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Business 520: Urban Land Economics (Principles). 1966-1973

Graaskamp, James A.

[s.l.]: [s.n.], 1966-1973

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Urban Land Economics

Commerce 520

Summer Session
1966

Prof. James A. Graaskamp

Textbook: Ratcliff, Richard U., Real Estate Analysis (1961, McGraw-Hill)

Andrews, Richard B., Urban Growth and Development

Additional References: (Commerce reading room)

The New Housing Industry, Editors of House & Home Magazine

Casey, Wm., Real Estate Desk Book

Madison Area Transportation Study, City Planning Department

Date:	Class period:	Assignment:
6/21	Course introduction, and lecture on economic organization of the urban growth process	None
6/22	Lecture: Urban economics, the macro view	Chap. I, Ratcliff, and Chap. II
6/23	Lecture: Urban economics, the micro view	Chap. I, Andrews
6/24	Lecture: Physical and economic patterns of urban structure	Chap. III, Ratcliff
6/27	Lecture: Economic implications of the characteristics of real estate	Chap. IV., Ratcliff
6/28	Lecture: Heterogeneity of land use	Chap. III, Andrews
6/29	Lecture: The nature and distribution of existing supplies of urban land	<u>Madison Area Transportation Study</u> Chap. 3 pp. 72-85
6/30	General discussion	Review
7/1	First 50 min. quiz	
7/5	Lecture: Institutional aspects of urban land economics	Chap. V. Ratcliff
7/6	Lecture: Legal aspects of property transfer and rental	Chap. V, continued Ratcliff
7/7	Lecture: The hidden law of real estate	<u>The New Housing Industry</u> Chap. 8 The Albatross of Localism
7/8	Lecture: Introduction to the mathematics of real estate finance	Chap. VI, Ratcliff

7/11	Lecture: Equity investment	Chap. VI, Ratcliff continued
7/12	Equity investment	Hand in drill problems
7/13	Lecture: Taxation and urban growth	<u>Real Estate Desk Book</u> PP. 14-28
7/14	Lecture: Federal income and estate tax impact on real estate equity investment	Review
7/15	Second 50 minute quiz	
7/18	Lecture: An introduction to real estate finance	Chap. VII, Ratcliff
7/19	Lecture: The historical role of government in real estate finance	Chap. VII, Ratcliff, continued
7/20	Lecture: Application and analysis for a real estate loan	<u>Real Estate Desk Book</u> PP. 112-140
7/21	Lecture: The use of mortgage loan default insurance	<u>Desk Book</u> continued
7/22	Lecture: The home buying process	Chap. VIII, Ratcliff
7/25	Lecture: Urban transportation problems	Chap. IV, Andrews
7/26	Lecture: Urban technology in the shape of the city in 1975	Chap. V, Andrews
7/27	Lecture: The city builders	<u>House & Home</u> , June, 1966 PP. 92-103
7/28	General discussion	Review
7/29	Third 50 minute quiz	
8/1	Lecture: Real estate investment management	Chap. IX, Ratcliff
8/2	Lecture: Management of famous real estate investments	Hand-out on management case studies
8/3	Lecture: Physical design and building economics	Chap. XI, Ratcliff
8/4	Lecture: Real estate brokerage	Chap. X, Ratcliff
8/5	Lecture: Urban government and urban growth	Chap. XII, Ratcliff
8/8	Lecture: Conservation and the urban environment (illustrated)	Chap. X, Andrews
8/9	Lecture: A short history of urban renewal and its problems	None

1966

8/10	Lecture: Urban economics and racial minorities	Chap. VIII, Andrews
8/11	General discussion	Review
8/12	Fourth 50 minute quiz	

Urban Land Economics

Commerce 520

Summer Session
1967

Prof. James A. Graaskamp

Textbook: Ratcliff, Richard U., Real Estate Analysis (1961, McGraw-Hill)

Andrews, Richard B., Urban Growth and Development

Additional References: (Commerce reading room)

The New Housing Industry, Editors of House & Home Magazine

Real Estate Desk Book, Casey, Wm.

Land Use-Transportation Study, Planning Report #7, Vol. 1, 1963

Southeastern Wisconsin Regional Planning Commission (SEWRPC)

Real Estate Law, 3rd edition, Kratovil

Date:	Class Period:	Assignment:
6/20	Course introduction, description of subject and significance of urban land economics	none
6/21	Lecture: Intangible forces shaping the physical city	Chap. I & II, Ratcliff
6/22	Lecture: Growth model of an urban economy	Chap. I, Andrews
6/23	Lecture: Urban economic indicators	Chap. II, Andrews
6/26	Lecture: Physical and economic pattern of urban structure	Chap. III, Ratcliff
6/27	Lecture: Economic implications of the characteristics of real estate	Chap. IV, Ratcliff
6/28	Lecture: Heterogeneity of land use	Chap. III, Andrews
6/29	Lecture: Supplies of urban land	Chap. V, p. 79-96, Planning Report #7, Vol. 1, SEWRPC
6/30	First 50 minute quiz	
7/3	No morning class; substitute required attendance at Madison City Hall on afternoon to be scheduled	
7/5	Lecture: Institutional aspects of urban land economics	Chap. V, Ratcliff
7/6	Lecture: Definition of private and public property rights	Chap. VII, Kratovil (deeds)
7/7	Lecture: The hidden law of real estate	Chap. VIII, <u>The New Housing Industry</u> ("The Albatross of Localism")

7/10	Lecture: Introduction to mathematics of real estate finance	Chap. VI, Ratcliff
7/11	Lecture: Cash flow projection	Chap. VI, Ratcliff(cont'd)
7/12	Lecture: Selection of a cap rate	Drill problems due Mimeo handout
7/13	Lecture: Forms of leverage	Mimeo handout
7/14	Second 50 minute quiz	
7/17	Lecture: Real estate taxes and urban growth	Chap. V, Andrews
7/18	Lecture: Income taxes and real estate investment	pp. 43-63, Casey, <u>Desk Book</u>
7/19	Lecture: An introduction to real estate finance	Chap. VII, Ratcliff
7/20	Lecture: Historical role of U.S. Government in real estate finance	Chap. VII, Ratcliff(cont'd)
7/21	Lecture: Application and analysis for a real estate loan	pp. 112-140, Casey, <u>Desk Book</u>
7/24	Lecture: The home buying process	Chap. VIII, Ratcliff
7/25	Lecture: Real estate brokerage	Chap. X, Ratcliff
7/26	Lecture: Urban technology	Chap. VI, Andrews
7/27	Lecture: Trends in residential sub-division	Mimeo handout
7/28	Third 50 minute quiz	
7/31	Lecture: Urban planning: Goals and standards	Chap. X, Andrews
8/1	Lecture: Urban transportation problems	Chap. IV, Andrews
8/2	Lecture Environment conservation and real estate value	Mimeo handout
8/3	Lecture: Race, poverty, and real estate value	Chap. VII, Andrews
8/4	Lecture: The economics of urban renewal	Mimeo handout
8/7	Lecture: Urban government and urban growth	Chap. XII, Ratcliff
8/8	Lecture: Alternatives and constraints on property development	<u>House & Home</u> , June, 1966 pp. 92-103
8/9	Lecture: Feasibility analysis and development	Mimeo handout
8/10	Lecture: Urban land economics - the number one domestic problem	Chap. XII, Ratcliff
8/11	Fourth 50 minute quiz	

URBAN LAND ECONOMICS
(REAL ESTATE)

Second Semester
1967-1968

Instructors:
R. B. Andrews
J. A. Graaskamp
R. T. Garrigan
C. W. Richey
R. L. Conner

Course Background and Administration

1. Summary of Course Objectives

Almost all real estate problems involve an investment decision--whether to buy and what to buy at what price, whether to sell, whether to modernize or replace, whether to lend and how much to lend under what terms. Here, in the investment decision and the investment transaction which ensues is the critical act in urban development. This transaction is the generating force in urban growth and change and thus builds our cities. And if society through government is to press for better cities, it is this investment transaction which must be guided and controlled.

It is the purpose of this course to provide the student with an opportunity to gain an understanding of the investment act, the real estate market in which it occurs, the institutional framework which regulates it, and the process of urban growth which is the end product. With this understanding, he will arrive at sounder real estate decisions in his personal and business life and as a citizen, will better be able to contribute to public decisions affecting his urban environment.

The lectures presented each week will provide background material which is not included in the reading assignments, will consider current issues in urban land economics, and will present additional detail on subjects only briefly treated by the text.

A series of problems planned for the semester will give the student the opportunity to apply general principles to actual case situations in the "laboratory" provided by the Madison metropolitan area.

2. Textbook

Ratcliff, Richard U., Real Estate Analysis (1961, McGraw-Hill), plus special short readings of a technical nature to be assigned.

3. Discussion Sections

These sections are conducted with the primary intent of developing the students' reasoning power as part of a group investigation of problems, debatable procedures, and moot interpretations. Memorization of materials is discouraged except as it may aid in the process of developing broader points. A secondary purpose of these sections is to clarify points of fact or meaning that have been raised in the text or in lectures.

4. Examinations

There will be two major examinations held during the semester. These will usually emphasize substantive materials from text, special readings, and lectures. One make-up will be held at the end of the semester for those students presenting an acceptable excuse for the examination missed. Those students offering work of "A" level throughout the semester will be exempt from the final examination.

5. Research Problems

Problems arranged for this course are of two kinds. Exercises #1 and #2 are intended to introduce the student to sources of general population, community economic, real estate market, investment, and public records information. Exercise #3 is a field problem tied to a hypothetical case and to a proposed real estate investment on one of several selected Madison sites. These sites will be made available early in the semester. Two-man team participation in the execution of the final problem is encouraged. Instructions for #3 will be issued early in the semester to those students requesting it.

6. Course Grade Components

	<u>Per Cent Weight</u>
Semester Examinations (Two)	35.0%
Problems	
Exercise #1	7.5
Exercise #2	7.5
Exercise #3	20.0
Recitation	10.0
Final Examination	<u>20.0</u>
Total	100.0%

-3-

COURSE TIMETABLE

<u>Date</u>	<u>Topic</u>
February 7	<u>Course Introduction</u>
	<u>Lecture:</u> Economic Organization of Urban Growth Process
February 9	<i>Graeskamp</i> <u>Lecture:</u> Historical Form and Function of the City
February 12,13	<u>Discussion:</u> Chapter II, "The Urban Setting." <u>Real Estate Analysis</u> , Richard U. Ratcliff.
February 14	<u>Lecture:</u> The Urban Economy.
February 16	<u>Lecture:</u> Urban Economic Indicators and data.
February 19,20	<u>Discussion:</u> Chapter III, "Physical Foundations of Real Estate Value."
February 21	<u>Lecture:</u> Physical and Economic Patterns of Urban Structure.
February 23	<u>Lecture:</u> Property Title, Transfer and Rights Identification.
February 26,27	<u>Discussion:</u> Chapter IV, "The Locational Basis of Real Estate Value."
February 28	<u>Lecture:</u> The Nature of Existing Supply
March 1	<u>Lecture:</u> Economic Implications of the Characteristics of Real Estate.
March 4,5	<u>Discussion:</u> Chapter V, "The Legal Dimensions of Real Estate."
March 6	<u>Lecture:</u> Institutional Aspects of Urban Land Economics.
March 8	<u>Lecture:</u> Investment Analysis and Capitalization
March 11,12	<u>Discussion:</u> Chapter VI, "Equity Investment," pp. 103-125. Project #1 due.

-4-

Course Timetable, cont'd.

<u>Date</u>		<u>Topic</u>
March	13	<u>Lecture:</u> Investment Analysis and Capitalization
March	15	<u>Lecture:</u> Investment Analysis and Capitalization
March	18,19	<u>Discussion:</u> Chapter VI, "Equity Investment," pp. 126-141.
March	20	<u>Lecture:</u> Urban Technology.
March	22	EXAMINATION
March	25,26	<u>Discussion:</u> Chapter VII, "Real Estate Credit," pp. 141-160.
March	27	<u>Lecture:</u> Taxation and Urban Growth.
March	29	<u>Lecture:</u> Structure of Urban Real Estate Mortgage Markets.
April	1,2	<u>Discussion:</u> Chapter VII, "Real Estate Credit," pp. 160-185. Project #2 due.
April	3	<u>Lecture:</u> Urban Transportation: Theory and Problems.
April	5	<u>Lecture:</u> Property Development Procedure.
April	8,9	<u>Discussion:</u> Chapter VIII, "Problems of Home Investment."
April	10	<u>Lecture:</u> Urbanization and Problems of Blight
April	22,23	<u>Discussion:</u> Chapter IX, "Managing the Investment."
April	24	<u>Lecture:</u> Urban Government and Urban Growth.

-5-

Course Timetable, cont'd.

<u>Date</u>		<u>Topic</u>
April	26	<u>Lecture</u> : Property Development--Market Analysis.
April	29,30	<u>Discussion</u> : Chapter X, "The Real Estate Market," pp. 227-244.
May	1	<u>Lecture</u> : Urbanization and Minority Group Problems.
May	3	<i>Graaskamp</i> <u>Lecture</u> : Real Estate Appraisal.
May	6,7	<u>Discussion</u> : Chapter X, "The Real Estate Market," pp. 244-268. Project #3 due.
May	8	<u>Lecture</u> : Urban Water and Air Problems.
May	10	EXAMINATION
May	13,14	<u>Discussion</u> : Chapter XI, "Construction."
May	15	<u>Lecture</u> : Urban Environment and Design.
May	17	<u>Lecture</u> : Practical Property Management.
May	20,21	<u>Discussion</u> : Chapter XII, "Urban Dynamics."
May	22	<i>Graaskamp</i> <u>Lecture</u> : The Magnitude of Urban Land Economic Problems in the Next Quarter Century.
May	24	EXAMINATION MAKE-UP (No Lecture).
May	27,28	<u>Discussion</u> : Research Project #3.

December 6, 1968

TO: Mr. Garrigan

FROM: Professor Graaskamp

Here are exam questions. Answers will follow on Monday with more time for typing.

1. What are the 3 basic concepts of buyer alternatives on which traditional appraisal methods are based?
2. Briefly describe the major elements of a total feasibility analysis and comment on the role of cash value in a decision on feasibility.
3. Briefly identify the sub-systems for decision making which structure the various institutions of real estate finance.

URBAN LAND ECONOMICS
(REAL ESTATE)

SECOND SEMESTER
1968-1969

Instructors:
R.B. Andrews
J.A. Graaskamp
R.T. Garrihan
R.L. Conner
K.J. Clettenberg

Course Background and Administration

1. Summary of Course Objectives

Almost all real estate problems involve an investment decision--whether to buy and what to buy at what price, whether to sell, whether to modernize or replace, whether to lend and how much to lend under what terms. Here, in the investment decision and the investment transaction which ensues, is the critical act in urban development. This transaction is the generating force in urban growth and change and thus builds our cities. And if society through government is to press for better cities, it is this investment transaction which must be guided and controlled.

It is the purpose of this course to provide the student with an opportunity to gain an understanding of the investment act, the real estate market in which it occurs, the institutional framework which regulates it, and the process of urban growth which is the end product. With this understanding, he will arrive at sounder real estate decisions in his personal and business life and as a citizen will better be able to contribute to public decisions affecting his urban environment.

