject.

Discounted Cash Flow
Net Present Value Computation
City Professional Office Building

Cash Flow at end of Year	Cash Flow Amount	Discount Factor 2	Present Value As of 3/1/85
10	$9,242,611	.232361	$2,147,622
9	515,775	.269539	139,021
8	550,375	.312665	172,083
7	554,536	.362691	201,125
6	560,736	.420722	235,914
5	517,794	.488037	252,703
4	389,823	.566123	220,688
3	459,970	.656703	302,064
2	439,271	.761776	334,626
1	324,430	.883660	286,686
			$4,292,532
Rounded to			$4,290,000

Notes

1) Cash flow at the end of ten equals the sum of $8,573,721 reversion value and tenth year's net operating income before debt service of $668,890.

2) Due to the March 1, 1985 beginning computation date used in our computer model and for purposes of discounting respective cash flows back to this date, the discount factors shown reflect a 9.833-yr. time period for the cash flow at the end of the year ten, an 8.833-yr. time period for the cash flow at end of year nine, and so on, down to a .833-yr. time period for the cash flow at end of year one. The discount factors and present values shown have been calculated with compound interest accruing during the "odd period" between March 1, 1985 and December 31, 1985. For those persons interested in duplicating these calculations on the Hewlett Packard 12C handheld calculator, it is first necessary to press the "STO" key and then the "EEX" key to switch into the compound interest mode before entering the cash flow amounts (wnen initially turned on, the HP 12C is automatically in a simple interest mode). The discount factors shown are rounded to four significant digits although calculations are based on actual factors.

EXHIBIT 29 (Continued)

Direct Capitalization Method

As a check against the Discounted Cash Flow Analysis presented above, we have also estimated a value indication by the Direct Capitalization Method as summarized below. In this analysis, we have chosen to capitalize the annualized 1985 net operating income at a 10.25% overall capitalization rate and deducting therefrom other first-year expenses which would be incurred by a purchaser in 1985 (tenant improvements, leasing commissions, and capital improvements).

1985 Stabilized Pro Forma Income Statement

Base Rental Income	$ 544,950
Recapturable Expenses	88,066
Gross Rental Income	$ 633,016
Less: Vacancy	63,302
Rent Concessions	4,693
Effective Rental Income	$ 565,021
Overage Rent	5,000
Effective Gross Income	$ 570,021
Total Operating & Fixed Expenses	117,801
NET OPERATING INCOME	$ 452,220
Capitalize @ 10.25%	$4,411,902
Less: Other Expense (Tenant Improvements, Leasing Commissions, Capital Improvements)	62,904
Indicated Value	$4,348,998
Rounded to	$4,350,000

The indicated value of $4,350,000 via the Direct Capitalization Method provides reasonable support for the value indication via the Discounted Cash Flow Method but is given less weight in our final analysis as most investors for this type of property place the most emphasis on a similar discounted cash flow analysis.

EXHIBIT 29 (Continued)

Based on our analyses of the subject property's income-producing capabilities, but placing greater weight on the Discounted Cash Flow analysis presented above, we are of the opinion the market value of the leased fee interest in the subject property, subject to the existing leases, as of March 15, 1985 is:

FOUR MILLION THREE HUNDRED THOUSAND DOLLARS

($4,300,000)

EXHIBIT 30

A F T E R T A X V A L U A T I O N
(A.T.V.)

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**********************************************************************************
*              After Tax Valuation (ATV) 3.1  Copyright (c) 1982                 *
*                                                                                *
*               Valusoft , Inc.          and     Micro-Matix , Inc.              *
*               P.O. Box 5284                    P.O. Box 1148                   *
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PLEASE INPUT THE NUMBER CORRESPONDING TO THE DESIRED OPERATION

1 VALUE CALCULATION
2 GRAPHIC PRESENTATION
3 YIELD CALCULATION
4 INCOME AND EXPENSE ANALYSIS
5 RETURN TO SYSTEM

EXHIBIT 30 (Continued)

COMPUTER OUTPUT OF AFTER TAX
VALUATION PROGRAM FOR SUBJECT PROPERTY

WOOLWORTH-$250000 MORTGAGE-$240000 LAND
2 W. MIFFLIN ST.
MADISON , WI 53703
By LANDMARK RESEARCH-GRAASKAMP/DAVIS

VALUE	$375,566.
AFTER TAX YIELD	16.00000
OVERALL RATE	0.09137
MORTGAGE CONSTANT	0.14059
MORTGAGE VALUE	$250,000.
BUILDING VALUE	$135,566.
EQUITY VALUE	$125,566.
EQUITY DIVIDEND	-0.00663

INPUT FILE

EQUITY YIELD RATE	16.00000
HOLDING PERIOD	5
LOAN NUMBER	1
INTEREST RATE	0.13000
LOAN TERM	20.00000
PAYMENTS PER YEAR	12
LOAN AMOUNT	250,000
TAX RATE	0.50000
CAPITAL GAINS TAX RATE	0.20000
RESALE PRICE	$500,000.
LAND VALUE	$240,000.
DEPRECIATION METHOD	SL
COST RECOVERY PERIOD	18
NET OPERATING INCOME	$34,315.
CHANGE IN NOI	0.43762
INCOME ADJUSTMENT FACTOR	YR
SELLING COST	0.04000

C A S H F L O W S U M M A R Y

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
NOI	$34,315.	$45,814.	$47,052.	$47,772.	$49,332.
DEBT SER#1	-$35,147.	-$35,147.	-$35,147.	-$35,147.	-$35,147.
BTCF	-$832.	$10,667.	$11,905.	$12,625.	$14,185.
NOI	$34,315.	$45,814.	$47,052.	$47,772.	$49,332.
INTEREST 1	-$32,336.	-$31,948.	-$31,507.	-$31,004.	-$30,433.
DEPREC	-$7,531.	-$7,531.	-$7,531.	-$7,531.	-$7,531.
TAXABLE	-$5,553.	$6,334.	$8,014.	$9,236.	$11,368.
TAXES	-$2,776.	$3,167.	$4,007.	$4,618.	$5,684.
ATCF	$1,944.	$7,500.	$7,898.	$8,007.	$8,501.

RESALE PRICE	$500,000.
SELLING COST	-$20,000.
LOAN BALANCE # 1	-$231,493.
BEFORE TAX PROCEEDS	$248,507.
TAXES	-$28,418.
AFTER TAX PROCEEDS	$220,089.

RESALE PRICE	$500,000.
SELLING COST	-$20,000.
ADJUSTED BASIS	-$337,909.
TAXABLE GAIN	$142,091.
LONG TERM GAIN	$142,091.
ORDINARY TAXES	$0.
CAPITAL GAINS TAX	$28,418.

EQUITY CASH FLOW SUMMARY

YEAR	CASH FLOW
0	-$125,566.
1	$1,944.
2	$7,500.
3	$7,898.
4	$8,007.
5	$228,590.

EXHIBIT 30 (Continued)

ASSUMPTIONS USED IN AFTER-TAX VALUATION

Equity Yield Rate	16%	
Holding Period	5 yrs.	
Loan Number	1	
Interest Rate	13%	
Loan Term	20 yrs.	
Payments per Year	12	
Loan Amount	$250,000	[1]
Tax Rate	50%	
Capital Gains Tax Rate	20%	
Resale Price	$500,000	[2] & [3]
Land Value	$240,000	[4]
Depreciation Method	Straight Line	
Cost Recovery Period	18 yrs.	
Net Operating Income-Year One	$34,315	
Change in NOI	0.43762	
Income Adjustment Factor *	YR	
Selling Cost	4%	

* (Enter each year's income - Exhibit IV-3)

[1] On the basis of a reasonable land value it was assumed a purchaser could obtain a $250,000 loan at 13 percent interest, monthly payment amortized for 20 years and ballooning in 5 years.

[2] The loan available to a prospective purchaser must be secured by the income or the land value. Since purchase is motivated by an interim use followed by redevelopment of the site, the critical collateral value is the land. Assuming the land is worth $50 per square foot in 1990, to parallel the 1985 value of the Manchester site, the land will ultimately be worth $610,000 before it is cleared for redevelopment. A 1985 estimate for demolition from Terra Engineering and Construction Corporation Corp. was $88,000 plus, depending on the presence of asbestos or other DNR requirements. (See Appendix C.) Inflating by 5 percent to 1990 leads to a demolition charge estimate of approximately $115,000 or a residual value to the land before demolition of $495,000, say $500,000 in 1990 when the Woolworth lease expires.

[3] Each additional $100,000 of land value realized in 1990, net of demolition costs, would add approximately $47,600 of value at 16 percent of return to 1985 dollars.

[4] A land value of $240,000 in 1985 is approximately $20 per square foot, a relatively low estimate which reflects the current uncertainty of redevelopment plans for the Square. Internal Revenue Service will undoubtedly pressure the next buyer on the allocation of purchase price between land and depreciable buildings, so that tax shelter may be minimal from depreciation or the write-off of the building in five years may be unsuitable for the business purpose of the tenant.

EXHIBIT 30 (Continued)

WOOLWORTH BUILDING
SCHEDULE OF REVENUES AND EXPENSES
FROM MAY 1, 1985, THROUGH APRIL 30, 1990

	YEAR ONE 5-1-85 TO 4-30-86	YEAR TWO 5-1-86 TO 4-30-87	YEAR THREE 5-1-87 TO 4-30-88	YEAR FOUR 5-1-88 TO 4-30-89	YEAR FIVE 5-1-89 TO 4-30-90
REVENUES					
Woolworth	50000	50000	50000	50000	50000
Office	37363	39231	41192	43252	45414
Office Vacancy	14179	5209	4119	4325	4541
Effective Gross Revenue (EGR)	73183	84022	87073	88927	90873
REIMBURSABLES					
Electricity-Office Tenants	2979	3099	3223	3352	3486
Utilities-Woolworth	28829	30019	31220	32469	33767
Insurance-Woolworth	1820	1893	1968	2047	2129
Real Estate Tax Increase Over Base of $19709 (1984)	0	0	0	0	237
Total Reimbursables	33628	35011	36411	37867	39619
TOTAL EFFECTIVE GROSS REVENUE	106811	119032	123484	126794	130492
EXPENSES					
Repairs & Maintenance	4004	4324	4670	5044	5447
Utilities	35568	36991	38470	40009	41610
Insurance	2716	2824	2937	3055	3177
Real Estate Taxes	18531	16497	17487	18537	19649
Mall Special Assessment	2517	2393	2270	1458	0
Mall Maintenance	616	665	719	776	838
Management @ 5% EGR	5341	5952	6174	6340	6525
Leasing @ 3% EGR	3204	3571	3705	3804	3915
TOTAL EXPENSES	72496	73218	76432	79022	81160
NET OPERATING INCOME	34315	45814	47052	47772	49332

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES FROM
JANUARY 1, 1985, THROUGH DECEMBER 31, 1994 [1]

	ESTIMATED GROWTH RATES FROM 1987-1994 [2]	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
EFFECTIVE GROSS APARTMENT/SERVICE REVENUE [2]											
81 - 1 BR Apartment Units	5%	0	239501	321040	337092	353947	371644	390226	409737	430224	451735
60 - 2 BR Apartment Units	6%	0	266976	309093	327639	347297	368135	390223	413636	438454	464762
8 - 2 BR Deluxe Apartment Units	7%	0	47880	50719	54270	58069	62133	66483	71136	76116	81444
Service/Amenity Package - 149 Residents [3] (1st Occupant)	6%	0	435204	543635	576253	610828	647477	686326	727506	771156	817425
Service/Amenity Package - 37 Residents (2nd Occupant)	6%	0	68772	85907	91061	96525	102316	108455	114963	121861	129172
SUBTOTAL: EFFECTIVE GROSS APARTMENT/ SERVICE REVENUE		0	1058333	1310394	1386314	1466665	1551706	1641713	1736978	1837811	1944539
EFFECTIVE GROSS PARKING REVENUE [4]											
48 Attached Garages	5%	0	19114	21480	22554	23682	24866	26109	27415	28786	30225
60 Ancillary Attached Garages	5%	0	9380	14364	15082	15836	16628	17460	18333	19249	20212
SUBTOTAL: EFFECTIVE GROSS PARKING REVENUE		0	28474	35844	37636	39518	41494	43569	45747	48035	50436
LAUNDRY - EFFECTIVE GROSS REVENUE [5]	5%	0	1712	2118	2224	2335	2452	2575	2703	2838	2980
OTHER - EFFECTIVE GROSS REVENUE [5]	7%	0	16892	21300	22791	24386	26093	27920	29874	31965	34203
SUBTOTAL: EFFECTIVE GROSS REVENUE-RENT/SERVICE PARKING, LAUNDRY & OTHER SOURCES		0	1105411	1369656	1448965	1532904	1621745	1715776	1815303	1920649	2032158
INTEREST INCOME [6]											
Security Deposit @ 9%	0%	0	7599	8954	8954	8954	8954	8954	8954	8954	8954
Debt Service Reserve Fund @ 11.5%	0%	64400	64400	64400	64400	64400	64400	64400	64400	64400	64400
SUBTOTAL: INTEREST INCOME		64400	71999	73354	73354	73354	73354	73354	73354	73354	73354
TOTAL EFFECTIVE GROSS REVENUE [7]		64400	1177409	1443010	1522320	1606259	1695099	1789130	1888657	1994004	2105512

EXHIBIT 31

FOOTNOTES TO EXHIBIT 31 (Continued)

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES FROM JANUARY 1, 1985,
THROUGH DECEMBER 31, 1994

[1] Detailed calculations of projected potential and effective gross revenue are found in Appendix C. The potential gross revenue and vacancy loss from each revenue source for each year are shown.

[2] Vacancy Loss: Although completion of [redacted] is targeted for the late fall of 1985, for purposes of this appraisal it is assumed that operations begin on January 1, 1986, and all pre-leased units are occupied at that time. Based upon occupancy/vacancy projections detailed in Exhibit III-6 the 81 one-bedroom units will have an average vacancy loss of 23 percent in 1986 and apartment rents will remain at the same level as in 1984-85. The average vacancy thereafter will be stable at 1.7 percent per year for tenant turnover.

The 60 two-bedroom units will have an average vacancy loss of 10 percent in 1986 and will then be stabilized at 1.7 annually for tenant turnover.

The eight deluxe two-bedroom units have a waiting list 1-1/4 years before the project is scheduled to open. Vacancy will be 0 percent in 1986 and will average 1 percent thereafter to account for the time needed to redecorate as tenancy changes.

Inflation Rate: Landmark Research, Inc.'s 1984 apartment rental survey in [redacted] and in [redacted] indicates a varying pattern of rental increases from February 1984 to November 1984. The City of [redacted] Department of Planning and Development previously referenced study also indicates a steady increase in rents for one- and two-bedroom units. The data given for efficiencies and three-bedroom units were discovered to contain some distortions, but the one- and two-bedroom information appears to be consistent with the 1982 data and Landmark's information. Landmark's rental study and the City of [redacted] comparative rent data for 1982 and 1984 are found in Appendix B of this appraisal.

FOOTNOTES TO EXHIBIT 31 (Continued)

Based upon historic market rent increases in and , comparative rents of other retirement centers in and on file in Landmark's office, changes in the consumer price index, and demand factors for unit types, the following inflation factors are projected for :

For one-bedroom units, the rental revenue is expected to increase annually from 1987 at 5 percent after the initial rent-up period.

The two-bedroom units will have a greater demand in the early years of the project; the market survey results and the pre-leasing unit mix confirm this consumer preference. The appraiser estimates that the two-bedroom monthly service charge at $675 per month was initially understated when compared with other and retirement center fees; because of the strong demand for two-bedroom units and the initial understatement of the total monthly service charge, the rent portion is expected to increase 3 percent in 1986 and is projected to increase at 6 percent annually thereafter.

The demand is high for the larger two-bedroom, 1.75 bath unit and therefore the rent is expected to increase 5 percent in 1986 and 7 percent per year thereafter, a rate which includes both a high demand and an inflationary factor.

[3] The monthly service package, as detailed in Exhibit III-8, is projected to increase at 6 percent per year. As residents learn to live in and fully utilize the varied spaces and services available in a well-managed retirement living center, the value of this package will increase in intrinsic value to each resident. The revenue from the service package varies with occupancy; in 1986 occupancy is estimated to be 83.5 percent and in 1987 and thereafter, occupancy is expected to average 98.4 percent overall.

[4] In 1986 the 48 attached garage stalls located on the south end of wings A and B are projected to experience a vacancy loss of 7.5 percent and an average of 1 percent thereafter. The rent is expected to increase by 2-1/2 percent in 1986 and at 5 percent thereafter.

FOOTNOTES TO EXHIBIT 31 (Continued)

The 60 ancillary enclosed garage stalls, expected to have a longer rent-up period, are projected to have a vacancy loss of 35 percent in 1986 and thereafter the vacancy loss is projected to be 5 percent annually. Rents will remain flat through 1986 and will then increase at the rate of 5 percent per year.

[5] Laundry revenue will vary with occupancy at 83.5 percent in 1986 and 98.4 percent in 1987 and thereafter. Laundry revenue will increase 2-1/2 percent in 1986 from the 1985 lease amount and thereafter the annual increase is estimated to be 5 percent per year. This percentage increase in laundry revenue anticipates greater use of the washer/dryer beyond the allowance limit as well as the effect of inflation.

Other income from the coffee shop, beauty shop, guest rooms, and other sources will vary with occupancy. In 1986 allowances for vacancy is 16.5 percent, and in 1987 and thereafter, vacancy loss is projected to be no more than 1.6 percent. The gross potential revenue from these sources is projected to remain at the 1985 base amount until 1987 when the residents will have gradually adapted to living in a retirement center and will make fuller use of these facilities and services. In 1987 and thereafter, revenue from other sources will increase at the rate of 7 percent per year.

[6] The interest earned on security deposits varies with occupancy; in 1986 only 83.5 percent of the potential security deposits were earning interest, but from 1987 on, interest was earned on 98.4 percent of the potential security deposits. Interest at 9 percent is expected to remain stable.

Interest earned on the Debt Service Reserve Fund does not vary with occupancy and the interest rate is projected to be stable at 11.5 percent.

[7] The total effective gross income for years 1985 through 1994 is entered into the discounted cash flow program MRCAP as fixed income net of vacancy losses. See Exhibit IV-10.

[redacted]

A RETIREMENT LIVING CENTER
SCHEDULE OF PROJECTED REVENUES AND EXPENSES FROM JANUARY 1, 1985, THROUGH DECEMBER 31, 1994 [1]

		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
TOTAL EFFECTIVE GROSS REVENUE [1]		64400	1177409	1443010	1522320	1606259	1695099	1789130	1888657	1994004	2105512
EXPENSES	Base Amount First Year of Operation	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MANAGEMENT FEE [2]	3% effective gross before interest revenue	0	55270	68483	72448	76645	81087	85789	90765	96032	101608
FOOD SERVICE CONTRACT [3]	264771	0	221090	273360	287240	301602	316682	332516	349142	366599	384929
ADMINISTRATIVE [4]											
Personnel	75678	0	63191	78190	82100	86205	90515	95041	99793	104783	110022
Legal/Audit	10700	0	10700	11235	11800	12390	13010	13660	14343	15060	15813
Supplies, Dues & Advertising	5875	0	4900	6070	6380	6699	7034	7386	7755	8143	8550
SUBTOTAL: ADMINISTRATIVE	92253	0	78791	95495	100280	105294	110559	116087	121891	127986	134385
UTILITIES [5]											
Electricity	28700	0	24000	29370	30500	31720	32989	34308	35681	37108	38592
Water & Sewer	10700	0	8950	11050	11600	12180	12789	13428	14100	14805	15545
Gas	7600	0	6350	8000	7560	8089	8655	9261	9910	10603	11346
Telephone Service	12000	0	10020	12500	13270	14066	14910	15805	16753	17758	18824
SUBTOTAL: UTILITIES	59000	0	49320	60920	62930	66055	69343	72803	76443	80274	84307

EXHIBIT 32

EXHIBIT 32 (Continued)

MAINTENANCE [6]											
Personnel-Building Services	42430	0	35430	44260	46910	49725	52708	55871	59223	62776	66543
Grounds Care	4725	0	3950	4880	5130	5387	5656	5939	6236	6547	6875
Rubbish Removal	2650	0	2200	2740	2870	3014	3164	3322	3489	3663	3846
Janitorial Supplies & Services	5985	0	5000	6180	6490	6815	7155	7513	7889	8283	8697
Vehicle Usage & Maintenance	3600	0	3000	3720	3910	4106	4311	4526	4753	4990	5240
Building Repairs & Maintenance	9035	0	7550	9430	9990	10589	11225	11898	12612	13369	14171
Elevator Maintenance Contract	7000	0	7000	7350	7718	8103	8509	8934	9381	9850	10342
Parking Lot Repair	200	0	200	200	1700	1802	1910	2025	2146	2275	2411
Decorating	5250	0	5250	5850	6140	6447	6769	7108	7463	7836	8228
Exterminating	850	0	710	880	920	966	1014	1065	1118	1174	1233
Laundry Expense	300	0	260	320	330	347	364	382	401	421	442
SUBTOTAL: MAINTENANCE	82025	0	70550	85810	92108	97299	102785	108583	114710	121185	128028
ALL RISK INSURANCE [7]	14700	0	14700	15440	16200	17010	17861	18754	19691	20676	21710
OPERATING EXPENSES BEFORE R.E. TAXES		0	489721	599708	631206	663905	698317	734531	772642	812752	854966
REAL ESTATE TAX [8]	13300	11650	13300	150500	174100	182805	191945	201543	211620	222201	233311
TOTAL OPERATING EXPENSES		11650	503021	750208	805306	846710	890262	936073	984262	1034952	1088277
NET OPERATING INCOME (before reserves, debt service, and income taxes)		52750	674388	692802	717014	759549	804837	853057	904395	959052	1017239

FOOTNOTES TO EXHIBIT

[redacted]

SCHEDULE OF PROJECTED REVENUES AND EXPENSES FROM
JANUARY 1, 1985, THROUGH DECEMBER 1, 1994

[1] Total effective gross revenue is taken from Exhibit IV-8 which details each revenue component.

The operating expenses used for this project are based upon estimates made by [redacted] and checked for reasonableness against actual expenses experienced by other property managers in or from service suppliers. The annual inflation factor of 5 percent used to forecast most of the expenses is based upon the following pattern of changes in the Consumer Price Index and upon the premise that current Federal deficits will cause the inflation rate to accelerate gradually from recent lows.

1980	-	10.8%	
1981	-	8.1%	
1982	-	3.5%	
1983	-	3.5%	
1984	-	4.0%	(Annualized)

[2] The management fee is 5 percent of the effective gross revenue before interest revenue.

[3] The expense for the food service contract assumes that all residents will utilize the seven-day meal plan which entitles each resident to one full dinner/supper each day of the week. The monthly service charge also includes the charge for the seven-day meal plan. The rate of increase in food service has been relatively stable in the past few years. according to , President of in , from whom the quote of $3.90 per meal per day was obtained. forecasts future price increases to be less than 5 percent per year, including increases both for food products and for labor. Food service charges are assumed to vary with occupancy. Full occupancy of 149 residents plus 37 second occupants will result in an initial food service cost of $264,771 (186 residents x 365 days x $3.90), but in 1986, at 83.5 percent occupancy, the expense is $221,090. In 1987 and thereafter, occupancy is assumed to remain stable at 98.4 percent with expenses increasing annually at 5 percent.

FOOTNOTES TO EXHIBIT (Continued)

[4] Administrative personnel include an administrator, a resident service coordinator, a secretary-bookkeeper, receptionists, and other part-time administrative assistants. Added to the estimated base salary cost of $63,065 is 20 percent for fringe benefits for a total base of $75,678. Salaries are estimated to increase at 5 percent annually and staff size will vary with occupancy. Legal and audit costs are fixed and are inflated at 5 percent per year. Supplies, dues, and advertising costs vary with occupancy and are inflated annually at 5 percent.

[5] The Electric Power Company in has experienced a 2 percent rate decrease in 1984 and less than a 1 percent decrease has been requested for 1985. A surplus of electricity generating capacity in Wisconsin will keep electricity costs stabilized for the near future. Costs are assumed to increase at a generous 4 percent per year.

Natural gas increases in September/October of 1984 were approximately 3 percent. Both pipeline and utility operators expect the commodity charge for natural gas to be flat in the future with only inflationary increases anticipated, according to a spokesman for Natural Gas Co. An inflation factor of 5 percent is assumed for both gas and sewer and water. Local telephone service will be included in the monthly service charge for each apartment. The basic quote of $12,000 from the telephone company for all telephone service is expected to inflate at 6 percent per year, higher than the anticipated inflation rate, because of the uncertainty of the telephone company's pricing policy.

[6] The personnel for building services include a full-time building service coordinator, a part-time general maintenance person and housekeepers to clean common areas and to provide monthly cleaning services for each apartment. The estimated salaries of $35,360 plus 20 percent for fringe benefits total $42,432. Salary increases for this type of work, more likely to be influenced by labor unions, are estimated to increase 6 percent annually.

Many of the maintenance services such as landscaping, rubbish removal, exterminating, and elevator maintenance are expected to be performed by contract. Parking lot repair and decorating expenses (the apartment portion of the total expenses) are expected to be minimal in the first two years of operation. An annual inflation factor of 5 percent is used to forecast expense increases for all maintenance categories except for labor. All maintenance expenses, except for the elevator contract, vary with occupancy or the age of the project.

FOOTNOTES TO EXHIBIT (Continued)

[7] An all-risk insurance policy is a fixed expense and the premium is estimated to increase at 5 percent annually. Insurance coverage during construction is included in the construction budget.

[8] Real estate assessments are made as of the first of January of each year based upon the value in place on that day. Taxes, based on January first assessments, are due and payable in the following year, or an annual, semi-annual, or quarterly basis. Land value in 1984 is estimated to be $462,000, or $3,100 per unit. The 1983 net mill rate for property located in County was 0.02232 based upon assessments at 95.94 percent of full market value. At full market value the mill rate would be 0.02232/0.9594, or 0.02326. In 1984 the assessments are at 88.47 percent of full market value and the mill rate has not yet been determined. Using the 1983 mill rate of 0.02232/0.8847 equals a 1984 mill rate of 0.02523. Average mill rate increases over the past four years range from 2.5 percent to 4.4 percent for and Counties. However, forecasting real estate tax increases, an annual increase of 5 percent is used because State and Federal governments are continually withdrawing their tax funds from local tax districts.

For 1984 real estate taxes, payable in 1985, a land value of $462,000 times a mill rate of 0.02523 yields taxes of $11,650. As of January 1, 1985, the contractor estimates $40,000 of site improvements will be added to the site. Therefore $462,000 plus $40,000, or $502,000 times 0.02649 (0.02523 x 1.05) is $13,300 for 1985 real estate taxes due in 1986. As of January 1, 1986, the project is expected to be 90 percent complete. Market value for real estate tax purposes of $40,000 per unit includes $3,100 per unit for land. Therefore, an improvement value of $5,900,400, which is 90 percent complete, plus land, taxed at 0.02781 (0.02649 x 1.05) yields real estate taxes of $150,500, payable in 1987. The completed project as of January 1, 1987, would be taxed at $174,100 based upon the previously stated assumptions and would increase at 5 percent per year thereafter.

Table M

Commitments of $100,000 and Over on Multifamily and Nonresidential Mortgages Made by 20 Life Insurance Companies

Loan Size Class Within Major Property Type, Second Quarter, 1984

Major Property Type / Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/Value	Capitalization Rate	Debt Coverage	Percent Constant	Maturity (Years/Months)
APARTMENT - CONVENTIONAL	22	147,578	6,708	12.94%	12.92%	68.9%	10.2%	1.12	13.3%	9/10
Less than $1 million	1	923	923	*	*	*	*	*	*	*
$1 million - $3,999(000)	1	1,950	1,950	*	*	*	*	*	*	*
$4 million - $7,999(000)	13	72,005	5,539	12.78	12.82	70.8	10.3	1.12	13.3	10/4
$8 million - $14,999(000)	6	56,700	9,450	13.12	13.13	69.0	9.9	1.14	13.3	8/6
$15 million and over	1	16,000	16,000	*	*	*	*	*	*	*
COMMERCIAL RETAIL	34	578,040	17,001	12.91	12.74	65.8	10.5	1.30	13.2	10/11
Less than $1 million	1	900	900	*	*	*	*	*	*	*
$1 million - $3,999(000)	6	14,750	2,458	12.79	12.70	63.4	11.1	1.64	13.2	10/8
$4 million - $7,999(000)	10	53,765	5,376	13.06	13.01	64.8	10.7	1.26	13.4	8/11
$8 million - $14,999(000)	5	55,125	11,025	13.15	13.13	67.8	10.3	1.13	13.3	8/7
$15 million and over	12	453,500	37,792	12.75	12.66	66.4	9.9	1.25	12.9	14/1
OFFICE BUILDING	153	2,039,996	13,333	12.94	13.01	69.7	10.5	1.25	13.1	10/9
Less than $1 million	6	4,185	698	13.59	13.67	60.4	11.9	1.14	14.0	6/8
$1 million - $3,999(000)	43	106,296	2,472	13.07	13.03	70.7	10.9	1.19	13.2	8/7
$4 million - $7,999(000)	43	242,231	5,633	13.08	13.06	69.2	10.4	1.39	13.2	9/6
$8 million - $14,999(000)	24	256,054	10,669	12.38	12.38	71.3	10.4	1.18	12.6	13/9
$15 million and over	37	1,431,230	38,682	12.94	13.11	69.6	9.9	1.20	13.2	13/5
COMMERCIAL SERVICE	21	104,692	4,985	13.19	13.26	64.4	10.8	1.41	13.6	9/0
Less than $1 million	1	710	710	*	*	*	*	*	*	*
$1 million - $3,999(000)	11	24,027	2,184	13.25	13.22	68.9	11.4	1.23	13.6	9/7
$4 million - $7,999(000)	5	25,725	5,145	12.88	13.00	53.4	9.4	1.59	13.7	9/7
$8 million - $14,999(000)	2	17,000	8,500	*	*	*	*	*	*	*
$15 million and over	2	37,230	18,615	*	*	*	*	*	*	*

[a]Data not shown for a limited number of loans.

(cont'd)

EXHIBIT 33

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Table M - page 2

Second Quarter, 1984 (Cont'd)

Major Property Type Loan Size	No. of Loans	Amount Committed ($000)	Averages: Loan Amount ($000)	Interest Rate (by #)	Interest Rate (by $)	Loan/ Value	Capitalization Rate	Debt Coverage	Percent Constant	Maturity (Years/Months)
INSTITUTIONAL AND RECREATIONAL	1	5,000	5,000	*%	*%	*%	*%	*	*%	*
INDUSTRIAL	40	240,163	6,004	12.88	12.49	71.4	10.6	1.15	13.1	6/5
Less than $1 million	3	2,420	807	14.04	13.97	61.8	10.9	1.33	14.0	3/8
$1 million - $3,999(000)	18	38,912	2,162	13.01	12.94	72.4	11.0	1.18	13.2	6/8
$4 million - $7,999(000)	13	75,283	5,791	12.80	12.81	72.8	10.2	1.09	12.8	5/0
$8 million - $14,999(000)	2	23,559	11,780	*	*	*	*	*	*	*
$15 million and over	4	99,989	24,997	11.88	11.96	72.4	9.9	1.03	13.1	10/0
HOTEL AND MOTEL	11	101,732	9,248	13.34	13.30	48.7	11.0	1.85	13.8	8/9
$1 million - $3,999(000)	2	4,000	2,000	*	*	*	*	*	*	*
$4 million - $7,999(000)	5	27,982	5,596	13.37	13.39	44.2	11.4	1.54	14.7	11/4
$8 million - $14,999(000)	1	8,000	8,000	*	*	*	*	*	*	*
$15 million and over	3	61,750	20,583	13.33	13.28	54.1	9.9	1.71	13.3	6/8
MULTIPLE PROPERTY COMPLEX (All $15 million and over)	3	128,000	42,667	13.00	13.00	60.9	10.0	1.31	13.3	10/0
TOTAL	285	3,345,201	11,738	12.97	12.95	68.1	10.5	1.27	13.2	9/10

*Data not shown for a limited number of loans.

Note: Averages for capitalization rate, debt coverage ratio and percent constant may represent a fewer number of loans than the total for the specified category. Averages for interest rate are based on 273 loans. These include seven accrual loans with a mean accrual rate of 13.50% and a dollar-weighted average accrual rate of 13.67%. Nonrefundable fees were reported in connection with 31% of the total number and 42% of the amount committed. The comparable shares by property type ran 68% and 81% for apartments, 24% and 20% for commercial retail, 29% and 53% for office buildings, 24% and 24% for commercial services, 35% and 28% for industrial, and 9% and 17% for hotels and motels.

EXHIBIT 33 (Continued)

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EXHIBIT 34

VALTEST
Discounted Cash Flow Model
(Renamed ATCF in Real Estate Planning Program)

4. Test for Investment Yield at Estimated Market Value Assuming Cash to the Seller

A computerized discounted before and after tax cash flow program, VALTEST, is used to test the reasonableness of the appraised value. Input assumptions used are shown in Exhibit IV-4 and are taken from the Schedule of Revenues and Expenses (Exhibit IV-2) and from the MRCAP program output (Appendix C) which solved for the justified mortgage, assuming a debt cover ratio of 1.4 based upon the first year NOI of $126,498. The net resale price is assumed to be $1,130,000 based upon a net income multiplier of 6.5 applied to the NOI in the tenth year of the holding period, and cash resale costs of 4 percent.

The resulting modified internal rate of return of 15.6 percent before taxes and 14.2 percent after taxes represents a minimum threshold for equity investors. The Air Cargo Facility is fully priced at $1,000,000 assuming cash to the seller and financed at a 13.25 percent interest rate and a 25-year term. (See Exhibit IV-4 for VALTEST output.)

EXHIBIT 34 (Continued)

EXHIBIT IV-4

```
                    INPUT ASSUMPTIONS
                    **********
1. ENTER PROJECT NAME ? AIR CARGO FACILITY
2. ENTER PROJECTION PERIOD ?  10
3. DO YOU WANT TO ENTER EFFECTIVE GROSS REVENUE INSTEAD OF NOI? N
   N.O.I. YEAR  1? 126498
   N.O.I. YEAR  2? 131770
   N.O.I. YEAR  3? 136943
   N.O.I. YEAR  4? 142327
   N.O.I. YEAR  5? 148691
   N.O.I. YEAR  6? 154521
   N.O.I. YEAR  7? 160588
   N.O.I. YEAR  8? 167710
   N.O.I. YEAR  9? 174280
   N.O.I. YEAR  10? 181113
4. ACQUISITION COST: ? 1000000
5. DO YOU WANT TO USE STANDARD FINANCING? Y OR N?Y
   MTG. RATIO OR AMOUNT, INT., TERM, NO PAY/YR ? 656633, .1325, 25, 12
6. ENTER RATIO OF IMP #1/TOTAL VALUE, LIFE OF IMP #1? 1, 18
   IS THERE A SECOND IMPROVEMENT? Y OR N? N
7. DEPRECIATION METHOD, IMPROVEMENT #1 ? 1
   IS PROPERTY SUBSIDIZED HOUSING ? Y OR N ?N
   IS PROPERTY RESIDENTIAL? Y OR N? N
8. IS OWNER A TAXABLE CORPORATION? Y OR N ?N
   THE MAXIMUM FEDERAL INDIVIDUAL ORDINARY RATE COULD BE:
          70% (PRE-1981 LAW)
          50% (1981 LAW, EFFECTIVE 1982)

          (PLUS STATE RATE)

    ENTER:
   1) EFFECTIVE ORDINARY RATE  2) EFFECTIVE ORDINARY RATE (YEAR OF SALE)
?  .4, .4
9. RESALE PRICE (NET OF SALE COSTS) ? 1130000
10. IS THERE LENDER PARTICIPATION ?N
11. ENTER OWNER'S AFTER TAX REINVESTMENT RATE (%)?  9
12. ENTER OWNER'S AFTER TAX OPPORTUNITY COST OF EQUITY FUNDS (%)?  9
```

EXHIBIT IV-4 (Continued)

AFTER TAX CASH FLOW PROJECTION
AIR CARGO FACILITY
DATE 1/1/85

DATA SUMMARY
****

ACQUISTN COST: $1,000,000. MTG. AMT.: $656,633.
NOI 1ST YR: $126,498. MTG. INT.: 13.25%
ORG. EQUITY: $343,367. MTG. TERM: 25. YRS
CTO 1ST YEAR: $36,143. DEBT SERVICE 1ST YEAR: $90,355.
MTG. CONST.: .137604
IMP. #1 VALUE: $1,000,000. IMP. #1 LIFE: 18.
INC. TX RATE: 40%
SALE YR RATE: 40% OWNER: INDIVIDUAL

DEPRECIATION IMPROVEMENT #1 : STRAIGHT LINE
NON-RESIDENTIAL PROPERTY
LENDER PARTICIPATION: CASH THROW-OFF: NONE REVERSION: NONE

NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS BY LANDMARK RESEARCH,INC ARE PROPER OR THAT THE CURRENT TAX ESTIMATES USED IN THIS PROJECTION WILL BE ACCEPTABLE TO TAXING AUTHORITIES. NO ESTIMATE HAS BEEN MADE OF MINIMUM PREFERENCE TAX. CAPITAL LOSSES IN THE YEAR OF SALE ARE TREATED AS ORDINARY LOSSES (SECTION 1231 PROPERTY) AND ARE CREDITED AGAINST TAXES PAID AT THE ORDINARY RATE AT THE TIME OF SALE.
FOR THE PURPOSE OF THE MODIFIED INTERNAL RATE OF RETURN (M.I.R.R.) CALCULATION, NEGATIVE CASH IN ANY ONE PERIOD IS TREATED AS A CONTRIBUTION FROM EQUITY IN THAT PERIOD.

YEAR	NOI	MTG INT & LENDERS %	TAX DEP	TAXABLE INCOME	INCOME TAX	AFTER TAX CASH FLOW
1.	126498.	86793.	55556.	-15851.	-6341.	42484.
2.	131770.	86291.	55556.	-10077.	-4032.	45447.
3.	136943.	85718.	55556.	-4332.	-1734.	48322.
4.	142327.	85065.	55556.	1706.	682.	51290.
5.	148691.	84320.	55556.	8815.	3526.	54810.
6.	154521.	83470.	55556.	15495.	6198.	57968.
7.	160588.	82500.	55556.	22532.	9013.	61220.
8.	167710.	81394.	55556.	30761.	12304.	65051.
9.	174280.	80132.	55556.	38593.	15437.	68488.
10.	181113.	78692.	55556.	46866.	18746.	72012.
	$1524441.	$834375.	$555556.	$134508.	$53799.	$567089.

EXHIBIT 34 (Continued)

EXHIBIT IV-4 (Continued)

RESALE PRICE:	$1,130,000.
LESS MORTGAGE BALANCE:	$587,454.
PROCEEDS BEFORE TAXES:	$542,546.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$542,546.

1ST YR B4 TAX EQ DIV:	10.5260%
AVG DEBT COVER RATIO:	1.6872

RESALE PRICE:	$1,130,000.
LESS LENDER'S %:	$0.
NET RESALE PRICE:	$1,130,000.
LESS BASIS:	$444,444.
TOTAL GAIN:	$685,556.
EXCESS DEPRECIATION:	$0.
EXCESS DEP. FORGIVEN:	$0.
CAPITAL GAIN:	$685,556.
ORDINARY GAIN:	$0.

TAX ON ORDINARY GAIN:	$0.
TAX ON CAPITAL GAIN:	$109,689.
PLUS MORTGAGE BAL:	$587,454.
TOTAL DEDUCTIONS FROM NET RESALE PRICE:	$697,143.

NET SALES PROCEEDS AFTER TAX:	$432,857.

IF PURCHASED AS ABOVE, HELD 10 YEARS & SOLD FOR $1,130,000.
THE MODIFIED I.R.R. BEFORE TAXES IS 15.2639% AND AFTER TAXES IS 13.8784%
ASSUMING AN AFTER TAX REINVESTMENT RATE OF 9%, AND OPPORTUNITY COST OF 9%

EXHIBIT 34 (Continued)

EXHIBIT IV-4 (Continued)

EQUITY ANALYSIS
AIR CARGO FACILITY
****

BEFORE TAX EQUITY DIVIDEND

YR	NOI	YR END EQUITY	AMOUNT	CASH RETURN ORG EQ	CASH RETURN CUR EQ
1.	$126,498.	$346,930.	$36,143.	.1053	.1042
2.	131,770.	350,994.	41,415.	.1206	.1180
3.	136,943.	355,631.	46,588.	.1357	.1310
4.	142,327.	360,921.	51,972.	.1514	.1440
5.	148,691.	366,956.	58,336.	.1699	.1590
6.	154,521.	373,842.	64,166.	.1869	.1716
7.	160,588.	381,697.	70,233.	.2045	.1840
8.	167,710.	390,658.	77,355.	.2253	.1980
9.	174,280.	400,882.	83,925.	.2444	.2094
10.	181,113.	412,546.	90,758.	.2643	.2200

ORIGINAL EQUITY: $ 343367

MORTGAGE ANALYSIS
AIR CARGO FACILITY
****

YEAR	NOI	MORT INT.	MORT AMORT	DEBT SERV	DCR	MTG. BAL.
1.	126498.	86793.	3563.	90355.	1.400	653070.
2.	131770.	86291.	4064.	90355.	1.458	649006.
3.	136943.	85718.	4637.	90355.	1.516	644369.
4.	142327.	85065.	5290.	90355.	1.575	639079.
5.	148691.	84320.	6035.	90355.	1.646	633044.
6.	154521.	83470.	6885.	90355.	1.710	626158.
7.	160588.	82500.	7855.	90355.	1.777	618303.
8.	167710.	81394.	8961.	90355.	1.856	609342.
9.	174280.	80132.	10224.	90355.	1.929	599118.
10.	181113.	78692.	11664.	90355.	2.004	587454.
AVG	$152,444.				1.687	

EXHIBIT 34 (Continued)

EXHIBIT IV-4 (Continued)

DEPRECIATION SCHEDULE
AIR CARGO FACILITY
IMPROVEMENT # 1
STRAIGHT LINE
NON-RESIDENTIAL
****

YEAR	TAX DEP.	S.L. DEP.	EXCESS DEP	BALANCE
1.	55555.6	55555.6	.0	944444.4
2.	55555.6	55555.6	.0	888888.9
3.	55555.6	55555.6	.0	833333.3
4.	55555.6	55555.6	.0	777777.8
5.	55555.6	55555.6	.0	722222.2
6.	55555.6	55555.6	.0	666666.6
7.	55555.6	55555.6	.0	611111.1
8.	55555.6	55555.6	.0	555555.5
9.	55555.6	55555.6	.0	500000.0
10.	55555.6	55555.6	.0	444444.4
TOTAL	555555.6	555555.6	.0	

DISTRIBUTION OF CASH THROW-OFF
AIR CARGO FACILITY

YEAR	CASH THROW-OFF TOTAL	CASH THROW-OFF TO EQUITY	CASH BONUS TO LENDER
1.	36143.	36143.	0.
2.	41415.	41415.	0.
3.	46588.	46588.	0.
4.	51972.	51972.	0.
5.	58336.	58336.	0.
6.	64166.	64166.	0.
7.	70233.	70233.	0.
8.	77355.	77355.	0.
9.	83925.	83925.	0.
10.	90758.	90758.	0.
	620888.	620888.	0.

RESALE PRICE:	$1,130,000.
LESS MORTGAGE BALANCE:	$587,454.
PROCEEDS BEFORE TAXES:	$542,546.
LESS LENDER'S %:	$0.
NET SALES PROCEEDS BEFORE TAXES:	$542,546.

CASH THROW-OFF = 0% REVERSION = 0%

AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

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May 16-17, 1987

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AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

Research Forum Agenda
"Impacts of Regulation on the Appraisal Industry"
Chicago Marriott Hotel
May 16-17, 1987

May 16	
9:00 am	Welcome and Opening Remarks (Foreman) Introduction of Participants
Session I: 9:00- 10:15 am	Overview and Perspective Regulatory Issues Before the Current Congress (Craig) Industry Regulation in International Perspective (Dorchester) Environmental Law and Appraisal (Harrington)
Coffee break	
Session II: 10:30- 12:00 pm	Regulatory Initiatives for Industry Can the Appraisal Industry Survive without Increased Regulation? (Graaskamp) Federal Home Loan Bank Board Initiatives Affecting Appraisal (Pittenger) Scope and Content of Self-Regulatory Initiatives (Foreman)
Lunch	
Session III: 1:30- 3:00 pm	Uniform Professional Standards Development of a Self-Regulatory Structure for the Appraisal Industry (Kabel) Implications of Uniform National Appraisal Standards (Schultz)
Coffee break	

Session IV: 3:15- 4:45 pm	Additional Industry Responses Environmental and Energy Issues Affecting Real Estate Professionals (Ferguson)
	Measuring Market Perceptions: Impacts of Ongoing and Single Incidents (Beron)
	Impacts of Regulations on Market Research, Analysis and Reporting (Mundy)
	Concluding Remarks (Dorchester, Schultz)
May 17 9:00- 11:00 am	Summary of Forum Issues (Jaffe)
	Discussion

IMPACTS OF REGULATION ON THE APPRAISAL INDUSTRY

AIREA Research Series

Impacts of Regulation on the Appraisal Industry

Research Report No. 2

Proceedings of the May 16-17, 1987 Research Forum sponsored by the American Institute of Real Estate Appraisers, Chicago, Illinois

W. Lee Minnerly, Editor



American Institute of Real Estate Appraisers
430 North Michigan Avenue
Chicago, Illinois 60611-4088

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FOREWORD

A free and open exchange of ideas often can clarify complex issues and provide useful means for addressing difficult problems. This philosophy serves as well in professional life as it does in other aspects of our society.

This publication in the AIREA Research Series presents the results of such an exchange among the appraisal industry's diverse family of professionals. In May of 1987, 12 persons representing the appraisal industry, government, and the legal and academic communities met in Chicago to discuss "Impacts of Regulation on the Appraisal Industry" at the Appraisal Institute's first Research Forum.

The Research Forum program provides a vehicle for sharing opinions and expertise on issues broadly affecting the real estate appraisal industry. Through publication of proceedings from each event, timely information and significant ideas can be passed to Institute members and their colleagues. This report on issues discussed at the first forum concerns a host of regulatory and environmental subjects, many of which affect daily appraisal activities.

The Appraisal Institute thanks each of the participants for their enthusiastic contributions of time, effort, and ideas toward this most successful dialogue. Robert Foreman, MAI, and member of the Institute's Research/Body of Knowledge Task Force, deserves a special note of thanks for developing the topic and selecting the participants. Peter F. Korpacz, MAI; A. Scruggs Love, Jr., MAI; and Bill Mundy, MAI, assisted in planning the forum. William N. Kinnard, Jr., MAI, and James E. Gibbons, MAI, reviewed the final manuscript.

I am pleased to present these proceedings as a useful record of vital issues before the appraisal profession. They represent a rare and important addition to that part of appraisal literature devoted to topics of industry change and growth.

Richard C. Wolcott, MAI
1987 President
American Institute of Real Estate Appraisers

PREFACE

This report presents to readers an historical "photograph" of the real estate appraisal profession recorded in Chicago on May 16 and 17, 1987. The occasion was the inaugural event of the Appraisal Institute's Research Forum series, which brought together 12 distinguished representatives from the appraisal industry, government, and the legal and academic communities to exchange views and discuss key issues currently before the profession. The topic of the May 1987 forum was "Impacts of Regulation on the Appraisal Industry."

As final preparations for the event were underway, three separate developments took place that underscored its timeliness. First, in April the Governing Council of the Appraisal Institute authorized substantial new funding for the creation of a Real Estate Appraisal Foundation, the basis of a self-regulatory system of industry governance. Also in April, legislation was introduced in the U.S. Senate that would expand the role of the Environmental Protection Agency in monitoring and treating asbestos contamination in federal government and non-school buildings, including privately owned structures. And finally, on May 15, just one day before the forum began, the Federal Home Loan Bank Board published its proposed rule on "Appraisal Policies and Practices of Insured Institutions and Service Corporations" in the Federal Register.

These events, but more particularly the ideas behind them, indicate important directions of change affecting the appraisal profession. Issues surrounding such complex subjects as self-regulation of the appraisal industry, environmental responsibility and liability, and new regulatory efforts of the Federal Home Loan Bank Board continually evolve, presenting broad conceptual and pragmatic challenges to concerned professionals everywhere. Organizers of the May 1987 forum assembled a diverse group of individuals especially familiar with these challenges, to draw them together for substantive, lively, and creative discussion. The result reflects well the purpose of the Research Forum series: to provide Institute members and other industry partners informed ideas about key issues affecting their livelihood.

The forum was organized into topical sessions, each of which had its own theme. Session I provided an overview and perspective of regulatory issues before the Congress, international concerns and efforts, and environmental law and its relationship to real estate appraisal. Session II addressed regulatory initiatives recently developed by the Federal Home Loan Bank Board and the Appraisal Institute. The development and implications of uniform national appraisal standards was the focus of Session III.

Session IV concerned environmental impact and market research issues also affecting the real estate professional. Finally, Session V served as a period for summarizing forum ideas.

Each session began with two or three assigned informal presentations by specified individuals. Thereafter, the forum opened for group discussion. During this period participants offered opinions and suggestions, questions and factual information about issues raised.

In the proceedings that follow, this agenda and format are preserved intact. Each session appears in its actual sequence, with assigned presentations preceding the group discussions. The text is prepared from a verbatim transcript of the event, edited for continuity. All speakers are identified by name. Explanatory notes provide additional context, while preserving the conversational tone of the event. As readers will be quick to discover, the Institute's Research Forum proves to be a highly successful medium for generating ideas and demonstrating how important issues affecting the real estate appraisal interrelate. The resulting image of the profession is one that we hope readers will appreciate from many points of view.

W. Lee Minnerly
Research Department

FORUM PARTICIPANTS

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Mr. Craig is principal and owner of David Craig & Company in Topeka, Kansas. He earned the MAI designation from the American Institute of Real Estate Appraisers in 1968, and has served the organization on both local and national levels in many capacities. He is a former chairman of the National Education and National Professional Standards Committees. In 1985 he served as president of the Appraisal Institute. Mr. Craig has been a member of the Appraisal Institute faculty since 1973 and currently chairs the Institute's Government Affairs Division.

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Mr. Foreman is executive vice president of Real Estate Research Corporation in Costa Mesa, California. He is former principal and owner of Real Estate Analysts of Newport, Inc., a real estate appraisal and counseling company. Mr. Foreman earned the MAI designation from the American Institute of Real Estate Appraisers in 1972. He is a former chairman of the Institute's National Admissions Committee, and recently served as chairman of the Research Advisory Task Force. He is author of Communicating the Appraisal: A Guide to Report Writing, and several Appraisal Institute seminars. Currently Mr. Foreman is chairman of the National Education Committee.

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Mr. Harrington is a partner in the firm of Ross and Hardies, Chicago. Since obtaining his law degree from the University of Notre Dame in 1967, he has devoted most of his career to environmental law and litigation. Mr. Harrington has extensive experience in federal, state, and local regulatory development and judicial review, with emphasis on air pollution and state implementation plans, federal guidelines and standards, and hazardous waste and hazardous substance remediation. His practice also concerns environmental law impacts on corporate and real estate transactions.

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Mr. Schultz is principal with Schultz, Martin, Carr and Associates, an Atlanta-based real estate appraisal and counseling company. He holds the MAI, CRE, and SREA designations from the American Institute of Real Estate Appraisers, American Society of Real Estate Counselors, and Society of Real Estate Appraisers, respectively. Mr. Schultz has long been active in service to the Appraisal Institute. He is a former chairman of the Institute's National Education and National Professional Standards Committees. Currently, he is first vice president of the Appraisal Institute.

Part I -- OVERVIEW AND PERSPECTIVE

Foreman: In November 1985, the Governing Council of the American Institute of Real Estate Appraisers adopted a report recommending the formation of a Research Advisory Task Force and a Research Department for the organization.[1] One of the department's functions is to develop meetings between academicians, practitioners in the field, and specialists in related fields to discuss issues that affect appraisal. Our intent is to explore new areas, and in so doing provide material that the Institute can publish and distribute to its members.

Today, we hear from appraisers that one of the most important things affecting them is the issue of regulation: the impact of government on the appraisal process; abuses in the appraisal field; decisions about who values the valuer and who regulates the appraiser; and ways that the articulation of those regulations can best be summarized. A second concern is the impact of major environmental issues on the valuation process. This Research Forum will bring both concerns into focus.

The first three sessions have as their topics regulatory issues before the current Congress, regulation in international perspective, and environmental law. We will go directly to the

[1]In November 1987 the Institute's Governing Council established a Research and Information Services Advisory Committee to replace the Research Advisory Task Force.

three presentations and then open the discussion to general comment. Carl Schultz will be the facilitator.

Schultz: The first topic is "Regulatory Issues Before the Current Congress," presented by David Craig.

Craig: I'm not sure that I can tell you as much as Bob Kabel can about what's going on, but I'll try to give you some background. As you know, Congressman Doug Barnard (D-GA) held hearings about a year and a half ago on abuses in the appraisal industry that had reportedly caused losses in financial institutions insured by FSLIC, FDIC, and others. The hearings lasted two days, but it took about six months to assemble a report.[2]

The report suggested a self-regulatory organization, similar to that of the certified public accountants, which we had mentioned in our testimony as something the appraisal industry ought to look into. We've had continuing contacts with Congressman Barnard since then, getting occasional mixed signals on exactly what he has in mind, but he tells us that he will introduce legislation on the national level having to do with the

[2]In December 1985 the Commerce, Consumer and Monetary Affairs Subcommittee, Congressman Doug Barnard, Jr. (D-GA), chairman, held hearings on the impact of faulty and fraudulent real estate appraisals on real estate financing and investment. Results of the hearings were reported in "Impact of Appraisal Problems on Real Estate Lending, Mortgage Insurance, and Investment in the Secondary Market," House Committee on Government Operations, 99th Cong., 2nd sess., H. Rept. 99-891, 1986. David W. Craig, then president of AIREA, testified before the subcommittee.

regulation of appraisers.[3] To some extent he has blessed the work of the Select Committee on Implementation comprised of the eight appraisal organizations that have been attempting to put together a self-regulating organization.[4] The Congressman has encouraged us to go forward with these efforts and get it set up. If we do, then he would probably lean toward enabling legislation that would cause the states to adopt a certification program. There would be some federal oversight committee that would look at the degree to which agencies were using the system, and whether the states had adopted and were enforcing a certification program to protect the federal funds and agencies involved with appraisers.

Where we stand at the moment is that a task force of nine appraisal organizations has developed uniform standards for the

[3]On November 20, 1987 this legislation was introduced. The bill, cited as the "Real Estate Appraisal Reform Act of 1987," would establish a Federal Interagency Appraisal Council authorized to create and regulate appraisal standards and appraiser qualification requirements. The proposed Council would be authorized to approve state appraiser certifying agencies to certify appraisers in federally covered transactions. Concurrently, the Appraisal Institute has proposed model certification legislation and self-regulatory structures for the appraisal profession.

[4]The Select Committee on Implementation is comprised of representatives from the American Institute of Real Estate Appraisers, Society of Real Estate Appraisers, National Association of Independent Fee Appraisers, National Society of Real Estate Appraisers, American Society of Farm Managers and Rural Appraisers, International Right of Way Association, International Association of Assessing Officers, and the American Society of Appraisers.

appraisal industry. Their work has basically been completed.[5] At their last meeting they turned over the uniform standards to the Select Committee, which in turn is to hand them to the self-regulating organization or the Appraisal Foundation when it is in place. The Foundation would have a freestanding Appraisal Standards Board. This Board would establish standards for appraisers as far as education, experience, and qualifications were concerned and would disseminate such information to the states.

There is some difference of opinion within the committee on how this should operate. Hopefully, we'll get that worked out at the next meeting, which is in about three weeks.[6]

Among the eight organizations, the Society of Real Estate Appraisers and the American Institute of Real Estate Appraisers are very close in their articles of incorporation and bylaws. There are two major differences remaining between our two organizations. As I interpret it, the Appraisal Institute is suggesting that the foundation be called the "Real Estate Appraisal Foundation." The Society is suggesting that it be called the "Appraisal Foundation," leaving out the words "real

[5]The Uniform Standards of Professional Appraisal Practice have been adopted by all eight members of the Select Committee on Implementation as of November 1987.

[6]These concerns are addressed in the Articles of Incorporation and Bylaws of the Appraisal Foundation, both developed since the May 1987 Forum. The Articles of Incorporation were filed in the State of Illinois on November 30, 1987.

estate" in deference to the American Society of Appraisers (ASA). ASA would like the foundation to address appraisal questions having to do with all the things its members appraise, which go way beyond real estate.

The other major difference between the Appraisal Institute and the Society regarding the formation of a Foundation is the composition of its membership. The Appraisal Institute suggests that the Foundation consist of the appraisal organizations and outside organizations such as federal regulators, academicians, and other users of appraisal services. The membership question will be resolved one way or the other. I don't think that is a sticking point. The Foundation would be run by trustees who would represent organizations beyond those concerned with real estate appraisal.

The question on which the eight organizations reached an impasse at the last meeting was whether the certification would be done at the national level or by the states. Some of the organizations feel that we should form a national organization that would certify and discipline appraisers. Others of us don't think that will work. We think we should go in the direction that most other professions have gone, and that is to have the states certify. Certification would be voluntary, so it would not keep people from practicing appraising just as the CPA program does not keep uncertified accountants from practicing. However, certification would probably be "picked up" by federal

agencies and others who would require that the appraisers doing their work be certified.

I believe that if that all happens, the only remaining question is whether the oversight federal group would have veto power over activities of the Foundation.

Recently the NATIONAL ASSOCIATION OF REALTORS® approved a resolution that allows them to support this program. Basically, they agree that they would back the plan. That is a big step forward.

I think that covers where we are currently with these issues.

Schultz: The next presenter will be John Dorchester, speaking on "Industry Regulation in International Perspective."

Dorchester: I think it's appropriate to put the discussion of standards in the United States into something of an historical and worldwide context. We tend to focus on the immediate problems and the immediate quest for solutions to those problems, but there is a continuum here that is an important background to our actions. It might help us understand not only where we are, but something about where we are headed. I'll only go back to the mid-1960s for a starting place.

At the height of the federal interstate land sales problems Congress passed the Federal Interstate Land Sales Act.[7] It may seem strange that this act could be a genesis of much of what we're talking about now, but a number of things came out of the abuses of the telephone and mass-mail marketing of tracts of ground to every small investor in the United States. What happened during that time was a move at a federal level to begin regulating certain aspects of the real estate industry and, particularly, a move towards the regulation of accounting.

It was discovered at the height of those problems that there were rampant abuses in accounting for development activities. As books of account were shown to investors, numbers in one set of books did not necessarily match those in another. What all this eventually led to was a move by the Department of Justice against a number of professional groups, including the American Bar Association, the American Institute of Architects, and ultimately the American Institute of Certified Public Accountants (AICPA).

AICPA went through something of an ordeal in taking a look at its internal standards and enforcement. Then in 1973 AICPA reached an accord with the Financial Accounting Standards Board (FASB), which recognized FASB standards--a very nice accord in light of difficult circumstances.

[7]Refers to the Interstate Land Sales Full Disclosure Act, enacted August 1968. The purpose of this legislation and its subsequent amendments is to ensure that buyers, prior to purchasing certain kinds of real estate, are informed of facts that will enable them to make informed purchasing decisions.

But the problems of accountancy and financial reporting were not occurring in the United States only. They were a worldwide problem. In the same year that the Financial Accounting Standards Board was formed in the United States, the Royal Institution of Chartered Surveyors formed a committee in the United Kingdom that was called The Asset Valuations Standards Committee (TAVSC). In its earliest days TAVSC was a committee of three individuals. Those three individuals wrote the bulk of the standards for the Chartered Surveyors that were published through the Royal Institution in the form of what they called Guidance Notes and Background Papers. Guidance Notes meant, "here are the rules;" Background Papers meant, "let's talk about them and put them into a practical context."

The Chartered Surveyors didn't stop there. They took the TAVSC regulations beyond the Royal Institution into the British Companies Act and to the London Stock Exchange, and had those regulations adopted as regulations of the market. They took the regulations of a private professional organization into the public arena and said these should be the "rules of the road" for business in the United Kingdom.

Because they were successful at the start, the Chartered Surveyors said, "That worked so well, why don't we move it over to the Continent?" About two years later, the same standards, almost verbatim, were adopted by the European Economic Community.

They became the standards for all exchanges and the basic underpinnings for valuation practice throughout Europe.

By the latter part of the 1970s the Chartered Surveyors said, "Why don't we really go public and take this around the world?" The American Institute of Real Estate Appraisers began meeting with representatives of this group in 1979; in 1980 there was a formation committee and in 1981 we established what is now called The International Assets Valuation Standards Committee (TIAVSC). It has grown with a rather specific purpose, but behind that purpose are wonderful opportunities for the United States and for the rest of the world.

Going back to the historical context, the American Institute of Real Estate Appraisers and the other appraisal organizations in the United States today, as well as regulators and the public at large, are looking for standards. We're still looking for vehicles. Interestingly, as far as the Appraisal Institute is concerned, we have been involved with a very specific vehicle for about seven years now. At this point the standards from the international committee have been recognized by the International Accounting Standards Committee, by the United Nations, and by most of the major developed countries of the world--with two exceptions: the United States and Canada. So, again, the quest for standards is an active one. It is one that not only has historical context but also includes broad participation by the rest of the world.

Let me talk just a moment about the specifics of those standards and how they operate. The International Assets Valuation Standards Committee developed parallel to the International Accounting Standards Committee. Both bodies are involved with financial reporting. Both the Accounting Committee and the Valuation Standards Committee have worldwide representation; both support the development of standards at the world level and also encourage those standards to be adopted within the laws of each member country.

TIAVSC standards specifically relate to valuation associated with financial reporting. If you were to compare the standards of The International Assets Valuation Standards Committee with those of the American Institute of Real Estate Appraisers you would find no conflict. There are two major areas of difference, however. One is that the international standards are written in British English, and therefore it is necessary to "translate" select words for American usage. For example, In the United Kingdom they use the words "replacement cost" to mean going to the market and buying an equally satisfactory substitute (what we would call a market approach). Yet here when we talk about "replacement cost," we mean the cost approach. This is why many people in the United States believe that the English and others on the Continent use a cost approach in their valuation when, in fact, they use exactly the same techniques that we do here in the United States. So there are some linguistic boundaries that must be overcome.

The second area of difference is that the international standards focus specifically on an area that we have not addressed to date in the United States: that of current value accounting--how to reflect values on the books of account and in the financial reports of any types of business entities on other than a historical cost convention. The current value reporting basis has now been adopted throughout the world except in the United States and Canada. There is a very strong move within the international body of accounting as well as within the body of valuers for the United States and Canada to adopt these standards.[8]

Rather than going on with what I think is a fascinating story, I would simply offer that the international standards have provided the vehicle, a format, and an international forum for debate on issues that, to this point, would indicate the standards we have established in the United States make a lot of sense. I believe they will help us to understand that, in the quest for standards in the United States, in addition to focusing on the questions of regulation and the issues with Congress, we must turn our attention to co-equal dialogue with FASB, the Securities and Exchange Commission, AICPA, and other business financial partners.

[8]This is elaborated in the March 1987 "Report of the Inter-governmental Working Group of Experts on International Standards of Accounting and Reporting," prepared by The Economic and Social Council of the United Nations. In 1988 the Working Group will accelerate efforts to harmonize international standards. Concurrently, TIAVSC will promote implementation of its standards among its approximately 30 member countries.

This will ensure that the standards that are developed are those that we believe we can live with and that are in agreement with what is actually going on in the world. We have an enormous opportunity and we have an enormous obligation.

Schultz: Thank you, John. Next we'll hear from Jim Harrington on "Environmental Law and Appraisal."

Harrington: I do not purport to be an expert on the appraisal side of this issue. I'll start with the supposition that anything that significantly impacts the value of real estate is of great concern to the appraiser. With that, I will talk about the impacts of environmental law on real estate appraisal in Illinois and across the country.

I have found that many appraisers are acutely aware of the environmental problems but many others, even those doing major projects across the country, don't seem to be very sensitive to them. I'll mention two or three instances we've either dealt with or become aware of recently that have significant impact on value. In the first instance a major office complex was being sold, and the buyer failed to show at the closing because his expert said asbestos had to be removed. The seller's experts said it merely had to be "coated." This was about a $12 million sale and an appraisal was involved. I don't know what happened to the appraiser's opinion in this case.

In another instance I'm aware of a major property that was sold for development. There was an appraisal. I don't know what the impact was when the new owners discovered that under the National Environmental Policy Act and the Endangered Species Act they couldn't drain areas classified as wetlands. They had to keep the cattails.

A third instance involved the purchase of a property in Chicago for a major new industrial plant. After purchasing the property the owners discovered something called a New Source Ban.[9] Illinois doesn't have approved rules for the construction of major industrial sources in areas that have not attained the Urban Air Quality Standards, so you can't put a new industrial plant in metropolitan Chicago or East St. Louis or in numerous other areas across the country. I assume that the vacant parcel would have more value if it were used for an industrial plant rather than a warehouse for paper products.

What is the nature of some of the laws that you are dealing with? The National Environmental Policy Act[10] says that anything involving a major federal permit requires an environmental review.

[9]Under 42 U.S.C. Sec. 7410(a)(2)(I), no new major source of air pollution may be built in an area that does not already achieve established air quality standards or does not have an approved plan to achieve them.

[10]The National Environmental Policy Act of 1969, effective January 1970, defined a national policy for reducing and eliminating damage to the environment (42 U.S.C. Sec. 4321 et seq.).

The Clean Water Act[11] says that anything requiring the filling of wetlands needs a permit from the United States Army Corps of Engineers. A permit from the Corps requires environmental policy review. So anything involving a permit from the federal government probably needs an equal review, and anyone who doesn't like what you're doing can probably challenge you on almost anything.

The acts that you should be most familiar with are in categories dealing with hazardous and toxic substances. One is called the "Super Fund," or Comprehensive Environmental Response and Liability Act as amended by SARA, the Superfund Amendment and Reauthorization Act.[12] This delivers a most significant

[11]Reference is to the Clean Water Act of 1977, which further amended sections of the Federal Water Pollution Control Act signed into law in June 1948. The Clean Water Act of 1977 added provisions affecting permits for the discharge of pollutants and other materials into water supplies. See 33 U.S.C. Sec. 1344; see also the Rivers and Harbors Act, 33 U.S.C. Secs. 403, 407.

[12]References are to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. Sec. 9601 et seq.), as amended by the Superfund Amendment and Reauthorization Act of 1986. The former, also known as CERCLA, was enacted in December 1980. It provides for the clean-up of land contaminated by hazardous waste materials. The latter, also known as SARA, (Pub. L. 99-499, Oct. 1986), provides additional funds over five years to clean-up especially dangerous hazardous waste sites identified by the U.S. Environmental Protection Agency (EPA), and to establish new research programs in hazardous materials. SARA also requires good faith investigations of property prior to a purchase, to determine if contamination is present. SARA significantly amended other provisions relating to clean-ups [see 42 U.S.C. Sec. 9601(35)].

impact on real estate nationwide and has parallels in many state laws.

Essentially the act says that anyone who owns real estate at the time a toxic substance is disposed of on that real estate, or anyone who arranged for its disposal, or anybody who transported it and selected the site on which it is deposited, anyone who now owns the real estate is absolutely, jointly, and severally liable for its cleanup, subject to certain limited defenses.

The real problem is that whoever takes title to the real estate also is potentially responsible for the cleanup. So apparently valuable real estate may, in fact, be a liability. It may be a liability to the bank that forecloses on it (or takes a deed in lieu of foreclosure), or to the corporate merger partner, or to the buyer.

Supposedly, SARA was going to help out with this. I think most lawyers will tell you the amendment complicated real estate valuation. Basically the act defines contractual relationships to include land contracts, deeds, or other instruments transferring title or possession, including leases. Liability for the cleanup is present unless the new owner did not know and had no reason to know that any hazardous substance was disposed of in, on, or at the facility.

Presumably, if an industrial facility is involved, you have reason to know that substances may have been disposed of there. Similarly, if it is a warehouse, you have reason to know. If upon walking the property you see chemical stains or smell chemical odors, you have reason to know. This means that title will pass with an absolute joint and several liability for cleanup.

I think this is probably the most significant impact on real estate value today. I know of no industrial property that we have dealt with that doesn't have potential SARA liability. There are ancillary liabilities, too. If you pass an operating industrial plant that must have a permit under the Resource Conservation Recovery Act, ancillary to that permit is something called a "corrective action" requirement for the disposal of existing hazardous waste.[13]

[13]See 42 U.S.C. Sec. (6924)(u).

Quickly moving on to another area, let's look at ECRA, the Environmental Cleanup Responsibility Act.[14] Let me touch on what it means in Illinois. It simply means that before you can transfer title, before you can close a plant, or before you can abandon a plant, you have to get a certificate from the local Environmental Protection Agency (EPA) or its equivalent that the plant is clean of all hazardous substances, not just waste.

Again, I would suggest to you that all the industrial property in this state would go through an ECRA review. You will likely find that paint plants, print shops, metalworking plants and the loft buildings that people appraise all the time are going to be subject to ECRA review. In New Jersey, title often takes years to clear and until you transfer title or possession, the property has no value. I would assume that could significantly lower the appraised value of property; certainly a bank might think so if it was taking a mortgage on the property relying on your appraisal.

[14]The nation's first "Environmental Cleanup Responsibility Act" was passed in New Jersey in 1983. California, Illinois, Minnesota, Pennsylvania and West Virginia have similar laws, and several other states are considering such legislation. Generally, New Jersey law requires an owner or operator of an industrial property that manufactures or uses hazardous substances or wastes to cleanup their facility prior to closure, sale, or transfer of the operation. The owner or operator must submit to the New Jersey office of the U.S. Environmental Protection Agency (EPA) either 1) a cleanup plan with a surety bond to ensure payment of removal costs, or 2) a declaration that there have been no discharges of hazardous substances or wastes at the facility or that any such discharges have been removed in accordance with EPA regulations. In the spring of 1987 a similar bill passed the Illinois Senate and is now pending in the Illinois House.

There are other things that are happening. Illinois is about to adopt a ground water protection bill which is about 100 pages long.[15] We spent several hours trying to go through it with representatives of industry and various state departments yesterday. The bill does several things, some of which are similar to the Federal Safe Drinking Water Act.

For example, it establishes minimum set-back zones (up to 1,000 feet) for every public water supply well in the state. It establishes a minimum set-back zone of 200 feet around every potable water supply in the state. If a neighboring property has a well, the land adjacent to it might be limited. Under the bill as presently on the Illinois Senate floor, anything that would generate 200 pounds of waste a month, any kind of waste, would be prohibited. They didn't bother to decide whether the distance is measured from the property line or from the actual point of origin in the plant.

The bill also addresses the right of localities, or the Illinois Pollution Control Board, or some combination, to establish recharge zone protection areas to protect the real estate that may recharge ground water. It allows the Board and/or these local municipalities to establish requirements for siting, operating, maintenance, removal, and enclosure of anything that might affect ground water. Areas that may be subject to recharge

[15]The Groundwater Bill, Public Act 85-863, was signed into law on September 24, 1987.

zone protection include the Chicago metropolitan area, the East St. Louis metropolitan area, and most metropolitan areas adjoining the Illinois River. This ground water protection bill may change the value of a lot of property the day it is signed.

So with that, I think it's clear that environmental activity is going to have a big impact on your industry and on the appraisal of property. Your industry must look at what's going through the legislature that may impact real estate transactions and development. Legislation will come down awfully fast.

Schultz: Jim, thank you. While you have the floor, perhaps we can delve into that a little deeper. A number of issues have surfaced that affect and potentially increase the liability of the appraiser, where the appraiser or the public might not even recognize that there's a problem. Asbestos is one of them. I know many appraisers today will qualify their reports saying that they are not experts in asbestos and therefore they have not considered any potential asbestos removal. Does that somehow remove the liability?

Harrington: I don't think there's a clear answer on that available. A case I'm familiar with in California seemed to

suggest that the answer is no.[16] Whether it's the appraiser's liability or the REALTOR'S® liability, some states are going to the reasonable expectation rule. In other words, is there a reasonable expectation that this appraisal will reflect certain types of circumstances which a reasonable person should have known about?

Graaskamp: Are there any engineering firms that can give a "comfort letter," just as you might get on title or something of that sort?

Harrington: There are numerous firms involved in this--engineering firms, law firms, consulting firms--that do it at different levels. Depending on the level you want they can provide some protection. You can get various consulting firms that will go in and tell you, "Yes, there is asbestos," or "No, there isn't." Once they say there is, you can assume that the most stringent standards are applicable, and begin to determine how much it will cost to get it out.

You can go to the larger, more experienced firms. They've got enough assets to back their letter. When they take it out, they take it out in spades at about five times anyone else's cost because they do it right. You can get those letters,

[16] In Eason v. Strassburger, 199 Cal. Rpt. 383 (Csl. App. 1 Dist., 1984), a real estate broker was held liable for failing to make a reasonable inspection to determine the presence or absence of hazardous materials.

particularly on asbestos, and sometimes on lead dust or other pollutants.

Schultz: Jim, let's consider an appraiser faced with a service station. He has to address in his appraisal the potential of asbestos, radon gas, formaldehyde, termites, and the seepage of gasoline under the surface. How can the appraiser possibly address all of those issues or say that, "I'm not going to appraise it unless you have an environmental study made of every one of these major issues?"

Harrington: I think service stations eventually will be evaluated against other service stations rather than other kinds of commercial properties. You may get comparable values that you can utilize from a certain type of property, wherever it is located, that has a similar type of problem.

Graaskamp: But what it really means is that all previous comparable data are no longer valid.

Harrington: Correct. I'll give you an example. A service station is a good one. There is a stack of about 200 pages of federal regulations on underground storage tanks that are pending for comment. They would appear to apply to any tank that's in the ground on the day they go into effect, even if the tank has been enclosed and filled with sand. I know one environmental consultant whose recommendation is, "No, there is no law that

requires you to take the tank out today, but I'd spend the $10,000 to get it out because if you don't, when these rules come in, you're going to have to sink wells."

Beron: But doesn't that point out the change that is going on even as we speak? I believe I read that gasoline stations had been excluded from the act in New Jersey.

Ferguson: Yes, they are covered under a separate statute.

Harrington: But when LUST--the Leaking Underground Storage Tank (acronym LUST)--rules come in they will affect those service stations.[17] So if you look at ECRA, you might be exempt, but you may be caught under the underground storage tank rules. Or you might be exempt under them, but if you own the property and there was a dry cleaner there and dry cleaning chemicals are leaking off the property, you are going to be caught under the federal or state Super Fund.

Dorchester: Carl, let me add another dimension. We had a valuation assignment not too long ago where there were multiple explosions of electrical transformers under the sidewalk adjacent

[17]In April 1987 the U.S. Environmental Protection Agency published its proposed rules concerning underground storage tanks (USTs) that contain petroleum; these also address the financial responsibilities of tank owners and operators (see Federal Register, Vol. 52, No. 74, pp. 12661-12864, April 17, 1987). Public comment on the proposal closed July 16; final rules are expected in early 1988. Proposed financial responsibility rules for hazardous chemical tanks are in development.

to an office building. The firemen who came in to fight the resulting fire showed up very shortly thereafter with chlorine acne. There were a number of claim cases of kidney damage and other problems from what turned out to be the creation of dioxins from the intense heat applied to the PCBs in the transformers.[18] Normally PCBs are an inert material. They have been used very commonly in electrical transformers in many office buildings and other types of facilities for quite some time. Real estate products throughout the country have PCB-type transformers. What brought this to my mind was the fire we had last night at the hotel where I was staying. An electrical transformer exploded, completely filling the hotel with smoke. There was little destruction as far as fire damage was concerned, but I did my surveys from the sidewalk, asking about the nature of the transformer before we went into the building. In the office building situation referred to earlier, where we were involved with the evaluation, there were problems with people who had casually walked through the property.

Schultz: What should the appraisal industry do to acquaint appraisers in the public sector on how to handle these issues? What should appraisers be doing?

[18]PCBs (polychlorinated biphenyls) are a group of highly toxic, persistent chemicals formerly used in manufacturing electrical transformers and capacitors. Further sale and use of PCBs was prohibited by law in 1977.

Harrington: I think that first and foremost you are going to have to educate your people through your publications and through seminars, about these laws that are out there.[19] Appraisers who are primarily appraising residential and commercial properties need to be aware of what's going on and know to call for help when they run into a problem. Internally your industry is going to have to look at how you bring others in, much as you would do if you look at a building and you have a question about its engineering soundness. Either you would qualify the opinion or bring in structural engineers to derive information for an opinion that makes sense to a financial institution. You are going to have to do that with environmental professionals, too.