The lectures presented each week will provide background material which is not included in the reading assignments, will consider current issues in urban land economics, and will present additional detail on subjects only briefly treated by the text.

A series of problems planned for the semester will give the student the opportunity to apply general principles to actual case situations in the "laboratory" provided by the Madison Metropolitan area.

2. Textbook

Ratcliff, Richard U., Real Estate Analysis (1961, McGraw-Hill). From time to time, special short readings of a technical nature will be assigned.

3. Discussion Sections

These sections are conducted with the primary intent of developing the students' reasoning power as part of a group investigation of problems, debatable procedures, and moot interpretations. Memorization of materials is discouraged except as it may aid in the process of developing broader points. A secondary purpose of these sections is to clarify points of fact or meaning that have been raised in the text or in lectures, or which are incident to the completion of the assigned problems.

4. Examinations

There will be two mid-semester examinations held during the semester. These will usually emphasize substantive materials from text, special readings, and lectures. One make-up will be held at the end of the semester for those students presenting an acceptable excuse for the examination missed. Those students offering work of "A" level throughout the semester will be exempt from the final examination.

5. Research Problems

Problems arranged for this course are of two kinds. Exercises #1 and #2 are intended to introduce the student to sources of general population, community economic, real estate market, investment, and public records information. Exercise #3 is a field problem tied to a hypothetical case and to a proposed real estate investment on one of several selected Madison sites. These sites will be made available early in the semester. Two-man team participation in the execution of the final problem is encouraged. Instructions for #3 will be issued early in the semester to those students requesting it.

6. Course Grade Components

	<u>Per Cent Weight</u>
Mid-Semester Examinations (2)	35.0%
Problems:	
Project #1	7.5
Project #2	7.5
Project #3	20.0
Recitation	10.0
Final Examination	20.0
TOTAL	<u>100.0%</u>

COURSE TIMETABLE

<u>Date</u>	<u>Topic</u>
	<u>Course Introduction</u>
February 5	<u>Lecture</u> : Economic Organization of Urban Growth Process.
February 7	<u>Lecture</u> : Historical Form and Function of the City.
February 10, 11	<u>Discussion</u> : Chapter II, "The Urban Setting," Real Estate Analysis, Richard U. Ratcliff.
February 12	<u>Lecture</u> : The Urban Economy.
February 14	<u>Lecture</u> : Practical Property Management.
February 17, 18	<u>Discussion</u> : Chapter III, "Physical Foundations of Real Estate Value."
February 19	<u>Lecture</u> : Physical and Economic Patterns of Urban Structure.
February 21	<u>Lecture</u> : Property Title, Transfer and Rights Identification.
February 24, 25	<u>Discussion</u> : Chapter IV, "The Locational Basis of Real Estate Value."
February 26	<u>Lecture</u> : The Nature of Existing Supply.
February 28	<u>Lecture</u> : Economic Implications of the Characteristics of Real Estate.
March 3, 4	<u>Discussion</u> : Chapter V, "The Legal Dimensions of Real Estate."
March 5	<u>Lecture</u> : Institutional Aspects of Urban Land Economics.
March 7	<u>Lecture</u> : Investment Analysis and Capitalization.
March 10, 11	<u>Discussion</u> : Chapter VI, "Equity Investment," pp. 103-125.
March 12	<u>Lecture</u> : Investment Analysis and Capitalization.
March 14	<u>Lecture</u> : Investment Analysis and Capitalization.
March 17, 18	<u>Discussion</u> : Chapter VI, "Equity Investment," pp. 126-141. Project #1 due.
March 19	<u>Lecture</u> : Urban Technology.

<u>Date</u>	<u>Topic</u>
March 21	EXAMINATION
March 24, 25	<u>Discussion</u> : Chapter VII, "Real Estate Credit," pp. 142-160.
March 26	<u>Lecture</u> : Taxation and Urban Growth.
March 28	<u>Lecture</u> : Structure of Urban Real Estate Mortgage Markets.
March 31, April 1	<u>Discussion</u> : Chapter VII, "Real Estate Credit," pp. 160-185. Project #2 due.
April 2	<u>Lecture</u> : Urban Government and Urban Growth.
April 14, 15	<u>Discussion</u> : Chapter VIII, "Problems of Home Investment."
April 16	<u>Lecture</u> : Urban Transportation: Theory and Problems.
April 18	<u>Lecture</u> : Property Development Procedure.
April 21, 22	<u>Discussion</u> : Chapter IX, "Managing the Investment."
April 23	<u>Lecture</u> : Urbanization and Problems of Blight.
April 25	<u>Lecture</u> : Property Development--Market Analysis.
April 28, 29	<u>Discussion</u> : Chapter X, "The Real Estate Market," pp. 227-244.
April 30	<u>Lecture</u> : Urbanization and Minority Group Problems.
May 2	<u>Lecture</u> : Real Estate Appraisal.
May 5, 6	<u>Discussion</u> : Chapter X, "The Real Estate Market," pp. 244-268. Project #3 due.
May 7	<u>Lecture</u> : Urban Water and Air Problems.
May 9	EXAMINATION
May 12, 13	<u>Discussion</u> : Chapter XI, "Construction."
May 14	<u>Lecture</u> : Urban Environment and Design.
May 16	<u>Lecture</u> : Urban Renewal and Land Use Secession.
May 19, 20	<u>Discussion</u> : Chapter XII, "Urban Dynamics."

<u>Date</u>	<u>Topic</u>
May 21	<u>Lecture</u> : The Magnitude of Urban Land Economic Problems in the Next Quarter Century.
May 23	EXAMINATION MAKE-UP (No Lecture).
May 26, 27	<u>Discussion</u> : Research Project #3.
May 29	FINAL EXAMINATION.

Urban Land Economics

Business 520

Summer Session 1969

Prof. James A. Graaskamp

Textbooks: Ratcliff, Richard U., Real Estate Analysis (1961, McGraw-Hill)

Andrews, Richard B., Urban Growth and Development

Additional References: (Business reserve library reading room)

Real Estate Desk Book, 2nd edition, Casey, Wm
Real Estate Law, 4th edition, Kratovil

Date:	Class Period:	Reading Assignment:
6-24	Definition: Real estate and decision making	Chapter 1, Ratcliff
6-25	Historical form and function of the city	Chapter 2, Ratcliff
6-26	Historical form and function continued	Chapter 3, Ratcliff
6-27	Growth model of an urban economy	Chapter 1, Andrews
6-30	Urban economic indicators	Chapter 2, Andrews
7-1	Physical constraints of urban structure & supply of urban land	Chapter 5, pp. 79-96, Planning Report #7, Vol. 1, SEWRPC
7-2	Institutional aspects of urban land	Chapter 5, Ratcliff
7-3	Definition of private and public property rights	Kratovil, Chapters 2, 7, 9
7-7	Hidden Law of real estate	Mimeo
7-8	First 50-minute quiz	
7-9	Introduction to feasibility analysis	Attribute Analysis- an example of a village in India- mimeo handout
7-10	Introduction to investment analysis	Chapter 6, pp. 103-125, Ratcliff
7-11	Introduction to present value concepts	Chapter 6, pp. 126-141, Ratcliff
7-14 7-15	Class periods replaced with one afternoon session in City Hall	
7-16	Investment analysis continued	Problem Sheet no. 1 due

Date:	Class Period:	Reading Assignment:
7-17	Cash flow and Federal tax law	Casey, pp. 45-69
7-18	Cash flow and financing	Cash flow case study handout
7-21	Structure of real estate mortgage market	Ratcliff, Chapter 7, pp. 142-160
7-22	Cash flow and yield in real estate	Ratcliff, Chapter 7, pp. 160-185
7-23	Property development and management	Ratcliff, Chapter 9
7-24	Review	Review
7-25	50-minute quiz #2	
7-28	Problems of home purchase in 1969	Ratcliff, Chapter 8
7-29	Shopping for residential loan	Mimeo handout
7-30	Shopping for a rental apartment	Kratovil, Chapter 30
7-31	Introduction to real estate appraisal	Mimeo handout
8-1	Real estate brokerage and marketing	Chapter 10, Ratcliff
8-4	Urban technology	Chapter 6, Andrews
8-5	Urban planning goals and standards	Chapter 10, Andrews
8-6	Introduction to urban renewal	1968 Federal Housing Act
8-7	Economics of urban renewal	Mimeo handout
8-8	Economics of low price housing	Mimeo handout
8-11	Economics of environmental conservation and real estate value	Mimeo handout
8-12	Real estate taxes and urban growth	Chapter 5, Andrews
8-13	Urban government and urban growth	Chapter 12, Ratcliff
8-14	The Next 25 Years	Review
8-15	Final 50-minute quiz	

URBAN LAND ECONOMICS
(REAL ESTATE)

First Semester
1969-1970

Instructors:
R. B. Andrews
J. A. Graaskamp
C. Clettenberg
R. Richardson

Course Background and Administration

1. Summary of Course Objectives

Almost all real estate problems involve an investment decision--whether to buy and what to buy at what price, whether to sell, whether to modernize or replace, whether to lend and how much to lend under what terms. Here, in the investment decision and the investment transaction which ensues is the critical act in urban development. This transaction is the generating force in urban growth and change and thus builds our cities. And if society through government is to press for better cities, it is this investment transaction which must be guided and controlled.

It is the purpose of this course to provide the student with an opportunity to gain an understanding of the investment act, the real estate market in which it occurs, the institutional framework which regulates it, and the process of urban growth which is the end product. With this understanding, he will arrive at sounder real estate decisions in his personal and business life and as a citizen, will better be able to contribute to public decisions affecting his urban environment.

The lectures presented each week will provide background material which is not included in the reading assignments, will consider current issues in urban land economics, and will present additional detail on subjects only briefly treated by the text.

A series of problems planned for the semester will give the student the opportunity to apply general principles to actual case situations in the "laboratory" provided by the Madison metropolitan area.

2. Reading Materials

There is no single text for this course. Reading assignments will be available in the reserve room of the School of Business Library or duplicated for general distribution.

3. Discussion Sections

These sections are conducted with the primary intent of developing the students' reasoning power as part of a group investigation of problems, debatable procedures, and moot interpretations. Memorization of materials is discouraged except as it may aid in the process of developing broader points. A secondary purpose of these sections is to clarify points of fact or meaning that have been raised in the text or in lectures.

4. Examinations

There will be two major examinations held during the semester. These will usually emphasize substantive materials from text, special readings, and lectures. One make-up will be held at the end of the semester for those students presenting an acceptable excuse for the examination missed.

5. Research Problems

Problems arranged for this course are of two kinds. Exercises #1 and #2 are intended to introduce the student to sources of general population, community economic, real estate market, investment, and public records information. Exercise #3 is a field problem tied to a hypothetical case and to a proposed real estate investment on one of several selected Madison sites. These sites will be made available early in the semester. Two-man team participation in the execution of the final problem is encouraged. Instructions for #3 will be issued early in the semester to those students requesting it.

6. Course Grade Components

	<u>Per Cent Weight</u>
Semester Examinations (Two)	35.0%
Problems	
Exercise #1	7.5
Exercise #2	7.5
Exercise #3	20.0
Recitation	10.0
Final Examination	20.0
Total	<u>100.0%</u>

COURSE TIMETABLE

DATE	TOPIC
September 19	* <u>Course Introduction</u> Prof. Graaskamp
September 22, 23	X <u>Discussion:</u> Historical Form and Function of the City Mr. Clettenberg
September 26	<u>Lecture:</u> The Urban Economy Prof. Andrews
September 29, 30	<u>Discussion:</u> Urban Economic Indicators and Data Mr. Richardson
October 3	<u>Lecture:</u> Property Development Mr. Clettenberg
October 6, 7	<u>Discussion:</u> City-County Building Mr. Clettenberg
October 10	<u>Lecture:</u> Urban Technology Mr. Clettenberg
October 13, 14	<u>Discussion:</u> Real Estate Law Mr. Richardson
October 17	X <u>Lecture:</u> Taxation and Urban Growth Mr. Clettenberg
October 20, 21	<u>Discussion:</u> Investment Analysis and Capitalization Mr. Richardson
October 24	<u>Lecture:</u> Investment Analysis and Capitalization Mr. Richardson
October 27, 28	<u>Discussion:</u> Investment Analysis and Capitalization Mr. Clettenberg
October 31	EXAMINATION
November 3, 4	<u>Discussion:</u> Real Estate Finance Mr. Richardson
November 7	* <u>Lecture:</u> Investment Simulation Prof. Graaskamp
November 10, 11	<u>Discussion:</u> Real Estate Information Sources and Uses Mr. Clettenberg

November 14		<u>Lecture:</u> Urban Transportation: Theory and Problems Prof. Andrews
November 17, 18		<u>Discussion:</u> Market Analysis Prof. Graaskamp
November 21		<u>Lecture:</u> Urbanization and Problems of Blight Mr. Clettenberg
November 24, 25		<u>Discussion:</u> The Economics of Low Rent Housing Prof. Graaskamp
December 1, 2	X	<u>Discussion:</u> Land Use Controls Mr. Clettenberg, Mr. Richardson
December 5		<u>Lecture:</u> Urbanization and Minority Group Problems Mr. Clettenberg
December 8, 9		<u>Discussion:</u> Project Analysis Mr. Clettenberg, Mr. Richardson
December 12		EXAMINATION
December 15, 16		<u>Discussion:</u> Real Estate Appraisal Mr. Richardson
December 19		<u>Lecture:</u> Urban Water and Air Problems Prof. Graaskamp
January 5, 6		<u>Discussion:</u> The Federal Government and the Urban Problem Mr. Richardson
January 9		<u>Lecture:</u> Urban Government and Urban Growth Mr. Clettenberg
January 12, 13		<u>Discussion:</u> Illustrated Cases in Property Development Mr. Clettenberg

General Information

1. Course Objectives

In most cases, real estate problems concern themselves with location, growth, development and investment decisions of the various categories of real estate problems. Inherent in the emphasis on real estate is the vital area of urban land economics. In essence, the urban land economics involved will be the overall guiding force that will determine the shape and quantity of real estate.

The objectives of this course are twofold. First, to acquaint the potential real estate student with the urban land economic forces at work in the community and how to read the direction and impact of these forces. Second, the student will be acquainted with most aspects of the real estate profession given the time restraints of the summer session.

2. Presentation

Lectures will be used to present supplemental material to emphasize the important points of the required readings. These presentations will be supplemented with actual case study situations involving the City of Madison.

3. Required Textbook

Real Estate-Sixth Edition-1972, by Arthur M. Weimer, Homer Hoyt and George published by the Ronald Press, New York.

NOTE: This is the only required text. No others!

4. Student Requirements

Study the assigned information so that you are knowledgeable of the topic being presented. Since this is an introductory course some memorization is inescapable, i.e., vocabulary and procedure. Rest assured that this will be kept to a minimum.

Obtain a copy of the required text and study assigned chapters and read those chapters not assigned.

Turn in assignments when due. Late turn in of assignments will result in a lower grade. This point subject to discussion between the instructor and the student concerned.

Consult with the instructor on points not clear. This is your responsibility.

5. Examinations

There will be two examinations during the course. These will be essay type examinations emphasizing the material covered in the lectures and readings. There will be one makeup examination at the end of the course for those students who presented an acceptable excuse for the examination missed. See the syllabus for date. Examinations will cover material presented up to date of exam.

6. Research Problems

There will be two (2) problems presented in this course. One is a simple income analysis problem dealing with a hypothetical situation (drawn from a mix of real life situations) wherein you will be faced with arriving at a decision as to whether or not an investment is profitable or not to the investor. The problem will be issued early in the session to give you the maximum time available to complete the problem.

The second problem concerns the preparation of an investment portfolio for a development on a pre-selected City of Madison site. The site will be announced in class. Details on how to approach this problem will be covered by the instructor at a later date.

Problem number one is an individual effort. Problem number two, two people, no more than two, may participate as a team. The grade will be given on the final product produced. So use caution in selecting your partner.

7. Field Trip

Early in the semester there will be a field trip to the Dane County City Building to acquaint all students with the public records information available. Date to be determined during the first week of the summer session.

8. Course Grade Components

Semester Examination counts	25% of grade
Problems:	
1 counts	15% "
2 "	25% "
Final Examination	35% "
Total	100%

SYLLABUS

June	
12 - Tuesday	Introduction to Course Lecture Reading Assignment-None
13 - Wednesday	Historical Form and Function of the City Lecture Reading Assignment - Handout #1
14 - Thursday	The Economic Structure of Communities Lecture Reading Assignment - Chapter 7, Assigned text Chapter 8, " " Handout #2
15 - Friday	Urban Locational Factors Lecture Reading Assignment - Handout #3
18 - Monday	Economic Characteristics of Real Estate Lecture Reading Assignment - Chapter 5, Assigned text
19 - Tuesday	Real Estate Resources Lecture Reading Assignment - Chapter 3, Assigned text
20 - Wednesday	Field Trip Assemble at the City County Building Time: 8:30 a.m. - Front door of building- Monona Avenue side.
21 - Thursday	Legal Aspects of Real Estate Lecture Reading Assignment - Chapter 4, Assigned text - Handout #4, The Property Interface
22 - Friday	Introduction of Problem No. 1 Lecture Reading Assignment: None Handout #5 - (Problem No. 1)
25 - Monday	Real Estate Finance Guest Lecturer - Dr. James A. Graaskamp - Univ. of Wisc. Reading Assignment - Chapter 18, Assigned text

26 - Tuesday
Real Estate Finance - Institutions, Agencies,
and Mortgage Lending
Lecture
Reading Assignment - Chapter 19, Assigned text

27 - Wednesday
Investment Analysis and Capitalization
Lecture
Reading Assignment - Handout #6

28 - Thursday
Investment Analysis and Capitalization
Lecture
Reading Assignment - Handout #6 - Present Value
Look over Present Value Tables
in Assigned text

29 - Friday
Investment Analysis and Capitalization
Lecture
Reading Assignment - Handout #6 - Present Value
Present Value Table

July
2 - Monday
Review of Present Value Theory and Application
Lecture
Reading Assignment - all information pertaining to
Present Value computations

3 - Tuesday
Real Estate Market Analysis
Lecture
Reading Assignment - Chapter 9, Assigned text
Handout #7 City and Neighborhood
Data and Analysis

4 - Wednesday
Holiday - No classes

5 - Thursday
Locational Analysis
Lecture
Reading Assignment - Chapter 10, Assigned text

6 - Friday
Locational Analysis
Lecture
Reading Assignment - Chapter 11, Assigned text

9 - Monday
Mid-term Examination
Covering all preceding lectures and readings

10-Tuesday
Appraising Methods
Lecture
Reading Assignment - Chapter 12, Assigned text

11-Wednesday
Appraising Methods (Future Considerations)
Lecture
Reading Assignment - Chapter 13, Assigned text

July

- 12 - Thursday Computer Applications in Real Estate
Lecture
Reading Assignment - None. You will be given a
case study that will be discussed in class.
- 13 - Friday Property Development
Lecture
Reading Assignment - Chapter 14, Assigned text
Read Chapter 15 and 16, Assigned text
- 16 - Monday Federal Housing Programs
Lecture
Reading Assignment - Handout #8
Problem 1 due
- 17 - Tuesday Trends and Future of Urban Transportation
Lecture
Reading Assignment Handout #8A
- 18 - Wednesday Introduce Problem #2 *Handout*
Lecture and Discussion
Reading Assignment - None.
- 19 - Thursday Environmental Impact Studies, Their Need and Effect
on Real Estate Development
Guest Lecturer-Mr. Michael Robbins - University of Wisconsin
Reading Assignment - to be announced
- 20 - Friday New Towns
Lecture
Reading Assignment - Handout #10
- 23 - Monday Columbia, Maryland - The Ultimate in New Towns-
True or False?
Lecture
Reading Assignment - None.
- 24 - Tuesday Urbanization and Minority Group Problems
Lecture
Reading Assignment - Handout #11
- 25 - Wednesday Taxation and Assessments
Lecture
Reading Assignment - Chapter 6, Assigned text
- 26 - Thursday Real Estate Feasibility Studies
Lecture
Reading Assignment - Handout #12, A+B

1973

-4-

July

27 - Friday

Property Management

Lecture

Reading Assignment - Chapter 17, Assigned text

30 - Monday

Urban Pollution - All types

Lecture

Reading Assignment - Handout #13

31 - Tuesday

Real Estate Investment Trusts, Syndication, etc.

Lecture

Reading Assignment - Handout #14

pp 582-583 - Assigned text

— Being processed
will be ready
next week
9 July 73

August

1 - Wednesday

The Interdisciplinary Approach to Real Estate

Lecture

Reading Assignment - None

2 - Thursday

What does the Future Hold for Real Estate?

Lecture

Reading Assignment - Chapter 21, Assigned text

3 - Friday

Review Session - Makeup examinations

4 - Saturday

Final Examination

Will cover lectures and reading assignments from
July 10 to August 3, 1973.

Problem 2 due.

PHYSICAL AND ECONOMIC PATTERNS
OF
URBAN STRUCTURE
*

I. Introduction:

1. Topic for lecture:

"Physical and Economic Patterns of Urban Structure."

2. Objectives of Lecture:

✕ (a) Two preceding lectures have:

(1) Described diagram

(2) Analyzed its moving demand - force the economy.

(b) A summary of theories of urban structure that have formed on an evolutionary basis over the years. The product of changing ^{URBAN} economic function, social customs, attitudes, and technology. Overall view of Diagram Product → Structure.

(c) Improvement of understanding of growth tendencies and forms of the urban unit in this country; with some indication of underlying causes.

3. Conceptions have universal application subject to variance because of cultural and technological differences in various countries.

4. Shortcomings of theories are numerous. However, cannot be treated fully in this lecture.

5. Familiarity of some students with a few of the concepts via other courses and assigned readings in real estate version.

II. Physical Growth Patterns

(Topic summary) (Patterns formed by urban structures (buildings), street and rail systems, topography and urban open spaces).

I. Growth by Lateral Expansion.

a Decentral →

b Axial Growth →

no auto
people have
to walk + RR

Page 2
is missing
2/21/68

- (a) Highway surfacing + winter driving.
- (b) Depression
- (c) Gas rationing

(c) Isolated settlement (1945-^{PRESSENT}~~1968~~).

- 1. Further suburbanization but on a highly dispersed basis.
- 2. Result of further development of automobile, highway system, and real income.

(d) Interstitial Growth

- 1. A modern version of accretion, fan-like growth pattern.
- 2. Filling-in of areas between interstices of ^{close-up} MAIN axials by urban settlement; ^{isolated} ~~angular~~ ^{settlements} ~~island~~ ^{of} ~~settlements~~.
- 3. Gradual rise in density within interstices.

(e) Factors Disturbing Physical Patterns (idealized).

- 1. Topography.
- 2. Rail yards and cemeteries.
- 3. Institutional land use blocks. (~~urban~~ ^{urban} ~~farm~~ ^{farm})

2. Growth by Internal Expansion

- a. ^{DESCRIPTION} ~~FILLING IN~~ by use-development of vacant internal land areas and lots.
- b. Reclamation of swamp areas, valleys, ^{HILLSIDES AND} lake shores, for urban use.
- c. Land use succession by intensification of use:
 - (1) Structural alteration or conversion.
 - (2) Structural replacement.
 - (3) Vertical extension.

3. Growth by Polynucleation

a. General explanation:

- (1) A metro area description of urban physical extension. (*Key to map contrasting urban and rural areas*)
- (2) A special macro version of lateral expansion involving ^{macro}many/urban units or concentrations in a metro area. *urban units, central city.*
- (Sketch) * (3) ~~also~~ Involves the growth of certain satellites (macro version of isolated settlements) to large size. A simultaneous lateral (and internal) expansion and extension of all urban units within the area at varying rates.

b. Internal land use plan and form of physical extension of each ^{LARGE}urban unit in the metro area essentially the same. Some units are highly specialized in economic and social terms.

* c. Polynucleation can be conceived of as evolving "naturally" once the core city has reached a ^{GENERATION OF SATELLITE} certain/size ^{CAPITAL PHYSICAL} and economic and social complexity. *(SPIN-OFF)*

d. Expansion laterally of each of the urban units in the total metro pattern results in progressive ** coalescence which proceeds at most rapid rate near the dense center, declining as the periphery is approached. Sprawl effect provides connections.*

e. Coalescence and continuing metro area growth (technological impetus) stimulates the development

11125
of more small ^{isolated} nucleations ^{AND} urban satellites
farther out. ~~A large-scale version of isolated~~
~~settlement transition~~

X f. Planning theories of polynucleated metro area
envision:

- (1) Size control of each nucleus.
- (2) Prevention of sprawl.
- (3) Stimulation of a more economic spatial
structure.
- (4) Preservation of nucleus-dividing
greenbelts for:
 - a. Recreation and forest preserves.
 - b. Truck farming.
 - c. Expressway and transit systems.
 - d. Extensive urban uses (reservoirs,
golf courses, cemeteries etc.)
 - e. Esthetics - visual break in the
urban pattern.

V. ECONOMIC GROWTH PATTERNS OF CITIES

(The Urban Land Use Structure)

1. A description of the arrangement of land uses within
the physical urban area (urbanized area) and the manner
in which these uses grow and change within the structural
* pattern. Geographic expression of economic competition
for situs patterns, the basis of use productivity.
2. Three versions of economic structure; to a degree
evolutionary in their conceptual interpretations:
 - Concentric Zone theory
 - Sector theory
 - Multiple Nuclei theory

3. Concentric Zone Theory:

REVISED
1970

(a) Description:

- (1) Idealized concept of a complete set of concentric circles.
- (2) Breaks in perfect circles expected as a result of topography (Madison, Milwaukee, Chicago, New York.)
- (3) Arrangement of uses by zone - several versions, current version (RUR text)

Zone 1 - Central Business District

Zone 2 - Wholesaling and Light Mfg.

Zone 3 - Low income housing merging into zones 2 and 4.

Zone 4 - Heavy Manufacturing

Zone 5 - "Bright light" area of neighborhood shopping center and Higher Income dwelling units.

Zone 6 - Commuters zone.

- (4) Rings have independent ^{LATERAL} growth power causing an ^{INVADING} expansion effect within ^{OUTWARD} adjacent areas; accompanying ^{ADJOINING AREAS;} use-transition problems ^{RESOLVED}

- (5) Theory also reflected in evolutionary stages of (characteristics common to all) ^{TOTAL CITY} ~~land uses~~. Hence there are concentric zones according to:

- (a) Age of structure (as in/a tree). ^{RINGS OF}
- (b) Condition of structure. (Rel. to age and transition)
- (c) Value for smaller/^{SR}residential structures. (OR PER UNIT OF ALL RESIDENCE USES; INVERSE FOR COMMERCIAL USES)?
- (d) Income and social status of residential occupants.

X (b) Shortcomings of theory:

- (1) Extremes of topographical, technological and institutional interference make theory almost meaningless in some cases.
- (2) Assumption of a common center.
- (3) Disregard of effects of radials (street and transit) on land use pattern.
- (4) Represents version of a large and relatively mature city in terms of range and location of uses.
- (5) Commuters zone assumes an unincorporated area, no provision for decentralized industry and commerce.

4. Sector Theory: *Hoyt, 1937*

(a) Description:

- 1. Residential segments of city defined on a value/^{AND SOCIAL STATUS}basis and delineated by radials of street and transit systems, and topography, (lakes, contours, etc.)

2. Periphery of resulting pie-shaped sectors an irregular one.
3. High rent sector the pole of residential and small commercial attraction.

Constant movement of this sector outward toward high land, open country, scenic river and lake shores.

4. Value transitions can take place within sectors.

(a) High rent sector can begin outward movement at the base of a low rent sector and vice versa.

(b) High rent sector can fan out at its periphery point.

5. Madison example (Square to Yahara River), (Square to Mendota).
6. Sector theory, though residential, is adaptable to other uses. Industrial sectors determined by rail pattern,^{*}
RIVER +^{*}
/lake frontage, periphery fanning.

Commercial strings. ON AXIALS & BELTS
(^{*}AXIAL EFFECT RATHER THAN SECTOR)

X

(b) Shortcomings of Theory:

1. Concentrates explanation on only one land use. However this is dominant use in terms of area.

2. Commercial uses may be fitted into theory insofar as CBD and string street development is concerned but does not provide for neighborhood nucleations and shopping centers.
3. Periphery nucleations (industrial, residential, or commercial) not always a part of sector extensions.
4. High rent areas not always the main pole of attraction. Middle rent and low rent sectors have locational, ecological, and structural standards of their own independent of the high rent area. *Also high rent areas tend to axial growth along laterals & rivers*
5. Single center concept.
6. Can not be adapted to the metro city.
7. Has some concentric effects.

5. Multiple Nuclei Theory: *ALLMAN, 1940*

(a) Description:

- (1) ^{MAJOR} Each/land use/is pictured as an ^{MAJOR USE COMBINATION (CBD)} irregularly shaped nucleation representing the point or points of

maximum concentration of the use.

One use, of course, frequently merges gradually into the next.

(2) A single use may have many different

points of nucleation within the a

urban structure. *Appearance of land use development types, possible profitable situations*

(3) The theory is flexible in that it

will account for:

(a) City use patterns at different
stages of city area growth.

(b) At metropolitan stage it will
accurately picture the

coalescing of central city

with ^{SUBURBAN} ~~satellite~~ communities. *(Smaller towns, decay)*

(c) Influences of topography and
institutions on urban land use

pattern.

(d) is not dependent on regional

(4) A single center is not a basic assumption

(5) Covers all uses in its description.