You are also going to have to come up with appropriate and responsible disclaimers. I'm not expert enough on the demands placed on your industry to suggest their wording. However, for purposes of discussion we might consider a statement such as, "We take into account environmental impacts up to this point and no further," and rely on that wording as some basis for protection.[20] If there's something that really impacts value, somehow the process is going to have to take that into account. I think that's where

[19]In 1988 the Institute's Research Department will publish quarterly reports on environmental laws and issues affecting appraisal. Other projects will be announced.

[20]This statement does not reflect the viewpoint of the American Institute of Real Estate Appraisers. Institute members should obtain legal counsel for assistance in developing language for limiting conditions that pertain to environmental issues in appraisal reports.

you'll have to look at developing both standards and procedures, with a heavy emphasis on educating your people to become sensitive to these issues.

Graaskamp: That would suggest having a ring binder with a checklist of annotated implications of all the federal legislation that could bear on various property types. Then each state or chapter could compile modifying state or local laws. At the moment there is no awareness, let alone knowledge of what to do about it once you find it, so a checklist of this type is a good beginning.

Harrington: I think that would be a good idea. We use checklists internally when we do environmental audits for corporate transactions, and some consultants have their own. It might be possible to work with such people and come up with one that at least alerts you to problems.

Graaskamp: Also, you almost need a suggested standard clause in your letter of engagement that either allows you to escape the contract if your client won't provide that kind of input or an allowance for the selection of an appropriate consultant. We generally have a $5,000 or $10,000 allowance and we notify our clients if we're going to spend it, but the client doesn't choose the expert; we do.

Schultz: That's a good point. Attorneys have been telling the real estate industry for a long time of the need for an engagement letter or a contract. Many of our members, and many appraisers around the country, do not act on engagement contracts. Major assignments probably have an engagement contract but the typical assignment by a long-standing client frequently does not.

Craig: The engagement letters that I've seen almost always are to protect the client and do not help the appraiser at all. The key point is that the appraiser doesn't know he's got a problem and we've got to educate him.

Schultz: Jim, we didn't mean to pick on you but it's a rather sensitive issue. One of the issues I'd like to bring up is that I understand there is a House and Senate bill regarding what some people call the bail-out of the Federal Savings & Loan Insurance Corporation. I'm curious how that may affect the appraisal industry and our standards as we have them today.

Foreman: I heard oral summaries and finally received a copy of the bill on Friday.[21] The wording of both HR 27 and S 790 are very similar with the exception of the amount, one of them

[21]This proposed legislation culminated in the Competitive Equality Banking Act of 1987, signed into law in October 1987. The law establishes mechanisms by which savings institutions themselves can raise $10.8 billion to recapitalize the deposit insurance fund. Regulatory provisions also are specified. These require certain activities of the Federal Home Loan Bank Board (addressed in FHLBB's proposed successor regulation to R-41c), and the creation of an oversight committee to review the quarterly reports and budgets of the FSLIC.

being $7.5 billion and the other being $5 billion. One of the provisions gives the Federal Home Loan Bank Board 45 days to suggest new guidelines on loan classifications, standards for reappraisal, and improvement of R41C and the appraisal review system.

It also sets up an arbitration mechanism within the Federal Home Loan Bank system whereby someone can test the determination of a supervisory agent. An arbitration panel would be established to review this. Their findings could still be rejected by a supervisory agent, but then the individual would have the option to appeal to the Federal Home Loan Bank Board directly.

Jaffe: Let me rephrase Carl's original question. What I understood Carl to ask is not so much, Should we have more information or more education? but rather the tougher question of What are the valuation effects associated with a whole new list of environmental hazards? Not so much You ought to be aware of these things because this is a new world or Look at all this new legislation that now we need to disclaim against but rather What impact do these materials have on property values? And it seems to me that in some sense it's only going part way to bind a bunch of legislation and have a two-day seminar in which people get geared to this new legal environment. The tougher questions are some of the questions that the appraisal industry are asked, such as What impact does being near this hazardous material have on market value of the bundle? If anything needs to be done, it's

not just monitoring the legal environment with respect to this whole new set of legislation. It's examining the evidence in various places about the impact of a wide range of environmental hazards like radon gas, asbestos, lead paint, and other substances.

Schultz: The issues that are brought up in some of these environmental matters go beyond the typical appraiser--the research that is going to be necessary, for instance, to measure the effect of radon gas. The typical residential appraiser is not going to be able to delve into the damage issue on his or her own. Some other environmental issues are national, and in order to get the necessary comparable data one may have to go all over the country to find properties that have been affected by particular hazards. The research needs are going to be tremendous.

Jaffe: When there is so limited information available about actual property effects, that information will be very valuable for the appraisal community. Since a whole list of new materials need to be examined, compiling of information, even from distant places, would seem to be essential.

Graaskamp: I think that probably until there is some very major, highly public court settlements which rule in favor of sellers or buyers, business will essentially go on as usual.

Schultz: I'd like to ask Don a question. Do the international standards delve at all into the environmental issues?

Dorchester: They do at least in part and they certainly do in practice. If you were to appraise a manufacturing plant in Indonesia, for example, whatever engineering and environmental studies that would be generally recognized and required in Indonesia would be required as part of the valuation. The standards say that the valuer must satisfy himself or herself as to all of the underlying cause-and-effect relationships in the value equation, and in whatever member-state that evaluation is taking place. All those factors must be taken into consideration.

Graaskamp: In effect, disclaimers are really not the answer to the problem, and that makes the appraisal a fiction.

Dorchester: That's correct. If anything, the emphasis should be on disclosure: here's what we did and here are the effects. But the international standards do say that you must be clear. They discourage assumptions.

Graaskamp: Does that suggest an extension of our reporting formats? Now that you have to report fair market value and then adjust for financing and leasehold advantages, might there be additional lists of discounts that represent environmental exposure? A statement that indicates an engineering study has

been done and that risk is not present might be advantageous. Your reporting statement ultimately is going to be a central tendency of fair market value with a whole series of credits looking much like the closing statements on transactions.

Mundy: I have a remark that gets back to one of the comments that Austin made. We're currently involved in work on a landfill site where significant externalities have been generated. We conducted a nationwide search to determine what has been published on hazardous sites. We found just a few more than 50 articles. One observation that we have been able to make is that there apparently aren't any effects on value as long as the site has not created some kind of an externality, but where externalities have been created, there appear to be value effects. And they vary considerably. This is an area where a tremendous amount of research is currently needed because the material is ambiguous, some research designs have been questionable and consequently, the results are questionable, too.

Beron: Jim, you had mentioned before that perhaps we should have some kind of a checklist. The NATIONAL ASSOCIATION OF REALTORS® has already prepared a partial list of some of the things that we

might want to include as part of the assumptions and limiting conditions portions of our appraisals.[22]

Schultz: And perhaps we should address these issues in the engagement letter.

Beron: Right, because I think we have all found that if we don't have something in the engagement letter at the time that we take the assignment, we really can't defend using assumptions and limiting conditions after the fact.

[22]Reference is to the "REALTORS® Hazardous Substances Reference Manual" (1986) developed by the NAR's Hazardous Substances Task Force. The report contains suggested disclosure and verification forms for sellers and their agents, not real estate appraisers.

Part II -- REGULATORY INITIATIVES FOR INDUSTRY

Schultz: The next presenter is James A. Graaskamp speaking on "Can the Appraisal Industry Survive without Increased Regulation?"

Graaskamp: The question is, I think, a little ephemeral. I think most industries have found that once they get over the shock of what they perceive as government interference with their industry, government regulations adroitly exploited have been a great advantage to the industry. Either they establish a monopoly for them or they shield them from the consumer, or at least greatly narrow the parameters of the unknown as to where their responsibility in their process lies. So I think initially one does not have to regard regulation as a singularly negative concept.

Now I would like to divide the question of whether the appraisal industry can survive without it into essentially three areas, looking at regulation as protective rather than as pejorative. The first major factor that accounts for the appraisal profession being uncomfortably ill is its customer base. Historically, the appraisal industry has been unable to protect itself from its own customers. If R-41c has anything to say for itself, it is the fact that it makes the customer, as the fiduciary hiring the appraiser and applying the appraisal in his or her lending and realty process, equally culpable for an inappropriate or

incomplete piece of work. It is now in his or her vested interest that you should be allowed to operate as a professional.

That type of regulation is a very positive element, and to define it as part of the regulatory environment of appraisals certainly is to be encouraged. How do we protect ourselves from our best friends, namely, our customers, who have gone a long way toward destroying the credibility of the appraisal process? The American tradition of reciprocity, of advocacy and the team approach, is very hard to overcome whether you are in a law case or a loan case. The measure of success is, Did we get the loan? The fee system has traditionally enhanced it; more frequently one is hired by the applicant for the loan than by the lender, and then there is the matter of all parties working for community development. This very parochial type of relationship in many cases is virtually an implied conspiracy between the lender who wants to make a loan under any circumstances, and the developer who needs the loan under any circumstances, and the appraiser who wants to be part of the "good ole boy" network that carries this off.

So regulation protects us from our best friends, but I don't think we can survive without it. I think making the customer equally culpable with the appraiser for a poor piece of work, as evident in R-41c, is a very positive regulatory step.

The second area of increased regulation concerns what Mr. Harrington was talking about today. I think the appraisal is a critical social function for equity in our society. Whether we're talking about the protection of our financial institutions, about the relationships between two parties attempting to achieve a fair contract, or about eminent domain and public compensation, the appraisal product should be the pivotal issue rather than the appraisal process. The appraisal process too often is manipulated today against the advocacy positions of the usual vested interests. To the degree that increased regulation could better control the appraisal product so that it performed its critical function of social equity, then regulation advances the interest of professionalism in the appraisal process.

The third and perhaps most significant area in which regulation is a positive factor to the survival of the appraisal industry lies in the historical success of the appraisal process. There is a tremendous financial vested interest in the status quo, which is unfortunate in a society moving as quickly as Mr. Harrington has suggested this morning. We're moving toward a much higher level of social responsibility on the part of enterprise to society and to individual property owners. The social transaction is beginning to take precedence over the business transaction. The appraisal process has not kept up with that, and there are vested interests that do not wish to keep up with that. This renders the education of all of us in this room, let alone the entire professional cadre of appraisers, obsolete.

It obliterates a very significant investment of personal entities and money and time. Obviously, some would much prefer the status quo and a broader array of exemptions, disclaimers, shifts of liability to other professions, and so forth. The threat of new legislation and the related spin-offs of Congressional investigation of the collapse of the Sunrise Savings and Loan Association of Florida show the rate at which we've accelerated consideration of these issues.[23] Without that spur of regulation, there would not be a creative response to bridge the gap between social and business responsibilities.

Regulation is the only way in which we can break the inertia of the financial success of the appraisal process and force the responsible appraiser to come to grips with change in the business environment in which he or she works.

So for all these reasons, the appraisal industry not only cannot survive without regulation, but regulation provides the most accelerated means to move the industry into what essentially is the twenty-first century of professional response. Since we are a pivotal factor in a legitimate transaction and ours is a society in which the social transaction is now bearing equal weight with the business transaction, I don't see any way in

[23]For additional information see "Impact of Appraisal Problems on Real Estate Lending, Mortgage Insurance, and Investment in the Secondary Market," House Committee on Government Operations, 99th Cong., 2nd sess., H. Report 99-891, 1986, pp. 16-23.

which the appraisal industry can adapt without regulatory protection.

The final element is simply the cost of regulation itself. I think the appraisal industry has found it has not been able to afford self-regulation. It cannot afford it for several reasons. One obvious reason is the legal cost of due process associated with removing designations from those who have failed their responsibilities. Another is an internal cost in energy to the organization that has to spend so much of its resources disciplining its own members. This becomes very divisive and makes it difficult to go forward with the more positive aspects of this profession.

The punitive aspects of regulation within the profession should be divorced from its fraternal and educational functions so that the great majority can work together. Other industries have managed to insulate themselves from certain disagreeable functions, from inertia, and from their customers who otherwise would kill them with love and fees.

Schultz: Thank you, Dr. Graaskamp. Our next presenter this morning is William Pittenger of the Federal Home Loan Bank of Atlanta, speaking on "FHLBB Initiatives Affecting Appraisal."

Pittenger: Thank you, Carl. I've been asked to talk about the Board's perspective of regulation, including the history of

Federal Home Loan Bank Board regulations: how they evolved, where they're going, and how they fit into the appraisal process.

I'd like to start with the Bank Board's history of appraisal standards. The Federal Home Loan Bank Board has been interested in appraisal standards and has incorporated the appraisal process as an integral part of its standards since at least 1963. The first regulation, 563.17, dealt primarily with the examination process and how the appraisal fit in with it. In 1968 a technical memorandum was issued that defined fair market value, or market value as we refer to it today.[24] That definition remained in effect until the appearance of R-41b in1982.

In response to questions that have continually evolved about the appraisal process, and about the management of appraisal standards as far as secured lending transactions go, the Board began to issue a series of regulatory interpretive memoranda beginning in 1977 with the first R-41 memorandum. It dealt with appraisal management and procedures. Interestingly, it referred directly to the standards of the Appraisal Institute and the Society of Real Estate Appraisers. Because it did, and because of legal constraints, it was subsequently withdrawn and reissued

[24]In 1963 Insurance regulation 12 CFR 563.17-1 briefly addressed appraisals as a component of the examination process. The R-41 series of interpretive memoranda developed to further instruct insured savings and loan institutions and service corporations further in appraisal policies and practices.

three months later. The R-41 memoranda were from the beginning intended as an evolutionary series. It was never intended that there would be one document that would forever serve the needs of appraisal standards in terms of Bank Board policy. Rather, it was fully recognized that the document would evolve in the context of the complexities in the marketplace and the steady growth of our profession, recognizing that as a profession we are comparatively young.

In March 1982 probably the most widely known memorandum was issued. This was R-41b and up to that point in time it was probably the most complex document. However, it was not until 1983 or 1984 that the rank and file of the appraisal and thrift industries became aware that such a document even existed.[25]

There were basically two events that led to this realization. The first was the emergence of Appraised Equity Capital in 1982, and the tremendous volume of appraisals that came about as a result of that development. The overall quality of appraisals evident at that time was alarming. The deficiencies that were noted were not simple matters of noncompliance with a regulatory

[25]Memorandum R-41b described revised requirements for defining market value, for reflecting deductions and discounts in appraisals of development properties, and for utilizing market/economic feasibility data. Compliance with the memorandum became a matter of increasing concern to both the appraisal and thrift industries after 1983, when appraisal reviews revealed many deficiencies in the reports submitted by institutions in support of Appraised Equity Capital, and large real estate loan losses attracted the attention of the United States Congress.

or an interpretive standard, but they were basic, fundamental problems with appraisals.

The second event concerned loan losses which we are still experiencing today. Beginning in the early 1980s people began to realize that many of the loan losses could be traced to faulty loan underwriting and faulty loan decision-making at all levels, and also from problems created by faulty appraisals. Memorandum R-41c attempted to identify some of these problems as they related to secured lending. It developed over an 18-month or 24-month period, but was actually written over a six-month period in 1986 after consultation with the appraisal industry and with the Board's district appraiser staff.

Quite a number of things were beginning to happen at that point. Historically, we appraisers have had a tendency to limit our product, our information, in the form of assumptions and limiting conditions. The Bank Board was beginning to take the position that, "Hey, guys, we don't need theoretical statements here. We're looking for your best shot at reality." I see this shift as a by-product of a larger shake-out process.

Memorandum R-41c was, as you're very much aware, even more complex than R-41b. Interestingly, it was not regulation at all; it was intended as a comprehensive set of appraisal standards that attempted to address questions unique to a secured credit lending situation. It acknowledged that secured credit lending

transactions require sophisticated information, and that such transactions are considerably more sophisticated than they were ten or 15 years ago. As you are also very much aware, R41c was the subject of a considerable amount of criticism. The Board has traditionally recognized that the appraisal process, like the appraisal profession itself, evolves through time. It's very hard to regulate per se some of the things that we attempt to do in the appraisal process. The Board always viewed its interpretive memoranda as the most desirable means to put forth appraisal standards and information reporting requirements. Unfortunately, quite a number of extraneous pressures were brought to bear including, but certainly not limited to, the federal court judgment concerning R-41b.[26]

[26]The United States District Court for the District of Columbia ruled in January 1987 that Memorandum R-41b was adopted without adequate notice and thus had "no binding effect" on regulated thrift institutions (Haralson v. FHLBB et al., Civil Action No. 86-1218, U.S. Dist. Ct. D.C. Cir.). The impact of the ruling on Memorandum R-41c, which replaced Memorandum R-41b in September 1986, was not clear.

Memorandum R-41c now will be replaced with a regulation.[27] Let me share with you the way this regulation evolved. First, as a result of the criticism that R-41c received, there has been a perception that we as appraisers are incapable of making up our minds and agreeing on anything. We would all have to admit that we've seen evidence of this to some degree. Also, R-41c could not possibly have been introduced at a worse time than last fall. It was directly linked to asset classification and the forbearance issue. Part of my adjustment in coming to work for the system is the realization that appraisal standards are secondary to political considerations.

This is one of the realities that we as appraisers must deal with here. The district appraisers staff of the Federal Home Loan Bank system met almost a month ago in San Antonio and for the very first time came to almost unanimous agreement on what ought to be included in the regulation. However, many of the suggestions from staff have not been incorporated. The regulation that you see today has been written by attorneys and

[27]The proposed regulation, 12 CFR Parts 563 and 571, appeared in the Federal Register on May 15, 1987. Public comment was to be solicited until September 1; however, in August the proposal was temporarily set aside by provisions in the Competitive Equality Banking Act of 1987. This new law states in part that "An appraisal standard shall be established which is consistent with the appraisal standard established by the Federal banking agencies." Since the federal banking agencies (the Comptroller of the Currency, the Federal Deposit Insurance Corporation, and the Federal Reserve Board) do not have comprehensive appraisal standards, the proposed regulation could not be used. Subsequently, a successor regulation, 12 CFR Part 571b, was released by the FHLBB on October 20, 1987.

policy people. And frankly, I see that as a very serious problem for all of us.

Let me move on to a contemporary view of "appraisal services," for lack of a better name. To my knowledge and that of many of my colleagues, the Board has never advanced any sort of opinion or philosophy relative to the general nature of appraisal services. However, it is my view that within the Federal Home Loan Bank System an appraisal is an information tool and there is nothing intrinsically valuable about one. Its only value derives from its ability to answer questions about a particular decision that needs to be made. It's not an end in itself, but rather is useful only to the extent that it answers questions.

In terms of professional standards, it's recognized that appraisers can ethically produce a wide variety of reports in response to a host of decisions that must be made in any real estate endeavor. We tend to look at professional standards as a level of acceptable behavior for providing information that needs to be contained in any appraisal report. We do not tend to view an appraisal as a generic product, if you will, or something that will serve the needs of all potential users. As far as R-41b, R-41c, or any subsequent regulation is concerned, it is not the Bank Board's view that one standard should be imposed on every appraisal.

As far as the new regulation is concerned we had seriously hoped that the general thrust of R41c would be retained. After quite a few months of field testing it's very apparent now that there is a need for fine tuning. However, we do believe that the general thrust of R-41c needs to be incorporated into regulation form.

As far as the future of appraisal standards at the Bank Board are concerned, I think the handwriting is on the wall. We are going to see them in regulation form over the years, probably clarified by interpretative and technical memoranda as need arises. The Board believes that some form of overall regulation and industry oversight is necessary. It is generally supportive of the efforts being made so far toward self-regulation.

Schultz: Thank you, Bill. I'm sure we'll continue on that in the discussion period because R-41c probably has had more effect on appraisers and appraisals than any document in recent history. The next presenter this morning is Bob Foreman, speaking on the "Scope and Content of Self-Regulatory Initiatives."

Foreman: Thank you, Carl. First, I think a person has to view the historical context and take a look at why we are where we are today. In the late 1920s the Appraisal Division of NAR's predecessor, the National Association of Real Estate Boards, first issued a code of ethics for real estate appraisers. This was before the founding of the Appraisal Institute. The code was very broad in nature. It had been taken partly from statements

by other professional groups, including architects. And in part it was developed in response to a public perception that something was going wrong with valuers in this country. People were experiencing severe real estate losses and the real estate community was concerned.

The problem got worse during the Depression, of course, and the pressure for more structure resulted in the founding of the Appraisal Institute. But remember, too, the code of ethics contained very broad, generalized statements. The whole thing fit on about half a page and that is how it remained until the late 1950s. A major addition of material in the 1960s eventually made it about a 15-page document.

Then a number of court decisions came down that affected the role of the appraiser and the due process requirements of a professional organization acting to change anyone's livelihood. The Goldfarb decision addressed the role of a professional in society; specific exemptions for federal antitrust law came out in Goldfarb and later in a whole series of minor decisions at state court levels.[28] These decisions made it very clear that as long as one was following due process, and it was in the public interest, professional organizations could self-regulate.

[28]In the Goldfarb decision (see 421 US at 787-88 N.17), the United States Supreme Court commented on the distinction between a profession and a business in regard to the application of antitrust laws.

Now at the same time we were looking at this, we were also experiencing administrative problems. Back in the late 1970s and early 1980s appraisers were confusing ethics and standards. We went to considerable length to split them apart, stating that ethics essentially dealt with issues of bias, contingent fees, and conflict of interest, whereas standards concerned the content of a proper appraisal report. Unfortunately, what has happened in a lot of the current work is that ethics issues have been left aside. It's as if in the very process of splitting ethics and standards we have left one part floating or adrift.

Coming out of this, though, was another complication: ethics cases incorporating standards issues. Attorneys would say, "Would you please show me the specific standards that have been violated? Where are they articulated? Where are they set forth? Are they in your courses?" Well, our courses all have a disclaimer. They do not represent an official position of the American Institute of Real Estate Appraisers. "Then they must be in your textbook," said the attorneys. But there, too, we have the same disclaimer.

We were trying to hold disciplinary proceedings against persons for violating standards, but nobody would take the time to articulate them. When we eventually tried to do so, we discovered one can't be too specific. There are many exceptions to each case. We suddenly realized that we were biting off an

enormous task. The Institute's Appraisal Standards Board was created out of this need to articulate standards issues.[29]

Another problem was that we expected this board to produce reams of standards quickly. We had a volunteer army working on this, but discovered a considerable amount of time and energy were required to complete just one or two products. And then there was the matter of due process. We had gone to great lengths to comply, but we were still relying on a volunteer army. People who earn their living by completing appraisal assignments suddenly were thrust into roles of investigating facts and using due process procedures. However, they had no background in this, and so everything was falling far behind. Along with the tremendous hoopla about appraisals in the press, about savings and loan issues, and even about our regulations and standards, the backlog was embarrassing all of us. The challenges were obviously much bigger than one organization could handle.

This is how the Institute came to develop its position on self-regulatory structures for the real estate profession. And herein lies the importance of the Real Estate Appraisal Foundation, which will select and fund an Appraisal Standards Board and an Appraiser Qualification Board. The structure also includes state certification of qualified appraisers and state

[29]The Institute's Appraisal Standards Board was created in November 1981. It is responsible for developing and submitting to the National Bylaws Committee guidelines and procedural rules relating to professional competency.

enforcement provisions.[30] This particular approach has a great deal of merit but there are people who question how effectively some states will perform. But we're moving ahead.

Graaskamp: Let me ask you a critical question. The accountants could not operate if they had accounting standards for each state. The financial information business knows no artificial political boundaries. I don't understand why the system has to be encumbered by being duplicated state-by-state.

Foreman: The standards would not be duplicated state-by-state. The enforcement of those standards...

Graaskamp: Even the enforcement isn't done on a state-by-state basis by the accountants because when you become that parochial, the "good ole boy" forces overwhelm the intent of the original legislation. Ultimately the system is trapped into protecting the members of its fraternity, making it unable to protect the public for which it is intended. You need to neutralize parochialism by having a larger national base. It's not going to

[30]Essential features of the regulatory program include an independent Appraisal Standards Board, an independent Appraisal Qualification Board, appropriate legislation for the state certification of qualified real estate appraisers, state enforcement provisions with penalties for violations of standards and other rules, and the adoption by federal and state regulatory agencies of appropriate requirements relating to both the qualifications of appraisers and appraisal standards. The Appraisal Foundation, established November 30, 1987 as an Illinois Not For Profit Corporation, creates and supports the Appraisal Standards Board and the Appraiser Qualification Board.

work at the state level. If I were on the other side, or I were an appraiser attempting to frustrate the need for this kind of process, I would deliberately promote a state system because I felt I could capture 50 states easier than I could capture one national agency in which there would be some judicial process.

Beron: At a recent meeting didn't Congressman Barnard say that he was going to put the regulatory structure on a federal rather than state-wide basis?[31]

Craig: That's not what the speech says. It's very interesting to read his speech. We're getting different signals from the Congressman on this issue. I don't really know what he has in mind. I personally would disagree somewhat, Jim, because I don't see it happening effectively at the national level. It's too big and cumbersome.

Graaskamp: Perhaps a regional approach is best. There would be no reason why you couldn't set it up on the same basis as the regions for the Home Loan Bank or the Federal Reserve, but you must disarm the parochialism within a single state. The "good ole boy" network is too tight.

[31]Congressman Barnard's remarks were made at a seminar sponsored by The University of Wisconsin Real Estate Alumni, Baltimore-Washington Chapter. His presentation, "Impact of Appraisal Reform on Lenders, Developers, and the Appraisal Business," was delivered on April 23, 1987 in Baltimore, Maryland.

Kabel: I think there is some interplay between federal and state roles in accounting, and the Institute's proposal was modeled after that of the accounting profession. In fact, accountants are licensed by the state. There is some parochialism but there's an interplay between the federal agency and the states.

Graaskamp: But can't that very quickly become monopolistic?

Kabel: There are certain states where there is no reciprocity and there are other states where there is. I met with Congressman Barnard last week and he is very determined to keep it at the state level. I know he's given mixed signals. It may be the last signal we gave was mixed as well.

There are a variety of reasons why he's determined to keep it at the state level, and one is the issue of grandfathering. What about Mr. X who has appraised in northwest Wyoming for 40 years and cannot be certified? How do you handle that person? Congressman Barnard wants to leave that determination with the states. Give them a model bill, and let them determine for themselves if there's any grandfathering to be done. Some have toyed with the idea of grandfathering all existing appraisers but I think they're off of that now because it basically destroys the whole program.

Graaskamp: Well, I sense the basic objective of Mr. Barnard is to go in with the support of all eight or nine organizations that

are on the Select Committee, and that he is willing to compromise to maintain that kind of support.

Ferguson: I've been a lobbyist for the REALTORS® since the early 1960s. This is an area where a state can regulate much better than the federal government. I think you would have nothing but problems on the federal level. Groups have to learn the mistakes that were made in creating real estate commissions and medical boards. For instance, we now have three or four public representatives on our real estate commission and I can tell you justice is improved considerably by not having the foxes watch the chicken coop.

Kabel: I fully agree with Bob Ferguson. Correct me if I'm wrong, but all professions are basically regulated by the states. It would be a nightmare to regulate the appraisal profession from some super agency. I think it's very impractical. Also, the response at the state level to the model bill that the Institute proposes (or some other type of legislation) is very encouraging.

Dorchester: I'd like to ask Jim Graaskamp a question about a word he used earlier. You said you felt that we should have a "national" system. You didn't say a "federal" system. Is there a difference?

Graaskamp: I am not a great advocator of the federal government doing much of anything. In fact, my father told me that we're

lucky we don't get all the government we pay for. What I do see is a very distinct parochialism at local and state levels. Perhaps regional districts could provide a regulatory environment helpful in diffusing the traditional reciprocity that exists at the state level.

Jaffe: I find myself agreeing with Jim Graaskamp wholeheartedly. As Bob mentions, it has been done at the state level, but that's an indictment because self-regulation has not been effective in terms of driving out incompetence.

Schultz: Bob Ferguson spoke about letting outsiders into the regulatory or disciplinary process. Is that feasible on the state level?

Jaffe: Well, I find myself knowing far less about the details than many people in this room, but as an historian who became involved with these kinds of issues a few years ago, I think the evidence suggests that certification boards are made up of foxes looking after the chickens.

Schultz: What if we could set this system up so that it wasn't that way?

Jaffe: This is a new world. Largely, we're talking about a significantly different system than has been the case in the past.

Foreman: I think we do have a precedent though. One of the reasons that we changed our internal ethics was because there were some groups absolutely sitting on their hands and other groups actively conducting vendettas. The degree of inconsistency was absolutely unreal. I have some reservations, but I would almost prefer a regional approach to get someone other than our competitors looking at the process.

Harrington: In Illinois, the Department of Education and Registration regulates other professions with boards that set standards. But there's a state department that investigates and enforces standards. I think you will find in states there are ways of regulating other than having a set of foxes passing on the qualifications of fellow foxes. I think you have to look seriously at a problem of law: to what extent do you enforce disciplinary standards as opposed to competency standards? In law you will never find a disbarment proceeding that relates to competency. You can be the world's worst trial lawyer and not be disbarred. If you look at physicians, you're seldom going to find anybody being dropped from registration because he's an incompetent doctor. But if you expect state enforcement to deal with the fact that an appraiser's act doesn't live up to a standard of competency the industry thinks should be out there, it's not going to work. Don't expect state enforcement people to deal strongly with competency issues. I don't think it's done in any other profession.

Dorchester: I was responding a few moments ago to Austin's comments, and to Jim's, which was the reason for my asking about a "national" versus "federal" system. It strikes me that the thrust of both of your comments implicitly states that we're putting an awful lot of pressure on whatever this certification model is going to be. I worry that there may be too much pressure put on it already. We can't agree completely in the crafting or the creation of the certification itself. Yet it strikes me that we have some powerful tools that we didn't have some time ago.

We have common agreement among virtually all of the responsible appraisal organizations in the United States concerning appraisal standards. We also have a common industry phenomenon wherein people in the marketplace hiring appraisal services say, "We want you to do this to an R-41 standard." So there is a greater understanding of standards than might be obtained from an Appraisal Institute textbook or course or seminar.

Graaskamp: But it's coming from pressure on the consumer. We're getting more regulations through our marketplace than we are through our...

Dorchester: I want to respond further because that's really where I'm going. At the back of your books for this Forum there is a brochure called "Facts About FASB, Financial Accounting Standards Board." Some rather intricate paragraphs lead it off,

but what it really states is that the Financial Accounting Standards Board serves as a surrogate for the Securities and Exchange Commission.

What strikes me is that I see appraisal regulation coming under the Financial Accounting Standards Board. There is absolutely no reason why a substantial portion of what we're talking about in regulations shouldn't be centered there today. We are already seeing regulation through the Federal Home Loan Bank Board. We are also going to see regulation through the banking system at large. Eventually, we're going to start bumping up against such questions as: "Now wait a minute, whose standard is this?" "Is this the national Appraisal Standards Board?" "Is it the Appraisal Institute's Standards Board?" "Is this something that NAR has done separately?"

There are some enormous structural problems to overcome. And one of the things that must be done is to acknowledge those people who can in the public interest practice and follow standards. We must start someplace. But if we sit on the federal or national level and try to define all variables beforehand, I think we would be far into the next economic disaster before we would have the parameters of brilliance to say, "Well, here's the way this program should operate." Imperfect though it may be, we have a lot of things going for us, and at the same time we have the ability to off-load structural concerns at the local level, where they can best be addressed.

Graaskamp: Does this suggest that there is no such thing as a generic MAI anymore? Is the MAI going to be subdivided into certain levels of specialty or expertise?

Dorchester: Jim, I think that is a very incorrect interpretation of the Appraisal Institute's designation. Whether you're a member or a candidate, before you can take on an assignment you must be qualified. We may have members who have pitched themselves too broadly, or we may have a market that interprets too broadly, but that is something that needs to be looked at separately. I would not want the designation to be subdivided into "MAI Residential" or any other classification like that. Specialization does not have to be reflected in a designation, but within certification processes you have a means of speaking to such distinctions in the public's and professional's mind.

Graaskamp: Should the Appraisal Standards Board, then, be regrouped into several subcategories, in which you would have, say, a "residential group" that was primarily concerned with issues for mortgage insurance, lending, and so forth? If both consumers and practitioners were on the same panel you could move more quickly to a compatible set of standards for each area.

Schultz: Most of the regulations that have been proposed look at that through use of the advisory councils that are going to assist different aspects of the appraisal industry.

Jaffe: Placing the Qualification Board on the national level seems to make less sense than placing it on the state level. But placing the Appraisal Standards Board on the national level is very sensible. The real opportunity happens at the Appraisal Standards Board level.

Beron: I think there's an aspect of this that we're really overlooking. In the Congressional subcommittee report Barnard found over 250,000 people involved in the appraisal profession.[32] Perhaps this would be a way to bring some of those people under the educational standards that we have benefited from all these years.

Jaffe: I think you're absolutely right. I think FASB affects accounting in general, not just members of the AICPA and other accounting associations.

Pittenger: A couple of comments. I agree generally with Dr. Graaskamp in his view. The state government in Florida produced the recent tax on services, the unitary tax, and our less-than-perfect real estate license law.

[32]The Subcommittee estimates there are between 150,000 and 250,000 appraisers nationwide, of which one-third are members of "highly regarded" professional trade organizations. See "Impact of Appraisal Problems on Real Estate Lending, Mortgage Insurance, and Investment in the Secondary Market," House Committee on Government Operations, 99th Cong., 2nd sess., H. Report 99-891, 1986, p. 8.

A second comment concerns the text of Congressman Barnard's presentation in Baltimore. I want to share with you his written comment about the issue of federal oversight, which is: "The Appraisal Council would be authorized, under proper due process safeguards, to amend the Foundation's appraisal standards and to strengthen enforcement of certification/licensing requirements, but only if the Foundation and the states fail to exercise these responsibilities adequately. Appraisal standards would be amended by regulation under The Administrative Procedure Act, after public notice and a hearing. Certification requirements could be enforced by the Council through the use of civil enforcement actions such as cease-and-desist orders. Again, the Council would act only if the Foundation's appraisal standards were seriously inadequate; or only if the State Boards licensed incompetent appraisers or refused to discipline appraisers who engaged in unethical behavior."[33] Again, I don't know if other signals are contrary, but that is the text of his presentation.

Craig: I think that's in line with what he's said all along. He said that "We want this to happen over a fairly short period of time, and if the states don't pick up the ball and cause it to happen soon, we'll do it with a federal regulation of some kind." What he's saying in the excerpt you read is that a federal oversight committee would act if the states didn't act. The

[33]Quoted from "Impact of Appraisal Reform on Lenders, Developers, and the Appraisal Business," Rep. Doug Barnard, Jr., April 23, 1987, Baltimore, Maryland.

difficulty I see is that the oversight agency would be able to veto standards. I'm not sure that I agree with that.

Schultz: I think another great concern is what a federal agency may do in the way of formulating new appraisal practice and theory. I came into the appraisal business during the urban renewal and redevelopment era, and in an effort to get certain things accomplished, agencies redefined values and told us, "You appraise a certain way and if you appraise that way, projects will be economically feasible." It almost appeared that there was no real reason for preparing an appraisal because you ignored local market factors.

Graaskamp: And you have that problem with FASB. FASB is always looking over at the Federal Trade Commission because the first time around they didn't move fast enough. At one point the FTC issued its own regulations and usurped FASB's authority. So the federal government does have a way of influencing such boards. There's no doubt about it.

Beron: I was going to mention before that regulations sometimes create odd things for us. We have the interesting situation now of "present market value," a phrase introduced by the Bank Board that really has nothing to do with appraisal terminology.

Foreman: That's all right. We're going to have a clarification. It will be "present market value as of a future date."

Schultz: Bill Pittenger, you thought you escaped this. Recognizing that district appraisers have some problems with the wording in the new regulations of the Federal Home Loan Bank Board, can you explain it to us?

Pittenger: No, sir, I can't. In all seriousness, that's a major question that we are asking, too. What does it mean? It appears to be a hybrid between accounting and appraisal terminology.

Graaskamp: I thought what they were trying to get at was the difference in accounting between what is called "exit value," which assumes you convert to cash mid-way through the enterprise cycle, and "enterprise value," which assumes you carry forward to the end of the normal cycle. Is that the correct distinction?

Dorchester: Yes. And there's another problem that derives from international evaluation and accounting standards. The concept is called "deprival value," where in accounting terms a present value may be measured as the cost of deprival of the asset, which is neither its current market value under highest and best use concept, nor a controlled liquidation value of a mid- or shorter-term disposal of the asset. Under the deprival cost concept, value would be based on the cost of acquiring an equally satisfactory substitute property in the marketplace for use in a particular enterprise. In the case of an ongoing enterprise buying fixed assets to be used in a facility, the last thing that

one would want to measure is liquidation value, which presumes a sale.

Graaskamp: Does deprival cost go as far as a regular consequential loss?

Dorchester: It can, but under the standards consequential loss is something that would be looked at by the directors of the enterprise. The valuation of the asset itself would measure time in reacquiring an equally satisfactory substitute. The concept is market-based but you have to look at it in real world terms: "If I must have a rather unique facility to service this particular need, then I have to look for an equally unique facility to operate in."

Schultz: For those of you who have not seen the regulation, I'll take the liberty of reading Sections 10 and 11. Section 10 states, "Appraisals shall report the present market value to a single purchaser and provide sufficient information to determine value upon completion for all properties for which a portion of the overall real property rights or physical asset would typically be sold to its ultimate users over some future time period. Valuations involving such properties must reflect all appropriate adjustments and discounts as well as the anticipated cash flows to be derived from the disposition of the asset over time. Appropriate adjustments in discounts are considered to be those that reflect all expenses associated with the disposition

of the realty as well as the cost of capital and entrepreneurial profit." Section 11 reads, "Appraisals shall report the present market value and provide sufficient information to determine value upon completion for properties, other than those described in paragraph (c)(10) of this [Section]563.17-1a, that are under construction, conversion, or are proposed and where anticipated market conditions indicate that stabilized occupancy is not likely as of the date of completion..."[34]

The key question that has been raised by most people is: present market value of what? Does the definition assume completion today or are we looking at present market value, discounting the completion at some future date, back to present worth? Without further explanation, most practitioners who read this will be very concerned when they're asked to make an appraisal of a proposed project.

Foreman: This represents to me something of a compromise between competing factions. If you write it sufficiently vague, you can run in either direction.

Schultz: That's the point of the major objection to some issues in R41c, and I'm sure the new regulation will address such

[34]Federal Home Loan Bank Board, "Appraisal Policies and Practices of Insured Institutions and Service Corporations," 12 CFR 563.17-1a(c)(10) and (11). In Federal Register, Vol. 52, No. 94, p. 18392, May 15, 1987.

differences of interpretation. They are affecting the appraisal industry.

Graaskamp: I guess I'll go back to the accounting text and see what it has to say about exit value, enterprise value, etcetera, because accountants have tried to get at this for a long time.

Part III -- UNIFORM PROFESSIONAL STANDARDS

Dorchester: It occurred to me during the noon hour that with all the comments this morning on topics regarding impacts of regulation on the appraisal industry that it might not be a bad idea to seek some additional outside counsel.

First, there's Mr. Cooper's Law, which says if you do not understand a particular word in a piece of technical writing, ignore it. The piece will make perfect sense without it. I think we talked about that some this morning. Then there's the Law of Observation which says nothing looks as good close-up as it does from far away. Employing Nikki's Nobel Principle, only someone who understands something absolutely can explain it so that no one else can understand it. I think the FHLBB has done a fine job in applying that principle. Murphy's Paradox, of course, is one that we all face. Doing something the hard way is always the easiest way and maybe that's one of the truisms we're learning here. The Futility Factor states that no experiment is ever a complete failure--it can always serve as a negative example. Maybe we've had a few of those.

On the environmental issue, there's Murphy's Constant, which states that matter will be damaged in direct proportion to its value. Clearly, the question is, "What is the value?" not, "What is the damage?" Commoner's Second Law of the Ecology says nothing ever goes away. And, finally, the reason that I make

these comments: Collins' Conference Principle, which states the speaker with the most monotonous voice speaks after the big meal. So having done that and having insulated our speakers for the remainder of the afternoon, I'd like to call on Bob Kabel for his remarks on the "Development of a Self-Regulatory Structure for the Appraisal Industry."

Kabel: Thank you, Don. By way of introduction, my firm, Manatt, Phelps, Rothenberg & Evans, is legislative counsel to the Appraisal Institute. Our role initially has been to work with the Institute in developing its self-regulatory proposal from the perspective of, "Is this something that's feasible in Washington and plausible throughout the states?" Following that is our role to assist the Institute in implementing the proposal.

We've discussed federal legislation throughout the morning. I think it's clear that something will happen in the Congress whether it's this year, next year, or two or three years from now. Eventually there is going to be some federal legislation directly affecting appraisers. Now the question for the profession is: can it come together to shape that legislation? Congressman Barnard's report cites the banking industry, which fought disclosure of information in lending and was handed a regulatory scheme for truth in lending that it has had to live with ever since. His point to us is to work with Congress, which the Institute and virtually all of the other appraisal organizations are doing, to shape the legislation in a constructive way.

Of course, Representative Barnard is not the only one in the Congress who is interested in the appraisal industry. Yet he has been very skillful in capturing this issue, and I think we're fortunate to have someone with his background. As many of you know he is a former commercial banker from Georgia, and he has a fine appreciation for the problems of appraisers as well as lenders. He is a very credible person on the House Banking Committee, but interestingly enough the now famous set of hearings and report was done through his role as chairman of one of the House governmental operations subcommittees.

We have also spent some time with the Senate Banking Committee. I've met personally with the chiefs of staff for both Senators Proxmire and Garn; when we first started, Garn was chairman and Proxmire was the ranking minority member. Since November the roles have been reversed but we have had very good support from them for the proposal that the Institute is planning to put forth. We've also had strong support from the Conference of State Bank Supervisors.[35] They have not signed-off on a specific proposal because we did not present it to them that way, but we have a good sense that they will be supportive of a self-regulatory approach.

[35]Members of the Conference of State Bank Supervisors (CSBS) include 54 state and U.S. territorial officials responsible for supervision of state-chartered banking institutions; approximately 4,000 institutions are associate members.

I think there's a very good chance of passing something meaningful in Congress if some major trade associations don't become directly involved. And by that, I mean the NATIONAL ASSOCIATION OF REALTORS® and the National Association of Home Builders. I think the REALTORS® have really come a long way in their view of appraisal industry regulation, culminating in the resolution adopted this past week in Washington at their spring legislative meeting. The resolution approved certification at the state level and the establishment of uniform standards, but opposed any federal legislation to require the appraisal profession to actually use these tools.[36]

On the other hand, there was an addendum, if you will, stating that the REALTORS® task force studying these issues should meet again in June to address the topic of federal regulatory oversight. One alternative might be to place the oversight with the Federal Financial Institutions Examination Council (FFIEC).[37]

[36]Reference is to the March 9, 1987 Report of the NATIONAL ASSOCIATION OF REALTORS® Appraisal/Appraiser Regulation Task Force. The first state to adopt certification of real estate appraisers was Louisiana (July 1987). The Louisiana REALTORS® Association supported the certification law.

[37]The five-member Federal Financial Institutions Examination Council was established in March 1979. Its purpose is to promote uniformity in the supervision of financial institutions, and to prescribe uniform principles, standards, and report forms for the federal examination of financial institutions by the Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Federal Home Loan Bank Board, National Credit Union Administration, and Office of the Comptroller of the Currency.

I don't think it's the most satisfactory alternative because you could well have too much variation on a good theme. This concludes my comments.

Dorchester: We'll probably pick up on a number of questions in a minute, but I think it's appropriate, Carl, to turn to your remarks on the "Implications of Uniform National Appraisal Standards."

Schultz: It might be helpful to know the history of how these standards came about. Approximately five years ago the Appraisal Institute completely revised what was known as Regulation 10, which was one document encompassing both the Code of Ethics and the Standards of Professional Practice.

When the Institute placed its Code of Ethics and Standards of Professional Practice into two separate documents, it essentially addressed the difference between competency and integrity issues. The Standards produced by the eight appraisal organizations and the International Right-of-Way Association primarily address competency provisions. As a result of the Institute's actions a new interest developed over standards among the various appraisal organizations and at the Federal Home Loan Bank Board. Much of this interest centered on the new requirement in the Institute's standards regarding cash equivalency. Not long after this a meeting was held between representatives of various appraisal

organizations. One result of that meeting was the creation of the Task Force on Uniform Standards.[38]

The new Uniform Standards have not been adopted by all of the organizations that are involved in drafting them. Each organization has taken a slightly different view. Some have adopted the standards as they are written, but the Appraisal Institute has not. I'll address in a few minutes why I think we can't adopt the present version.

To briefly summarize the ten standards, the first two are almost identical to the Institute's standards except that they only address valuation analysis. Standard 3 has to do with review appraisals, and this, too, is very closely associated with requirements in the Institute's standards. Standards 4 and 5 address the development and communication of a real estate analysis. Standard 6 addresses mass appraisals for ad valorem taxes. Standards 7 and 8 address the development and communication of personal property appraisals. Standards 9 and 10 concern the development and communication of a business appraisal. So, as you can see, the Uniform Standards have gone beyond those of the American Institute of Real Estate Appraisers and other appraisal organizations that address only real estate issues.

[38]The initial meeting took place in February 1986. In November 1987 the Governing Council of the Appraisal Institute formally adopted the Uniform Standards of Professional Appraisal Practice, with supplemental language, effective January 1, 1989.

However, the standards do not cover ethics or integrity problems. Many issues in our Regulation 10 are not addressed, such as fraudulent activities, opinions that reasonable men and women would not accept, bias, confidentiality issues, hypothetical appraisals, misleading advertising, and referral fees. These are issues that are extremely important to the appraisal community and in the regulation of appraisers. If we're going to have some national system of regulating appraisers, we must address these other issues.

Another major difference between the Institute's standards and the new Uniform Standards concerns the definition of an appraisal. In the Institute's standards, an appraisal is any real estate service. It is an analysis, opinion, or conclusion relating to the nature, quality, value, or utility of a specified interest in, or aspect of, real estate. The definition of appraisal in the Uniform Standards is an "act or process of estimating value."[39]

Also, we have to determine who is going to enforce standards. As of now, except perhaps where courts would pass on fraudulent activities, the professional organizations are the most likely enforcing entity. We recognize that professional organizations have been unable to do that up to this point in time. It is both

[39]The Uniform Standards limit the definition of appraisal to estimating value and do not include appraisal services other than those the Appraisal Institute defines as "appraisal assignments."

difficult and expensive for an organization to revoke a professional designation. You also have the problem of parochialism addressed earlier.

Another alternative is to look to some federal agency to serve as the enforcement arm while the industry addresses problems that can be expected from that type of arrangement. The last enforcement mechanism--and the one that we would hope to avoid--is the courts. To me that's a very expensive alternative. As we all know, real estate appraisal is not an exact science and there will always be differences of opinion. The market is imperfect.

I view the appraisal standards as an excellent enforcement tool. I am deeply concerned, though, that rather substantial differences of interpretation exist. I believe that the explanations of each standard should be detailed, so that persons doing appraisal services know precisely what is expected of them.

Dorchester: Carl, would you expand on your comment about ethics? Are you suggesting that ethics issues not be handled by the professional associations?

Schultz: Well, many of the problems that the industry is faced with--the problems of savings and loans and banks' overvaluation and undervaluation--are more integrity problems than they are standards problems. An appraiser with good communications skills can make a report look like it's a reasonable conclusion of value.

Yet errors in data gathering and analysis can result in an incorrect conclusion. So I really think the regulators are looking at the integrity provisions and not just the analysis and reporting requirements. We need both ethics and standards systems.

Craig: Do you see the Appraisal Standards Board in this self-regulatory organization writing about ethical violations as well as the standards?

Schultz: That's the way I see it functioning.

Foreman: I think you have to because standards and ethical violations can evolve from similar sets of circumstances. Sometimes it isn't until you get into an investigation that it becomes clear that bias is involved.

Craig: Is this the way the accountants do it? Are they answering integrity questions through FASB?

Dorchester: My understanding is that integrity issues are tied directly into their standards. But to the extent that AICPA wants to overlay additional requirements or additional interpretations for its members, it can and does so through its own standards body.

I'd like to ask another question. Must we address integrity issues from the beginning, or is this something that can evolve as we develop the standards?

Schultz: Well, I guess it can be done on an evolutionary basis, but once Congressman Barnard and perhaps some other government officials recognize that the standards address appraisal analysis in reporting and not the integrity issues, I think they are going to be shocked.

Beron: The main question is, are we all going to pull together? Do you see the absence of integrity provisions in the Uniform Standards as a major stumbling block?

Schultz: Absolutely not. I don't want anybody to believe that I even suggest that. I have looked at these standards primarily because I know that the Appraisal Institute is coming up for a vote very soon as to whether or not to adopt them. There is absolutely no way that I can see the Institute simply adopting Standards 1 through 10 and doing away with Regulation 10, because it contains our integrity provisions. I don't see how the other appraisal organizations can do that either. I personally like the idea of treating competency problems through education first and disciplining second, and treating integrity problems with immediate discipline when there is a violation. I think that's something other professional organizations have not considered up to this point in time.

Mundy: I'd like to move to something that was raised this morning concerning integrity and ethics. Should we try to move this responsibility outside of the appraisal organizations and into the public sector, or to some other organization that is specifically set up to handle ethics questions?

Schultz: We have to avoid the "fox and hen" problem. I definitely see a need for improving the integrity of the disciplinary system through some form of oversight or outside influence.

Craig: There isn't any question in my mind that if you've got good investigative people with an agency at the state level, they can deal with the pressures. It's their job to investigate things. But I don't know where we would put it at the state level. Licensing and certification laws that have been introduced in states so far generally fall under the real estate commissions.

Ferguson: I think you want to move cautiously on who's going to regulate appraisers because the track record is poor when a broad, protective agency is involved. At least in New Jersey the track record is poor.

Schultz: There are two other areas of interest regarding the current standards. If we have some form of regulation and these standards are adopted, a signature will be required of the person

who is responsible for preparing the appraisal. That could eliminate some company signatures. Another issue is whether or not the standards and the regulations should pertain to only real estate appraisers, or include all appraisers.

Graaskamp: I think it almost has to include all appraisers. When you appraise a hotel, you're concerned with tangible and intangible personalty, as well as real estate. We've never done a good job of separating the component assets of an enterprise.

Schultz: I don't think there's any disagreement with that. The question is would the same body that certifies real estate appraisers also certify personal property appraisers? When you get involved with business valuation or real property rights, then surely those areas should be covered by the standards.

Graaskamp: I don't know how you separate them. You've got a lot of people out there representing themselves in all types of business.

Dorchester: And selling insurance on the side.

Craig: Well, I have to address this area because I'm the chairman of the subcommittee [of the Select Committee] writing qualifications for certification. I agree that appraisers of personal property probably should be regulated, but I'm not sure

that we ought to undertake that task. It's a big problem in writing qualifications.

Mundy: I think the appraisal profession is similar to any profession where you have specialization. Within our industry are many specializations. Real property appraisal happens to be one.

Ferguson: You're going to have a difficult time at best with what you're proposing. This is not going to be a "walk in the sun," people, believe me. If you get into all the areas you have just been discussing, I'm not sure there is an agency that you can find or create that's going to be able to do justice to certification and enforcement issues.

Dorchester: Carl, I'd like to go back to the ethics issue again. What kinds of things do you think we need most to complete the standards package?

Schultz: Primarily the items that I addressed earlier. Although the word "misleading" is stated in the standards, they really don't address misleading analysis and reporting, fraud, unreasonable opinions, bias, confidentiality issues, maintaining reports, preparing a memorandum or a report prior to testimony, hypothetical situations, misleading advertising, and referral fees. None of these issues are addressed in the Uniform Standards to date.

Dorchester: Couldn't we state the items you just raised in the standards? Couldn't those things be articulated in guidance notes, background papers, or some other form, so that we don't have difficulty understanding the distinction between the two?

Schultz: I don't have any problem with calling them standards. I would have a problem if some regulatory agency enforced a violation of a standard that I considered to be a minor offense in the same manner that it enforced a major violation, such as bias. If there were a way of qualifying the degree of violation, I would have no problem whatsoever.

Dorchester: Let's go back to my original question: after all of this is implemented, is there not an opportunity for the Appraisal Institute, or for another organization, to have higher standards or a more stringent code of ethical conduct than exists in the marketplace? Could that distinction be drawn or should it be drawn?

Schultz: Yes, I believe there is room for an organization to have higher standards than the typical market would have to face, but I don't see this happening soon. Professional organizations might do things differently so long as all of the certified appraisers within them abide by the standards developed by the Appraisal Standards Board.

Beron: Carl, does it follow that all the groups would act as one organization rather than retain their individual status?

Schultz: I think there would be some major shake-ups in the professional organizations. Whether the system is regulated by the states or the federal government doesn't make any difference. I see that we are going to need two different certifications: one for residential property appraisal and one (with perhaps two levels) for commercial property appraisal. But let's assume that the certification system is in place and the state's role is to regulate the industry. Let's also assume we have a Residential CPV--Certified Public Valuer--and we have a Commercial CPV. I just can't imagine that the requirements to become a Commercial CPV are going to approach those for becoming an MAI.

I also see that major financial institutions are still going to need appraisers with greater experience. And the only way one can meet this need is to obtain a more specialized version of the CPV, or something similar to the MAI designation. Perhaps under this system more requirements will be attached to the MAI designation, to elevate it even higher than it is now.

Jaffe: In the absence of increased requirements there is strong motivation for "grandfathering" and for diluting efforts made toward establishing the higher-level designation. I think that you need to emphasize even more strongly that the MAI designation would eventually become a very specialized designation.

Craig: I can't see us getting out of the review and counseling areas in matters of competency. There will always be review and counseling if we're trying to raise the level of the organization. However, it would be preferable to turn disciplinary matters over to some agency who has immunity and subpoena power. That area is really where all the money goes.

Dorchester: Bob Kabel, when you started your presentation you mentioned that feasibility of the product and its successful implementation were important objectives. What does the impact of this expansion of ethics--or failure to include it--have on the plan as you see it right now? Secondly, what are the pitfalls or problems that you haven't mentioned?

Kabel: The ethics question might be resolved with the establishment of the Appraisal Foundation. The Appraisal Standards Board could be charged with addressing ethics issues. That's a major step forward. Congressman Barnard has discussed a federally chartered foundation. He's delighted with the Foundation developed by the Appraisal Institute but I'm not sure he's clear on how the two might complement one another. We've suggested to him that federal agencies recognize the FASB standards, but that FASB is not a federally chartered entity.

Harrington: I think you want to be very careful about letting Washington set ethical standards for individual members of the profession. My own experience with federal regulatory systems

suggests they are totally unresponsive to reality outside of a narrow, project-oriented approach. In other words, the federal government is not too bad at building things or running on-going programs, but when full-scale regulation is its focus, it becomes dominated by career bureaucrats who look upon bureaucracy as an end in itself. Of course, the major pitfall of any standard established in any area is that it will be used as a basis for a complaint and a measure of negligence and liability. If someone wants to sue an appraiser, he or she looks for a standard and attaches it to the complaint. So you want to avoid writing "good intention" statements into them.

Kabel: I'd like to return to the issue of certification. It's important to remember that the intent is not to certify every appraiser. That would be virtually impossible. To draw a parallel with the accounting profession, there are CPAs, other kinds of accountants, and bookkeepers. They all perform certain functions, but some functions can only be done by a Certified Public Accountant. So how do you get this all working? One suggestion is that by a certain date the federal financial agencies would require all persons, whether they are certified or not, to use the standards as developed. Following that, certain types of appraisal work would have to be performed by a certified appraiser. That's the incentive to get the states to act. But what if the Appraisal Standards Board issues ethical standards? Who then enforces them?

Jaffe: The more actively involved state or federal governments are, the more likely it is that certification will be required on virtually all the agency levels because the costs are then borne somewhere else. As a result certification takes on a kind of licensing role. I believe you're correct in intent, but my suspicion is that the Federal Home Loan Bank, for example, would require a certification for virtually every piece they do. Every other agency might, too.

Craig: That's the unspoken part of this. Probably most appraisers would have to be certified. But the problem is that we need a voluntary program in order to work effectively with the states. With licensing you have to grandfather all those who are practicing now. We don't want to do that.

Jaffe: I very much appreciate the voluntary aspect of the program. I'm worried that it will be voluntary for only a few people, but mandatory for virtually everyone else.

Schultz: You're ultimately correct that at some point in the future the system will become mandatory. But we're probably talking 15 or 20 years before grandfathering occurs.

Jaffe: I think that's very wise but I also think it's critical to talk about an advanced designation that allows people some voluntary choice for specialized demonstrations to the market.

Graaskamp: You can choose to wither on the vine by not becoming certified or you can choose to move up.

Schultz: Or in some circumstances, a professional organization will provide advanced requirements for those who need them. I think there's a marketplace for a relatively small group of appraisers who are qualified to do major properties.

Dorchester: I'd like to ask Bill Pittenger a question. Let's go a couple of years down the road. Let's assume we have a national body that is assisting states, that we have some effective standards, and that we're generally pleased with the system's operation. Do you have a guess about the Bank Board's view as to whether the R-41 regulations are still necessary?

Pittenger: Yes I do. I think there will always be a place for Bank Board standards. I can see them going in a different direction, however, and that is in the direction of appraisal content issues rather than ethical considerations. I think the Bank Board will always have guidelines regarding information required for secured credit lending.

Dorchester: Then won't this create multiple layers of requirements that appear similar but have slightly different applications? Could this become a situation worse than what we started with?

Schultz: I think the Standards Board will say that if you are preparing an appraisal for a financial institution that is going to lend money, then it should be on a cash or cash-equivalent basis. That would eliminate the need for an institutional requirement.

Pittenger: Yes, I could certainly see that happening. I think something else is going to happen, too. And that is a shake-out among the financial industry regulators. There is already evidence of that occurring among the rank and file. I have done scores of seminars around the country in the last year, and frequently I hear, "Well, this old 'level playing field' argument served us well for awhile, but now we're starting to take a hard look at the rulebook."

Finally, Carl indicated it was doubtful that regulators realized the integrity components were missing in the current proposal and I think he's right. I don't think anybody spotted this.

Schultz: I have no doubt that the new Appraisal Standards Board will address the integrity issues. Meanwhile, the professional organizations will continue to be responsible for disciplinary actions within their segments of the industry.

Part IV -- ADDITIONAL INDUSTRY RESPONSES

Dorchester: Topics this afternoon fall under the general heading of "Additional Industry Responses." We have three presentations and then opportunity for advice, consent, rebuttal, and other remarks. I will first call on Bob Ferguson to discuss "Environmental and Energy Issues Affecting Real Estate Professionals."

Ferguson: To begin with, let me give a litle personal background. I'm not a real estate licensee. I'm an attorney. I am also Executive Vice President of the New Jersey Association of REALTORS®. I have been the Association's chief lobbyist since the early 1960s. I thought environmental concerns would really be pressing on this industry but after listening to you talk about certification, I think environmental issues are probably the least of your problems.

Environmental issues crept up on the real estate industry. If I had to pick a day when I knew they had arrived, it probably would be Earth Day in 1970, a day that most people in this room probably don't remember well.[40] But as a lobbyist, I saw that people who had been mortal enemies were holding hands, calling for the creation of a Department of Environmental Protection. In my opinion, it really changed the way that those

[40]Earth Day took place on April 22, 1970. Its purpose was to increase national awareness of environmental issues and the importance of environmental education.

of us who represent the real estate industry in New Jersey look at the problems. New Jersey now has that Department of Environmental Protection. At the federal level the Environmental Protection Agency (EPA) was established in 1970. And as of yesterday our New Jersey legislative roster lists about 400 bills that impact, in one way or another, on the environment and on real estate professionals, including those in appraisal.

I am also a member of the National Association's Legislative Committee. I'm the vice-chairman of its Subcommittee on Energy, Environment and Development.[41] However, like most good Americans, NAR has completely forgotten energy issues. We haven't discussed an energy-related issue in committee since gasoline came down to about $1.10 a gallon. That's not to say that it won't be back on the agenda, but we're just not talking about energy issues today. At our most recent meeting the two major concerns were environmental radon gas and asbestos.

According to the EPA radon gas will be a problem in 32 states. New Jersey and the Redding Prong received some notoriety in 1985, and in that same year Senator Frank Lautenberg (D-NJ) held public hearings. There it became very obvious that nobody really had a handle on radon gas and its long-term implications for the United States. In January 1986, I went to Sweden with Senator

[41]The purpose of the Environment, Energy and Development Subcommittee is to monitor federal legislation and regulations regarding energy, public land management, land use, agriculture, and the environment as they affect the real estate industry.

Lautenberg as part of a fact-finding committee to learn about radon.[42]

Recently we heard resolutions from various states asking the National Association to require EPA to establish minimal standards for exposure to radon. But what is that level? In New Jersey we use one standard; Colorado is considering another. Fortunately, we haven't had a disruption in the marketplace concerning radon--yet.[43] In New Jersey the reason we haven't had any problems is because we still have a seller's market. We've got four people for every house. But in a buyer's market I think we're going to have a different story. And after one or more banks are "burned for gas," as we say, then we'll likely have mandatory radon testing. The NATIONAL ASSOCIATION OF REALTORS® is very concerned about that. I spoke to members of the Appraisal Institute in New Jersey and they are concerned also.

The other item that was on our national agenda was Senate Bill 981, which would require asbestos testing in office buildings.

[42]The radon task force, led by U.S. Senator Frank R. Lautenberg (D-NJ), visited Stockholm, Sweden between January 7-10, 1986. The group reviewed epidemiological studies demonstrating a link between lung cancer and residential radon contamination, and government policies designed to address that nation's radon problem. A copy of its report is on file in the Research Department.

[43]Currently several states are conducting tests to determine if radon levels in single-family homes exceed the federal standard of 4 picocuries of radioactive radon per liter of air. A picocurie is a standard measure of radioactivity.

The forecast is that this bill will probably not pass in the current session of Congress, but eventually there will be legislation mandating asbestos inspections.[44] I don't know how many of you are aware that the NATIONAL ASSOCIATION OF REALTORS® is removing asbestos from its building right up the street [in Chicago] and the cost to correct, depending on how you break it out, is about $200,000 per floor. Asbestos is a major problem and one that appraisers must squarely face.

There are other environmental hazards, too. Lead paint you're all aware of. Urea-formaldehyde foam insulation (UFFI) is another. Underground storage tanks and water quality represent other important issues. We heard about what's happening in Illinois; we can expect that kind of movement right across the country.

Toxic dump sites--in New Jersey we probably have more of them than any other state in the nation--are creating some unusual problems for appraisers. Under what circumstances do you disclose? I'm not sure. It's something that you're going to have to come to grips with in the not-too-distant future. We have a major lawsuit against a REALTOR® for selling a home adjacent to a dump site. Everybody who was involved in that

[44]Senate Bill 981 refers to the proposed Federal Building Asbestos Hazard Abatement Act, which would expand the role of the U.S. Environmental Protection Agency in monitoring for asbestos in federal and nonschool buildings, including privately owned structures (see The Appraiser, Vol. 43, No. 6, June 1987).

sale, from the appraiser to the local municipal health official, has been named as a defendant. Ignorance of the facts won't work. Our real estate commission tells its members, "You know where the churches are, you know where the schools are, you know where the shopping centers are, and you damn well better know where the toxic dump sites are."

You heard about Super Liens this morning. Massachusetts and New Jersey are Super Lien states, and programs like theirs will also spread across the nation. And the final issue is the Environmental Cleanup Responsibility Act (ECRA), which real estate professionals, including appraisers, cannot escape.

Dorchester: Thank you very much, Bob. Next I call on Gail Beron. Her topic is "Measuring Market Perception: Impacts of Ongoing and Single Incidents."

Beron: Generally speaking, everybody makes decisions based on their perception of what's going to be in their best interest. People acting in their own best interest complements our definition of market value. But once in a while something suddenly comes along that could not have been foreseen.

I'm going to talk about two different types of phenomena: single events and ongoing situations. A single event is usually a newsworthy incident, something like the Mount St. Helens volcano or Three Mile Island or a flood or hurricane or even a train

derailment that spills harmful chemicals in a populated area. On the other hand, there is the ongoing situation, which is something that we are more familiar with in the appraisal field. These would include the introduction of a highway or a power line, as well as local air pollution, water pollution, and soil contamination. Personal reactions to ongoing situations vary considerably. For example, we are fairly comfortable with a highway project because we know what to expect in the construction area. But we are not at all comfortable about water contamination.

Looking at these situations from the point of view of the appraiser, it's important to consider the implications of measuring changes in property value that accompany them. Up to this point, we have had really two ways to do that. We've used multiple regression analysis and we have used paired sales techniques.

But now that additional risk factors are coming into play, we have new variables to measure. And some of these we have not measured before. For example, when you're studying air pollution it is important to know which way the wind blows. Is one quadrant less affected than another? With water contamination one might need to study the local aquifer. Its configuration is basic to locational analysis. Are we in a contaminated or a potentially contaminated area? Is the flow coming this way?

Such things are hard to know, yet quite possibly this kind of information is crucial to an appraisal.

Right now I'm working with a client who experienced a single incident of gas emission and has an ongoing situation of well contamination. We are under instruction to look at only the single incident, but who knows what's coming down the pike? People are worried about the impacts from the continuing situation, yet these are not currently being addressed.

After the accident at Three Mile Island a study by Pennsylvania State University showed that real estate sales dropped off dramatically for a 4-to-10 week period and then returned to their normal level. It was almost as if an inverted "hiccup" occurred in the sales pattern. We are currently studying what happened in real estate markets near Three Mile Island after March 1979. We'll see if there are any lasting effects by looking at sales prices, at how fast things turned over in the market, and at changes in demand for sales. Our challenge, and the challenge to the appraisal industry as a whole, involves defining the elements of property value change that are presently intangible, illusory, and sometimes literally shift with the wind.

Dorchester: Thank you, Gail. Next we will have Bill Mundy speak on the "Impacts of Regulations on Market Research, Analysis and Reporting."

Mundy: I think there are some good reasons why market research is not regulated. One reason is that market research is "soft" research. It's a type of undertaking where both researcher and client understand that answers are inexact and the material is presented in a context of confidence limits, statistical significance, and degrees of error. Another reason could be the environment in which market research has evolved. Market research developed in the academic community and has been associated with good, solid business curricula. It has a long tradition.

Some areas in real estate appraisal relate to the market research profession, and I think appraisers can learn from market researchers. For example, Ethical Rule 3.1 states that it is unethical to knowingly prepare a report that contains a biased opinion.[45] We talked today about bias but I wonder how many practicing appraisers really understand the various forms of bias. Let's say we do a mail survey where we send out from 100 to 300 questionnaires and receive a 30% to 40% response rate. We tabulate the returns and indicate that the results are an accurate reflection of the market. Is there bias there? Yes, there is. But how many people in the appraisal profession know that?

[45]American Institute of Real Estate Appraisers, Regulation 10, Code of Professional Ethics, as amended May 5, 1986.

Market research utilizes the scientific method and as such it is important to understand some of the implications of that methodology. There are three different measures that can be used to differentiate scientific and unscientific research. One is the degree of objectivity. Are both the analyst and the analysis objective? The second is the accuracy of the measurement techniques. Extending this to appraisal, when people gather comparable sales data, for example, do they concern themselves with the degree to which they cover the primary market area? I submit that many appraisers probably take the path of least resistance and select comparables that they can obtain quickly and inexpensively. A lot of data are not picked up at all, and so we violate an important tenet of the scientific method. The third measure concerns commitment to the research problem. Is the study continual? Is the analyst gathering market information throughout the assignment and even afterward, in case change takes place that should be brought to the client's attention?

Also, the market research profession has dealt with ethics in a number of ways. We have learned a lot by doing research for others about ethics, and this knowledge has helped to establish a type of ethical code within the profession.[46] In 1984 researchers from Texas Tech University conducted 450 interviews with people in the market research profession. One-third of the respondents identified professional integrity as the most

[46]See Hunt, Shelby D., et al., "Ethical Problems of Market Research," Journal of Marketing Research, IV August, 1984.

significant problem of the market research industry. Among the various issues concerned with integrity were withholding of information, falsifying research results, misusing statistics, ignoring pertinent data, and misinterpreting results with the objective of supporting a predetermined point of view.

This last issue is really important for us to remember; it speaks directly to the appraiser-client relationship. The market analyst, like a real estate appraiser, is an intermediary, a broker for a client. We have a great responsibility in that area.

Dorchester: I am delighted there is another day of the forum ahead because I think everyone is scratching notes and questions quickly. David Craig.

Craig: There's no internal discipline within the market research profession?

Mundy: No. Another interesting thing is that market researchers don't carry errors and omissions insurance. The vast majority of them haven't even heard of it, based on a little survey I did myself among some of my colleagues.

Craig: Then does the market itself discipline such people?

Mundy: It disciplines, but not in a punitive way. Serious market researchers receive a substantial amount of training. People are supervised closely. One of the ways that market research professionals have avoided regulation is through the degree of supervision that accompanies market research.

Dorchester: Bill, as you started your discussion I heard reasons why the fields of real estate analysis and market research shouldn't be regulated. Then I started hearing things that made me think there were good reasons why they could be regulated, at least to some degree. You mentioned such things as minimum standards for a report, the issue of bias, certain types of disclosures about the adequacy of research, differences between data sources, and the importance of data verification.

I just spent several days in New York talking with Wall Street firms that are very concerned about what they call "cookie cutter" hotel/motel studies. These are the kind of studies that suggest if two hotels are feasible, then two hundred must be feasible also. I heard discussions about Orlando, Florida involving motels rising off of market research that ignored the existence of projects under construction, of lending activity that was capable of being tracked, and of other competitive factors because they just weren't part of the standard. In other words, each project was going to stand on its own merit. I don't understand why the field of market research couldn't be regulated.

Mundy: I'm not saying that the market research profession can't be regulated or couldn't be regulated. The scientific method evolved in the hard sciences--engineering, physics, chemistry--where it is possible to measure things very precisely and replicate experiments. This methodology eventually expanded into the social sciences where there is a significantly greater degree of error, where behavior is not precise or predictable, and where many variables influence opinions. Because of that variability, it's important to use statistical tests to find out if data are acceptable within certain limits. This is what we term "soft" research. But clients understand this, and I think that is really the important thing. They've been well-educated and they know that they should not expect precise answers.

Dorchester: Would you agree or disagree, then, that the field of market research is now at a point where there are commonly accepted principles? Are factors sufficiently common that the marketplace relies on that advice, causing investors to invest or not invest based on the underlying economics and probabilities? Or do we need to be taking a closer look at how market research is being performed?

Graaskamp: Market research differs from appraisal for another reason. Until R-41c identified market research as part of the appraisal function, there was really no compelling support for it and many lenders didn't require that it be done. In fact, some clients don't want to hear about market research because the

discovery of an absent or weak market could kill a "good" project. Beside that, with the scientific method you always present conclusions as alternative scenarios. I learned from the banks in New York that in financial consulting, conclusions are always presented as alternative courses of action. The final choice is that of the client, which takes the consultant off the hook. Instead of providing a fixed number, appraisers should indicate a central tendency or range of alternative outcomes that apply to a specific set of circumstances. In this way they can begin to absolve themselves of at least some degree of error.

Beron: With all the emphasis that is placed on education, I wonder if the incorporation of the feasibility study under the new regulation exposes us to some additional liability. We really aren't trained in the methods you described.

Mundy: It certainly does and that's the reason I began with Ethical Rule 3.1--knowingly preparing a biased opinion. I think a lot of people doing market studies as a result of R-41c are unknowingly producing biased products. We've got to provide them with better education.

Jaffe: One of the hot topics at universities that teach real estate is so-called market research. There have always been people who have argued that being very good at crunching numbers doesn't tell you anything about valuation, and yet very few studies have addressed this claim. We have new books and

seminars and all sorts of statistical methods, but essentially we don't know the fundamental questions. We don't know, for example, the relationship between a location and an investment decision and how it affects the bottom line. We don't know the kind of things that market research should tell us, despite the fact that people have always argued that it would be great to know this or that. People that do what I do and think about things in similar ways, even in different ways, say, "We don't know anything about market research." Knowing how to perform a statistical analysis or identify bias inherent in survey techniques are important skills, but they are secondary to what we really need to know.

Let me broaden my comments and then other people can respond. In some sense all three of these issues raise questions about methodology. It's not simply a question about market research being good or bad. People who work in market research always tell us it's better than what everyone believes anyway. Everyone knows stories about developers who don't care about market research and don't think it's useful. Yet others argue that market research should receive more credit. It seems to me that these are methodological issues about the appropriateness of science, let alone social science, to valuation questions. These are tough, tough methodological issues that I think need to be addressed by the appraisal industry very carefully, not so much in terms of an educational agenda, but in terms of defining and addressing narrow issues.

For example, we talk about the demise of the Appraisal Institute's quantitative methods course.[47] It's a serious issue not because people aren't taking what they need in someone's view, but because methodology is merely slid into the curriculum; it's the fundamental question about how you do valuations. My sense is that one should be much more careful about methodology and less worried about how to teach techniques. It bothers me that the debate is centered on whether we should use one technique or another, or whether we should worry very much about radon testing, rather than what it means in the first place.

Graaskamp: Just to underscore what Austin is talking about, think about cost. Behavioral research is extremely expensive and time consuming. Nobody gives the appraisal enough significance in the decision process to justify spending that kind of money. There's no economic reason to do research.

Jaffe: What you're really saying is that we probably get what we need.

Graaskamp: We get what we pay for and our accounting system is lousy. As a result other people are paying for what we didn't do.

[47]Course 11, Quantitative Methods, was offered in 1984, 1985, and 1986. It was dropped from the Institute's curriculum in 1987 as a result of declining enrollments.

Jaffe: That's not inconsistent with what I am trying to say. If someone bears the cost associated with mistakes, you probably are going to produce the optimal amount of market research.

Dorchester: I'd like to add that I was in New York the last few days with a number of pension fund advisors and asset managers who are starting to define those critical market factors that are meaningful to decisions that must be made.

Let me see if I can tie some of the earlier discussions together with a question or two. I heard Bob Ferguson talking about problems for REALTORS® and the complexity of new issues. A very strong implication exists that it just takes one transaction to prove that you're out of business. If the appraiser, historically identified as the one who provides a mirror on the market, is able to take his or her personal bias out of research, he or she is reflecting only the view of the marketplace. Yet in studying single events or ongoing situations, market comparables may be lacking. Suddenly the appraiser moves past being a mirror on the market and becomes the measurement point himself or herself.

Graaskamp: But doesn't a knowledgeable buyer or seller presume an inefficient marketplace rather than an efficient one?

Beron: Hopefully, the appraiser won't have many horrible incidents to assess. I think, though, that we will have to

develop techniques to look at processes of change and their relationship to property values. I don't know how we are going to do that quite yet.

Mundy: I certainly agree with Gail that we need to develop methodologies by which we can do a better job of measuring the effect of these incidents. It's an area where we're groping in the dark.

Foreman: I think the federal government has found that this thing can cut both ways. I'm working on a case now where a developer bought a parcel of land, discovered it had been contaminated, and is now suing the government for $400 million. The government is willing to pay the cost of removing the contamination but they are not willing to pay for down time or compensate for the resulting lowered sales price.

Dorchester: I think this is a good time to move into our last item on the agenda for this afternoon. Carl Schultz will offer his concluding remarks.

Schultz: I knew there were some sensitive issues that we were going to bring up, but I didn't realize how many substantive problems exist in the world of appraising. I remember 25 years ago when I entered the business; it seemed uncomplicated. Over the ensuing 25 years, I've been through the energy crisis of the early 70s, the recessions that followed, the new financing

techniques and the problems of measuring their impact on value, and two or three tax law changes. Now, suddenly, I must deal with problems of environmental issues and federal, state and local regulations that I think are really taking typical appraisers way beyond their capabilities. I can't imagine how we can keep up with all these issues.

What do we really expect of the appraiser? Do appraisers measure the actions of the marketplace or must we really be investigators now, requiring that each piece of property have a radon test and borings to see if there's anything toxic under the ground? How do we know where these sites are that are going to affect our properties? Does everyone really expect the appraiser to know that within 2,000 yards of a property is a toxic waste site that affects the subject property? Until it's actually known to the public, I can't imagine the appraiser being responsible for covering all of those activities. It's almost frightening when we hear some of the things that are going on around the country and how appraisers and others involved in real estate--brokers, lenders, closing attorneys, surveyors--now tend to be held responsible for an item that nobody knew about before the fact. It may be the business that created the problem is no longer viable and is off the hook. These are issues of deep concern that could destroy the appraisal profession. Appraisers cannot be held accountable for all environmental matters that pertain to property.

Of course, the other issue that we have been discussing is the regulation of the appraisal industry itself. I see that as inevitable. I think we must go forward in an attempt to get the best possible regulation we can, one that will protect the industry and the public interest at large.