X (b) Shortcomings of Theory:

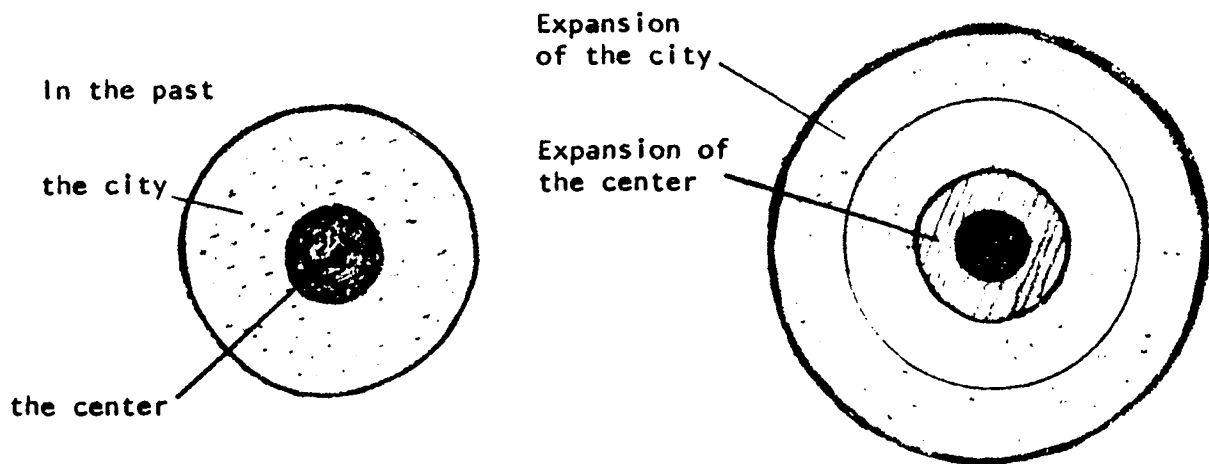
(1) Theory does not propound the relationships
of nucleations or causal sequence of
development.

(2) No place in theory for linear forms
as "nucleations." Hence weak on
transit and radial effects.

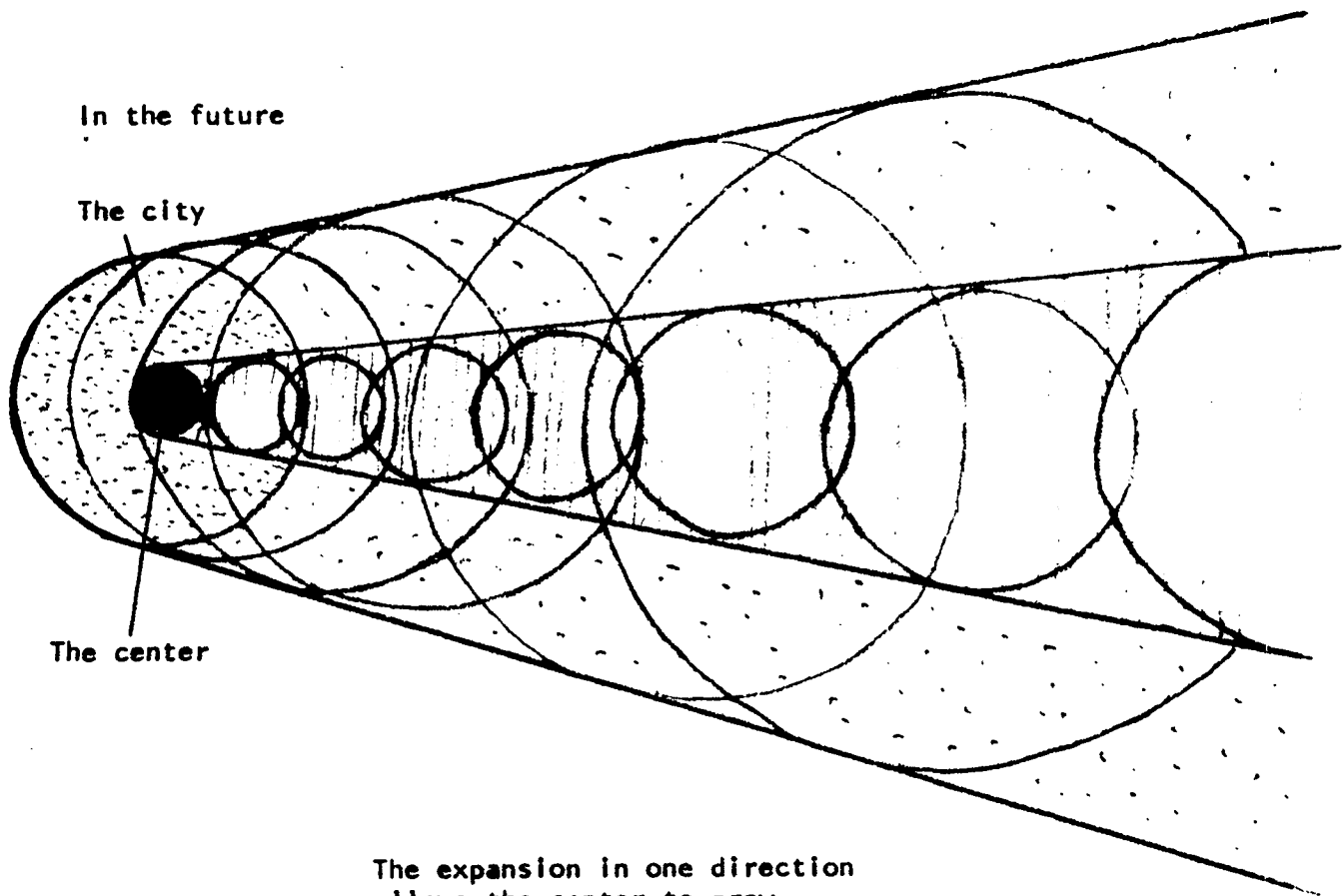
(3)

6. General Shortcomings of All Theories:

- (a) Inadequate statement of transitional conditions between uses.
- (b) Concentration of use classification of an area on only one of the following factors:
 - 1. First floor use.
 - 2. Intended use. (IF VACANT)
 - 3. Dominant use.
- (c) No provision is made in the theories for public uses particularly schools, streets, park areas, churches, and hospitals.
- (d) Final explanation of structures must partake of all theories when refined and adjusted.

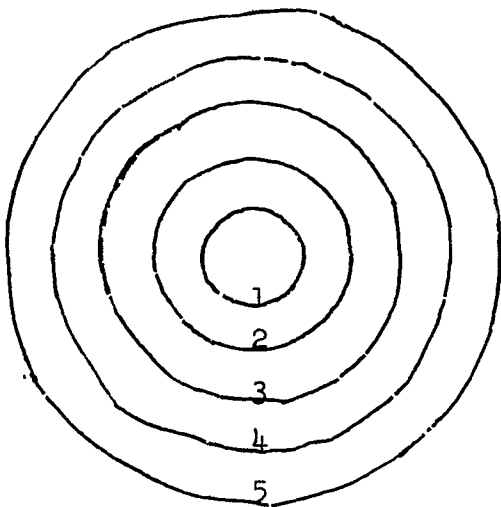


The concentric expansion strangles the center and its functions



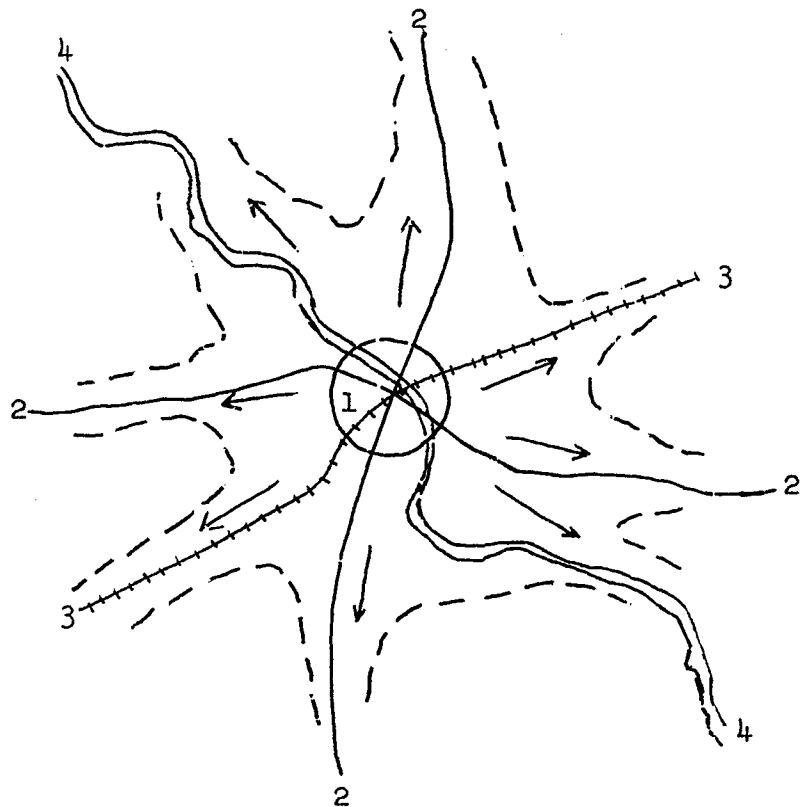
The expansion in one direction allows the center to grow without difficulty

Concentric Zone Theory



1. central business district
2. zone of transition
3. zone of low-income homes
4. zone of middle-to high-income homes
5. commuters' zone

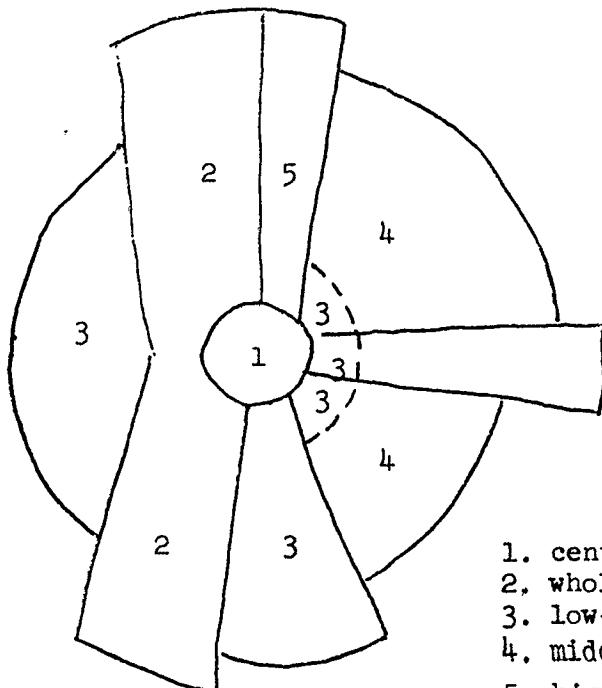
Axial Theory



1. central business district
2. highways
3. railroad
4. navigable river

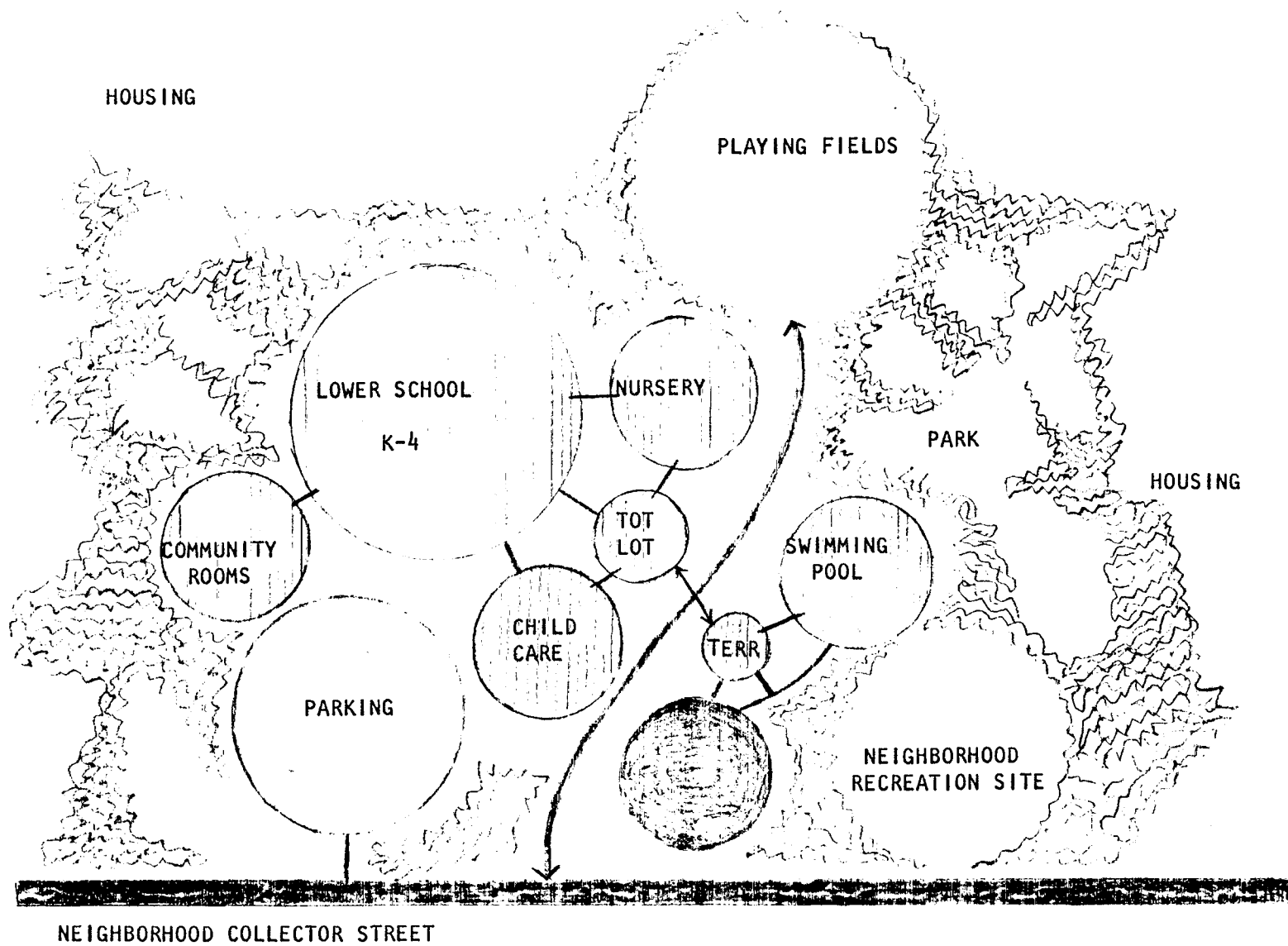
direction of fastest growth —————→
 periphery of urban area - - - - -

Sector Theory

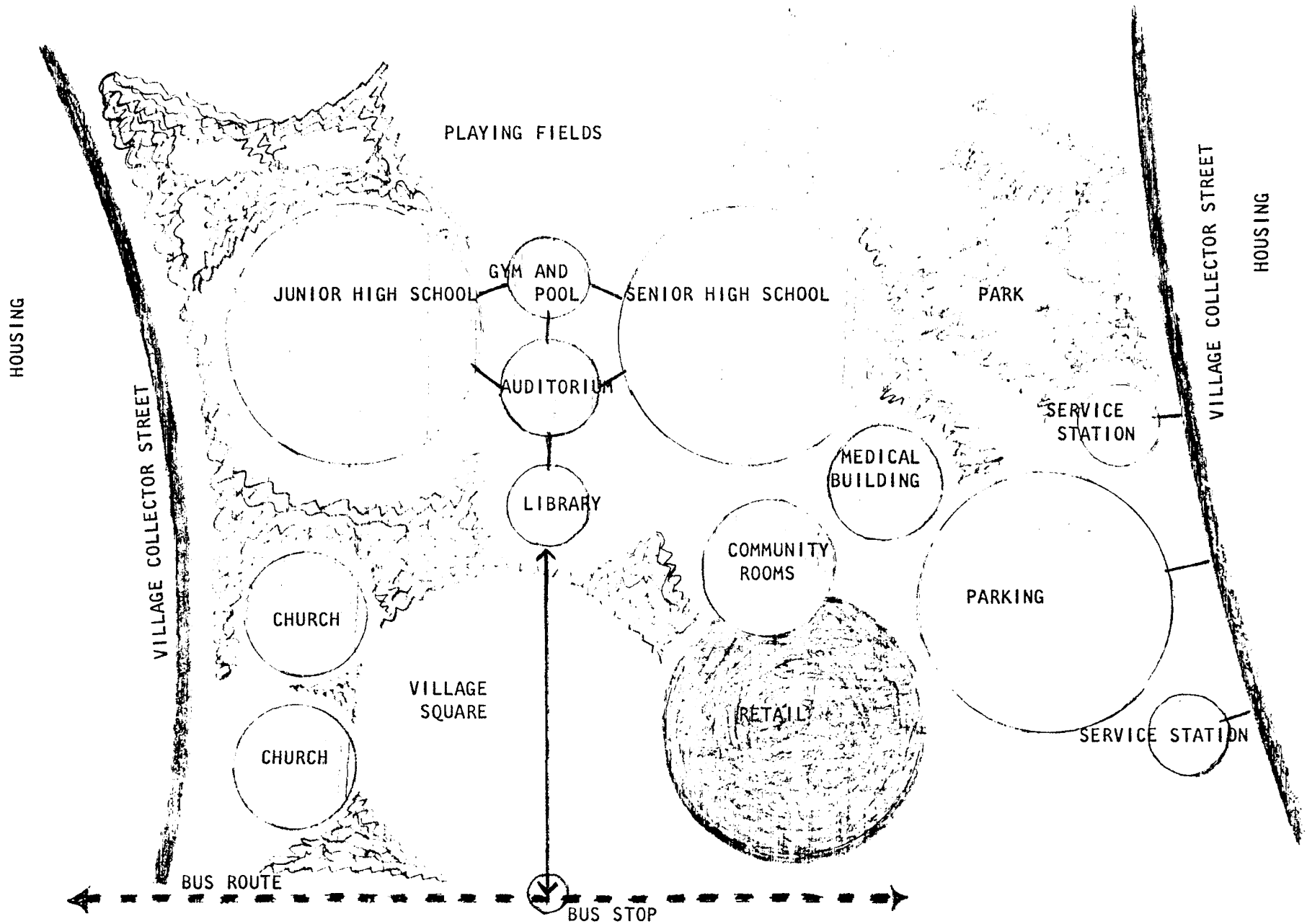


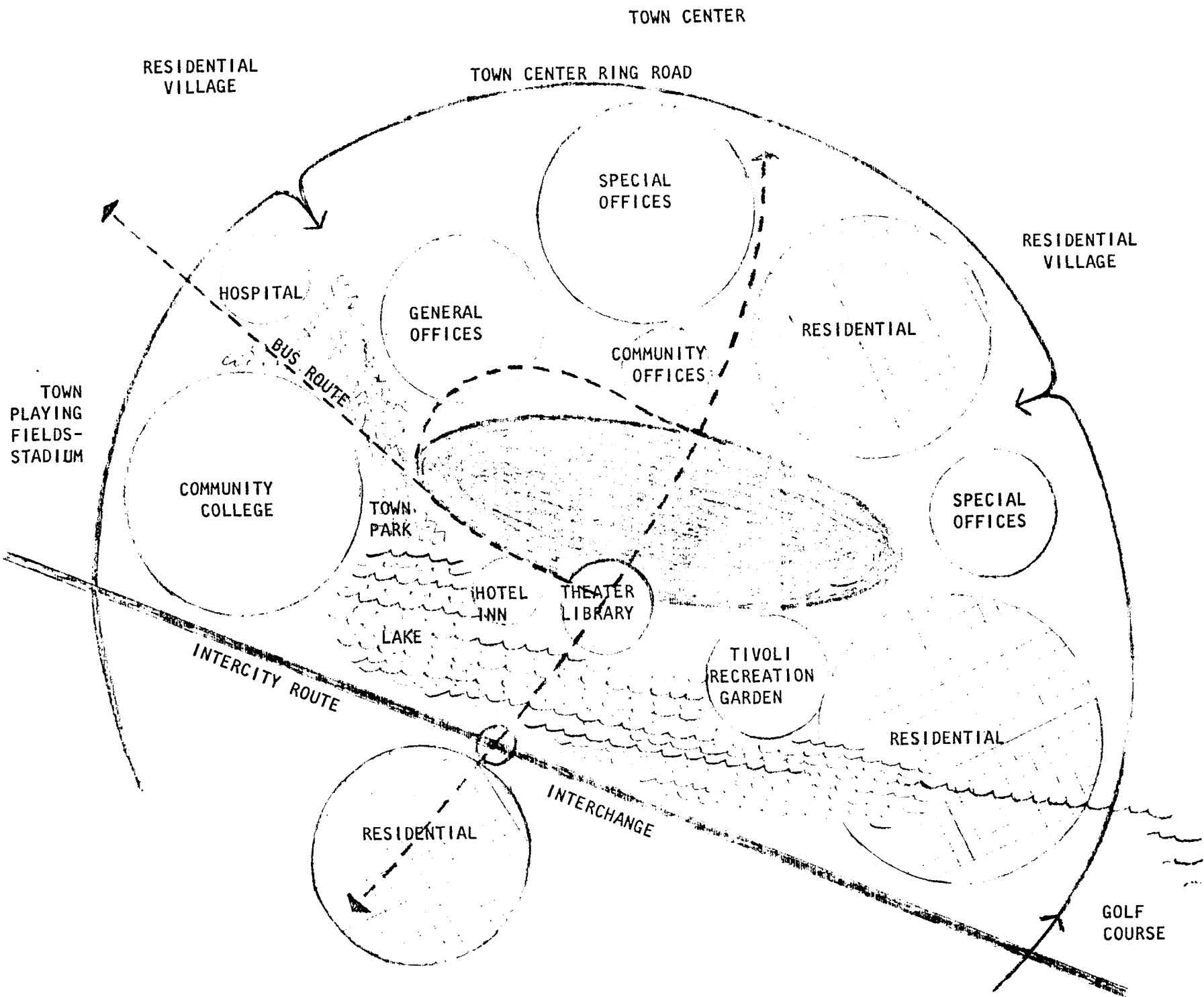
1. central business district
2. wholesale light manufacturing
3. low-income residential
4. middle-income residential
5. high-income residential

NEIGHBORHOOD CENTERS



VILLAGE CENTERS





I. The topic for today is "physical and economic patterns of urban structure." We have two objectives in mind:

A. To identify and summarize various theories of urban structure that have appeared over the years and perhaps suggesting their shortcomings.

B. To improve your understanding of growth pattern for various urban units in Wisconsin and the effect on growth of customs, attitudes, and technology.

C. Indeed, these various theories of urban growth structure presumably have universal application subject to adjustment for cultural or technological differences in various countries.

II. Physical growth patterns has indicated by street layouts, rail systems, urban structures, and urban open spaces must treat the following situations:

A. Growth by lateral expansion, internal expansion, or polynucleation.

B. Economic growth patterns that we will review today create land use mosaics which can be identified as:

1. Concentric zone theory.
2. Sector theory.
3. Multiple nuclei theory.

III. First let us develop the physical growth patterns of cities. In a manner of speaking we are interested in the shape of the settlement as it might appear from an airplane. Indeed the wise real estate man will spend much time viewing his market from the air as he will gain a far more comprehensive understanding of the scale and relationship of one area to another than he can obtain just by driving a street or looking at maps.

A. The natural form of growth is by accretion. Solomon Juneau builds a cabin, and then along comes a saloon keeper and an undertaker on either side, and pretty soon a city "has just grown" like Topsy. If there is a plan it is not coherent. That is why the streets on the east side of the river in downtown Milwaukee don't line up with the streets on the West bank. Layers of growth around the center of the city need not be uniform.

B. Axial expansion, also known as a star pattern, and best imagined as spokes on a wheel, is generally stimulated by the technology of transportation.

C. The early phase of this expansion produced tight little clusters of settlement along highways and railroads, each cluster separated by a distance representing more than a convenient carriage or horseback rider

(Phila. mainline)

This tendency was increased by the introduction of electric inter-urban lines and commuting by rail. The development of Chicago from 1880 to 1920 with all its satellite communities is a good example. The suburbs of New York City clustering about commuter stations is a current example.

(Caesars Roads and ruins of Rome)

D. Axial development became more complex when the automobile of the '20's made it possible to depart from the simple ~~linear~~ linear lines of the rail-road. The axial pattern took on more of the design of a snowflake.

E. However, our communities were held together because the auto was held in check from 1920 to 1945 by the state of highway building technology, by the depression, and by gas rationing during WW II.

F. Following WWII the community turned to the automobile and began to come apart like a nova, and exploding star. Following the axial lines of highway transportation, we created hundreds of small isolated settlements. The push for the green pastures of the suburbs led to fragmentation of the growth pattern - to what we call urban sprawl. The auto, the super highway, the fragmentation were results of improving real income and a romantic system of values of the middle class.

G. We can also find a kind of lateral expansion which the land economist calls, so as to impress everybody, interstitial growth. An interstice is an empty place and in this case the empty areas between axials of urban settlement. It is a kind of modern version of accretion.

H. These idealized physical patterns are marred by a number of dominating factors:

1. Topography - hills, mountains, rivers, etc.
2. Rail yards and tracks such as the Chinese Wall, in Philadelphia, where an elevated yard cut off downtown from some of the more desirable areas of the city.
3. Cemeteries can blunt growth patterns, as is true here in Madison between ~~Regent~~ Regent and Odana Roads
4. Institutional land use blocks such as the University here in Madison - in particular the university farms area could have real impact on the idealized patterns.

THE 1964 HOUSING FORECAST
Urban Land Economics - Section 5

- I. Each year economist Miles Colean makes a prediction as to the production of housing units for the coming year. 1963 marked the third straight year of a gain in housing unit production.
- A. Private non-farm housing starts reached 1,545,000 in 1963, a rise of 21% from the recession year of 1960 and an increase of 6% from the year before. The increase has been almost entirely due to apartment construction.
 - B. Since the average cost of the single family house has edged past \$14,500 without land, quality is a major demand feature and has meant a record year in dollar outlay terms of about \$19.6 billion.
 - C. At the same time public housing starts, that is housing built and owned by local authorities who are subsidized by the Federal Government, has been in a decline for several years.
 - D. Most persons were expecting a decline because the number of persons in the 25-44 age group that traditionally represent the major group of home buyers has been shrinking relative to total population and absolutely. Moreover many expected efforts to promote racial integration would hurt sales. Instead, easy credit from conventional sources meant low down payments and low monthly payments so that more people in the lower half of the income ladder could afford a home.
 - E. Not counted in these totals is production of 220,000 mobile trailer homes, which are also growing bigger and more luxurious.

new 4% 1955-60
shrank 1%
60-65 despite
no increase in
total pop.

II. Apartment rental housing is therefore of primary concern in judging what will happen in the 1964 housing market. We have all heard of growing apartment vacancy rates in many cities of the country. Still it is expected apartment construction will increase again in 1964 before tapering off in 1965. Why is this?

- A. Higher density housing has become more attractive to designers who know we cannot afford to continue to waste land at the rate that we have in our suburbs.
- B. Higher density housing is necessary to repopulate vast urban renewal wastelands in the center of our cities.
- C. Higher density housing is ideal for the two age groups of our population which are growing, those under age 30 and over 19, and those over 55 years of age.
- D. Within these age groups there are markets within markets. By design of the building and by location a developer can pre-determine his market for retirees, for bachelor girls, for young marrieds, for families with older children, or for people who are tired of suburban housekeeping and lawn keeping.
- E. The present market provides unique opportunity to analyze pure demand because it is not limited by a shortage of money or land and is not exaggerated by the deferred housing demands which distorted the market until 1955. Housing is once again in step with the cycle of consumer durable spending.

The six year old apartment boom is topping out. Starts were 40% ahead of a year earlier or 410,000 units. Rental property thus accounted for 30% of housing starts, compared to 12% five years ago.

National vacancy statistics are in the neighborhood of 7.5%, but this includes obsolete units and newer buildings as measured by the census. National statistics are distorted by the heavy concentration of rental construction in just a few cities.

86% of private rental housing in buildings for five or more families is built in New York and Los Angeles, 52% is accounted for by adding in Chicago, San Francisco, and Washington, D.C. The sixteen largest cities built almost 75% of our rental housing. (Bockl moves to the small town)

If you look at particular markets statistics tell more. In Denver, apartment building went on a binge and accounted for 50% of area starts in 1961. The realty board showed statistics that indicated vacancies rose from 4% to 8% in a year but a savings and loan made its own survey and found vacancy as high as 18% in the suburbs, with vacancy declining in direct proportion to the increase in population density toward the core of the city.

On the other hand in Washington, D.C. ~~xxxxx~~ apartments represented 67% of housing starts in the metropolitan area in 1961, but vacancies remain at 1.5%. The boom continues unabated. Only Burlington, Vermont, Providence, Rhode Island and San Juan, Puerto Rico have lower vacancy rates.

Real estate is immobile, heterogeneous, and permanent. It is local, its demands are as much financial and psychological as quantitative. Thus national statistics may indicate a mood or suggest where local markets may be found, but basic market indicators must be local to the community, the neighborhood, and a specific site.

IV. Various measures of housing demand show little immediate prospect of rapid growth. Demand is sustained by more favorable financing, particularly for apartments, but we will discuss this aspect later in the semester. Instead let us examine other quantitative measures of housing demand.

- A. Rate of new family formation is just starting to rise after reaching a decade low in 1953. This measure is controversial because it has different effects for different areas and income classes. In any event the next explosion of children from these new marriages is not expected to change housing demands until the late 1960's.
- B. The shrinking numbers of people in the group generally buying houses has already been noted.
- C. The number two source of demand for one family homes is the trading up process. However, this is hampered by two factors:
 - 1. Rising cost of feeding, clothing, and educating large families are reducing the share of income available for housing.
 - 2. Stable prices and more rapid obsolescence has meant that home owners can no longer expect to sell for more than they ~~xxxx~~ paid.
- D. Rising foreclosure in certain areas which were big markets for single family homes, say Miami, Wichita, and Los Angeles have held back total housing starts.

Median income in 1961 for non-farm families was \$5,924, 25% better than in 1955. This leaves a large percentage of our population at a marginal point as far as effective ~~making~~ market demand goes. Some additional real income gains for this group will stimulate housing demand more than any other single population factor.

- E. The U.S. census has just begun collecting data on housing sales. After 20 months trends are just starting to appear. Volume building in the South has kept building permits ahead of the previous year, housing starts slightly ahead, and housing sales little more than even. As a result houses unsold are growing to about 263,000 unsold new houses in August, 1963.

Construction cost indexes increased from 302 to 310 in 1963. (Boeckh index where 1926-29 equals 100)

Mortgage delinquency over 30 days are rising slowly and represented 3.17% of 3 million loans. Rental vacancies are about 7.8%; home owner vacancies have jumped to 1.6%. FHA-VA have a declining share of the market, 13.3%, 4.6%, entirely in the \$12,000 - \$14,000 price range.

Better national housing statistics are on the way, but to date the housing industry is woefully inept in collecting statistics on housing demand.