Dorchester: Thank you, Carl. One of the things that has come out of today's discussion is that we don't agree on what an appraisal is. I think we've also demonstrated that we don't necessarily agree as to what a standard is. When is a standard an ethic? When is an ethic a standard? A lot of fundamental work has to go on in these areas.

The question also was raised as to whether we are dealing with real estate appraising or something broader. Those decisions are not made; they are in process and some difficult times lie ahead of us before we articulate the answers.

We didn't really talk much about licensing today, but I suspect that behind these discussions is still the question of licensing as an alternative. Associated with that is the question of where uniform standards and the certification process are going to be placed. Should these be real estate commission functions? What are we going to do among the various states to obtain uniformity and to overcome territorial disputes? That perhaps is one of the major battles ahead that could impact the success of all the great ideas that we've had today.

We've talked about a mixture of national and state oversight. I like that word "national" rather than "federal," and I think that we agreed there's good reason to have a national focus on many issues. I heard that greater standards bring greater liability. I think that's good. I don't think that's anything to be afraid of, but obviously we must look at all potential liability issues very carefully. There is no reason to create undue liabilities if, in fact, they don't contribute to the notion of protection of the public interest.

Also implicit in our discussion is the fact that appraisers today are being called on to do something that they have never done before, and that is to manage processes that involve legislation at the national or state level. We have a woefully small band of individuals who are terribly busy and untrained for that task. Bob Kabel could tell us from a client's standpoint how difficult it is to work with us. I think it's something we have to recognize; if we don't, we could mismanage our own, hard-won processes.

Finally, I leave you with some more pearls of wisdom. There's Humphrey's Law of Bicycling, which says the shortest route has the steepest hills. We're going to take some short routes along the way but you had better understand there are going to be a few steep climbs. Murphy's Fourth Corollary says it's impossible to make anything foolproof because fools are ingenious. We aren't going to come up with perfect solutions because there are just

too many ways around too many problems. We are going to make mistakes as we go forward. And finally there is Hoopnagel's Axiom, which says nothing is so insignificant that it can't be blown out of proportion. I want to congratulate all of you today for talking about significant things and keeping them in good proportion.

Part V -- SUMMARY AND CONCLUDING STATEMENTS

Jaffe: It became clear when I saw the program that I have a different role than everyone else. Everyone else has talked about what they know. I have to talk about what everyone else knows.

This forum has been built around two issues: the broad issue of regulation and the increasingly broad issue of environmental regulation affecting real estate and, in particular, affecting the lives of people who are interested in value. These two concerns have taken us down a number of roads, and I've identified five topics that seem to me to be most germane to this conference.

First is the self-regulatory issue. David Craig, Bob Foreman, and Carl Schultz spoke to this yesterday. Although details of the model are still to be worked out, considerable time and effort have been put forth and now we're at a stage where something's going to happen soon. At the same time, we have Congressman Barnard's hearings dealing with widely noted industry problems, which parallel the self-regulatory movement.

Second, Bill Pittenger talked about the Federal Home Loan Bank Board's series of interpretive memoranda, which have received widespread publicity. The Board in some sense has gone its way also to deal with regulatory issues. And then yesterday Jim

Graaskamp raised other issues consistent with the regulation of the appraisal industry.

There also has been discussion on the choice of the model, and what might be the best approach. The accounting profession, with its CPA designation, the AICPA, and the Financial Accounting Standards Board, has been the preferred model and the one that's believed to have the best chance. Don Dorchester mentioned The International Assets Valuation Standards Committee, which in Europe has gone a great deal further than the U.S. has in terms of issuing guidance notes and background material relevant to a standards board.

Consistent with that, a third topic is the production of uniform standards. This raises a number of issues and difficulties because of the various interests involved. For example, certain appraisal groups may see the possibility of extending appraisal standards beyond real estate. Certain groups may have other motivations. Also there was discussion about the fact that these standards are very consistent with those of the Appraisal Institute but seem to be only a subset of its Code of Ethics. Those three topics seem to be related.

The fourth topic was what I call environmental awareness. Jim Harrington talked about the brave new world of environmental ordinances and legislation. Bob Ferguson talked about the same brave new world for the appraisal profession, with its legal

obligations, liability, and information requirements. I think it's fair to state that most of us, even if we regard ourselves as relatively informed about such issues, must say "Well, obviously, we're not very well informed at all. There's a lot more going on than we've been thinking about." There are huge implications for these environmental issues.

Finally, the last topic is what I characterized yesterday as methodological issues. What should appraisers do about XYZ? What should appraisers know about environmental concerns and legislation? What should appraisers know about the evaluation of special events, as Gail Beron mentioned? Or what should appraisers be doing about the importance of modern market research, as Bill Mundy discussed? This research forum has put on the table an extensive array of topics that are of timely and critical importance to the appraisal profession.

Yet despite all this information, we probably have raised more issues than answered questions, as is usually the case. I've framed six key questions that offer a basis for this morning's discussion.

First, what political concerns exist or will continue to exist regarding the support, adoption, and implementation of the self-regulation plan? Various people have raised questions about divergent interests and the legislative process itself. There

are obviously political issues associated with the program, one of which is "how will this be handled?"

Second, what actions are necessary to garner the support and advice of the Federal Home Loan Bank, and other interested organizations, in implementing the self-regulation plan? There is already a close relationship with the FHLBB but additional assistance may be needed.

Third, what are the small technical areas that need further, careful critical analysis, assuming the proposal goes forward? The lack of integrity language in the standards of practice was mentioned. A variety of smaller, very narrow issues seem to me to be relatively important if we're going to succeed with a self-regulatory plan.

Fourth, what changes need to be made to the educational curriculum and its materials, or other appraisal resources, in response to environmental issues? We have virtually no material available now. What kinds of things need to be done?

Fifth, what, if anything, is the appraisal community doing about methodological issues concerning the treatment of special events and market research? Is there a need for additional attention on methodological issues? Personally, I believe there is. I believe methodology is one of the sloppiest areas in the

appraisal profession, which is ironic because appraisers are supposed to be specialists in methodology.

And finally--this is more rhetorical I suspect--how can and will this industry self-regulate itself? Self-regulation is a tough business it seems to me, and yet because of the threat of federal regulation, we're going to go forth. How will this take place? And what kinds of problems are along the way?

These are the tougher questions that were raised. Let's open the discussion and see what happens.

Foreman: I think we had one other issue, and that is the dichotomy between the appraiser's view of his or her role in society and society's view of that role. While we've always said our role is to be students of the marketplace, society is beginning to perceive of us as warrantors of conditions, implying that we are somehow certifiers of conditions that exist. I think that dichotomy needs to be articulated and clearly communicated. Will we accept and take the responsibility for society's perception of our role, or are we going to take a clearer stand on what I think our role has been traditionally?

Dorchester: As I indicated yesterday, I am still concerned that we have a lot of players in the standards business but we might not necessarily have a lot of players in the regulation business. At the moment I think there is still a great deal that's going to

have to be done to establish effective statutory functions and standards.

The appraisal industry has tended to look at the concept of regulation as the imposition of an unattractive outside force. I view regulation as the possibility of legitimizing for the first time an industry that has operated out of garages, back bedrooms, automobiles--anything but the front office. The products of appraisal services go to front offices and are an integral part of major financial decisions. Even small numerical decisions are enormously important in scale to the people that they impact. I'm talking about single-family residential valuations. They are of immense importance to those involved in the consumer side of that transaction. If the regulatory process is well-managed it perhaps will provide us a niche in the economy that does not presently exist.

Another issue that you raised is educating appraisers about environmental hazards. I'd like to talk about education in a broader sense. There is a substantial amount of disagreement in the practical application of appraisal fundamentals. Unfortunately--and this is a personal opinion--the principles haven't changed, but much of the methodology available today is either terribly shopworn or underutilized. I think there is going to be a large struggle as we go forward in the standards area because of these differences in ability. Education is going to be important to help people make sure they don't transgress,

but it's also going to ensure that, given our standards, we have people out there that can do good work. I worry that one of the weakest elements of the whole notion of regulation is whether the industry can do what it claims that it should do. We're going to have to wrestle with that over many years.

My remarks yesterday were primarily related to The International Asset Valuation Standards Committee. Let me emphasize a few points about the international perception of current events. First, the field of appraising, as we call it in the United States, or the field of valuation as it's referred to around the world, is essentially financial in its genesis. In other words, a very strong distinction would be made in the world community between a real estate commission, which would guide the activities of those who are involved in brokerage, and the kinds of controls or types of regulation that would affect valuers. The international community would see those as separate. Around the world far less is said about regulating the activities of valuers than is said about the implementation of standards.

Second, it is important as we look around the world to accept that one cannot appraise real estate in the United States differently than it is appraised in Europe, Japan, Indonesia, or Australia. We have a world economy. We have globally active investors and therefore we need to assure them that there is common understanding and continuity in international finance.

One shouldn't need a Ph.D. in order to understand the contribution of valuation services.

Schultz: It appears to me that the major issues are working out the details of implementation. I'm really concerned about us attempting to control or regulate all appraisers. I really believe we need to concentrate on real estate appraisal and those areas which are closely associated with it.

Beron: I wonder how we best deal with hotels, or nursing homes, or other similar properties.

Schultz: It is a difficult issue that needs clarification. Obviously, I'm concerned about real estate appraisals that include personal property or chattels. I think we need to have standards there, too.

Beron: I wonder if we can't relate what Bob Foreman said about appraisers functioning as "warrantors of conditions" to the problem of limiting the exposure for appraisers in the environmental areas.

Harrington: As I stated yesterday, anything that affects the value of property is going to affect your business. Laws are changing so fast that it is very difficult for even the so-called environmental specialists--whether they're lawyers or consultants--to stay on top of them. I don't think it's

realistic to expect that every appraiser should become an expert on environmental issues. But he or she is going to have to be able to work with consultants. And he or she will have to recommend environmental professionals for certain types of review. There are many law firms in Chicago, Washington, and New York that are called on by investment bankers, brokers, appraisers, and purchasers to render opinions about potential environmental liability in specific parcels of property. Appraisers need to become more sensitive to what's happening on the regulatory legislative front, to have a voice in matters that are going to impact real estate value. On the educational side you need to get materials out to all your people to alert them. You need to include an environmental component in any kind of training course, any kind of certification, so that people will recognize important issues.

Foreman: I have a concern. I know that we should be more attuned to environmental issues, but if we start training our members to be aware of every environmental hazard, are we not inviting the courts to interpret that we are warranting conditions. Our position has always been that we are trying to simulate the typical buyer-seller function, that we are not more informed than the marketplace as a whole. If we try to take on the larger role, well, we will really open up the door to lawsuits and litigation. I would like to see us do a more careful job of establishing the line beyond which we do not have expert opinion.

Harrington: I agree that you shouldn't pretend to be environmental experts. But Congress decided last fall that the prudent buyer has to investigate where hazardous or toxic substances may have been disposed. It made that decision for you.[48]

Dorchester: I wonder if there aren't environmental firms out there right now, Jim, that would tell you they are in the appraisal business. For example, I wonder if there aren't mining engineers who would tell you that at least a part of their work involves appraising.

Harrington: From what I have seen in the environmental consulting and law firm operations, they don't come up with an ultimate opinion as to value. What they do come up with is an opinion as to potential liabilities associated with the real estate. Now there may be some basis for dialogue if one could identify reasonable trade groups to deal with and what the roles of environmental engineers and lawyers are in valuation. That is ultimately going to happen. The questions are how much is it worth and who puts the opinion on it? Lawyers and engineers can tell you that it will take, say, $20 million to clean-up a given site. But the appraiser still must develop an indication of value.

[48]Reference is to the Superfund Amendment and Reauthorization Act of 1986 (see Note 12 and accompanying text).

Jaffe: In a different vein, Jim, you had mentioned that there was an unmet need for the appraisal profession to redirect part of its research efforts toward environmental concerns. We're all aware that legislation may have one of three effects with respect to changes in the value of property. It may increase the value of property because of the elimination of certain activities. It may have an adverse effect. Or it may not have any effect at all. Is it your view that much of the legislation that's coming out now and in the next few years is going to substantially reduce property values? Will it make transactions difficult? Or do you think we need more environmental legislation?

Harrington: I think the public perception of the need for environmental legislation is about seven years behind the fact. If you identify what has gone wrong in the past, the law to correct was passed two to seven years ago and perhaps amended in the last year. We're in a stage of implementing one of the most detailed sets of regulatory requirements this country has ever seen on behalf of our environment.

But an equal concern is that the new laws are going to impinge on the ability to develop plans and to respond to changing economic conditions. Most national associations aren't going to get involved in local regulations but they need to be watching Congressional activity. Who from the real estate industry really watched what was happening with the SARA amendment? It was supposed to be a break for the real estate industry but I think

it has had an opposite effect. You need somebody in Washington reading the bills and making comments for you.

Mundy: We are setting ourselves up because we are in effect becoming experts on the value implications of hazardous waste sites. I think we're building a set of expectations in the minds of the public that will be very difficult for the industry to meet.

Dorchester: It's one thing to say that we set ourselves up. However, it's another thing to say that we can use reasonable cautions and apply reasonable standards. Why shouldn't we have both the opportunity and the obligation to answer questions of value within the range of standards available to us?

We're not going to pretend to be doctors but in the valuation or evaluation of toxic waste cases medical questions come into play. Somewhere along the line someone has to be able to resolve those issues. Years ago David Montonna said the code of professional ethics should be one line long: "Thou shalt not assume anything."[49] It was his view and it was the view of the founders of the Appraisal Institute that it was incumbent upon appraisers to discover all things that properly bore on the question of value. Well, since then we've spent over 50 years finding that a lot more things bear on value than we first realized. This is why we

[49]David L. Montonna (1898-1973), appraiser, author, and educator, was president of the American Institute of Real Estate Appraisers in 1957.

need market standards that people can understand, that they can depend on. They need to know that within the standards there are certain degrees of competency that relate to the performance of appraisal services.

Foreman: What we're saying, then, is that caveat emptor no longer applies and that buyers and sellers should not be asked to take certain levels of risk as market participants. It concerns me that we are nearly becoming a riskless society--that there are always experts or others besides the investor that absorb risk. I concede that obvious risk can be laid off on experts, but I think certain levels of risk have to stay with the market participant.

Dorchester: So that there is no misunderstanding, I totally concur. I do say, however, that the endorsement of the unknown should be addressed by the standard. It should not be left to a given legal action where the facts of the case may obscure important principles.

Schultz: Perhaps the Appraisal Standards Board can address this issue by developing a guide note about what is--and what is not--expected of the appraiser. From there we can outline our liability, rather than let the courts decide for us. We're probably talking about three years before the Board comes up with guide notes on environmental issues. Perhaps we need to ask the Institute to look beyond the Appraisal Standards Board to develop

something in a more timely manner, such as within the next twelve months.

Craig: We are talking about this from an environmental standpoint but the public and the courts are not aware that an appraisal is made as of a certain date. An appraiser should not be held to any more than he or she knows as of the date of the value estimate. Yet we now have the FSLIC, for instance, comparing two appraisals made four years apart and saying the first appraiser is liable for the difference between them despite radical changes in the economy. And I think the same point applies to environmental questions; an appraiser should be held to what the state-of-the-art is at the time of the appraisal and what should be visible by walking over the site. But because that is not made clear in our standards some courts construe that values are "guaranteed" forever. That is something we need to address.

Jaffe: Well, is there a state-of-the-art defense in this area?

Ferguson: It's called errors and omissions insurance.

Beron: Which you can't get...[50]

[50]In April 1986 an Errors and Omissions Insurance Task Force was established to explore the feasibility and needs of a captive group insurance program for Appraisal Institute members. As of September 1987 two major studies were complete, with recommendations to follow.

Harrington: I can't speak on the appraiser's liability with any great deal of knowledge. I think that the problem lies within the narrow environmental community: lawyers, consultants, engineers, and staff people who probably all know each other. They have one state-of-the-art and the rest of the world is about five to seven years behind them. Imagine you get into a law suit. If I'm the plaintiff's counsel, I want to go into the environmental community and identify people to prove that you should have known about an environmental hazard seven years earlier. Is it fair? No. Could a court buy it? Possibly. If you had gone to an environmental consultant seven years ago, he'd have walked in and said, "Oh, yeah, that's bad stuff you got there."

Craig: Wouldn't we as an industry be better off if our standards spoke to those familiar questions of what did he know and when did he know it?

Harrington: I think it's important that you do. Lawyers who are experts in your business and lawyers who are experts on the environmental side could come up with something that makes sense in terms of your traditional role and in terms of the environmental and related regulatory fields.

Foreman: I'd like to ask a hypothetical question. Suppose I'm working on an abandoned fireworks plant. I enter the property and discover three groups of barrels. One set is clearly labeled

as containing PCBs. I think I know what to do with those. The second set has a chemical label and a long chemical formula but I'm not sure what it means. The last set is sealed and unlabeled. My question is: what is the level of prudent investigation by an appraiser under each of those three situations?

Harrington: You would have to walk the site and take a look not only at the barrels but at everything else. In that particular case, I'd immediately say, "Get an environmental professional." Not a lawyer, but a consultant who's familiar with that industry or who can find out about it quickly.

Ferguson: I think the education of the Institute and its chapters has to start immediately. There are many resources out there including the state environmental protection agencies. Get them involved.

Harrington: You also have to be very careful about selecting a consultant. If you call certain companies, everybody in the neighborhood is going to see them arrive in Class 3 protection suits, respirators, and air packs. In many areas as soon as the people see that, property values change.

Schultz: I want to talk more about Bob's example to see what you really think about the appraiser's liability. Let's consider two different scenarios concerning the fireworks plant. One is that

the prospective owner says he or she has had environmental engineers investigate and there is nothing wrong with the site. There is perhaps some clean-up that needs to be done at a certain cost. Therefore, you qualify your report by stating that the client furnished this information and you assume there is no other damage to the environment. Then six months later people discover the town's water supply is contaminated from that property. To what extent is the appraiser responsible? Should the appraiser demand that the client provide a complete environmental study? That's one scenario. My second scenario is one wherein the client furnishes an environmental study that indicates everything's fine. And then six months later it's found that the town's water supply is contaminated. Is the appraiser responsible?

Harrington: I'm going to make a common sense answer to that. When I give opinions on environmental liabilities, much depends on who has provided the technical data and the evidence that accompanies it. If you give an opinion of value to the purchaser who had his own environmental assessment, and you fully disclose, then I think you're protected. If I have a reputable engineering opinion in front of me and I render an opinion on the legal implications of what the engineer has told me, I'm not going to be held liable for the things the engineer didn't find.

Schultz: Except, Jim, we know that our appraisals are used by third parties to make decisions. Suppose Chase Manhattan Bank

made a $25 million loan on this plant. Now Chase is coming back at the appraiser for its losses.

Harrington: The only hope that we have in both our businesses is that a clearly stated and fully applied qualification is going to provide protection from knowledgeable--I stress, knowledgeable--parties involved in the transaction. I would assume that Chase is a knowledgeable party. I know they get opinions on environmental liability. They don't rely on appraisers.

Foreman: But typical buyers don't test underground water samples. I think at some point, negligence has to relate to what typical practitioners in the field do, does it not?

Harrington: Unfortunately, before you are going to be able to put this down in concrete, you're probably going to have some of your members go to the wall. A court decision will frame what a reasonable appraiser should do.

Kabel: All of this argues for putting the Appraisal Standards Board quickly in place to provide the profession with a reasonable defense.

Beron: I think that we're talking about two different things. We're talking about investigation of liability in a specific case and about setting a standard to define appropriate responsibility. A very short time ago we were concerned about

syndications, cash equivalency, and changes in tax laws. Now we're concerned about environmental issues. Six months or a year from now we might be comparing the dollar to the Deutsch mark or the yen and be looking for new responsibilities to lay on the appraiser. We need to be broad-based in our standards developments so that we can define clearly what an appraiser is expected to be responsible for--in general.

Jaffe: In the few minutes remaining let's return to the other areas of concern. What needs to be done?

Kabel: To me, the most important thing is to get the Foundation filed, the Appraisal Standards Board named, and the certification process going. I think that provides us with a framework and roadmap for what Congress might do. We need to be better prepared to respond to what is actually going to be introduced in the Congress, whether it's by Representative Barnard or someone else. Once a Congressional initiative is taken we may be dealing with a lot of other people. We need to assemble the right people in order to respond in a positive, effective manner.

Schultz: Yet individual groups, particularly the Society of Real Estate Appraisers and the Appraisal Institute, are doing certain things on their own that are not in concert. We're walking down different sides of the same fence, but we're not walking in tandem. I think that's the main problem we have right now.

I'm also deeply concerned about the possibility of establishing the Foundation, going on public record, and then having someone drop something in the legislative hopper that's diametrically opposed to our position. Once we incorporate we need to make sure that that's what Congressman Barnard agrees should happen, and that he will support it fully.

Dorchester: I like the idea of a proactive start for an Appraisal Standards Board that says we are broadly involved in the United States economy. We are not just involved with those home loans or commercial loans that have been making headlines, nor are we a group of people who are flawed in our approaches and performance. We should step forward and speak to our roles in environmental issues and in the financial community.

Pittenger: I would like to change directions slightly because we've been talking a lot about the federal regulators and what they might or might not do. Who are these federal regulators that we're talking about? Are they the 22 year-old examiners who are just learning to spell appraisal? Are they the supervisory agents who are handing down directives to institutions? Are they the Board members themselves who are bestowing the final blessing to regulations and who are actively involved in the political process? Are they the appraisal staff that I am a part of? Sometimes we go to the district appraisers not recognizing that they are in a staff position and do not hold much power. Sometimes we pay that visit to the Board members themselves and

fail to recognize that they are involved in the big picture and are not particularly concerned about nitty-gritty technical issues and day-to-day functions.

Let me talk about the district appraiser staff and some things we can do in that area. District appraisers are a very fragmented group in terms of backgrounds and abilities. We have 12 district banks within the Federal Home Loan Bank system and each one of them tends to look at the role of the appraiser in a slightly different fashion. I can speak for District 4, the Federal Home Loan Bank of Atlanta. I am very proud that in this district the role of the appraiser is taken quite seriously. The appraisers on our staff are all MAIs. That speaks very highly for the Bank and also for the Appraisal Institute. But we also have one district that does not have an appraiser at all. I am deeply concerned about the inconsistency of interpretation that we have within the Federal Home Loan Bank system.

Without question there could be greater consistency of information and interpretation around the country, allowing us to respond more effectively to the needs of the industry.

I also have some concerns about the particular regulation you are looking at right now and have been asked to comment on. As you know, there has been much criticism about the detail of R-41c. However, I personally believe that a detailed and specific regulation is something that we need, because it keeps all of us

honest. And such a regulation keeps those of us who are reviewing the reports honest, too. I urge you to think about that. Finally, don't hesitate to keep the Bank Board informed of what the Appraisal Institute and its industry partners want to accomplish. Two very valid questions have come out of this meeting: How far do we go? What are we expected to do?

Foreman: What we have in many of the regulations are ambiguous elements that result from compromises between different groups. This presents problems for the appraiser during the course of conducting business, and creates difficulties when we try to teach a course and explain how the working appraiser should comply with the material. The area of "appropriate level of market support" many find particularly troublesome.

Schultz: I think that there's a problem within the Bank Board itself. Correct me if I'm wrong, but I believe several years ago the structure was decentralized so that each one of the 12 districts became autonomous. There isn't a chief appraiser who says "Look, we're going to interpret things this way." And as long as we have that, we've got a real problem.

Dorchester: Perhaps we might consider a national uniform standards group that would create standards for situations like this.

Beron: I think we have to be very careful. Bill has raised an important point when he suggests that maybe we want to object to something that is being put on us at the moment.

Craig: I just want to point out that this is the second time within a month that I've heard somebody from the Bank Board say, why don't you give us some help? I find this very helpful and interesting and I think a very positive message is coming through.

Pittenger: Carl, you are absolutely right in your comments about decentralization and problems in that area, but that's the kind of thing that can be overcome. I am an advocate of professionalism. I think we're attempting to go in the same direction together.

Circa 1980

Joint MAI-SREA Dinner

I. I regret to report that the traditional real estate appraisal process finally died on October 6, 1979, the day the Federal Reserve Board raised the discount rate and began a tough monetary policy. By April,1980 the prime was a 20% and real estate funds for financing debt are in extremely short supply.

A. The real estate market can no longer perceive real estate values as cash to the seller with a simple debt-equity relationship.

B. In the residential field there will be increasing use of shared appreciation mortgages and for income property lenders share in the income over and above debt service while remaining creditors and then convert their creditor position to ownership when it appears advantageous to do so.

C. Fee simple title is not important; control and entitlement to assumable loans, building permits, sewer capacity, shopping center agreements, and franchises are important but they are not real estate.

D. Market comparison analysis assumes simple motivation for prudent men viewing the real estate property in isolation from all other events when in fact buyers are operating at multiple market levels to maximize their total position rather than their real estate position.

II. The market comparison approach requires that you properly define the market and the rights to be appraised.

A. Today there are three basic markets for income property.

1. Those who buy for use
2. Those who buy as a commodity speculation
3. Those who buy to arbitrage

B. The most common entitlement is credit from the seller and/or assumable financing, therefore the appraiser must consider the cash equivalency of comparable sales.

C. However, fair market value considers only the economic productivity, the economic surplus of the real estate, and does not consider its use as a commodity or the premiums involved in arbitrage so that these sales must also be brought back to cash equivalency based on economic productivity.

D. Most sales of major commercial property are engineered to serve a variety of business purposes in terms of tax consequences, financing packages, estate planning, or partnership fees relative to security law constraints. The appraiser is obliged to research evey comparable sale and relevant data bearing on most probable buyer.

1. The Pelton water wheel
2. The Castle Rock Flowage

III. The definition of income attributable to real estate as compared attributable to the activities within real estate. Working with Phil Adams, a Chicago CPA, and several of interest we came up with the following six rules:

A. Is the income space or retail space units? Parking ramp vs parking space, observation tickets vs. observation floor, tennis court hours vs. tennis building, etc.

B. Are the entitlements and public permits transferrable and portable? Bar license, preliminary plat, dam permit.

C. Is the revenue for a service typically provided or a discretionary extra? (Cleaning the corridors vs. maid service for the apartment)

D. Is the income for ancillary functions rather than those which must be integral with the project?

E. How does the IRS classify the asset as real property or personal property, or tangible or intangible assets?

F. Is Income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

IV. The conventional wisdom is that people buy real estate to protect against inflation and that gamblers in real estate expect prices to rise mysteriously. That's mush, there is only three reasons that prices will rise:

A. An increase in net income

B. A fall in interest rates permitting generation of a refinancing surplus or change in cash throw-off

C. A fall in investors expectations, the last two are non-vested interests which cannot be taxed by the assessor. Only the first lends itself to any kind of forecasting.

D. Presumably the equity version from resale would be net proceeds from sale less total dollars due and payable to lenders, payable to professionals as fees for their services, the costs of transfer, and possibly the tax authorities. If so, how do you answer these questions?

1. Does the syndicator's share of the net reversion represent deferred payment for his management which created the value, because he invested his time rather than his own money and which was subordinated to cash returns to the investors from operations? This could be a sizable 10-20%.

2. Were the variable rate mortgages negotiated to use an index that reflected the cost of money? If not, the share of sale or refinancing proceeds might provide the lender with more than an acceptable return on capital invested at the expense of land and management.

3. Is the premium paid for real estate suitable for syndication or condomium conversion? Is the payment attributable to the real estate or the business opportunity of retailing market shares or market units?

4. In subsidized housing there is little reason to believe the resale price will increase for 20 years or more. Rents are allowed to

increase only enough to cover increased operating costs and subsidized loan agreements, and rental contracts place a variety of penalties on conversion to conventional market use. Prices paid for the unit represent primarily the present value of tax shelter plus a small cash dividend, and resale values and profit centers for the limited partners attributable to anything but tax shelter are virtually discarded in the investor calculus.

5. Many leases today feature full pass-through of increasing expenses to the tenant, and so the cost of occupancy can become unreasonably high. Is it the terms of the lease or the cost of occupancy that represents fair market rent? Just as property is appraised on the basis of market rent rather than contract rent, should not the appraiser reduce income by an amount attributable to income derived due to insensitive negotiation of escalator clauses? For example, in California Proposition 13 reduced taxes, but many tenants received no benefits because their leases passed through the increases from the status quo.

6. The issue of whether to lease or buy is a function of current cash needs, salvage value of the asset, and the opportunity cost of money. As interest rates fluctuate, a bank could find ownership or leasing more attractive, depending on net bank earning power rates and rates assumed by lessors providing building space. Should a bank own half and lease half to average the loss of the rental postiion versus the short term straddle?

7. How does one define equity when the mortgage lender decides to take that portion of resale value necessary to modify its yield on the financing to an internal rate of 18%, given a 12% interest only mortgage?

E. All of these problems require handcrafting of cash flows and reversions from the facts in the case. October 6 was the death of value equals NOI/OAR and comparison of sales OAR based on NOI/V.

1. Those of us in acadamia are not greedy
2. Many appraisers haven't heard the news
3. Sophisticated appraisal customers could care less - their accountants have been using discounted cash flow to value their real estate for years.

3. But what will the assessors do for fair market value? October 6, 1979 will make a shambles of January 1, 1981.

Circa 1979-80

THE WINDS OF CHANGE - A VANE PREDICTION[1]

President Hastings, Fellow Appraisers, Guests, and Bartender at the Sheraton... It is an honor to be asked to address this joint session of SRA Chapter 73 and Wisconsin Chapter of the American Institute on the occasion of Robert Hastings awarding Robert Hastings his recertification as an SREA.

However, it occurred to me as early as this morning that you all have heard me speak many times before and that I had said all I knew about appraisal in those previous sermons. Thus my alternatives for this evening were to speak on something about which I knew little or nothing but then I must do that at the University twelve times a week; I could speak on something about which you knew little or nothing but the list of topics seemed endless; therefore, I have chosen to talk about something none of us knows anything about, the future, specifically the future of Professional Appraisal.

From atop the ivory tower at the peak of Bascom Hill it appears that the decade of 1980-89 will represent a pivotal turning point in the structure of appraisal as a profession, a business, and a lifestyle as significant and pervading as the conferences which resulted in the formation of the American Institute of Real Estate Appraisers and the codification of the three approaches to value by 1936.

The future is found in the momentum of events today if we could only recognize them as pivotal and predictive. So before describing appraisal as a profession by the end of 1989, let me identify a few significant points from which I am extrapolating the future.

1. During 1960-1970 widespread debate and criticism of orthodox appraisal methodology appeared in various academic centers for real estate studies prompted by teaching giants such as Ratcliff, Wendt, Kinnard, Case, and Ring.

2. From 1970 to the present, debate and innovative methodology has moved from the ivory tower to the arena of professional publication and application. Professional appraisal groups began to clarify old precedents to permit modification of the three approaches and synthesis as justified by the problem and data, began to recognize statistical methods and capital budgeting techniques as relevant valuation tools, and began to expand appraisal functions toward analysis, feasibility, and counseling in asset management.
3. 1970 saw the appearance of a major effort at joint education via EDUCARE, a foundation devoted to teaching that as the economics of computers shifted, the power of the medium would lead toward restructuring of the appraisal process. Data processing will lead to business forecasting of probable price through inference, simulation, or at worst sutomated application of traditional repetitive techniques such as the cost or income approaches.
4. State licensing of appraisal and discussion of standardized education, recertification, and redrafting of textbooks in common terminology was a common topic by 1975. A joint educational foundation to address these needs appeared in 1975 directed by leading practitioners from several appraisal societies.
5. 1975 marked the publication of the new Terminology Handbook as a joint effort of the Institute and Society with far reaching effects accelerating change. Wealth maximization as the sole criteria of best use was replaced with a more complex concept of most probable use as being the most profitable option that was possible within the law, having determined which uses were legally and politically possible, adequately supported by effective demand, physically feasible, as well as compatible with community plans and objectives.

The term "most probable price" came off the campus and into the lexicon of the trade.

6. 1975 also saw the surfacing of serious negotiations for merger of the Institute and the Society. The merger was sidetracked by government legal action in 1976.

7. 1970 to the present has shown the gradual appearance of appraisal data banks such as The Market Data Centers, of time sharing services and vendors geared to real estate analysis, of word processing and data management technologies for the appraisal office, and of hand calculators programmed for application of statistical and capital budgeting theories applied to real estate. Trade literature blossoms with innovative methods and critical debate.

8. By 1976 the FSLDIC and FHLB were reexamining appraisal methods used for both residential and income properties. At this time the Home Loan Bank is drafting a policy statement on automated appraisal systems. HLB displaced Ellwood methods by specified Mortgage Equity ratios including debt cover and default ratios to relate loans to cash flow capacities rather than values.

9. By 1977 the movement toward State licensing and mandatory continuing education for lawyers, accountants, real estate licencees, and insurance people was gaining momentum across the country.

10. Finally in June of 1978 dismissal of federal suits against the Society following an earlier settlement by the Institute on insignificant terms removed a major impaction to the rapid restructuring of professional organization development. The ill-considered, federal political eyewash had disrupted merger, with counter productive economic pressure and diversionary sophistry on both sides concerning the minutia of appraisal when the basic premises of appraisal purpose and logic should have been the subject of national import.

So many talented professionals and educators have been involved in these events, including the young talents reflected in the topics and discussions of Young Advisory Council, there must be a forceful and exciting entry into the decade of 1980 for appraisal. There is a momentum and a reasonable foundation of thought and experimentation as well as perceptible trends which lead this fakir of finance and guru in the guise of Kreskin to predict:

1. Merger of the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers by July of 1980, subject to recertification of all members within five years of merger at appropriate levels of designation for residential appraisal, general real property valuation and real estate analysis.
2. By 1983, a congress of appraisers and academics will have completed a rewriting of underlying appraisal theory, methodology, and principles text to reflect the earlier work of Ratcliff, Wendt, Kinnard, Case, and others from both practice and acadamia.
3. By 1985, there will be a consolidation of real estate education for valuation into a single institution (National Real Estate College) responsible for course outline, instruction, supervision, examination, and certification in a process of continuing education modeled on the certification agencies found in insurance and the MS degree granting powers of the American College of Insurance in Bryn Mawr, Pa.
4. Development of these education programs would parallel the appearance of a uniform classified State licensing system for all real estate services, with 10 to 15 degrees of progressive sophistication and stiff recertification rules which recognized examination standards of the National Real Estate College.

5. By July of 1985 the merged professional organization will have invited and strengthened itself with a fourth level of designation for personal property appraisers and welcomed the American Society of Appraisers into its midst.
6. By 1983 development of certified appraisal data banks and automated appraisal techniques for residential property will prove acceptable to regulators of intermediate and secondary market institutions.
7. Development of public access to municipal market data banks on rents, prices, vacancy rates, new construction and rehabilitation and demographic data as well as recognized macro economic models for projection of one, five, and ten year levels of land area utilization will finally integrate economic base analysis and appraisal by the end of the decade.
8. By 1980, the independent appraiser will begin to feel the pressure to change his style and his methods from new sources of competition generated by valuation services from both financial services such as accounting and investment banking firms and the physical design firms in land, architecture, and engineering. These professions are in a position to know as insiders when real estate services are needed and are dedicated to retaining as many profit centers related to their expertise as possible.
9. By 1985, the independent appraisal office will vanish like the single lawyer or isolated general practitioner into group practice within a clinic of real estate analysts which includes specialists in physical real estate analysis, financial and market forecasting, or consumer survey research. At the very least, designated appraisers will share a pool of technicians in land and structural analysis, the mechanical engineering of energy, and survey research methodologies (much like the medical clinic or the group legal practice).

By 1985, micro computers and word processing will be a financial necessity for appraisal offices and permit a shared data base in the appraisal clinic.

10. The competitive entry of design and financial service firms will have a very favorable impact on fee schedules for all appraisers. Design and accounting firms know how to charge for the value added by their services rather than by simple-minded unit fee systems by the hour with a loading for overhead. Fees will become adequate to justify the cost of reeducation, reorganization, and recertification necessary to support the newly sophisticated and growing markets for appraisal services:
    A. Financial reporting of integrated real estate capital funds.
    B. Financial reporting of all public corporations so as to recognize submerged assets previously reported at depreciated costs rather than market value.
    C. Recognition of most real estate investment property as security interests subject to strict valuation reporting.
    D. Recognition of real estate as an equal to stocks and bonds as an investment media requiring the efficiency of security markets information transfer.
    E. Recognition of individual property analysis and micro dynamics as the basic planning input to the formation of public policy, land use planning and legislation, and reorganization of equities in the eminent domain process.

Never have the opportunities for change and recognition of the importance of valuation processes been so exhilerating and dramatic! At this joint meeting of rival professional societies with a history of petty bickering, it is appropriate to urge you to go with the flow, respond to "the force that is with you."

I predict that you each will be the judge soon on the issue of merger, a critical first step into the decade of the 1980's. Recall the words of Rufus Choate, yes, Rufus... "I will look, your honor, and endeavor to find a precedent if you require it; though it would seem to be a pity that the Court should lose the honor of being the first to establish to just a rule."[2]

The world may little note what we may do or say here but you may be sure that if events prove out as I predict, I will be the first to remind you; if not, this will be forgotten like other after dinner speeches. One thing is certain about the future of these predictions: I have collected several drinks, a good dinner, and a captive audience; I can't lose.

[1]The following is the text of a speech on the occasion of the annual joint meeting of the Wisconsin Chapter of American Institute of Real Estate Appraisers and the Madison Chapter 73 of the Society of Real Estate Appraisers, September 18, Midway Motel, Madison, Wisconsin.

[2]Stolen from correspondence with Mack Hodges who attributes the quote to Rufus Choate, 1 Brown, Works of Choate 292 (1862)

FEASIBILITY ANALYSIS SEMINAR OUTLINE

I. Concepts and definitions basic to real estate enterprise

A. Real estate is a dynamic space-time interface of land (public resource), people (cultural preference) and artifacts (improvements). These forces can be reduced to specific decision makers - a consumer, a producer, and a political agency. The planner is an arbitrator.

B. Each of the three decision makers represents an enterprise. An Enterprise is an organized undertaking and some enterprises are cash cycle enterprises constrained by a need for solvency, short term and long term.

1. The interface occurs where the consumer, producer, and governmental cash cycle each achieve solvency.

2. The business of real estate is the process of converting space-time to money-time.

3. The business of real estate is a service industry using manufactured products to create profit opportunities for services.

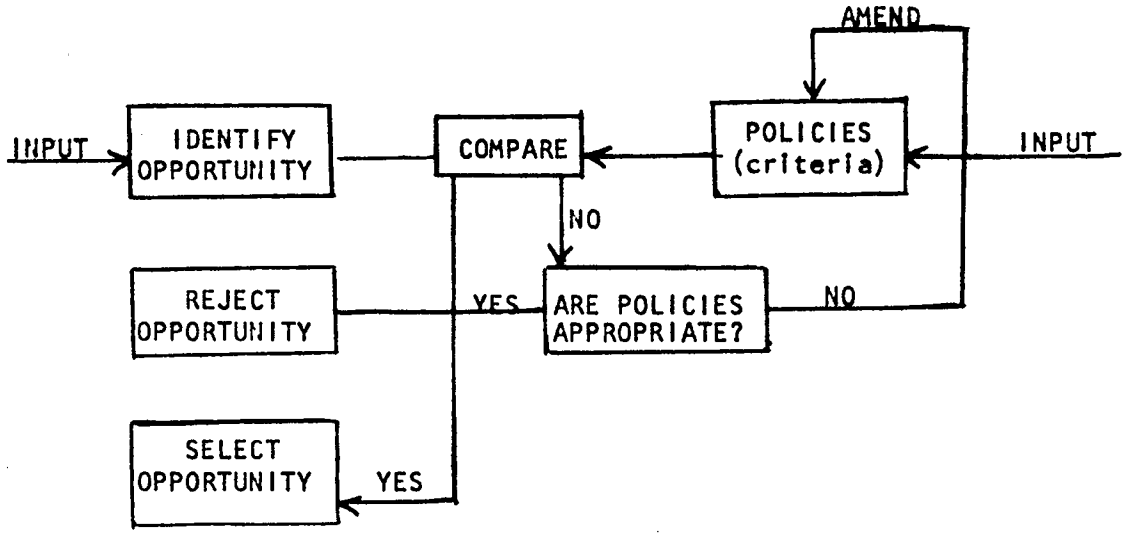
C. Traditional sequence of management function:

1. Planning
2. Organizing
3. Directing
4. Controlling

D. Modern Management Theory treats any undertaking which is organized to accomplish a purpose as an enterprise. The functional steps in a systematic enterprise are:

1. Goal-setting
2. Forming policies
3. Searching for opportunities which are consistent with policies
4. Selecting opportunities which are consistent with policies
5. Designing systems for capturing selected opportunities
6. Installing systems for capturing selected opportunites
7. operating the systems that have been installed
8. Maintaining and continously perfecting the operating systems

E. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated concensus between two general sources of power - the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other



F. The general theory of the management process for any enterprise can be converted to real estate semantics:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical -aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project Development
Operation of program	Property Management
Monitoring and feedback	Real Estate Research

G. Real estate is a special case of the cash cycle enterprise because:

1. The length of the time cycle is so long
2. The enterprise and the tools are so interdependent
3. A real estate project as an assembly of mechanical sub-systems
4. Operationally a real estate project is a social system

H. To judge an artifact such as a vase one must first understand the functions it was to serve, the constraints inherent in the material, and the variables within the control of the designer before one can judge the success of the ensemble

1. Objectives or functions must be defined in given priorities.
2. Context is that part of the environment which will not change and to which one must adapt or one must achieve. A firm objective is as much a constraint as unchangeable zoning.
3. Form is concerned with those elements of the environment which can be molded, adapted, or assembled to fit the critical requirements and ob jectives of the context

4. Success is evaluated by the fit of form to the critical elements of context - an ensemble which first requires identification of the context or problem to be solved.
5. The systems concept of the firm as a concensus between forces and the artists idea of form in context then leads to this definition of feasibility:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."--James A. Graaskamp

II. Elements of a Total Feasibility Analysis

The basic forces or elements of context which make a feasibility problem manageable also lead to understanding of the proper report titles as it is seldom that one does a complete feasibility study as a single report.

A. The subject matter can be classified as:

1. Strategic objectives and tactics (policies)
2. Market trends and opportunity areas
3. Merchandising targets with monopoly characteristics
4. Legal-political constraints
5. Ethical-esthetic constraints
6. Physical-technical constraints
7. Financial constraints

B. These elements also name the report type:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

C. The report types also suggest the potential contribution by other specialties and the basic character of a statement of limiting conditions.

1. The analyst as an expert on experts
2. Synthesis of all reports in the financial report
3. Real estate as a set of assumptions and permission of the client as to which set of assumptions are acceptable as provided by others.

III. Elements of Financial Feasibility

A. Identification of selected profit centers

B. Specification of the common denominator - a time line - schedule of outlays and receipts

C. The capital budget (source & application)

1. Construction costs
2. Carrying costs

D. Operating budgets (source & application)

1. Pattern of sales revenues
2. Fixed management costs
3. General sales costs and investment

E. Financing plan

1. Credit amounts and terms
2. Equity amounts and terms
3. Holding power

F. Profits classified as to type and tax

1. Cash from operations
2. Cash from capital gains
3. Cash surplus from financing
4. Cash from tax savings on other income
5. Cash from reduction or shift of fixed outlays
6. Indirect non-cash benefits

G. Selected measures of profitability

1. Definition of investment
2. Definition of profit

H. Selected measures of risk

1. Payback periods
2. Capacity for variance
3. Variance control

IV. Modern management defines risk as the potential variance between expectations and realizations, i.e., between pro forma prospects and balance sheet and P & L statements.

A. Dynamic risks can produce profit or loss and are best controlled by the finesse of management execution of a plan.

B. Static risks are those which can only cause a loss due to surprise upset of a plan.

C. Risk management has two objectives:

1. Conservation of existing enterprise assets despite surprise events
2. Realization of budgeted expectations despite surprise events

D. The process of risk management involves:

1. Identification of significant exposures to loss
2. Estimation of potential loss frequency and severity
3. Identification of alternative methods to avoid loss
4. Selection of a risk management method
5. Monitoring execution of risk management plan

E. Alternative methods for surviving potential risk losses:

1. Eliminate risk exposure
2. Reduce frequency or severity of accident
3. Combine risks to increase predictability (reserves for expenses)
4. Shift risk by contract (subcontracts or escape clauses)
5. Shift risk by combination by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging

V. Determining Objectives and Criteria of the Client

A. Feasibility consultant has three alternative situations:

1. A site or product in search of a user
2. A specific consumer in search of a site and a product
3. A specific client in search of an opportunity in real estate

B. Analytical point on the time line relative to fixed assumptions and viewpoint of report.

C. Establishing the viewpoint of the reader who will be making a decision on the basis of the report:

1. Strategy of equity vs credit
2. Strategy of owner vs user vs public interest
3. Value-objectives-criteria of viewpoint to be served
4. Profit centers defined within measures of profitability
5. Desirability of supplementary reports

D. The basic issue of any research methodology:

1. What is the question?
2. What data is available which is relevant?
3. What theory is available to focus data on the question?
4. How will the results be communicated?
5. What are the abilities of the analyst?
6. What's the cost benefit ratio between the method and the question?

E. A critical interview with the client should reveal:

1. His preferred method of meeting entrepreneurial risk
2. His preferred method of personnel compensation

3. His style of value decision trade-offs between qualitative and quantitative issues
4. His perception of his risk position and his risk utility "curve"
5. His personal non-business objective

VI. Structuring Market Data Analysis With Models

A. Creating devices which will discard most data and logically relate the rest.

1. Models explain what you are going to do
2. Models explain relationships and key assumptions
3. Models permit client to test his own assumptions for a range of alternative outcomes

B. Demonstration of converting weekend skiing demand to motel room quantities at a specific resort (See illustration - next page)

C. Conversion of highway traffic to historical exhibit admissions (See chart Flow Diagram, page 40)

SKIER MOTEL ROOM DEMAND MODEL

P x R x T x D ÷ PR x MS = Rooms per Average Weekend Day

where:

P = Total population for counties in the overnight trade area.

R = Skier Participation rate on the average Winter Sunday.

T = For All skiers the average number of overnight skiing trips.

D = Average length (days) of overnight skiing trips.

MS = Market Share (%) of weekend skiers that the Wintergreen motel can capture.

PR = Number of people staying in each room of motel.

Total population for surrounding counties	x .0046	Average Sunday participation rate	x .9	trips per year	1.86	days per trip		
÷ Three people per room	x 2.5%	conservative market share	= 208	rooms per average weekend day				

BREAK FOR LUNCH

FEASIBILITY ANALYSIS - AFTERNOON SESSION

I. Market Segmentation and Identification

A. Real estate enterprise uses small micro markets and the merchandising assumptions are the critical elements of feasibility.

B. First name the typical revenue unit or method of measuring profit per sales unit

1. Per acre
2. Per apartment
3. Per event

C. Then identify the customer units - who signs the check - the doctor or the clinic? The ticket buyer or the promoter? The salesman or the firm? The manager or the vice president?

D. Devices for generating a prospect list or spotting customers

II. The Customer Profile and Consumer Survey

A. Scaling the market with a body count and opportunity gaps

B. Classifying the body count by preferences

C. Study of the competition to define the competitive standard and supply gaps

D. Surveying the consumer to identify a competitive differential

E. The objective is to define a product and price with monopoly characteristics in order to control variance in absorption rates

F. Refer to Consumer Survey Questionnaire (Landmark Research)

G. Direct mail and phone call techniques

III. Pre-Architectural Programming

A. The theme and market target

B. Product size mix and price

C. Product features by competitive standard and competitive edge

D. Negative market factors to be neutralized by design

E. Marketing-investment trade-offs

IV. Structuring the Financial Analysis

A. Comparison of critical income valuation assumptions for three viewpoints in real estate (See Chart)

B. Assumptions for a time line of analysis

C. Assumptions for profit centers

D. The back door approach as a preliminary analysis

E. The front door approach

V. Modeling Cash Flow Simulation

A. Refer to chart of Systematic Estimation of Annual Income

B. Refer to suggested outline of cash analysis for land development project

C. Review basic elements of mini-mod output

VI. Measuring Rate of Return

A. "Going-in" equity or liquidating equity?

B. What to include in financial returns?

C. What is the reinvestment assumption?

1. Inwood discounting
2. The internal rate of return
3. The modified internal rate of return

D. Total dollars vs rate - reader viewpoint

VII. Risk Evaluation

A. Equity payback period

B. Default ratio or cash break-even point

C. Sensitivity point for cost over-run or under-absorption

D. Required market segment as percent of total market opportunity

202A Breese Terrace, Madison, Wisconsin 53705 - 608 238-6873

November 10, 1971

Landmark Research Inc.

Thomas L. Turk
James A. Graaskamp

Dear Resident:

One of our clients is considering the development of several recreational "second home" projects in the form of condominium units set among recreational complexes which include golfing, marina, and winter sport facilities. A key element of each plan is a resort-inn with complete facilities, which would make available grounds maintenance, maid service, catering, and year round indoor sports facilities to condominium owners.

These resort-inns are already established summer resorts and popular off-season centers for business meetings and seminars. The key question is whether families are thinking about the four-season recreational pattern that is developing in Wisconsin and whether sophisticated family planners are thinking in terms of purchase of a recreational home in their favorite summer vacation area.

Wisconsin may be thought of as the place for inexpensive summer vacations while winter outings are in the South. However, investment in a second home would suggest year round use and enjoyment and a mix of seasonal activities. To survey attitudes about vacations, Wisconsin recreation centers and condominiums we have constructed a mailing list of selected people of means, who have demonstrated sophisticated tastes in recreation. Would you please answer the following brief questions? There is no way to identify a response and this letter is not a sales promotion.

Professor James A. Graaskamp

1. Does your family generally vacation each year in Wisconsin?

No

Yes → For each season circle the number of weeks during which you vacation and indicate the most preferred location.

	Circle						Most Preferred Location
Winter	1	2	3	4	5	6+	_____
Spring	1	2	3	4	5	6+	_____
Summer	1	2	3	4	5	6+	_____
Fall	1	2	3	4	5	6+	_____

2. Do you presently own a summer home or cabin site?

No

Yes → County _____ State _____
Would you trade your present summer home or cabin site for a recreation condominium to avoid maintenance work or the bother of building your own vacation home? Yes No Maybe

3. Would you prefer a secluded informal "get away from it all" weekend retreat to a better equipped more active social center? Yes No

4. Would you ever consider purchase of a carefree condominium in the heart of a recreational complex?

Yes

No → What is your main reason? _____
_____
If No, stop here and return the questionnaire. Thank you.

5. If you would consider purchase of a carefree recreational home or weekend retreat, which of the following locations would you most prefer and least prefer? Check only one in each column:

	Most Preferred Location	Most Disliked Location
1. Lake Geneva	( )	( )
2. Green Lake	( )	( )
3. Lake Winnebago	( )	( )
4. Lake Minocqua-Tomahawk	( )	( )
5. Sturgeon Bay-Door County	( )	( )
6. Telemark-Hayward County	( )	( )
7. Spring Green-Iowa County	( )	( )
8. Other (please specify) _____		

The best use of a recreational home is possible if the family enjoys a variety of activities during the off seasons, that is, during parts of the year other than the summer months of June, July, and August.

6. One type of relaxation at the recreation home might be outdoor activities such as: (check preferences)

( ) Tennis
( ) Sail boating
( ) Power boating
( ) Fall and spring golfing
( ) Fall and spring lake fishing
( ) Fall and spring fishing in stocked ponds
( ) Winter skiing on beginner and intermediate slopes
( ) Snowmobiling on an extensive trail system
( ) Ice boating
( ) Ice skating on an outdoor rink
( ) Skeet shooting
( ) Trail system for walking
( ) Trail system for biking

7. Indoor recreation facilities for the seasonal homeowner might include: (check preferences)

( ) Ice skating on an indoor rink
( ) Indoor tennis court
( ) Indoor swimming
( ) Sauna and whirlpool bath
( ) Handball and paddle ball courts
( ) Pool tables
( ) Card rooms with bar service
( ) Indoor golf driving range

8. Have you ever visited a recreational condominium in the United States?

No → 9.

Yes → Which one? _____
What impressed you most? _____

9. Do you now own or were you a former owner of a condominium?

No

Yes → Would you buy one again: Yes No
No → Why not? _____
_____

10. Since not everyone wants to use or to pay maintenance for all facilities, would you prefer: (check <u>one</u> preference)

( ) To reduce costs of maintaining facilities to a minimum by sharing major facilities such as a golf course or indoor tennis court with guests of the nearby exclusive resort inn, each user paying a low green fee or similar user charge only if, and when he uses it.

( ) To maximize convenience of user by reserving major facilities exclusively for condominium owners only but only the user would be assessed for maintenance cost by means of annual subscriptions or memberships.

( ) To compromise between low cost of first plan or high cost of exclusive facilities, maintenance charges could be shared with resort inn and all members of the condominium group, with condominium owners given preference for prime time in the evening and weekend afternoons with a reservation system.

( ) Your ideas _____

11. If you were to consider purchase of a condominium, within a recreational complex, what type of unit would you prefer? (check one)

( ) Single family detached unit
( ) Small clustered groups of two-four units (the Quadraminium)
( ) Larger clusters of low rise townhouses in 8-20 units
( ) High rise apartment style unit secluded from resort inn
( ) High rise apartment style unit (8 stories) with all weather connection to resort-inn
( ) Have another idea? Please describe _____

_____

12. What features of a site do you think are most important for a condominium? (check one for each of the features below)

	Very Important	Desirable	Not Necessary
View of the lake	( )	( )	( )
View of the countryside	( )	( )	( )
Seclusion from traffic noise	( )	( )	( )
View of boat channel or lagoon	( )	( )	( )
Seclusion from strollers	( )	( )	( )
Isolation from lots of people	( )	( )	( )
Walking distance to shops	( )	( )	( )
Walking distance to social centers at resort-inn	( )	( )	( )
Boat tie-up at back door	( )	( )	( )
Private garden area	( )	( )	( )
Lighted and paved walking trails	( )	( )	( )
Heavy woods	( )	( )	( )
Extensive lawns	( )	( )	( )
No steps or stairways between car & home entrance	( )	( )	( )

13. Since everyones preference must yield to their budget, what price range do you feel would be justified for a condominium as sketched by this questionnaire? Indicate what use of the condominium you would have in mind?

☐ Family seasonal
☐ Legal residence

( ) $20,000-24,999
( ) 25,000-29,999
( ) 30,000-34,999
( ) 35,000-39,999
( ) $40,000-44,999
( ) 45,000-49,999
( ) Could pay more for right house

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

15. Please indicate the number of adults and children who presently live in your household?

Adults (number)_____ Children: Under 6_____
6-12 _____
Age of head of household_____ 13-17 _____
Occupation_____ 18 & over_____
Hometown _____

Number of dogs and cats _____

16. Your comments and suggestions _____

_____

_____

Thank you.

COMPARISON OF CRITICAL VALUATION ASSUMPTIONS FOR THREE PRESENT VALUE VIEWPOINTS IN REAL ESTATE

Prepared for Discussion at Feasibility Seminar
Saint Paul, Minnesota
March 17, 1973

Traditional Income Appraisal	Ellwood Valuation	Modern Capital Theory
1. Instant investment	1. Instant investment	1. Discontinuous series of outlays
2. Productivity limited to net income from parcel before debt and income tax.	2. Productivity limited to parcel after debt but before income tax.	2. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate.
3. Continuous income function	3. Continuous income function	3. Discontinuous series of tax classified receipts
4. Recapture from income	4. Recapture from income & resale	4. Payback of equity from spendable cash and debt from net revenue & resale.
5. Projected for full useful life of improvements	5. Projected for normal turnover period 5-10 years of typical investor	5. Projected for elapsed time of outlays and receipts for specific investor time line horizon.
6. Arbitrary discount factor	6. Weighted average Inwood discounting	6. Selected present value discounting based on characteristics of investor and property revenue pattern

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I. ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

PART I OF IMV INVESTMENT VALUE APPROACH

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II. RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II. RESALE RETURNS TO INVESTOR

A. ESTIMATED RESALE PRICE (EOY)

B. DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

C. DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

D. DEDUCT ALL CREDIT CLAIMS (EOY) OUTSTANDING
   1. SHORT AND LONG TERM NOTE BALANCES DUE
   2. PREPAYMENT PENALTIES
   3. DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

E. DERIVE PRE-TAX REVERSION TO EQUITY

F. DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
   1. DEDUCT CAPITAL GAINS TAX
   2. DEDUCT INCOME TAX ON DISALLOWED ACCELERATED DEPRECIATION
   3. DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

G. DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

SUGGESTED OUTLINE OF CASH ANALYSIS FOR LAND DEVELOPMENT PROJECT

DEVELOPMENT PERIOD	1	2	3
PRODUCTION STARTS			
PRODUCTION COMPLETIONS			
1. BEGINNING INVENTORY			
2. SALES IN UNITS			
UNITS SOLD FOR CASH			
PRICE PER UNIT			
REVENUE FROM CASH SALES			
UNITS SOLD ON LAND CONTRACTS			
DOWN PAYMENT RECEIVED			
ACCOUNTS RECEIVABLE ADDED			
3. SALES COSTS			
COMMISSIONS PAID			
CLOSING COSTS			
4. RUNOFF OF LAND CONTRACT SALES			
INTEREST			
PRINCIPAL			
PERIOD END ACCOUNTS RECEIVABLE			
5. NET CASH GENERATED FROM SALES			
6. OPERATING COSTS			
CARRYING COSTS--RAW LAND			
CARRYING COSTS--INVENTORY			
REAL ESTATE TAX--RAW LAND			
REAL ESTATE TAX--INVENTORY			
MANAGEMENT + ADMINIST. COSTS			
7. NEW ALLOCATED CAPITAL OUTLAYS			
8. NEW GENERAL CAPITAL OUTLAYS			
9. PROJECT DEBT STRUCTURE			
TOTAL INITIAL CASH			
DEBT BALANCE END OF PERIOD			
TOTAL PRINCIPAL PAYMENTS			
TOTAL INTEREST PAID ON PROJ.			
INTEREST ADDED TO LOAN BAL.			
10. NET CASH FROM DEBT INCURRED			
11. CASH AVAILABLE BEFORE TAXES			

BASIC CONCEPTS FOR STRUCTURING FEASIBILITY ANALYSIS

I. A Real Estate Project as an Organized Undertaking Involves:

- A. Goal-setting
- B. Forming policies
- C. Searching for opportunities which are consistent with policies
- D. Selecting opportunities which are consistent with policies
- E. Designing systems for capturing selected opportunities
- F. Installing systems for capturing selected opportunities
- G. Operating the systems that have been installed
- H. Maintaining and continuously perfecting the operating systems

II. The Constraints in Feasibility Analysis of the Search, the Selection, and Design Divided into Seven Basic Areas of Investigation:

- A. Strategic objectives and tactics (policies)
- B. Market trends and opportunity areas
- C. Merchandising targets with monopoly characteristics
- D. Legal-political constraints
- E. Ethetical-esthetic constraints
- F. Physical-technical constraints
- G. Financial constraints

III. A Financial Plan:

- A. Identification of Selected Profit Centers
- B. Specification of the common denominator - a time line - schedule of outlays and receipts
- C. The capital budget
  1. Construction costs
  2. Carrying costs
- D. Operating budgets
  1. Pattern of sales revenues
  2. Fixed management costs
  3. General sales costs and investment
- E. Profits classified as to type and tax
  1. Cash from operations
  2. Cash from capital gains
  3. Cash surplus from financing
  4. Cash from tax savings on other income
  5. Cash from reduction or shift of fixed outlays
  6. Indirect non-cash benefits
- F. Risk control and evaluation
  1. Risk is the variance possible between expectations and realizations
  2. It is controlled by planning, staging, and proper contract drafting
  3. Risk has nothing to do with yield
  4. Creditability is more important than credit
- G. Yield - Discounting profits over time
  1. Simple discounting
  2. Internal rate of return adjusted for cost of capital

CONTEMPORARY FEASIBILITY SEMINAR OUTLINE

FIRST MORNING

I. Basic Concepts and Definitions

- A. Real Estate Defined
- B. Real Estate Project
- C. Real Estate Process
- D. Highest and Best Use
- E. Real Estate Feasibility Defined

II. Financial Management

- A. An Investment Defined
- B. Risk Defined
- C. Kinds of Risks
- D. Risk Evaluation
- E. Significant Exposures to Loss
- F. Significant Loss
- G. Methods of Avoiding Loss
- H. Feasibility as Risk Management

COFFEE

III. Real Estate Decision Models

- A. Alternative Outcomes
- B. Flow Chart
- C. Real Estate Models
- D. Model Requirements
- E. Model Constraints
- F. Models for Alternative Outcomes
- G. Context and Form
- H. Concept of Feasibility
- I. Defining Objectives
- J. Analytical Judgments
- K. General Theory
- L. Define Limited Resources
- M. Basic Elements and Definitions

IV. What is the Problem as Perceived by the Client?

- A. Function of Appraisal vs Feasibility
- B. Needs of Client
- C. Client Preferences and Assumptions
- D. Client Objectives

V. What is the Problem as Understood by the Consultant?

- A. Feasibility Analyst Techniques
- B. Basic Classifications
- C. Audience Viewpoint
- D. Elements of Feasibility
- E. Review of Elements
- F. Definition of Report
- G. Defining the Assignment
- H. Estimating Fees

NOON - LUNCH BREAK

I. Establishing Project Financial Constraints

A. Advanced Front Door Approach
B. Advanced Back-Door Approach
C. Backdoor Approach Format for Ranking Most Probable Use
D. Cash Flow Pro Forma Using Parameter Norms

COKE BREAK

II. Testing Financial Flows

A. Pro Forma Cash Flow Table
B. Sensitivity Table
C. Pro Forma Investment Analysis of MR CAP Backdoor Demo
D. Partnership Investment Summary for Lean-2 Homes
E. Partnership Investment Summary for Jack Jones
F. Partnership Investment Summary for Real Estate Dynamics
G. MR CAP Backdoor Demo

SECOND MORNING SESSION

I. The Basic Case - A Site in Search of a Market

A. Identification of Attributes
B. Site Analysis
C. Static Attributes
D. Legal Attributes
E. Analysis of Static and Legal Attributes
F. Linkage Attributes
G. Dynamic Attributes
H. The Real Estate Product

COFFEE

II. Selecting Market Targets or a Market Position Within a Defined Market Opportunity

A. Free Enterprise
B. Marketing Program
C. Marketing Hypothesis - Secondary Data
D. Merchandising Target - Primary Consumer Data
E. Competitive Standard
F. Competitive Edge - Market Gap

NOON - LUNCH BREAK

I. Introduction to Prospect Survey

A. Preliminary Hypothesis
B. Housing Market Ratios
C. Ratios
D. Ratio Calculation
E. Anxieties or Preferences
F. Analyst Systems
G. Preparation of Questionnaire
H. Processing of Surveys

COKE BREAK

II. Telephone Survey to Improve Bidding Position on Turnkey Elderly Housing Project

- A. Packet of Bid Instructions
- B. Joint Venture Proposal
- C. Basic Research Questions
- D. Survey Measurement Devices
- E. Sampling Criteria
- F. Response to Criteria
- G. Interview Sampling Plan
- H. Survey Results
- I. Sample Questionnaire
- J. Questionnaire as Consumer Profile

III. Generalized Format of Merchandising Report Summary

- A. Definition of Geographic and Demographic Market
- B. Definition of Principal Competitors
- C. Establishment of Merchandising Strategy Logic
- D. Definition of Prospect Target

IV. Structuring the Feasibility Report

- A. Format of the Report
- B. Executive Summary

V. The Appraisal Report as an Adenda to Feasibility Analysis

- A. Suggested Appraisal Concepts
- B. Suggested Appraisal Report Outline

ONE DAY FEASIBILITY SEMINAR PROGRAM OUTLINE

8:45-9:30 A.M. WHAT IS FEASIBILITY ANALYSIS?

A. Introduction
B. Definition of the elusive quality "Feasible" (See Illustration #1)
C. Viepoint and the level of abstraction (See Illtr. #5)
D. Components of a Total Feasibility Analysis (See Illtr. #2)
E. Proper titles for feasibility reports (See Illtr. #3)
F. Analysis requires skillful over-simplification

9:30-10:15 A.M. WHAT ARE THE ELEMENTS OF A DECISION PROCESS?

A. The decision machine model (See Illtr. #6 & 12)
B. Decision criteria shape the research and the report (See Illtr. #7 & 8)
C. Statement of limiting conditions based on decision model
D. Identification of the research question to correctly choose the decision model
E. Methods of inquiry to identify values and objectives

COFFEE BREAK

10:40-12:00 NOON - MARKET DATA VERSUS MERCHANDISING ANALYSIS

A. Aggregate Market Data identifies market opportunities but not effective demand
B. Alternative level of supply and demand analysis
C. Dangers of aggregate data
D. The use of a model to focus general data on a specific problem
E. Market segmentation for relevance to the site or to the consumer
F. Models to state relationships
G. Aggregate data generally represents variables beyond control of entrepreneur
H. Merchandising data involves factors within control of developer
I. Name the revenue unit and spot the customer

BREAK FOR LUNCH

1:00-2:00 P.M. PRIMARY DATA - METHODS OF BUILDING A CONSUMER PROFILE

A. Consumer research is the key to "monopoly" pricing and absorption rates
B. Store location procedures appropriate for any real estate establishment
C. Sources of consumer profiles
D. Original consumer research via mail surveys
E. Construction of survey questionaire
F. Definition of competitive standard by means of comparison shopping
G. Identification of competitive differential

2:00-2:30 ETHICAL-ESTHETICS CONSTRAINTS ON FEASIBILITY

A. Real estate regulation, politics, and ethics
B. Feasibility and the ethical restraint
C. Ethics---A limiting condition?

2:30-3:00 FEASIBILITY AND MEHTODS OF FINANCIAL ANALYSIS

A. Business cash cycle begins with merchandising
B. Common denominator of space, brick and mortar, and money is time
C. A time schedule or calendar of events
D. Capital and operating outlays
E. A forecast of cash receipts
F. The pleasure-pain bail out theory of mortgage loan underwriting and financial feasibility
G. The many dimensions of financial satisfaction
H. The mystery of yield and risk is a subjective question

EXAMINATION OF A CASE STUDY
FOLLOWING COFFEE BREAK

SUGGESTED INSTRUCTORS OUTLINE

Feasibility Analysis Seminar for Society of Real Estate Appraisers

To be used with:

1. Packet of mimeographed illustrations to be furnished each student in class.

2. A Guide to Feasibility Analysis, a booklet to be included in student kit.

Prepared by
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School of Business
University of Wisconsin - Madison

SUGGESTIONS TO INSTRUCTOR

1. The style of the author of the Guide Book and these lecture notes is to make a point of a principle and then to illustrate with a brief example with local color or a "war story". Real Estate people have long seemed to learn better from concrete examples than from extended "theory" courses. It is also recognized that lecturers selected to conduct a feasibility seminar have better examples from their personal experiences than the author and so these notes are designed to provide a framework for your illustrations.

2. Experience has shown that distribution of the Guide Book and study kit of reprints at the outset of the seminar distracts the participant from the speaker. Therefore, the study kit should be withheld until late in the afternoon when you may wish to use the two case examples in Appendix A and B. For classroom use a packet of illustrations for distribution to each student has been provided including a brief outline of the topics in this instructor's outline. While it is more expensive to "insti-print" these handouts, we have found them to be far superior to use of an overhead projector for the large groups which attend such a seminar. You may wish to augment these handouts with several pages of material appropriate for your case study example in the afternoon.

3. As you familiarize yourself with the outline and the Guide Book, it is suggested that you cut up a copy of the Guide Book and paste the examples you wish to use on the facing page of the notes to which it relates. Perhaps circle it with a color pencil and extend the loop to the specific outline item to which the clipping relates. In addition, paste in reminder notes for your own examples in the same way as your explanations should be more spontaneous and personal than would be true of dependence on the text materials.

4. Experience with this seminar has also indicated that the last hour or more might best be devoted to analysis of a specific case to indicate how its final form was determined significantly by the context for each of the components of feasibility or its failure could be traced because it failed to identify a significant constraint in its particular situation.

5. The first offering of the seminar spent a little time on several minor elements such as techniques for graphic displays, report printing, pricing, and other production questions. However, the majority of students seem to feel this was unnecessary as they could find plenty of local help to guide them on those matters. Therefore, the time allocated to each of the subjects treated in the outline is indicative of the strength of interest shown in each of these areas by test audiences. In one day you can only hit the mountain peaks which will permit appraisers to gain a new conceptual approach to real estate analysis.

SUGGESTED INSTRUCTORS OUTLINE

Feasibility Analysis Seminar for Society of Real Estate Appraisers

MILWAUKEE JOURNAL *Sunday, November 8, 1970*

8:45-9:30 A.M. WHAT IS FEASIBILITY ANALYSIS?

A. Introduction

1. Each real estate project is a creative solution to a problem, a concept, and an art form.

2. Judging an artistic endeavor requires definition of the context in terms of given constraints, of alternative forms for variables in the solution, and of the fit or suitability of the ensemble matching form and context. (See page 2 & 3 of the Guide)

3. Real estate involves attributes from such a variety of technical specialties that analysis of form and context often requires a team approach by professionals from related disciplines of disciplines of architecture, engineering, law, and planning.

B. Definition of the Elusive Quality "Feasible" (Refer class to Illustration #1)

1. A real estate project is "feasible" when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

2. Specific and limited resources are those of a specific viewpoint rather than a hypothetical prudent investor presumed by appraisal. Thus the viewpoint, assumptions, and implicit premises of traditional appraisal theory may not be appropriate.

3. Satisfaction of a specific viewpoint may be financially oblique, may be political or social, or may be subjective so that the test of feasibility is seldom the simple comparison of present value of financial returns to capital outlays required.

C. The basic nature of feasibility analysis is confused by the many report titles and types used in trade talk today. There is no such thing as an "economic study" but a variety of current report attributes are defined by Illustration #4.

1. Current terminology implies but confuses

   a. Viewpoint assumed
   b. Level of abstraction (See Illustration #5)
   c. Methodology of decision making

2. Classical economic motivation and appraisal of hypothetical or proposed projects should not be confused with feasibility. Feasibility works with a specific decision maker and his irrational as well as financial motivations.

D. Components of a Total Feasibility Analysis (See Illustration #2)

1. Objectives of the parties at interest and for whom the feasibility study is done.

   a. Strategic objectives and priorities
   b. Acceptable tactical alternatives

2. Market trends and opportunity areas

   a. Aggregate data on local population, employment, income, etc.
   b. National economic and political policies affecting incentive, timing, risk, etc.
   c. Industry trends relevant to the client
   d. Significant popular attitudes and trends

3. Alternative merchandising targets or market segments

   a. Special micro-markets with space needs
   b. Product and price specifications
   c. Effective demand for the product at a price
   d. Preferred merchandising methods

4. Legal-political constraints and alternatives

   a. Regulatory constraints on the parties at interest
   b. Regulatory controls on site and spece development
   c. Exogenous political structure influencing alternatives available

5. Esthetic-ethical constraints and alternatives

   a. Project relationship to immediate community
   b. Project obligations to space users
   c. Prime contractor-subcontractor relationships
   d. Client obligations to his preferred personal commitment pattern.

6. Physical-technical constraints and alternatives

   a. Space user requirements as to location and improvements
   b. Site attributes satisfying elements of item #1
   c. All other space product engineering considerations

7. Financial constraints and alternatives

   a. Time line or assumed calendar of events for financial assumptions
   b. Capital budget required and sources
   c. Operating budgets and revenue sources
   d. Direct cash profit expectations
   3. Indirect benefits and returns
   f. Measurement of risks and yields

E. Proper Titles for Feasibility Reports (See Illustration #3)

1. Strategy study: selection of objectives, tactics, and decision criteria.

2. Market analysis: economic base studies or other related aggregate data review.

3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.

4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

5. Compatibility studies of project to community planning, conservation standards, or other public policies.

6. Engineering, land planning, and architectural studies.

7. Financial studies: economic modeling, capital budgets, present value and discounted cash-flow forecasts, rate of return analysis, financial packages.

F. Feasibility Analysis Requires Skillful Oversimplification

1. Real estate is so complex, analysis of concept is often mistakenly replaced by catalogs of detail.

2. Real estate development is emotional and leads to self deception.

3. Real estate research is expensive so that research dollars must focus on only critical issues.

4. Real estate information is so extensive, legitimate means must be found to exclude most of it from any report.

5. Therefore we need models for the decision process.

9:30-10:15 A.M. WHAT ARE THE ELEMENTS OF A DECISION PROCESS?

A. The Decision Machine Model (Refer class to Illustration #6 & 12)

1. Before analyzing specific problems or choosing an alternative course of action, it is useful to review how people think about problems, the nature of the decision process, and techniques for encouraging a fresh idea or a new way of seeing an old problem.

2. Collection of facts and analysis to identify possible alternative courses of action.

3. Consultation with client to determine his value system and objectives.

4. Development of criteria which reflect the client values and standard for screening alternatives for probability, profitability, and potential adversity.

B. Use Illustration #7 or Illustration #8 (pages 20-21 of Guide) to demonstrate derivation of decision machinery applied to real estate problems.

1. Instructor may wish to illustrate use of criteria for qualitative factors through weighting with points, minimum requirements, specifications or financial ratios.

2. Criteria selected determines information required, method of organization, and format of conclusions (decisions).

C. At the outset of his final written report and early in his analysis procedure, the analyst needs to specify in simple graphic form or a short statement (similar to the page of "salient facts" which often introduces an appraisal) the following limiting conditions:

1. The viewpoint and its values which he represents.

2. The strategic and tactical objectives of the viewpoint represented.

3. The components (ala Illustration #3) of the feasibility process provided by others and those assumed by the permission of the viewpoint represented.

4. The components (ala Illustration #2) of the feasibility analysis to be researched by the analyst.

5. Description of the decision model criteria by which all elements can be synthesized into selection of a course of action or statement of a conclusion.

D. Perhaps the most significant role of the analyst is to understand the values and objectives of the viewpoint chosen well enough that he can invent methods of assembling data to identify alternative outcomes and decision criteria that fit both the information available and the purposes of the decision.

1. An appraiser assumes the analytical models prescribed by professional appraisal practice; a feasibility analyst must develop a decision process for each study.

2. Teaching feasibility analysis is a problem of teaching creative modeling techniques that can be adapted to the great variety of real estate projects that one may be called on to analyze.

3. Models provide a method of stating the client's problems and objectives or simplifying the constraints of data collection procedures. Model building can operate through:

   a. A process of enrichment, i.e., elaboration of very simple models.
   b. Analogy and association with previously developed models.
   c. Alternating attention to partial aspects of the total solution.

E. Profit making is too generalized a statement of objectives and profit maximization is always greatly modified by a variety of management preferences and philosophies, particularly in regard to style of operations, business risk, and personnel management.

1. The essence of a business may be much different than it appears:

   a. A restaurant may be regarded as an entertainment business.
   b. Airport terminal a valve for regulating the flow of people, baggage and vehicles.
   c. A retail store as a theater in the round for the dramatic display of merchandise.

2. A source of objectives and constraints on acceptable alternatives may be found in the preferred business patterns of a real estate investor and the analyst should discover:

   a. Preferred methods of reaching and "locking in" its customers.
   b. Preferred method of maintaining supply sources and cost levels.
   c. Preferred scale of operations.
   d. Preferred time line or length of business horizon for investment cycle.
   e. Preferred methods of personnel recruitment control of motivation.
   f. Preferred static risk management methods.
   g. Personality attributes of investor management.

   (Instructor may refer to page 24-26 in Guide)

COFFEE BREAK

10:40-12:00 NOON - MARKET DATA VERSUS MERCHANDISING ANALYSIS

A. Market data analysis is concerned with aggregate data, time series, and geographic combinations of material on population, employment, income, or construction.

B. The demand-supply analysis which is implicit in any study with some quantitative analysis has varying degrees of dependency on aggregate-secondary data and specific-primary data with the balance swinging around the viewpoint of the decision maker as follows:

Levels of Demand Analysis

(1) Social needs in the abstract
(2) Demands of sub-class of market.
(3) Individual consumer motivation.

Decision Maker's Viewpoint

Levels of Supply Analysis

(4) Individual investor motivation.
(5) Sub-Class of investor - decision format.
(6) Planners compromise.
(7) Economic investment in the abstract.

C. Catalogs of aggregate data series are generally overdone by the analyst and represent too much emphasis on secondary data in the typical report. Its limited applications include:

1. Identification of growth factors in a general community or region.

2. Direction and momentum of real estate activity in a given locale.

3. Favorable timing and scale for development opportunities.

4. Vulnerable economic assumptions for community growth.

5. Supply and demandfor space units.

D. The key to effective use of aggregate data is the choice of an appropriate model with which to focus general data on a specific problem or reveal relationships between available information and projections or estimates of necessary inputs. (See Illustration #9)

E. Population, employment, and income figures are seldom useful unless refined and focused on the problem at hand: the submarket relevant to the site, the merchandising target, or client objectives.