- V. One bright spot on the housing horizon is the second homes market, the vacation house. Spending for recreation has tripled since 1946, increased 25% since 1961 to more than \$24,000,000,000 in 1964. The more consumers spend on recreation the more they are likely to consider a home where recreation is the focal point.
- A. One reason for increased demand of from 75,000 to 100,000 a year is the new interstate highway system. These highways speed urban populations into rural vacation areas.
 - B. A second reason is that families are focused on children, and market surveys indicate home buyers start thinking about a vacation home right after what they expect to be their last child is born.
 - C. For many families income increases have made it possible to think about vacation homes. What begin as vacation homes sometimes become permanent homes.
 - D. For example, a developer near Louisville created a summer cottage development on Crystal Lake, about 40 minutes from the city. Completion of interstate 71 will reduce travel time to 18 minutes, and now half his sales are for permanent houses.
 - E. The limiting factor is financing. Lenders are uncertain as to appraisal and loan ratio standards for seasonal use buildings. Many buyers rent their vacation homes for part of the season to pay the cost.
 - F. For those who would like a retirement home in Hawaii or the Virgin Islands a new gimmick has been created. Resort hotels build bungalows for sale. Hotels then lease the bungalows during ten months of the year and give the owner free maintenance and a 25% cut of the rentals. In ten years the lease expires the owner can presumably retire for 12 months out of the year.

LECTURE OUTLINE

THE NEXT 25 YEARS OF CITY BUILDING

1. POPULATION PRESSURE -- SPACE USERS
2. URBAN TECHNOLOGY BOTTLENECK -- SPACE FORMS
3. THE MONEY CONSTRAINT -- SPACE QUALITY
4. THE URBAN POLITICAL ISSUE -- SPACE CONTROL THRU
COMMUNITY ACTION
5. THE SPACE INDUSTRY -- OPPORTUNITY FOR THE
PRO-URBANITE

Urban Land 520
Outline - Economics of Urban Pollution

- I. Urban expansion and population concentration has brought about accelerated deterioration of our finite resources of water, air, land, climate, and the human capacity to tolerate irritants such as noise, smell, and dissociation with the natural landscape.
 - A. Related constraints of economics and technical capacity for environmental conservation
 - B. Population pressure leads to the "take-off principle" because up to a certain level of population and industrial economic scale, air, water, and earth can absorb much waste without great damage. At some point real trouble results because differences of degree become differences in time.
 - C. Questions of environment are opened questions of quality rather than quantity:
 1. Affluence and education bring greater sensitivity and a change in attitude - ugliness is in the eye of the beholder.
 2. Philosophy questions the degree to which material well-being measures biological balance and evolution.
 3. Given progressively higher costs for ascending degrees of purity and consumption preferences, how clean do people want air and water to be?
 - D. Most significant for economics is the fact that a free market price mechanism does not work well to internalize costs of qualitative matters for society as a whole.
- II. The economics of environmental control are quite different for society as a group than for the firm as an individual entity operating in a market economy.
 - A. Assuming for the moment society could put a dollar value on benefits of environmental conservation programs, the net product of services, goods, and well being would be increased by incurring cost to a point where marginal cost equalled marginal benefit.
 - B. No such benefit-cost relationship may govern the decision of the individual firm. With some exceptions environmental control costs provide no direct benefit to the individual firm, and if these costs cannot be shifted to the consumer in the price tag, the firm must relocate, go broke, or begin the following projects:
 1. An increase in cost requires an increase in price if the firm was at its equilibrium.
 2. An increase in price means a decline in units purchased.
 3. As units sold decreases, average cost per unit increase requires a second increase in price.
 4. Thus it can be shown that a conservation cost must increase total cost and price by a multiple of the original expenditure--affecting the entire revenue flow of the firm.

- C. Contrary to superficial analysis, the firm must make decisions serving a variety of claims on its abilities, including:
 - 1. The price and quantity requirements of the consumer.
 - 2. The return of capital required by the lender.
 - 3. The profit required by the investor.
 - 4. Employment stability and growth required by the community.
 - 5. Tax revenues required by the society.
 - 6. Equitable distribution of cost to effect efficient allocation of resources.

- III. There can be an economic motivation for industrial utilization of environmental conservation practices which increase sales or lower costs of production.
 - A. Regeneration of natural resources (i.e. trees, fish).
 - B. Use of marginal supplies of scarce resources (i.e. taconite ore).
 - C. Prevention of loss of resources due to natural causes to lower cost of production (i.e. fire prevention).
 - D. Environment undisturbed lowers costs (i.e. subdividing).
 - E. Good esthetics--good economics to increase sales or lower costs (i.e. architectural landmark).

- IV. When the economic system does not of itself allocate social cost of any particular production factor to the producer and then to the user of that service or good, economists seek legislative and economic devices to internalize the social costs.
 - A. Internalize social costs by shifting cost back to industrial source and consumer through price structure.
 - B. Create legal penalties for failure to follow specified conservation practices.
 - C. Create special incentives in the form of subsidy, tax relief, or privilege.
 - D. Create intangible standards of social approval for desired patterns.

- V. Water pollution is first a problem of sewage processing and control of effluent and to a lesser degree a problem of industrial and community solid waste disposal.
 - A. Water medium, gravity flow sewage systems contaminate great volumes of water although processing is at best 90% efficient with surface waters of our rivers and lakes reducing the balance of our processed sewage through natural organic processes. There is not sufficient surface water in the country to handle even 10% of the sewage from our 1985 population.
 - 1. Water flow systems must be converted to split waste stack systems to keep toilet bowls separate from dirty water from sinks which could be reprocessed and reused.

2. There are vacuum systems used in Mexico, Sweden, and some resort areas which eliminate need for water flow and make use of plastic pipes, etc.
 3. Oxidizing of sewage at the point of origin can substitute air and thermal pollution for water pollution. Experimental systems include reduction of sewage by bacteria which generate electricity in the process.
- B. Solid waste disposal can discolor or contaminate underground water flows. Wisconsin statutes have effectively controled this possibility at the expense of placing sanitary fill sites on our high ground in selected geological areas. Incineration triples handling costs and creates air and thermal pollution risks to reduce waste bulk by 80%.
- C. Industrial wastes dumped into lakes and rivers are generally inert relative to bacterial contamination but absorbed and destroy BOD capacity and water characteristics for ecological balance or the capacity to handle urban sewage contamination.
- D. The sulphite liquor problem of the paper industry in Wisconsin illustrates the scale and dilemmas of solving an industrial waste problem.
1. Since the late 1930's the paper industry has voluntarily self financed and implemented research to reduce dumping problems of 2 1/4 million tons of sulphite liquor each year into Wisconsin waters.
 2. Chemical technology is attempting to find high volume uses for a rich industrial waste.
 3. High volume low value uses such as road binders do not justify extensive transportation to markets.
 4. High value by-products are available in such volume as to glut the market or use small volumes of liquor.
 5. Uses for less than 50% of the liquor have been found while new methods are being researched to change paper making methods themselves.
- VI. All city systems depend on generating energy from fossil fuels, primarily coal to generate electricity, natural gas and oil to provide domestic heat, and gasoline to power transportation.
- A. More than 50% of all air pollution is caused by the single family home and the single family automobile.
- B. Half of the balance is caused by coal powered turbines which provide more than half our thermo electric capacity and half our market for coal.
1. Our urban concentrations are in the east where we have the least hydro electric power and our supply of low sulphur content coal is limited and located in the west.

- C. Tall industrial smokestacks emitting soot and smoke are dramatic targets but ash can be controlled while the invisible gases of carbon monoxide and sulphur dioxide cannot.
- D. The gasoline engine is a primary pollution source. The electric automobile strikes at the heart of the technical and economic dislocations employed by the requirements of true environmental conservation.
transportation
- E. Public/as well as the electric automobile represent questions of fundamental consumer preferences which reverse the entire pattern of city building as we have it today. Additional electric power from non-fossil fuels such as atomic power or solar power contain inherent problems of nuclear and thermal pollution.
- F. Oak Creek Power Plant illustration.
- G. The electric car and the state of the art.
- VII. Is privacy a resource? The question of congestion, noise, view, and the need for periodic retreats to make touch with the natural world.
 - A. Residential design to enhance privacy as well as public contact and group action.
 - B. Sound and visual privacy.
 - C. Open space and a natural environment as a counter point and reference point for man made environment of the cities.

Urban Pollution Economics

- I. Urban expansion and population concentration has brought about accelerated deterioration of our finite resources of water, air, land, climate, and the human capacity to tolerate irritants such as noise, smell, and dissociation with the natural landscape.
 - A. Environmental conservation or restoration is both a question of land economics and technical ability and the two are interrelated.
 - B. In one hour we can only suggest the source and scale of several of these problems and the economics of the decision making process of the urban investor in regard to environment conservation.
 1. Some problems of resource waste and esthetics have solutions which are self motivating by the economic result
 2. However, our most significant and immediate problem generally involved dilemmas which require significantly higher capital and operating costs for the supplier, higher prices for the consumer, and often a significant change in values and social patterns of behavior.
 - C. The pressure of pollution has been accelerated by the population bomb and what may be a solution for a population of 100 million is no longer adequate for population two or three times as large.
 1. Remember the low estimate for population in the United States by 1985 - 15 years from today is 285 million people.
 2. Relative to the firm we will look at economic motivation, and then at the issues of sewage, good water supplies, and air pollution. Finally we will treat urban land economics relative to open space within the urban setting.
- II. The economics of environmental control are quite different for society as a group than for the firm as an individual entity operating in a market economy.
 - A. Assuming for the moment society could put a dollar value on benefits of environmental conservation programs, the net product of services, goods, and well being would be increased by incurring cost to a point where marginal cost equalled marginal benefit.
 - B. No such benefit-cost relationship may govern the decision of the individual firm. With some exceptions environmental control costs provide no direct benefit to the individual firm, and if these costs cannot be shifted to the consumer in the price tag, the firm must relocate, go broke, or begin the following projects:
 1. An increase in cost requires an increase in price if the firm was at its equilibrium.
 2. An increase in price means a decline in units purchased.
 3. As units sold decreases, average cost per unit increase requires a second increase in price.
 4. Thus it can be shown that a conservation cost must increase total cost and price by a multiple of the original expenditure--affecting the entire revenue flow of the firm.
 - C. Contrary to superficial analysis, the firm must make decisions serving a variety of claims on its abilities, including:

1. THE PRICE AND QUANTITY REQUIREMENTS OF THE CONSUMER.
2. THE RETURN OF CAPITAL REQUIRED BY THE LENDER.
3. THE PROFIT REQUIRED BY THE INVESTOR.
4. EMPLOYMENT STABILITY AND GROWTH REQUIRED BY THE COMMUNITY.
5. TAX REVENUES REQUIRED BY THE SOCIETY.
6. EQUITABLE DISTRIBUTION OF COST TO EFFECT EFFICIENT ALLOCATION OF RESOURCES.

III. There can be an economic motivation for industrial utilization of environmental conservation practices which increase sales or lower costs of production.

- A. REGENERATION OF NATURAL RESOURCES (I.E. TREES, FISH).
- B. USE OF MARGINAL SUPPLIES OF SCARCE RESOURCES (I.E. TACONITE ORE).
- C. PREVENTION OF LOSS OF RESOURCES DUE TO NATURAL CAUSES TO LOWER COST OF PRODUCTION (I.E. FIRE PREVENTION). Good esthetics can also be good economics. The attractive industrial plant near the expressway establishes a favorable name identification with many potential customers. However, the lagoon ~~in the lagoon~~ in this picture serves as an emergency water supply for the sprinkler fire system. -- A third ~~sedimentation~~ stage sedimentation pond and a fountain to aerate the water to prevent algae from clogging the fire pump.
- D. ENVIRONMENT UNDISTURBED LOWERS COSTS (I.E. SUBDIVIDING). The creation of urban building sites is a manufacturing process. Smaller lots in a clustered plan allow the property developer to leave many acres in their natural state, thereby creating attractive open space. At the same time the amount of sewer, street and curb, and other improvement costs are reduced. The need to grade down the ridges or cut the trees, both at great expense, is eliminated.
- E. GOOD ESTHETICS--GOOD ECONOMICS TO INCREASE SALES OR LOWER COSTS (E.E. ARCHITECTURAL LANDMARK).

IV. When the economic system does not of itself allocate social cost of any particular production factor to the producer and then to the user of that service or good, economists seek legislative and economic devices to internalize the social costs.

- A. INTERNALIZE SOCIAL COSTS BY SHIFTING COST BACK TO INDUSTRIAL SOURCE AND CONSUMER THROUGH PRICE STRUCTURE. For example-- the social cost of industrial injuries was internalized by workmans compensation insurance. The premium became part of the cost of production for all suppliers and included in the price to the consumer. Premiums were adjusted to reflect individual company losses to provide economic incentive for safety programs and safer equipment.
- B. CREATE LEGAL PENALTIES FOR FAILURE TO FOLLOW SPECIFIED CONSERVATION PRACTICES.
- C. CREATE SPECIAL INCENTIVES IN THE FORM OF SUBSIDY, TAX RELIEF, OR PRIVILEGE.
- D. CREATE INTANGIBLE STANDARDS OF SOCIAL APPROVAL FOR DESIRED PATTERNS

- E. The problem of internalizing costs is more complicated than the insurance question because environment is more an open ended question of quality than quantity. There are a few indications of today of significant shortages of resources such as timber, medical care, or fuel and lumber. Instead the questions are likely to concern the degree of cleanliness of water and air, the trade-off of pesticides for lower food costs versus blight on the natural ecology, or the effects of urban living upon the human body and spirit.

Quality as opposed to supply has been ignored for 2 centuries of urban development. One reason has been described by Luther Gulick as "the takeoff principle" that is many problems of environment spring into existence full grown as a function of population and economic scale.