1. For example, population growth to be accurately measured may need to be stripped of gain through annexation, university enrollments, or net increases in age groups not in the housing market such as 0-9 class.

2. For an excellent demonstration of reducing aggregate census, employment, and family income data to submarkets, a feasibility analyst ought to consider purchase of Projectron, a 10-year

housing market analysis for each SMSA prepared by W. R. Smolkin & Assoc., Inc., of New Orleans, Louisiana. It is available from the Builders Service Department of Barrett Division of Allied Chemical Corporation.

3. For an excellent presentation on selecting market data that is relevant, see Chapters 4,5,8, and 9 of An Introduction to Appraising Real Property, Prof. William Kinnard, Society of Real Estate Appraisers, 1969. (See Illustration #10)

F. When aggregate data are used, relationships should be carefully stated at the beginning of the report in the form of a model. The analyst becomes primarily concerned with devices for excluding or reducing aggregate data to that relevant to a praticular piece of property.

1. For example, definition of a primary trade area excludes the majority of community population and family income data; the data remaining within the trade area perimeter are further reduced by several factors to measure family purchases, purchases within the trade area, purchases at a particular site, and then for a particular line of goods.

2. Supermarket chains, filling stations, hamburger stands, and many other modern businesses have developed through experience ratios which can be applied to aggregate data to reduce it to more focused, more specific data relevant to a particular site or enterprise.

3. See Illustration #11 for Singer Housing Market Model.

G. Another characteristic of aggregate demand and supply data is that it generally represents variables that are beyond the control of the real estate entrepreneur. He can have little influence on general levels of demand and supply although he must understand their origin and create in his own plans capacity to meet the surprise potential in these uncontrollable factors as well as to insulate him from general market trends to some degree.

1. Therefore, traditional format of analysis begins with the big picture--aggregate analysis. Generally this is a mistake. One should begin with a particular product, price, or competitive opportunity and work back to general market data only to the degree that it may be relevant.

2. The art of free enterprise is creating a monopoly to some degree which requires careful recognition of very small submarkets, learning much a bout a few users with particular behavior and preference pattern.

3. Monopoly tends to insulate the enterprise from aggregate supply and demand and magnify dependency on a special submarket. For example, one developer of luxury apartment projects insists on paying a high price for the last open area in an exclusive residential neighborhood and then could care less about the apartment market in general. The supermarket chain that buys all three potential sites in a neighborhood, using the best for its own store and developing the others for some other use, is well protected against supply and

demand for groceries in the general community.

H. Merchandising analysis is the crucial set of assumptions in feasibility analysis, whether pushing a particular site or searching for a site for particular users.

1. Real estate, like any other business, is a cash cycle--cash-to-inventory to sales-to-accounts-receivable-to-cash. Before committing a dollar to inventory, one needs a clear idea of how that dollar will return in the form of sales.

2. First name the typical revenue unit, perhaps the method of measuring profit per sales unit.

3. For example, in land development you buy land by the acre so in testing alternative development plans, measure revenue per acre over time, not profit per lot as you may find it possible to sell your land faster and with a higher margin with 2-acre lots than with 1/4-acre lots.

4. For example, a public auditorium receives its income by the event rather than per seat, and feasibility depends on a distribution by audience size of different events which could be supplied the community.

5. A lumber company wishing to raise its income per acre of forest may find it more useful to merchandise extensive space for hiking or horseback riding than to sell 20 acres for cottage development. A camp site on five acres of ground renting for $50 for the summer net increases its income per acre by 5 or 10 times which is far more significant for a 100,000-acre resource than selling 20 lots for condominium for a net of $5,000 each.

I. Correct identification of the rental unit may also achieve correct identification of the customer. Real estate submarkets are so small it is generally possible to identify past or future potential customers for a real estate product by name. A little imaginative thought can suggest how to build a mailing list or meet the customer face-to-face for an interview. Until you name the prospect, it is often difficult to say much about his preferences.

1. The telephone book is a great customer list--particularly the yellow section and a reverse directory. For a medical office building it is possible to identify all doctors in town and eliminate those who are in new buildings, or hospitals, or universities or who are in the middle of their particular specialty market and have no reason to move. By matter of elimination, those who are left may be prime candidates and one should talk to them. The trick is knowing how to reduce aggregate data by certain criteria to relevant phones and numbers that are plausible if not precise.

2. If you wish to sell expensive homes to renters or rent expensive apartments to home owners, identify high income neighborhoods, and with a reverse directory for the current year and for some specific year in the past you can identify those whose leases may expire or who may be tired of maintaining the big home.

3. Use office building rosters of new buildings for names and last year's phone book to see where the new tenants came from; perhaps there are more where they came from. At least it will provide a suggestion of the characteristics of those actively seeking new space. Of particular interest will be those tenants at the older location who did not move and why they chose not to move as these are the customers potentially still in the market.

4. Customer spotting can be done by using accounts receivable, license plate spotting, magazine mailing lists, and club membership lists. Prospect identification is the key to real estate feasibility just as it is in the merchandising of cars, life insurance, or machine tools.

BREAK FOR LUNCH

1:00-2:00 P.M. PRIMARY DATA - METHODS OF BUILDING A CONSUMER PROFILE

A. Consumer research is the key to "monopoly" pricing and absorption rates.

1. The ultimate strategic objective of the firm within a free enterprise system is to create a monopoly to some degree either in fact or in the mind of the consumer. Nobody wants to compete as equals on price at the cost of reducing net after taxes.

2. Since it is easier to corner the local market for canary seed than to corner the national market in grain, as a general observation development of a monopoly requires careful delineation of many small submarkets, learning much about a few users with particular eocnomic, behavior, and preference patterns.

3. Dependency on a special submarket tends to insulate the enterprise from general supply and demand trends but nagnifies the importance of researching a consumer profile and critical characteristics of the submarket..

4. Stanley Edge has well recognized these implications in his manual on apartment house research called The Waiting List. He distinguishes between the necessity of attributes a project must have in a given rental class to be competitive, and identification of several features which could establish a competitive differential.

5. The key to the cash cycle and the hidden assumption of all feasibility analysis is the ability to merchandise a product. Cash flow begins with a sale and successful sales ultimately depends on the crucial fit of product, price, and merchandising appeal to the needs of a particular customer group and all these factors are subject to some control by the decision maker.

6. On the other hand, market data in terms of population, income, and employment are generally beyond the control of the decision maker except in the largest projects.

B. The merchandising of real estate space can generally be tied to retailing methods, particularly analogies to trade areas and percentage of market penetration. The creative analyst should generally be able to convert store location procedures to feasibility tests for virtually any kind of real estate establishment.

C. In this light the importance of naming the prospect, as suggested before lunch, becomes the critical part of a proper feasibility study. Identification of the prospect makes it possible to survey a selected sample of prospects to learn something about their behavior patterns, their preferences, their means to pay, their decision criteria. A profile on a customer is like a book on players of the opposing team - it reduces the uncertainty and increases your ability to control the game and that is the essence of monopoly attributes.

1. Some surveys of special real estate groups have been done by universities, state development agencies, or private firms for local planning agencies.

2. Outstanding work on apartment tenants, townhouse dwellers, and single-family home buyers has been done recently by Owens-Corning Fiberglas (See bibliography in Guide). Such a study may be all that is necessary to define product and competitive techniques for your particular residential real estate problem.

3. Various trade organizations and franchise firms have completed profiles of prospects or have computed ratios for reducing aggregate data to gross sales and net income for a variety of land uses (See bibliography in Guide).

4. Failing to find a useable profile, the analyst can do his own survey research, research in which sensitive listening to the consumer is more important than textbook statistics.

D. If the analyst has done a good job in definition, spotting, and naming the potential customer it should be possible to contact that group by mail or interview. The secret to a strong and therefore economical response is focusing the survey on those most likely to be interested in the subject matter.

1. The census tracts identify groups as to geographic areas in town and the reverse telephone directory will give you the names of those who live in selected areas within street number perameters.

2. Rather than survey everybody, sample the total number of names assuming a 25-30% response. (1,000 names would generate 250 replies)

3. Or screen the list with one or more additional tests such as those in a given income group who have lived there 5 years or more as indicated by matching a 5-year old reverse directory with the present

one, or by eliminating those in new buildings such as doctors already located in clinics or those in owner occupied comparable structures.

4. The yellow section of a telephone book is often the best method of naming a prospect. For example if a downtown office building could be expected to rent to attorneys, accountants, and investment people, the great majority of prospective tenants can be found in the yellow section. The total can be reduced by those in new buildings or in their own buildings or in the suburbs near special markets.

5. Potential competitive structures or comparable buildings and projects to that under study provide tenant rosters or addresses and a primary source of data from satisfied or dissatisfied tenants as well as the reasons for the recent moves.

E. Some brief guidelines in the construction of a survey questionnaire by mail would include:

1. Keep it short, focused on one or two questions as to preference. Some of the best surveys are done with a printed post card.

2. Use some questions for closed-end answers where the respondent need only check one or more preprinted answers.

3. However, always provide one or more open-end questions to give the respondent opportunity to say virtually anything as these comments may be revealing in terms of his motivation, preferences, disappointments, or advice he is giving his friends who may be in your market next year.

4. Have questionnaire printed on good bond using some neutral color such as buff with dark brown ink or yellow with black ink. If respondent is likely to be feminine use light pink or light green return envelopes; if male perhaps a tan or blue envelope. To code replies as to area or building sites use different types of 6¢ stamps on return envelopes. Allow at least 3 weeks for response.

5. For a good primer on how to do survey research on buyer behavior and preferences, obtain the paperback edition of Survey Research by Charles Backstrom and Gerald Hursh (Evanston, Ill.: Northwestern University Press, 1963).

F. Comparison shopping of competitive or comparable projects or unsuccessful projects should provide a definition of the competitive market standard.

1. Listen to other shoppers, present tense or those returning to their cars for consumer response.

2. Use appraisal techniques to catalog type, size, and quality of the competitive standards. (See Illustration #13)

3. Look for gaps in the price, geographic location, or amenity alternatives to buyers (at this point the instructor may wish to use examples on opposite page or from his own experience).

G. The competitive defferential may be found in almost any aspect of real estate but should not be confused with novelty or gimmicks. It may lie in location, price, space offered, features such as a fireplace or the curb appeal and privacy created by landscaping. (Again the best method of making the point is to use examples)

2:00-2:30 ETHICAL-ESTHETICS CONSTRAINTS ON FEASIBILITY

A. Real estate is the most regulated private industry in America, and therefore what is feasible is often that which is permissible within the law or obtainable within the realm of politics. Since both of these subject areas are sensitive to the spirit or ethic with which their ground rules are observed, much of what is feasible hinges on what is considered ethical by the client.

1. At the outset of the study the analyst should either receive permission to identify in his report the appropriate legal-political-ethical constraints or specify the absence of such analysis in a statement of critical limiting conditions and assumptions.

2. Too often feasibility is inappropriately restricted to measuring the dollar profits under a specific set of technical constraints without proper examination of the relationship of the project to larger questions of community, ecological, or esthetic considerations. The real estate professional is obligated to identify such possible constraints on conclusions as to feasibility or to require explicit release from examination of these broader issues.

3. If the analyst does not have authority to define these constraints as he sees them, then it would be preferable to have the client sign a specification as to the assumptions which would prevail in the analysis of feasibility.

4. Instructions from the client in feasibility analysis in writing are far more important than those that normally accompany appraisal assignments since feasibility is so specific to the client rather than the general market place or appraisal mythology.

B. Ethical questions for the feasibility analyst can involve four broad areas of concern:

1. The relationship of the project to the community and the environment as the community sees its own interest (with community defined more broadly than a few of its administrative officials).

2. The relationship of the project to the self-interest of the many subcontractors who will participate over and above the normal risks of an entrepreneur. There is an obligation upon the investor-developer to lead his subcontractor only within his capacity to conceive and carry through the project.

3. The relationship of the project to the self-interest of those who will occupy the project as tenants or as employees.

4. The relationship of the project to self-obligations of the client relative to his own self-image, his trusteeship responsibility to others, and the level of personal commitment that he is able or willing to make for the time-lime of the project.

C. The analyst should be concerned not only with existing zoning and possibilities of changing to a more favorable classification but also with the potential for an adverse change in zoning.

1. For example, a river front development site may be sought by regional planners as a conservancy district and opposition to or vompromise with the planners may alienate significant community elements.

2. Therefore, it is difficult to distinguish between what is legally feasible and what is politically and ethically advisable.

2:30;3:00 FEASIBILITY AND METHODS OF FINANCIAL ANALYSIS

A. While the cash cycle of real estate begins with effective merchandising, its impetus and momentum depend on attitudes and motivations of the investor.

1. The level of satisfaction and likelihood of achieving satisfaction is a function of the profit centers available to the investor.

2. Profit centers may include a variety of indirect benefits other than income, tax cover and capital gain including a captured market, change in public image, personnel recruitment, opportunity for product research and development, or a primary generator of activity for some other business.

3. Motivations and strategies of those supplying capital and technique must be known before there is a method to measure risk and yield.

B. Overall capitalization rates and net income multipliers mean very little in regard to feasibility analysis in depth. Appraisal justification of investment are suspect when the decision maker is simply presumed solvent and satisfied without demonstration as to where his satisfaction may be found.

1. Productive real estate is space at work over time and its capital equivalent is money at work over time. The common denominator is time or less abstractly, scheduling.

2. Schedule outlays and receipts from all sources during the dynamic process which is real estate.

C. Appraisal assumes instant development and rental and such a viewpoint may be appropriate for establishing the permanent loan ratio for the auditors but it is useless for analysis of financial feasibility of the plan. A plan can be a good idea but details as to its execution make possible a rational judgment on the likelihood of its success. Calendar of events should include at least:

1. Planning time until ground is to be broken.

2. Construction time of first stage.

3. Rent-up time of first stage.

4. Starting dates for successive stages.

5. The time line of physical events becomes the basic reference for financial planning and analysis of money over time.

D. A capital budget and operating budget must be estimated in order to measure and schedule financial outlays.

1. Capital budget allowances and estimating methods must be appropriate to the level of planning available.

2. Some capital budget items may also be profit centers as in federal programs where indirect cost allowances may be higher than those generally experienced by competent developers or may represent market values of land rather than acquisition costs, leading to "up-front profits" and feasibility for the developer but not a subsequent investor.

3. A source and application analysis of capital funds will also be revealing as to the nature and degree of risk incurred by each investment interest.

4. Capital costs of a project may also include or conceal carrying charges on staff, land, or equipment which would be incurred to some degree with or without a project so that these may be indirect profit centers to the developer during periods of relative idleness.

E. A forecast of cash receipts must also be related to the calendar of events, the time line of the real estate productivity cycle. Aside from the profit centers inherent on the capital budgeting side, there are four basic sources of cash from operational real estate.

1. The cash throwoff from operations which is subject to the federal income tax.

2. The equity cash which is the net result after debt retirement of taxes from a sale which may be subject to the more favorable capital gains tax more than to the income tax.

3. The cash surplus created by refinancing of the project in an amount greater than the debt balances to be retired and the cost of refinancing. Such a surplus is not taxable at all, with certain minor exceptions.

4. Cash resources conserved by the postponement of income taxes on earned income which would have been taxable were it not for title to the real estate.

5. Each of the above returns must be tentatively scheduled over the time line of the investor, generally on an after tax basis to permit aggregation for risk and yield analysis.

F. When doing a feasibility analysis for mortgage lending purposes analysis of the above is directly on a point of the loan analysis - capacity and motivation to repay the loan. It permits application of the pleasure, pain, and bail out theory in mortgage finance.

1. Review of capital budget and operating projections suggests the capacity to repay and the magnitude of pleasureable profits available to maintain the interest of the developer.

2. Analysis of the borrowers motivations will reveal the best methods of inflicting financial pain where some short term incentive to restore attentive management or provide additional funds is required. Profits in the long run are useless where there is no incentive to endure short term deficits.

3. Where profits or financial prods seem inadequate or merchandising analysis rests on implicit assumptions of market needs, a feasible or successful loan requires identification of an escape route for recovery of capital. Such a bail-out may involve reuse of the property for some other purpose following voluntary transfer or foreclosure or a workable method of executing a "disenchantment clause", i.e. a financial divorce or dissolution.

G. Financial satisfaction is a subjective quality which can only be suggested by a variety of financial ratios generated from the financial plans made explicit for the time line. Risk to reputation or credibility or self-image is often more significant in the decision process than the financial ratios but these elements are reflected in strategic and tactical objectives previously selected for the viewpoint to be analyzed.

1. Risk to the lender and the equity holder is first measured by the number of dollars exposed to loss.

2. The length of the exposure for the lender is measured by the term alone or by the time required for payments to equal the original advance.

3. The length of exposure for the equity holder is measured by the payback ratio, i.e. the point in the future where all cash returns to equity equal the original cash-type investment to equity. The shorter the period of time the sooner the developer-investor is protected from unknown unforeseen upsets to his critical assumptions. When viewed in this light tht lender is in a riskier position than the equity investor.

4. Variance in revenue-outlay forecast becomes a key measure of cushion for the lender and is suggested by determination of the default point, the ratio of all expected outlays including debt service to gross revenue per period.

5. Yield calculations in real estate are 10 years behind those in the science of capital budgeting for industry as a whole which leads to much confusion for investment valuation and forecasting.

a. Retrospective discounting
b. Prospective annual yield rates
c. Internal rate of return measures
d. Cost of capital discounting of outlays and receipts

F. As a working rule it is probably safe to say that risk criteria are contained in financial ratios and that yield rates are simply for comparative analysis of alternative plans for the same project or of entirely distinct investment alternatives. The comparison is on the order of magnitude differences rather than precise decimals and is a final decision point after the project has been made to fit all the other critical elements of context in each of the non-financial components of the project.

At this point experience with these seminars has shown that it it best to take the students through a specific case of the instructors choosing to show how each element in the context and the form of the project was woven into the report. The parking ramp case in the Guide simply demonstrates contest and grading of alternative solutions. After reviewing the parking ramp case it may be interesting to note that the worst solution was chosen as the decision could be made solely by the director of the Madison Parking Utility who was impatient to start and did not wish to delay a year in further property acquisition. The personality of the decision maker is a constraint which should appear in the value-objective statement of strategy.

SOCIETY OF REAL ESTATE APPRAISERS

ONE DAY SEMINAR ON FEASIBILITY ANALYSIS

Packet of Illustrations
for
Student Use in Classroom

Prepared by
Prof. James A. Graaskamp
School of Business
University of Wisconsin - Madison

FEASIBILITY STUDIES IN A NUTSHELL



I. Specific Definition of "Feasibility"

A real estate project is "feasible" when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a contest of specific constraints and limited resources.



II. Components of Feasibility Study

1. Objectives of the parties at interest and for whom the feasibility study is done.

   a. Strategic objectives and priorities.
   b. Acceptable tactical alternatives.

2. Market trends and opportunity areas.

   a. Aggregate data on local population, employment, income, etc.
   b. National economic and political policies affecting incentive, timing, risk, etc.
   c. Industry trends relevant to the client.
   d. Significant popular attitudes and trends.

3. Alternative merchandising targets or market segments.

   a. Special micro-markets with space needs.
   b. Product and price specifications.
   c. Effective demand for the product at a price.
   d. Preferred merchandising methods.

4. Legal-political constraints and alternatives.

   a. Regulatory constraints on the parties at interest.
   b. Regulatory controls on site and spece development.
   c. Exogenous political structure influencing alternatives available.

5. Esthetic-ethical constraints and alternatives.

   a. Project relationship to immediate community.
   b. Project obligations to space users.
   c. Prime contractor-subcontractor relationships.
   d. Client obligations to his preferred personal commitment pattern.

6. Physical-technical constraints and alternatives.

   a. Space user requirements as to location and improvements.
   b. Site attributes satisfying elements of item #1.
   c. All other space product engineering considerations.

7. Financial constraints and alternatives.

   a. Time line or assumed calendar of events for financial assumptions.
   b. Capital budget required and sources.
   c. Operating budgets and revenue sources.
   d. Direct cash profit expectations.
   e. Indirect benefits and returns.
   f. Measurement of risks and yields.

3. Feasibility Report Titles.

1. Strategy study: selection of objectives, tactics, and decision criteria.

2. Market analysis: economic base studies or other related aggregate data review.

3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.

4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

5. Compatibility studies of project to community planning, conservation standards, or other public policies.

6. Engineering, land planning, and architectural studies.

7. Financial studies: economic modeling, capital budgets, present value and discounted cash-flow forecasts, rate of return analysis, financial packages.

Illustration #4

CLASSIFICATION OF REAL ESTATE STUDIES BY VIEWPOINT AND PREMISES

	Nature of Viewpoint Assumed (1)	Level of Demand Supply Analysis (2)	Use of Pre-existing Development Concept	Focus on Specific Parcel of Property	Decision Maker Values, Objectives, & Criteria	Estimation of Value	Calculation of Rate of Return on Equity Investment	Considers Non-financial Factors	Programmatic Content and Recommendation	Calculation of Absorption Rate	Economic Premise of Highest and Best Use
Feasibility Study	Specific Client	3-4	Yes	Yes	Client determined	NR (3)	Yes	Yes	Yes	Yes	NR
Appraisal	Class of Investor	2-5	Yes	Yes	Presumed	Yes	NR	NR	No	NR	Yes
Reuse Appraisal	Class of Developer	2-5	Yes	Yes	Presumed	Yes	No	No	Yes	Yes	Yes
Highest & Best Use Study	Class of Investor	2-5	No	Yes	Presumed	NR	Yes	No	NR	No	Yes
Land Utilization or Strategy Study	Specific Client	3-5	NR	NR	Client determined	No	No	No	NR	No	No
Land Use Study	Community as a Whole	1-6	No	No	Previously Specified	No	No	Yes	No	NR	NA
Market Study	Class of Investor	2-5	No	No	Presumed	No	No	No	No	No	NA
Marketability Study	Specific Client	2-3	Yes	Yes	Client determined	No	No	Yes	Yes	Yes	NR
Cost-Benefit Study	Community Segments	1-6-7	Yes	NR	Previously Specified	Yes	No	Yes	No	Yes	NR
Compatibility Study	Community Segments	NA(4)	Yes	Yes	Observer Standards	No	No	Yes	Yes	NR	NR
Economic Base Study	Community	6-7	NA	No	NA	No	NA	Yes	No	No	NA

NOTES TO ILLUSTRATION #4

(1) A class of investor is a hidden premise of market value which presumes multiple buyers and multiple sellers, each having relatively equal alternatives.

(2) The demand-supply analysis which is implicit in any study with some quantitative analysis has varying degrees of dependency on aggregate-secondary data and specific-primary data with the balance swinging around the viewpoint of the decision maker as follows:

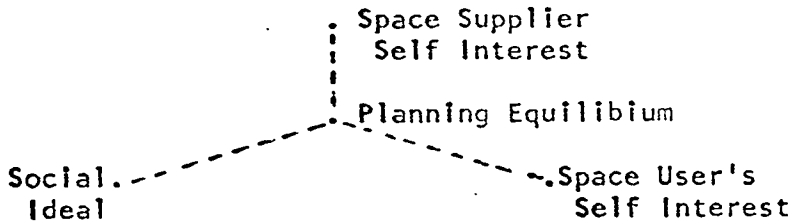
Levels of Demand Analysis

(1) Social needs in the abstract.
(2) Demands of sub-class of market
(3) Individual consumer motivation.

Decision Maker's Viewpoint

Levels of Supply Analysis

(4) Individual investor motivation.
(5) Sub-class of investor - decision format.
(6) Planners compromise.
(7) Economic investment in the abstract.



(3) NR stands for not generally required or characteristic with certain exceptions.

(4) NA stands for not applicable.

Illustration #6

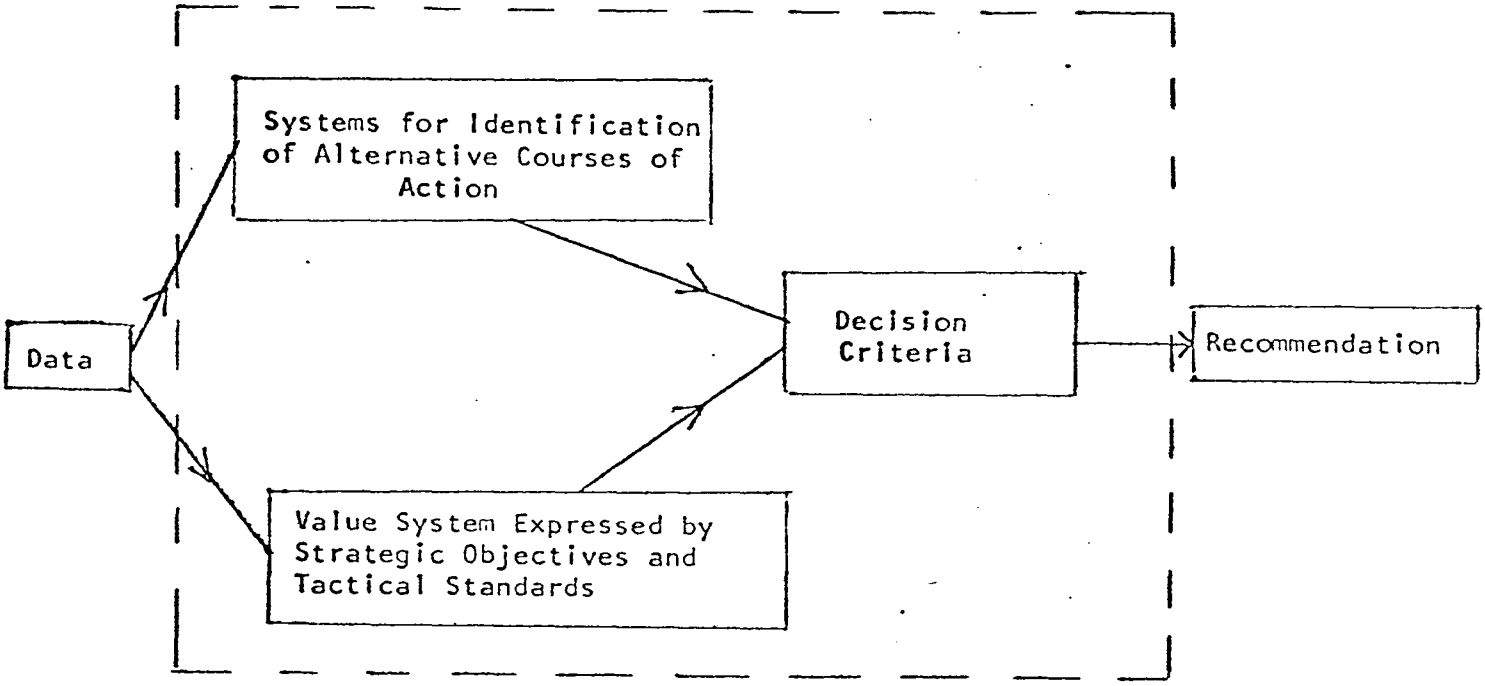


ILLUSTRATION #7

LAND USE PLANNING OBJECTIVES, PRINCIPLES, AND CRITERIA

OBJECTIVE NO. 1

A balanced allocation of space to the various land use categories which meets the social, physical, and economic needs of the regional population.

PRINCIPLE

The planned supply of land set aside for any given use should approximate the known and anticipated demand for that use.

CRITERIA

1. For each additional 1,000 persons to be accommodated within the Region at each density, the following minimum amounts of land should be set aside:

Residential Land	Net Area	Gross Area
Low density	250 acres/1,000 persons	312 acres/1,000 persons
Medium density	70 acres/1,000 persons	98 acres/1,000 persons
High density	25 acres/1,000 persons	38 acres/1,000 persons

Governmental and Institutional Land	Gross Area
Regional	3 acres/1,000 persons
Local[e]	6 acres/1,000 persons

Park and Recreation Land	Gross Area
Regional	4 acres/1,000 persons
Local[i]	10 acres/1,000 persons

2. For each additional 100 commercial and industrial employees to be accommodated within the Region, the following minimum amounts of land should be set aside.

	Gross Area
Commercial land	5 acres/100 employees
Industrial land	7 acres/100 employees

7

OBJECTIVE NO. 2

A spatial distribution of the various land uses which will result in the protection, wise use, and development of the natural resources of the Region.

PRINCIPLE

The proper allocation of uses to land can assist in maintaining an ecological balance between the activities of man and the natural environment which supports him.

A. Soils

Principle

The proper relation of urban and rural land use development to soils can serve to avoid many environmental problems, aid in the establishment of better regional settlement patterns, and promote the wise use of an irreplaceable resource.

CRITERIA

1. Urban development, particularly for residential use, shall be located only in those areas which do not contain significant concentrations of soils rated in the regional detailed operational soil survey as poor, questionable, or very poor for such development. Significant concentrations are defined as follows:

   a. In areas to be developed for low-density residential use, no more than 2.5 percent of the gross area should be covered by soils rated in the regional soil survey as poor, questionable, or very poor for such development.

   b. In areas to be developed for medium-density residential use, no more than 3.5 percent of the gross area should be covered by soils rated in the regional soil survey as poor, questionable, or very poor for such development.

   c. In areas to be developed for high-density residential use, no more than 5.0 percent of the gross area should be covered by soils rated in the regional soil survey as poor, questionable, or very poor for such development.

2. Rural development, principally agricultural land uses, shall be allocated primarily to those areas covered by soils rated in the regional soil survey as very good, good, or fair for such areas.

3. Land developed or proposed to be developed without public sanitary sewer service should be located only on areas covered by soils rated in the regional soil survey as very good, good, or fair for such development.

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Illustration #8

THE SCREENING MATRIX

Criteria / Industry 4-Digit SIC	High Growth, 1960-1975	Wages: Very High	Wages: High	Labor Intensive	Linkages: Most in Region	Linkages: Partially in Region	Linkages: Most Links Elsewhere	Labor: Professional	Labor: Skilled	Labor: Semiskilled	Port Orientations	Materials: Generally in Region	Materials: Partially Found in Region	Markets: Regional	Markets: National	Total
Weight:	10	10	5	5	8	5	2	2	4	6	2	6	3	3	5	
2611 Pulp mills	X		X		X				X		X	X		X		38
2732 Book printing	X		X	X		X				X		X			X	42
2911 Petroleum refining	X	X				X		X	X		X			X		36
3541 Machine tools	X		X	X			X	X	X						X	33
3673 Electron tubes	X		X	X			X		X						X	31
3831 Optical lenses	X		X				X	X	X						X	28

Source: Urban Land, "The Systematic Approach to Industrial Development Research and Calculating the Profitability of Industrial Land Developments," Vol. 29, No. 6, June 1970, p. 6.

Illustration #9

9

This tree of logic based on availability of data on number of Sunday "sightseer" automobiles in each Wisconsin county and the premise that attendance at similar Historic Society projects in three different counties would provide a ratio of attendance to Sunday sightseers. Historic Society did not expect to recapture capital but wished to generate an annual surplus equal to average interest on its endowment funds.

Source: unpublished MS degree paper by Robert W. Richardson, University of Wisconsin School of Business, 1969.

FLOW DIAGRAM
OF HISTORICAL SITE FEASIBILITY

Profile of Customer Location Decision Process

(Taken from: An Introduction to Appraising Real Property
By William N. Kinnard, Jr. & Byrl N. Boyce)

C. Location Decisions.

1. All location decisions involve judgments at three levels: the region or metropolitan area; the local community abd neighborhood; and the specific site itself.

2. The decision to locate in a specific region or metropolitan area is most basic, even though it is frequently taken as a given.

3. The choice of community and neighborhood is often more likely to be a conscious decision.

4. The selection of a specific site is generally given higher priority in the recollections of home buyers and business decision-makers, because it is at this level that the choice is actually made.

5. Location decisions are influenced by three sets of factors which motivate decision-makers.

   a. Cost-reducing factors: for example, reducing the friction costs of space involves reducing transportation costs (both money and time).

   b. Demand-creating (Income-generating) factors: these are almost exclusively considerations of commercial and industrial location decisions.

   c. Personal factors: these are sometimes regarded as non-economic factors, but they are usually subject to some market measurement.

6. Each location tends to be occupied by the use ond the establishment (type of improvement) for which it is best suited.

   a. Every location choice involves a balancing of desires, advantages, disadvantages and costs.

   b. Every location choice requires some compromise with the ideal. It is improtant to ascertain which desires are critical and necessary and which are simply "nice to have."

   c. In evaluating access, it is important to specify "access to what."

   d. Ratcliff: "Urban activities tend to gravitate to locations which promise the maximum economy of movement to and from related activities and places."

Illustration #11

A Systematic Approach to Housing Market Analysis
By Bruce Singer
Appraisal Journal, October 1967

To suggest the thrust of his essay consider his basic model for forecasting the demand for additional housing units of some particular type:

> If for a given area, the warranted number of housing units at any point in time may be expressed as:
>
> $$D = H + V_n$$
>
> Where: D = Warranted number of dwelling units
> H = Number of households in the market area
> V_n = Allowance for a normal vacancy level.

It follows, therefore, that the warranted increase in dwelling units from some base year, b, to some forecast year, y, may be represented by the following equation:

$$D = (H_y + V_{ny}) - (H_b + V_n)$$

To reflect conditions of surplus vacancy, demolition activity, and units under construction at the time of the analysis D, the equation may be adj sted as follows:

$$D = (H_y + V_{ny}) - (H_b + V_{nb}) - (V_s + C) + R_{b-y}$$

Where: V = Surplus vacant units
C = Units currently under construction
R_{b-y} = Anticipated demolitions during the forecast period.

The formula expresses, in literal terms, the warranted increment to the supply of dwelling units over a selected forecast period. Because the increment is calculated in terms of the growth in households, the warranted increase in housing space is identical to the additional demand.

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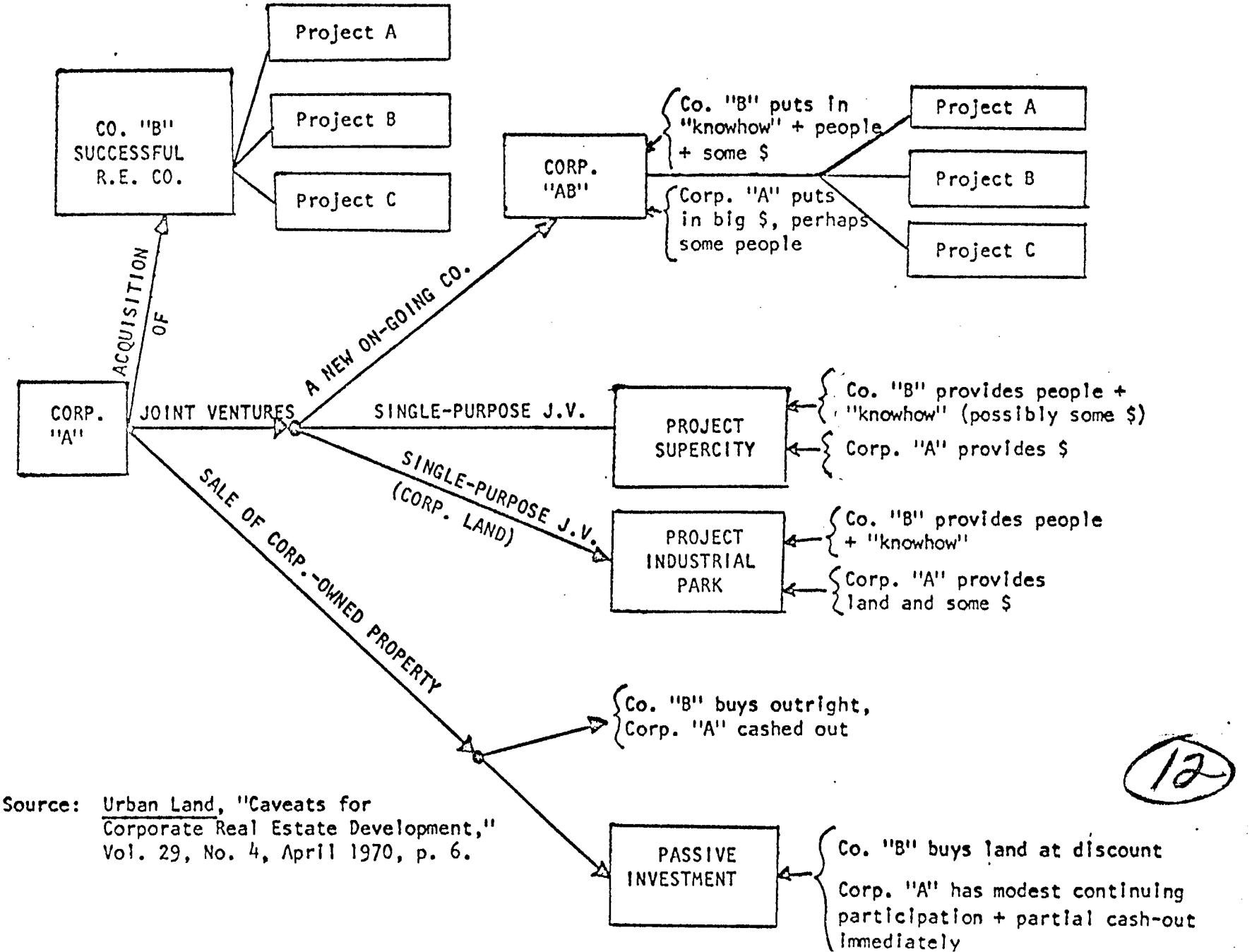
Illustration #12

DECISION PATH FOR CORPORATE ENTRY INTO REAL ESTATE DEVELOPMENT



12

Source: Urban Land, "Caveats for Corporate Real Estate Development," Vol. 29, No. 4, April 1970, p. 6.

Reprinted with permission of Owens Corning.

Source: The Waiting List, Stanley Edge, Owens/Corning Fiberglas

Illustration #13

CHECK LIST ANALYSIS
FOR
DEVELOPING A MARKET STANDARD

CHECK LIST	PROJECT #1 (photo)	PROJECT #2 (photo)	PROJECT #3 (photo)	PROJECT #4 (photo)	PROJECT #5 (photo)	MARKET STANDARD	COMMENTS
LOCATION ANALYSIS Direction & distance from town center	n ne, 10 mi	n, 12 mi	n ne, 15 mi	e, 20 mi	e, 10 mi	ne quadrant 10-20 mi from center	primary method direction of growth
Proximity to major shopping centers	2 mi	1 mi	less 1 mi	4 mi	2 mi	radius 3 mi	important
Proximity to public transportation	adjacent	adjacent	2 blocks	1 block	adjacent	adjacent	important
Relation to important employment centers	5 mi	8 mi	6 mi	10 mi	15 mi	15 mi radius	not too important inside 15 mi radius
STRUCTURE Architectural style	contemporary	contemporary	traditional	contemporary	contemporary	modern-contem	very important
Type of structure	garden	garden	garden	garden	garden	garden	no high rise acceptance yet
Size & color	2-story dark brick	2-story brick	3-story blue brick	2-story red brick	2-story wood red brick	2-story colored brick	2-story unusual colors imp.
Special materials	lots of glass	glass					
Entrance & name	brick wall large logo	small "watch tower"	none	"wishing well" well done	contemporary sign lots of color	imaginative entrances	must relate to architecture
AMENITIES Security	spot lights	lights	lights & patrol	lights	lights	lights	patrol not too important
Services	"7-11" shop	central TV outlet	none	bus to downtown	none	small shop	investigate
Parking	100% covered	80% covered	80% covered	50% covered	75% covered	75-100% covered	important

REAL ESTATE FEASIBILITY

A Joint Seminar of AIA and AIREA

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

FIRST MORNING — Incomplete
9:00 A.M.-10:15 A.M.

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and includes architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital. Money is an energy transfer system.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.
4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

II. What Does Feasibility Mean?

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

> "A real estate project is "feasible" when the real estate analyst determines that there is a reasonable liklihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client. The majority of enterprises are not solely interested in rate of return on investment or lowest cost. Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1. A check list of physical attributes.
2. A check list of critical linkage attributes.
3. A check list of dynamic behavioral attributes.
4. A check list of attributes or services (given weighted point scores).
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies.
6. Probability distributions of alternative outcomes and standard error of the estimate.
7. Psychological gratifications.
8. Specified legal attributes.
9. Measures of impact on environment.

C. The definition also implies uncertainty - a reasonable liklihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analytical judgements can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

D. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility: (see Exhibit 2)

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints Ethical-aesthetic constraints Physical-technical constraints Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

1. Physical factors of the environment.

    a. Soil stability and water tables beyond the site boundaries.
    b. Eutrophication of lakes and streams.
    c. Disruption of environmental edges, plant, and wildlife areas.
    d. Impact on energy resources.
    e. Contribution to social disintegration.
    f. Aesthetic and urban design.

2. Social factors of the environment.

    a. Displacement of existing residents and neighborhood units.
    b. Contribution to social integration or mobility barriers.
    c. Contribution to land use heterogeneity.
    d. Contribution to regional and community master plans.

3. Economic factors of the environment.

    a. Direct impact on real estate tax revenues.
    b. Direct impact on other governmental revenue.
    c. Direct impact on incremental government.
    d. Secondary contributions to local government revenues.
    e. Secondary cost burdens created for local communities.

4. Real estate business ethic environment.

    a. Impact on supply equilibrium.
    b. Impact on associated contractors.
    c. Impact on families of project sponsor.
    d. Ligitimacy of financing structure.

5. Silhouette of proposed project in terms of public perception of impact.
6. Relationship of impact assessment to:

    a. Scale of project.
    b. Vulnerability of project sponsor to secondary consequences of political discretion.
    c. Stamina of project sponsor in the face of public pressure.

IV. Preliminary Financial Parameter Definition

Definition of the site attributes permits the appraiser or the designer to hypothesize some alternative uses for the site. The appraiser should be able to set up a series of back door, revenue to justified budget parameters for these uses to suggest the perameters within which cash flows might crunch.

A. This technique is not unlike the residual approach, has the same potential for misleading, but when combined with a sensitivity approach, dies identify the conditions critical for financial solvency. (See Exhibit 3)

B. Exhibit 4 shows the "back door" approach applied to a hypothetical apartment unit for downtown Madison, Wisconsin.

C. Exhibit 5 shows the traditional "front door" approach of allowing the construction budget to determine required rents. Of course the required rent may be greatly in excess of what the market is willing to pay.

D. A sensitivity analysis of the proposed one unit apartment is then demonstrated in Exhibit 6, one of a family of design analysis programs abailable from EDUCARE, an agency of the American Institute of Real Estate Appraisers, Society of Real Estate Appraisers, and American Society of Real Estate Counselors.

E. Since the back door approach drives off the consumer expenditure, it is then necessary to do primary research to discover who can afford what is proposed, how many are there, and what incentives will be necessary to overcome their present inertia given a present location and habit pattern.

1. The key to successful urban redevelopment is primary merchandising data, as will be seen in several case examples. This data must be collected and analyzed before the physical planner is allowed to draw any plans.
2. As will be discussed tomorrow morning, the primary research will require the designer or the appraiser to name the prospect who is expected to sign the rental check for purchase contract and to name the institutions who are expected to finance the transaction.

F. Only after a preliminary first year proforma income statement and capital budget can be estimated on a before tax basis, is it worthwhile to analyze after tax cash flow projections for the first 5-10 years of the project.

1. The worksheet in Exhibit 7 shows improvements are expected to cost $324,000. The original mortgage is $284,400 at 10% interest per year, annual payment mortgage so that calculations can be made with ease. The property is ultimately sold for $436,080 and the investor wanted to receive 13% per annum before taxes.
2. The computer terminal input and output in Exhibit 8 is typical of that available for architects. One model which provides considerable financial analysis is MR. CAP (Exhibit 8), available on GE timesharing in the EDUCARE library. It combines a front door and back door model with a sensitivity model, partnership tax model, and financial ratio analysis model.

CASH FLØW PRØ FØRMA USING PARAMETER NØRMS

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

EXHIBIT 6

DATE: 2/14/1977
BLDG: 1
RUN : 1

GRØSS SQUARE FEET IN BUILDING:		700.
BUILDING EFFICIENCY	:	85.0 PCT
NET LEASEABLE SQUARE FØØTAGE	:	595.
LAND AND CØNSTRUCTIØN CØST	: $	19500.
LØAN TØ CØST RATIØ	:	75.0 PCT
ØRIGINAL LØAN AMØUNT	: $	14625.
EQUITY REQUIREMENT	: $	4875.
PERMANENT INTEREST RATE	:	9.000 PCT
TERM ØF LØAN		30. YEARS
ANNUAL DEBT SERVICE	: $	1412.

	ANNUAL DØLLARS
GRØSS INCØME : 595. SQ FT AT $ 6.00	3570.
LESS: VACANCY ØF 5.00 PCT	179.
GRØSS ADJUSTED INCØME	3392.
PLUS: PARKING INCØME	150.
PLUS: ØTHER INCØME	24.
GRØSS EFFECTIVE INCØME	3566.
LAND LEASE EXPENSE	100.
ØPERATING EXPENSES: 595. SQ FT AT $ 2.76	1642.
NET ØPERATING INCØME	1823.
DEBT SERVICE (9.66 PCT CØNSTANT)	1412.
PRØ FØRMA CASH FLØW	411.

RETURN ØN EQUITY 8.43 PERCENT

DEBT SERVICE CØVERAGE: 1.291

DEFAULT RATIØ : 83.48 PERCENT

LØAN DATA FØR EACH SET ØF FINANCIAL CØNDITIØNS

AMØUNT FINANCED $ 14625. EQUITY $ 4875.

LØAN RATIØ 75.00 PCT

INTEREST	TERM	CØNSTANT	DEBT SERVICE ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1412.	2.3733	
9.250	30.0	9.8721	1444.	2.4265	
9.500	30.0	10.0903	1476.	2.4802	
8.500	30.0	9.2270	1349.	2.2680	
8.000	30.0	8.8052	1288.	2.1643	

AMØUNT FINANCED $ 15600. EQUITY $ 3900.

LØAN RATIØ 80.00 PCT

INTEREST	TERM	CØNSTANT	DEBT SERVICE ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1506.	2.5315	
9.250	30.0	9.8721	1540.	2.5883	
9.500	30.0	10.0903	1574.	2.6455	
8.500	30.0	9.2270	1439.	2.4192	
8.000	30.0	8.8052	1374.	2.3086	

AMØUNT FINANCED $ 16575. EQUITY $ 2925.

LØAN RATIØ 85.00 PCT

INTEREST	TERM	CØNSTANT	DEBT SERVICE ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1600.	2.6897	
9.250	30.0	9.8721	1636.	2.7501	
9.500	30.0	10.0903	1672.	2.8109	
8.500	30.0	9.2270	1529.	2.5704	
8.000	30.0	8.8052	1459.	2.4529	

AMØUNT FINANCED $ 17550. EQUITY $ 1950.

LØAN RATIØ 90.00 PCT

INTEREST	TERM	CØNSTANT	DEBT SERVICE ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1695.	2.8480	
9.250	30.0	9.8721	1733.	2.9119	
9.500	30.0	10.0903	1771.	2.9762	
8.500	30.0	9.2270	1619.	2.7216	
8.000	30.0	8.8052	1545.	2.5972	

AMØUNT FINANCED $ 18525. EQUITY $ 975.

LØAN RATIØ 95.00 PCT

INTEREST	TERM	CØNSTANT	DEBT SERVICE ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1789.	3.0062	
9.250	30.0	9.8721	1829.	3.0736	
9.500	30.0	10.0903	1869.	3.1415	
8.500	30.0	9.2270	1709.	2.8728	
8.000	30.0	8.8052	1631.	2.7414	

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 1 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLØWANCE 3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
$ 4.80	-210.	-239.	-267.	-324.	-410.
$ 5.40	136.	104.	72.	8.	-89.
$ 6.00	483.	447.	411.	340.	233.
$ 6.60	829.	790.	750.	672.	554.
$ 7.20	1175.	1132.	1089.	1004.	875.

BREAKEVEN RENTAL RATES

RENTAL RATES ANNUAL $/SQ FT	VACANCY ALLØWANCE 3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
	5.16	5.22	5.27	5.39	5.57

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS PAGE 2 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
$ 4.80	-53.	-196.	-267.	-410.	-624.
$ 5.40	286.	143.	72.	-71.	-285.
$ 6.00	625.	483.	411.	268.	54.
$ 6.60	965.	822.	750.	608.	393.
$ 7.20	1304.	1161.	1089.	947.	732.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
	4.89	5.15	5.27	5.53	5.90

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100.		

ANNUAL CASH FLØWS

FINANCING PARAMETERS

S T		30. YEARS 9.00 PCT	30. YEARS 9.25 PCT	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
		R C				
RENTAL RATES ANNUAL $/SQ FT						
$	4.80	-267.	-299.	-331.	-204.	-143.
$	5.40	72.	40.	8.	135.	196.
$	6.00	411.	380.	348.	474.	536.
$	6.60	750.	719.	687.	813.	875.
$	7.20	1089.	1058.	1026.	1152.	1214.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

S T		30. YEARS 9.00 PCT	30. YEARS 9.25 PCT	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
		R C				
RENTAL RATES ANNUAL $/SQ FT						
		5.27	5.33	5.39	5.16	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 4 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
	LØAN TØ CØST RATIØ				
	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$ 4.80	-393.	-355.	-330.	-305.	-267.
$ 5.40	-94.	-44.	-11.	22.	72.
$ 6.00	205.	267.	308.	349.	411.
$ 6.60	505.	578.	627.	677.	750.
$ 7.20	804.	890.	947.	1004.	1089.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
	LØAN TØ CØST RATIØ				
	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
	5.59	5.49	5.42	5.36	5.27

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 5 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY	: 85.00 PCT(595. SQ FT)		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

LØAN TØ CØST RATIØ

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$ 4.80	-267.	-361.	-455.	-550.	-644.
$ 5.40	72.	-22.	-116.	-210.	-305.
$ 6.00	411.	317.	223.	129.	35.
$ 6.60	750.	656.	562.	468.	374.
$ 7.20	1089.	995.	901.	807.	713.

BREAKEVEN RENTAL RATES

LØAN TØ CØST RATIØ

RENTAL RATES ANNUAL $/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
	5.27	5.44	5.61	5.77	5.94

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 6 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY	: 85.00 PCT(595. SQ FT)		
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

ANNUAL EXPENSE RATES PER SQ FT

VACANCY RATES	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
3.00 PCT	697.	554.	483.	340.	126.
4.00 PCT	661.	518.	447.	304.	90.
5.00 PCT	625.	483.	411.	268.	54.
7.00 PCT	554.	411.	340.	197.	-17.
10.00 PCT	447.	304.	233.	90.	-124.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

VACANCY RATES	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
3.00 PCT	4.79	5.04	5.16	5.41	5.78
4.00 PCT	4.84	5.09	5.22	5.47	5.84
5.00 PCT	4.89	5.15	5.27	5.53	5.90
7.00 PCT	5.00	5.26	5.39	5.64	6.03
10.00 PCT	5.17	5.43	5.57	5.83	6.23

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
EFFICIENCY:		85.00 PCT(595. SQ FT)	
LØAN RATIØ:		75.00 PCT ØF $ 19500.	
LØAN	:	$ 14625.	
EQUITY	:	$ 4875.	
REVENUE	:	$ 6.00 PER SQ FT	
ØTR INCØME:		$ 174. ANNUALLY	RUN 1
EXPENSES	:	$ 2.76 PER SQ FT	
LAND LEASE:		$ 100.	

ANNUAL CASH FLØWS

FINANCING PARAMETERS

S T		30. YEARS 9.00 PCT	30. YEARS 9.25 PCT	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
			R C			
VACANCY RATES						
	3.00 PCT	483.	451.	419.	545.	607.
	4.00 PCT	447.	415.	383.	510.	571.
	5.00 PCT	411.	380.	348.	474.	536.
	7.00 PCT	340.	308.	276.	402.	464.
	10.00 PCT	233.	201.	169.	295.	357.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

S T		30. YEARS 9.00 PCT	30. YEARS 9.25 PCT	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
			R C			
VACANCY RATES						
	3.00 PCT	5.16	5.22	5.27	5.06	4.95
	4.00 PCT	5.22	5.27	5.33	5.11	5.00
	5.00 PCT	5.27	5.33	5.39	5.16	5.05
	7.00 PCT	5.39	5.44	5.50	5.27	5.16
	10.00 PCT	5.57	5.62	5.68	5.45	5.33

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 8 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1
LAND LEASE	: $ 100.		

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

EXPENSE RATES ANNUAL $/SQ FT		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
		LØAN TØ CØST RATIØ				
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$	2.40	394.	464.	510.	556.	625.
$	2.64	268.	333.	375.	418.	483.
$	2.76	205.	267.	308.	349.	411.
$	3.00	79.	136.	174.	212.	268.
$	3.36	-110.	-60.	-28.	5.	54.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

EXPENSE RATES ANNUAL $/SQ FT		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
		LØAN TØ CØST RATIØ				
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
$	2.40	5.21	5.11	5.04	4.98	4.89
$	2.64	5.46	5.36	5.29	5.23	5.15
$	2.76	5.59	5.49	5.42	5.36	5.27
$	3.00	5.84	5.74	5.67	5.61	5.53
$	3.36	6.22	6.12	6.05	5.99	5.90

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 9 OF 12

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
LØAN RATIØ	:	75.00 PCT ØF $ 19500.	
LØAN	:	$ 14625.	
EQUITY	:	$ 4875.	
REVENUE	:	$ 6.00 PER SQ FT	
VACANCY	:	5.00 PCT ØF LEASEABLE	
ØTR INCØME	:	$ 174. ANNUALLY	RUN 1
EXPENSES	:	$ 2.76 PER SQ FT	
LAND LEASE	:	$ 100.	

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

FINANCING		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
		LØAN TØ CØST RATIØ				
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
30.YR	9.00PCT	205.	267.	308.	349.	411.
30.YR	9.25PCT	174.	235.	277.	318.	380.
30.YR	9.50PCT	142.	204.	245.	286.	348.
30.YR	8.50PCT	268.	330.	371.	412.	474.
30.YR	8.00PCT	330.	391.	433.	474.	536.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

FINANCING		75.00 PCT	78.00 PCT	80.00 PCT	82.00 PCT	85.00 PCT
		LØAN TØ CØST RATIØ				
		75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
30.YR	9.00 PCT	5.59	5.49	5.42	5.36	5.27
30.YR	9.25 PCT	5.65	5.55	5.48	5.42	5.33
30.YR	9.50 PCT	5.72	5.61	5.54	5.48	5.39
30.YR	8.50 PCT	5.46	5.36	5.30	5.24	5.16
30.YR	8.00 PCT	5.34	5.25	5.19	5.13	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 10 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		

ANNUAL CASH FLØWS

LAND LEASE CØST

RENTAL RATES ANNUAL $/SQ FT	$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$ 4.80	-267.	-317.	-367.	-417.	-467.
$ 5.40	72.	22.	-28.	-78.	-128.
$ 6.00	411.	361.	311.	261.	211.
$ 6.60	750.	700.	650.	600.	550.
$ 7.20	1089.	1039.	989.	939.	889.

BREAKEVEN RENTAL RATES

LAND LEASE CØST

RENTAL RATES ANNUAL $/SQ FT	$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
	5.27	5.36	5.45	5.54	5.63

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY	: 85.00 PCT(595. SQ FT)		
LØAN RATIØ	: 75.00 PCT ØF $ 19500.		
LØAN	: $ 14625.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
ØTR INCØME	: $ 174. ANNUALLY	RUN	1

ANNUAL CASH FLØWS

LAND LEASE CØST

EXPENSE RATES ANNUAL $/SQ FT		$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$	2.40	625.	575.	525.	475.	425.
$	2.64	483.	433.	383.	333.	283.
$	2.76	411.	361.	311.	261.	211.
$	3.00	268.	218.	168.	118.	68.
$	3.36	54.	4.	-46.	-96.	-146.

BREAKEVEN RENTAL RATES

LAND LEASE CØST

EXPENSE RATES ANNUAL $/SQ FT		$ 100.	$ 150.	$ 200.	$ 250.	$ 300.
$	2.40	4.89	4.98	5.07	5.16	5.25
$	2.64	5.15	5.23	5.32	5.41	5.50
$	2.76	5.27	5.36	5.45	5.54	5.63
$	3.00	5.53	5.61	5.70	5.79	5.88
$	3.36	5.90	5.99	6.08	6.17	6.26

SENSITIVITY TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS — PAGE 12 OF 12

SITE	: 2000. SQUARE FEET	DATE	2-14-1977
BUILDING	: 700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT ØF GRØSS		
LØAN RATIØ:	75.00 PCT ØF $ 19500.		
EQUITY	: $ 4875.		
FINANCING	: 30. YEARS 9.000 PCT		
REVENUE	: $ 6.00 PER SQ FT		
VACANCY	: 5.00 PCT ØF LEASEABLE		
PARK/ØTHER:	$ 174. ANNUALLY	RUN	1
EXPENSES	: $ 2.76 PER SQ FT		
LAND LEASE:	$ 100. ANNUALLY		

CØNSTRUCTIØN AND LAND CØST 19500.

EFFECT ØF SELECTED CHANGES IN PARAMETERS

PARAMETER CHANGE	INCREASE IN CASH FLØW
INCREASE BUILDING EFFICIENCY 1 PCT	21.
INCREASE RENTAL RATE $ .10 PER SQ FT	57.
DECREASE VACANCY RATE 1PCT	36.
DECREASE ØPERATING RATE $ .10 PER SQ FT	60.
DECREASE PERMANENT RATE .25PCT	31.
DECREASE PERMANENT LØAN TERM BY 1 YEAR	-10.
DECREASE PERMANENT LØAN TERM BY 5 YEARS	-61.
DECREASE THE LØAN RATIØ BY 5 PERCENT	94.
DECREASE LAND LEASE BY 10%	100.

EQUIVALENT EFFECT TØ YIELD A $ 100. INCREASE IN ANNUAL CASH FLØW

INCREASE BUILDING EFFICIENCY BY	4.86 PCT
INCREASE RENT RATE BY	$ 0.18 PER SQ FT
DECREASE VACANCY BY	2.80 PCT
DECREASE EXPENSE RATE BY	$ 0.17 PER SQ FT
DECREASE PERMANENT RATE BY	0.79 PCT
INCREASE PERMANENT LØAN TERM BY	8.2 YEARS
DECREASE LØAN RATIØ BY	5.3 PERCENT
DECREASE LAND LEASE BY	$ 100.

REAL ESTATE PROJECT ONE WORK SHEET

NAME---------- SECTION----------

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	51840	54950	58060	61170	64280	67390	70500	73610	76720	79830
LESS VACANCY ALLOWANCE	2592	2747	2903	3058	3214	3369	3525	3680	3836	3991
EFFECTIVE GROSS INCOME	49248	52203	55157	58112	61066	64021	66975	69930	72884	75839
LESS REAL ESTATE TAXES 295	9850	10145	10440	10735	11030	11325	11620	11915	12210	12505
LESS EXPENSES 622	10368	10990	11612	12234	12856	13478	14100	14722	15344	15966
NET INCOME	29030	31068	33105	35143	37180	39218	41255	43293	45330	47368
LESS DEPRECIATION	16200	15390	14620	13889	13195	12535	11908	11313	10747	10210
LESS INTEREST	28440	27884	27272	26500	25860	25045	24150	23165	22082	20890
TAXABLE INCOME	-15610	-12206	-8787	-5246	-1875	1638	5197	8815	12501	16268
PLUS DEPRECIATION	16200	15390	14620	13889	13195	12535	11908	11313	10747	10210
LESS PRINCIPAL PAYMENTS	5560	6116	6728	7400	8140	8955	9850	10835	11918	13110
CASH THROW-OFF	-4970	-2932	-895	1143	3180	5218	7255	9293	11330	13368
LESS TAXES	0	0	0	0	0	-819	-2598	-4407	-6250	-8134
CASH FROM OPERATIONS	-4970	-2932	-895	1143	3180	4399	4657	4886	5080	5234
WORKING CAPITAL LOAN(CUM BALANCE)	4970	7903	9904	10148	8389	5164	1230	0	0	0
SPENDABLE CASH AFTER TAXES	0	0	0	0	0	0	0	3483	5080	5234
TAX SAVINGS ON OTHER INCOME	7805	6103	4393	2623	937	0	0	0	0	0
SPENDABLE CASH AFTER TAXES PLUS TAX SAVINGS ON OTHER INCOME	7805	6103	4398	2623	937	0	0	3483	5080	5234
PRESENT VALUE FACTOR AT 13%	.88496	.78315	.69305	.61332	.54226	.48031	.42506	.37616	.33288	.29458
P. V. OF SPENDABLE CASH AFTER TAXES PLUS TAX SAVINGS ON OTHER INCOME	6907	4779	3048	[illegible]9	508	0	0	1310	1691	[illegible]2
CUMULATIVE AMOUNT	6907	11686	14734	16343	16851	16851	16851	18161	19852	21394

Exhibit 7

DEPRECIATION										
STRAIGHT LINE	324000									
	8100									
	8100	16200	24300	32400	40500	48600	56200	64800	72900	81000
ACCELERATED	324000	307800	292410	277789	263899	250704	238169	226260	214947	204199
	16200	15390	14620	13889	13195	12535	11908	11313	10747	10210
CUMULATIVE ACCELERATED	16200	31590	46210	60099	73294	85829	97737	109050	119797	130007
MORTGAGE										
BALANCE	294400	278840	272724	265996	258596	250456	241501	231651	220816	208898 195,788
INTEREST RATE										
TOTAL PAYMENT										
INTEREST PAYMENT										
PRINCIPAL PAYMENT										
MARKET VALUE										
										436,080
WORKING CAPITAL LOAN										
LOAN BGN YR	0	-4971	-9009	-11291	-11568	-9563	-5887	-1403		
SPENDABLE CASH ADJUSTMENT	-4970	-2932	-895	+1143	+3180	+4399	+4657	+4886		
ADJUSTED BALANCE	-4970	-7903	-9904	-10148	-8389	-5164	-1230	0		
INTEREST RATE	.14									
INTEREST DUE										
NEW LOAN BALANCE										

Exhibit 7 cont'd.

TAXES DUE AT TIME OF SALE

HOLDING PERIOD	10 yrs.	
TAXABLE BASIS	249,193	
SELLING PRICE	436,080	
DEPRECIATION TAKEN ON IMPROV.	130007	
DEPRECIATION BY STRAIGHT LINE	81000	
TAXPAYERS INCOME TAX RATE	50%	
DETERMINATION OF TAXES DUE		
TOTAL GAIN SUBJECT TO TAX	186891	
CAPITAL GAIN TAXES DUE		
INCREASE IN PROPERTY VALUE		56880
STRAIGHT LINE DEPRECIATION GIVEN		81000
ALLOWABLE ACCELERATED DEPRECIATION		9801
TOTAL GAIN TAXED AT CAPITAL GAIN RATE		147,681
PORTION SUBJECT TO ORDINARY INCOME RATE		
NON-ALLOWABLE ACCELERATED DEP.		39,206

TAXES DUE COMPUTATION

CAPITAL GAIN TAX = 147,681 * .25 = 36,920 *

ORDINARY INCOME = 39,206 * .50 = 19,603 *

56,523

TOTAL INVESTMENT VALUE

* TOTAL P. V. CF AFTER TAX CASH PLUS TAX SAVINGS			21,394
* TOTAL SALES PRICE		436,080	
* LESS			
* TAXES ON SALE OF PROPERTY			
* CAPITAL GAINS TAX	36,920		
* INCOME TAX	19,603		
* TOTAL TAXES DUE		56,523	
* MORTGAGE BALANCE		197,603	
* TOTAL DEDUCTIONS		254,126	
* CASH RECEIVED AT TIME OF SALE		181,954	
* PRESENT VALUE OF FACTOR AT		.29459	
PRESENT VALUE OF REVERSION			53,602
* TOTAL PRESENT VALUE OF EQUITY INVESTMENT			72,036
* ORIGINAL MORTGAGE BALANCE			284,400
* TOTAL PROJECT VALUE			356,436

356,436 = P.V. of Project
-324,000 = Building Cost
32,436 = Justified land Cost

Exhibit 7 cont'd.

REAL ESTATE FEASIBILITY

A Joint Seminar of AIA and AIREA

Instructor: Professor James A. Graaskamp
University of Wisconsin School of Business

SECOND MORNING
9:00 A.M.-10:15 A.M.

I. Consumers - The Drive Wheel of the Urban Redevelopment Process

A. The real estate process described yesterday morning is driven by discretionary consumer expenditures for real estate and services but that consumer is not an aggregate group; rather it is a very large number of very small segments in a price system designed to give the consumer democratic choice.

1. Jaquelin Robertson, former director of master planning for the City of New York under Lindsay and now a private planner with Llewelyn-Davies International states that one must build to the strength to the system, and not its weaknesses. "What carries a system forward - build around that."

2. Viable redevelopment is carried forward when its product is what certain consumer groups want and are willing to pay for and that is different from what planners want and think people should pay for it.

3. Redevelopment begins with hard headed micro-market consumer research in order to profile what motivates the consumer, what turns him off, and what he can afford to pay.

   a. With a revenue forecast, it is possible to back down on what the private sector can invest.
   b. The amount of the investment converts to real estate tax income which can be backed down to public investment at local level.
   c. Balance of cost must be subsidized by grants or shifted to secondary beneficiaries.

4. Redevelopment designer must begin with a merchandising strategy designed to secure a competitive market position for the project proposal and then approach physical design with a pre-architectural program defined by consumer research and not be the conceits of the planning school. Where that is done the project succeeds because the cash flows are there and the financial structure has been driven by parameters controlled by rent rather than cost, i.e., the back door approach.

B. The objective this morning will be to define the general structuring and surveys of consumer research and in the process to provide three examples.

C. Free enterprise is the art of creating ones own monopoly, if only for a moment, in the mind of the buyer. Monopoly characteristics depend on careful market setmentation and catering to the segment.

1. Site and building characteristics of an existing building already provide a product profile which suggests the market segments.

2. Preferably careful identification of the prospect will permit development of a customer profile who will be the source of a product profile that would provide the most satisfaction.

D. As a result of merchandising research the analyst should be able to construct a hypothetical marketing program which defines:

1. The most probable user groups, their total number, and their effective demand constraints.

2. The timing of their effective demand in the market.

3. The competitive standard product minimum.

4. The competitive product edge necessary for monopoly advantage

5. Basic elements of a required promotion program

II. The first step is to reduce aggregate data about user groups which is plausible but overly general information to a scale which will focus on a sub-segment with a proper rationale or hierarchy. To do that requires an analytical model and in most cases, each situation requires the analyst to create his own model with which to structure the data available and to discover the missing links in the logic diagram which must be researched.

A. Models organize the anlyst, the report, and the client

1. Models explain what you are going to do.

2. Models make relationships and key assumptions explicit.

3. Models permit clients to understand logic of conclusion and to test his own set of assumptions.

B. A market research model should be careful to recognize?

1. What are the questions

2. What data is available which is relevant?

3. What theory is available to focus data on the questions?

4. How will the results be communicated?

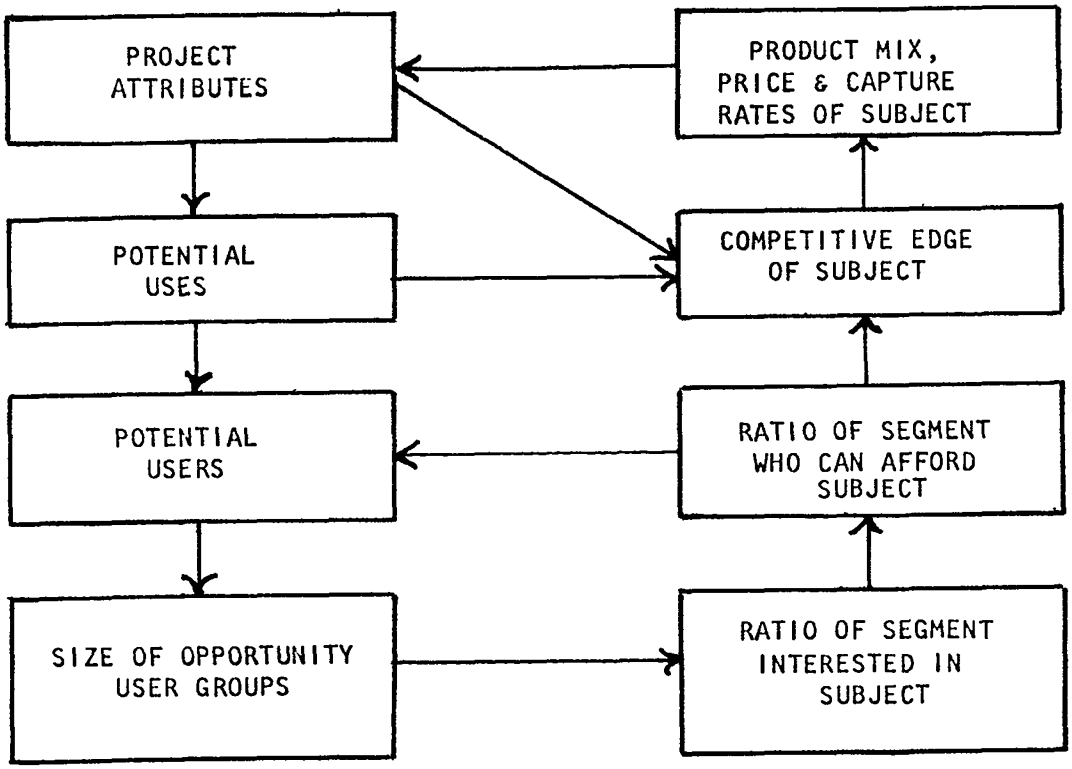
5. What are the abilities of the analyst?

6. What is the cost benefit ratio between the model method and the question?

C. Market data refers to aggregate data, secondary information, the easy to acquire data from census tracts, traffic counts, building permits, and so on. It is useful to scale the size of the market potential, of the opportunity area but by itself aggregate market data is relatively unimportant to the success of most projects.

EXHIBIT I

SEGMENTATION LOGIC TREE



D. Merchandising data is generally primary information generated by the analyst about specific competitive projects and specific user groups which will permit an estimate of what percentage of the opportunity group can be captured for a specific project.

1. Absorption rates apply to aggregate market data to determine the total size or amount of market activity in terms of how many lots were sold, how many apartments in a rental range were newly rented, or how many square feet of leased office space were occupied.

2. Capture rates are the product of merchandise research and are the ratio of the total opportunity potential which might be secured for a project or must be secured to achieve financial goals. The capture rate will reflect a careful judgment of product mix, amenities, pricing, and timing.

E. A flow chart of the market research process is provided in Exhibit 1.

F. Most multi-tenant or multi-user land uses are susceptible to a retail trade area model. A retail model is a device analogous to establishing a retail trade area perimeter for a super market to segregate households which have a reasonable probability of using the outlet from those who don't because of convenience, distance, age, or income. Thus the analyst should establish a preliminary hypothesis for:

1. Primary market area to be served.

2. Secondary market area to be served.

3. Principal competitors.

G. Consider Exhibit 2 as a simple market model to define the size of an opportunity area in a selected county for elderly persons requiring residential care units.

1. For lines with asterisks the key ratios for reduction were derived from a survey of the elderly generating primary data for this county.

2. For example, while 37% of the elderly were financially qualified, only about 60% of those were interested in considering a residential, minimal care facility or 22% of those in the convential housing market - hence the reduction from 19,700 to only 4,200. This chart should have showed the ratios from the survey.

3. Failure to convert serious interest into action was a round number based on experience of those which had marketed similar developments in the past, as was an allowance for potential customers coming from outside the county to be closer to relatives, etc.

III. Market data provides a measure of potential scale of a market opportunity; the most important aspect of market analysis is forecasting the degree of market penetration or capture rate of remedial development.

A. To reduce aggregate market data to a merchandising hypothesis, the first clue to segmentation may be found in correctly understanding the essence of buyer motivation or of the activity to be housed.

EXHIBIT 2

DEMAND FOR ELDERLY RESIDENTIAL CARE UNITS

Persons in County age 65 and over in 1970		21,914
Adjustment 1970-1974 to reflect the number of persons moving into the 65+ bracket and the application of mortality rates by age and sex		245
Estimated persons in County age 65 and over in 1974		22,159
Less persons 65+ presently in nursing and residential care facilities in County	1,792	
Less persons 65+ presently in government subsidized housing for the elderly	638	2,430
Persons age 65+ in the conventional housing market in County in 1974		19,729
* Estimated number of persons financially qualified for and seriously interested in moving into the proposed residential care development		4,270
Household equivalent (÷ 1.519 persons per household)		2,811
* Less estimated number who will not convert serious interest into any form of action (50%)		1,406
* Less the percentage who, while seriously interested, said (before they heard the hypothesis) that their next home would probably be outside County (13.3% from survey questionnaire)	187	
* Less those disqualified because their current health status necessitates care beyond the scope of services to be provided in the residential care units (5.4% (from survey)	76	263
Elderly households in County qualified for and seriously interested in moving into the proposed development		1,142
* Plus an allowance for those elderly households coming from outside County to enter the proposed development (10%)		127
Elderly households qualified for and seriously interested in moving into the proposed development		1,269
* Share of market opportunity area who stated in survey that for their next dwelling unit their first preference would be an apartment, in a highrise, midrise, or garden building:		
Highrise or midrise 28.0%		
Garden 49.1		
77.1%		978
Less estimated numbers of households who might move into competitive developments available supply of units		270
Households that can be considered candidates for the proposed development		708

That share of households who said they would be willing to move:

Within 1 year from now	15.6%	110 households
Within 2 years	31.2%	220 "
Within 5 years	53.4%	378 "
		708

A project of 100 units requires a capture rate of:

91%	for a 1 - year absorption rate
90%	for a 2 year " "
14%	for a 5 year " "

1. Retailing is a break point for goods (a warehouse grocery), or a service industry, or a theater using lighting, staging, and mood to reinforce a role played by the buyer.

2. A restaurant may be to provide a quick food break (high turnover, pedestrian flow, conditioned ordering), or to provide recreational entertainment and consumption of an evening, or to provide a staging for business, social, or publicity roles.

3. A motel for transients, for resorts, or for terminal traffic uses all of its facilities and location to sell a "room-night" of occupancy because that is an 80% gross margin. Anything done after that is justified by its contribution to "room-night" sales or its reduction of average cost to capture a customer per "room-night."

4. The revenue unit may be related to the method of measuring profit of the project in question such as per acre, per camper pad, per event, per front foot of shoreline, per stool or table, etc., not to mention sq. ft., per frame at a bowling alley or per tennis court hours, or per hour of ice time.

5. Sometimes the prospect is identified by who really signs the check for a particular type of real estate.

   a. The salesman or the management paying his travel costs
   b. The doctor or the clinic
   c. The district manager or the corporate real estate manager
   d. The ticket buyer or the promoter
   e. The bowling league, team business manager, travel agency tour guide

6. The market segment may be defined initially by the source for a prospective user list - people who share a common address, hobby, professional specialty or some other identifier.

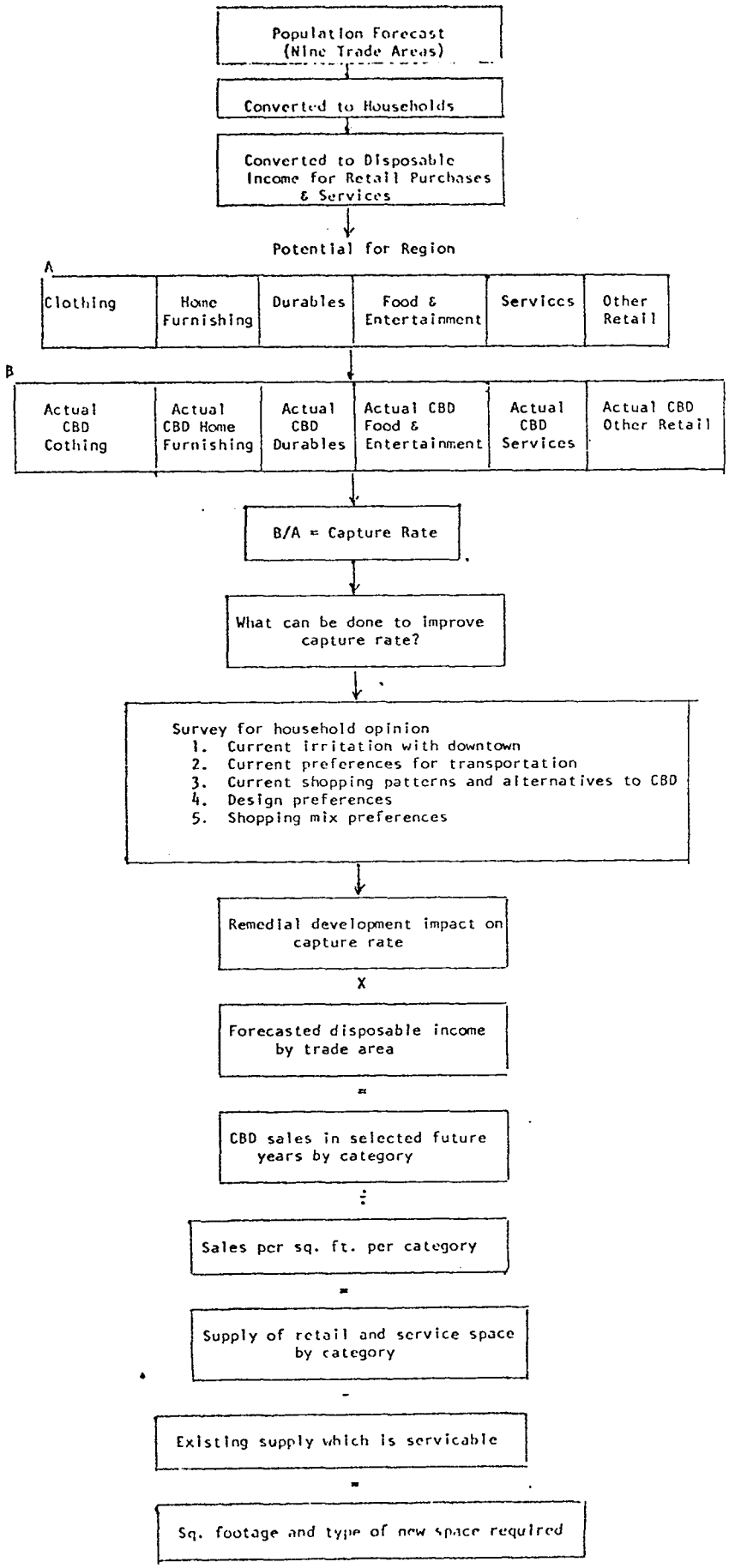
   a. A reverse directory or criss-cross telephone book
   b. Building directories of comparables
   c. Mailing lists of specialty publications
   d. License number spotting
   e. Guest registers
   f. Charge account mailing addresses

B. The objective of these approaches, revenue unit, the decision maker, the prospect list source, is to segment the user market to a specific and relatively small group of potential customers who can be surveyed to generate original and relevant information about their space needs and motivations. Unlike most consumer markets, the number of prospects is always low; think small!

   1. Real estate is a series of micro-markets. A 24-unit building with one, two, three bedroom units has at least three sub-markets.

   2. A 24-unit building is a $500,000 enterprise with a $75,000 gross sales potential from only 24 customers!

Exhibit 3


Population Forecast (Nine Trade Areas)
Converted to Households
Converted to Disposable Income for Retail Purchases & Services
Potential for Region
A
Clothing
Home Furnishing
Durables
Food & Entertainment
Services
Other Retail
B
Actual CBD Cothing
Actual CBD Home Furnishing
Actual CBD Durables
Actual CBD Food & Entertainment
Actual CBD Services
Actual CBD Other Retail
B/A = Capture Rate
What can be done to improve capture rate?
Survey for household opinion
1. Current irritation with downtown
2. Current preferences for transportation
3. Current shopping patterns and alternatives to CBD
4. Design preferences
5. Shopping mix preferences
Remedial development impact on capture rate
X
Forecasted disposable income by trade area
=
CBD sales in selected future years by category
÷
Sales per sq. ft. per category
=
Supply of retail and service space by category
-
Existing supply which is servicable
=
Sq. footage and type of new space required

C. A survey of existing properties and alternatives available to a selected market segment defines only the competitive standard - namely the minimum product and price necessary to be in the market.

1. Comparison shopping further identifies where there may be gaps in the supply of alternatives, a market opportunity gap, or where the oversupply is so significant as to portend the last competitive alternative before bankrupcy - namely price cutting.

2. Comparison shopping should not only identify the physical characteristics of the product and price but the nature of the promotion effort as well.

3. Promotion comparison should consider pedestrian and vehicle approaches, model location, furnishings, and sales people.

4. Review of the promotion campaign should reveal whom the competitors believe to be their prospect.

D. A survey of users, is designed to reveal or to identify the competitive differential attributes which would provide that monopoly element required of every successful project.

1. A second product of consumer survey is the ability to develop locally relevant ratios which permit disaggregation of market data into market segments and the conversion of potential numbers of people into potential dollar sales over time.

2. Survey questions to create ratios require previous construction of a market model hypothesis.

3. Survey questions can discover latent political issues or provide a calm base for citizen input from those who rightfully dislike public hearings.

4. Survey questions and execution should not be done by planners or appraisers.

IV. A good example of modeling market data through segmentation and survey for renovation in a small community is a project by Gruen Gruen + Associates for Santa Maria, California. The study was begun in 1972. Project is operating as the Santa Maria Town Center with retail sales ahead of forecasts.

A. The Gruen's were able to convince the redevelopment agency to avoid any physical planning until a detailed analysis of the demand for alternative services that could attract people back to the downtown area was done. This EMAS study (economic market analysis study) outline is in Exhibit 3 had the following outputs:

1. First, a full analysis of economic data and retail data was utilized to generate information about the type of tenancies that could realistically be expected to penetrate downtown markets. (Table of Contents Exhibit 4)

2. With a lead on tenancies, the Gruen's worked with an architect to provide sketches of alternative architectural styles and concepts to show residence in survey to see what type of treatments might strike the most positive response. (See Exhibit 5)

3. The EMAS should then be able to indicate the kind of tenancies that could survive downtown, suggest their dollar sales potential, and indicate at a preliminary level a design scheme. (See Exhibit 6) deleted - illegible

4. At the same time, back door financial studies are done from rents from capital budgets to discover what would be feasible for the private developer and what components may need to be subsidized by the public.

5. Appraisers use the EMAS and suggested tenant mix as the basis for their value estimate in the after condition.

6. Final stage was to write up a series of specifications or profiles on tenants, product design and components, and a cash flow analysis of the entire project from the viewpoint of the developer so he could see how much money there was to make tnd he would know that the city knew the financial aspects of the project. Developers were then asked to bid.

B. In the case of Santa Maria, three developers bid and the city picked Ernest Hahn to build the project. There was no demolition or site acquisition before the start of the EMAS. The entire project was done within a four year period. For the first six months of complete operation, June 1976 through December 1976, sales were approximately 15.6 million and is 70% leased. The Mall did 4.9 million, Sears - 6.9 million, and a local department store - 3.7 million.

C. Before looking at report organization and product, it is useful to observe:

1. Planners are poor market economists and merchandising survey analysts. Use specialist at the start.

2. Most appraisers are equally bad, but are reluctant to use team approach or to accept EMAS by somebody else as a legitimate set of assumptions for appraisal. Moreover, appraisal financial analysis must be on after tax cash flow in the redevelopment game, or he will miss the market completely. The financial analysis must contain extensive sensitivity analysis so that changing times due to a slow pace of such projects does not invalidate a point conclusion.

3. The leader of the team should be oriented to empirical observation, be he planner, lawyer or architect, rather than dedicated to purist appraisal or planning dogma and esthetics. The numbers crunch or nothing will be built that should have been built.

V. The planner can relate to established community preferences as a marketing hypothesis. The Parkview Story in Milwaukee is an example.

A. Parkview is a twenty acre tract in the central city of Milwaukee which was identified early in the 1950's as a prime candidate for total clearance. Clearance and relocation began in 1963. The development

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Exhibit 4

ECONOMIC AND MARKET ANALYSIS STUDY FOR DOWNTOWN SANTA MARIA

Prepared for: The City of Santa Maria
Redevelopment Agency

George S. Hobbs, Jr., Chairman
Elwin E. Mussell, Vice Chairman
Dan A. Firth
C. Clayton Kyle
Ed J. Zuchelli
Thomas P. Weldon, Jr., Executive Director

Prepared by:

GRUEN GRUEN + ASSOCIATES
Economic and Sociological Consultants

February, 1972



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Exhibit 5

Excerpt With Permission From
Economic & Market Analysis Study for Downtown Santa Maria

Prepared for City of Santa Maria Redevelopment Agency
by Gruen Gruen + Associates

Thus, the relationship between survey derived indications of satisfaction and current expenditure patterns were sufficiently significant to warrant the use of survey responses to suggest the change in relative preferences that would be caused by an appropriately developed new shopping agglomeration in downtown Santa Maria. However, the rapid deterioration of this relationship with distance suggested that it be used very cautiously in Trade Areas 5 through 9. Therefore, in addition to considering the percentage of respondents who made no complaints, we also analyzed into the following three categories all the comments that were made in response to the interview question concerning the reasons for not shopping in downtown Santa Maria:

1. Complaints about physical deficiencies of the existing downtown that we have assumed the redevelopment will alleviate. (Remediable complaints)

2. Complaints concerning limited selection such as requests for a department store or more stores. (Remediable complaints)

3. Complaints about prices, the lack of a supermarket or other contemporary situations that we do not think the redevelopment programs will alter. (Irremediable complaints)

Table 10 presents the percentage of respondents making remediable complaints. These complaints were used in conjunction with the information about the relationship between the indications of satisfaction discussed above to adjust the present indicators of the proportion of expenditures on various items in downtown Santa Maria (the S variables originally presented in Table 4) to reflect the increase in consumer preferences for downtown Santa Maria that would result from the completion of a sales optimizing redevelopment program. We did not think the evidence warranted using these percentages of remediable complaints (%RC) directly by adding them to the previously revealed preference percentages (S1970) to get a new percentage (S1975, 1980, 1985). Instead, we adopted the following rules to get the new estimates of this preference variable:

	Trade Areas 1 through 4	Trade Areas 5 through 9
For Clothing	% RC x .964 + S_{1970}	Use % RC instead of S_{1970}
For Home Furnishings	% RC x .861 + S_{1970}	Use % RC instead of S_{1970}
For Other Retail	% RC x .017 + S_{1970}	1% + S_{1970}

Exhibit 5

Table 10

Percentage of Respondents Making Complaints
About Remediable Features of the Present Downtown
(Complaints About Physical Problems
or Inadequate Selection of Stores and Goods)

Trade Area	% Remediable Complaints
1	62.7
2	53.8
3	65.8
4	53.3
5	19.3
6	22.2
7	14.3
8	20.0
9	10.2

Source: Gruen Gruen + Associates telephone survey

Computations following these rules permitted us to develop the estimates of maximum percentage effective preference or penetration presented below in Table 11. The insertion of these percentages in the sales estimate generating equations we have been using throughout permits us to make the forecasts of potential sales summarized in Table 12. The forecast sales potential of almost $42 million in 1975 would have downtown Santa Maria capturing 26.4% of the region's sales. By 1985 potential sales climb to almost $58 million in spite of the fact that our model has downtown Santa Maria's share of the region's sales dropping slightly to 25.4%.

Table 11

Estimated Maximum Effective Preference (S)
or Percentage Penetration Possible
After Appropriate Redevelopment

Trade Area	Clothing	Home Furnishings	Other Retail
1	76.2	74.5	19.9
2	74.3	69.1	10.4
3	76.3	72.2	12.9
4	56.9	53.0	8.6
5	19.3	19.3	2.1
6	22.2	22.2	1.5
7	14.3	14.3	1.6
8	20.0	20.0	2.8
9	10.2	10.2	1.5

Source: Gruen Gruen + Associates

Table 12

Estimated Downtown Santa Maria Future Sales Potential
(In Thousands of Dollars)

Trade Area	$ Available In Region 1975	Potential $ Sales in NDP 1975	$ Available In Region 1980	Potential $ Sales in NDP 1980	$ Available In Region 1985	Potential $ Sales in NDP 1985	% of Regional Sales to NDP
1	21,347	12,520	23,950	14,047	26,764	15,693	58.6
2	9,159	4,940	10,665	5,753	12,369	6,673	53.9
3	15,852	8,916	18,705	10,521	22,956	12,912	56.2
4	6,759	2,806	7,949	3,300	9,473	3,933	41.5
5	19,676	2,756	22,963	3,217	26,613	3,728	14.0
6	18,030	2,854	20,878	3,305	24,042	3,806	15.8
7	9,065	942	10,920	1,135	13,106	1,362	10.4
8.	25,355	3,729	31,043	4,566	38,198	5,618	14.7
9	33,589	2,527	42,857	3,224	53,925	4,057	7.5
Total	158,831	41,990	189,931	49,068	227,447	57,782	

Source: Gruen Gruen + Associates

Exhibit 5

Table 30

Proportion of Expenditures in Downtown

Trade Area	% Clothing	% Home Furnishings	% Other Retail	% Service
1	15.9	20.5	18.8	33.3
2	22.6	22.8	9.5	35.9
3	13.1	15.5	11.8	23.0
4	5.7	7.0	7.7	5.3
5	5.4	4.5	1.1	4.0
6	2.9	0.9	0.5	1.8
7	2.5	1.5	0.6	0.6
8	6.6	5.0	1.8	3.5
9	2.0	0.6	0.5	0.6

Source: Gruen Gruen + Associates telephone survey

Table 31

Banking, Repair, Beauty Parlor/Barber Shop and Similar Services Obtained Downtown By Consumers of Differing Incomes

Household Income	% Generally	% Occasionally	% Seldom
Under $7,000	43.7	22.9	16.0
$7,000-10,000	43.3	20.0	36.7
$10,000-15,000	60.7	12.5	26.8
Over $15,000	61.5	21.2	17.3

Source: Gruen Gruen + Associates downtown survey

FOR YES RESPONDENTS ONLY

37. If a new and attractive apartment complex were to be bu in Downtown Santa Maria, would you be very likely___1, likely___2, or unlikely___3 to consider this location?

38. If a one-bedroom unit were priced from $150-175 and a tw bedroom unit from $175-250, would you be very likely___1 likely___2, or unlikely___3 to consider this location?

39. If a new residential hotel were to be built in Downtown Santa Maria, would you be very likely___1, likely___2, o unlikely___3 to consider this location?

We are going to show you four sets of pictures of differing of shopping centers. We would like to get your opinion of e

Picture No. 1

40. Which of the two pictures do you like the best?
A___1 B___2

a. Why?

INTERVIEWER: If respondent has not mentioned the width of the walkway ask:

41. Did the different widths of the walkway affect your choice in any way? Yes___1 No___2

a. If yes, how?

Picture No. 2

42. Which of the three pictures do you like the best?
A___1 B___2 C___3

a. Why?

43. Which of the three pictures do you like the least?
A___1 B___2 C___3

a. Why?

INTERVIEWER: If respondent has not mentioned the openness or closedness of the shopping center ask:

44. Picture A presents an open mall center, B a partly enclosed center and Picture C a completely closed mall. Did this factor influence your choice in any way? Yes___1 No___2 ___

a. How? ___
___

Picture No. 3

45. Which of the two pictures do you like the best? ___
A___1 B___2

a. Why? ___
___

46. If Picture A were to contain both apartments and stores while Picture B were to contain only stores, which would you prefer? A___1 B___2 ___

a. Why? ___
___

Picture No. 4

47. Which of the three pictures do you like the best? ___5
A___1 B___2 C___3

a. Why? ___6
___6

48. Which of the three pictures do you like the least? ___6
A___1 B___2 C___3

a. Why? ___6
___6

To assist us in better planning for all residents, we would appreciate your answering a few biographical questions.

INTERVIEWER: Fill in sex and race

49. Sex: Male___1 Female___2 ___65

50. Race/Ethnic: White___1, Black___2, Spanish Surname___3, ___66
Other___4

concept for single family cul-de-sac suburban style development began in 1967 and the third phase was completed in late 1970.

B. The overwhelming choice of family households in the United States in both 1965 and 1977 is single family detached housing.

C. Given that hypothesis, it is necessary to achieve a suburban product at the lowest possible price and on financing terms that provide the lowest possible monthly payment including real estate taxes.

1. Exhibit 7 is a redevelopment plan.

2. Exhibit 8 indicates the subsidy provided in the sale price of the land.

3. Of the 119 homes built and sold, 50 were FHA insured mortgages under Section 235; 69 were 95% LTV's with Milwaukee lenders, insured by MGIC - the firm which was also project sponsor and developer.

4. Original selling prices ranged from $17,500 - $22,050 in the first and second phase; $19,500 - $24,800 in the third phase.

5. Only the third phase has produced any foreclosures and for sales; costs reduced original landscaping and buyers came to recognize it as a buffer against adjacent public housing projects.

D. No statistical impact studies were done before or after the project because these costs are not considered part of project costs nor eligible for federal grants and certifiable costs for project mortgages sharply discourages consumer research before and after.

1. Assembly of a new development building team for each project drastically reduces consumer feedback.

2. Selling project concepts to committees leads to concepts which please the committee rather than the ultimate user. Physical land planners relate to legislative markets rather than ultimate users.

E. What is known is by follow-up by the private sponsor

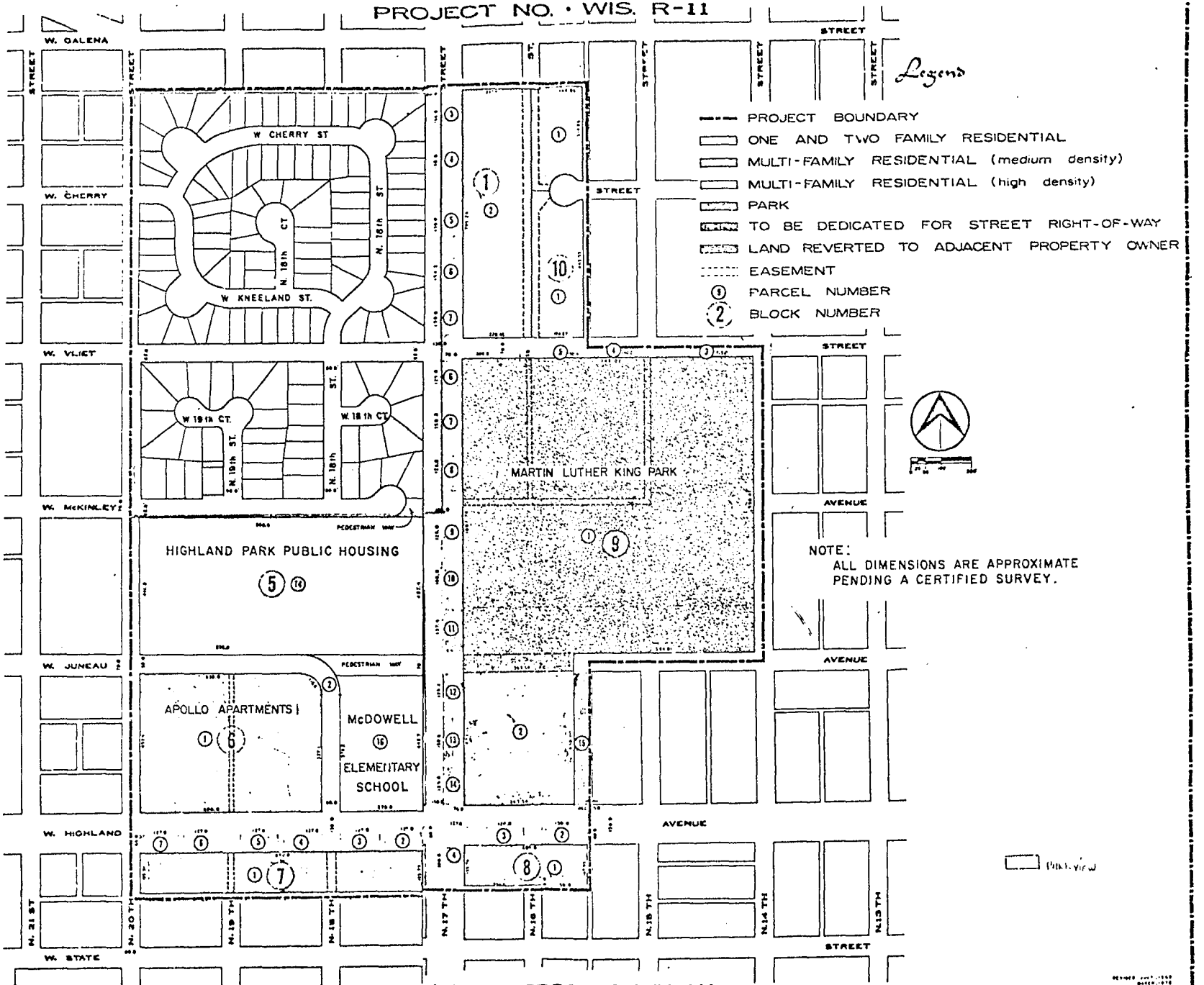
1. Neighborhood stability - fewer than 25 homes have been sold, according to a local real estate broker. It takes about three months to find a buyer and financing.

2. Property values - the real estate broker estimates average profit on resale has been $4,000 - $5,000 in an area which has a history of value decline.

3. Financial stability - except for third phase where there was an excess number of thinly margined FHA borrower. The imbalance occurred when it was decided to increase ratio of low income home owners.

KILBOURNTOWN - NO. 3

PROJECT NO. • WIS. R-11



LAND DISPOSITION PLAN

CITY OF MILWAUKEE
REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE
MILWAUKEE - MILWAUKEE COUNTY - WISCONSIN AUG. 1968

Exhibit 7

Exhibit 8

SEVENTH BIENNIAL HUD AWARDS FOR DESIGN EXCELLENCE

Descriptive Data (Please Type)

1. If Project Design, check here [X] and complete this section:
   a. Type
   (1) Family Housing [X] Housing for the Elderly and/or Handicapped [ ] College Housing [ ]
   Other Housing [ ] Specify _____
   Number and type of dwelling units 119 Single-family detached
   Give appropriate figures for persons accommodated 610
   (2) Non-residential structure [ ] Type -
   Give significant figures on size, e.g., square feet of space, etc. -
   (3) Open Space [ ] Type -
   (4) Other (specify) [ ] -
   Give appropriate figures on size -
   b Site area in acres 20 acres
   c Cost of land $ 147,500 Average Cost Per Lot - $1,200
   d Construction cost $ 2,500,000
   e. Date of completion of construction Substantially finished since Jan. 1, 1970
2. If Urban Design Concept, check here [ ] and complete this section:
   a. Concept area in acres _____
   b. Time frame: 1-5 yrs. [ ] 6-10 yrs. [ ] 11-15 yrs. [ ] 15 yrs. plus [ ]
   c. Estimated public and private investment required $ _____
   d. Date of public release of plan _____
3. If Management Approach, check here [ ] and complete item below as appropriate.
4. HUD Assistance:
   Name(s) of HUD Program(s) Urban Renewal, Project WIS-R-11
5. Insert a concise statement (not more than five typed pages) of all information relevant to the evaluation of the entry in the binder windows immediately following this form. Please organize the statement under the following and any additional appropriate headings: Public and Private Management Approaches/Planning Context (environmental setting)/Social and Economic Considerations/Program (detailed objectives and limitations)/Significant Design Features/Major Innovations in Construction Methods and Materials.

4. Crime rate -

1975 Milwaukee Police Department Criminal Offenses Reported by Census Tract*

Census Tract Number	Number of Criminal Offenses Reported - 1975
139 - Parkview	80
140 - Adjacent to Parkview	184
138 - Adjacent to Parkview	156
118 - Adjacent to Parkview	158
147 - Adjacent to Parkview	495
148 - Adjacent to Parkview	460

* Milwaukee Police Department 1975 Tab. Sec. Report.

E. Elementary, junior and senior schools were rebuilt during the urban renewal phase. Marquette University and Concordia College are near by. Jewel Tea has built a neighborhood store two blocks away, but the planners missed a significant opportunity to carry the momentum forward by virtually surrounding the private investment with non-tax producing public land.

1. A basic synergy should exist so that public investment stimulates private investment which in turn will lead to a glomeration of private investment. Traditional physical plans balkinize and prevent the seed of private investment confidence from blooming by making the pot too small. Planners think up open space uses to give the appearance of absorption while preventing growing consumer absorption.

2. An adequate survey of households in the area with desire and effective demand for such a unit would have permitted the planner to participate and scale the project and perhaps provide a Jewel Tea store at the outset to accelerate demand.

3. In central city areas, most of the residents per residential units will be found within a half mile on the subject site; the potential for families returning to the central city is a romantic possibility that has yet to materialize.

4. For each new housing project in your area, use the reverse telephone directory and the telephone book for the year before the project opened and do a scatter diagram to determine the trade area for those residential units. Then do a professional telephone survey to find out why people think they moved.

VI. Public facility location and cost has never properly considered anything beyond first costs or life cycle cost of the facility. Cost to the user or opportunity costs to the community are not part of the architects design program.

A. The third case for discussion involves location and construction of a community technical college which is currently the subject of massive debate and political infighting in Madison. Only after the location had been picked was an impact study on who benefits and who pays requested over the objections of the School Board. The studies which follow were done in two weeks for 0 dollars but are illustrative of the types of questions which should be raised.

B. The major cost of any public facility is not the original cost but rather the recurring cost of operations, of lost opportunity, and user travel, time, and inertia overcome.

C. Good corporate real estate administration always examines the need for space to see if it is cheaper to shift requirement by sub contract, to lease, or to buy, seeking liquidity and the ability to divest of surplus property as revenue capacities shift quickly. Public administrators must handle space as a purchasing problem rather than a problem of civics, monumentality, and political ploy.

D. Any public facility which generates a flow of people to and from and concentration of employees can be regarded as a pump primer for capital investment. Therefore it follows:

   1. It should be located where there is land remaining for private redevelopment response.

   2. Cheap land already owned by the public is suspect if it is not contiguous with existing private investment in need of new customer opportunities or refurbishing and possibly expansion.

   3. Ideally new tax base generated should produce enough revenue to pay operating expenses of facility to be created with public funds (Madison Art Center).

E. Retail services and housing are chicken and egg puzzles as they must exist or be created simultaneously in some area. Bond increment financing permits the City to create and give away a free apartment site or a free store site to a developer which will start the process. Increased real estate taxes will refund the gift in three to five years.

F. Refer to Exhibit 9.

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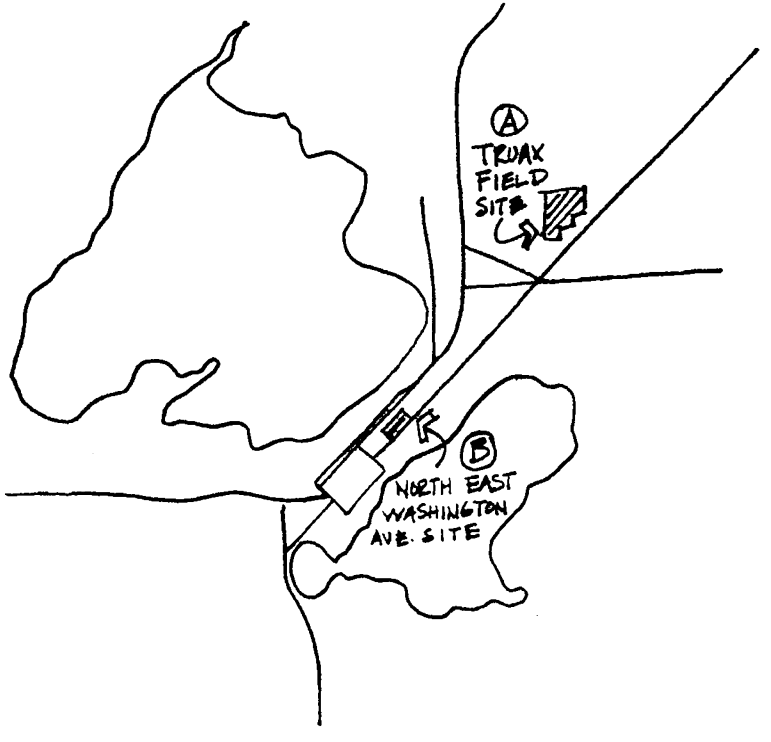


PRELIMINARY FINDINGS:

ECONOMIC AND FISCAL EVALUATION OF
MADISON AREA TECHNICAL COLLEGE
ALTERNATIVE EXPANSION SITES

October 1976

Dr. James A. Graaskamp, Chairman
Mr. Thomas W. Smith

Dept. of Real Estate and Urban Land Economics
Graduate School of Business
University of Wisconsin - Madison

Exhibit 9

Figure 1 A. TRUAX FIELD SITE

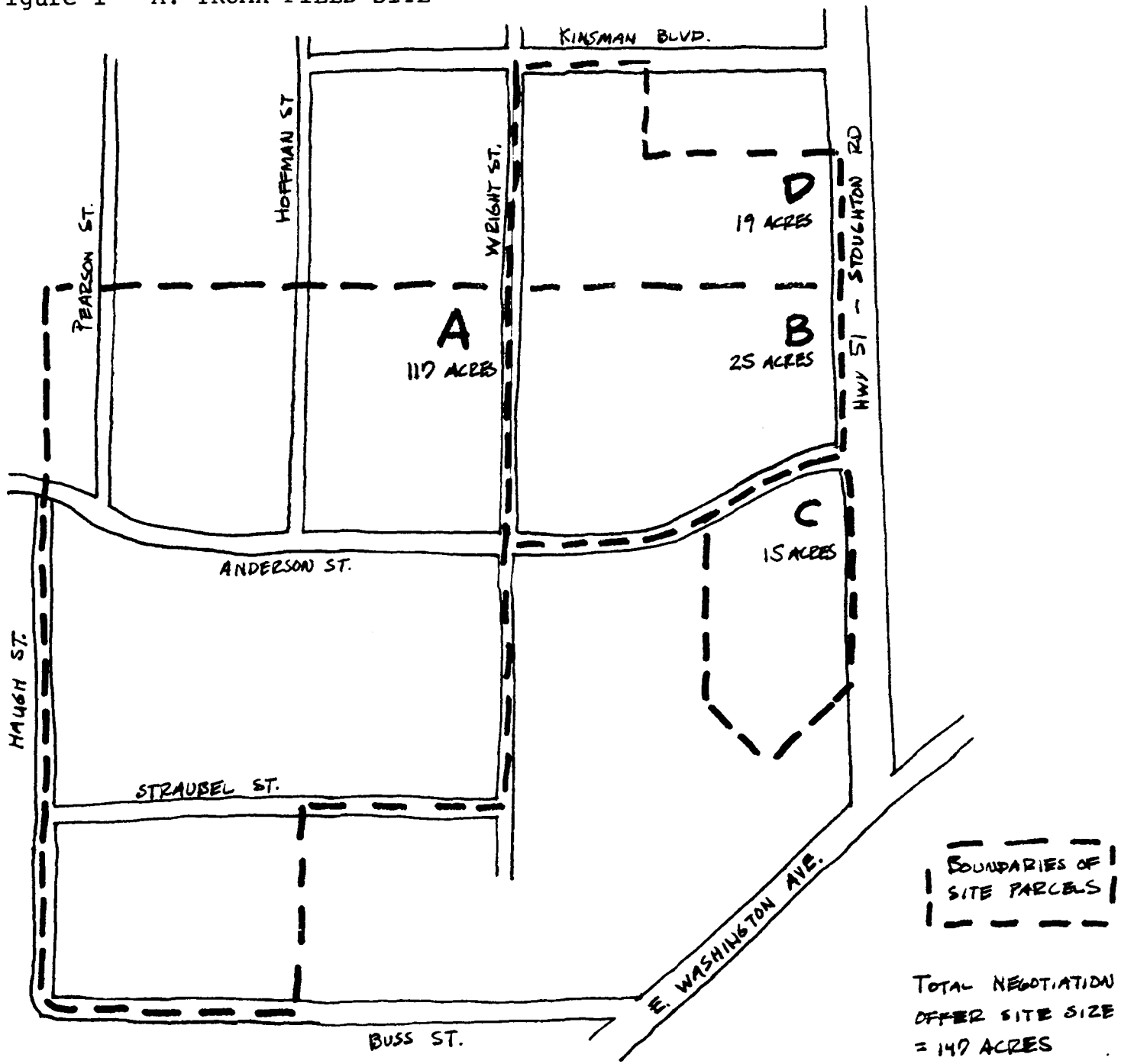


Figure 2 B. NORTH EAST WASHINGTON AVENUE SITE

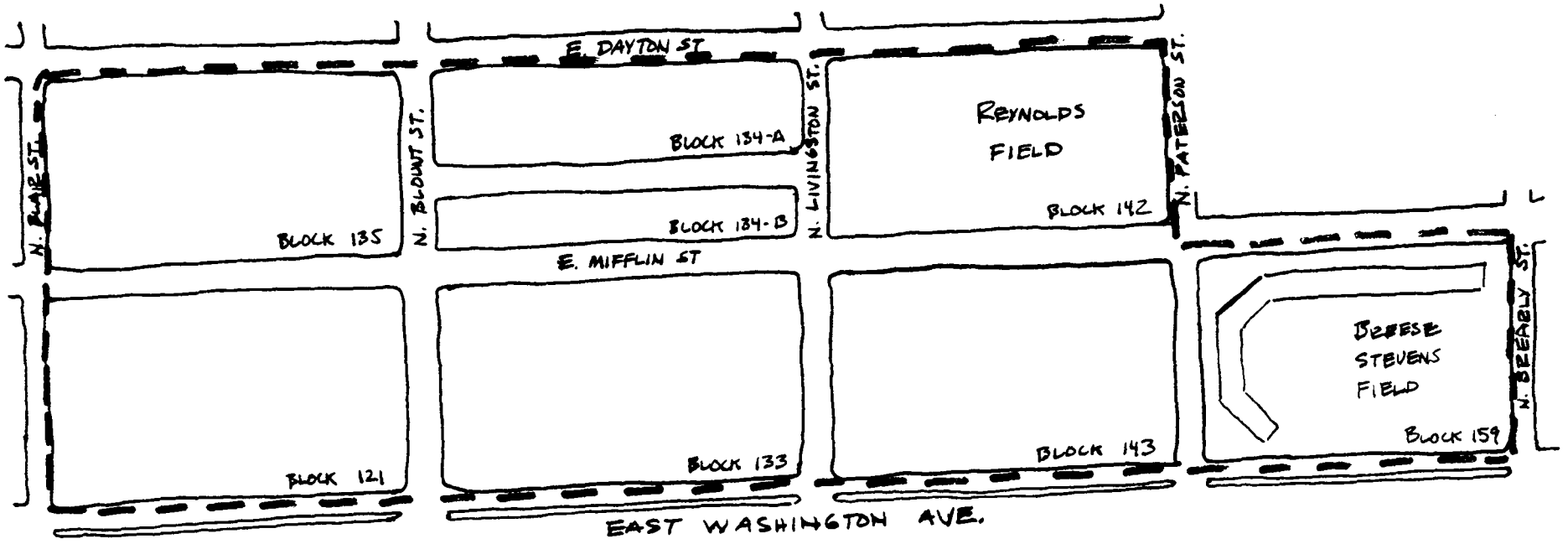
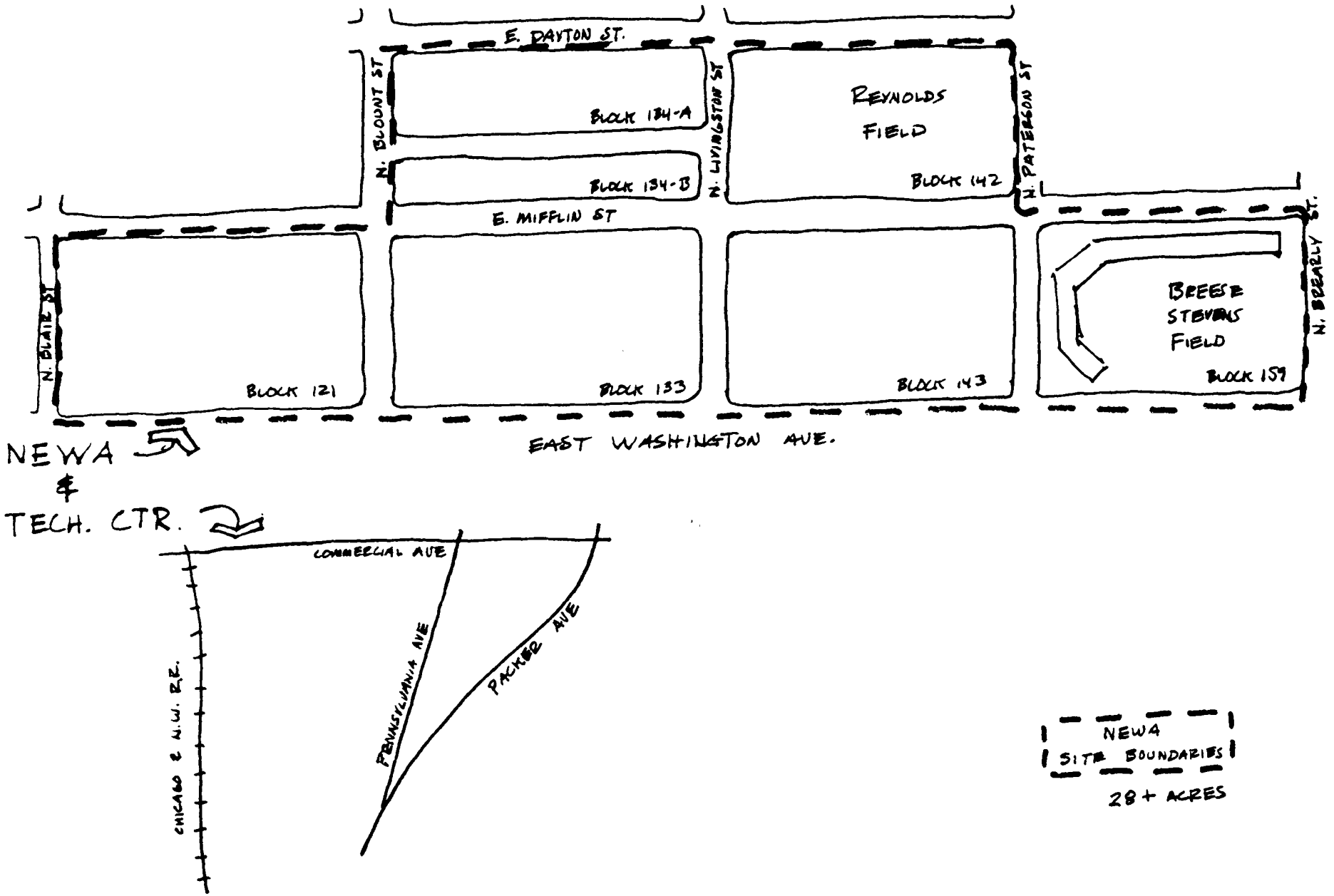


Figure 3 C. SPLIT SITE - NEWA & TECHNICAL CENTER



4. By whom, and by how much, are these relative costs born? The table on the following page charts the total absolute and the differential relative costs to the four "publics" for which costs were calculated. For MATC, the Split site, then the Truax site are the least costly. For the City of Madison, the Split site is slightly less costly than the NEWA site and both of those are less costly than the Truax Field site. For private business and individuals, the Truax site is significantly more costly than either other alternative. In fact, it is these two groups, the students and the commercial and rental businesses which service MATC for whom a move to Truax Field would be most costly.

5. A significant omission in total cost comparison is the costs for heating and cooling at the North East Washington Avenue site. Conversations with heating engineers suggest that there is a way for using waste heat from MG&E Power Plants, both winter and summer. They suggest savings of well over $100,000 a year, but these engineers are muzzled because they fear that open discussion will expose them to retribution by the proponents of one site or another. This energy linkage MUST BE STUDIED FURTHER. In addition, the state heating plant may have excess capacity at significant capital and operating cost savings depending on how the state chooses to provide office space through construction of GEF II or the purchase or lease of existing structures. These energy savings in future years will be of increasing importance. A savings of $100,000 a year increases the advantage of a downtown site by $1,147,000 of present value at 6%.(1)

6. A significant assumption of MATC downtown or Truax site requirements has been free parking for the students who drive - a policy which is counter-productive in terms of both energy savings and further deficits for public transit. There is no reason why persons visiting campus should not pay for parking as they do currently on the Lake Street and Webster Street ramps. Therefore, cost of a parking structure for East Washington Avenue sites has been transferred to the City of Madison's parking utility with the possibility that a future decline in the use of cars will be at the risk of the city. The risk is taken in compensation for a downtown site to support vitality of the center city.

7. Vitality of the center city is a concept which is hard to document or measure objectively. Some surveys such as Retail Sales and renovation of downtown apartments were included in the study. However, there is no dollar measure of the cost when the flow of pedestrians is reduced and the appearance of activity slackens, when fewer people expect to meet friends for random social interaction, and when some retail service operations lose that marginal revenue which permits them to maintain that indefinable edge of quality, diversity, or bustle.

8. The Truax Field site (among alternatives A and B) is cheaper for MATC because it creates a subtle, indirect tax on individuals and businesses. Individuals pay more to attend the Truax site in time and transportation costs. If the education that they receive at any site is the same, then the amount of discretionary income for other goods and services is reduced. This study did not measure the reduction in other retail purchases by individuals made necessary by the increase in travel costs. The increase in travel cost does not recognize the lack of convenience services at the Truax site which could cause students to drive to lunch, to supply stores, etc. during breaks in the school day. Finally, the cost to individuals and businesses does not recognize the opportunity cost created by spending more money for going to school, money which otherwise might have been invested in savings at 5% or reinvested in a business at 10% or more. In short, the present value of additional cost to the consumer and the business public of the Truax site is understated, but time did not permit evaluation of feedback effects over time.

---

(1) In addition to the suggested annual savings of over $100,000 per year, initial capital costs may be saved as well since there would be no need to construct a boiler facility.

4. By whom, and by how much, are these relative costs born? The table on the following page charts the total absolute and the differential relative costs to the four "publics" for which costs were calculated. For MATC, the Split site, then the Truax site are the least costly. For the City of Madison, the Split site is slightly less costly than the NEWA site and both of those are less costly than the Truax Field site. For private business and individuals, the Truax site is significantly more costly than either other alternative. In fact, it is these two groups, the students and the commercial and rental businesses which service MATC for whom a move to Truax Field would be most costly.

5. A significant omission in total cost comparison is the costs for heating and cooling at the North East Washington Avenue site. Conversations with heating engineers suggest that there is a way for using waste heat from MG&E Power Plants, both winter and summer. They suggest savings of well over $100,000 a year, but these engineers are muzzled because they fear that open discussion will expose them to retribution by the proponents of one site or another. This energy linkage MUST BE STUDIED FURTHER. In addition, the state heating plant may have excess capacity at significant capital and operating cost savings depending on how the state chooses to provide office space through construction of GEF II or the purchase or lease of existing structures. These energy savings in future years will be of increasing importance. A savings of $100,000 a year increases the advantage of a downtown site by $1,147,000 of present value at 6%.(1)

6. A significant assumption of MATC downtown or Truax site requirements has been free parking for the students who drive - a policy which is counter-productive in terms of both energy savings and further deficits for public transit. There is no reason why persons visiting campus should not pay for parking as they do currently on the Lake Street and Webster Street ramps. Therefore, cost of a parking structure for East Washington Avenue sites has been transferred to the City of Madison's parking utility with the possibility that a future decline in the use of cars will be at the risk of the city. The risk is taken in compensation for a downtown site to support vitality of the center city.

7. Vitality of the center city is a concept which is hard to document or measure objectively. Some surveys such as Retail Sales and renovation of downtown apartments were included in the study. However, there is no dollar measure of the cost when the flow of pedestrians is reduced and the appearance of activity slackens, when fewer people expect to meet friends for random social interaction, and when some retail service operations lose that marginal revenue which permits them to maintain that indefinable edge of quality, diversity, or bustle.

8. The Truax Field site (among alternatives A and B) is cheaper for MATC because it creates a subtle, indirect tax on individuals and businesses. Individuals pay more to attend the Truax site in time and transportation costs. If the education that they receive at any site is the same, then the amount of discretionary income for other goods and services is reduced. This study did not measure the reduction in other retail purchases by individuals made necessary by the increase in travel costs. The increase in travel cost does not recognize the lack of convenience services at the Truax site which could cause students to drive to lunch, to supply stores, etc. during breaks in the school day. Finally, the cost to individuals and businesses does not recognize the opportunity cost created by spending more money for going to school, money which otherwise might have been invested in savings at 5% or reinvested in a business at 10% or more. In short, the present value of additional cost to the consumer and the business public of the Truax site is understated, but time did not permit evaluation of feedback effects over time.

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(1) In addition to the suggested annual savings of over $100,000 per year, initial capital costs may be saved as well since there would be no need to construct a boiler facility.

✳ COMMENTS

ESTIMATED AUTO OPERATING COSTS FOR POST-SECONDARY STUDENTS: The costs shown for the alternatives are identical with those shown on the Environmental Impact Statement with one exception: They represent a cost/mile of 12¢ rather than 10¢. Therefore, total costs are 20% higher. This is in accord with current State of Wisconsin payments per mile for use of automobiles. It should be noted that, as gas costs per mile increase, the difference between sites expands geometrically ; it does not remain constant. Therefore, in looking at future costs, the difference will continue to increase as costs continue to increase.

ESTIMATED AUTO OPERATING COSTS FOR MATC FACULTY AND STAFF: The costs of commuting were not estimated for faculty and staff in the EIS. 1980-81 estimates show that there will be 541 faculty and staff. Faculty survey results showed that 70% drive their car to school. Keeping that proportion constant, and assuming that the residency distribution pattern for faculty is equal to post-secondary students, (a factor which probably acts to understate costs somewhat for both sites), the approximate auto operating costs (using the same method as in the EIS) for each site were estimated - again, using 12¢ per mile. This estimate should be revised when and if specific data on faculty and staff residence becomes available.[2]

ESTIMATED AUTO OPERATING COSTS FOR MATC "ADULT" STUDENTS: The costs for commuting "adult" students (those that are taking credit-free courses) were not computed in the EIS. Adult students usually take one or two courses per semester. Courses meet not only in MATC facilities, but in scattered locations throughout the city area. For this reason, and because apparently little programming has been done regarding courses likely to be taught in new MATC facilities for adults, there was no estimate of auto operating costs. This is particularly unfortunate since there are currently approximately 10,000 adult students as compared with a headcount of 7600 post-secondary students.[1] Clearly, if adult students had the same residence distribution pattern as post-secondary students and the same classroom locations, the difference in auto costs would be on the order of $508,766 per year in favor of a NEWA site. However, with available information, this is impossible to determine accurately. When and if specific information on adult students and their places of residence is compiled, precise estimates should be prepared. The estimate contained here cuts the $508,766 difference in half, taking into account the fact that adult students are not as likely to live downtown, that not all classes for adults are likely to be held at MATC facility, and that the frequency of days attended is less than half of that for post-secondary students. However, there can be little dispute to the fact that the NEWA site is the most centrally located site and, therefore, will have the lowest overall commuting costs for those attending classes at an MATC facility.[2]

ESTIMATED 9-MONTH HOUSING COSTS FOR STUDENTS IN MADISON AREA: The costs presented are those included in the EIS. We do feel, however, that older housing near downtown will cause lower per capita rents over time for alternatives B and C, resulting in less difference in cost than that shown on the table.

PARKING COSTS FOR STUDENTS: This estimate is based on charges for parking in the 960 stall parking structure at NEWA of 75¢/day/student. It is estimated that there will be one complete turnover in spaces per day. No costs are shown for the Truax Field site. The policy is to provide free parking on 4000 spaces to be provided. We question this policy in light of increased demand pressures on gas as well as in light of a variety of state and local policies that encourage higher utilization of mass transit. The question of charging for parking and the implication on annual recurring costs should be further investigated.

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[1]Information from a phone conversation with Mr. Cliff Andrioli, Registrar's Office, MATC. No projection of adult student enrollment has been made by MATC according to Mr. Andrioli.

[2]The centrally located downtown sites will probably gain, over time, and increasingly greater marginal cost advantage over that shown in this report. Costs of gaosline and auto operating expenses were calculated to increase at a 6% rate for the twenty-year period covered by the present value cost estimates. However, in the case of petroleum products, the rate of price increase in recent years has exceeded the 6% figure. Therefore, the estimates are probably conservative.

February 3, 1977

EXPANDED PRELIMINARY EVALUATION OF ECONOMIC AND FISCAL IMPACTS OF MADISON AREA TECHNICAL COLLEGE CONSTRUCTION OF A NEW CAMPUS OF ALTERNATIVE EXPANSION SITES*

At the request of Mary Louise Symon, Chairman of the Dane County Board of Supervisors, the four authors of this report have reviewed and reconciled by joint study the assumptions and conclusions of somewhat contradictory studies of fiscal impact relative to MATC site alternatives. The four authors have established a common set of assumptions for the capital and annual recurring costs inherent in the construction and operation of the proposed new MATC facility alternatives within the limits of information available to use in terms of student patterns, proposed design features, and transportation costs shifted to the student public.

Refinement and expansion of the study has delineated impacts on Dane County as well as the City of Madison, has delineated component construction cost to reflect differences for heating, athletic facilities, and foundations on various sites, and has more accurately represented annual recurring costs as they shift among parties at interest. For example, a parking ramp constructed by the City of Madison represents an outlay in year one but income for the next twenty years; however, that income to the City is an expense to the students. Such an expansion of accounting detail does not change the total cost but does reveal the shift of costs among the parties at interest including the MATC district, Dane County, the City of Madison, affected businesses, and full time or adult education student groups. Thus, this report provides a better description of "who pays and who benefits" from alternative site selections.

THIS JOINT STUDY CONCLUDES THAT A NORTHEAST WASHINGTON AVENUE CAMPUS FOR MATC HAS A $5,677,200 COST ADVANTAGE OVER THE PROPOSED TRUAX FIELD SITE IN PRESENT VALUE TERMS DISCOUNTED AT 6% OVER TWENTY YEARS. THIS ESTIMATE IS BASED ON THE ASSUMPTIONS CONTAINED IN FOOTNOTES IN THE TABLES WHICH FOLLOW AND IN CERTAIN MORE DETAILED EXPLANATION OF METHODS USED TO ESTIMATE COST PROVIDED IN THE ORIGINAL SMITH-GRAASKAMP STUDY DATED OCTOBER 25, 1976, AND THE COULTER-VANDERZANDEN STUDY DATED NOVEMBER 15, 1976.

Several significant controversies remain about the proposed MATC building program as it would influence fiscal impacts on the parties identified above. These are identified below as they affect the assumptions made for this study:

1. Nobody has determined how the MATC buildings will be heated. Since gas would not be available, alternative sources would include coal, electricity, reclaimed heat from lights, activities, and body heat of building occupants, or solar energy.

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*Prepared by Prof. James A. Graaskamp and Mr. Thomas W. Smith, Department of Real Estate and Urban Land Economics, Graduate School of Business, University of Wisconsin; and Mr. George Coulter, Administrative and Budget Analyst and Mr. Richard Vanderzanden, Airport Property Manager, Dane County.

a. Coal would require a boiler plant of unknown capacity, a tall chimney, and approval of the mechanical system by air quality officials. The county has an ordinance establishing maximum structure height near the airport and the Truax site; FAA has approved anything up to 150' in exchange for the county airport waiving any future claims for damage or injunctive relief from an increase in noise due to increased future airport operations. (See below.)

b. Architect claims steam generated from coal is unnecessary because of advanced building design. Architect proposes to heat MATC buildings from reclaimed heat generated by lights, activities, and bodies of occupants. Architect proposes a system somewhat more expensive than now which could take advantage of solar energy innovations later. University Planning & Construction engineers report that heating a building with excess body heat and lighting heat can work for most daylight hours if bodies and lights are evenly distributed over the building floor area and through time, if there is limited ingress and egress during the day. It is their opinion that a classroom building with occupancy density and movement in and out changing every hour and shop buildings with large garage doors, exhaust air vents, etc., do not make practical reclaimed heat for more than 50% of what might be required. The architects presume electricity would supply deficits.

c. However, at the NEWA site, MG&E may be able to deliver surplus steam throughout the year except July and August (which are peak electricity demand months) and that would offer some potential (as yet uncosted) savings relative to energy sources at Truax. As an arbitrary indication of this potential linkage advantage, we have added $500,000 to the cost of the NEWA site for a steam tunnel to connect with MG&E Blount Street plant but have added $1 million to the cost of the Truax site for supplementary boilers or solar heaters and first costs of reclaimed heat systems.

2. Research into feasibility of steam boiler stacks in an airport zone revealed that a stack was permissible up to 150' but that the federal aviation administration is very sensitive to the impact of increasing flight noise on adjacent land uses. Existing zoning ordinances do not relate permissible uses to noise, only to height and mass of structure. The Wisconsin State Aeronautical Administration is seeking enabling legislation this year to require land use zoning to restrict uses sensitive to noise within a half mile of the rumway center line and in some cases beyond. Wisconsin has recently published "Guide for Land Use Planning Around Airports." Both the federal and the state agency fear future injunctions on airport operations due to noise. Both agencies advise modification of building specifications for a school building near an airport but have no legal powers to control uses. The FAA approval was subject to standard FAA clause (which appears as para 20 in MATC lease) which reserves "the right of aircraft to cause any noise inherent in the operation of aircraft."

a. Noise is not presently a consideration in Dane County land use control ordinances; therefore, there is no legal constraint on uses at the Truax site or the East Washington Avenue site relative to noise. Far sighted communities may wish to modify their land use ordinances or building construction ordinances. Of course, Truax is not in the league with O'Hare or Los Angeles International where legal actions have occurred so that no further ordinances may be required in Dane County.

b. School buildings can be built at extra cost so that walls and ceilings will screen out unacceptable noise intrusions near airports. These same features often contribute to energy conservation as well. Noise levels on East Washington Avenue downtown can be argued as equal to those encountered at the airport. No recognition of possible differences in cost for noise proofing of roofs at the airport or sidewalls downtown has been made for this study.

3. A significant cost differential between the Truax and downtown site sector is the differential in the transportation cost for full time and adult students. The analysts have differed with the City of Madison viewpoint and significantly reduced the alleged metropolitan bus deficit, but have been unable to explain or predict the transportation cost burden of adult education courses for the following reasons:

a. Over a year ago, the Madison School Board met with MATC and offered the use of surplus classrooms in schools throughout the City for adult education courses at rents of $2.00 - $2.40 per square foot per 750 square foot classroom per year, a cost which MATC cannot duplicate in the rental market or through new construction. It is reasonable to assume that instructors could commute to these classrooms more cheaply than adults could commute to a single new campus center.

b. Shifting adult education courses in large part to Madison Public Schools and other school systems in the MATC district might reduce building space requirements for totally new MATC campus buildings regardless of site.

c. Other area technical colleges in Wisconsin have substantially reduced adult education offerings after financing and constructing of new campuses. It has been alleged that MATC would like to reduce its adult education program, which costs much more to deliver than it provides in revenue, diluting other full time programs. If such a reduction is forthcoming, MATC should indicate how such a reduction of adult courses (or movement of courses to rented Madison Public Schools and others in the district) might reduce overall space needs of the proposed building program. It would also reduce the cost impact differential between the two sites at issue.

4. The four authors recognize that a great deal more study should occur to enable them to accomodate the economic multiplier or ripple effect which a change in MATC Campus location would have on the Madison SMSA economy. Due to inadequate information and a relatively short time period, the authors were constrained to reaching agreement only on the costs and revenues which could be directly traced to the site development proposals as originally sketched. This study is in the nature of a cost-effective study and not a cost-benefit study as we are assuming identical educational and community benefits at each site.

Net Present Value of Capital and Recurring Costs

	A. Truax	B. NEWA	C. Split
I. MATC			
Capital	$ 40,784,000	$ 44,065,820	$ 40,105,550
Recurring	1,674,895	15	2,443,015
SUB-TOTAL	$ 42,458,895	$ 44,065,835	$ 42,548,565
II. Madison			
Capital	$ 711,595	$ 5,680,115	$ 5,680,115
Recurring	(2,664,530)	(9,487,730)	(8,861,790)
SUB-TOTAL	$ (1,952,935)	$ (3,807,615)	$ (3,181,675)
III. Dane County			
Capital	$ 120,000	$ 0	$ 0
Recurring	(1,119,040)	(792,600)	(792,600)
SUB-TOTAL	$ (999,040)	$ (792,600)	$ (792,600)
IV. Private Business			
Capital	$ 185,620	$ 185,620	$ 185,620
Recurring	3,397,670	4,242,550	4,472,710
SUB-TOTAL	$ 3,583,290	$ 4,428,170	$ 4,658,330
V. Individuals			
Capital	$ 0	$ 0	$ 0
Recurring	202,364,935	195,884,155	200,408,585
SUB-TOTAL	$202,364,935	$195,884,155	$200,408,585
I-V. Combined			
Capital	$ 41,801,215	$ 49,931,555	$ 45,971,285
Recurring	203,653,930	189,846,390	197,669,920
TOTAL	$245,455,145	$239,777,945	$243,641,205

Difference in Net Present Value Costs

		A. TRUAX SITE	B. NEWA SITE	C. SPLIT SITE
I.	MATC			
	Capital	$ 678,450	$3,960,270	$ -0-
	Recurring	1,674,880	-0-	2,243,000
	SUB-TOTAL	-0-	$1,606,940	$ 89,670
II.	Madison			
	Capital	$ -0-	$4,968,520	$4,968,520
	Recurring	6,823,200	-0-	625,940
	SUB-TOTAL	$ 1,854,680	-0-	$ 625,940
III.	Dane County			
	Capital	$ 120,000	$ -0-	$ -0-
	Recurring	-0-	326,440	326,440
	SUB-TOTAL	$ -0-	$ 197,440	$ 197,440
IV.	Private Business			
	Capital	$ -0-	$ -0-	$ -0-
	Recurring	-0-	844,880	1,075,040
	SUB-TOTAL	$ -0-	$ 844,880	$1,075,040
V.	Individuals			
	Capital	$ -0-	$ -0-	$ -0-
	Recurring	6,480,780	-0-	4,524,430
	SUB-TOTAL	$ 6,480,780	$ -0-	$4,524,430
I-V.	Combined			
	Capital	$ -0-	$8,130,340	$4,170,070
	Recurring	13,807,540	-0-	7,823,530
	TOTAL	$ 5,677,200	$ -0-	$3,863,260

Annual Recurring Cost NPV Calculations

(all discounted @ 6% over 20 years)

	Truax		NEWA	Split
I. MATC				
Leased Land	$ 26,580 @ 1% = $ 331,245[1]		$1 @ 8% = $15	$1 @ 8% = $15
Parking	55,000 @ 8% = 1,343,650		0	0
Split-Site Oper.	0 = 0		0	100,000 @ 8% = $ 2,443,000
SUB-TOTAL NPV	$ 1,674,895		$15	$
II. Madison				
All Recurring Costs	$ (109,068) @ 8% = $ (2,664,530)		$ (388,364) @ 8% = $(9,487,730)	$ (362,742) @ 8% = $ (8,861,790)
SUB-TOTAL NPV	$ (2,664,530)		$(9,487,730)	$ (8,861,790)
III. Dane County				
All Recurring Costs	$ (55,952) @ 6% = $ (1,119,040)		$ (39,630) @ 6% = $ (792,600)	$ (39,130) @ 6% = $ (792,600)
SUB-TOTAL NPV	$ (1,119,040)		$ (792,600)	$ (792,600)
IV. Business				
Taxes - City	$ 117,511 @ 8% = $ 2,870,790		$ 158,549 @ 8% = $ 3,873,350	$ 158,549 @ 8% = $ 3,873,350
County	26,344 @ 6% = 526,880		18,460 @ 6% = 369,200	29,968 @ 6% = 599,360
SUB-TOTAL NPV	$ (3,397,670)		$ 4,242,550	$ 4,472,710
V. Individual				
Auto	$4,644,000 @ 8% = $113,452,920		$3,832,395 @ 8% = $ 93,625,410	$4,054,725 @ 8% = $ 99,056,930
Parking	0 = 0		321,280 @ 8% = 9,070,370	334,150 @ 8% = 8,163,280
Housing	4,305,000 @ 6% = 86,100,000		4,522,000 @ 6% = 90,440,000	4,522,000 @ 6% = 90,440,000
Transit	115,105 @ 8% = 2,812,015		112,500 @ 8% = 2,748,375	112,500 @ 8% = 2,748,375
SUB-TOTAL NPV	$202,364,935		$195,884,155	$200,408,585

[1] This and all other figures on page show rate of inflation applied to first year annual cost times 6% discount rate over 20 years.

I. MATC

CATEGORIES		A. TRUAX SITE		B. NEWA SITE		C. SPLIT SITE
A. Initial Capital Costs						
Property Acquisition						
Property	$ 0		$ 4,140,900		$ 3,465,900	
Relocation	0		653,600		478,600	
Court Costs	0		219,300		185,750	
Real Estate Contingency	0	$ 0	292,400	$ 5,306,200	224,400	$ 4,359,650
Demolition		27,000		460,100		387,360
Utilities		396,000		393,000		393,000
Site Work		3,490,000		1,289,300		1,186,120
Construction						
New	$35,267,000[1]		$33,823,000[1]		$29,481,000[1]	
Remodeling	0		400,000		400,000	
Fixed Equip.	2,180,000	$37,447,000	2,180,000	$36,403,000	2,180,000	$32,061,000
Sub-Total		$41,333,000		$43,851,600		$38,387,130
Contingency		2,000,000		2,000,000		2,000,000
Time Delay Costs		0		1,973,320[2]		1,727,420[2]
Road Improvement Assessment		210,000		0		0
Gross Total Capital Costs		$43,543,000		$47,824,820		$42,114,550
Less:						
Proceeds of Property Sale:		$(2,759,000)[3]		$(2,759,000)[3]		$(1,009,000)[3]
Community Devel. Block Grant		0		(1,000,000)[4]		(1,000,000)[4]
Net Total Capital Costs		$40,784,000		$44,065,820		$40,105,550
Less Bond Issue:		(30,000,000)		(30,000,000)		(30,000,000)
Unmet Costs		$10,784,000		$14,065,820		$10,105,550
B. Annual Recurring Costs						
Land Lease		$ 26,580[7]		$ 1[5]		$ 1[5]
Parking Lot Maintenance Cost		55,000[7]		0		0
Extra Cost for Operating a Split Site		0		0		100,000[6]
Net Total Annual Costs		$ 81,580		$ 1		$ 100,001

1. Uses the less expensive type construction indicated in the Graaskamp Study for a $4,000,000 savings at any site.
2. Assumes 6% annual inflation factor applied to sub-total capital costs for 9-month delay caused by the need to relocate and remove persons and buildings.
3. Graaskamp Study figure.
4. This grant money is applied to only these two sites by the City of Madison.
5. From Graaskamp Study.
6. Estimate, to include duplicate heating, parking, utilities, etc.
7. Estimated by staff.

II. CITY OF MADISON

CATEGORIES	A. TRUAX SITE		B. NEWA SITE		C. SPLIT SITE	
A. Initial Capital Costs						
Community Development Block Grant	$ 0		$ 910,000		$ 910,000	
Foregone Renovation Costs for Breese Stevens Field	0		(400,000)		(400,000)	
Street & Highway Improvements	590,000		255,000		255,000	
Traffic Engineering Improvements	76,595		91,515		91,515	
Property Acquisition (Parking)	0		938,600[1]		938,600[1]	
Parking Structure	0		3,840,000[1]		3,840,000[1]	
Lost Prop. Taxes for MATC Lease Term (1 Yr.)	45,000		45,000		45,000	
Total Initial Capital Costs	$ 711,595		$5,680,115		$5,680,115	
B. Annual Recurring Costs (Gains)						
Reduced Maintenance Costs for Breese Stevens Field	$ 0		$ (14,850)[2]		$ (14,850)[2]	
Mass Transit Loss (Gain)	(425)[3]		33,430[3]		33,430[4]	
Parking Revenue	0		(371,280)[4]		(334,150)[4]	
Traffic Engr. Maint. Costs	3,429		2,355		2,355	
Street Div. Maint. Costs	5,438		1,360[5]		1,360[5]	
Parking Ramp Maint. Costs	0		98,000[5]		98,000[5]	
Property Tax Losses (Gains)						
Site Owners - Net	$ 0		$ 21,170		$ 9,662	
Induced Real Estate Taxes - Res.	(92,170)		(131,375)		(131,375)	
Induced Real Estate Taxes - Comm.	(25,341)		(27,174)		(27,174)	
				(137,379)		(148,887)
Total Annual Recurring Costs		$(109,068)		$ (388,364)		$ (362,742)

1. Assumes a 960 car structure at $4,000/car. (per J. Flad EIS).
2. From City Parks Department Budget.
3. Refer to attached Mass Transit Cost Analysis.
4. Assumes 2,790 cars for day with: 1,920/day using parking structure
   470/day parking free on side streets
   400 meters in other ramps.
   Assumes 10% less total cost for the free parking at the Split Site.
   Assumes 170 school days.
   Assumes $274 cost/offstreet meter and $252 car/meter (from 1977 City Budget).
5. Estimated from City and County ramp experience.

III. COUNTY OF DANE

CATEGORIES		A. TRUAX SITE		B. NEWA SITE		C. SPLIT SITE
A. Initial Capital Costs						
Foregone Net Revenue For Leasing Land		$120,000[1]		$ 0		$ 0
Total Initial Capital Costs		$120,000		$ 0		$ 0
B. Annual Recurring Costs						
Lease Cost (Revenue)		$(26,580)		$ 0		$ 0
Property Tax Losses (Gains)						
Site Owners - Net	$ 0		$ 0		$ 0	
Induced Taxes - Residential	(23,042)[3]		(32,840)[3]		(32,840)[3]	
Induced Taxes - Commercial	(6,330)[3]	$(29,372)[3]	(6,790)[3]	$(39,630)[3]	(6,790)[3]	$(39,630)[3]
Total Annual Recurring Costs		$(55,952)		$(39,630)		$(39,630)

1. Net Present Value of total parcel less value of land usable by others.
2. Interest at 6% per year.
3. City of Madison induced taxes adjusted by ratio of tax rates: $\frac{\text{County}}{\text{City}} = .25$.

IV. PRIVATE BUSINESS

CATEGORIES	A. TRUAX SITE	B. NEWA SITE	C. SPLIT SITE
A. Initial Capital Costs			
Reduced Property Taxes (1 Yr.)	$ (45,000)	$ (45,000)	$ (45,000)
Lost MATC Rentals (1 year)	230,620	230,620	230,620
Total Initial Capital Costs	$ 185,620	$ 185,620	$ 185,620
B. Annual Recurring Costs (Gains)			
Property Taxes			
1. Commercial - Paid Directly			
Additional City Tax for New Development	$ 25,341	$ 27,174	$ 27,174
Additional County Tax for New Development	6,336	6,790	6,790
Net Reduction for Some Businesses not Relocating	(654)	(4,565)	(2,084)
2. Residential - Paid Through Commercial			
Additional City Tax for New Development	$ 92,170	$ 131,375	$ 131,375
Additional County Tax for New Development	23,042	32,840	32,840
Net reduction for some individuals not relocating	(2,380)	(16,605)	(7,578)
Total Annual Recurring Costs	$ 143,855	$ 177,009	$ 188,517

V. INDIVIDUALS

CATEGORIES		A. TRUAX SITE		B. NEWA SITE		C. SPLIT SITE
A. Initial Capital Costs						
B. Annual Recurring Costs (Gains)						
Auto Costs[5]						
Post-Secondary Students	$2,700,250		$2,223,370		$2,445,700[1]	
Faculty	168,020		145,915		145,915[1]	
Adult	1,776,480	$4,644,750	1,463,110	$3,832,395	1,463,110[1]	$4,054,725
Parking Costs[2]	$	$ 0		$ 371,280		$ 334,150[3]
Housing Costs (9 months)		4,305,000		4,522,000		4,522,000
Bus Transit Costs[4]		115,105		112,500		112,500
Total Annual Recurring Costs		$9,064,855		$8,838,175		$9,023,375

1. 10% higher than Graaskamp Study to account for commuting between the two locations.
2. Fees assumed to equal City of Madison revenue computation--See City of Madison sheet.
3. Decreased by 10% from NEWA Site to account for free parking at Tech. Center.
4. See attacned Mass Transit Cost Analysis.
5. Assumes 14.81¢/mile from County experience.

CONTEMPORARY APPRAISAL OF LARGE INCOME PROPERTIES

****

BY

JAMES GRAASKAMP, PH.D., CRE

JOINTLY SPONSORED BY

APPRAISAL INSTITUTE OF CANADA

AND

HALIFAX CHAPTER, AIC

SECTION I

PRINCIPLES OF CONTEMPORARY REAL ESTATE APPRAISAL: ORIGINS, THEORY, AND APPLIED EXAMPLES

SEMINAR INSTRUCTOR

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CONTEMPORARY APPRAISAL SEMINAR

A Two Day Seminar For
APPRAISAL INSTITUTE OF CANADA

Presented by

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I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth.

1. Real estate is a space-time unit, room per night, apartment per month, square foot per year, tennis court hours, or a condominium for two weeks in January at a ski slope.
2. To the space-time abstraction can be added special attributes to house some form of activity.
3. Improvements from survey market to city layouts to structures define space.
4. Legal contracts and precedents define time.
5. Rights of use are defined by public values, court opinions.
6. Private rights to use are those which remain after the public has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash-cycle business enterprise which combines a space-time product with certain types of management services to meet the needs of a specific user. It is the process of converting space-time needs to money-time dimensions in a cash economy.

1. A real estate business is any business which provides expertise necessary to relate space-time need to money-time requirements and includes architects, brokers, city planners, mortgage bankers, and all other special skills.
2. The true profit centers in real estate are in the delivery of services and cash capital.
3. Equity ownership is the degree to which one enterprise controls or diverts cash from another real estate enterprise.
4. Public has direct ownership to the degree real estate taxes take a percentage of tenant income in excess of service cost.
5. Consumer must view space as a total consumption system involving direct cost, surface cost, transportation cost and negative income of risk.
6. The best real estate project is the one which has the lowest net present value of cost as the sum of cost to the consumer production sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

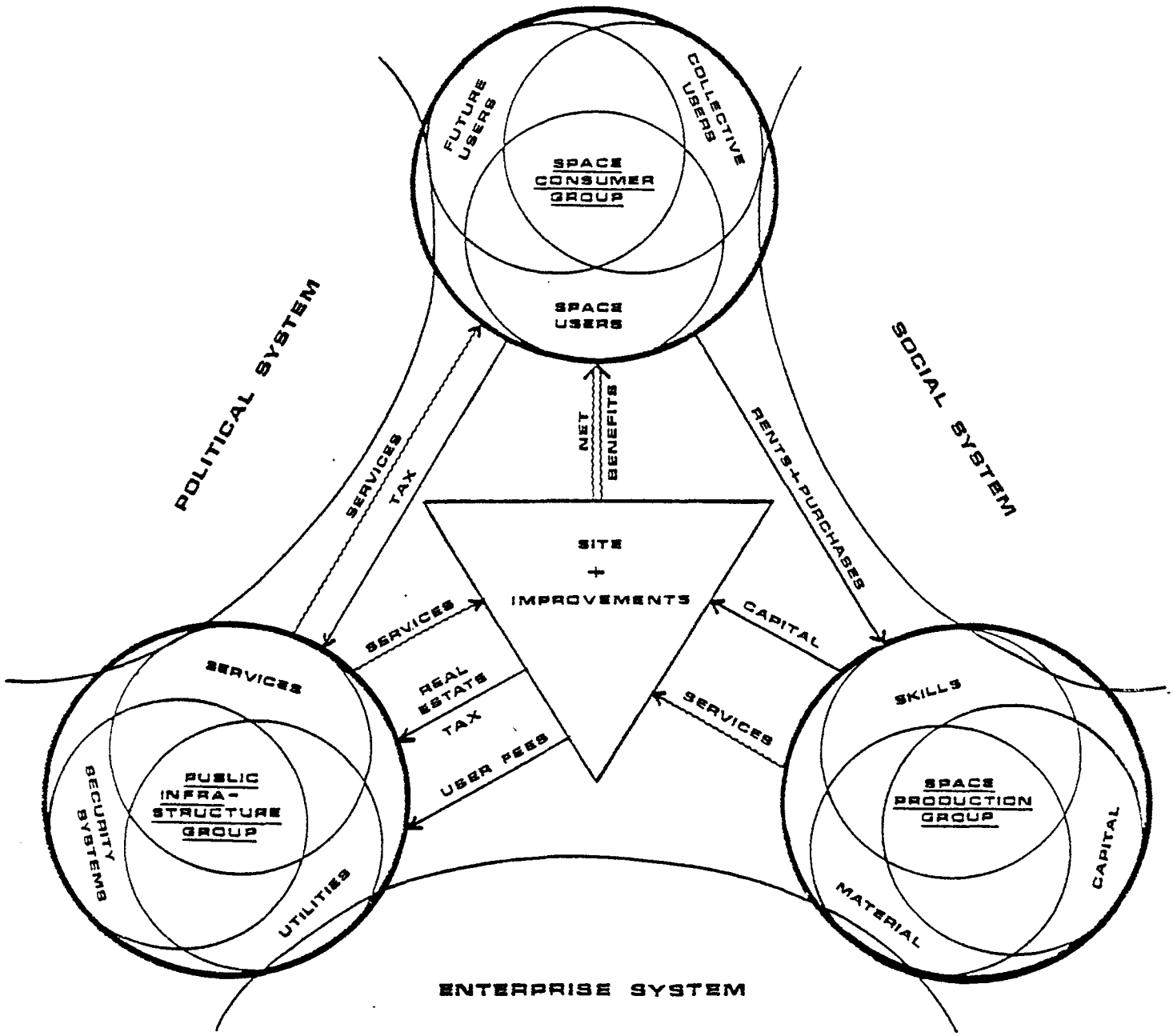
1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to create location by analyzing:

1. Static attributes.
2. Legal-political attributes.
3. Linkage attributes.
4. Dynamic attributes.

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.



THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl N. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced be concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.
4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.
2. The individual consumer with needs and a budget is the drive wheel.
3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.
4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.
2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.
3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.
4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.
5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

II. A Real Estate Appraisal - A Business Forecast

A. Prof. Richard U. Ratcliff was the first of several urban land economists to critique traditional appraisal in light of current business forecasting methods and techniques. In effect Ratcliff describes an appraisal as a prediction about the price of a future transaction under conditions of uncertainty. Uncertainty is introduced because knowledge of the facts is less than perfect and future conditions unknown.

One approach to forecasting or reaching a decision is by modeling to structure facts and relationships in a manner appropriate to the decision process. Three types of models are common in real estate analysis:

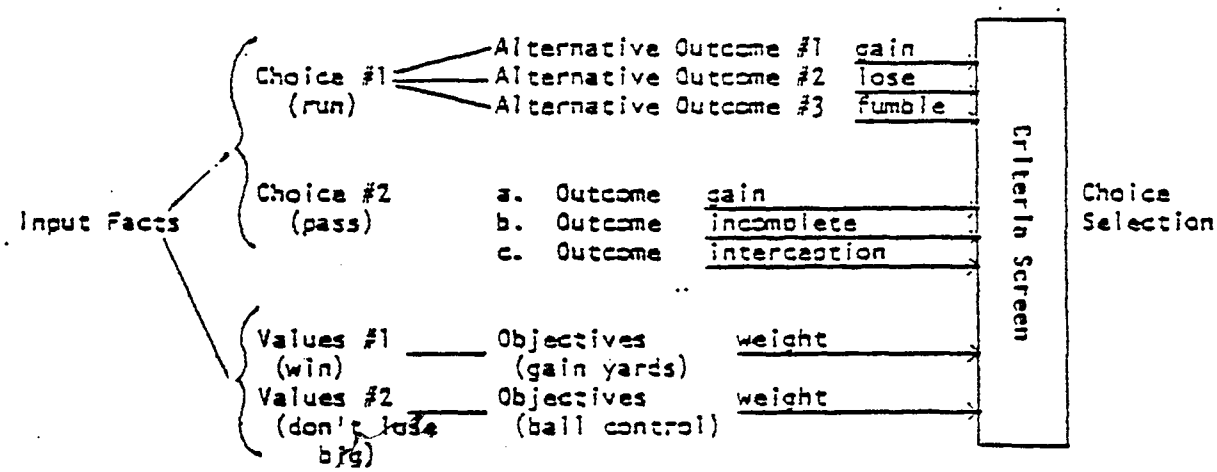
1. Physical models = sand tables to understand site, building mass, and shape.
2. Communication models = flow charts of industrial process or traffic patterns.
3. Abstract or symbolic models = items with mathematical or logic concepts, I/C = V is a symbolic model of the relationship between income productivity.

C. In constructing any decision model there are six basic elements to be considered:

1. The decision to be made or the question to be answered.
2. The data available with which a decision must be made.
3. The theoretical relationships or logical structure which focuses the data on the problem.
4. The interface between the analyst and the requirements of the model.
5. The interface between the results of the model and the decision maker or client and their ability to comprehend and believe (credit ability is always more important than credit in real estate).
6. The relationship between the economic significance of the answer and the cost to acquire the answer by using the model.

D. In general, a decision requires that information be systematically organized to identify choices of action and the alternative outcomes from each choice. (See Diagram #1). At the same time facts help shape general values which in turn lead to explicit objectives, and then specific selection criteria.