1. Up to a certain level of concentration disposal of wastes, disfigurement of the landscape, and congestion are local irritations. Air, water, and earth can absorb much without great damage. However, at some point real trouble ensues because differences of degree become differences of time.
 2. Another reason is that affluence and education are bringing a change in attitude. Though there have been some absolute declines in quality of environment, much of the newly discovered ugliness is in the eye of the beholder.
 3. Quality conservation problems are openended questions, limited by technology and consumption preferences. Given the progressively higher costs of ascending degrees of purity how clean do we want our air and water to be?
 4. Some solutions must be philosophical. To what extent does increasing material wellbeing represented by gross national product measure wellbeing. Mans biological stability with not perceptible change since Cro-magnon does not let us recognize if our adaptations to our man-made environment will ultimately be desirable.
 5. But most significant for an economics class is the fact that the free market mechanism does work very well relative to qualitative matters of aggregate economics and so it is difficult to internalize social costs to the advantage of society at the same time that you destroy the economic base of a town, or a cheese factory, or an individual business enterprise.
- V. Water pollution is primarily a problem of sewage control and to a lesser degree industrial control.
- A. Present engineering methods for water flow sewage at best eliminate 90% contamination while our surface waters reduce the balance through organic processes.
 - B. Water flow sewage versus split systems, vacuum systems, and oxidizing units.
 - C. Industrial wastes are often inert relative to contamination but destroy the BOD capacity of surface waters which is the capacity to reduce sewage through biological oxidizing decomposition.
(Paper production problems)

VI. Air pollution

- A. Primary cause of air pollution is the invisible carbon monoxides and sulphur dioxides created by the family automobile, the truck and the bus. The second major source is major heating plants with industrial smokestacks taking a poor third and most of the public indignation because of their height and their concentrated production of ash. (Fossil fuels for energy are basic building blocks of urban densities) (Oak Creek illustration)
- B. The automobile may require complete redesign as convenience and prestige yield to environmental survival

Outline-Economics of Urban Pollution

- I. The old axiom that Real Estate value is a function of location will one day be replaced with the multi-dimensional concept that Real Estate value is a function of environment. The common denominator for these two statements is an essential contradiction at the base of urban economics.
 - A. People make value by their degree of concentration in a given area but once the concentration reaches a certain point the benefits of urban living are more than off set by the cost to the environment.
 - B. Population pressure leads to the "take-off principle" of environmental cost benefits because up to a certain level of population and industrial economic scale, air, water, and earth can absorb much waste without great damage. At some point real trouble results because differences of degree become differences in fact.
 - C. Urban expansion and population concentration has brought about accelerated deterioration of our finite resources of water, air, land, climate, and the human capacity to tolerate irritants such as noise, smell, and dissociation with the natural landscape.
 1. "Tolerate" can be a medical question as in the case of Quibble Town, New Jersey reported in Life Magazine this week where a temperature inversion concentrated foul air in such quantities that athletes became physically ill.
 2. "Tolerate" is also an open-ended value question.
 - a. Affluence and education bring greater sensitivity and a change in attitude - ugliness is in the eye of the beholder.
 - b. Philosophy questions the degree to which material well-being measures biological balance and evolution.
 - c. Given progressively higher costs for ascending degrees of purity and consumption preferences, how clean do people want air and water to be?
 - D. Pure hearts do not make pure water and clean air first it requires technology and money and a social mechanism which will divert ~~the~~ the necessary capital to the necessary hardware. That's the order of the present discussion-technology, money, and social mechanism to improve urban pollution control.
- II. The kit of environmental tools for the city builder is surprisingly bare considering the long history of cities. Big cities became possible with the invention of cast iron pipe so let's begin with the question of sewage and expand to solid waste disposal of all type.
 - A. The affluent society is becoming the effluent society due to the related problem of water quality and sewage processing.

4. In many areas permission to tap stream waters are rationed and average in given area is 1000 gal per day. In some areas like San Francisco & Chicago new construction has been blocked until treatment facilities met government standards.

B. Water medium, gravity flow sewage systems contaminate great volumes of water although processing is at best 90% efficient with surface waters of our rivers and lakes reducing the balance of our processed sewage through natural organic processes. There is not sufficient surface water in the country to handle even 10% of the sewage from our 1985 population.

1. 42 billion gallons of water a day of 200 gallons per man, woman and child are necessary to flush municipal industrial wastes through municipal sewers. Since we are running out of pure water we must learn to recycle sewage water suitable for drinking. At present however 40% of the nations sewage is dumped raw or given the century old primary treatment.
2. 60% of municipal sewage receives secondary treatment, Accelerated decomposition by the aid of bacteria which at best may remove 85% of organic matter. New techniques can improve this by forcing oxygen gas through the sewage but the remaining water is still too contaminated for people or animal life.
3. Sanitary engineers advocate sophisticated advance treatment which can not only remove organic pollutants but can remove detergents, water base paints, household cleansers, and other effluvia of modern urban living not to mention sixteen million garbage disposals.
4. Denver Colorado is already making plans to build a sewage treatment plant which would produce 10 million ~~gal~~ gallons of drinking water a day. As a cheaper alternative than the Southern California has chosen. Twenty years ago it could rely on water from near by Santa Ana Mountains; then it imported water from the Colorado river- 150 miles away now it requires water from sources in northern California 450 miles away, three times the cost at thirty cents per thousand gallons.
5. Lake Tahoe has the most sophisticated operating waste facility in the country-built in 1968. The cost is thirty two cents per thousand ~~gal~~ gallons and uses an elaborate process of towers where is filtered by ammonia gas, a mixed media filter of aggregates, and final polishing through 22 tons of granulated activated carbon as in cigarette filters before discharge into a 165 recreational lake.
6. In Palm Dale, Florida Comprehensive Designers, Inc. follows secondary treatment with a carbon filter and atomic radiation. It removes all bacteria and most solid waste and chemicals and the effluent is then used for irrigation to recycle phosphates and nitrogens.
7. All these advances leave a big problem, the massive volumes of residue in primary and secondary residue. One group of researchers have found a way to convert treated sludge into a molasses like protein packed animal feed supplement.
8. Several systems are designed to eliminate the need for moving sewage by means of water flowing down hill. One firm has a system for homogenizing sewage at the building site and then pumping it through narrow pipes to the processing point.

9. There are vacuum systems used in Mexico, Sweden, and a few lake shore developments in the United States which use air pressure to propel sewage through plastic pipes. These systems may use a split waste stack system to keep toilet bowl water separate from the dirty water of sinks and floor drains which could be reprocessed and reused.
 10. Vacuum systems can be combined with oxidizing of sewage at the point of origin can substitute air and thermal pollution for water pollution. Experimental systems include reduction of sewage by bacteria which generate electricity in the process.
- C. Water quality is directly related to solid waste disposal problems in a variety of ways.
1. Garbage collection and disposal is a mushrooming problem. 70-80% of the total cost of disposal is collection cost. HUD is testing a system of large apartment projects which would make ~~garbage~~ garbage pails obsolete. Housewives can drop their garbage in to vacuum ~~chutes~~ chutes which will move the garbage as much as a half mile to separators and storage silos. Each type of solid waste could then be recycled, hauled to a dump ~~or~~ or incinerated.
 2. "Dumps" or sanitary landfills can discolor or contaminate underground water flows. Wisconsin statutes have sharply controlled this possibility by forcing sanitary fill sites to our high ground with selected geological configurations. The teamsters union makes trucking costs such that valuable land near the cities must be consumed in large amounts.
 3. Incineration triples handling cost and creates air and thermal pollution but sterilizes and reduces waste bulk by 80% so that it could be used to fill in swamps. However swamps are required to maintain water table and so we're full circle back to water quality.
- D. Industrial wastes dumped into lakes and rivers are generally inert relative to bacterial contamination but absorb and destroy BOD capacity to handle urban sewage contamination.
- D. The sulphite liquor problem of the paper industry in Wisconsin illustrates the scale and dilemmas of solving an industrial waste problem.
1. Since the late 1930's the paper industry has voluntarily self financed and implemented research to reduce dumping problems of 2 1/4 million tons of sulphite liquor each year into Wisconsin waters.
 2. Chemical technology is attempting to find high volume uses for a rich industrial waste.
 3. High volume low value uses such as road binders do not justify extensive transportation to markets.
 4. High value by-products are available in such volume as to glut the market or use small volumes of liquor.

5. Uses for less than 50% of the liquor have been found while new methods are being researched to change paper making methods themselves.
- III. If water pollution began when cast iron pipe made possible urban society, air pollution began when fire converted the herd into group society.
- A. The most elemental environmental program has a stunning impact on Reliance Estate. Chicago has launched a campaign to reduce air pollution by outlawing apartment house incinerators and cheap soft coal. Old buildings which were solvent must pay thirty dollars a ton for coal and pay private garbage haulers with the result that cash flow is negative while rents are frozen. Abandonments begin to rise and supply of low-rent housing declines!
 - B
 - B. All city systems depend on generating energy from fossil fuels, primarily coal to generate electricity, natural gas and oil to provide domestic heat, and gasoline to power transportation.
 1. More than 50% of all ~~of~~ air pollution is caused by the single family home and the single family automobile.
 2. Perhaps by the year 2000 the single family home will have a fuel cell which oxidizes sludge from the family water recycling machine to produce electricity for light and a heat pump.
 - C. 25% of urban air pollution is caused by coal powered turbines which provide more than half our thermal electric capacity and half our market for coal.
 1. Pollution controls can be applied to control soot and smoke and provide minimum standards for quality of coal to be burned. There are plans to liquify coal at the mine shaft to create a natural gas and others contend urban pollution could be reduced by building power plants at the mines.
 2. However, it is the invisible gases of fossil fuel energy such as carbon monoxide and sulphur dioxide that are the real threats. Oak Creek power plant is one of the most modern in the world with little fly ash but 10 tons of sulphur dioxide gas per hour. To wash the exhausts would turn Lake Michigan into a sulphuric acid basin.
 3. Conversion to natural gas of present coal burning turbines is limited by limitations to the supply of natural gas.
 4. The space age has renewed interest of the gas industry in large scale fuel cell plants running on gasified coal and special booster fuel cells in areas of rapidly growing electric demand to eliminate the necessity of additional transmission lines.
 5. Transmission lines and sub-stations represent a major user of land as well as an urban eyesore. Transmission towers and ~~hundred~~ 150' wide easements and sub-stations use air as an insulation between transmission lines. It not only wastes land but wastes electricity.

5

It is now possible to insulate very high voltage transmission lines and sub-stations with a form of sulphur hexafluorine gas which is inert and nontoxic and has the peculiar ability to decompose and recombine into its own pure gas form so that its life is limitless despite arcing of the electric lines it contains. This innovation will make it possible to bury transmission lines as well as reduce the bulk of sub-stations to cover only 1/10 the normal amount of land. Although it doubles the cost of electric equipment, it pays for itself in the reduction in the cost of land.

- D. Atomic power creates its own environmental problems as well as a political problem of public acceptance. The alternative of electricity rationing brings us into conflict with transportation as an environmental issue.

IV. The major source of urban pollution is the gasoline engine, specifically the individual passenger automobile.

- A. First there is the issue of how to design an efficient automobile in terms of exhaust, space, and utilization as most cars are idle 95% of the time so that parking occupies more paved areas than traffic. A parking space is needed at both ends of a trip.
- B. Public transportation as well as the electric automobile require a certain density and compactness to urban land use which is largely the reverse of the entire pattern of city building as we know it today. Public transportation will require many nuclei of high density housing and employment. The next high rise boom may be the development of shopping center parking lots. Private mobility systems are the basic assumption of all current land use patterns and the trade areas assumed by all retailing enterprise.

- 1. Location ~~requires~~ theory implies mobility or inertia of the consumer.
- 2. Environmental theory as a basis for urban economics requires public systems of mobility and a consumer whose values will trade apathetic convenience for reasonable inconvenience as a trade-off for better environment.

V. Before discussing the economics of environment it might be noted that privacy could be an urban resource. Privacy may be a correlary of the territorial imperative. (The Hidden Dimension) The question of noise, view, and sensory regeneration by retreats to the natural environment must be recognized as a space resource or attribute.

- A. Residential design for higher urban densities which will nevertheless enhance a hierarchy of individual privacy, family seclusion, neighborhood identification, and public orientation.

- B. The natural environment of open space is a necessary counterpoint to the man made enclosures and spatial environment of structures.

VI. Most significant for urban economics is the fact that a free market price mechanism does not work well to internalize costs of environmental matters for a city as a whole. The economics of environmental control are quite different for a society investing as a group than for the investor on an individual site operating in a market economy and within the limits of cash flow solvency.

- 6.
- A. Assuming for the moment society could put a dollar value on benefits of environmental conservation programs, the net product of services, goods, and well being would be increased by incurring cost to a point where marginal cost equalled marginal benefit.
 - B. No such benefit-cost relationship may govern the decision of the individual firm. With some exceptions environmental control costs provide no direct benefit to the individual firm, and if these costs cannot be shifted to the consumer in the price tag, the firm must relocate, go broke, or begin the following projects:
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 - E. Good esthetics--good economics to increase sales or lower costs (i.e. architectural landmark).
- IV. When the economic system does not of itself allocate social cost of any particular production factor to the producer and then to the user of that service or good, economists seek legislative and economic devices to internalize the social costs.
- A. Internalize social costs by shifting cost back to industrial source and consumer through price structure.
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 - D. Create intangible standards of social approval for desired patterns.

Lecture 2

PHYSICAL PATTERN OF URBAN STRUCTURE

I. Cities of the past possess a physical clarity in the form given land, layout and architecture, because urbanity emerged in direct response to relatively simply limited pressures. There was little population growth, slow technological change, and cultural continuity which combined to establish a land planning and building method that became a community standard, adjusted and refined through gradual trial and error.

- Slide 1*
- A. A specific purpose produced a desirable order - objectives generate criteria - which produce a physical plan. A social need had only to be identified to find its way into form; form was modified by experience.
 - B. There was an interaction between the inhabitants, their social purpose, and the manner of building which gave each city an identity.
 - C. Deductive logic prevailed in those times. The unselfconscious culture followed firmly set traditions followed by all builders of form. Building of both cities and homes was surrounded with ritual, myths, taboos, and tradition which resist willful change. Form builders made changes only under strong compulsion where there were powerful and obvious irritations in the existing forms which demanded correction. Unfortunately rigidity is also true of the modern age, although a self-conscious culture has express rules such as zoning, building codes, and consumer who expect a house to look like a house.
 - D. An expression of purpose, order, ^{of} deductive logic and plan - an example of direct translation of a social force into form can be seen in the following city plans:

Slide 2

- 1. A defensive town such as Haarden. The encircling bastions are a direct expression of the need to fortify the town against the fire of newly invented cannons. The points permit fire fields to protect the walls. The depth of fortifications coupled with the range of defensive guns placed the community at the core of the defenses out of range of then available weapons. The river provided an inner water supply as well as fire protection against the aerial bombs of that era.

Slide 3

- 2. The Roman camp form, as seen at Aosta, developed from the need for Roman troops to garrison captured territory. This form, a cross with each quadrant subdivided by another cross, made the internal administration and supervision of the town extremely simple and minimized the risk of revolt.

Slide 4

- 3. Pikillacta, the Inca store town, grew up as the node of a widely scattered agricultural society. It was Inca policy to provide security for the surrounding villagers. This form of town is given its articulation by the need for efficient storage, supervision, and distribution of supplies.

Slide 5

- 4. The nested form of Peking's northern half, the Tartar City surrounding the Imperial City which in turn surrounds the Forbidden City, is principally determined by the sanctity of the emperor and the pressures of custom and ritual demanding various degrees of association with his person.

5. The canal structure of Amsterdam and Venice were originally intended to organize the commercial functions in the city while overcoming the building problems of a swampy site and we all have heard that the wide boulevards of Paris were intended to be fire lanes for an emperor who planned to control mob violence with a small detachment of artillery at the core.
 6. These governing principles are convenient oversimplifications and we haven't time to develop the inner order or the restraints imposed by building technology.
 7. Nevertheless a slow process of development and an overall objective generated a clear plan within a static culture.
 8. Included in your reading assignments is a mimeo handout elaborating on the many forces to be served in a simple village. The reading describes how the theory of sets in mathematics can be used to establish a hierarchy of purposes, a definition of order, and simplification of the planning problem.
- II. Cities of today do not operate within any other conditions that shape cities of a hundred years ago except that form may ~~XXXX~~ be clarified or lost to the degree that we can identify the forces or pressures of our culture.
- A. ~~X~~ First, population in our urban centers has been expanding at an accelerating rate for the last 160 years.
 - B. Technological change in city building arts is explosive - transportation, communication, structure, and sanitation alter radically every ten years.
 - C. Finally cultural continuity is disintegrating because of size, social stratification, diversity, and the switch which Riesman described as the change from an outer directed to an inner directed and other directed society.
 - D. In short the pressures of a modern industrial city are so vast, so varied, and contain so many conflicts of priority that there is no clear form to our urban environment, and our cities become an amorphous, creeping cancer on the landscape.
 - E. The focus of each city is growing feeble. The Capital Square no longer is the hub of Madison; the harbor and the three rivers in Milwaukee are no longer the focus of industrial expansion, and so on. Instead of prescribing a form of order to serve a purpose we are tending to simply describe inductively what has taken place at the community "groove like Topsy".
 - ~~XXXX~~F. Urban construction in the remainder of this century must equal all construction of all urban areas since the beginning of recorded history. Taking this push as a premise for now let's review the physical pattern and growth pattern of modern cities as it might appear from the air. Then it may be possible to suggest how a new form might be imposed to reflect purpose and order in city development in the future.