Diagram #1



E. The three approaches to value are models of how economic man might price a property to maximize his return and minimize his cost. It represents an historical compromise between three powerful groups in the early 1930's who really had different needs or questions about price.

1. Insurance company lenders wanted to lend less than cost to build - thus they emphasize the cost approach.
2. Real estate brokers wanted to know what they could sell it for today, and therefore emphasize the market comparison approach.
3. The FHA appraisal section was headed by a Michigan professor, Fred Babcock, who believed all property should be valued as a capital budgeting decision, i.e. as the present value of future net returns.
4. To compromise they seized on Marshallian economics which said in the short run the market is out of balance and reveals market price. During the intermediate term, it reflects income value which cannot be forecast for the long run. In the long run, prices have tendency to equal cost of production.

F. Since that time, writers have shown buyers are interested in many things besides maximum profit including minimum risk, compatibility with community, portfolio effects from taxes and diversification as well as subjective, qualitative satisfactions. Therefore, an appraisal model may seem to have the same question - What is the value of property - but in fact it represents multiple questions:

1. What is the nature of the decision to be served by the appraisal benchmark?
2. What is the specific asset for which value is sought?
3. What is the date for which value is relevant?
4. What is the definition of value - theoretical structure - which focuses the data on the problem?

G. Ratcliff points out a variety of value estimates or viewpoints which have significance in the appraisal of any specific property:

1. Vs - value to the owner or user.
2. Vc - cost of constructing a substitute property.
3. Vp - a probabilistic prediction of what the property will sell for.
4. Vo - price at which the property is offered for sale.
5. Vb - bid price by a prospective purchaser.
6. Vt - the price at which the property is actually sold, as an historic fact.

H. The Ratcliff viewpoint is just plain common sense. On page 14 of his text he states his premise:

"The fundamental concepts of value and price which are central to appraisal are at the heart of the social science of economics. Economic goods are valuable because of their utility (productivity) and scarcity. Thus in analyzing the value of a parcel of real estate, the starting point is with its inherent utility - the characteristics and qualities which can make it productive and desirable, and for which people are willing to pay.

"But price is set in the market place. To serve his client's needs, the appraiser seeks to predict the price at which the subject property will probably sell. Viewing the property as a package of potentially productive qualities, the appraiser must predict the outcome of the interaction of the market forces of demand and supply to which the property might be exposed and which could trigger a transaction from which market price will emerge.

"Economics is a behavioral science, descriptive of the economic behavior of people under various conditions. It is the appraiser's task to predict how people, both buyers and sellers, will behave with respect to the subject property when it is exposed for sale. People make values and determine prices."

I. An appraisal as a benchmark for decision requires the appraisal report to reflect the client's purposes for which an appraisal is sought. It is common sense that the more questions that an appraisal can serve, the more business potential there is; fair market value serves only a limited number of issues.

1. For the mortgage lender, the issue is the liquidating value or probability of future cash returns being adequate to repay the loan, interest, and cost, and the distribution of profit centers over time to maintain repayment incentive to the borrower.
2. For the courts *eminent domain* or assessment appeal, the statement of function leads to the definition of value as the jurisdictional market value.
3. A report for a would-be buyer or seller might lead to the definition of value as investment market value.
4. For most cases the appraiser would seek to determine the most probable selling price.

J. Investment market value is a term coined by Mack Hodges for the present value of future income receipts, considering a specific set of assumptions about the after tax cash flow of property and

requires some general description of the investment standards and tax status of buyers interested in a specific type of property, specifically income investment property. Investment value, which requires some detail about motivations of a probable or specific buyer, is a special case of the broader concept of "most probable sales price." (Vp)

K. Most probable selling price is derivative of the theoretical work of Prof. Richard U. Ratcliff, William Kinnard, Paul Wendt, and others.

1. The quotable definition: "The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type."
2. This approach makes the point conclusion explicitly a statement of the central tendency (mode, mean, or median) around which a transaction price is likely to fall. Thus it generally supplies a valuation as a range of prices within which a transaction would most likely occur, similar to but not necessarily a concept of statistical standard error. This range will be called a transaction zone.

L. General format of RATGRAM Appraisal follows common sense logic:

1. Define the issue for which the appraisal is sought in order to select the appropriate definition of value.

2. Analyze alternative uses of property to select most probable use as of date of appraisal.

3. Infer from probable use the most probable buyer-type, financial motivations, and negotiation position.

4. Define comparability and test applicability of three alternative approaches.

   a. Preferred method is to infer buyer behavior from completed market transactions.
   b. In the absence of sales, simulate buyer estimation methods and constraints.
   c. Knowing nothing of buyers methods, fallback to normative approaches.

M. In the contemporary approach, note:

1. Any method is judged on the reliability with which it predicts transaction price-not on intellectual elegance-robustness.

2. Buyer-type is generally a class, but it could be a single buyer. The statistical market place assumption does not control.

3. There is no need that buyers be fully informed as the market may provide evidence that prices are being set by ignorance; there is no need that buyers have reasonable choices if the seller is enjoying a monopoly position.
4. Finally it should be noted that the logical development from productivity analysis to selection of the appraisal report structures the form of the report.

III. Since appraisal starts from what is known about a specific piece of property (Productivity Analysis, Chapter 2 in Ratcliff), it is similar to a feasibility report until one has determined the probable use and the probable buyer.

A. Refer to Exhibit 2. Not very legible, but included - = Traditional Appraisal Set of Feasibility Assumptions Fictional

B. The traditional appraisal report always moves from the general to the specific, subject to a series of limiting conditions. Many of these special conditions are professional courtesy to avoid competition with other professions at the same time that one avoids paying the other professions and continues as a lone wolf in appraisal, controlling the customer, a psychological hang-up of real estate brokerage. Thus the appraiser avoids:

1. Engineering factors
2. Finance and taxation matters
3. Title issues, surveys, etc.
4. Legal character of leases, permits, and other contracts

C. At the same time the element of uncertainty, left implicit by a single number conclusion, is hedged by additional limiting conditions including the appraisal practice of ignoring politics, land use administration, and personalities.

1. The practice of using limiting conditions has moved to the point where the appraiser supports consistency based on faulty premises rather than honesty as the reliability of a prediction
2. Nevertheless, all an investor buys is a set of assumptions about future.
3. Since risk is the variance between assumptions and realizations, how can the appraiser evaluate the probable productivity of the property without evaluating all the assumptions which can be made explicit.
4. Thus the transaction zone or range of estimates together with other report writing techniques are intended to provide better methods of recognizing the need for tolerance in the decision process for the conditions of uncertainty which surround the appraisal estimate.

IV. Ratcliff has been most comprehensive in statement of basic appraisal theory, many writers are contributing to the rethinking of the appraisal process and appraisal techniques. A number of selected readings by these other professional and academic critics have been included in the appendix of your workbook.

Exhibit 2

TRADITIONAL APPRAISAL AS A FICTIONAL SET OF FEASIBILITY ASSUMPTIONS

Feasibility Analysis	Appraisal Analysis
Will the project really work for a specific investor?	What would the project sell for if it did work for a typical investor?
1. Objectives - decision standards provided by client decision process a. Maximize spendable cash of total enterprise b. Subjective gratification of specific individual c. Adaptation to enterprise management specialties and weaknesses	1. Objectives - decision standards provided by theoretical framework a. Maximize economic surplus of individual parcel b. Prudent behavior of economic man c. Average management to isolate return to land & capital
2. Aggregate market potential opportunity identification	2. Aggregate market potential business climate
3. Merchandising analysis (Defining competitive edge) and specific user profile	3. Merchandising comparison (Defining standard competitive substitute)
4. Legal-political context a. All legal constraints on site, seller, buyer and user are considered b. What is legal is qualified by what is political	4. Legal-political context a. Legality assumed b. Limited to site use rather than regulations on probable user as alternative buyers are assumed
5. Physical-technical constraints are examined in terms of what might be	5. Physical-technical constraints are studied as is or in terms of conventional uses
6. Impact on environment and community specifically forecast	6. Impact on environment and community assumed acceptable within existing permitted uses
7. Financing from buyer viewpoint considering all profit centers	7. Financing from lender viewpoint considering only net income line and below
8. Income tax advantages or disadvantages affecting spendable cash	8. Income tax not considered except implicitly recognized in market comparison
9. Actual cash revenues and expenses forecasted for each period of time horizon	9. Revenues and expenses generally normalized and projected on linear trend for standard period
10. Limiting assumptions of solution a. Identification of potential variance and sensitivity of objectives to alternative futures b. Responsibility allocated among sources of expertise c. Budget & purpose of study edits information scope d. Format of analysis determined by structuring of data to lead to desired conclusion or recommendation	10. Limiting assumptions of solution a. Average outcome without qualification as to alternative futures b. Responsibility denied for other areas of expertise c. Date of appraisal edits information scope d. Format of analysis defined by model of fair market value appraisal report

A. Much commentary on appraisal can be divided between those who would just as soon scrap the historical textbooks and language of appraisal (a la Ratcliff and Graaskamp), and those who would simply like to refine present dogma and techniques of appraisal report content (Wendt and Smith).

B. While the rebels attack theory head-on with the romantic notion of toppling the temple of principles built in Chicago, the more pragmatic politicians are realistically chipping away at the stone tablets from within traditional institutions.

C. A few argue that the change in appraisal method represents a shift from deductive logic based on principles to inductive forecasting tools capitalizing on observed behavior. A parody of scientific method versus theory and reason.

D. Some of the other issues in debate relate to the following topics:

1. What is function of appraisal?
   a. Benchmark of value
   b. Predict transaction price under conditions of uncertainty
   c. To answer a question of a client
2. What is the standard of professionalism?
   a. Format (profession vs. institution)
   b. Tools and techniques
   c. Standards of business conduct
   d. Reliability of results
3. What is the frame of reference of real estate productivity?
   a. The parcel
   b. The individual investment interest
   c. The community
   d. The collective interest of society

COFFEE BREAK

CONTEMPORARY REAL ESTATE APPRAISAL REPORT

Letter of Transmittal

1. Brief statement of appraisal issue
2. Definition of value applied
3. Value conclusion (qualified by financing, terms of sale, and range of probable transaction zone as appropriate)
4. Sensitivity of conclusion to critical assumptions
5. Property observations or recommendations
6. Incorporation by reference of limiting assumptions and conditions

Table of Contents

List of Exhibits

Digest of Facts, Assumptions, and Conclusions

1. Property type
2. Property location
3. Property ownership
4. Determinant physical attributes
5. Controlling legal-political attributes
6. Pivotal linkage attributes
7. Marketable dynamic attributes
8. Most probable use conclusion
9. Most probable buyer profile assumed
10. Initial probable price prediction and central tendency
11. Adjustment of preliminary value estimate for external factors or market position of parties
12. Testing of corrected probable price for consistency with most probable buyer objectives
13. Final value conclusion and range of error estimate as appropriate

I. Appraisal Problem Assignment

A. Statement of issue or circumstances for which appraisal is intended to serve as a decision benchmark and date of valuation

B. Special problems implicit in property type or issue that affect appraisal methodology and definition of value

C. Special assumptions or instructions that are provided by others

D. Definition of value,which is the objective of appraisal analysis and disciplines appraisal process

1. Selected definition and source
2. Implicit conditions of the definition
3. Assumptions required by relevant legal rulings

E. Definition of legal interests to be appraised

1. Legal description and source
2. Permits, political approvals,and other public use entitlements
3. Fixtures or personalty to be included with sale
4. Specific assets or liabilities excluded as inconsistent with issue or premise of appraisal

II. Property Analysis to Determine Alternative Uses

A. Site Analysis

1. Physical (static) site attributes (size, shape, geology, slope, soil hydrology, etc.)
2. Special site improvements (wells, bulkheads, irrigation systems, parking surfaces with unique salvage or re-use characteristics, etc.)
3. Legal-political attributes (applicable federal, state and local zoning, convenants, easements, special assessments, or other land use codes and ordinances, etc.)
4. Linkages of site (key relationships to networks, populations, or activity centers that might generate need for subject property)
5. Dynamic attributes of site (perceptual responses of people to site in terms of anxiety, visibility, prestige, aesthetics, etc.)
6. Environmental attributes of site as related to off-site systems or impact areas.

B. Improvement Analysis

1. Physical (static) attributes of improvements, cataloged by type, construction, layout, condition, structural flaws, etc.
2. Mechanical attributes (brief statement of heating, ventilating, air conditioning, electrical, plumbing, and fire or safety systems in terms of limitations on use or efficiency)
3. Special structural linkages to off-site elements (tunnels, bridges, adjoining structures, etc.)
4. Legal-political constraints on use of existing improvements (federal, state and local building codes, fire codes, conditional use procedures, neighborhood associations, and inspection liens of record for violations).
5. Dynamic attributes of existing improvements (impressions created by type, bulk, texture, previous uses, past history, or functional efficiency)
6. Current uses and tenancies of improvements, if any
7. Environmental impact attributes of improvements on environs

E. Identification of Alternative Use Scenarios for Subject Property

1. Marketing existing uses of property as is
2. Renovation of existing property and marketing improved space
3. Redirection of existing property to alternative tenancies and uses
4. Replacement of existing improvements or program with new uses

III. Selection of Most Probable Use

A. Comparative Analysis of Alternative Uses

1. Testing and ranking alternative-use strategies for legal-political compatibility
2. Testing alternative-use scenarios for fit to physical property attributes within reasonable cost to cure
3. Selection of scenarios that justify market research

B. Analysis of Effective Demand for Selected Uses

1. Search for rents and income potentials of scenario space-time products
2. Screen and rank market targets
3. Apply income-justified residual investment approach to rank economic power of alternative market scenarios
4. Evaluate marginal revenue, marginal investment risk trade-offs

C. Summary Matrix for Selection of Most Probable Use Scenario

1. Physical fit
2. Legal-political risk
3. Strength of market demand
4. Adequacy of available financing
5. Revenue and cost assumptions risk

IV. Prediction of Price for Subject Property

A. Specification of Most Probable Buyer Type Implied by Most Probable Use

1. Criteria motivations of alternative buyer types
2. Selection of most probable buyer type as basis for prediction of a sales transaction with logic for ranking of alternatives
3. Specification of essential site, improvement, financial, or key decision criteria of principal alternative buyer types

B. Explanation of Appraisal Methodology for Prediction of Probable Purchase Price

1. Preferred method: to infer buyer behavior from actual market transaction and market data available from sales by comparable buyers of acceptable alternative properties
2. In the absence of adequate market sales data, the alternative method selected for simulation of probable buyer decision process
3. If market influence of simulation is impossible, select normative model such as investment value, or cost to replace

C. Search for Comparable Market Sales Transactions

1. Unit of comparison
2. Method of comparison
3. Explanation of search parameters
4. Investigation of sale transaction circumstances
5. Evaluation for comparability
6. Definition of predominant terms of sale
7. Source of comparative adjustments

D. Determination of Suitability of Existing Market Data for Inference of Value for Subject Property

1. Where data is adequate, selection of market comparison method to estimate value
2. Where data is lacking or misleading, selection of alternative valuation method and reasoning
3. Conclusion leads to E or F

E. Simulation of Probable Buyer Decision Process If Market Comparison Approach Is Inconclusive or Impossible

1. Source and explanation of simulation model
2. Schedules of simulation assumptions
3. Range of alternative simulation value predictions (sensitivity analysis)

(OR) F. Selection of Normative Model of Buyer Behavior

1. Investment model
2. Cost-to-replace model
3. Nonquantitative decision models

G. Computation of Most Probable Price and Standard Error of Prediction

H. Correction of Preliminary Value Estimate for External Factors

1. Identification of conditions relative to date of appraisal not present in market comparison assumptions
2. Specification of political contingencies that might upset normal appraisal assumptions of substitution
3. Identification of any violation of conditions in the definition of value by the appraisal methodology
4. Indication of adjustment necessary to preliminary probable price estimate or
5. Explicit statement that no adjustment is necessary

I. Test of Most Probable Price or Value Conclusion by Means of:

1. Comparison to values derived from selected alternative appraisal methodology
2. Demonstration of achievement of objectives of most probable buyer minimum selection criteria
3. Measurement of fit of financial cash requirements to market rents, lender ratios, or other relevant constraints
4. Comparison to decision criteria appropriate to issue (financial ratios required by mortgage lender, comparative assessments of similar property for the tax appeal board, rates of return in alternative investments, construction prices for similar property, or whatever demonstrates consistency with statement of the issue)

V. Appraisal Conclusion and Limiting Conditions

A. Definition of Value and Value Conclusion of the Report

B. Certification of Independent Appraisal Judgment

C. Statement of Limiting Conditions That Establish:

1. Contributions of other professionals on which report relies
2. Facts and forecasting under conditions of uncertainty
3. Critical assumptions provided by the appraiser
4. Assumptions provided by the client
5. Controls on use of appraisal imposed by the appraiser

Appendices

Maps, data sets, only if referred to in the text. These data collections would slow down the reader if included as an exhibit and are secondary to the argument in the body of the report.

Concept of Most Probable Buyer Type/Most Probable Price

V. Ratcliff Theory would place as much emphasis on behavior of prospective buyers or investors as on the operating behavior and characteristics of a property. Appraisal is trying to predict how people, buyer and seller, will behave in the future, converting a decision to a mutually acceptable price.

A. Each party is operating under certain assumptions and constraints:

1. Buyers assume they will have to pay no less than some specific price, that others are bidding for the property, that they cannot afford to pay more than a certain amount of income for shelter or business location, or that a desired use requires a specific set of attributes.
2. Sellers assume buyers see the property in the same way they do, that the property has some inherent value and utility, and that its just a matter of time before some fish can be found to pay the asking price.

B. The definition of value selected by the appraiser also assumes certain motivations for buyer and seller which typically are a matter of convenience for the appraiser but often a significant source of error in the prediction of price. While the wording on fair market value differs slightly, the following conditions are always assumed to prevail:

1. Competitive market conditions.
2. An informed buyer and seller.
3. No undue pressure on either party.
4. "Rational" or prudent economic behavior by both buyer and seller.
5. A reasonable turnover period.
6. Payment consistent with the standards of behavior of the market.
7. Market Value looks at the transaction from the point of view of the buyer.

C. However, a buyer is integrating and comparing a property more to a personal set of needs than to a property alternative which is only roughly similar to another in function and potential.

1. For example, a commercial office building developer seeks a site with a minimum number of construction problems, an optimum shape, and maximum rental value. On the other hand, the committee buying a home office site for an insurance company or bank will emphasize visibility and location at the expense of almost any development cost and despite any reduction in rental value for re-use.
2. A young couple may buy an old house because it is run down and in need of renovation in order that the initial cost is low and the opportunity for creating equity is greatest, while the seller is selling because of irritation with the fit of the structure to his lifestyle or because he has reached the end of his lifecycle in that location.

3. One man's floor is another man's ceiling.
4. Therefore, the eventual sales price at which two parties will agree is arranged within a zone of expectations and requirements reflecting the assumptions of each party. Indeed some transactions are designed so that the final price is determined later based on whose assumptions prove to be more correct in a speculative situation.

D. Both buyer and seller enter negotiations with a subjective value expectation (Vs) which is a constraint in bargaining for the property.

1. "The actual selling price will usually represent a compromise between what the buyer would have paid if necessary and what the seller would have taken as a last resort." p. 13, Ratcliff.
2. Therefore, the appraisal must take more than just the buyer viewpoint of the transaction or the appraisal will not be of a value that reaches the minimum the seller can or would accept.

E. This leads then to the concept of a transaction zone around a point which is the central tendency of bargaining, a point we call most probable price. Notice the assumptions of most probable price may be somewhat more acceptable in terms of pragmatic realism than those of fair market value.

1. Subjective value (Vs) is a figure with which buyers and sellers enter the market as a constraint in the bargaining. The actual selling price will represent a compromise between what the buyer would have paid if necessary and what the seller would have taken as a last resort.
2. In residential work, where there are many sales, the transaction zone may be defined statistically as the standard deviation of the estimate.
3. The possible variance or error in the estimate of probable sales price may be intuitive by the appraiser.
4. The zone may be defined by the logic of bargaining positions. The seller wants to cover his debt and broker fees; the buyer assumes a certain value in a new use less remodeling costs, less a cushion for unexpected costs and profit.
5. In the cast of investment properties, sensitivity analysis may define the range of alternative outcomes.
6. There may be certain conditions which cannot be known by the appraiser but which would change his estimate as to what the buyer or seller would accept; the appraiser may define the transaction zone as the range between optimistic and pessimistic impacts of external events.

F. The important function of the transaction zone is to alert the reader of the report:

1. To the fact that an appraisal value is not a certainty but a prediction of a future hypothetical business event.
2. Present value is the purchase of a set of assumptions about the future and therefore value depends on which set of assumptions the buyer and seller "buy."
3. The reliability of a prediction is important in using probable price as a benchmark for a decision; reliability is less important in assessment than in investment, conservatism more important. in lending than in equity investment, etc.

VI. Three Basic Methods of Appraisal

As you know, Ratcliff concludes that most appraisals are concerned with prediction of a future event, a transaction price. Since an appraisal method is a forecasting tool, forecasting is best done with some past experience. Failing that, the best method is simulation of the real estate market process.

A. Given reliable information on past market behavior, the preferred method of appraisal is to process the data, statistically if possible, to derive a prediction of future price behavior under given conditions and with means for estimating the reliability of the prediction.

   1. Statistical prediction if possible.
   2. Statistical rules for definition of a data set at the least.

B. Should market data be unavailable or inconclusive, the appraiser is forced to resort to the second method of appraisal, namely the construction of a real estate market model of factors which reflect his understanding of how buyers and sellers might behave.

   1. The income approach and the cost approach are submodels of how an investor is supposed to behave.
   2. After tax investment models are another submodel of market behavior, but while these may measure demand from the buyer's viewpoint, it may not measure the minimum price expected by the seller who also has a tax model to consider. In using the second approach, the appraiser must be very careful to indicate price on the supply side representing minimum expectations (Vs) of the seller.

C. Should there be no sales and no way to verify how buyers would review the specific property (utility case-rate base or kilowatt production?), then the appraiser falls back to normative methods.

   1. Normative means what the buyer would do if he were as smart as the appraiser and motivated only by a desire to maximize wealth.

   2. The traditional income approach on the cost approach are normative models unless it can be proven buyers behave accordingly.

   3. After tax cash flow models are normative models until it can be shown how these models value property.

VII. Inferring Future Price From Sales Data

A. For residential properties there are often many sales of similar properties so that powerful statistical tools can be brought into play, such as multiple regression, factor analysis, etc. However, the simple average can also lend itself to statistical inference.

B. Dispersion is the variation or scatter of a set of values. Measures of dispersion are needed for the following basic purposes:

1. To gauge the descriptive reliability of averages.
2. To serve as a basis for control of the variability itself (such as rejecting a comparable that lies outside a certain range).
3. To summarize facts, both an average and a measure of dispersion should be presented.

C. When dispersion is small, then the selected average is a typical value in that it closely represents the individual values in the set and it is reliable in that it is a good estimate describing the typical case in the population. It is a useful generalization. Conversely, an average with very great dispersion is not very descriptive of the data set and may be a misleading generalization.

D. Measures of dispersion include:

1. A range
2. The quartile deviation
3. The mean deviation
4. The standard deviation

E. Consider the data on some apartment site land sales in Madison provided in Exhibits 1, 2, and 3. The range is the difference between the largest and smallest values of the variable:

1. $5.60 - $6.50 per square foot of land or 90¢
2. $1970 - $2208 per dwelling unit built or $238
3. $3.72 - $4.23 per square foot of gross building area or 51¢
4. $1226 - $1327 per total number of rooms built or $101

F. Exhibit #3 shows the mean and the standard deviation of the mean.

G. Quartile deviation must be applied to group data which are ranked from high to low. First the data is divided at the median and then each half of the data is split in half once again. Consider the net rentals of older supermarkets under existing leases provided in Exhibit #4.

Exhibit #4

CUMULATIVE FREQUENCY DISTRIBUTIONS
Supermarket Net Rents for 214 Stores in Chain X

(1) New Rent per Square Foot	(2) Number in Class with Lower Limit Shown	(3) Number Earning Less	(4) Number Earning as Much or More
$2.25	2	0	214
2.35	23	2	212
2.45	49	25	189
2.55	63	74	140
2.65	45	137	77
2.75	25	182	32
2.85	3	207	7
2.95	4	210	4
3.05	0	214	0
Total	214	1051	875

H. In the full array of data, the value of Q_1 and Q_3 are found to be $2.50 and $2.70, meaning 1/4 of the properties generate less than $2.50 a square foot and 1/4 exceed $2.70 per square foot while the middle half fall between these values. The quartile deviation is then (2.70 - 2.50)/2 or 10¢, or stated another way the range of the second and third quartile is about 10¢ per square foot.

VIII. When comparable sales have only one dimension, such as net leaseable area or number of rooms, a direct mean and some of the squares dispersion test is possible. However, usually it is necessary to consider a variety of factors and discover how price changes relative to the net differences of each property. Linear regression is one such method.

A. Ratcliff in Chapters 6 and 7 demonstrates a point system which ranks properties and is then weighted by buyers priorities. The weighted points are then compared to unit price. This system may be too elaborate for houses but can be demonstrated on a variety of commercial properties.

B. Consider the evaluation of vacant industrial land in Exhibits 5, 6, and 7.

1. Point system should be kept simple. 1-3-5 indicates below average, average, and above average.
2. If the appraiser is capable of making more careful distinctions between comparable properties, he can use a ten point scale such as 0, 4, 6, 8, 10 for each item, being careful not to change scales.
3. Many small judgments are better than large rough adjustments because of the theory of off-setting errors. Too big a range in scoring implies drastic differences between the worst and the best.

4. Note that Exhibit 7 provides an objective scale for most factors so that the reader can understand the score. The weights in this case were corroborated in the narrative of the report from a 1968 study by Real Estate Research Corporation.

C. All calculations for establishing the "a" and "b" factors for linear regression appear in Exhibit #8 and are charted in Exhibit #9.

D. An example using restaurant sites in Madison is provided in Exhibits 10, 11, and 12.

E. An example of a single family appraisal is provided in Exhibits 13, 14, 15, and 16.

F. A fourth example comparing old store buildings in downtown Madison will be provided in a demonstration appraisal.

EXHIBIT #2

Vacant Land Market Comparison
Residential Use Land Price: Mean

Comparable Sales

Factors	420 W. Wilson No. 1	219 N. Frances No. 2	102 N. Franklin N. 3	434 W. Mifflin N. 4	427-31 W.Main No. 5	Mean (X) 1-5
Sales Price	$84950	$48000	$86900	$160000	$53000	$432850
Date of Sale	'73	'72	'72	'72	'72	
Land Area (sq.ft.)	13068	7920	15246	26400	8712	71346
No. of Dwelling Units Built	43	24	43	73	24	207
Total Gross Bldg.	20070	12670	24364	43040	10900	111044
Total # Rms Blt.	65.5	38	65.5	130.5	40	339.5
Mean Land Price - $/per:						
1. Square Ft. of Land	$6.50	$6.06	$5.60	$6.06	$6.08	$6.06
2. Dwelling Unit Blt.	$1976	$2000	$2020	$2192	$2208	$2079
3. Total Gross Bldg. Floor Area	$4.23	$3.79	$3.79	$3.72	$4.86	$4.08
4. Total # Rms Blt.	1297	1263	1327	1226	1325	1288

EXHIBIT #1

Basic Information of residential Multi-Family Land Sales Comparables

Factors	420 W. Wilson No. 1	219 N. Frances No. 2	102 N. Franklin No. 3	434 W. Mifflin No. 4	427 W. Main No. 5
Sales Price	$ 84,950	$48,000	$86,900	$160,000	$53,000
Sales Date	'73	'72	'72	'72	'72
Type of Deed	WD	WD	WD	WD	WD
Volume and Page	403/510	346/561	334/ 23	337/215	342/113
Grantor	R.A. Paape Co.Inc.	Work of God, Inc.	Brown, Emily	Voss, Rob't	Miller + wife
Grantee	Hillmark,Dev. Corp.	Hillmark Corp.	Courtyard Assoc.	American United Investment	Hillmark Corp.
Land Area	13,068	7,920	15,246	26,400	8,712
Zoning	R-6	R-6	R-6	R-6	R-6

All have city services, sidewalk and street improvements
No adjustment for time required as residential economics would not permit inflation of land prices.

Landmark Research, Inc.

EXHIBIT #5

Industrial Land Sales Selected as Comparables
to MG & E Subject Parcel

		Date of Sale	Price	Public Record	Square Feet	(Acres)	$/Sq. Ft.
1.	MATC	6/8/67	$108,750	Confirmed by MATC Finance Director	152,460	(3.5)	.71
2.	MATC	1/23/67	75,000	Vol.828,p.280	81,828	(1.88)	.92
3.	Gorman	12/20/65	17,500	Vol.436,p.463	21,060	(.48)	.83
4.	Holfman	6/5/64	15,000	Vol.779,p.558	17,050	(.39)	.88
5.	Garrett	5/31/63	12,000	Vol.758,p.226	13,932	(.32)	.86
6.	Madison Transit	1/4/68	55,000	Vol.4,p.358	211,701	(4.86)	.26
7.	Madison Trust	12/28/66	45,000	Vol.828,p.204	67,900	(1.56)	.66
8.	NW Mutual	9/9/66	117,500	Vol.824,p.144	138,521	(3.18)	.85

Exhibit 3

Vacant Land Market Comparison
Multi-Family Residential Use Land Price
Mean & Standard Deviation

	Comparable	Land Price/ Comparable Unit	$\bar{X}-X$	$(\bar{X}-X)^2$	Mean Deviation $MD=\frac{\leq\bar{X}-X}{n-1}$	Standard Deviation $S=\sqrt{\frac{\leq(\bar{X}-X)}{n-1}}$
Land Price Per:						
Sq. Ft. of Land	1	$6.50	.44	.19		
(Row #1, Ex. #6)	2	6.06	0	0	$\frac{.92}{4}$	$\sqrt{\frac{.44}{4}}$
	3	5.60	.46	..21		
	4	6.06	0	0		
	5	6.08	.02	.04	$.23	$.33
Total		$30.30	.92	.44		
Mean (sum $\frac{xi's}{n}$)		$ 6.06				
No. of DU Built	1	1976	53	2809		
(Row #2, Ex. #6)	2	2000	29	841	$\frac{433}{4}$	$\sqrt{\frac{62341}{4}}$
	3	2020	9	81		
	4	2192	163	26569		
	5	2208	179	32041	$108	$249.
Total		$10396	433	62341		
Mean		$ 2079				
Total Gross Bldg.						
Area Built	1	4.23	.15	.02		
	2	3.79	.29	.08	$\frac{1.87}{4}$	$\sqrt{\frac{.92}{4}}$
	3	3.79	.29	.08		
	4	3.72	.36	.13		
	5	4.86	.78	.61	$.465	$.4
Total		$20.39	1.87	.92		
Mean		$ 4.08				
Total No. Rooms Built	1	1297	9	81		
(Row #3, Ex. #6)	2	1263	25	625	$\frac{172}{4}$	$\sqrt{\frac{7440}{4}}$
	3	1327	39	1521		
	4	1226	62	3844		
	5	1325	37	1369	$43	$43.1
Total		$6438	172	7440		
Mean		$1288				

Landmark Research, Inc.

EXHIBIT #7

Quality Scores & Weight Per Category

		Weight
1.	Size (Marketability Factor) 0 - 1 acre = 5 over 1 - 3 = 4 over 3.5 -10 = 3 over 10 - 20 acre = 2 over 20 acre = 1	20
2.	Accessibility to all areas (in terms of distance and time) 1-5 where 5 = premium + 3 = average	20
3.	Visibility from major artery 1-5	15
4.	Availability of sewer/water at site 1-5	15
5.	Availability of rail 1-5	10
6.	Soils and topography	20
		100%

Exhibit 16

Table of Scores for Comparable Properties

	1	2	3	4	5	6	7	8	Subject
Size	3	4	5	5	5	3	4	4	1
Access	4	4	4	4	4	2	3	3	4
Visibility	5	5	5	5	4	1	1	2	5
Sewer/water	5	5	5	5	5	2	5	5	5
Rail	1	1	1	1	3	1	2	2	4
Soils	2	3	2	2	2	4	5	5	1

Feature	Weight	Weighted Ratings								
		1	2	3	4	5	6	7	8	Subj
Size	20	60	80	100	100	100	60	80	80	20
Access	20	80	80	80	80	80	40	60	60	80
Visibility	15	75	75	75	75	60	15	15	30	75
Sewer/water	15	75	75	75	75	75	30	75	75	75
Rail	10	10	10	10	10	30	10	20	100	40
Soils	20	40	60	40	40	40	80	100	100	20
Total		340	380	380	380	385	235	350	365	310
Price/Sq. Ft.		.71	.92	.83	.88	.86	.26	.66	.85	

EXHIBIT #8

Least Squares Regression

Model $Y = a - b X$

where Y = estimated land value per square foot

X = weighted quality ratings

Comparables	Y	X	Y^2	X^2	XY
1	.71	340	.504	115600	241.400
2	.92	380	.846	114400	349.600
3	.83	380	.689	114400	315.400
4	.88	380	.774	114400	334.400
5	.86	385	.740	148225	331.100
6	.26	235	.068	55225	61.100
7	.66	350	.436	122500	231.000
8	.85	365	.723	133225	310.250
	Σ=5.97	Σ=2815	Σ=4.779	Σ=1007975	Σ=2174.25

Step 2: Compute mean of Y and mean of X

$$\overline{Y} = \frac{\Sigma Y}{n} = \frac{5.97}{8} = .746$$

$$\overline{X} = \frac{2815}{8} = 351.875$$

Step 3: Compute Σy^2, Σx^2 and Σxy

$$\Sigma y^2 = \Sigma Y^2 - n(\overline{Y})^2$$
$$= 4.779 - 8(.746)^2$$
$$= 4.770 - 8(.557)$$
$$= 4.779 - 4.452$$
$$= .327$$

$$\Sigma x^2 = \Sigma X^2 - n(\overline{X})^2$$
$$= 1007975 - 8(351.875)^2$$
$$= 17446.873$$

$$\Sigma xy = \Sigma XY - n\,\overline{XY}$$
$$= 2174.25 - 8(.746)\ (351.875)$$
$$= 2184.25 - 2099.99$$
$$= 74.26$$

Step 4: $b = \frac{\Sigma xy}{x^2} = \frac{74.26}{17446.873} = .04256$

Step 5: $a = \overline{Y} - b\overline{X}$

$= .746 - .004256\ (351.875)$
$= -.7517$

Hence $Y = -.7517 + .004256\ (X)$
$Y_n = -.7517 + .004256\ (310)$

$= .56765$ say .57

Step 6: Compute standard error

$$S_{y.x} = \sqrt{\frac{\Sigma y^2 - b\Sigma xy}{n-2}}$$

$$= \sqrt{\frac{1327 - .004256\ (74.26)}{8-2}}$$

$$= \sqrt{\frac{.10949}{6}}$$

$$= \sqrt{.001825}$$

$= .042719$ say $.04

Step 7: Compute r^2

$$r^2 = \left[\frac{\Sigma xy}{\Sigma x^2 \Sigma y^2}\right]$$

$$= \left[\frac{74.26}{(17446.873)(.327)}\right]$$

$= .9665$

EXHIBIT #10

Basic Information on Restaurant-Commercial Land Sale Comparables

	Barnaby's East	Barnaby's West	Bud's West	Pigs Ear East	Marc's Big Boy South	Marc's Big Boy East
Sales Price	$92,000*	$89,000	$75,700	$91,000	$87,500	$85,000
Sales Date	10-6-70	6-30-70	6-29-71	5-20-72	9-3-69	3-15-68
Type of Deed	Lease with Option	WD	WD	WD	WD	WD
Volume & Page	209-455	184-75	264-173	344-385	130-463	15-108
Grantee	Barnaby's Inc.	Barnaby's Inc.	Clyde Chamberlain	Poole, Inc.	B & G Realty	B & G Realty
Area	38,211	32,900	45,236	141,570	38,327	30,237
Zoning	C-2	C-3-L	C-3-L	M-1	C-2	C-2
Principal Business Frontage	E. Washington Ave.	Mineral Point & Grand Canyon Roads	Odana Rd.	Cottage Grove Road & Atlas Avenue	S. Park Street	E. Washington Ave.
Position on Block	Inside lot	Corner lot	Inside lot	Corner lot	Corner lot	Inside lot

All have city services, Pigs Ear did not have curb and gutter
No adjustment of time required as restaurant economics would not permit inflation of land prices.

EXHIBIT #12

Determination of Linear Regression
Weighted Mean Value of Land/sf
Commercial-Restaurant

Comparable	1 Land $/sf Yi	2 Total Wgtd. Pts. Xi	3 (Land $/sf)^2 Yi^2	4 (Wgtd.Pts)^2 Xi^2	5 (3 x 4) XiYi
1	$2.40	1490	5.76	2220100	3575
2	2.73	1700	7.45	2890000	4641
3	1.67	1620	2.79	2624000	2705
4	.64	1090	.41	1881000	698
5	2.28	1520	5.20	2310400	3466
6	2.81	1780	7.90	3168400	5002
TOTAL	$12.53	9200	29.51	15093000	20087
Mean	(Y)=$2.09	(X)=1533			

Calculations of Mean, Standard Deviation

$$\text{Sum } y^2 = Y^2 - n(Y)^2$$

$$= (29.51)^2 - 6(2.09)^2$$

$$= 845$$

$$\text{Sum } x^2 = X^2 - n(X)^2$$

$$= 1509300 - 6(1533)^2$$

$$= 993366$$

$$\text{Sum } xy = XY - n(x)(Y)$$

$$= 20087 - 6(1533)(2.09)$$

$$= 863$$

$$Y' = a + bX_{subject}$$

$$b = \frac{\text{Sum } xy}{\text{Sum } x^2} = \frac{863}{993366} = .00087$$

$$a = (Y) - b(X) = \$2.09 - .00087(1533)$$

SALES PRICE/SUBJECT SITE

$$Y' = a + bX_{subject}$$

$$= -\$.76 = .00087(1190) = \underline{\$1.80}$$

STANDARD DEVIATION

$$S_{xy} = \frac{\text{Sum } y^2 - b(\text{Sum } xy)}{n-2}$$

$$= \$ \underline{.15}$$

EXHIBIT #11

Attribute Point and Weight Comparison
Of Restaurant-Commercial Land Sales and Subject Property

	(See Exhibit #8)	Barnaby's East		Barnaby's West		Bud's West		Pigs Ear East		Marc's Big Boy South		Marc's Big Boy East		Subject	
30	*Site	Points	Wgt'd Pts												
	Shape	5		1		5		3		5		3		5	
	% Usable	3		3		5		5		5		5		1	
	Site Preparation	3		1		5		5		5		5		5	
	Visibility	3		5		5		3		5		3		3	
	Access														
	Left & Right Turn	5		5		5		3		3		3		1	
	Frontage Road	3		5		5		1		5		5		5	
	Total	18		20		25		20		28		24		20	
	Weight		540		600		750		600		840		720		600
50															
	Linkages														
	Traffic Volume	5		5		3		3		5		5		3	
	Supportive Retail/Serv.	5		5		3		1		1		3		1	
	Proximity to Multi-Family Residential	1		5		5		1		3		3		3	
	Proximity to Employm.	3		3		3		1		1		5		3	
	**Interstate-Beltline	2		1		1		3		2		2		1	
	Total	15		18		15		9		12		18		11	
	Weight														
20	Image														
	Development Activity	5		5		3		1		1		3		1	
	Prestige of Street Address	5		5		3		1		3		5		1	
100	Total	10		10		6		2		4		8		2	
			200		200		120		40		80		160		40
	*Scale 1,3,5 Except **		1490		1700		1620		1090		1520		1780		1190

EXHIBIT #14

Features	Weight	821 Minakwa St.	3120 Gregory	645 Sheldon St.	636 Crandell St.	628 Crandell St.	640 Knickerbocker	657 Knickerbocker	SUBJECT
		Rating / Weighted Ratings							
Location & Neighborhood	25	2/50	6/150	4/100	2/50	2/50	4/100	4/100	2/50
Lot	5	2/10	4/20	4/20	6/30	4/20	4/20	4/20	4/20
Financial Burden	15	4/60	2/30	4/60	6/90	4/60	4/60	4/60	6/90
Exterior Architecture	15	4/60	4/60	4/60	6/90	6/90	6/90	6/90	4/60
Mechanical	10	2/20	2/20	4/40	6/60	6/60	4/40	4/40	6/60
Physical Condition	10	2/20	4/40	4/40	4/40	4/40	4/40	4/40	4/40
Interior Attractiveness	20	2/40	2/40	4/80	4/80	6/120	6/120	6/120	4/80
TOTAL	100	260	360	400	440	440	470	470	400
PRICE		$26,300	$24,500	$23,800	$22,900	$22,900	$21,900	$21,900	???

EXHIBIT #13

Buyer Characteristics in Dudgeon School Area

1. 636 Crandall Street
Married couple, 27 years old - one year old child - college degrees - salary $10,000 per year
Valued protected play area for child, convenient location on bus line, remodeled kitchen, house with character within price range and possibility to build equity. They are having home rewired and doing minor maintenance required themselves. Financed with a conventional mortgage and second mortgage from state VA
Relative importance of buyer factors reported by interviewer:

Physical condition	10
Interior space	25
Mechanical equipment	10
Location & neighborhood	25
Financial operating burden	25
lot	5
	100

2. 821 Minakwa
26 year old couple, no children - project manager - college degree $10,000 salary.
Primary motivations were: house had more character and value than a new house for the same price, location for bringing up children, mechanicals in good condition and fireplace. Lot was considered a drawback.

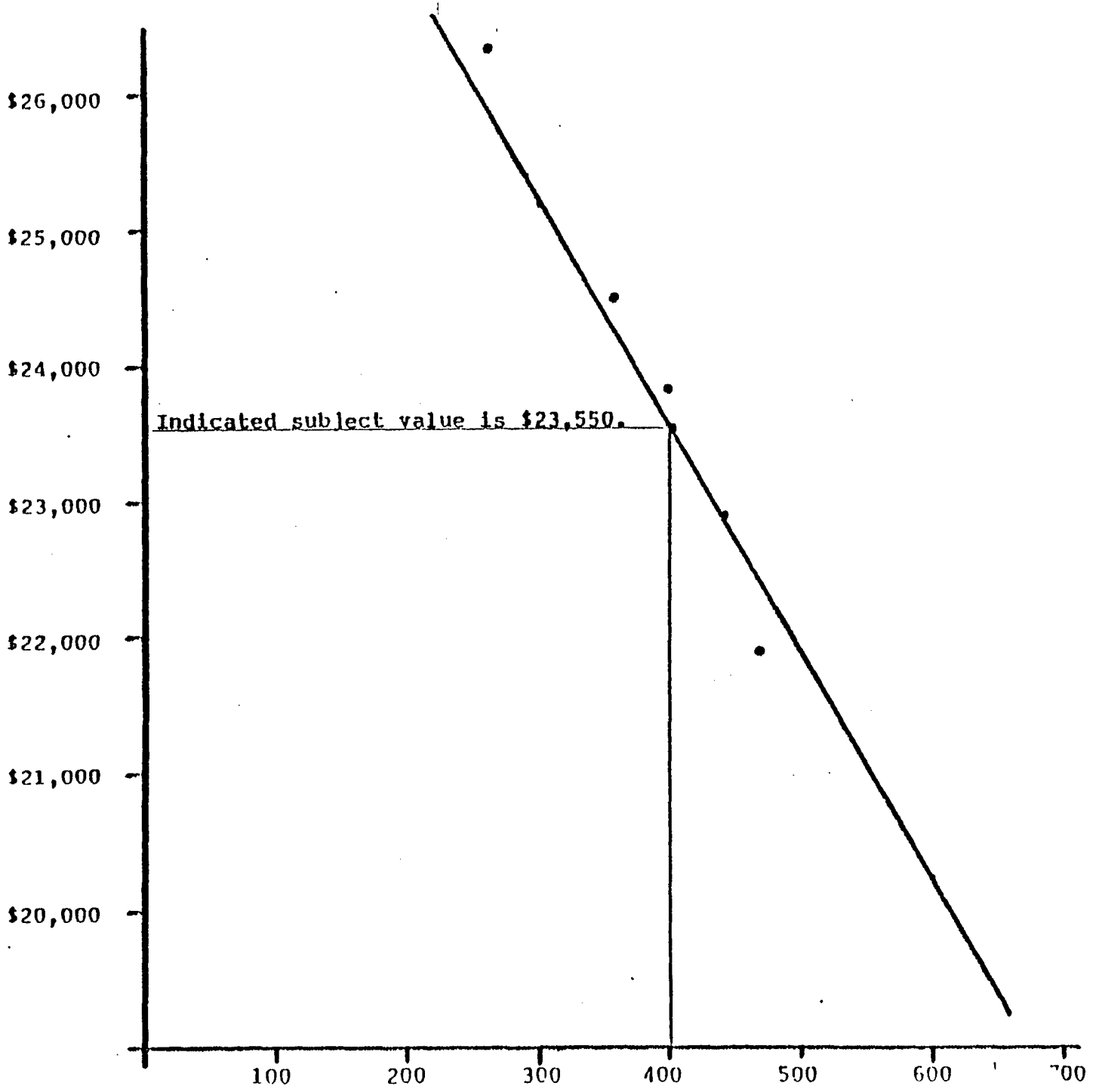
3. 3120 Gregory
Man and wife in mid -forties, no children - needed three bedrooms with full dining room and 2-stories high, wanted a two car garage but settled for one, Preferred west side for convenience and more value appreciation.
Purchased house expecting to repaint entire building.
Buyer reported purchase price of $24,000

4. 2455 Mohawk Dr.
Married couple, 27 years old, no children, both work with college educations.
Husband gave major weight to structural soundness, neighborhood appeal, and location near bus line and beltline.
Wife gave preference to wooded neighborhood and outdoor yard, and space utilization inside. Mechanical and storage were given only medium emphasis.

5. 645 Sheldon St.
28 year old married couple, no children, college educated.
They preferred home with garage, fireplace, close to bus line, and on west side between campus, square and Hilldale. Wanted garden.
Physical condition was rated highly, exterior appearance was not important.
Lot size was more important with mechanical and interior condition less important.

6. 1510 Whenona Drive
Married couple (approximately 30) - 2 children, ages 3 and 5 - college degrees - father, $10,000; wife works as a nurse.
Couple emphasized structural soundness as they expected to remain in house more than 10 years and possibly add a room at the rear. They wanted good sized rooms and visual appeal or character of an older home in a stable neighborhood. Valued location for convenience and stability of value and knew other young couples were moving in with plans to fix up their homes, too. They did not expect mechanical equipment to be modern in an old home and expected to update the kitchen eventually.
Off-site factors were taken for granted except for bus which wife used every day for work.

EXHIBIT #16


$26,000
$25,000
$24,000
$23,000
$22,000
$21,000
$20,000
Indicated subject value is $23,550.
100
200
300
400
500
600
700

Ratcliff Linear Regression

EXHIBIT #15

$$Y = a + bx$$

$$b = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{n(\Sigma x^2) - \Sigma(x)^2}$$

$$a = \frac{Y - b(\Sigma x)}{n}$$

$n = 7$	The number of comparables.
$\Sigma Y = 164,200$	The sum of the seven actual prices paid for the comparables. ($26,300) + ($24,500) + ($23,800)...
$(\Sigma y) = 164,200$	
$(\Sigma x) = 2840$	The sum of the total weighs for comparables. (260) + (360) + (400) + (440) + ...
$(\Sigma xy) = 65,916,000$	(260)(26,300) + (360)(24,500) + ...
$(\Sigma x)(\Sigma y) = 465,328,000$	(2840)(164,200)
$\Sigma(x)^2 = 8,065,600$	$(2840)^2$
$(\Sigma x^2) = 1,186,200$	$(260)^2 + (360)^2 + (400)^2 + (440)^2 +$

$$b = \frac{7(65,916,000) - (465,328,000)}{7(1,186,200) - (8,085,600)} = -16.467619 \simeq -16.5$$

$$a = \frac{164,200 - (-16.5)(2840)}{7} = 30,151.428 \simeq \$30,151.$$

$$Y = a + bx$$

$$Y = 30,151 + (-16.5)(x)$$

'x' for the subject property was 400

$$Y = 30,151 + (-16.5)(400)$$

$$Y = \$23,550$$

VILLAGE OF MAPLE BLUFF, DANE COUNTY

SINGLE-FAMILY RESIDENTIAL [redacted] INFORMATION [redacted] FORM

TAX PARCEL NUMBER _____

PROPERTY OWNER _____

PROPERTY ADDRESS _____ BLOCK NO. _____ LOT NO. _____

LAND DATA

. . . . . 3-20 Tax Parcel Number

. . . . . 21-25 Street Number

. . . . . 26-40 Street Name

. . . . . 41-45 Lot Sale Price

. . . . . 46-49 Lot Date of Sale (mo/yr)

. . . 50-51 Lot Neighborhood Number (coded 01-18)

. . . . . 52-57 Geocode - XY Coordinates for Neighborhood

. . . . . 58-62 Lot Area (rounded to nearest 500 sq. ft.)

. . . . 63-65 Lot Frontage (round to nearest foot)

. . . . 66-68 Lot Depth (round to nearest foot)

. . 69 Subdividable Lot (smaller of A or B)

B = no

A = Gross lots = $\frac{\text{Lot area} + 40{,}000 \text{ sq. ft.}}{25{,}000 \text{ sq. ft.}}$ (round down to next integer value)

B = Net additional lots = $\frac{\text{Frontage or lake frontage}}{100 \text{ ft.}} + 1$ (round down to next integer value)

. . 70 Oversize Lot (0 = under 75,000 sq. ft.; 1 = oversize lot)

. . 71 Lake Access Easement (0 = no; 1 = yes)

. . 72 Shore Quality (3 = inaccessible bluff; 2 = shallow; 1 = mud; 0 = no dominant problem)

. . 73 Water Quality (3 = odor; 2 = flotsam; 1 = weeds; 0 = no dominant problem)

. . . . 74-76 Number of Lake Front Feet (round to nearest foot)

. . 77 Corner Lot (0 = no; 1 = yes)

. . 78 Cul-de-sac (0 = non cul-de-sac; 1 = cul-de-sac)

. . 79 Inside Lot (0 = non-inside lot; 1 = inside lot)

. . 80 Wooded Lot

0 = Below average (0 to 3 major trees)
1 = Average wooded lot (4 to 7 major trees)
2 = Above average lot (more than 7 trees)

. . 81 View

0 = Commercial lot or railroad lot
1 = Average view
2 = Golf course or parks view
3 = Water average (non-State Capitol view)
4 = Water superior (State Capitol view)

. . 82 Topography or Contour

0 = Severe, nonusable slope
1 = Wet pockets
2 = Downsloping lot
3 = Level contour
4 = Upward sloping lot

. . 83 Adjacent Adverse Influence

0 = None
1 = Contiguous lake easement
2 = Joint driveway
3 = Other (high lines, etc.)
4 = Commercial property
5 = Public property exposure
6 = Railroad
7 = High traffic

If lot suffers from two adverse influences, enter the higher value.

SITE IMPROVEMENT DATA

_____ 3-20 TAX PARCEL NUMBER

__ 21 TENNIS COURT
0 = No
1 = Yes

__ 22 OUTDOOR POOL
0 = No
1 = Yes

__ 23 PATIO
0 = No
1 = Yes

__ 24 STORAGE SHED
0 = No
1 = Yes

__ 25 BOATHOUSE
0 = No
1 = Yes

__ 26 BOATDOCK
0 = No
1 = Yes

__ 27 SEAWALL
0 = No
1 = Yes

__ OTHER

___ 28-29 DRIVEWAY
(score=style,material)

Style
1 = Linear long garage back long street to unit
2 = Linear with turnarounds
3 = Circular
4 = Large with parking spaces and turnaround spaces
5 = Circular with parking spaces

Material
1 = Dirt
2 = Gravel
3 = Asphalt
4 = Concrete

__ 30 NEIGHBORHOOD FOLIAGE
1 = Trees and vine
2 = Some mature trees
3 = Shady

____ 31-33 LANDSCAPING (score=plantings,screening-back,screening-front)

Plantings
1 = Little or none
2 = Average
3 = Above average

Screening of back
0 = Little or none
1 = Yes

Screening of front
0 = Little or none
1 = Yes

__ 34 CURB AND GUTTER
0 = No
1 = Yes

__ 35 SIDEWALK
0 = No
1 = Yes

IMPROVEMENT DATA

_____ 3-20 TAX PARCEL NUMBER

____ 21-24 YEAR BUILT

__ 25 ERA
0 = Pre-1918
1 = 1918-1929
2 = 1930-1949
3 = 1950-1969
4 = 1970 to present

____ 26-29 SQUARE FEET LIVING SPACE

____ 30-32 NUMBER OF STORIES
0 = Vacant lot
1 = 1 story
2 = 1½ story
3 = 2 story
4 = 2½ story
5 = Multi-level
6 = Church
7 = Commercial
8 = Other

___ 33-34 ROOF

Style
1 = Gable
2 = Hip
3 = Mansard
4 = Combined
5 = Flat
6 = Simple pitch

Material
1 = Gravel
2 = Asphalt shingle
3 = Wood shake/shingle
4 = Slate shingles
5 = Tile
6 = Metal

__ 35 EXTERIOR
0 = Concrete block
1 = Wood siding
2 = Stained boards
3 = Aluminum siding
4 = Stucco
5 = Part. masonry/frame
6 = Part. masonry/stained boards
7 = Part. masonry/aluminum
8 = Predominantly brick/masonry
9 = Predominantly stone

___ 36-37 FRONT EXTERIOR ENTRY
(score=style,function)

Style
1 = Single door
2 = Double doors

Function
1 = Impressive
2 = Pretentious

__ 38 GARAGE TYPE
0 = None
1 = Carport
2 = 1 car detached
3 = 1 car basement
4 = 1 car attached
5 = 2-½ car detached
6 = 2 car attached
7 = 2 car basement
8 = 2 car attached, wide
9 = 3 car attached

____ Sq. Ft. ____ Common wall-linear ft.

__ 39 BUILDING STYLE
1 = Custom
2 = Production
3 = Standard builder's suburban
Owner custom modification
4 = Project rehabilitation
5 = Architectural modern
6 = Good builder's suburban/production
7 = Architectural contemporary
8 = Architectural traditional
9 = Architectural colonial

__ 40 BASEMENT TYPE
1 = Slab
2 = Crawl
3 = Partial
4 = Full
5 = Combination of partial basement on crawl or slab
6 = Combination of partial basement on full

__ 41 SUBJECT PROPERTY APPEARANCE TO NEIGHBORS
0 = Less appealing
1 = Equally appeal to
2 = More appeal to

Basement Condition
0 = No problem
2 = Minor seepage/minor cracks
5 = Poor condition

IMPROVEMENT DATA - EXTERIOR (con'd)

97 OVERALL QUALITY

0 = Uninhabitable
1 = Major mechanical or structural problems
2 = Interior damage
3 = Exterior maintenance required
4 = Average condition
5 = Well-maintained
6 = Maintained like new
7 = New-standard
8 = New-custom
9 = New-deluxe

99-100 TOTAL NUMBER OF ROOMS IN LIVING SPACE

103-104 TOTAL NUMBER OF FIREPLACES

___ Standard/prefab
___ Energy efficient

101-102 TOTAL NUMBER OF BEDROOMS

___ Master
___ Regular

65 PORCHES

0 = None
1 = Small screen
2 = Average screen
3 = Large screen
4 = Small glass
5 = Average glass
6 = Large glass
7 = Small glass, heated
8 = Average glass, heated
9 = Large glass, heated

DIAGRAM OF HOUSE

21 FRONT INTERIOR ENTRY

1 = Entrance direct to living area
2 = Vestibule without closet
3 = Vestibule with closet
4 = Foyer without closet
5 = Foyer with closet
6 = Spacious vestibule with closet
7 = Spacious foyer with closet

22-23 LIVING ROOM (score=size, layout)

Size	Layout
1 = Small	1 = Poor
2 = Moderate	2 = Indifferent
3 = Large	3 = Good

24-27 LIVING ROOM EXTRAS (score=sum of values for extras)

0 = None
1 = Classical cathedral ceiling
1 = Built-ins
1 = Fireplace-standard/prefab
2 = Fireplace-energy efficient
2 = Sunken multi-level
1 = Contemporary sloped ceiling
2 = Formal detailing in woodwork (doors, railings, skirtings, moldings)
2 = Natural illumination (window glass area & solar orientation)

28 DINING ROOM

0 = None

Style
1 = At end of living room
2 = Dining L
3 = Full dining area
4 = Separate room

29-32 DINING ROOM EXTRAS (score= sum of values for extras)

0 = None
1 = Built-in china cabinet
1 = Wet bar
1 = Built-in breakfront/buffet
2 = Deluxe built-ins or serving pantry

IMPROVEMENT DATA - INTERIOR (Con'd)

__ 47 DEN/LIBRARY/STUDY

0 = None

Size
1 = Small
2 = Average
3 = Large

__ 48-51 DEN/LIBRARY/STUDY EXTRAS
(score=sum of values for extras)

0 = None
1 = Built-in cabinets
1 = Fireplace-standard/prefab
2 = Fireplace-energy efficient
2 = Deluxe woodwork (doors, railings, skirtings, moldings), wainscoting
Other _____

__ 33-36 KITCHEN (score=(size*type*work/storage area)+eating space)

Size
1 = Small
2 = Average
3 = Large

Type
1 = Single wall
2 = Pullman
3 = L shaped
4 = U shaped
5 = L or U with island

Work & Storage Areas
.5 = Obsolete
.75 = Dated (pre-1950)
1.00 = Modern

Eating Space
0 = None
.2 = Counter/stools
.4 = Space table/chairs
.6 = Breakfast nook

Code Change For Use in SB File (Computer)
Work & Storage
0 = Obsolete
1 = Dated
2 = Modern

__ 37-40 KITCHEN EXTRAS (score=sum of values for extras)

- Disposal
- Dishwasher
- Counter top range
- Built-in oven
- Built-in microwave
- Exhaust system
- Compactor
- Built-in refrigerator
- Built-in freezer
- Serving/bar pantry
- Direct access to outside
- Grill/BBQ
- More than one sink area
- Window area
  0=None
  1=Below average
  2=Average
  3=Above average
  Other _____

0 = None

Eating Space
0 = None
1 = Counter/stools
2 = Space table/chairs
3 = Breakfast nook

__ 41-42 FAMILY ROOM
(score=location, size)

0 = None

Location
1 = Afterthought
2 = Adjoining kitchen
3 = Fully separated

Size
1 = Small
2 = Average
3 = Large

__ 43-46 FAMILY ROOM EXTRAS
(score=sum of values for extras)

0 = None
1 = Deluxe floor
1 = Panelled
1 = Built-ins
1 = Wet bar
1 = Slope ceiling
Other _____

1 = Fireplace-standard/prefab
2 = Fireplace-energy efficient
2 = Kitchen facilities with sink & stove (220 or gas cook)

__ 70 RECREATION ROOM

0 = None

Degree of Finish
1 = Unfinished, low ceiling & dust work exposed
2 = Unfinished separate area
3 = Finished walls & ceiling; separate floor
4 = Finished floor, walls, & ceiling

__ 71-74 RECREATION ROOM EXTRAS
(score=sum of values of extras)

0 = None
1 = Built-in cabinets
1 = Fireplace-standard/prefab
2 = Fireplace-energy efficient
1 = Wet bar
2 = Kitchen facilities with sink & stove (220 or gas cook)
Other _____

__ 64 UTILITY AREA (score=0 or location, type)
(washer/dryer/sink)

0 = None

Location
1 = Basement
2 = At grade
3 = Second floor

Type
1 = Exposed
2 = Enclosed closet
3 = Separate room

BATHROOMS

__ 52 0 = No bathroom on first floor
1 = Bathroom on first floor or at rear entrance

__ 53 Number of 1/2 baths

__ 54 Number of 3/4 baths

__ 55 Number of standard full baths

__ 56 Number of deluxe master baths

__ 57-60 MASTER BEDROOM SUITE
(score=0 or sum of values of extras)

0 = None
1 = Access separate from guest area
1 = Extra closet space
1 = Dressing area
1 = Fireplace-standard/prefab
2 = Fireplace-energy efficient
1 = Sitting area
1 = Privacy
Other _____

__/__ 62 NUMBER OF SPECIAL SPACES
(score=sum of number of spaces)
0 = none
1 = sitting area
1 = sewing area
1 = dark room
1 = recreation/craft area
Other _____

__/__ 66-69 BASEMENT IMPROVEMENTS (score=sum of finishes * condition)

0 = None

Finishes
1 = Finished ceilings
1 = Insulated walls & floor
1 = Finished MAKE room

Conditions
.5 = Evidence of water seepage
No site evidence
Village pumped water
Less 2 years

.75 = Poor
1.00 = Good

NOTE:
___Sump pump
___Total sq. ft.
___Sq. ft finished (all four walls, ceiling & floors)

See page 2

__/__ 75-76 HEATING SYSTEM
(score=fuel,type)

Fuel
1 = Electricity
2 = Oil
3 = Gas

Type
1 = Old hot water
2 = Old low pressure steam
3 = Old hot water instantaneous with water heater
4 = Gravity hot air grills on floor
5 = Hot water/baseboards
6 = Forced hot air
7 = Forced hot air/zoned
8 = Radiant/forced hot air units

__/__ 77-80 HEATING-SUPPLEMENTARY
(score=sum of values of supplementary units)
0 = none
= Electric ceiling
= Electric baseboard
= Electric wall unit
= Energy savers
= Solar hot water
Other _____

__/__ 81-82 ELECTRICAL SERVICE

Amperage
1 = 30 amp.
2 = 60 amp.
3 = 100 amp.
4 = 125 amp.
5 = 150 amp.
6 = 150 amp.

Voltage
0 = 120 volts
1 = 240 volts

__/__ 85-87 WATER HEATER CAPACITY (total for house)

Number of units
1 2 3 ...

Capacity of units
1 = 30 gal.
2 = 30 gal.
3 = 40 gal.
4 = 50 gal.
5 = 75 gal.
6 = 100 gal.
7 = 100+ gal.

__/__ 83 WATER HEATER FUEL
1 = Electric
2 = Solar
3 = Oil
4 = Gas

__/__ 89-92 BUILT-IN HOUSEHOLD EQUIPMENT (score=sum of values for extras)
0 = none
= Central vacuum system
= Electronic air cleaner
= Humidifier
= Security system
= Intercom system
= Garage door opener
Other _____

__/__ 98 INTERIOR CIRCULATION PATTERNS
0 = Poor
1 = Reasonably good
2 = Good
3 = Excellent

__/__ 105 DESIGNATED HISTORICAL LANDMARK
0 = No
1 = Yes

__/__ 93-96 EXTRAS 1 = none
(score=sum of values of extras or $ amount for each)
= Green house
___Attached greenhouse
___Detached greenhouse
= Indoor swimming pool
___Gross sq. footage pool room
= Special natural illumination
___Atrium
___Skylight
___Clere story
___Ceiling in floor sky window
= Special ambient lighting
= Several staircase
= Elevator
= Sauna
= Greenhouse/sunroom/solarium
= Central air conditioning
= Security system

SUPPLEMENTARY DATA

_____ TOTAL NUMBER OF HOUSEHOLD MEMBERS

__ __ TOTAL NUMBER OF FEMALE DOGS

__ [illegible]

____ TOTAL NUMBER OF MALE/SPAYED DOGS

__ [illegible]

ASSESSMENT DATA

_____ 3-8 Most Recent Sale Price

_____ 9-12 Date of Sale (mo./yr.)

_____ 13-18 Current Land Assessment

_____ 19-24 Current Building Assessment

_____ 25-30 Current Total Assessment

SPECIAL FEATURE SCORES

FRONT EXTERIOR ENTRY

Style	Function
0 = Single	-1 = Unprotected
2 = Double	2 = Protected

FRONT INTERIOR ENTRY

-3 = Entrance direct to living rm.
0 = Vestibule with/without closet (hall entry)
1 = Foyer with/without closet (2 separate doors)
2 = Spacious vestibule with/without closet
3 = Spacious foyer with/without closet

LIVING ROOM EXTRAS

-3 = Classical cathedral ceiling
0 = None
1 = Contemporary sloped ceiling
1 = Built-ins (cabinets, shelves)
2 = Sunken multi-level
2 = Natural illumination

DINING ROOM EXTRAS

0 = None
1 = Built-in china cabinet
1 = Built-in break front/buffet
2 = Wet bar
3 = Deluxe built-ins

DEN/LIBRARY/STUDY EXTRAS

0 = None
1 = Built-in cabinets
2 = Deluxe woodwork

KITCHEN EXTRAS

0 = None
1 = Each built-in appliance e.g. disposal, dishwasher, counter top range, oven, microwave oven, exhaust, trash compactor, ref.-freezer, servingpantry/bar, direct access to outside, grill/BBQ, more than one sink area
-3 = No window
-2 = Below average window area
0 = Average window area
1 = Above average window area

FAMILY-ROOM-EXTRAS

0 = None
1 = Deluxe flóor
1 = Panelled
1 = Built-ins
2 = Sloped ceiling
2 = Wet bar
5 = Kitchen facilities

RECREATION ROOM

0 = Unfinished, low ceiling e
0 = Unfinished separate room
3 = Finished walls or floors and ceiling

RECREATION ROOM EXTRAS

0 = None
1 = Built-in cabinets
2 = Wet bar
5 = Kitchen facilities

MASTER BEDROOM SUITE

0 = None
2 = Extra closet space
2 = Dressing area
2 = Sitting area

NUMBER OF SPECIAL SPACES

0 = None
1 = Woodwork/craft area (speci
2 = Dark room
3 = Sewing area
3 = Sitting area
3 = Other e.g. office
3 = Partially finished recreation r

HOUSEHOLD EXTRAS

0 = None
1 = Green house - attached win
~~1 = Special natural illuminati~~
1 = Special indirect lighting
2 = Security system
3 = Green house - attached-wal
3 = Sauna
5 = Central air conditioning
5 = Spiral grand staircase

VILLAGE OF MAPLE BLUFF, DANE COUNTY
SINGLE-FAMILY RESIDENTIAL TAX INFORMATION FORM
AS OF JANUARY 1, 1980

1	Tax Parcel Number					
2	Property Owner					
3	Street Number					
4	Street Name					
5	Previous Lot Sale Price	PLSPRICE		49 Era	ERA	
6	Previous Lot Sale Date	PLSDATE		50 Sq. Ft. Living Space	SQFTLS	
7	Geocode X	GEO X		51 Number of Stories	STORIES	
8	Geocode Y	GEO Y		52 Roof	ROOF	
9	Neighborhood Number	NBRHD		53 Exterior	EXTER	
10	Lot Square Feet	LTSQFT		54 Garage Type	GARAGE	
11	Lot Front Feet	LTFFT		55 Building Style	STYLE	
12	Lot Depth	LTDPTH		56 Basement Type	BSMTYP	
13	Lot Subdividable	LOTSDIV		57 Basement Condition	BSMTCND	
14	Lot Oversized	LOTOVSZD		58 Appearance to Neighbors	APPEARS	
15	Lake Access Easement	LKACC		59 Quality	QUALTY	
16	Shore Quality	SHORE		60 Enclosed Porch	PORCH	
17	Water Quality	WATER		61 Total Number Rooms	ROOMS	
18	Lake Front Feet	LKFFT		62 Total Number Bedrooms	BDRMS	
19	Lot on Corner	LTCNR		63 Total Number Bathrooms	BATHS	
20	Lot on Cul de Sac	LTCUL		64 Half	HFBTH	
21	Inside Lot	LTINS		65 Three Quarters	THQBTH	
22	Lot Wooded	LTWOOD		66 Full	FULLBTH	
23	Lot View	LTVIEW		67 On First Floor	BTH1ST	
24	Lot Topo	LTTOPO		68 Total Number Fireplaces	FPLAC	
25	Adverse Influence	ADINF		69 Living Room	LIVRM	
26	Tennis Court	TENCT		70 Dining Room	DINRM	
27	Outdoor Pool	OUTPOOL		71 Den/Library/Study	DEN	
28	Patio	PATIO				
29	Storage Shed	STSHD		72 Kitchen Score	KTCHSCR	
30	Boathouse	BTHSE		73 Kitchen Size	KTCHSZ	
31	Seawall	SEAWLL		74 Kitchen Type	KTCHTYPE	
32	Indoor Pool	INPOOL		75 Kitchen Work Area	KTCHWRK	
33	Elevator	ELEV		76 Kitchen Eating Space	KTCHEAT	
34	Other Structure Name	STCT1				
35	Other Structure Value	VALUE1		77 Family Room	FMLYRM	
36	Other Structure Name	STCT2		78 Recreation Room	RECRM	
37	Other Structure Value	VALUE2		79 Laundry Area Score	LAUNSCR	
38	Special Structures Total	SPCTOT		80 Laundry Area Location	LAUNLOC	
				81 Laundry Area Type	LAUNTYP	
39	Driveway	DRVWY				
40	Neighborhood Foliage	NBRFOL		82 Heating System Score	HTGSCR	
41	Landscaping	LNDSCP		83 Heating Fuel	HTGFUEL	
42	Screening of Back	SCRBK		84 Heating Type	HTGTYP	
43	Screening of Front	SCRFT		85 Electrical Service	ELECTSRV	
				86 Water Heater	WTRHTR	
44	Curb Gutter	CRBGTR		87 Interior Circulation	INTCIR	
45	Sidewalk	SIDWLK				
46	Previous Sale Price	PSPR		88 Special Features Score	SPFTSCR	
47	Previous Sale Date	PSDATE				
48	Year Built	YRBLT				

MARKET COMP THEORY COMPARED TO REGRESSION

I. Common Requirements to be Determined

A. Variables to survey
B. Sales comparables available for analysis
C. Variables which relate to value
D. Rates of adjustment for difference in variable factors
E. Comparable sales which are best related to subject property

II. Prediction of Price Through Regression Analysis

$$V_p = b + X_s\ (A) + \ldots X_{n,s}\ (A_n)$$

$$V_s = b_o + \sum_f A_f\ X_{f,s}$$

$$V_k = b_o + \sum_f A_f\ X_{f,k}$$

$$V'_k = P_k + V_s - V_k$$

$$= P_k + A_1\ X_{1s} - A_1\ X_{1k} + A_2 X_{2s} - A_2\ X_{2k}$$

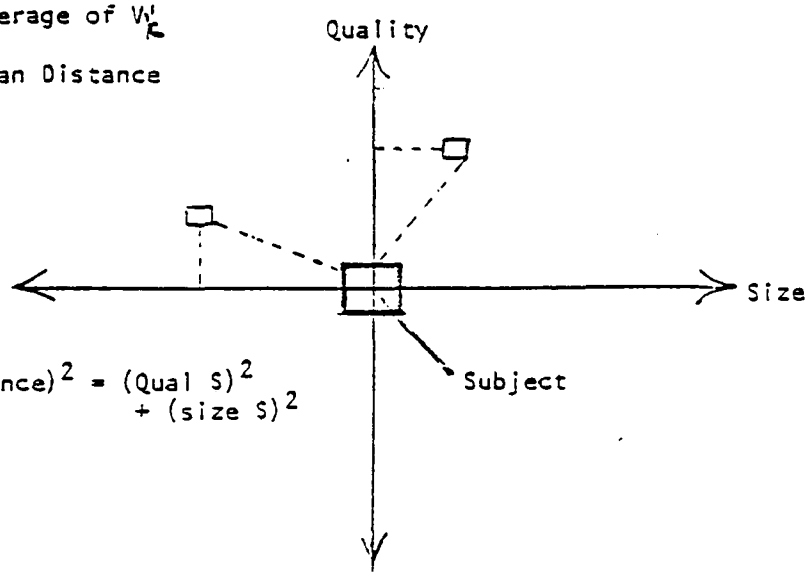
$$= P_k + A_1\ (X_{1s} - X_{1k}) + A_2\ (X_{2s} - X_{2k})$$

III. Market Comparison

$$V_k = A_1 \times (X_s - X_k) + A_2 \times (X_{s2} - X_{k2})$$

V_p = average of V'_k

IV. Euclidian Distance



($ Distance)^2 = (Qual $)^2 + (size $)^2

Scale requires conversion of factors to $'s per unit
Market comp permits conversion with:
$/unit
$/as % of sale price/unit
$'s/ transformation unit

1980 PROPERTY CARD - PARCEL 160111

LAND DATA

PREVIOUS LOT SALE PRICE	0
PREVIOUS SALE DATE	0
GEOCODE	0
NEIGHBORHOOD NUMBER	5
LOT SQ. FT.*	22500
LOT FRONT FT.*	202
LOT DEPTH*	142
LOT SUBDIVIDABLE	No
LOT OVERSIZED	No
LAKE ACCESS EASEMENT	No
LAKE FRONT FT.	0
LOT ON CORNER	Yes
LOT ON CUL DE SAC	No
INSIDE LOT	No
LOT WOODED	4 to 7 major trees
LOT VIEW	Average view
LOT TOPOGRAPHY	Level contour
ADVERSE INFLUENCE	Public property

SPECIAL STRUCTURES AND SITE IMPROVEMENTS

TENNIS COURT	0
OUTDOOR POOL	0
PATIO	200
STORAGE SHED	0
BOATHOUSE	0
SEAWALL	0
INDOOR POOL	0
ELEVATOR	0
0	0
0	0
SPECIAL STRUCTURES TOTAL	200
DRIVEWAY	Linear, concrete
NEIGHBORHOOD FOLIAGE	Shady
LANDSCAPING	Average
SCREENING OF BACK	Little or none
SCREENING OF FRONT	Little or none
CURB AND GUTTER	No
SIDEWALK	No

*APPROX. USING VILLAGE MAP

IMPROVEMENT DATA

PREVIOUS SALE PRICE	0
PREVIOUS SALE DATE	0
YEAR BUILT	1927
ERA	1910-1929
SQ. FT. LIVING SPACE	2100
NUMBER OF STORIES	2 Story
BUILDING STYLE	Architectural Traditional
ROOF	Gable,slate shingles
EXTERIOR	Stucco
GARAGE	2 Car attached,small
BASEMENT TYPE	Full
BASEMENT CONDITION	Poor condition
QUALITY	Exterior maintenance required
APPEARANCE TO NEIGHBORS	Less attractive
ENCLOSED PORCH	None
NUMBER OF ROOMS	9
NUMBER OF BEDROOMS	4
NUMBER OF BATHROOMS	1.75
HALF BATHS	0
THREE QUARTER BATHS	1
FULL BATHS	1
BATH ON FIRST FLOOR	Yes
NUMBER OF FIREPLACES	1
LIVING ROOM	Moderate size, good layout
DINING ROOM	Separate room
DEN/LIBRARY/STUDY	Small size
FAMILY ROOM	None
KITCHEN SCORE	1.15
SIZE	Small
TYPE	Single wall
WORK AREA	Dated
EATING SPACE	Space for table/chairs
RECREATION ROOM	No
LAUNDRY AREA SCORE	1
LOCATION	Basement
TYPE	Exposed
HEATING SYSTEM SCORE	6
FUEL	
TYPE	Old low pressure steam
ELECTRICAL SERVICE	60 amp.
WATER HEATER	50 gal., gas
INTERIOR CIRCULATION	Moderately good
SPECIAL FEATURES SCORE	4
LAND	24,500
IMPROVEMENTS	56,500
1979 ASSESSMENT	81,000
LAND	24,500
IMPROVEMENTS	56,500

AT OLD SHORE RD

FACTOR	TYP	RATE	AVE.	S-DEV.
PSFR	0.	1.00	89213.	22432.
PSDATE	2.	0.05	1347.	1707.
NBKND	1.	1500.00	750.	1500.
LTSQFT	1.	0.22	2173.	873.
LOTSDIV	1.	15500.00	0.	0.
LOTOVSZD	2.	-0.05	0.	0.
LKACC	1.	100.00	0.	0.
SHORE	2.	-0.02	0.	0.
WATER	2.	-0.02	0.	0.
LKFFT	1.	350.00	0.	0.
LICNR	1.	-750.00	-750.	0.
LICUL	1.	500.00	0.	0.
LTWOOD	2.	0.05	1873.	2145.
LTVIEW	2.	0.02	0.	0.
LTTOPO	2.	0.03	0.	0.
ADINF	2.	-0.02	-6794.	5048.
SPCTOT	1.	1.00	0.	183.
ERA	2.	0.02	-749.	866.
SQFTLS	1.	15.00	150.	4983.
STORIES	2.	0.02	0.	0.
EXTER	2.	0.01	944.	1592.
GARAGE	1.	1000.00	1000.	1824.
STYLE	2.	0.01	594.	1971.
BSMTYP	2.	0.01	669.	779.
BSMTCND	2.	-0.02	-4926.	3444.
APPEARS	2.	0.03	-2876.	873.
QUALTY	2.	0.02	-1949.	2309.
PORCH	1.	600.00	-900.	600.
BDRMS	1.	1500.00	0.	1225.
BATHS	1.	4000.00	0.	2000.
FPLAC	1.	750.00	-187.	375.
DINRM	2.	0.02	749.	866.
DEN	1.	1000.00	750.	500.
KITCHSCR	1.	350.00	-814.	955.
FAMRM	1.	100.00	-2150.	1509.
RECRM	1.	2000.00	0.	0.
LAUNSCR	1.	300.00	-450.	714.
HTGSCR	1.	200.00	-1400.	1200.
INTCTR	2.	0.01	-305.	610.
SPFTSCR	1.	200.00	-250.	1310.

AVE ADJUSTED AMT	77930.	6747.
WEIGHTED AVE.	76000.	
INDICATED VALUE	76000.	

4:46 4601115.30 OLD SHORE RD
51:246 4601325.24 372 WOODLAND
23:139 4601212 236 LAKEWOOD BLV
29:159 4601237 122 LAKEWOOD BLV

FACTOR	SUBJECT	4-AMT	ADJ	51-AMT	ADJ	23-AMT	ADJ	29-AMT	ADJ
PSPR	0.00	85000.00	85000.	72850.00	72850.	122000.00	122000.	77000.00	77000.
PSDATE	80.00	78.92	4604.	79.42	2125.	79.75	1525.	78.67	5133.
NBRHD	5.00	5.00	0.	3.00	3000.	5.00	0.	5.00	0.
LISQFT	22500.00	14000.00	1870.	10500.00	2440.	17500.00	1100.	8500.00	3000.
LOTSDIV	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LOTDVSZD	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LKACC	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
SHORE	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
WATER	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LKFRT	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LICNR	1.00	0.00	-750.	0.00	-750.	0.00	-750.	0.00	-750.
LICUL	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LIWOOD	1.00	1.00	0.	0.00	3843.	1.00	0.	0.00	3850.
LIVIEW	1.00	1.00	0.	1.00	0.	1.00	0.	1.00	0.
LIIOFO	3.00	3.00	0.	3.00	0.	3.00	0.	3.00	0.
ADINF	5.00	5.00	0.	0.00	-7285.	0.00	-12200.	0.00	-7700.
SPCIOT	200.00	200.00	0.	400.00	-200.	200.00	0.	0.00	200.
ERA	1.00	1.00	0.	2.00	-1457.	1.00	0.	2.00	-1540.
SQFTLS	2180.00	2400.00	-3300.	1960.00	3300.	2500.00	-4800.	1820.00	5400.
STORIES	3.00	3.00	0.	3.00	0.	3.00	0.	3.00	0.
EXTER	4.00	4.00	0.	1.00	2186.	2.00	2440.	5.00	-770.
GARAGE	7.00	8.00	-1000.	4.00	3000.	5.00	2000.	7.00	0.
STYLE	8.00	9.00	-850.	4.00	2914.	9.00	-1220.	4.00	1540.
BSMTYP	3.00	3.00	0.	1.00	1457.	2.00	1220.	3.00	0.
BSMTCND	5.00	2.00	-5100.	0.00	-7285.	2.00	-7320.	5.00	0.
APPEARS	1.00	2.00	-2550.	2.00	-2186.	2.00	-3660.	2.00	-2310.
QUALITY	3.00	3.00	0.	5.00	-2914.	5.00	-4880.	3.00	0.
PORCH	0.00	2.00	-1200.	0.00	0.	2.00	-1200.	2.00	-1200.
BDRMS	4.00	4.00	0.	3.00	1500.	5.00	-1500.	4.00	0.
BATHS	1.75	1.50	1000.	1.50	1000.	2.50	-3000.	1.50	1000.
FPLAC	1.00	1.00	0.	1.00	0.	1.00	0.	2.00	-750.
DINRM	4.00	4.00	0.	3.00	1457.	4.00	0.	3.00	1540.
DEN	1.00	0.00	1000.	1.00	0.	0.00	1000.	0.00	1000.
KTCHSCR	1.15	1.50	-123.	4.90	-1313.	4.60	-1907.	0.90	87.
FAMRM	0.00	32.00	-3200.	22.00	-2200.	32.00	-3200.	0.00	0.
RECRM	0.00	0.00	0.	0.00	0.	0.00	0.	0.00	0.
LAUNSCR	1.00	1.00	0.	4.00	-1500.	2.00	-300.	1.00	0.
HTGSCR	4.00	4.00	0.	18.00	-2400.	10.00	-800.	18.00	-2400.
INTCIR	1.00	1.00	0.	1.00	0.	2.00	-1220.	1.00	0.
GFFISCR	4.00	4.00	-400.	13.00	-1800.	5.00	-200.	-3.00	1400.
ADJUSTED AMOUNT			75002.		69782.		83128.		83811.
SELECTION INDEX			14442.		21172.		21227.		22003.

```
RUN PROPCD
D.B. Filename? MBLOTS
Output Filename? KB:
Enter <start col>, <num col>, <strt ln>, <end ln>
? 1, 132, 1, 60
Format Code Filename? PROPTY.CRD
18 WITSA:KB65  PROPCD+BASIC    RN      16(16)K+15X     47.6(+18.1)
18 WITSA:KB65  PROPCD+BASIC    DB(11X) 16(16)K+15X     48.6(+1.0)
```

Property card for vacant site

1980 PROPERTY CARD - PARCEL 4401126

LAND DATA

PREVIOUS LOT SALE PRICE	0
PREVIOUS SALE DATE	0
GEOCODE	0
NEIGHBORHOOD NUMBER	7
LOT SQ. FT.*	8400
LOT FRONT FT.*	81
LOT DEPTH*	104
LOT SUBDIVIDABLE	No
LOT OVERSIZED	No
LAKE ACCESS EASEMENT	No
SHORE QUALITY	No dominant problem
WATER QUALITY	No dominant problem
LAKE FRONT FT.	0
LOT ON CORNER	No
LOT ON CUL DE SAC	No
INSIDE LOT	No
LOT WOODED	4 to 7 major trees
LOT VIEW	Average view
LOT TOPOGRAPHY	Level contour
ADVERSE INFLUENCE	None

SPECIAL STRUCTURES AND SITE IMPROVEMENTS

TENNIS COURT	?
OUTDOOR POOL	?
PATIO	?
STORAGE SHED	?
BOATHOUSE	?
SEAWALL	?
INDOOR POOL	?
ELEVATOR	?
?	?
?	?
SPECIAL STRUCTURES TOTAL	0
DRIVEWAY	??
NEIGHBORHOOD FOLIAGE	??
LANDSCAPING	??
SCREENING OF BACK	??
SCREENING OF FRONT	??
CURB AND GUTTER	??
SIDEWALK	??

*APPROX. USING VILLAGE MAP

IMPROVEMENT DATA

PREVIOUS SALE PRICE	?
PREVIOUS SALE DATE	?
YEAR BUILT	?
ERA	?
SQ. FT. LIVING SPACE	?
NUMBER OF STORIES	Vacant Lot
BUILDING STYLE	??
ROOF	
EXTERIOR	??
GARAGE	??
BASEMENT TYPE	?
BASEMENT CONDITION	?
QUALITY	??
APPEARANCE TO NEIGHBORS	?
ENCLOSED PORCH	??
NUMBER OF ROOMS	??
NUMBER OF BEDROOMS	??
NUMBER OF BATHROOMS	??.00
HALF BATHS	??
THREE QUARTER BATHS	??
FULL BATHS	??
BATH ON FIRST FLOOR	?
NUMBER OF FIREPLACES	??
LIVING ROOM	??
DINING ROOM	??
DEN/LIBRARY/STUDY	??
FAMILY ROOM	??
KITCHEN SCORE	???.00
SIZE	??
TYPE	??
WORK AREA	??
EATING SPACE	??
RECREATION ROOM	??
LAUNDRY AREA SCORE	?
LOCATION	?
TYPE	?
HEATING SYSTEM SCORE	??
FUEL	??
TYPE	??
ELECTRICAL SERVICE	??
WATER HEATER	??
INTERIOR CIRCULATION	??
SPECIAL FEATURES SCORE	??

IMPROVEMENTS	
1979 ASSESSMENT	28,500
LAND	26,000
IMPROVEMENTS	
1980 ASSESSMENT	26,000

```
$US I$.RETRIE

I.I.FILE TO RETRIEVE DATA FROM >MPBLUF
OUTPUT FILE >
I.I.FILE MPBLUF:  540 RECORDS, 96 COLUMNS.
$A
COLUMN >18
<, >, OR = (WHICH ONE) >>
VALUE >0

$A
COLUMN >51
<, >, OR = (WHICH ONE) >>
VALUE >0
$P
NUMBER OF COLUMNS >12
RPT.COL. 1 >1
RPT.COL. 2 >3
RPT.COL. 3 >4
RPT.COL. 4 >10
RPT.COL. 5 >19
RPT.COL. 6 >50
RPT.COL. 7 >62
RPT.COL. 8 >63
RPT.COL. 9 >88
RPT.COL. 10 >89
RPT.COL. 11 >90
RPT.COL. 12 >91
DELIMITER (MAY BE NULL) >
DO YOU WANT ALLIGNED COLUMNS? >Y
POSITION TO BEGIN COLUMN 1 , TXPARNUM>0
POSITION TO BEGIN COLUMN 2 , STRNUM>13
POSITION TO BEGIN COLUMN 3 , STRNAM>21
POSITION TO BEGIN COLUMN 4 , LTSQFT>39
POSITION TO BEGIN COLUMN 5 , LXFFT>49
POSITION TO BEGIN COLUMN 6 , SQFTLS>59
POSITION TO BEGIN COLUMN 7 , BDRMS>69
POSITION TO BEGIN COLUMN 8 , BATHS>77
POSITION TO BEGIN COLUMN 9 , SPFTSCR>85
POSITION TO BEGIN COLUMN 10 , 79ASSESS>95
POSITION TO BEGIN COLUMN 11 , 80ASSESS>105
POSITION TO BEGIN COLUMN 12 , ICHANGE>115
```

Creation of list using DB/MPBLUF data file -- ordered by parcel number -- link properties

CH 18 = >0 link front ft.

CH 51 = >0 selects only parcels with improvements

TXPARNUM	STRNUM	STRNAM	LTSQFT	LXFFT	SQFTLS	BDRMS	BATHS	SPFTSCR	79ASSESS	80ASSESS	ICHANGE
4401T	43	BURROWS RD	13500	90	1960	4	2.25	7	112000	121000	1.08036
4401100	309	LAKEWOOD BLVD	63300	100	4960	5	3.5	16	107300	234000	2.177
4401101	303	LAKEWOOD BLVD	182000	275	5820	6	5.5	21	324000	339000	1.0463
4401104	81	CAMBRIDGE RD	31000	89	3840	5	4	16	159000	175000	1.1006
4401105	69	CAMBRIDGE RD	59000	260	5730	8	6	21	257000	270000	1.0505
4401106	57	CAMBRIDGE RD	21500	100	2680	5	3.25	10	113000	140000	1.23894
4401107	49	CAMBRIDGE RD	17000	80	4240	3	3.25	17	162000	180000	1.11111
4401108	45	CAMBRIDGE RD	18000	80	3000	4	2.25	4	163000	163000	1
4401109	37	CAMBRIDGE RD	20500	80	2480	3	3.25	8	160000	160000	1
4401110	33	CAMBRIDGE RD	29500	77	3000	5	2.5	4	126000	154500	1.22619
4401111	29	CAMBRIDGE RD	24500	92	2640	6	3.5	10	141500	147000	1.03887
4401112	25	CAMBRIDGE CT	24000	91	3000	4	4.25	13	172000	179000	1.0407
4401113	22	CAMBRIDGE CT	13000	87	2620	4	2.5	7	135000	139000	.962963
4401114	17	CAMBRIDGE CT	87500	475	4460	6	6	16	320000	310000	.96875
4401117	11	CAMBRIDGE RD	12500	50	1730	3	1.5	2	95000	105000	1.10526
4401118	9	CAMBRIDGE RD	16000	78	3000	4	2.75	14	131000	146000	1.1145
4401119	5	CAMBRIDGE RD	14500	79	2340	4	2.75	5	120000	120000	1
4401120	3	CAMBRIDGE RD	17000	70	1580	3	1.5	8	105000	116000	1.04762
4401121	15	BAYSIDE DR	20000	72	2440	4	3	9	130000	141500	1.0885
4401123	27	BAYSIDE DR	19500	75	2900	5	3	7	155000	157500	1.02941
4401[illegible]	51	BURROWS RD	22500	275	1740	2	1.5	12	142000	155000	1.09155
4401[illegible]	1008	BAY DR	25000	100	2340	5	2.5	6	186000	189000	1.01613
4401[illegible]											

$G

[illegible] TO GROUP >91

```
 I
D.B.FILE MBCPY:  560 RECORDS, 96 COLUMNS.
#P
NUMBER OF COLUMNS >4
RPT.COL. 1 >3
RPT.COL. 2 >4
RPT.COL. 3 >2
RPT.COL. 4 >1
DELIMITER (MAY BE NULL) >
DO YOU WANT ALLIGNED COLUMNS? >Y
POSITION TO BEGIN COLUMN 1 , STRNUM>10
POSITION TO BEGIN COLUMN 2 , STRNAM>15
POSITION TO BEGIN COLUMN 3 , PROPOWN>32
POSITION TO BEGIN COLUMN 4 , TXPARNUM>62
```

Creation of list using DB MBCOPY data file which had been sorted by street name — all properties included

STRNUM	STRNAM	PROPOWN	TXPARNUM
1008	BAY DR	RAEMISCH,BRUCE & GREG	4601120.7
8	BAYSIDE DR	BUTCHER,GORDON G	46019
23	BAYSIDE DR	BACH,FRANCIS H	46017.2
35	BAYSIDE DR	WHIFFEN,JOHN P & LORNA D	4601121
27	BAYSIDE DR	WESTON,JOHN C	4601123
3	BAYSIDE DR	HARPER,ALPHA S	46015
4	BAYSIDE DR	BRUDEN,PHILIP M & PATRICIA I	46018
7	BAYSIDE DR	SHELTON,WILLIAM E & CAROL	46016
15	BAYSIDE DR	FISHER,JEROME	46017
44	BURROWS RD	KLIPSCH,RICHARD W & MARCIA	46013.1
22	BURROWS RD	SHERRY,TOBY E	460112
48	BURROWS RD	BLAKE,PHOEBE	46013
51	BURROWS RD	HAIGHT,NANCY K	46012
43	BURROWS RD	ELA,DOROTHY A	46011
837	BUTTERNUT RD	VOLZ,GORDON	4601398
816	BUTTERNUT RD	TRAVERS,THOMAS G & MARY ANN	4601390
811	BUTTERNUT RD	HOBBINS,MEREDITH L	4601395
911	BUTTERNUT RD	LEIDEL,FREDERICK D	4601349
822	BUTTERNUT RD	SIEBRECHT,HARLAN & DIANE	4601389
840	BUTTERNUT RD	ORR,ELEANOR A	4601387
819	BUTTERNUT RD	BARRY,DAVID S & JANE	4601396
831	BUTTERNUT RD	WITTMEYER,ESTHER E	4601397
704	BUTTERNUT RD	HOLMES,GEORGE E	4601404.1
829	BUTTERNUT RD	STRUCK,VERNON C & GERTRUDE M	4601388
806	BUTTERNUT RD	BREDESON,DUANE	4601392
812	BUTTERNUT RD	VACARRO,JAMES A & SLYVIA	4601391
801	BUTTERNUT RD	BLANCKE,ROSEMARIE	4601468.1
902	BUTTERNUT RD	STEVENS,MYRON	4601362
708	BUTTERNUT RD	BLANCHAR,DONALD W	4601404.2
807	BUTTERNUT RD	HOPKINS,J D	4601394
801	BUTTERNUT RD	BLANCKE,ROSEMARIE	4601393
23	CAMBRIDGE CT	STICHA,PENELOPE G	4601413
23	CAMBRIDGE CT	STICHA,EDWARD H	4601113
29	CAMBRIDGE CT	SUHR,FREDERICK C	4601126
17	CAMBRIDGE CT	WHIFFEN,JAMES D & ARLIS E	4601114
25	CAMBRIDGE CT	FINDORFF,JOHN R	4601112
57	CAMBRIDGE RD	MAUTZ,BERNHARD M JR	4601106
33	CAMBRIDGE RD	MCGUIRE,R T	4601110
3	CAMBRIDGE RD	HARPER,JOHN & NANCY	4601120
92	CAMBRIDGE RD	HART,JOHN R	4601142
81	CAMBRIDGE RD	STEUER,JOSEPH T	4601104
109	CAMBRIDGE RD	HOVDE,RAYMOND	4601173
49	CAMBRIDGE RD	WESTON,CARL B	4601107
68	CAMBRIDGE RD	TORMEY,DR. WESTON	4601147
45	CAMBRIDGE RD	DIMOND,WALDO B	4601108
37	CAMBRIDGE RD	WHIFFEN,JOHN	4601109
29	CAMBRIDGE RD	SUHR,FREDERICK C & MARY E	4601111
118	CAMBRIDGE RD	KRUPP,JOSEPH & CYNTHIA J NEL	4601187
121	CAMBRIDGE RD	FRAZIER,ALBERT F JR	4601171
98	CAMBRIDGE RD	NOURSE,DENNIS	4601144
69	CAMBRIDGE RD	VILAS,H J FRANCIS	4601105
11	CAMBRIDGE RD	JENSEN,KAI	4601117
5	CAMBRIDGE RD	LIZON,ROBERT H & DOROTHY I	4601119
58	CAMBRIDGE RD	OSTBY,BYRON C	4601148
50	CAMBRIDGE RD	VARDA,JOHN P	4601150
33	CAMBRIDGE RD	SCHWARZ,FREDERICK C	4601152

APPRAISAL INSTITUTE OF CANADA/INSTITUT CANADIEN DES EVALUATEURS

EVALUATION SHEET

CONTEMPORARY APPRAISAL OF LARGE INCOME PROPERTIES SEMINAR
MONDAY AND TUESDAY, APRIL 5 AND 6, 1982, EDMONTON, ALBERTA

1. WHAT WAS YOUR GENERAL IMPRESSION OF THE SEMINAR?

   a) Content: Good_____ Fair_____ Poor_____

   b) Presentation: Good_____ Fair_____ Poor_____

   c) Equipment & Material used: Good_____ Fair_____ Poor_____

   d) Other comments re above: _____

2. SPECIFIC AREAS OF TOPICS THAT COULD HAVE BEEN GIVEN MORE / LESS TIME

3. WAS TWO DAYS SUFFICIENT TIME FOR THIS TYPE OF SEMINAR? _____ (YES / NO)

4. DID YOU BENEFIT? _____ (YES / NO) (explain)

5. SUGGESTIONS FOR IMPROVEMENT

CONTEMPORARY APPRAISAL SEMINAR

A Two Day Seminar For
APPRAISAL INSTITUTE OF CANADA

Presented by

Professor James A. Graaskamp, Ph.D., CRE, SREA
University of Wisconsin School of Business

I. Introduction

It is generally recognized that the real estate market is dependent on substantial amounts of credit to support effective demand so that real estate prices and perhaps values vary with the terms and supply of credit generally available in the marketplace. Indeed the old timers have seen the definition of fair market value gradually move away from the firm premise of cash to the seller to a somewhat more subjective condition of terms generally available in the market.

A. The pressure of double digit inflation is eroding many of the appraisers' favorite simplifications of the market model:

1. The long term fixed interest mortgage, amortized from property productivity is gone.
2. The simple division of income between the mortgage and the equity component is smothered in participating mortgages, limited partnerships, convertible mortgages and seller financing.
3. As the government had removed general subsidies to real estate finance such as regulation Q, it has made greater use of specific interest subsidies to selected special groups.
4. Real estate markets must be defined not only in terms of use, age, income, but also access to capital.
5. Moreover, most properties exist in a 3-tier market, utility to house an activity, commodity and money speculation, and as part of a going concern.
6. The 3-tier market can be further subdivided by the nature of permits or other entitlements that are site specific and define risk of a vested or non-vested opportunity.

B. Volatile money market conditions and the widespread use of creative financing leave the appraiser in considerable difficulty in defining typical market terms, cash equivalent prices or the relationship of

fair market value to transaction price. Does the client want fair market price, most probable price, going concern value, contributory value, investment value, or liquidating value in event of delinquency and foreclosure.

C. The impact of these elements is significantly different for problems involving:

1. Income investment properties
2. Economic development properties
3. Multi-family residential properties
4. Single family residential properties

D. The impact of financing in each situation requires that we go back to basics. The appraiser or his clinet must define:

1. What is the function of the appraisal?
2. Which rights are to be appraised? (Those that run with the establishment on the site, with the ownership position, or with fee simple title).
3. Which definition of value is appropriate?
4. How is productivity allocated to the agents of production?

E. Reference to Exhibit 1

F. Reference to definition of fee simple title in Exhibit 2

G. Reference to definition of fair market value in Exhibit 3 and compare to most probable price in Exhibit 4

II. The Games People Play With Income Investment Property makes it very difficult to apply any one of the three appraoches to value.

A. Sales prices are engineered by accountants to some degree to shift asset values among various classifications for land, structure, personalty, intangibles, capital gains and losses and ordinary gains and losses, making market comparison anything but objective (not to mention adjustments for non-market financing discussed in Section III).

B. Similarly, the income approach has great difficulty in applying the truism that income value is the present value of income plus the present value of reversion.

1. There is the problem of defining net operating income in terms of what is attributable to the real estate (aside from financing effect on cash throwoff).
2. There is the problem of defining the net reversion to equity in an uncertain future (aside from financing effect on mortgage balance).

EXHIBIT I

Critical Issues Which Define Appraisal Process

Function of the Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee simple private rights unencumbered	Fair market value	Income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (non-participating)	Encumbered fee simple private rights plus additional rights pledged	Regulations - fair market value Underwriting - solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus non-vested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an Investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Return from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of Investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business start-up plus monopolistic market controls	Most probable price within perceived costs of alternative	Land, structure, personalty, and intangible assets and good will plus profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

EXHIBIT 3

(*The most probable price - new edition, Institute)
FAIR MARKET VALUE - The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated.
2. both parties are well informed or well advised, and each acting in what he considers his own best interest.
3. a reasonable time is allowed for exposure in the open market.
4. payment is made in cash or its equivalent.
5. financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale.
6. the price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction.

Source: P. 137, Real Estate Appraisal Terminology, Editor Byrl Boyce.

EXHIBIT 4

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.

Source: P. 8, The Appraisal of 25 N. Pinckney, Editor James A. Graaskamp.

*Not to be confused with most probable price in contemporary appraisal, which does not reflect an assumption of a competitive market with alternative does not require ignoring of public bargaining position of the party, and which does not require cash to the seller if the market cannot have a transaction without seller financing.

3. There is the problem of selecting a conversion process which reduces income cash flows and reversionary cash flows to a single present value.

C. Neither revenue, nor expenses nor debt service are constant over time anymore so that NOI/OAR is no longer a useful valuation model. Instead rents, vacancies, expenses, and financing must be staged using a spread sheet for both income and the reversion. Lenders may share in appreciation and owner and lender may share the risk of variable interest and the first principal payment.

D. The definition of economic rent attributable to the real estate

1. Is income attributable to entitlements that go with fee simple title to the land and are point specific or to transportable permits?
   a. For example - does liquor license go with the building? Is permit to build or maintain a dam assignable? Does right to management fee and brokerage fee go with general partnership or property?
2. Is the real estate income from retailing of space or from wholesaling space?
   a. Parking ramp lease versus parking space by the hour, observation deck versus ticket, condominium conversion fee versus apartment project investment.
3. Is the income for extraordinary services or intangible assets rather than customary?
   a. Maid service versus janitorial, shopping center premium for proximity or for joint merchandising and risk management.
4. Ancillary to rather than integral with the project.
   a. Can services be acquired off premises such as janitorial or utilities?
5. IRS classification as 1250 property (real) or 1231 property (personalty) or Section 38 (tangible) or Section1048(intangible).

6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

E. Problem of defining or forecasting a reversion

1. Pricing real estate for utilitarian purpose, to buy access to service sales, or speculate in long term demand/supply commodity relationships of long term commodity/money ratios.
2. Can the appraiser prove presence of necessary conditions for appreciation and amount of depreciation?
   a. Rising net income
   b. Falling interest rates
   c. Falling investor expectations

3. When is appreciation speculative, non-vested and excluded from fair market value?
4. Can the appraiser simulate alternative speculative gains for most probable price?
5. When a premium is paid anticipating syndication of condominium conversion, should there be an adjustment for purchase of a business opportunity? Does fair market value include management fees for conversion?

III. Case Study of an appraisal of a 50-year old high rise office building in the CBD with vacancy problems, utility problems and management problems.

A. Revenues reflected loss of a major tenant (State of Wisconsin), lack of demand for retail space on the first floor, a soft market for B-class space, and a reluctance of management and tenants to use pass-throughs for operating costs.

B. It was necessary to do a spread sheet indicating a gradual reduction of vacancy loss, a gradual updating of existing leases with pass-through clauses, and investment in critical energy conservation.

C. Resale price is tied to projected net income and gross with a debt cover ratio and a cash-on-cash yield. Loan-to-value ratio is irrelevant. (See The Appraisal Journal, January 1981, DCR/R_e Cap Rate Tables for Today's Financing, p. 15.)

D. Our firm makes heavy use of the backdoor approach on MRCAP for valuation.

LUNCH BREAK

CASE STUDY - EXHIBITS 4-29 - SEMINAR

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EXHIBIT 21

SCALE FOR SCORING COMPARABLES ON IMPORTANT INVESTOR CONSIDERATIONS FOR OFFICE/RETAIL SPACE IN MADISON C-4 ZONE

Parking 25%	5 = Ample private parking on site or available on contract within the same block. 3 = Limited parking on premises 0 = Little or no surface parking on premises.
Location 20%	5 = In the blocks of East and West Mifflin St. or North and South Carroll St., across from the Capitol Square 3 = In the blocks of North and South Pinckney St., across from the Capitol Square, or in the 100 block of West Washington, or adjacent to General Executive Facilities. 1 = Off of the Capitol Square
First Floor Retail Lease in Place at Time of Purchase 15%	5 = Strong lease in place. 3 = Strong lease in place for part of first floor. 0 = Lease expires in less than 6 months or vacant.
Need for Renovation of Office Space at Time of Purchase 15%	5 = No renovation required. 3 = Modest renovation required. 1 = Intensive renovation required.
Visual Quality of Office Entrance 10%	5 = Excellent design and location. 3 = Indifferent design and/or location. 1 = Poorly defined and/or adjacent to incompatible uses.
Vacancies in Existing Office Space at Time of Purchase 15%	5 = Less than 10% of net rentable area (NRA). 3 = More than 10% of NRA. 0 = Vacant

WEIGHTED MATRIX FOR COMPARABLE PROPERTIES

FEATURE/ WEIGHT	Rating/Weighted Rating #1 30 W. Mifflin	#2 50 E. Mifflin	#3 16 N. Carroll	#4 123 W. Washington	#5 102 N. Hamilton	#6 212 E. Washington	Subject 110 E. Main
Parking 25%	5/1.25	3/.75	0/0	0/0	3/.75	3/.75	3/.75
Location 20%	5/1.00	5/1.00	5/1.00	3/.60	1/.20	3/.60	3/.60
First Floor Retail Lease In Place 15%	5/.75	5/.75	0/0	3/.45	3/.45	0/0	1/.15
Need for Renovation 15%	5/.75	1/.15	3/.45	5/.75	1/.15	1/.15	3/.45
Visual Quality of Office Entrance 10%	5/.50	3/.30	3/.30	5/.50	3/.30	3/.30	1/.10
Vacancies in Existing Office Space 15%	5/.75	0/0	5/.75	5/.75	0/0	0/0	1/.15
Total Weighted Score	5.00	2.95	2.50	3.05	1.85	1.80	2.20
Selling Price	$2,555,500	$850,000	$615,270	$2,896,000	$330,000	$472,000	X
Total Net Rentable Area (NRA)	65,000 sq. ft.	38,500 sq. ft.	35,725 sq. ft.	138,000 sq. ft.	28,000 sq. ft.	38,000 sq. ft.	74,000 sq. ft.
Price Per Square Foot (NRA)	$39.30	$22.10	$17.20	$21.00	$11.80	$12.40	
Price Per Square Foot of NRA / Total Weighted Score	7.86	7.49	6.88	6.89	6.38	6.89	

EXHIBIT 23

CALCULATION OF MOST PROBABLE PRICE USING
MEAN PRICE PER POINT EQUATION METHOD
(With Standardized Weighted Point Scores)

Comparable Property	Selling Price per NRA	Weighted Point Score	Price per NRA / Weighted Point Score (x)
1	$39.30	5.00	7.86
2	22.10	3.45	7.49
3	17.20	2.50	6.88
4	21.00	3.05	6.89
5	11.80	1.85	6.38
6	12.40	1.80	6.89
		TOTAL	42.39

$$\text{Central Tendency (Mean} = \bar{x}) = \frac{\Sigma x}{n} = \frac{42.39}{6} = 7.07$$

$$\text{Dispersion (Standard deviation} = s) = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}} = \sqrt{\frac{1.38}{5}} = .525$$

where:

x	$\bar{x}$	$\lvert(x-\bar{x})\rvert$	$\Sigma(x-\bar{x})^2$	n	$n-1$
7.86	7.07 =	.79	.62	6	5
7.49	7.07 =	.42	.18		
6.88	7.07 =	.19	.04		
6.89	7.07 =	.18	.03		
6.38	7.07 =	.69	.48		
6.89	7.07 =	.18	.03		
			1.38		

Value Range: $\bar{x} \pm s = 7.07 \pm .53$

Estimate of Value of Subject Property =

NRA of subject (74,000 S.F.) * Weighted point score of subject (2.2) *

[Sample mean of price per NRA per total weighted score ± (Dispersion * t value)]
[7.07 ± (.53 * t value)]

	Confidence Level: 68% (t = 1.000)	@ n-1 = 5; 90% (t = 2.015)
High Estimate:[1]	$1,240,000	$1,320,000
Central Tendency:	1,150,000	1,150,000
Low Estimate:	1,060,000	980,000

[1] All value estimates are rounded.

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof								
B level Vault-Vacant	700	3.00	--	$ 2,100	$ 2,100	$ 2,270	$ 2,270	$ 2,450
B level-Showroom & Office	4000	3.00	--	12,000	12,000	12,960	12,960	14,000
A level-Storage	400	4.00	6/30/80	1,600	2,400	2,600	2,800	3,000
Honeywell Phone Box	--	--	--	600	600	600	650	650
Total-Lower Level	5100			$16,300	$17,100	$18,430	$18,680	$20,100
First Floor								
Chez Vous-112	454	4.80	10/1/76 - 9/30/81	$ 2,180	$ 2,290	$ 2,360	$ 2,360	$ 2,360
Chez Vous-114	1000	4.80	10/1/76 - 9/30/81	4,810	5,030	5,200	5,200	5,200
North Entry	2000	9.00	--	18,000	19,500	21,000	22,500	24,000
South Entry-Leaf & Ladle[4]	3500	9.00	1/1/80 - 12/30/84	31,500	33,130	33,950	36,670	39,600
Total-First Floor	6954			$56,490	$59,950	$62,510	$66,730	$71,160
Second Floor								
201 Vacant	150	6.50	--	$ 970	$ 970	$ 1,050	$ 1,050	$ 1,140
202 State[5]	600	6.70	7/1/79 - 6/30/80	4,020	4,320	4,320	4,670	4,670
203-4 Vacant[5]	543	6.20	9/1/78 - 8/31/79	3,370	3,640	3,640	3,640	3,930
205-6 State	506	7.00	3/1/78 - 5/31/80	3,540	3,820	3,820	4,120	4,120
207-8 Homecrafts	386	7.20	1/1/79 - 12/31/81	2,780	2,850	3,000	3,000	3,080
209-10 State[5]	451	6.25	11/1/79 - 5/31/80	2,820	3,040	3,040	3,280	3,280
211 Dr. Regez	219	7.00	--	1,600	1,730	1,730	1,870	1,870
212-14 Dr. Wierwill	700	6.50	4/1/78 - 3/31/81	4,570	4,900	4,900	4,900	5,210
215 Vacant	415	6.75	7/1/78 - 6/30/79	2,800	3,020	3,020	3,270	3,270
216 UPI	500	7.50	5/1/80 - 4/30/81	3,750	4,050	4,050	4,370	4,370
218-19 Rape Crisis Center	816	7.00	1/1/80 - 12/31/81	5,840	6,120	6,260	6,530	6,690
220-21 State[5]	1400	6.25	12/1/79 - 5/31/80	8,750	9,450	9,450	10,200	10,200
Total-Second Floor	6886			$44,810	$47,910	$48,280	$50,900	$51,830

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor								
301 Vacant	150	5.75	--	$ 860	$ 860	$ 930	$ 930	$ 1,000
302-3 State[5]	1179	5.75	--	6,780	7,320	7,320	7,900	7,900
304 State[5]	230	6.70	--	1,540	1,660	1,660	1,800	1,800
305-8 State[5]	942	6.70	--	6,300	6,800	6,800	7,360	7,360
309 The Journal Co.	232	7.20	9/1/79 - 8/31/80	1,810	1,880	1,970	2,030	2,120
310-11 State[5]	456	6.70	--	3,050	3,300	3,300	3,560	3,560
312 Vacant	234	5.75	--	1,340	1,450	1,450	1,570	1,570
313-14 Dr. R. Heng	482	7.20	6/1/79 - 5/31/80	3,490	3,730	3,750	4,000	4,030
315 Vacant	234	6.70	10/1/79 - 9/30/80	5,000	5,080	5,310	5,480	5,630
316-19 Wisc. Builders Assoc.	1091	7.00	1/1/80 - 12/31/80	7,810	8,180	8,360	8,730	8,940
320-24 Vacant	1363	7.00	--	9,540	10,300	10,300	11,130	11,130
Total-Third Floor	7090			$47,520	$50,560	$51,150	$54,490	$55,040
Fourth Floor								
401 Vacant	150	6.40	--	$ 960	$ 960	$ 1,040	$ 1,040	$ 1,120
402 Furst, Carlson Inc.	648	6.40	5/1/79 - 4/30/80	4,350	4,370	4,700	4,730	5,090
403-11 State	2147	6.75	6/1/80 - 12/31/81	14,500	14,880	15,670	16,100	16,960
412 Vacant	202	6.40	--	1,290	1,290	1,400	1,400	1,500
413-14 Wisconsin Alliance of Cities	679	6.80	--	4,980	5,020	5,420	5,420	5,850
415 State[5]	259	7.00	3/1/79 - 2/28/81	1,830	1,940	1,970	2,100	2,130
416-19 State[5]	1370	6.00	vacated 6/30/80	8,220	8,880	8,880	9,590	9,590
420-20a State[5]	560	6.70	vacated 6/30/80	3,750	3,750	4,050	4,050	4,370
421-22 State	300	6.70	vacated 6/30/80	2,010	2,010	2,170	2,170	2,340
423-24 Ed Konkol	340	6.60	9/1/79 - 8/31/80	2,240	2,240	2,420	2,420	2,620
Total-Fourth Floor	6655			$44,130	$45,340	$47,720	$49,020	$51,570

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fifth Floor								
501 E. C. Barton	150	7.60	--	$ 1,240	$ 1,270	$ 1,270	$ 1,380	$ 1,380
502 Vacant	842	7.50	--	6,310	6,820	6,820	7,360	7,360
503-5 Vacant	810	7.50	--	6,070	6,070	6,440	6,800	6,800
506-19 State	3922	6.25	11/1/79 - 10/31/83	24,500	24,500	24,500	30,590	31,770
520 State-Bd. of Aging	555	6.70	7/1/79 - 6/30/81	3,950	4,000	4,270	4,330	4,940
521-22 Dr. Coryell	339	7.20	7/1/79 - 6/30/80	2,440	2,690	2,740	2,920	2,950
523-24 Green Bay Press Gazette	337	7.60	9/1/79 - 8/31/82	2,560	2,690	2,760	2,760	2,760
Total-Fifth Floor	6955			$47,070	$48,040	$48,800	$56,140	$57,960
Sixth Floor								
601 Vacant	150	6.70	--	$ 1,000	$ 1,000	$ 1,080	$ 1,080	$ 1,170
602-4 State[5]	1473	6.00	vacated 6/30/80	8,840	9,540	9,540	10,300	10,300
605 Vacant	204	6.40	-- to 6/30/80 then mo. - mo.	1,300	1,300	1,410	1,410	1,520
606-10 State	1000	6.70		7,370	7,500	7,500	8,100	8,100
611 The Evjue Foundation	286	7.00	vacated 11/30/80	2,000	2,000	2,160	2,160	2,330
612-14 State	647	7.50	11/1/79 - 10/31/83	4,850	4,850	4,850	5,080	5,240
615 Tenney Bldg.	344	7.00	--	2,400	2,400	2,600	2,600	2,800
616 John Barsness	850	6.00	3/1/79 - 2/28/81	5,170	5,520	5,590	5,950	6,020
617 Bill Ward	250	6.70	vacated 5/31/80	1,940	2,120	2,120	2,300	2,300
618-19 State	494	8.00	vacated 5/31/79	3,950	3,950	4,270	4,270	4,610
620-24 Vacant	1262	6.70	--	8,450	9,130	9,130	9,860	9,860
Total-Sixth Floor	6960			$47,270	$49,310	$50,250	$53,110	$54,250
Seventh Floor								
701 Lawton & Cates	150	5.75	6/1/79 - 5/31/83	$ 930	$ 970	$ 1,100	$ 1,050	$ 1,090
702-19 Lawton & Cates	5417	5.75	6/1/79 - 5/31/83	33,600	35,100	36,450	37,850	39,160
720-24 Vacant	1106	7.00	--	7,740	7,740	8,360	8,360	9,030
Total-Seventh Floor	6673			$42,270	$43,810	$45,910	$47,260	$49,280

EXHIBIT 24 -- Continued

Schedule of Rental Revenues[1] for the Period of April 30, 1980 Through April 29, 1985

Occupancy as of April 30, 1980	Space Sq. Ft.	Annual Rent per Sq. Ft.[2]	Lease Terms as of 4/30/80[3]	Annualized Gross Rental Revenues 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Eighth Floor								
801 Wisconsin Radio News	150	7.00	to 6/30/80	$ 1,050	$ 1,050	$ 1,130	$ 1,130	$ 1,220
802-5 State	1536	7.55	to 10/31/83	11,600	11,600	11,600	12,060	12,520
806-7 Dr. Hannis	470	7.50	9/1/79 - 8/31/80	3,040	4,000	4,000	4,210	4,320
808-22 State	4580	6.00	7/1/79 - 6/30/80	27,480	36,620	37,100	37,100	39,580
823-24 Dr. Boyle	339	7.60	9/1/79 - 8/31/80	2,780	2,880	3,040	3,120	3,120
Total-Eighth Floor	7075			$46,750	$56,150	$56,870	$57,620	$60,760
Ninth Floor								
901 Hillman & Robertson	150	8.00	1/1/80 - 12/31/80	$ 1,230	$ 1,300	$ 1,340	$ 1,400	$ 1,400
902 Wisc. Ins. Alliance	864	7.00	6/1/79 - 5/31/80	6,400	6,480	6,910	7,000	7,000
903-6 Hulcahy & Wherry	980	8.00	1/1/79 - 12/31/81	8,070	8,530	8,750	9,210	9,210
907 Robert Uehling	225	8.00	4/1/80 - 3/31/81	1,810	1,960	1,980	2,110	2,110
909-10 Larry Hall	700	6.00	6/1/79 - 5/31/80	4,520	4,550	4,870	4,900	4,900
911 Dr. Schultz	248	7.75	1/1/79 - 12/31/80	1,920	1,970	2,060	2,140	2,230
912-19 Devine Insurance	2580	7.00	4/1/80 - 3/31/83	18,060	18,060	18,180	19,350	19,350
921 State	575	7.00	vacated 7/1/80	4,020	4,350	4,350	4,700	4,700
922-23 Judicial Commission	355	6.50	5/1/79 - 4/30/81	2,300	2,500	2,500	2,700	2,700
924-25 Dr. Rundell	339	7.20	6/1/79 - 5/31/80	2,650	2,680	2,860	2,880	2,880
Total-Ninth Floor	7016			$50,980	$52,380	$53,800	$56,390	$56,480
Tenth Floor								
1001 Victor Lind	150	6.80	11/1/79 - 10/31/80	$ 1,050	$ 1,200	$ 1,250	$ 1,300	$ 1,350
1002 Wisc. Assoc. of Indep. Colleges	864	6.50	1/1/80 - 12/31/80	5,760	6,050	6,190	6,480	6,650
1003-4 Wisc. Canners & Freezers	756	8.00	5/1/79 - 4/30/80	6,050	6,050	6,530	6,530	7,050
1005-8 Boelter Co.	911	6.80	12/1/79 - 11/30/80	6,370	6,650	6,880	7,200	7,400
1009-10 Vacant	455	6.50	--	2,950	3,190	3,190	3,450	3,450
1011-13 Dr. Doll	727	6.65	6/1/79 - 5/31/80	5,230	5,270	5,640	5,670	6,100
1014 Vacant	229	6.25	--	1,430	1,430	1,540	1,540	1,670
1015-18 State	1616	7.50	11/1/79 - 10/31/83	12,120	12,120	12,120	12,600	13,090
1019-21 Vacant	680	6.70	vacated 2/29/80	5,380	5,440	5,870	5,910	6,350
1022 Herb Walsh	171	8.00	12/1/79 - 11/30/80	1,420	1,490	1,490	1,540	1,600
1023-24 Dane Co. Advocate for Battered Women	331	7.20	8/1/79 - 7/31/80	2,610	2,680	2,840	2,900	3,070
Total-Tenth Floor	6890			$50,370	$51,570	$53,540	$55,120	$57,780
Annual Totals for	74,054 sq. ft.			$493,960	$522,120	$537,260	$565,460	$586,210

EXHIBIT 24 - Continued

Notes to Schedule of Rental Revenues for the Period of April 30, 1980 Through April 29, 1985

[1] The annualized gross rental revenue for the period from April 30, 1980 through April 29, 1981 is consistent with the actual lease terms, if at market rents, as of April 30, 1980. Increases in rents are assumed to take place according to lease terms and conditions; an increase of 8 percent is used at lease renewal dates. This factor was taken from a survey of office rent increases in Class B buildings on and near the Capitol Square in Madison and is the current rate used by the Tenney Building manager.

[2] The annual rental market rate is given as of April 30, 1980. Only one tenant in Rooms 909-10 is considered to be below market rent at $4.73/square foot; therefore the rent for this space is calculated at a market rate of $6.00/square foot. Market rents are also imputed to spaces used by the building owner.

[3] Of the 87 rental space units in the Tenney Building as of April 30, 1980, there are 62 leases in place, but 54 of those terminate between 1980 and 1982. Only eight have leases that extend beyond April 30, 1982.

[4] The Leaf and Ladle Restaurant began its lease of 3500 sq. ft. of the first floor retail space on January 1, 1980. The restaurant had closed its door by October 1, 1980, and the remodeled space is once again on the market. The rental rate of $9.00 with an annual escalator of 8% per year commencing in the second year is considered comparable for the area. A most probable investor might consider an escalator basdd upon a percentage of gross sales to encourage rental of this space if restaurant use is most likely; the projected revenues probably would not increase as rapidly as forecast.

[5] The state has given notice that it will vacate these spaces by June 30, 1980.

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per. Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Lower Level & Roof[1]									
B level - Vault	700	100	3.00	12	$ 2,100				
	700	100	3.00	12		$ 2,100			
	700	100	3.25	12			$ 2,270		
	700	50	3.25	6				$ 1,140	
	700	50	3.50	6					$ 1,140
B Level									
Showroom and Office	4,000	100	3.00	12	12,000				
	4,000	100	3.00	6		6,000			
	4,000	50	3.25	6			3,250		
	4,000	50	3.25	6				3,250	
	4,000	50	3.50	3					1,750
A Level - Storage	400	100	7.00	6				1,400	
	400	100	7.50	9					2,250
Total - Lower Level					$14,100	$ 8,100	$ 5,520	$ 5,790	$ 5,140
First Floor									
112 East Main	454	100	5.20	8		$ 1,570			
	454	100	5.20	12			$ 2,360		
	454	100	5.20	4				$ 780	
114 East Main	1,000	100	5.20	8		3,480			
	1,000	50	5.20	12			2,600		
	1,000	50	5.20	4				860	
Leaf & Ladle	3,500	100	9.00	7	18,370				
	3,500	100	9.50	3		8,310			
	3,500	100	10.50	3				9,190	
	3,500	100	11.30	3					$ 9,890
North Entry	2,000	100	9.00	9	13,500				
Total - First Floor					$31,870	$13,360	$ 4,960	$10,830	$ 9,890

EXHIBIT 25

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Second Floor[3]									
201	150	100	6.50	12	$ 900				
	150	100	6.50	12		$ 900			
	150	100	7.00	12			$ 1,050		
	150	100	7.00	12				$ 1,050	
	150	100	7.60	12					$ 1,140
202	600	100	6.70	6	2,010				
	600	50	7.20	12		2,160			
	600	50	7.20	12			2,160		
	600	50	7.80	6				1,170	
	600	50	7.80	3					580
203-4	543	100	6.20	12	3,370				
	543	50	6.70	12		1,820			
	543	50	6.70	12			1,820		
	543	50	6.70	9				1,360	
205-6	506	100	7.00	6	1,770				
	506	50	7.50	12		1,900			
	506	50	7.50	12			1,900		
	506	50	8.15	9				1,550	
	506	50	8.15	6					1,030
209-10	451	100	6.25	6	1,410				
	451	50	6.75	12		1,520			
	451	50	6.75	12			1,520		
	451	50	7.30	9				1,230	
215	415	100	6.75	12	2,800				
	415	100	7.30	6		1,510			
	415	100	7.30	3			760		
218-19	816	100	8.00	8				4,370	
	816	100	8.20	12					6,690
220-21	1,400	100	6.25	6	4,370				
	1,400	50	6.75	12		4,720			
	1,400	50	6.75	6			2,360		
	1,400	50	7.30	6				2,560	
Total - Second Floor					$16,630	$14,530	$11,570	$13,290	$ 9,440

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for
the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Third Floor[3]									
301	150	100	5.75	12	$ 860				
	150	100	5.75	12		$ 860			
	150	100	6.20	12			$ 930		
	150	100	6.20	12				$ 930	
	150	100	6.70	12					$ 1,000
302-3	1,179	100	5.75	6	3,390				
	1,179	50	6.20	12		3,650			
	1,179	50	6.20	12			3,650		
	1,179	50	6.70	6				3,950	
304	230	100	6.70	6	770				
	230	100	7.20	12		1,660			
	230	100	7.80	6					900
305-8	942	100	6.70	6	3,150				
	942	50	7.20	12		3,390			
	942	50	7.20	12			3,390		
	942	50	7.80	3					1,830
310-11	456	100	6.70	6	1,530				
	456	50	7.20	12		1,640			
	456	50	7.20	12			1,640		
312	234	100	5.75	12	1,340				
	234	100	6.20	12		1,450			
	234	100	6.20	12			1,450		
	234	100	6.70	12				1,570	
	234	100	6.70	12					1,570
315	731	100	6.70	4	1,610				
320-24	1,363	100	7.00	12	9,540				
	1,363	100	7.60	6		5,150			
Total - Third Floor					$22,190	$17,800	$11,060	$ 6,450	$ 5,300

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Fourth Floor									
401	150	100	6.40	12	$ 960				
	150	100	6.40	12		$ 960			
	150	100	6.90	12			$ 1,040		
	150	100	6.90	12				$ 1,040	
	150	100	7.45	12					$ 1,120
412	202	100	6.40	12	1,290				
	202	100	6.40	12		1,290			
	202	100	6.90	12			1,400		
	202	100	6.90	12				1,400	
	202	100	7.40	12					1,500
416-19	1,370	100	6.00	6	4,110				
	1,370	50	6.50	12		4,450			
	1,370	50	6.50	12			4,450		
	1,370	50	7.00	12				4,800	
	1,370	50	7.00	6					2,400
420-20a	560	100	6.70	6	1,880				
	560	50	6.70	12		1,870			
	560	50	7.20	9			1,520		
Total - Fourth Floor					$ 8,240	$ 8,570	$ 8,410	$ 7,240	$ 5,020
Fifth Floor									
502	842	100	7.50	12	$ 6,310				
	842	50	8.00	12		$ 3,410			
	842	50	8.00	12			$ 3,410		
	842	50	8.75	6				$ 3,410	
520	555	100	7.70	6			2,130		
	555	50	7.80	12				2,160	
	555	50	8.90	9					$ 1,850
Total - Fifth Floor					$ 6,310	$ 3,410	$ 5,540	$ 5,570	$ 1,850

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Sixth Floor									
601	150	100	6.70	12	$ 1,000				
	150	100	6.70	12		$ 1,000			
	150	100	7.20	9			$ 810		
602-4	1,473	100	6.00	6	4,420				
	1,473	50	6.50	12		4,770			
	1,473	50	6.50	12			4,770		
	1,473	50	7.00	9				$ 3,870	
	1,473	50	7.00	6					$ 2,580
605	204	100	6.40	12	1,300				
	204	100	6.40	12		1,300			
	204	100	6.90	12			1,410		
	204	100	6.90	9				1,060	
617	250	100	7.75	4	640				
620-24	1,262	100	6.70	12	8,450				
	1,262	100	7.20	6		4,540			
	1,262	100	7.20	6			4,540		
	1,262	50	7.80	9				3,690	
Total - Sixth Floor					$15,810	$11,610	$11,530	$ 8,620	$ 2,580
Seventh Floor									
No Vacancies Projected									
Eighth Floor									
801	150	100	7.00	10	$ 880				
	150	100	7.00	12		$ 1,050			
	150	100	7.50	6			$ 560		
Total - Eighth Floor					$ 880	$ 1,050	$ 560	0	0

EXHIBIT 25 -- Continued

Schedule of Vacancies by Floor and by Lease Terms for the Period of April 30, 1980 Through April 29, 1985

EXHIBIT 25 -- Continued

	Space Sq. Ft.[2]	% Vacant	Annual Rental Rate Per Sq. Ft.	# of Months Vacant	Projection Period 4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Ninth Floor									
909-10	700	100	6.50	6		$ 2,280			
	700	100	7.00	6			$ 2,440		
922-23	355	100	7.00	12			2,500		
	355	100	7.60	6				$ 1,350	
Total - Ninth Floor					0	$ 2,280	$ 4,940	$ 1,350	0
Tenth Floor									
1009-10	455	100	6.50	12	$ 2,950				
	455	100	7.00	12		$ 3,190			
	455	100	7.00	9			$ 2,390		
1014	229	100	6.25	12	1,430				
	229	100	6.25	12		1,430			
	229	100	6.70	6				770	
1019-20	680	100	6.70	1	380				
Total - Tenth Floor					$ 4,760	$ 4,620	$ 2,390	$ 770	0
TENNEY BUILDING TOTALS[4]					$120,790	$85,330	$66,480	$59,910	$39,220

Notes to Schedule of Vacancies by Floor and by Lease Terms
For the Period of April 30, 1980 Through April 29, 1985

[1] The lower level space has a continued record of vacancy; it is assumed that until the space is made more marketable by remodeling, rents will not keep pace with the market. Uses other than a showroom for the 4000 sq. ft. will need to be explored; subdividing the larger space for office space and/or storage space are possibilities.

[2] It is assumed that the smaller office spaces from 200-500 square feet will experience less overall vacancy than the larger spaces. There appears to be a trend toward several small independent businessmen sharing a common secretarial staff; some of the larger vacant suites could be remodeled for this type of use.

[3] The second and third floors have the greatest amount of vacancy due to the exodus of State tenants. By the end of June, 1980, the State's move alone will cause 44% of the second floor vacancies; the third floor will experience a vacancy rate of 39.5% due to loss of State tenants; the State related vacancy rates on the fourth and sixth floors will be 29% and 21% respectively. A most probable buyer will have to anticipate a large capital investment in 1980 to remodel and refurbish the Building to make it competitive in the Class B office market that already has a large supply of space available on and near the Square.

[4] Vacancies are assumed to gradually decrease between 1981 and 1983; a most probable buyer will institute a vigorous marketing program which will involve research of space needs in the area and remodeling which will be targeted to those needs.

Schedule of Projected Revenues and Expenses From April 30, 1980 Through April 29, 1985

	4/30/80-4/29/81	4/30/81-4/29/82	4/30/82-4/29/83	4/30/83-4/29/84	4/30/84-4/29/85
Revenues:					
Gross Income	$493,960	$522,120	$537,260	$565,460	$586,210
less: Vacancies	(120,790) (24.5%)	(85,330) (16.3%)	(66,480) (12.4%)	(59,910) (10.6%)	(39,220) (6.7%)
Effective Gross	373,170	436,790	470,780	505,550	546,990
Parking Rentals	12,960	12,960	12,960	14,000	14,000
Total Revenues	$386,130	$449,750	$483,740	$519,550	$560,990
Expenses:[1]					
Accounting & Legal	4,200	4,640	5,120	5,650	6,240
Building Security[2]	21,840	24,100	26,620	29,390	32,440
Insurance	7,000	7,730	8,530	9,420	10,400
Maintenance[3]	28,850	31,850	35,160	38,820	42,860
Wage & Salaries	60,000	66,240	73,130	80,730	89,130
Payroll Taxes	11,500	12,700	14,020	15,470	17,080
Repairs	14,880	16,430	18,130	20,020	22,100
Telephone	1,600	1,770	1,950	2,150	2,380
Utilities[4]	90,600	101,470	107,560	114,380	122,020
Office Expenses[5]	7,040	7,520	8,250	8,840	9,690
Management[6]	22,390	26,320	27,540	30,280	32,570
Concourse Special Assessment	2,360	2,410	2,630	2,550	2,480
Total Operating Expenses Before R.E. Taxes[7]	($272,260)	($303,180)	($328,640)	($357,700)	($389,390)
Net Operating Income Before R.E. Taxes	$113,870	$146,570	$155,100	$161,850	$171,600
Real Estate Taxes[8]	(26,680)	(28,000)	(29,400)	(30,880)	(32,420)
Net Operating Income	$ 87,190	$118,570	$125,700	$130,970	$139,180

EXHIBIT 27

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[1] Expenses

In general, expenses are projected to increase according to the average annual change of 10.4% in the All Item Consumer Price Index over the past five years. (See amended Exhibit 27).

[2] Building Security

Security personnel is hired from 10 P.M. to 6 A.M. on weekdays with 24 hour coverage on the weekends. The building is open to the public from 6 A.M. to 6 P.M. each weekday. The continuing problems created by the presence of bars and adult entertainment places across the street make this security protection mandatory.

[3] Maintenance

This account includes an elevator maintenance contract at $9,060 a year.

[4] Utilities

At present the Tenney Building consumes approximately 55,000 to 70,000 gallons of No. 2 fuel oil per year depending upon the weather. The cost of fuel has increased as follows:

January 12, 1979	.43/gallon
October 1, 1979	.77/gallon
February 1, 1980	.95/gallon

In thirteen months the cost has risen 121%. Though the Tenney Building is converting to natural gas on its primary boiler, the cost of natural gas is also volatile. Over the past five years natural gas has had an average annual increase of 17.6% for the commercial time-of-use consumer, according to Milton Spiros, Madison Gas & Electric Co.

The installation of combination storm windows throughout the building should help to conserve fuel costs. To stabilize utility costs it is assumed management will place energy cost escalators in renewed leases; therefore in the pro forma income statement utility costs are escalated at 12 percent annually with 50 percent of the increase passed through to the tenant after year 2.

[5] Office expenses include rental of space in the Tenney Building for management operations.

[6] Management costs are computed as 6% of effective gross office revenue with 4% allowed for management and 2% for leasing commissions for space turnover.

Notes to Schedule of Projected Revenues and Expenses
From April 30, 1980 Through April 29, 1985

[7]Total operating expenses are calculated before including real estate taxes for ease in using the MRCAP discounted cash flow program.

[8]Real estate taxes are calculated as 5.4% of gross revenues in the first year and increased at 5% per annum thereafter. These calculations are based on the following fact and assumptions:

1. The assessed value as of 1/1/80 is $1,200,000.
2. The mill rate is assumed to increase slightly (approximately 1%) after several years of decrease.
3. Taxes will continue to increase due to inflated city budgets and decreasing state aids.

4. Conversion of Net Income to Present Value

The MRCAP program from the National EDUCARE library of programs, :eviously described, is used to convert net income to a present alue after taxes as of April 30, 1980, for the Tenney Building t the end of a five-year holding period.

:. Assumptions Used in MRCAP

The MRCAP discounted cash flow program can solve for a justified project value by specifying the ratio of net income to debt service acceptable to an institutional mortgage lender. Given the interest rate and term available as of April 30, 1980, the program will solve for the justified amount of mortgage and for justified cash equity, assuming typical before-tax cash-on-cash investor requirements for office buildings, with potential for inflation sensitive rents. Exhibit 28 is a simplified flow chart depicting the steps in solving for the justified project budget.

On April 30, 1980, prudent lenders will require a minimum debt cover ratio of 1.3 and equity investors expect no less than 6 percent cash-on-cash.

1. Inputs into MRCAP Program

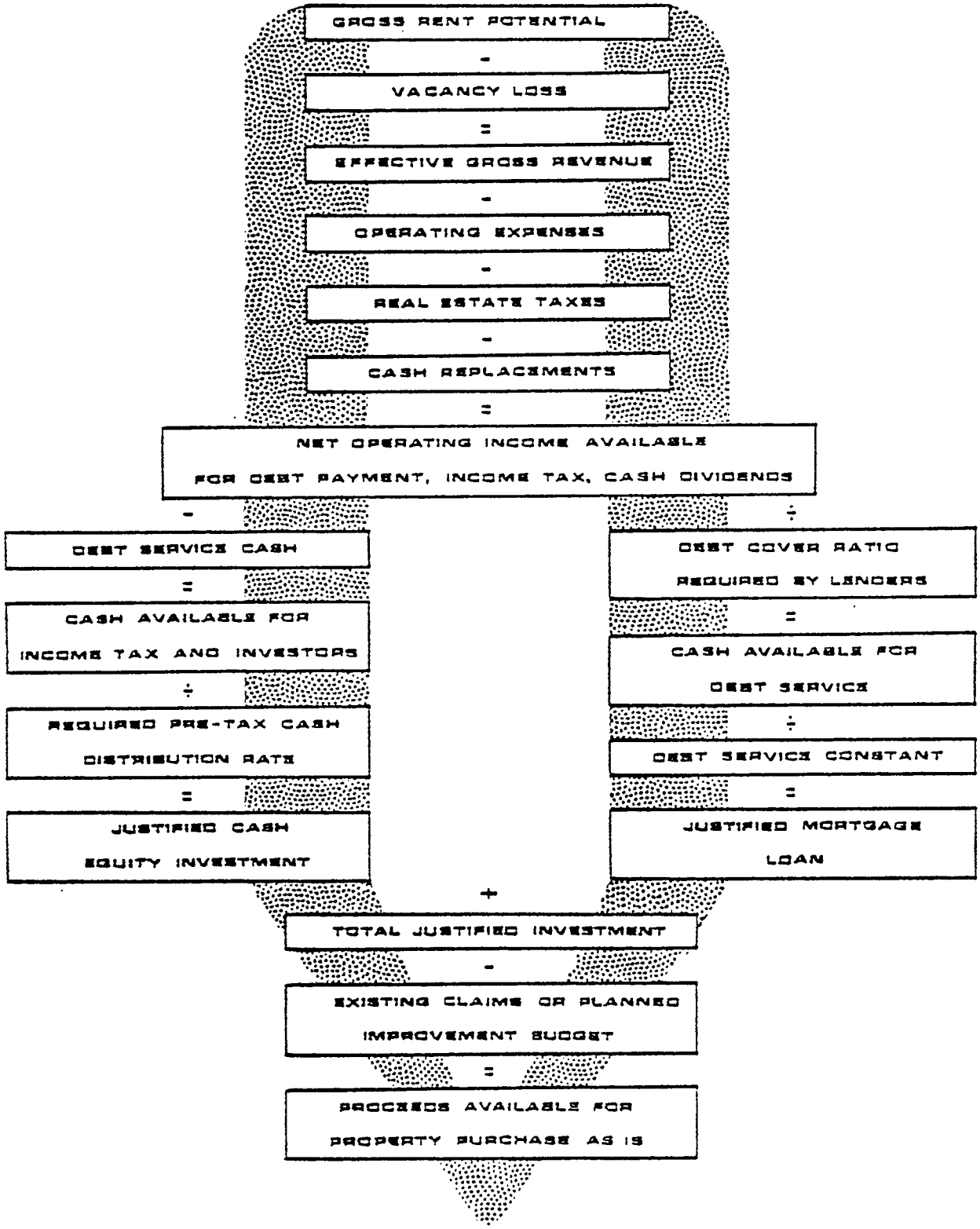
   a. Debt cover ratio = 1.3

   b. Before tax cash-on-cash requirements = 6%

   c. Project holding period = 5 years

EXHIBIT 28

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH



d. Real estate taxes = historical pattern suggests real estate taxes at 5.4 percent of first year's gross with an annual inflation factor of 5% (see assumptions discussed below)

e. Discount rate = 13% (present value factor used to discount cash flow)

f. Reinvestment rate = 6% after tax rate applied to after tax cash flow

g. Resale price = 10 times net operating income in year of sale

h. Resale cost rate = 4%

i. Working capital reserves from equity to cover one month's expenses = $30,000

j. Investor marginal income tax rate = 50%

k. Land = $340,000, as of most recent appraisal for IRS

l. Buildings = 60% of total improvement value

m. Mechanicals and site improvements = 40% of total improvement value

n. Elevators = remaining book value of $73,000

o. Improvements for Energy Conservation = a total of $54,000 which includes $43,000 for storm windows and $11,000 for natural gas conversion unit.

p. Tenant Improvements = $50,000 for carpeting and partitions as needed to upgrade vacant office space

q. Investment Credit Dummy = to allow for tax benefit of investment credit in first year for capital improvement for energy conservation

r. Mortgage = principal amount determined by debt cover ratio; interest rate a minimum of 12% with a 20-year term, paid monthly, on the first mortgage and 13% interest and an 8-year term for the second mortgage

2. Real Estate Tax Assumptions

Real estate taxes are a function of assessed value (or fair market value when assessed value is 100 percent of market value) and the net mill rate; therefore, real estate taxes are estimated as a function of gross rental income. During the past two years, real estate taxes have been between 5 percent and 6 percent of the Building's potential gross rental income. As a result of tests of several values between 5 percent and 6 percent, it is determined that 5.4 percent of gross rental revenues best represents the historical pattern of the Building's real estate taxes. MRCAP is programmed to use 5.4 percent of the first year's gross rental income to compute the first year's real estate taxes and then provides for a growth factor of 5 percent to increase the taxes each year thereafter.

D. Analysis of Test Results

Four runs of the MRCAP program were done using different assumptions about the amount of real estate taxes that would be paid on the subject property. Taxes and net mill rates for the past three years on the subject property have been:

Year	1977	1978	1979
Real Estate Taxes	$33,118.75	$29,951.95	$25,340.93
Net Mill Rate	.026495	.024153	.022036

Real estate taxes estimated at various percentages of the first year's projected gross and inflated 5 percent a year gave these results in the MRCAP runs:

Percentage of First Year's Gross Rental Revenue	Real Estate Taxes				
	1980	1981	1982	1983	1984
5.0	$24,698	$25,933	$27,230	$28,591	$30,021
5.4	$26,674	$28,008	$29,408	$30,878	$32,422
5.8	$28,650	$30,082	$31,586	$33,166	$34,824
6.0	$29,638	$31,119	$32,675	$34,309	$36,025

The real estate taxes estimated at 5.4 percent of the first year's gross rent best approximates the shift from a decreasing to an increasing net mill rate that can now be expected due to an anticipated decrease in state aids to cities. Rising costs of local government can be expected to be borne by the local taxpayer.

The input and output for the MRCAP program using real estate taxes estimated at 5.4 percent of gross rental revenue are found in Exhibit 29.

If taxes are a conservative 5.4 percent of gross rental revenue, MRCAP substantiates the fair market value of $1,150,000 estimated by the market comparison approach to value.

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EXHIBIT 29

MRCAP INPUT AND OUTPUT--
JUSTIFIED CAPITAL BUDGET WITH
REAL ESTATE TAXES AT 5.4% OF
FIRST YEAR'S GROSS RENT

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MRCAP        09:49CST     12/20/80

ENTER INPUT FILE NAME?


THE PROGRAM MRCAP IS THE PROPERTY OF
MICHAEL L. ROBBINS
C/O REAL ESTATE DYNAMICS INC.
4701 WINNEQUAH RD.
MONONA, WISC.

USER NO. 66

(608)-221-1120


NO REPRESENTATION IS MADE THAT THE ASSUMPTIONS OR
COMPUTATIONAL FORMAT USED IN THIS PROJECTION WILL
BE ACCEPTABLE TO TAXING AUTHORITIES.

**$10.00 LIB CHG APPLIED
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R E P O R T   S E C T I O N   N U M B E R   1                PAGE 1
=============================================

* GROSS RENT      $ 554378.   * RATE OF GROWTH OF GROSS RENT   0.0432
* EXPENSES        $ 330234.   * RATE OF GROWTH OF EXPENSES     0.0936
* R E TAXES       $  29478.   * RATE OF GROWTH OF R E TAXES    0.0500
  INCOME TAX RATE    0.5000     PROJECT VALUE GROWTH OF        2.0000
* VACANCY RATE       0.1375     WORKING CAPITAL LOAN RATE      0.1400
  EQUITY DISCOUNT    0.1300     EXTRAORDINARY EXPENSES   $       0.
  RESALE COST        0.0400     REINVESTMENT RATE              0.0600
  WKG CAPITAL RS  $  30000.     CAPITAL RESER INTEREST RATE    0.
  INITIAL COST    $ 1091502.    INITIAL EQUITY REQUIRED  $  486002.

  ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD, OF  5 YRS.


  INITIAL COST DERIVED THROUGH BACKDOOR TYPE 3 USING 2 MORTGAGES
```

PRO FORMA

INVESTMENT ANALYSIS OF

BUILDING

FOR

REPORT SECTION NUMBER 2 PAGE 1

COMPONENT SUMMARY

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
LAND	0.	1	25.	0	$	340000.	0
BUILDING	0.80	1	29.	2	$	338221.	0
HVAC	0.90	1	9.	2	$	225481.	0
ELEVATORS	0.90	1	4.	2	$	73000.	0
ENERGY CONSERVATION	0.90	1	5.	2	$	54000.	0
TENANT IMPROVEMENTS	0.90	1	10.	4	$	50000.	0
INVESTMENT CREDIT 3U	1.00	1	1.	2	$	10800.	0

MORTGAGE SUMMARY

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.1200	1	20	20	$	531493.	0.487
SECOND MORTGAGE	0.1300	1	8	8	$	104000.	0.095

EXHIBIT 29 -- Continued

P R O F O R M A

INVESTMENT ANALYSIS OF

BUILDING

FOR

R E P O R T S E C T I O N N U M B E R 3 PAGE 1

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
1	GROSS INCOME	50a929.	535080.	550220.	5794a0.	a00210.
2	LESS VACANCY	120799.	65330.	aa480.	5a919.	49220.
3	LESS REAL ESTATE TAXES	2aa74.	28008.	29408.	30873.	32422.
4	LESS EXPENSES	272260.	303180.	328a40.	357700.	389390.
5	NET INCOME	87196.	118562.	125692.	130972.	139178.
6	LESS DEPRECIATION	76323.	a4398.	a3442.	62629.	45513.
7	LESS INTEREST	76472.	74515.	72298.	a9785.	66938.
8	TAXABLE INCOME	-65599.	-20351.	-10048.	-1443.	26726.
9	PLUS DEPRECIATION	76323.	64398.	63442.	62629.	45513.
10	LESS PRINCIPAL PAYMENTS	14730.	16687.	18904.	21417.	24263.
11	CASH THROW-OFF	-4006.	27361.	34490.	39770.	47976.
12	LESS TAXES	0.	0.	0.	0.	13363.
13	LESS RESERVES	0.	0.	0.	0.	0.
14	CASH FROM OPERATIONS	0.	27361.	34490.	39770.	34613.
15	WORKING CAPITAL LOAN	0.	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	0.	27361.	34490.	39770.	34613.
17	TAX SAVING ON OTHER INCOME	32799.	10175.	5024.	721.	0.
18	SPENDABLE CASH AFTER TAX	32799.	37536.	39514.	40491.	34613.

MARKET VALUE & REVERSION

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
19	END OF YEAR MARKET VALUE	871982.	1185625.	1256921.	1309717.	1391778.
20	LESS RESALE COST	34879.	47425.	50277.	52389.	55671.
21	LESS LOAN BALANCES	620764.	604077.	585173.	563756.	539493.
22	PLUS CUM. CASH RESERVES	25994.	25994.	25994.	25994.	25994.
23	BEFORE TAX NET WORTH	242314.	560117.	647466.	719566.	822608.
24	CAPITAL GAIN (IF SOLD)	-181096.	182544.	313511.	426719.	551596.
25	CAPITAL GAINS TAX	-36219.	36509.	62702.	85344.	110319.
26	MINIMUM PREF. TAX	0.	0.	0.	0.	0.
27	INCOME TAX ON EXCESS DEP.	1500.	2438.	2897.	2950.	2657.
28	TOTAL TAX ON SALE	-16610.	38946.	65599.	88294.	112977.
29	AFTER TAX NET WORTH	258924.	521171.	581867.	631273.	709632.

BEFORE TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
30	RETURN ON NET WORTH B/4 TAX	-0.5014	1.4245	0.2175	0.1728	0.2099
31	CHANGE IN NET WORTH B/4 TAX	-243696.	317803.	87349.	72100.	103042.
32	ORIG EQUITY CASH RTNB/4 TAX	-0.0082	0.0563	0.0710	0.0818	0.0987
33	ORIG EQUITY PAYBACK B/4 TAX	0.0000	0.0563	0.1273	0.2091	0.2803
34	B/4 TAX PRESENT VALUE	846386.	1092030.	1126006.	1142995.	1174189.

AFTER TAX RATIO ANALYSIS

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
35	RETURN ON NET WORTH AFR TAX	-0.3998	1.1578	0.1923	0.1545	0.1790
36	CHANGE IN NET WORTH AFR TAX	-227086.	262248.	60696.	49406.	78359.
37	ORIG EQUITY CASH RTNAFR TAX	0.0675	0.0772	0.0813	0.0833	0.0712
38	ORIG EQUITY PAYBACK AFR TAX	0.0675	0.1447	0.2260	0.3093	0.3806
39	AFTER TAX PRESENT VALUE	893655.	1102069.	1124504.	1133367.	1150082.

CASH FLOW ANALYSIS

		1980	1981	1982	1983	1984
40	NET INCOME-MARKET VALUE RTO	0.1000	0.1000	0.1000	0.1000	0.1000
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7696	0.7894	0.8165	0.8358	0.8517

EXHIBIT 29 -- Continued

INPUT FILE

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            09:48CST    12/20/80

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150 50,12960,12960,12960,14000,14000
160 60,120790,85330,86480,89910,89220
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180 80,272260,303180,328640,357700,389390
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240 201,1,340000,0,0
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260 200,2,BUILDING
270 201,2,,60,,80,2
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290 200,3,HVAC
300 201,3,,40,,90,2
310 202,3,1,9,0
320 200,4,ELEVATORS
330 201,4,73000,,90,2
340 202,4,1,4,0
350 200,5,ENERGY CONSERVATION
360 201,5,54000,,90,2
370 202,5,1,5,0
380 200,6,TENANT IMPROVEMENTS
390 201,6,50000,,90,4
400 202,6,1,10,0
410 200,7,INVESTMENT CREDIT DUMMY
420 201,7,10800,1,0,2
430 202,7,1,1,0
440 300,1,FIRST MORTGAGE
450 301,1,1,0,,12,0,20
460 302,1,12,1,20,0
470 303,1,0,0,0,0
480 300,2,SECOND MORTGAGE
490 301,2,104000,,13,0,8
500 302,2,12,1,8,0
510 303,2,0,0,0,0
520 400,9
530 403,99,1,2,3,4,5
540 999,99
```

IV. Aside from the problem of defining and allocating income and reversion to the real estate interest, income property appraisal is at C. with the problem of cash equivalency adjustments for both comparable sales and the subject property. Many of the issues on how to appraise properties with economic development loans, state-subsidized housing loans, or seller financed property relate to when and how cash equivalency rules should be applied.

A. Fair market value seems to call for cash to the seller (Exhibit 3) but then provides an exception where market practice may be different. The Institute textbook says,

> "Unusual financing or other factors that might result in a price deviation from market value are also excluded. However, if the availability of other than conventional financing (such as FHA or VA loan terms) is sufficiently extensive to constitute a market within which the property being appraised is expected to sell, the typical purchaser may be expected to take advantage of this available financing, and the market value of the property reflects the probable sale price in this market. In market valuation assignments the appraiser first identifies the market in which the property being appraised will be exposed and sold. The market value of the property is then identified within parameters that reflect conditions in this market." Source: The Appraisal of Real Estate, Seventh Edition.

B. In addition to market characteristics, we need to know the purpose of the appraisal before determining where their fair market value based on fee simple title or most probable price or going concern value is appropriate.

1. For example, the assessor is required by law to look at fee simple title; he does not recognize contract rents when they are below market rent nor can he look at premium rents and going concern values over and above market or economic rents. Cash equivalency is a must.

2. However, in a Section 8 loan from a state housing authority, it is typical to take an assignment of the general partnership position which can be exercised by the Housing Authority in the event of default on the mortgage terms or the related property management agreement. Control of the property can pass through subsequent assignment without disturbing the tax position or the special non-market interest rate of the deal. Moreover, the rights transfered include existing reserve funds. Therefore, fair market value is not relevant relative to the security of the loan. The investor purchases a fee simple title encumbered by transfers of owner prerogatives to the government in exchange for tax privileges and minimum income guarantees for 20-40 years. That is the question of most probable price or going concern value.

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Exhibit 30

MCCLOUD B. HODGES, JR.
REAL ESTATE INVESTMENT, VALUATION AND COUNSELING
410 PINE STREET, SUITE 203
VIENNA, VIRGINIA 22180 703 - 281-5668

October 9, 1980

MEMORANDUM FOR several interested RE appraisers/counselors, trial attorneys and academicians

Enclosed is an expanded and revised list of OARs and assessment/sales ratios which are self explanatory. This list is not a pure (random) sample by statistical rules. On one hand it is much larger than a sample need be, as it covers nearly 70% of all known property sales for the areas described, in the price range above about one-half million dollars, excluding MF apartment properties sold for condo conversion. On the other hand, it is possible that the 30% of investors-purchasers who, thus far, have not cooperated in furnishing data for this survey, may have shown slightly lower average OARs and A/S ratios.

This study, consuming several hundred man-hours in visits to offices of investors and inspections of their properties, was initiated more than two years ago primarily to obtain market data for rebutting several ad valorem tax valuations of properties owned by my clients. But it is now evident, from the specific results of the study and from its sheer coverage, that it ought to serve as the basis for a new educational manuscript advocating modern methods of valuing investment classed property. The "OAR" capitalization method, regardless of how the OAR is derived or constructed, is quite crude, often erroneous, and therefore useless as applied to higher priced property valuations. It was made even more useless during the last year in which many institutional sources of long term, level payment mortgage loans have withdrawn or have changed their lending practices in order to share in part of the inflation-produced cash flow through additional interest and/or future capital gain.

The second enclosure, a revised edition of "Effects of Financing on Price and Value", should explain the main reasons for the variances in OARs shown in the first enclosure: financing and tax shelter. The other reasons for OAR variances are the buyers' anticipated future changes in net income and resale/exchange values. Some properties are expected to produce large profits, or their only profits, in the distant future, while others will be nominally profitable only in the short range. This reduces the "NOI" either as a first year or a "stablized" figure to a position of invalidity in the valuation appraisal practice.

Enclosures

McCLOUD B. HODGES, JR.
REAL ESTATE INVESTMENT, VALUATION AND COUNSELING
410 PINE STREET, SUITE 203
VIENNA, VIRGINIA 22180 703 - 281-5668

Sample of investment-classed property resales in the Virginia and Maryland suburbs of Washington, D. C., showing the wide variations in the overall capitalization rate (OAR) and in the assessment/sale price ratio. For any property which was not sold for cash above new, market-rate mortgage financing, the price shown is the cash-equivalent price, being the sum of the equity cash and the balances of the mortgage loans after discounting the loans to their estimated cash liquidable values at dates of property sales.

The OAR is based upon the cash-equivalent sales price and the net operating income (NOI) produced in the first year following the date of sale. If a full year had not passed by the date of any datum sale analysis, the NOI is that which was budgeted by the new owners. The assessment/sale price ratio is based upon 100% market value assessment and the cash equivalent sales price. Supporting data for all property sales are contained in a separate, confidential listing with corresponding identification (ID) numbers.

ID	Year of Sale	Kind of Property and Location	Cash Equiv. Price	OAR	Assmt/ Sale
100	1977	Garden apts., Fairfax Co.	440,000	.1298	118%
105	1980	Office Bldg., Fairfax Co.	467,074	.0856	118%
107	1978	Elevator apts., Montgomery Co.	474,389	.0942	148%
110	1978	Elevator Apts., Arlington Co.	559,800	.0857	71%
113	1978	Office Bldg., Montgomery Co.	585,126	.1324	133%
115	1977	Garden apts., Fairfax Co.	589,000	.1091	94%
120	1980	Office Bldg., Fairfax Co.	590,255	.0860	158%
125	1980	Office Bldg., Fairfax Co.	638,975	.1291	229%
130	1976	Garden Apts., Alexandria City	730,058	.1232	77%
132	1978	Office Bldg., Montgomery Co.	746,833	.0818	97%
135	1978	Garden Apts., Fairfax Co.	802,900	.1396	104%
140	1980	Garden Apts., Fairfax Co.	836,857	.0874	96%
141	1977	Garden Apts, Prince Georges Co.	850,000	.1012	87%
142	1978	Office Bld., Montgomery Co.	950,000	.0759	89%
143	1978	Elevator Apts., Prince Georges Co	994,808	.1151	101%
144	1978	Office Bldg., Montgomery Co.	1,010,865	.0868	59%
145	1980	Office Bldg., Fairfax Co.	1,120,209	.0957	112%
147	1979	Garden Apts., Prince Georges Co.	1,159,172	.1267	102%
150	1977	Office Bldg., Fairfax Co.	1,245,200	.1124	106%
155	1976	Garden Apts., Arlington Co.	1,395,000	.1019	103%

ID	Year of Sale	Kind of Property and Location	Cash Equiv. Price	OAR	Assmt/ Sale
157	1977	Shopping Cntr., Montgomery Co.	1,461,500	.0879	98%
160	1976	Garden Apts., Alexandria City	1,577,300	.1065	108%
162	1980	Garden Apts., Ann Arundel Co.	1,638,000	.1416	90%
163	1979	Garden Apts., Prince Georges Co.	1,716,505	.1290	101%
164	1979	Garden Apts., Prince Georges Co.	1,732,107	.1827	144%
166	1978	Office Bldg., Arlington Co.	1,751,835	.0645	90%
168	1976	Garden Apts., Fairfax Co.	1,879,250	.1248	123%
170	1976	Garden Apts., Fairfax Co.	1,960,835	.1140	114%
175	1975	Elevator Apts., Fairfax Co.	1,984,500	.1321	156%
180	1978	Elevator Apts., Falls Church	2,000,000	.0821	91%
184*	1977	Garden Apts., Montgomery Co.	2,113,500	.1192	115%
185	1980	Shopping Center, Fairfax Co.	2,144,706	.1081	125%
190	1975	Elevator Apts., Alexandria City	2,153,606	.0831	137%
195	1978	Garden Apts., Fairfax Co.	2,324,000	.1224	106%
200	1975	Garden Apts., Fairfax Co.	2,375,000	.0950	115%
205	1977	Elevator Apts., Arlington Co.	2,400,000	.0975	66%
210	1980	Office Bldg., Fairfax Co.	2,510,492	.1290	133%
225	1978	Garden Apts., Fairfax Co.	2,569,500	.1068	85%
300	1975	Elevator Apts., Alexandria City	2,558,669	.1234	93%
301**	1979	Garden Apts., Prince Georges Co.	2,960,244	N/A	131%
303	1975	Garden Apts., Alexandria City	2,789,190	.0775	122%
304	1978	Garden Apts., Prince Georges Co.	3,090,639	Neg.	95%
305	1979	Office Bldg., Montgomery Co.	3,100,000	.1221	78%
306	1976	Garden Apts., Fairfax Co.	3,117,300	.1056	165%
307	1977	Garden Apts., Prince Georges Co.	3,125,000	.1070	102%
310	1979	Garden Apts., Alexandria City	3,214,928	.1110	110%
315	1980	Shopping Center, Fairfax Co.	3,765,341	.1093	132%
317*	1977	Garden Apts., Prince Georges Co.	4,000,000	.0810	86%
318	1978	Garden Apts., Prince Georges Co.	4,100,000	.1439	97%
319	1979	Garden Apts., Prince Georges Co.	4,128,173	.0962	98%
320	1975	Garden Apts., Fairfax Co.	4,190,700	.1359	155%
323	1977	Elevator Apts., Montgomery Co.	4,796,255	.0790	154%

* Financed under FHA 223(f) rehabilitation and refinancing program.

** Nominal price shown. No information available on terms of sale or NOI in first year of ownership.

ID	Year of Sale	Kind of Property and Location	Cash Equiv. Price	OAR	Assmt/ Sale
325	1980	Garden Apts., Fairfax Co.	4,871,282	.1316	124%
328*	1978	Garden Apts., Prince Georges Co	5,426,138	.0921	116%
330	1980	Office Bldg Complex, Fairfax Co	5,529,031	.1071	110%
335	1979	Garden Apts., Alexandria City	6,296,800	.1345	113%
340	1980	Office Bldg., Fairfax Co	6,593,267	.1121	154%
344	1979	Garden Apts., Prince Georges Co	6,726,848	.1457	88%
345	1976	Garden Apts., Fairfax Co.	6,735,450	.1161	102%
352	1979	Elevator Apts., Montgomery Co.	8,189,554	Neg.	208%
354	1979	Office Building, Montgomery Co	8,850,000	.0862	120%
355	1979	Office Bldg., Arlington Co.	8,857,450	.0593	128%
360	1978	Office Bldg., Montgomery Co.	10,729,000	.1025	80%
365	1976	Elevator Apts., Fairfax Co.	12,819,124	.0936	99%
375	1978	Office Bldg., Fairfax Co.	14,957,334	.0881	89%
385	1979	Elev. & Gdn. Apts., Prince Geo.	18,866,955	.0674	72%

* Financed under FHA 223(f) rehabilitation and refinancing program.

EFFECT OF FINANCING ON PRICE AND VALUE

WHAT CAN A 4-PERSON PARTNERSHIP PAY FOR A 10-YR. OLD, GOOD QUALITY APARTMENT COMPLEX UNDER 3 DIFFERENT SETS OF FINANCING TERMS ?

FACTORS CONSTANT IN ALL 3 ANALYSES:

- NET INCOME BEFORE R.E. TAXES STARTS AT $350,000 AND RISES ON A 4% SLOPE IN ACTUAL INFLATION $.
- R.E. TAX RATE = .0121; ASSESSED VALUE = SALE PRICE.
- DEPRECIABLE ASSETS = 85% OF PRICE, 25 YR. LIFE, 125% S/L D.B.
- NO MAJOR CAPITAL REPLACEMENTS IN NEXT TEN YEARS.
- RESALE PRICE 10 YEARS LATER = $3,662,000, CASH-TO-SELLERS
- OWNERS WILL REMAIN IN 50% FED. & 5.75% STATE INCOME TAX BRACKET DURING ALL 10 YEARS OF OWNERSHIP.
- OWNERS WANT 18% EQUITY YIELD (I.R.R.) AFTER INCOME TAX.
- 1978 TAX ACT GOVERNS INCOME, GAIN & ADD-ON TAXES.

VARIABLE FACTOR: FINANCING

1ST MTGE		$1,479,786 Asmd. @7½%, 17 More Yrs.	New $1,850,000 @ 13%, 30 Yr. Amort., Ballooning 10 Yrs.	None
2ND MTGE		$1,500,000 DPMM @6% Int. Only, 10 Yrs.	None	
PRICE/VALUE		$3 537 073	$2 527 098	$1 435 046
EQUITY CASH		557 287	677 098	1 435 046
AFTER-TAX CASH FLOW IN YEAR	1	$85 460	$88 738	$189 003
	2	86 244	92 103	193 988
	3	87 085	95 555	199 054
	4	87 960	99 081	204 196
	5	88 849	102 664	209 411
	6	89 730	106 289	214 695
	7	93 655	112 136	221 293
	8	97 373	117 879	227 890
	9	100 857	123 503	234 488
	10	912 938	1297 106	2905 060
"O.A.R."		.0869	.1264	.2318

"Overall Rate" = Year 1 Net Income After R.E. Taxes ÷ Total Sale Price/Value

10/1980

3. Going concern value may be more relevant to an economic development loan. The public purpose of the loan subsidy is to create employment, improved physical environment, and the seeds of an economic base appropriate to redevelopment. In appraising the property for loan purposes the cash equivalency of fee simple title is not relevant if eventual delinquency on the loan gives the lender several options other than foreclosure. For example:

   a. assignment of business ownership as collateral permits transfer and sale of the going concern to better management.

   b. it could permit a change of use within constraints of the economic development program as a workout.

   c. it could look to additional forms of subsidy, such as applied to Section 8 rehab money as a deep subsidy applied to rescue of a delinquent moderate 236 subsidy program.

   d. Public purposes may create a monopoly for the facility to be appraised which provides a market price superior to fee simple title where it is not directly encumbered by long-term public priorities and commitments.

C. If the appraisal is for loan security, then the issue is whether similar nonmarket credit terms would be available to the next buyer. VA loans are assignable; economic development loans may be transferable with a change in management; subsidized rental housing loans may be undisturbed by default because of the assignability of control via transfer of partnership interests.

   1. The appraiser does not discount a purchase price of a home purchased with a shared appreciation mortgage. That is contingent interest for the lender.

   2. If a builder of condominiums buys down the loan of his customer, what are those points really worth? It depends on how long the buyer owns the property and is really an oblique form of a shared appreciation mortgage, is it not? Contingent interest for the borrower as well as the lender.

   3. Appraisers have generally overlooked cash equivalency arguments relative to the seller paying the points to buy down the loan for the buyer in VA loans. Similarly, it should be disregarded on financing through prior builders' commitments. Do you discount project unit values because he bought a FNMA commitment or hedged in the GNMA certificates market? After all, these costs are also included in the price and may be included in the resale price.

D. What is a point really worth? Refer to Exhibit 30A.

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WHAT IS A POINT REALLY WORTH?

Daniel J. O'Connell

Many real estate professionals compile lists of personal rules of thumb. Ideally these rules of thumb serve to reduce effort and raise productivity in daily decision making—with minimal sacrifice in accuracy and quality.

One rule-of-thumb that seems to have made a lasting impression is that the payment of one loan point[1] should equate to an ⅛ percent reduction in the loan interest rate. For example, a borrower choosing between a 12-¾ percent loan with 2 points from ABC Mortgage Company and a 13 percent loan without points from the XYZ Mortgage Company would be indifferent as to the choice.[2] According to the rule-of-thumb, the two-point charge supposedly equates to the ¼ percent (⅛ percent per point) difference in interest rates. However, that may not be a valid rule, as can be seen when comparing the points and no-points alternatives.

A purchaser buys a house to be financed with a $100,000, 30-year loan. Financing is available from ABC Mortgage at 12-¾ percent plus 2 points ($2,000), and is also available from XYZ Mortgage at 13 percent with no points. This is illustrated in Table 1.

Assume the borrower plans to hold the property for a period of only two years at which point the balance of the loan will be paid. The difference in payments between the two loans is $468.00 for the two-year period, favoring the lower interest rate loan:

2-year payments @ 13%	$26,548.80
2-year payments @ 12-¾%	−26,080.80
Payment savings with 12-¾% loan	$ 468.00

The difference in remaining balances upon the loan pay-off must also be taken into account. Because the 12-¾ percent loan will amortize faster, it will have a remaining balance that is $34.71 lower than the 13 percent loan at the end of the two years. Adding this balance to the $468.00 in reduced payments results in a savings of $502.71 over the two-year life of the loan:

Payment savings with 12-¾% loan	$468.00
Additional loan reduction	+ 34.71
Total savings with 12-¾% loan	$502.71

The borrower, if choosing the 12-¾ percent loan, saves $502.71 in payments and additional amortization over the 13 percent loan, but has paid $2,000 to do so. Obviously, the two-point fee does not always equate to the corresponding ¼

Table 1	ABC Mortgage Co.	XYZ Mortgage Co.
Loan	$100,000	$100,000
Interest rate	12-¾%	13%
Monthly payments	$1,086.70	$1,106.20
Annual payments	$13,040.40	$13,274.40
Points	2	0
$ Point charge	$2,000	0

[1] As used here, a point is defined as an additional up-front charge made by a lender and paid by a borrower, that enables a loan to be made at a lower interest rate. A point is computed as 1% of the loan amount. More than one point may be charged, with each point creating a corresponding decrease in the interest rate.

[2] Assuming the borrower has the available funds to pay the points.

Table 3

Discounted, after-tax payment savings with 12¾% loan

Year	1 Payment Difference	2 Tax Savings On 13% Loan	3 Annual After-Tax Payment Savings	4 Column 3 Discounted @ 8%	5 Cumulative Payment Savings
1	$234.00	$92.74	$141.26	$130.80	$ 130.80
2	234.00	93.26	140.74	120.66	251.46
3	234.00	93.82	140.18	111.28	362.74
4	234.00	94.41	139.59	102.60	465.34
5	234.00	95.02	138.98	94.59	559.93
6	234.00	95.56	138.44	87.24	647.17
7	234.00	96.31	137.69	80.34	727.51
8	234.00	96.95	137.05	74.04	801.55
9	234.00	97.62	136.38	68.22	869.77
10	234.00	98.25	135.75	62.88	932.65
15	234.00	100.49	133.51	57.26	1,160.99
20	234.00	97.34	136.66	54.27	1,350.33
25	234.00	77.38	156.62	22.87	1,475.26
30	234.00	12.91	221.09	21.97	1,584.75

Column 1 is the annual difference in payments between the two loans with the advantage to the 12¾% loan.

Column 2 is the annual savings in taxes attributable to the 13% loan due to additional interest payments.

Column 3 is the combined effects of the first two columns: Column 1 minus Column 2 = Column 3.

Column 4 is Column 3 discounted to the present at 8% per annum.

Column 5 is the cumulative total of Column 4.

Table 4

Discounted, after-tax pay-off and combined savings with 12¾% loan

Year	1 Pay-Off Difference	2 Column 1 Discounted @ 8%	3 Cumulative Payment Savings (Table 3, Col. 5)	4 Combined Savings
1	$ 16.65	$ 15.42	$ 130.80	$ 146.22
2	34.71	29.76	251.46	281.22
3	54.29	43.10	362.74	405.84
4	75.44	55.45	465.34	520.79
5	98.26	66.87	559.93	626.80
6	122.80	77.38	647.17	724.55
7	149.09	86.99	727.51	814.50
8	177.13	95.70	801.55	897.25
9	206.96	103.59	869.77	973.30
10	238.51	110.48	932.65	1,043.13
11	271.70	116.53	990.61	1,107.14
12	306.38	121.67	1,044.06	1,165.73
13	342.37	125.89	1,093.37	1,219.26
14	379.38	129.16	1,138.90	1,268.06
15	416.98	131.45	1,180.99	1,312.44
20	569.40	126.45	1,350.33	1,476.78
25	601.55	87.34	1,475.26	1,563.10
30	0	0	1,584.75	1,584.75

Figure A

Present value of borrower's after-tax savings with up-front point deduction (TABLE 4)

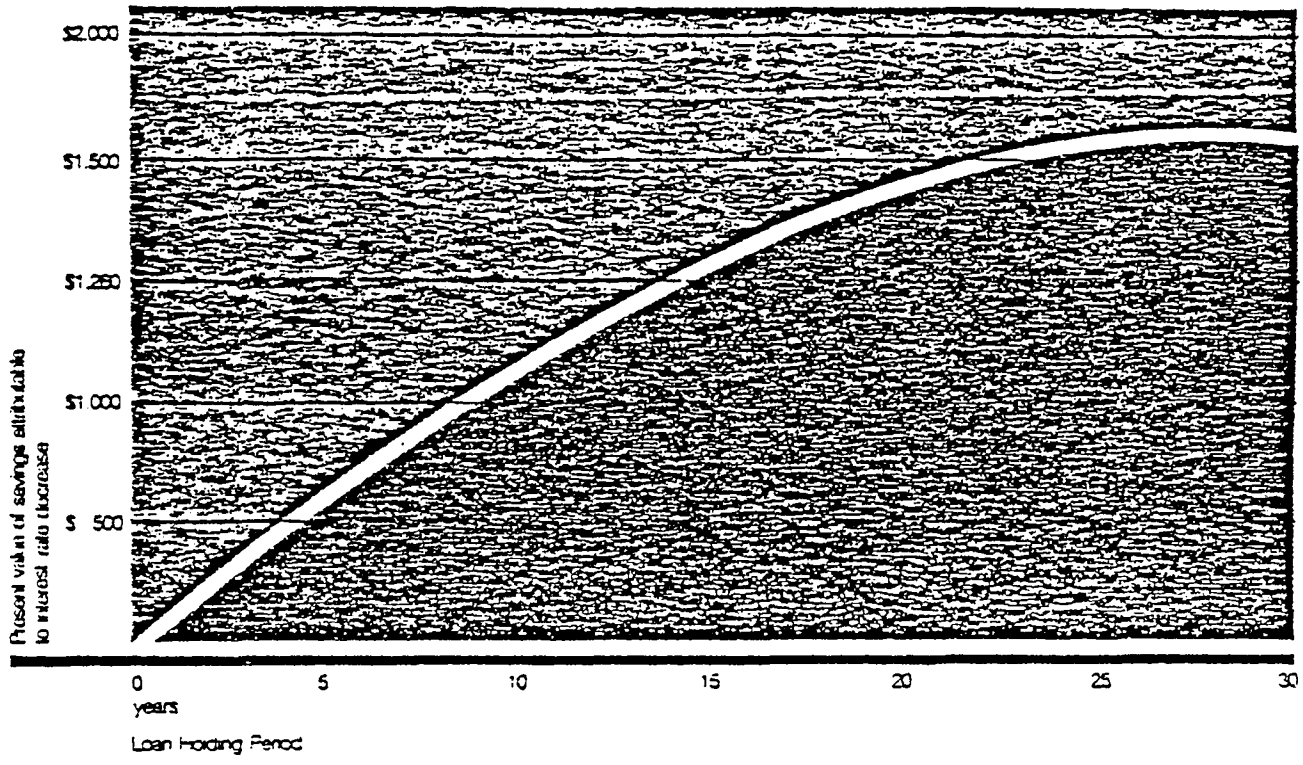

Figure B

Present value of borrower's after-tax savings with point charge added to basis

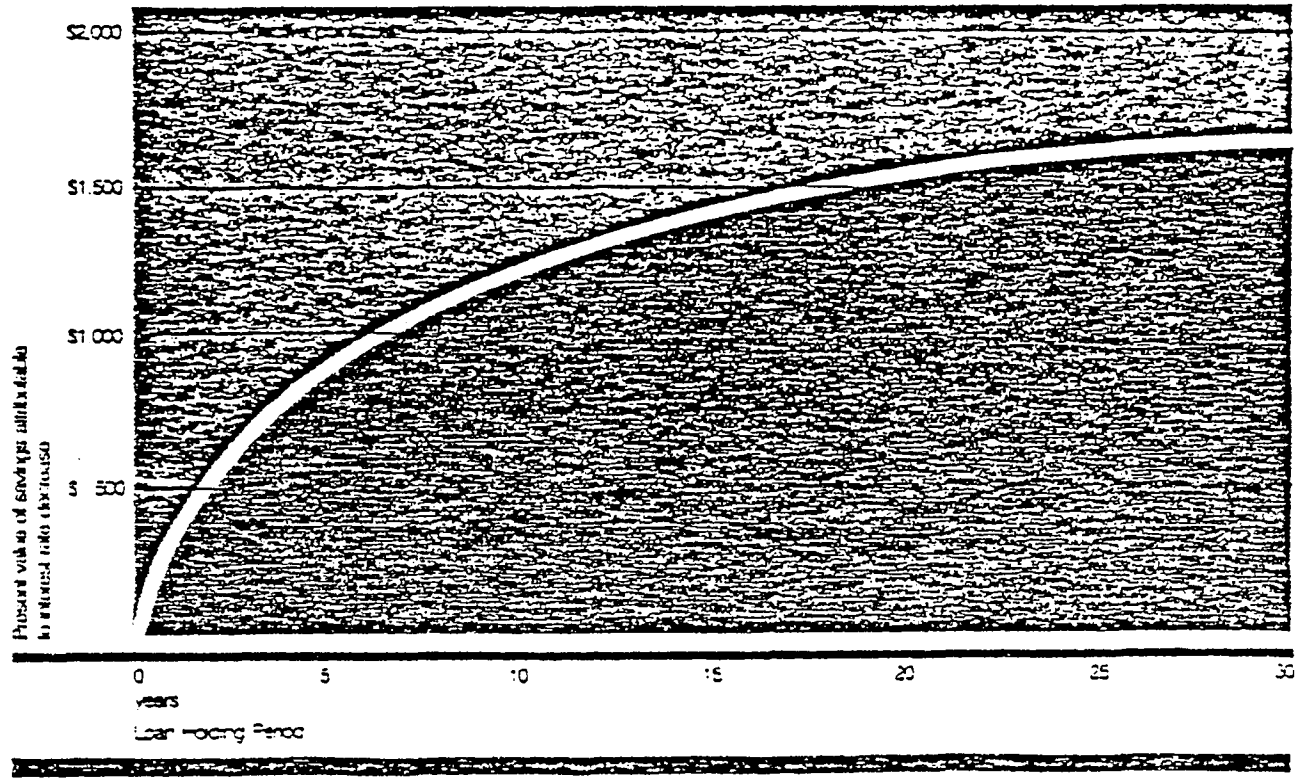

EXHIBIT 31

Example Problem: Cash Equivalent Price - Existing Mortgage plus Purchase Money Mortgage

Given the following information, determine the cash equivalent price of the transaction:

Sale Price	$1,000,000
Existing Mortgage (assumed)	Balance $682,052 Mo. Pmt. $6,039.20 Contract rate 8.5% Expired Term 6 years Remaining Term 19 years
Purchase Money Mortgage	$200,000 @ 10% Amortization over 20 years, balloon in 10 years
Current Financing	14,5%, 20 year amortization with 10 year balloon

A. What is the equity investment?
B. What is the balance outstanding on the existing (assumed) mortgage in 10 years?
C. What is the payment on the PMM?
   What is the balance outstanding EOY 10?
D. What is the cash equivalent price of the transaction?

Suggested Solution - II
Existing Mortgage plus PMM

A. $117,948

B. $454,781

C. $ 1,930
   $146,049

D.	Equity	$117,948
	Assumed Existing Mortgage PW $6,039.20, 120 mos. @ 14.5%	$381,535
	PW $454,781, EOY 10 @ 14.5%	
	Purchase Money Mortgage PW $1,930, 120 mos. @ 14.5%	$121,931
	PW $146,049, EOY 10 @ 14.5%	$ 34,558
	Total (Cash Equivalent Price)	$763,581

* Courtesy of Byrl Boyce

IX. PROBLEM (CASH EQUIVALENCY)*
*Courtesy of A. Robert Parente, SREA, MAI.

An income producing property (special purpose) was resold by the Midland National Bank on a "workout." The terms of the sale were as follows:

Sale Price:	$1,178,808, no cash by purchaser, i.e., 100% debt financing
Terms of Financing:	First year - interest only at a rate of 4-1/2% and payable monthly
	Second year - interest only at a rate of 6% and payable monthly
	For the next 23 years - principal and interest at 8-1/2%, payable monthly

The property (a 12,000 sq. ft., 3-year old restaurant building) was purchased on November 10, 1977 for $1,178,808. Typical terms of financing at that time (11/77) were 9-3/4% interest for 25 years on a 75% loan-to-value ratio. It is estimated that equity required a 12-15% return.

Questions:

A. What are the monthly interest costs in years 1 and 2?

B. What is the constant on the amortized portion of the mortgage?

C. What is the monthly payment on the mortgage?

D. What is the unadjusted sales price per square foot for use in the DSC approach?

E. What is the cash equivalent price assuming 100% financing were typical in the market?

F. What is the cash equivalent price assuming an equity yield requirement of 12% 15%?

G. What is the adjusted sales price per square foot under each of the conditions set forth above?

Suggested Solution - IX
Problem (Cash Equivalency)

A. Year 1: $4,420.53
Year 2: $5,894.04

B. f = .09913

C. $9,737.97

D. $1,178,808 ÷ 12,000 = $98.23/sq. ft.

E. PW i Costs Year 1 @ 9-3/4% = $ 50,347.92
PW i Costs Year 2 @ 9-3/4% = 60,918.28
PW Amortization payments
Years 3-25 @ 9-3/4% = 881,198.63

Cash Equivalent Price
(100% Financing) = $992,464.83*

*$186,343.17 less than face value of note

$992,464.83 ÷ 12,000 = $82.71/sq. ft.

F. Discount Rates given Y = 12%, Y = 15%, m = 75% i = 9.75%

	Y = 12%		Y = 15%	
Mortgage	.75 x .0975	= .073125	.75 x .0975	= .073125
Equity	.25 x .12	= .03	.25 x .15	= .0375
Discount Rate (r)		= .103125	Discount rate (r)	= .110625

	PWCF @ 10.3125%	PWCF @ 11.0625%
Year 1	$ 50,198.33	$ 49,999.88
Year 2	60,399.42	59,715.07
Years 3-25	835,796.73	780,188.86
	$946,394.48**	$889,903.81***

$232,413.52 below face *$288,904.19 below face

G. $946,394.48 ÷ 12,000 = $78.87/sq. ft.

$889,903.81 ÷ 12,000 = $74.16/sq. ft.

* Courtesy of Byrl Boyce

EXHIBIT 33

CASH EQUIVALENCY EXAMPLE

NAKOMA HEIGHTS
168 APARTMENT UNITS
SOLD NOVEMBER 1, 1979
NOMINAL SALES PRICE $3,450,000

A. One appraisal reviewed recently contained the following summary analysis. It is used as it probably parallels the Madison Assessor's Office perception of the transaction:

Date	Price	Gross	Net	GIM	Income Expense	S.P. Unit	OAR
7/79	$3,450,000	$449,249	$196,548	7.68	56.3	$20,536	5.7

B. Cash Equivalency - Monthly payment differential

If 25% down with 75% L/V at 10.55 for 25 years

Down	862,000
Mortgage	$2,588,000
	$3,450,000

Monthly payment $24,528; Annual payment $294,335

1979 - 4/80

Conv. Mortgage	$294,335
L.C. (9.25)	272,875
	$ 21,460/12 = $1,788 (A)

4/80 - 4/81

$2,950,000				Conv. Mortgage	$294,335
250,000		L.C.	=		249,750
$2,700,000	X	.0925			$ 44,585/12 = $3,715 (B)

4/81

$2,700,000				$294,335
250,000				226,625
$2,450,000	X	.0125		$ 67,710/12 = $5,643 (C)

NET PRESENT VALUE UNDER
L.C. FINANCING AND BALLOON PAYOUT
ACCORDING TO CONTRACT ON 12/31/85

	1979	1980	1981	1982 - 84 (4 years)
Down Payment	$500,000	$250,000	$250,000	
	3,576 (2A)	5,364 (3A)	11,145 (3B)	$ 67,710 (12C)
	$503,576	33,435 (9B)	50,787 (9C)	
		$288,799	$311,932	
			Balance	2,450,000
				$2,517,710

NET PRESENT VALUE CONVENTIONAL LOAN

	1979				
Down Payment	$862,000				
	--			Balance	2,404,022
Cash year 1	$503,576	$288,799	$311,932		
		.884666	.796455		
Cash year 2	255,491	$255,491			
Cash year 3	248,440		248,440		
Cash year 4	48,551			$67,710	
Cash year 5	43,710			67,710	
Cash year 6	39,351			67,710	
Cash year 7	$1,317,332				$2,517.710
	$2,456,451	Total Cash Equivalency			
		(Versus $3,450,000 nominal selling price)			

INCOME PREPORTED (Contract)	GROSS INCOME	$499,249
	NET INCOME	196,548

MARKET RENT LEVELS

At least gross	$450,000
Less 40% expense	180,000
NOI	$270,000

$$OAR = \frac{270,000}{2,456,451} = .109915$$

$$SP/Unit = \frac{2,456,451}{168} = 14,622$$

1. Most probable price always requires a statement as to the financial terms which are a condition of effective demand at that price. Fair market value definition is sufficiently ambiguous to require a statement of financial terms as a qualification on conclusion.

2. In practice you ignore points paid by the seller in a VA loan. To predict the most probable price, why not ignore points paid by the seller for a conventional loan? For loan security the lender is interested in the most probable price at which it will sell or whether the spread between probable price and fair market value will be covered by private mortgage insurance. In the latter case the appraiser could provide both numbers if asked.

3. Only the assessor is locked into cash equivalent fair market value!

E. The mechanics of cash equivalency values come into play where income properties are sold subject to non-market financing or for purposes other than income investment, such as syndication or condominium conversion. Professors Byrl Boyce and William Kinnard have prepared an excellent half-day presentation on cash equivalencies. The cases in Exhibits 31 and 32 are from their seminar and are suggestive of the mechanics of cash equivalency due to non-market financing.

V. The fair market value appraisal for tax assessment of subsidized, rental housing is a very frustrating experience for both the assessor and the ownership position. None of the components of value are what they seem to be.

A. It should be noted that 221 d3 and d4 and 236 projects involve subsidy of the interest rate only, while Section 8 recognize the damage done by inflati-n to cost to construct and operating expenses, so that it subsidizes the total project.

1. Section 8 was intended to subsidize conventionally financed apartments within a larger project, thus avoiding a ghetto of subsidized projects and permitting the depth of subsidy to vary; government would pay the difference between fair market rents and 25% of eligible tenants income.

2. The legislation included instructions that the subsidy would cover full taxes and utilities, presuming taxes would be similar to non-subsidized development pegged at prevailing market rents. It was an operating subsidy program with no specific relationship to financing.

3. The 1974 legislation did say that if the Section 8 contract was used as collateral to obtain financing, HUD had the right to approve financing and refinancing.

4. Three factors precluded the original concept - rising interest rates in the conventional market, the evolution of HUD prerogatives for auditing, management, and tenant selection or eviction, and finally the operating procedures of state housing finance agencies and GNMA tandem plans which provide virtually all of the financing.

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Wisconsin Housing Finance Authority

I. GENERAL INFORMATION

1. Development Name: Woodview Park
2. Development Sponsor: Munz Investment Real Estate, Inc.
3. Development Location: Tyrell Ave. & Geneva St. (Street)
   Delavan, (City) Walworth (County)
4. (x) Feasibility
   ( ) Firm
5. Type of Mortgagor:
   (X) L.D.
   ( ) N.P.
6. (X) New Construction
   ( ) Rehabilitation
7. Permanent Mtg. Interest Rate 7.5%
8. Construction Financing: XX WHFA
   ( ) Conventional
9. Type of Development / No. of Units / No. of Stories

Type of Development	No. of Units	No. of Stories
(X) Low Rise (1-3 stories)	84 Apt. Units; 6 T.H. Units; ____ Duplex Units; ____ S.F. Units	E - 3 Story; F - 2 Story
( ) Mid Rise (4-6 stories)	____ No. of Units	____
( ) High Rise (7 stories and over)	____ No. of Units	____

10. Accessory Buildings: (No. and type) None
11. Total Number of Buildings: Three
12. Total Number of Units: 90 (Family 22 ; Elderly 68 ; Handicap ____)
13. Total Number of Units: 90 Revenue; ____ Non-Revenue
14. Density: 20 Units Per Acre
15. Building Information: Structural System Wood frame w/exterior & interior masonry
    Exterior Finish Masonry /bearing walls
    Floor System Wood
16. Gross Floor Area (Including Basement and Common Areas) 85,600 Sq. Ft.
17. Net Rentable Floor Area: 53,396 Sq. Ft.
18. Number of Parking Spaces:
    34 Elderly
    44 Family
19. Parking Ratio:
    1/.87

II. AMENITIES

X	Range (~~Gas~~ Electric)
X	Refrigerator
X	Air Conditioning (Sleeve Only)
____	Air Conditioning (Sleeve Unit)
____	Central Air Conditioning
X	Kitchen Exhaust Fan
X	Central Laundry Facilities
X	Unit Laundry Facilities
X	Disposal
____	Dishwasher
X	Carpet
X	Drapes
X	Shades
X	Rods
X	Common Area Furnishings
X	Tot Lot
____	Other (Specify)

III. SERVICES

	Included in Rent: Yes	No
Heat		
Gas/Hot Water	(X)	( )
Gas/Forced Air	(X) 3Bdr.	( )
Electric	( )	( )
Hot Water		
Gas	(X)	( )
Electric	( )	( )
Unit Electric (Lights, Cooking, etc.)	(X)	( )
Water	(X)	( )
Other Fuel (Specify)		
____	( )	( )
____	( )	( )
____	( )	( )

IV. RENT SCHEDULE

No. of Units	Type	Bdrms	Size by Sq. Ft. Net	Gross	FMR	Contract Rent	Utility Allowance
67	E -L.R.	1	500	546	$271	$258.10	$14G, $4E
1	E -L.R.	2	800	860	$348	$278.84	$20G, $8E
16	W- L.R.	2	820	875	$293	$278.84	$20G, $8E
6	T.H.	3	996	1080	$381	$372.21	$35G,$12E

Gross Annual Contract Rent - $ 291,194

Gross Annual Contract Rent & Utility Allowance - - - - - - - - - - - - - - - - $ 314,762

V. EQUITY CALCULATION

1. Total Replacement Cost - - - $ 2,212,267
2. Mortgage Amount- - - - - - - $ 1,991,040
3. BSPRA - - - - - - - - - - - $ 192,737
4. BSPRA & Mtg. Amount - - - - $ 2,183,777
5. Equity Cash (Line 1 minus Line 4) - - - - $ 28,490

VI. INCOME COMPUTATION

1. Gross Annual Income (Contract Rent) - - - - - - $ 314,762
2. Vacancy (5 %) - - - - - - - $ 15,738
3. Effective Gross Income - - $ 299,024
4. Debt Service (7½ %) - - - $ 157,229
5. MHFA Service Fee (½ %)- - $ 9,955
6. Total Operating Expenses & Taxes - - - - - $ 118,568
7. Return on Equity- - - - - - $ 13,274

VII. SETTLEMENT REQUIREMENTS - INITIAL CLOSING

1. Cash
   Equity Cash - - - - - - - - $ _____
   Construction Adjustments- - $ _____
   Off-Site- - - - - - - - - - $ _____
   Completion Assurance- - - - $ _____
   Total Cash Requirement - - $ _____

2. Letter of Credit
   Construction Adjustments- - $ _____
   Off-Site- - - - - - - - - - $ _____
   Completion Assurance- - - - $ _____
   Total Letter of Credit Requirement - - - - - - - - $ _____

3. Total Cash & Letter of Credit Requirement - - - - $ _____

4. Bonus
   Completion Assurance- - - - $ _____
   Off-Site- - - - - - - - - - $ _____

VIII. RECONCILIATION

1. ACC Authorization - - - - - - - - - $ _____
2. Tenant Payments - - - - - - - - - - $ _____
3. Expected HUD Contributions- - - - - $ _____
4. Total Revenue - - - - - - - - - - - $ _____
5. Total Expenses- - - - - - - - - - - $ _____

IX. REPLACEMENT COST AND MORTGAGE

A. CONSTRUCTION CONTRACT

		Per Unit	Total	
1.	STRUCTURES:			
	1a. Apartments	$ 15,162	$ 1,273,600	
	1b. Townhouses	$ 23,000	$ 138,000	
	1c. Duplexes	$	$	
	1d. Single Family	$	$	
	1e. Other Buildings	$	$	
	1f. TOTAL STRUCTURES	$ 15,684	$ 1,411,600	$ 1,411,600
2.	LAND IMPROVEMENTS:			
	2a. Usual (landscaping paving, etc)	$ 1,433	$ 129,000	
	2b. Unusual	$	$	
	2c. TOTAL LAND IMPROVEMENTS	$ 1,433	$ 129,000	$ 129,000
3.	GENERAL REQUIREMENTS (___ %)			$ 35,550
4.	GENERAL OVERHEAD (___ %)			$ 28,935
5.	BOND PREMIUM/LETTER OF CREDIT FEE			$ 16,123
6.	OTHER Tyrell Ave. Improvements-Eng. Est. $70$75000÷122 D.U.'s=$614 per D.U. X 90 =			$ 55,260
7.	TOTAL CONSTRUCTION CONTRACT			$ 1,676,468
	7a. Per Unit Construction Contract	$ 18,627		
8.	ARCHITECTURAL FEES			
	8a. Design (___ %)		$ 46,000	
	8b. Supervision (___ %)		$ 14,000	
	8c. TOTAL ARCHITECTURAL FEES			$ 60,000
	8d. Per Unit Architectural Fees	$ 666.67		
9.	TOTAL CONSTRUCTION CONTRACT & ARCHITECTURAL FEES			$ 1,736,468
10.	CONSTRUCTION INTEREST (10 mo.@ 8 %) 8 mo. @ 8% for 3 Bdrms. for 1 & 2 Bdrms.		$ 65,139	
11.	CONSTRUCTION TAXES		$ 13,875	
12.	CONSTRUCTION INSURANCE		$ 3,020	
13.	TITLE & RECORDING		$ 2,366	
14.	WHFA PROCESSING FEE (2.5 %)		$ 49,776	
15.	LOAN LOSS RESERVE (2.5%)		$ 49,776	
16.	LEGAL ($ 4950) & COST CERTIFICATION ($ 2,000)		$ 6,950	
17.	TOTAL CARRYING CHARGES & FINANCING FEES			$ 190,902
	17a. Per Unit Carrying Chgs. & Fin. Fees	$ 2,121		
18.	TOTAL (Lines 9 + 17)			$ 1,927,370
19.	3SPRA			$ 192,737
20.	LAND			$ 92,160
21.	TOTAL REPLACEMENT COST (Lines 18 + 19 + 20)			$ 2,212,267
	21a. Per Unit Replacement Cost	$ 24,581		
22.	MORTGAGE (90 %)			$ 1,991,040
	22a. Per Unit Mortgage	$ 22,123		

I. OPERATING EXPENSES

		Est. assessed Mkt. Value	Per Unit	Sub-Total
1.	REAL ESTATE TAXES:		1 Br $17,000 x 68 x 67% = $774,520 2 Br $19,000 x 16 x 67% = $203,680 3 Br $26,000 x 6 x 67% = $104,520	
	1a. Est. Assessed Val. 67 %			X $1,082,720
	@ $ 33.37 per $1000			$ 36,672
	1b. Per Unit R.E. Taxes		$ 408	
2.	SERVICE ACCOUNTS:			
	2a. Fuel (Htg. & Dom. Hot Water)		$ 198.40	$ 17,856
	2b. Electric		$ 63.47	$ 5,712
	2c. Water - Sewer		$ 45.07	$ 4,056
	2d. Garbage & Trash Removal		$ 27.00	$ 2,430
	2e. Other - Advertising		$ 3.00	$ 270
	2f. TOTAL SERVICE ACCOUNTS			$ 30,324
	2g. Per Unit Service Accounts		$ 336.94	
3.	INSURANCE			$ 4,062
4.	AUDIT			$ 1,080
5.	LEGAL			$ 540
6.	MANAGEMENT:			
	6a. Fees			
	6b. Central			$ 6,756
	6c. On-Site			$ 9,192
	6d. Administrative			$
	6e. TOTAL MANAGEMENT			$ 15,948
	6f. Per Unit Management		$ 177.20	
7.	MAINTENANCE:			
	7a. Caretaker Salary			$ 6,480
	7b. Other Salaries			$
	7c. Contract Services			$ 4,998
	7d. Supplies			$ 2,700
	7e. Other - Repair Services			$ 7,170
	7f. TOTAL MAINTENANCE			$ 21,348
	7g. Per Unit Maintenance		$ 237.20	
8.	REPLACEMENT RESERVE			$ 8,594
9.	TOTAL OPERATING EXPENSES (Lines 1a + 2f + 3 + 4 + 5 + 6e + 7f + 8)			$ 118,568
10.	DEBT SERVICE			$ 167,183
	10a. Per Unit Debt Service		$ 1,857.59	
11.	RETURN ON EQUITY			$ 13,274
12.	TOTAL OPERATING EXPENSES, DEBT SERVICE & RETURN ON EQUITY (Lines 9 + 10 + 11)			$ 299,025

WISCONSIN HOUSING FINANCE AUTHORITY

WHFA Form No.
Page 1 of 1

Date: 5/12/77

Project No.: 214

Sponsor: Munz Woodview Park Assoc

CONTRACTOR'S and/or MORTGAGOR'S COST BREAKDOWN (SCHEDULES OF VALUES)

Name of Project: Woodview Park

Location: Delavan Wis

This form represents the Contractors and/or Mortgagors firm costs and services as a basis for disbursing dollar amounts when advances are requested.

DV	TRADE ITEM	COST	TRADE DESCRIPTION
2	Excavating & Backfill	43438	
3	Concrete	95657	
4	Masonry	147 925	
5	Metals	10638	
6	Rough Carpentry	143688	
6	Rough Carpentry Labor	94282	
6	Finish Carpentry	23157	
6	Finish Carpentry Labor	40094	
7	Waterproofing	54007	
7	Insulation	24400	
7	Roofing	20032	
7	Sheet Metal	16175	
8	Doors	47500	
8	Windows	13063	
8	Glass	12282	
9	Lath & Plaster	—	
9	Drywall	93050	
9	Tile Work	7250	
9	Acoustical	4600	
9	Wood Flooring	—	
9	Resilient Flooring	4025	
9	Painting & Decorating	17625	
10	Specialities	5938	
11	Special Equipment	6563	
11	Cabinets	38157	
11	Appliances	42900	
12	Blinds & Shades, Artwork	9325	
12	Carpets	45600	
13	Special Construction	—	
14	Elevators	24911	
15	Plumbing & Hot Water	122000	
15	Heat & Ventilation	125073	
15	Air Conditioning	1000	
16	Electrical	149777	
	Accessory Structures	4000	
	TOTAL STRUCTURE(S)	1428623	
2	Earth Work	11250	
2	Site Utilities	16406	
2	Roads & Walks	30720	
2	Site Improvements	4000	
2	Lawns & Planting	34964	
2	Unusual Site Condition	55260	
	TOTAL LAND IMPRVTS.	152600	
	TOT. STRUCT. & LAND IMPRVTS.	1581223	
1	GENERAL REQUIREMENTS	35500	
	SUBTOTAL (Lines 41 and 42)	1616723	
	BUILDER'S OVERHEAD	28935	
	BUILDER'S PROFIT	—	
	SUBTOTAL (Lines 43 thru 45)	1645658	
	OTHER FEES		
	BOND PREMIUM	16123	
	TOTAL FOR ALL IMPROVEMENTS	1668.786	
	Builder's Profit paid by means other than cash		
	TOTAL FOR ALL IMPROVEMENTS LESS LINE 52		

NONRESIDENTIAL AND SPECIAL EXTERIOR LAND IMPROVEMENT (costs included in trade item breakdown)		OFFSITE COSTS (costs not included in trade item breakdown)	
DESCRIPTION	EST. COST	DESCRIPTION	EST. COST
		TOTAL $	
		DEMOLITION (costs not included in trade item breakdown)	
		DESCRIPTION	EST. COST
TOTAL $		TOTAL $	

Mortgagor: Munz Woodview Park Assoc By _____ Date 5/12/77

Contractor: Munz Investment Fed Estate Inc By _____ Date 5/12/77

WHFA _____ Date _____

3/6/75

B. Fair market rent (FMR) has nothing to do with rents from the marketplace for the specific units in question. Instead, they are established by HUD at a level which is expected to justify construction costs in a particular locale; if the FMR's don't work, deviations as high as 10% upward are premitted, but they are indexed to HUD estimates of cost to construct rather than community norms.

C. Using the FMR's for the unit mix of a proposed project, the developer works through the 2013 form (See WHFA, Exhibit 34) backwards to arrive at a capital budget available for hard construction costs; he typically buys his land at a value not to exceed 90% of the HUD acceptable unit cost of land. The 2013 budget is then a tentative maximum but actual project costs are audited and any savings are used to adjust the maximum mortgage commitment. The 2013 does not recognize points paid for the permanent loan or overruns on cost, but the audit doesn't recognize rents collected prior to the audit certification date. With adroit phasing these costs may be offset with revenues during a period when most operating costs are funded as indirect costs of construction.

D. The cost approach to value is distorted by HUD's specifications, lengthy procedures, hidden profit centers in fixed allowances for design, supervision, bonding, overhead, etc. Space allocations within the project may reflect social purposes such as meeting rooms, medical centers, craft shops, and infirmary. Moreover most projects are multiple site, multiple buildings, mixed units where perhaps the FMR on elderly will subsidize inadequate FMR's on family units.

E. Comparative operating budgets for 100-unit one bedroom project is provided in Exhibit 35.

F. The market comparison approach is inoperative because of constraints on resale inherent in the mortgage and management contracts, the tax trap of accelerated depreciation, the loss of depreciation benefits to the second owner, the emphasis on profit centers for construction rather than management, the rent controls following construction, and the fact that conversion to a conventional market rent structure in the early years would mean rents below the government level with interest rates higher than government level, thus forcing a resale price at a capital loss to the sellers.

G. In short, it will be almost impossible to find or simulate a sale at fee simple title. Rather a transfer would come with all the liens and contractual obligations because the owners are not the controlling powers; HUD and the finance authorities are. Owners may change but the contractual pyramid will remain in place.

1. The Legislature recognized higher costs and higher risks could not be funded up front by direct subsidy so what has emerged is a series of mandatory management and operational reform and a series of initial and delayed profit centers, augmented by favorable tax rules, and automatically guaranteed.

2. Three groups of restrictions are the 1974 Act, complimentary administrative rules, and financing restrictions.

3. Section 8 developments are built to conform to the regulatory mold rather than market or merchandising feasibility. Size 10-15% less, finishes are utilitarian, secondary locations, etc. for inferior products.

4. The inferior product may cost more because of mandatory union wages, mandatory bonding and escrows, and non-competitive bidding to the degree that FMR's permit capital cost inflation. These costs can only be amortized by maintaining Section 8 agreements or conversion to tenant ownership. HUD is not encouraging the latter and there is no financing available that would place the tenants as owners at the same level of occupancy costs.

H. As a practical matter revenue could be subsidy payments plus actual payments from the tenants. But the subsidy payment includes a payment for the right to set rents, tenant eligibility standards and cash dividends to the investor - in short, a defeasible partial transfer of the fee to the public. Is that parallel to a lease or an easement in gross to the public?

1. As a practical matter the assessor can use the annual audited financial statement of the Section 8 project.

2. Gross rent equals 1/5 the ACC contract amount plus actual receipts from tenants.

3. Operating expenses should be used for the actual operations because they are different for subsidized projects (See Exhibit 36).

Exhit 35

COMPARATIVE OPERATING BUDGETS FOR 100 ONE-BEDROOM UNITS

	Section 8		Conventional High Range		Conventional Low Range	
Rent	342,000	285/U	276,000	230/mo	240,000	200/mo
Management	15,800	158/yr	16,200 6%	162/yr	12,000 5%	120/yr
Maintenance	20,300	203/yr	18,000	180/yr	10,000	100/yr
Services/ Heat	27,000	270/yr	24,000	240/yr	22,000	220/yr
Insurance	6,850	68/yr	6,000	60/yr	4,000	40/yr
Audit/Legal	900	9/yr			-0-	
Replacement Reserve	9,200	92/yr			-0-	
Equity Return	14,000	140/yr	-0-	-0-		
Taxes*	51,600		42,960		37,200	
Mortgage	2,150,000		1,532,567		1,405,125	
Debt Service	184,834		168,840		154,800	
Total Replacement Cost	2,391,000		1,803,020		1,653,088	

*Based Upon Unadjusted Total Costs

Exhibit 36

Assessment Valuation of Section 8
Using Income Approach

Gross Receipts =	$142,000	Collected from tenants
	190,000	Collected from ACC contract for five years totalling $950,000
Net Revenue	$332,000	
Vacancy deduction - none		ACC pays up to 60 days of vacancy and tenants pay only when occupying unit
Management fee	$ 15,800	
Maintenance	20,300	
Services/heat*	27,000	
Insurance	6,850	
Audit-legal	900	
Replacement reserve	9,200	
Net operating exp	$80,050	

Net operating income
8/4 real estate taxes $251,950 or $252,000
$252,000/.1374264 = 1,833,344 or 1,830,000
Capitalization rate = .126384 (25 year 12% mortgage)

(.126384 x .85) + (.15 x .05) + (.75** x .03 mill rate)

.1074264 .0075 .02225 =

Cap rate .1374264

*Be sure gross receipts include utility allowance; in some cases the tenant contribution is less than the utility bill.

** Local tax equalization rate

85% loan ratio x $1,830,000 x 126384 = 196,590
$\frac{\$252,000}{196,600}$ = 1.28 debt cover ratio

VI. Until now, cash equivalent prices have made adjustment for differences in fixed mortgage constants and predictable mortgage balances due at some future point in time. However, today we are faced with variable rate mortgages and a subsector of those called mortgage participation loans.

A. Variable rate mortgages should offer the appraiser little problem; indeed, it should help in that tricky allocation problem in terms of the source of value. Adjusting a sale price subject to an existing favorable mortgage is simply attributing value to the intangible element of finance rather than the productive asset of real estate.

1. To the degree that the variable rate mortgage removes the commodity speculation in money from the benefits of ownership, the more likely the price represents the value of the real estate rather than real estate plus an option on cheap money.

2. The form of the variable rate mortgage may cause cash throwoff to vary or net reversion on sale to vary. Hence, the necessity of doing a spread sheet if the appraiser has reason to believe rates will be adjusted upward or downward within the foreseeable future. In the absence of a rate notification or in the presence of a maximum rate limit, the appraiser does not have to speculate (capital budgeting theory would hold that the cap rate should be loaded for the third moment of the maximum interest variance to reflect the risk of alternative financial outcomes, but I doubt if appraisers are ready for that).

3. Lenders may modify debt cover ratios or mortgage investment guides like default points or loan-per-unit.

B. Various forms of equity participation represent contingent interest payments to the lender. The appraiser has no alternative but to do a spread sheet forecast year by year for five or ten years of the proforma income and resale possibilities of the property. Participation takes on a variety of forms:

1. Participation in gross rent, generally above a floor of normalized gross. (May reduce value for mortgage loan-to-ratio value purposes).

2. Participation in effective gross rent (set at a minimum level so that excessive vacancy penalizes the borrower; may exclude certain rental units or percentage rents or rents for services not funded by mortgage, i.e., a defined base effective rent).

3. Percentage of net operating income (certain expenses allowed in full while other discretionary expenses and vacancy allowance may be defined in amount or percentage of effective gross). Sometimes found on land leases and reduces net income available for debt service if land lease is unsubordinated.

4. Percentage of cash throwoff, after debt service and with defined priorities and allowable debt limits. Other restrictions may include mandatory reserves to be set aside before participation.

5. One of the above plus participation in refinancing surplus, net resale proceeds, or other capital transactions subject to a floor permitting recapture of equity capital and a ceiling for good fortune.

C. Some forms of equity participation are more subtle, such as the convertible mortgage which takes several forms:

1. A community shopping center costing $6 million to build and with a million in runaway construction interests can be sold for $7.3 million for $800-850,000 net operating income in the first five years. Lender provides $7.3 million for 11% interest only ten-year mortgage; in addition, he receives 50% of cash throwoff and whatever percentage of ownership is needed in the tenth year to provide overall 18% return.

2. An office building in San Francisco received 100% financing for construction and eight year balloon. In addition, the developer-borrower becomes a general partner with two limited partners, the land owner and the lender, each receiving some percentage of tax shelter, cash dividends, refinancing surplus or resale value and perhaps retaining first right of refusal as well.

3. In each case, the mortgage loan represents fee simple title while the interests above that represent entitlements to tax shelter, nonvested future interests, management and contracting fees and marketing skills.

Howard Johnson -
Schedule of Projected Income and Expenses
For the Years Commencing May 1, 1974-78

Exhibit 4-6

Period	1974-75	1975-76	1976-77	1977-78	1978-79
Occupancy (163 rooms)	68%	70%	71%	72%	73%
Revenue:					
Available Rooms	59,463	59,400	59,400	59,400	59,400
Occupied Rooms	40,463	41,580	42,174	42,768	43,362
Rate Average[1]	18.89	19.00	19.50	20.00	20.50
Room Revenue	764,450	790,020	822,390	855,360	888,920
Public Room Rental[2]	7,116	7,200	7,200	7,200	7,200
Restaurant Rental[3]	31,500	31,500	31,500	31,500	31,500
Telephone[4]	(14,345)	(14,795)	(15,375)	(15,960)	(16,560)
Other Income[5]	6,113	6,165	6,405	6,650	6,900
Room Service Commissions[6]	1,635	1,850	1,920	1,995	2,070
Total Revenue	796,468	821,940	854,040	886,745	920,030
Operating Expenses:					
Payroll[7]	166,180	164,390	170,808	177,349	184,006
Housekeeping[8]	33,160	33,700	34,200	34,700	35,200
Adm. & Gen.[9]	83,150	85,690	89,250	92,665	96,145
Adv. & Promotion[10]	82,250	82,735	84,704	86,352	88,030
Utilities[11]	66,500	76,030	79,000	82,025	85,100
Repairs & Maintenance[12]	16,550	13,500	13,500	13,500	13,500
Total Operating Expenses	447,790	456,245	471,462	486,591	501,981
House Profit	348,678	365,695	382,578	400,154	418,049
Misc. Interest Income	720	720	720	720	720
Gross Profit	349,398	366,415	383,298	400,874	418,769
Less: Insurance	10,314	9,926	9,926	9,926	9,926
Land Rental[13]	7,680	7,680	7,680	7,680	7,680
Income to Furnishing[14]	64,000	64,000	64,000	64,000	64,000
Income before RE Taxes and Debt Service to Land and Buildings	267,404	284,809	301,692	319,268	337,163

Landmark Realty, Inc.

Notes to Exhibit 4-6

1. Rate Average:

   - The average room rate for the year ending April 30, 1975 was $18.89. This was a $.19 increase over the room rate for the period ending April 30, 1974, or about 1%. The increase was due in large part to standardizing room discounts for major clients and for functions requiring a large number of rooms.

2. Public Rooms:

   - For the year ending April 30, 1975 the total dollar volume was $7,116. In comparison, for the year ending December 31, 1974, the total volume was $6,854. Public room rental was not found to be related to the level of occupancy or total revenues, thus it is assumed to be fairly fixed in character.

3. Restaurant Rental:

   - The restaurant is leased to Howard Johnson's for a minimum rent of $31,500, plus 5% of the amount of gross receipts which exceeds 20 times the minimum rental.

4. Telephone:

   - Telephone revenues have averaged 3.4% of room revenues, compared with an industry average of 3.6% (Lodging Industry, by Laventhal, Krekstein, Horwath, and Horwath).
   - Annual equipment lease payment is $12,764.40.
   - Net losses have average 1.8% of revenues. With increased occupancy, losses should not exceed 1.5%, comparable to national averages in Laventhal, Krekstein, Horwath and Horwath.

5. Other Income:

   - Includes valet and laundry, vending sales, sundry sales, and 10% commission on banquet food sales. Vending has averaged 1/2 of 1% of total revenues. The remainder accounts for 1/4 of 1% of total revenues.

6. Room Service Commissions:

   - 2% commission on restaurant bills and room service charged through motel plus 20¢/room service ticket, thus variable with occupancy.

7. Payroll:

   - Actual and target results are 20% of total revenues.

8. Housekeeping:

- Averages have ranged from $33,157 (December 31, 1974 closing) to $33,775 (April 30, 1975 closing), or 4.06% to 4.27% of total revenues. Dollar amounts are fairly constant within a narrower range of occupancies.
- Includes commissions to travel agencies.

9. Administrative and General:

- For the year ending December 31, 1974 the total amount was approximately $82,750, or 10.45% of revenues. The totals are comprised of expenditures the majority of which are variable in nature.
- Includes a 3% fee for management services.

10. Advertising and Promotion:

Schedule

		1975-76
Outdoor Sign		
Sign Co.	$1625.50/mo.	
Advertising Co.	31.50/mo.	
Less: Howard Johnson's share	(275.00/mo.)	
Total	$1377/month X 12 =	$16,524
Promotions		1,500
Publications		7,200
Franchise Fee (5% of gross room receipts plus public room rentals)		39,537
Manager Expense and Promotion		3,475
Miscellaneous Advertising		2,500
Reservation Charge to Howard Johnson		12,000
Total		$82,736

11. Utilities:

- The total is comprised of four elements: electric bulbs, electric current, fuel, and water. The total for the year ending December 31, 1974 was $64,274 or 8.12% of total revenues.
- Interim rate increases by Gas and Electric commenced in June 1975. Electric increased 17.7% while fuel (gas) increased 7.33%. At present, additional proposed increased are being evaluated by the Public Service Commission which would become effective in 1976. Electric increases are proposed to be an additional 14.9% while gas is to increase 4.9%. Beyond 1976, increases are expected to be between 5% and 10% per year for both forms of energy.
- Utilities are not expected to exceed 9.23% of total revenues without a corresponding increase in room rates. Increases in utilities are expected to occur faster than any corresponding increase in room rates, thus it should be some time before the utility expense ratio will stabilize at approximately 9%.
- Year to date totals indicate the projections for 1975-76 are consistent with the above assumptions concerning the room revenue increase lag.

12. Repairs and Maintenance:

- Contracts

Plabocki Sign Repair Contract	$1,060
Westinghouse Elevator Contract	3,336
Pellitteri Wast Removal	738

- Actual for year ending December 31, 1974 was approximately $16,550.
- For the year 1975-76, the year to date totals indicate a decrease in expenditure. Such expenditures should remain fairly constant over the next five years.

13. Land Rent:

Monthly rental charges	$1000
Less: Recovery from leased property	(360)
Net land cost per month	640

14. Furnishings and Other Assets:

Furnishings and Equipment

Furnishings and Equipment	$251,120
Carpeting	60,490
Two Autos	9,480
Signs	9,967
Leasehold Improvements	5,778
Total per Audit	336,835

Factors Attributed to Furnishings

Rate of Return	9.0%
Recapture	10.0%
Personal Property Tax	4.5%

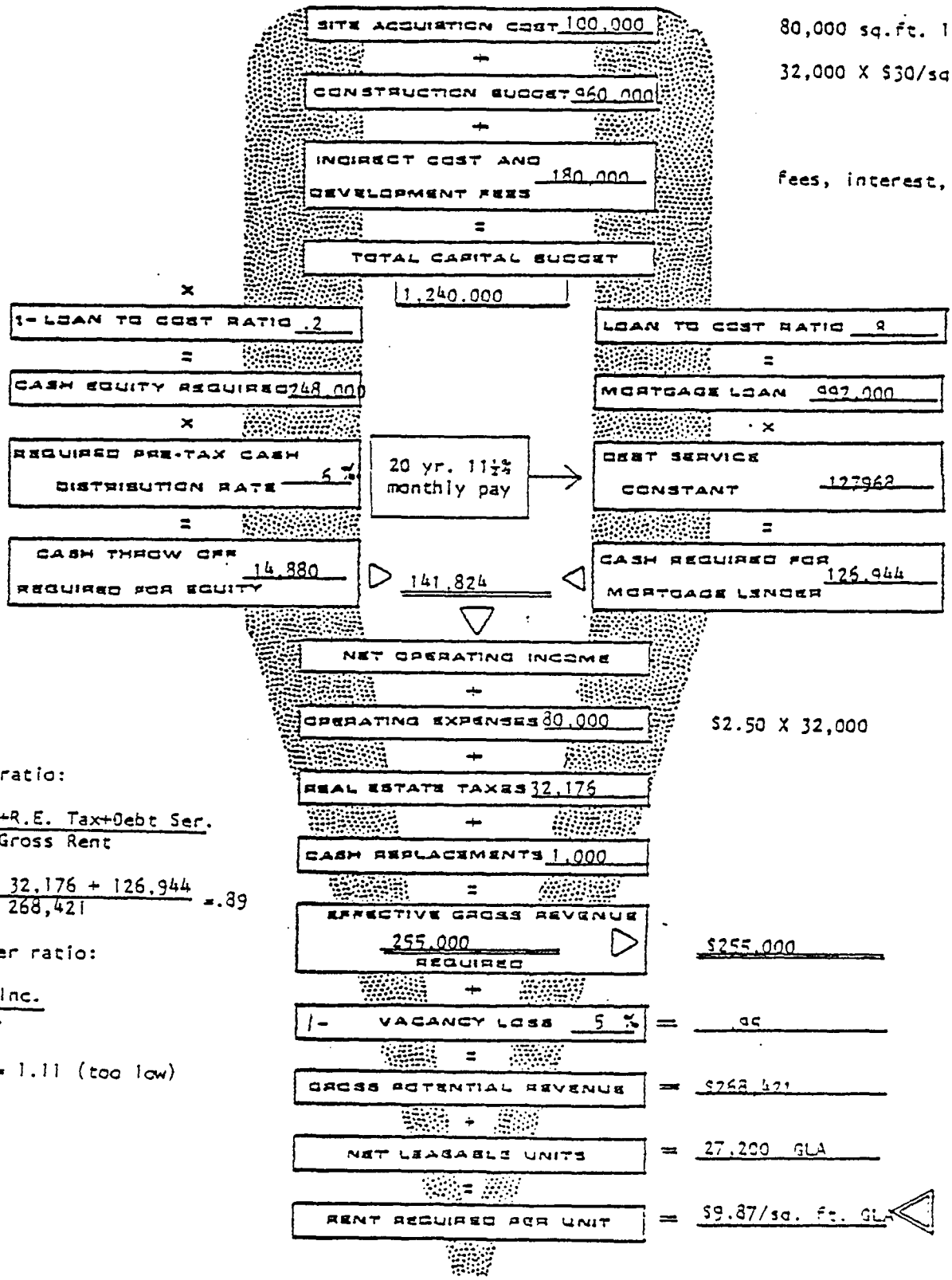
Income Equivalent of Recapture and Return to Equity

336,835 + 336,835(9% X 10 years) = 639,987

639,987 ÷ 10 = 63,999 or 64,000

EXHIBIT 1

LOAN TO COST RATIO APPROACH



Default ratio:

$$\frac{\text{Op. Exp.+R.E. Tax+Debt Ser.}}{\text{Gross Rent}}$$

$$\frac{80,000 + 32,176 + 126,944}{268,421} = .89$$

Debt cover ratio:

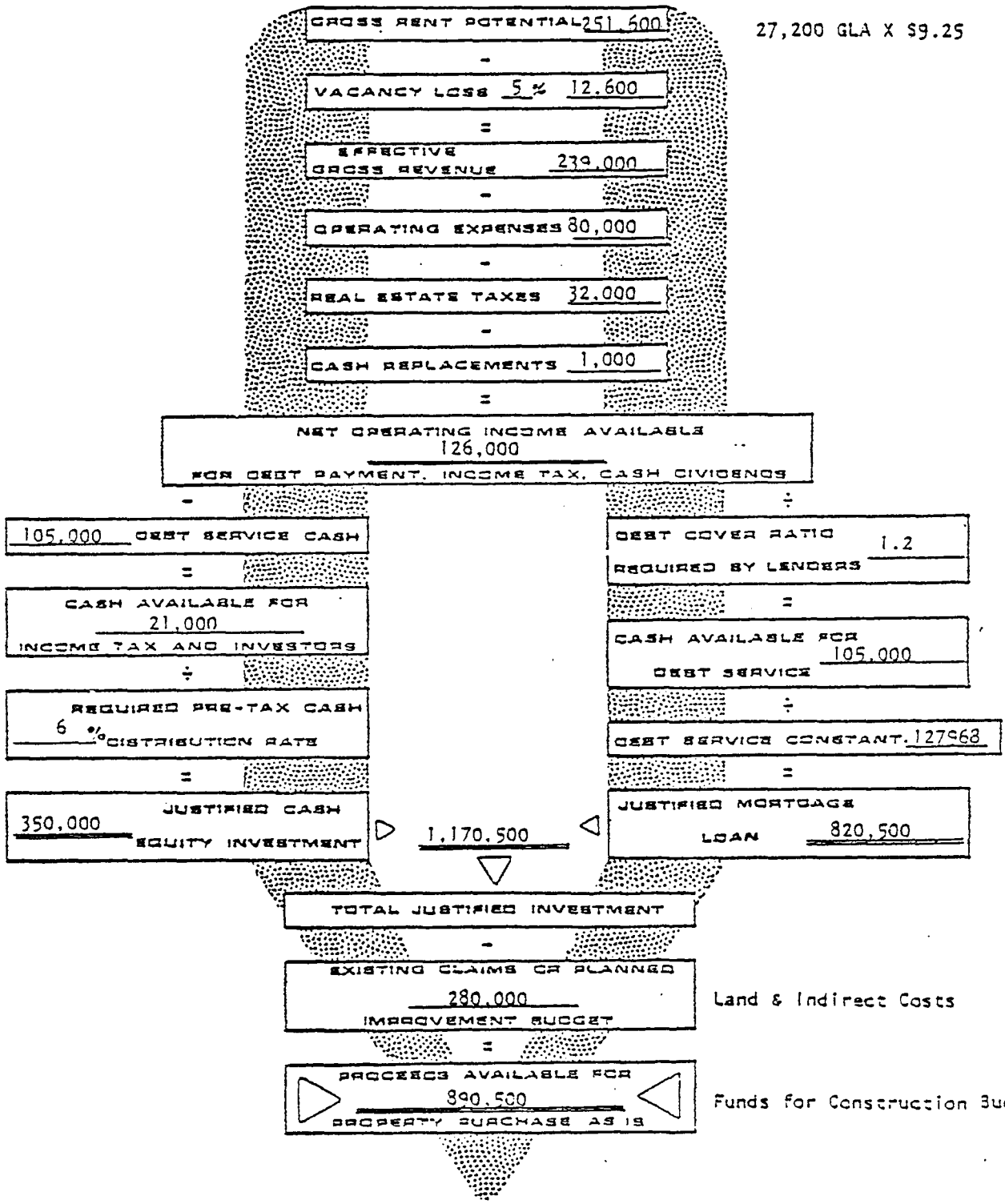
$$\frac{\text{Net Op. Inc.}}{\text{Debt Ser.}}$$

$$\frac{141,824}{126,944} = 1.11 \text{ (too low)}$$

LENDER'S POINT OF VIEW

EXHIBIT 2

DEBT COVER RATIO APPROACH

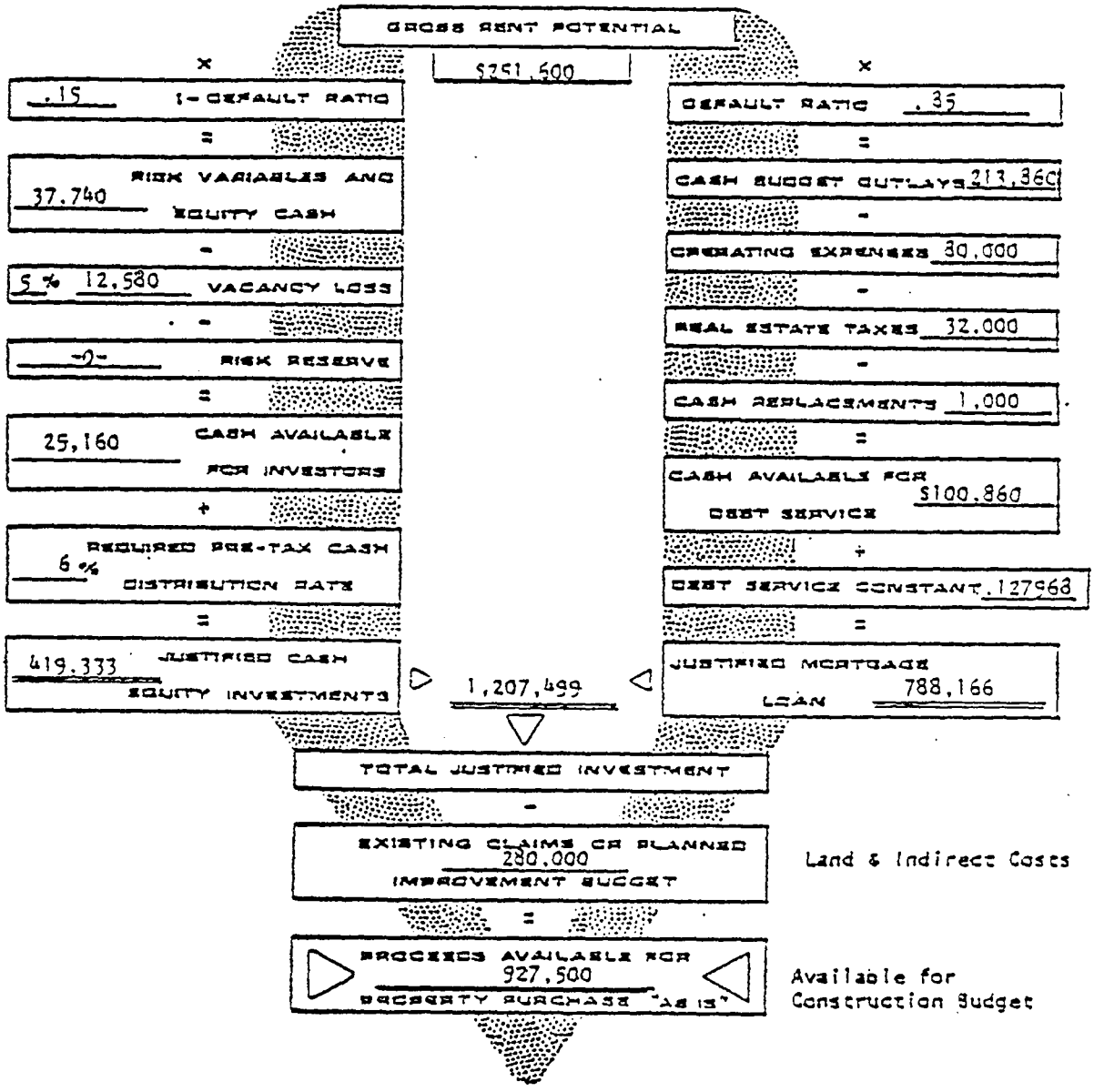


$$\frac{890,500}{32,000} = \$27.80/\text{sq. ft. justified building budget}$$

DEVELOPER'S POINT OF VIEW

EXHIBIT 3

DEFAULT RATIO APPROACH



$37/sq. ft. of gross area for justified bldg. budget

GRAASKAMP ISLAND CASE

A fertile Tropical Paradise has just been discovered off the coast of Milwaukee. The product of tumultuous upheavals and faulting along the earth plates, the new island has a year-round climate comparable to Tahiti.

First on the scene and to lay claim to this island paradise was the renowned international explorer, Chief Graaskamp and crew. After a quick reconaissance Graaskamp has decided to drop anchor and examine the opportunities for development and operation of sales and rental apartments.

The Chief is thoroughly experienced in land development in the frosty North, but tropical development is virgin territory. Preliminary cash flow analysis for building and operations indicate that an equity investment of $5.8 million will be required, but no investors are interested.

Milwaukee radio reported that new rumblings were heard in the vicinity of the new island.

Is Graaskamp Island sinking, or can it be saved?

ILLUSTRATIVE LAND VALUE ANALYSIS FOR SALE HOUSING UNITS

DETACHED HOMES @ 3.0 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

	Average Unit[1/] 1,600 s.f.
I. Estimated Development Costs	
A. Construction and Site Costs @$14.00/s.f. 2/	$22,400
B. Non-Construction and Site Costs @ 5% of Construction	1,120
Subtotal	$23,520
C. Promotion-Sales (@ 6% of Sale Price)	2,460
D. Developer's Profit Allowance (@15% of Sale Price)	6,150
E. Total Cost, Excluding Land	$32,130
II. Sale Price, Supportable Ground Value	
A. Sale Price	$41,000
B. Less Total Cost	32,130
C. Supportable Ground Value per unit	$ 8,870
D. Supportable Ground Value as a percent of Sales Price	22%
E. Average Density (D.U.'s/acre)	3.0
F. Supportable Ground Value per acre	$26,610

1/ Average unit excluding basement and garage.

2/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

3/ Real Estate taxes during construction and construction financing.

ILLUSTRATIVE LAND VALUE ANALYSIS FOR RENTAL HOUSING UNITS

GARDEN APARTMENTS @ 15 D.U.'s/ACRE

GRAASKAMP ISLAND

(1973 Prices in 1972 Dollars)

1. Estimated Improvement Cost		
A.	Construction @ $13 per square foot[1/] @ 1,000 s.f.	$14,300
B.	Non-construction @ 5% of construction cost 2/	700
C.	Landscaping and Site Work	500
D.	Total Improvement Cost	$15,500
2. Net Income from Operations		
A.	Gross Income (@ $240/month or 24¢/s.f.)	$ 2,880
B.	Less 5% Vacancy and Collection Allowance	144
C.	Plus Other Income @ $3/month	36
D.	Gross Effective Income	$ 2,772
E.	Less Operating Expenses and Real Estate Tax (@ 37% of gross)	$ 1,025
F.	Net Operating Income	$ 1,747
3. Financing		
A.	Economic Value at 9.5% Capitalization Rate	$18,390
B.	Mortgage at 75% of Economic Value	13,792
C.	Debt Service at 9.5% Constant (i.e., 25 years at 8.25% Interest)	$ 1,310
4. Net Cash Flow		
A.	Net Operating Income	$ 1,747
B.	Less Debt Service	1,310
C.	Net Cash Flow	$ 437
5. Residual Values		
A.	Equity @ 15% ROE	$ 2,914
B.	Mortgage	13,792
C.	Total Supportable Costs	$16,706
D.	Improvement Cost	15,500
E.	Residual Value of Land	$ 1,206
F.	Average Density (D.U.'s/acre)	15.0
G.	Residual Value per acre	$18,090

1/ Gross living area; excludes unfinished bas

1/ Marshalls Valuation Service, average construction cost adjusted for Graaskamp Island prices in September, 1972. Square foot costs include "bricks and mortar", sewer hook-up, architect fee, building permits, appliances, and builder's profit applied to gross living area.

2/ Real Estate taxes during construction and construction financing.

BUILDING & OPERATIONS CASHFLOW

GRAASKAMP ISLAND

THOUSANDS OF 1972 $

L/C		1973	1974	1975	1976	1977	TOTAL
A.	DEVELOPMENT ACTIVITIES						
	SOURCES OF FUNDS						
1	SINGLE FAMILY SALES	....	2533	5002	5152	5168	17856
2	MULTI-FAMILY RENTAL	....	256	323	424	421	1425
3	TOTAL	....	2790	5325	5576	5589	19282
	APPLICATIONS OF FUNDS						
	LAND						
4	SINGLE FAMILY	548	1082	1114	1118	....	3863
5	MULTI-FAMILY	231	291	382	379	....	1285
6	SUBTOTAL	779	1373	1497	1497	....	5148
	CONSTRUCTION						
7	SINGLE FAMILY	1411	2704	2704	2634	....	9455
8	MULTI-FAMILY	1395	1705	2170	2032	....	7362
9	SUBTOTAL	2806	4409	4874	4726	....	16817
	OPERATIONS & SALES						
10	S-F SALES COMMISSION	....	152	300	309	310	1071
11	M-F OPERATING EXPENSES	....	95	119	156	155	527
12	SUBTOTAL	....	247	419	466	465	1598
13	TOTAL APPLICATIONS	3586	6030	6791	6690	465	23565
	NET CASH FLOW FROM DEV. ACT.						
14	ANNUAL	-3586	-3240	-1466	-1114	5123	-4283
15	CUMULATIVE	-3586	-6826	-8292	-9406	-4283	....
B.	CAPITAL ACTIVITIES						
	SOURCES OF FUNDS						
16	MORTGAGE PROCEEDS	....	1278	1608	2109	2094	7090
17	LIQUIDATION	....	....	....	....	11629	11629
18	SUBTOTAL	....	1278	1608	2109	13723	18719
	APPLICATIONS OF FUNDS						
19	MORTGAGE INTEREST	....	108	243	417	585	1354
20	PRINCIPAL REPAYMENTS	....	26	61	110	6891	7090
21	DEBT SERVICE	....	135	305	527	7477	8445
22	NCF FROM CAPITAL ACTIVITIES	....	1143	1303	1581	6246	10274
C.	PROJECT NET CASH FLOW						
23	ANNUAL	-3586	-2097	-162	466	11369	5991
24	CUMULATIVE	-3586	-5683	-5845	-5378	5991	....

LINE 23 (COL 1 - 5) INTERNAL RATE-OF-RETURN IS 21.845%

LINE 23 (COL 1 - 5) NET PRESENT VALUE IS 1275.29 AT 15.00%