III. Various experts describe the pattern of the modern city by inductive description of the way they have grown - quite a different thing from determining purposes, the best order of things, and then building to plan.

- A. The natural form of growth has been a process of accretion. Many people making individual decisions, largely to their best interests rather than to social purpose. Traditionally urban land economics described the process which these individual parties go through, intuitively or by formal intent, in making their location and building decisions.
- B. The accretion process is simply this: Solomon Juneau builds a cabin to buy furs; along comes a saloon keeper to provide an outlet for surplus fur revenue; soon there is need of furniture and an undertaker. A city grows without a coherent plan. The Madison street pattern or the failure to match the streets in downtown Milwaukee on the east or west side of the river.
- C. Cities of the commercial age depended on transportation. Axial expansion, ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ also known as a star pattern, and best imagined as spokes on a wheel, is generally stimulated by the technology of transportation. For that matter Caesar's roads still dominate a form of Rome and many other lesser towns in Europe.
- D. The early phase of this expansion produced tight little clusters of settlement along highways and railroads, each cluster separated by a distance representing more than a convenient carriage or horseback rider.
 - 1. This tendency was increased by the introduction of electric inter-urban lines and rail commuting. This made it possible for moneyed classes to have country living and downtown financial office centers. Remember the term Philadelphia Mainline Society. Consider the development of Chicago from 1880 to 1920 with its satellite communities of distinct social stratification. The suburbs of New York City clustering about commuter stations is a current example.
 - 2. The identity of social prestige with country living and commuting was one basis for the suburbs made possible by the automobile.
- E. Axial development became more complex when the automobile of the '20's made it possible to depart from the simple linear lines of the railroad. The axial pattern took on more of the design of a snowflake.
- F. However, our communities were held together because the auto was held in check from 1920 to 1945 by the state of highway building technology, by the depression, and by gas rationing during WW II.
- G. Following WWII the community turned to the automobile and began to come apart like a nova, and exploding star. Following the axial lines of highway transportation, we created hundreds of small isolated settlements. The push for the green pastures of the suburbs led to fragmentation were results of improving real income and a romantic system of values of the middle class.
- H. We can also find a kind of lateral expansion which the land economist calls, so as to impress everybody, interstitial growth. An interstice - an empty gap. Ideal physical patterns are distorted by topography (hills-rivers), rail yards (the Chinese wall), cemeteries, institutional land(Univ

REVIEW OF APPRAISAL LECTURE

I. Central position of appraisal to urban land economics

- A. The practice of real estate is concerned with the problem of how to buy low and sell high or for the user to pay no more than the value of the property. Both situations presume a knowledge of what the appropriate value should be. Appraisal is the process of estimating value.
- B. Value is an illusive concept and every appraisal report gives an explicit definition of ~~value~~ value in relation to the purpose of the report.
- C. Value generally means price under some given set of conditions. For example:
 1. V_C could stand for price as the probable cost of reproducing a specific property. It would be useful for insurance purposes where the policy will pay to replace but might not be useful for buying and selling a standing property.
 2. V_S could stand for the subjective value of a property which plays an important role in the decisions of investors. It represents what the property is worth to the owner or what some individual would be willing to pay for a location, a special garden, a fireplace. In part there is a value in use factor here and in part there an emotional factor.
 3. V_E could stand for value with an ethical component--what is called fair value for just price, a concept with roots in the middle ages and dominant in court actions subject to "just compensation" for land being taken by condemnation.
 4. V_M can stand for market value or fair market value which is a variation on ethical value and is the dominant concept of value for the appraiser today. The usual definition of market value proscribed by the American Institute of Real Estate Appraisers is either:

"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 knowledgeable purchaser who understands all of the uses for which it is capable when the seller is under no pressure to sell."

"The price at which a willing seller would sell and a willing buyer would buy, neither being under abnormal pressure."
5. Theoretically an AIREA appraiser can identify sales which meet all those criteria. The Institute might go so far as to maintain that a clear definition of value and purpose then gives the appraiser the ability to state value as a single dollar amount.

- A. Basic appraisal process as traditionally taught is shown on the screen. (give examples for each step).
- B. However, appraisal is in a state of ferment. Although the three approaches to value are often required in government appraisal forms and in various court actions, there is much doubt that each of these approaches are equally valid or relevant.
 - 1. The income approach is criticized because it does not directly recognize the impact of leverage and income tax policy on purchase price.
 - 2. The cost approach requires determination of exact dollar amounts of physical, economic, and functional depreciation which leads to serious inaccuracies on all but the newest and most modern buildings.
 - 3. The format of the traditional report is also under criticism.
- C. Professor Ratcliff, and others to a lesser degree, believe that the appraisal report should make explicit certain factors which influence value and relate the value approach to the purpose.
 - 1. First, since an appraisal begins with a specific property, it is reasoned that the format of the report should move from the particular to the general, that is from the site to the economic influences on value only as necessary to the purpose and argument of the report.
 - 2. Highest and best use of the property virtually identifies the logical buyer group, generally an extremely small number of persons within any one community for any one property. Definition of a buyer should enable the appraiser to identify that kind of buyers' rationale for value. It follows that if the purpose of the appraisal is to predict the price at which it would sell, then the appraiser should think like the perspective buyer--that is, use the same approach to value as the buyer.
 - 3. Such a logic also suggests that if the buyer is not sophisticated neither should be the approach to value. If buyers use the gross rent multiplier to buy a four-family unit, so should the appraiser in trying to anticipate what buyers will do.
 - 4. Generally buyers know the market and market comparison analysis is the preferred approach. However mortgage lenders generally appraise capitalized income while insurance companies prefer the cost approach. Where sales are unknown, cost of reproduction may be required or benefits simulated.
- III. A career in real estate appraisal offers challenge, confusion, and participation in almost any type and size of business problem. Consider some of the current, local appraisal problems:
 - A. Madison School Board recently sold old Central High School to the Vocational District. What is the market value of an obsolete school building which is the siamese twin of its only possible buyer?
 - B. Turville Point of 50 acres & the medical site @ \$2.50 per foot.
 - C. What is the before and after value of a public golf course which sells nine of its eighteen holes to the school district for a junior high school.

half a million dollars--or \$2.50 a square foot to the neighboring Medical Society. Certainly the doctors could afford good real estate advice; on the other hand they wanted to expand on their present site. Then again the soon-to-be-completed causeway is rapidly increasing property values on the south shore of Lake Mendota; the sellers made more than a quarter million dollar profit after holding the property only two years.

Now the problem is is this sale a basis for valuation of the much larger piece just down the road. After all 50 acres times \$44,000 square feet times \$2.50 a square foot is a lot more money than the \$600,000 offered by the city.

Appraisers must find information and an economic rationale with which they can justify as to the value.

3. If the valuation of whole properties is difficult, the valuation of partial property is even more difficult. For example what is the value of two feet of excess land on your lot if you are going to sell it to the man next door so the house plan which his wife desires will fit on their lot in conformance with the code?

What is the value of the right of access from the street to your lot at any point? For example if you own a corner lot 200 feet square on which you have your home but which someday might be a filling station location, how much would you want to receive if the city condemned your right of access 175 feet back from the corner on each side without affecting your present driveway etc.

In partial condemnation cases the law states that you should receive the difference between the market value before the taking and after the taking. This requires the appraiser to imagine the property as it will be after the public improvements are constructed and after the market has a chance to see how things will look. It is conceivable that the property will be worth more after the taking than before. For example an interior lot which will become a corner lot with the addition of a road. (Winona Way and Olin Avenue--owner gave land to city for intersection and created two good filling station sites where only one mediocre one existed before)

IV. Appraisal and urban land economics

- A. Technical work as an appraiser can soon lead to much broader activity as a consultant. Moreover one appraiser pointed out that his research for other clients at their expense soon gave him enough general information on the market to find good investments for himself. The ability to estimate value is a critical element of real estate investment and property development.
- B. Land use is a process of determining highest and best use in terms of economic and social considerations. The land planner represents the social interest of the community but it is the appraiser who generally provides the basis for rational economic determinations. Therefore he is at a pivotal point of the city building process.

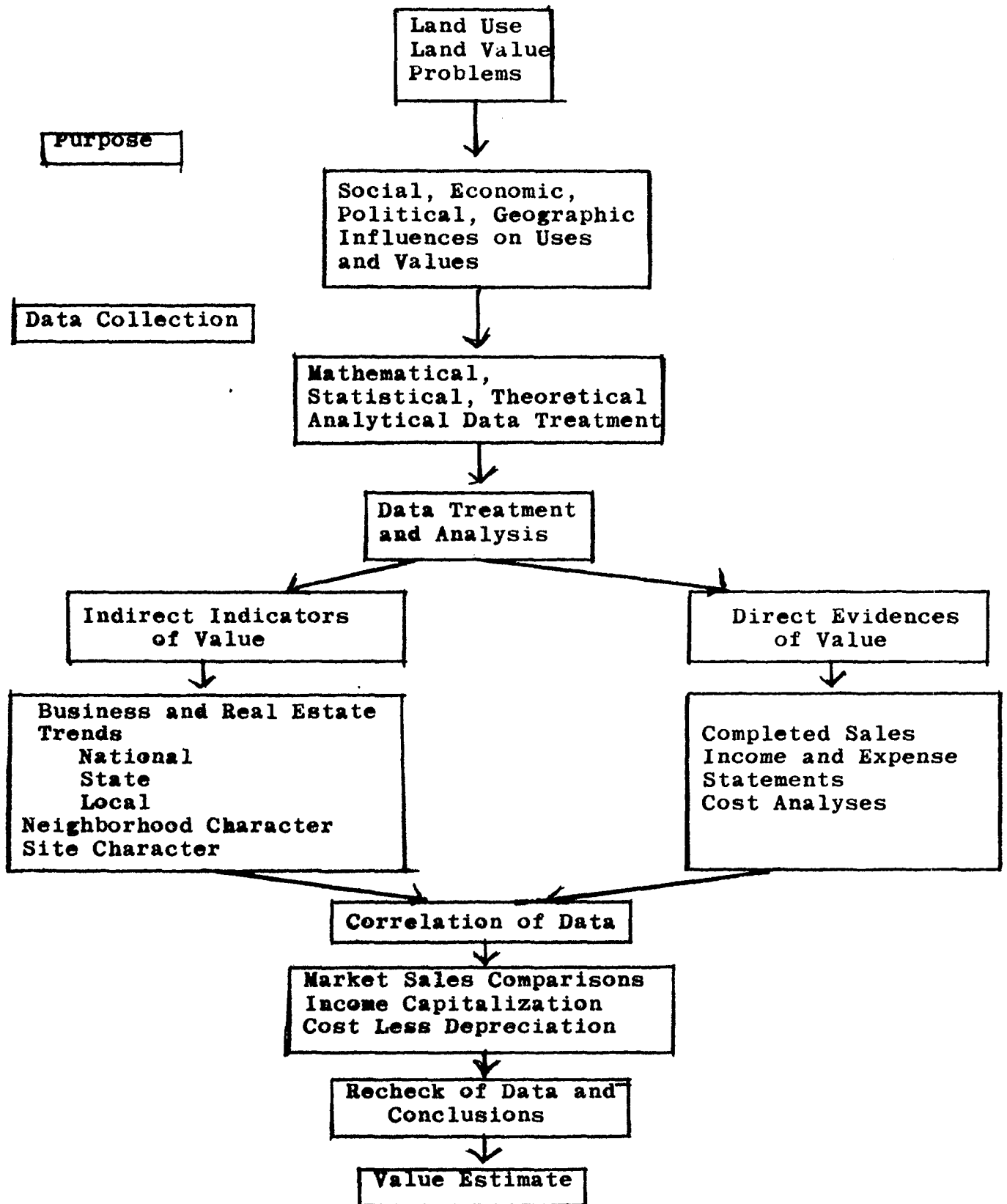
- C. Appraisal careers offer excitement as well as good pay and there is a tremendous shortage of personnel with college training in this field. Starting salaries are in the range of \$7,500-\$8,000 for undergraduates and as high as \$10,000 for our U.S. graduates. As a field appraiser you can any degree of travel which you wish and you may quickly establish a professional rating and reputation which would allow you to establish yourself as an independent fee appraiser. These fee appraisers receive \$100 to \$250 a day and are generally booked several months ahead of ~~xxx~~ time. They may be working on a different project every week and are involved in considerable work in court, in ~~xx~~ property development, and often in mortgage banking.
- D. Moreover appraisal gives entree to a great variety of executive positions including real estate lending with insurance companies, management of mortgage banking firms, management of savings and loan associations, operation of all real estate ~~etc~~ matters for major corporations and so on.
- E. Not only ~~xis~~ there a great shortage of people but something is being done about it at the college level. The various professional appraisal societies offer good scholarships, student rates for membership and publications, and summer internships with the best in the field. We would be happy to talk further with you individually about career opportunities in appraisal.

Outline of Lecture on the Appraisal Art

- I. Appraisal is basic to decision making in real estate.
 - A. To buy low and sell high requires a definition of the central tendency of value or price.
 - B. Value is an illusive concept and every appraisal begins with an explicit definition of value to be estimated in relation to the purpose for which an appraisal is desired.
 - C. Value generally means estimated price under a given set of conditions. For example:
 - Vc - Value as cost to reproduce
(For insurance cash value purposes)
 - Vs - Subjective value to user
(Value in use and in terms of emotional needs)
 - Ve - Ethical value - fair market value
(Just compensation for condemnation or for tax assessment)
 - Vm - Fair market value
(A various of ethical value determined according the definition)
 - Vp - Most probable selling price
(A statistical concept of price with stated ranges to be measured by statistical inference, logic, or intuition)
 - D. The formal definition of market value by the Institute reads:
"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 knowledgeable purchaser who understands all of the uses for which it is capable when the seller is under no pressure to sell."
- II. The theoetical requirements of an appraisal report are established and enforced by at least four professional organizations.
 - A. The national organizations most influential in appraisal theory are:
 1. The American Institute of Appraisers
(Professional designation - MAI)
 2. Society of Real Estate Appraisers
(Professional designation - SRA, and SREA)
 3. American Society of Appraisers
(Professional designation - ASA)
 4. American Right-of-Way Appraisal Association
 - B. Each of these organizations stresses professional education, ethics, and continual review of appraisal reports by their members. An ethical appraisal must be in writing.
 - C. The written appraisal must contain at least the following steps:
 1. Identification and description of the subject property, including rights to be appraised, and highest and best use of the property.
 2. Identification of the purpose of the appraisal, and definition of the value to be estimated.
 3. Identification of the effective date of the appraisal.

4. Collection, analysis and interpretation of all data pertinent to the appraisal problem at hand.
 5. Application in acceptable technical form of each of the approaches to value estimation appropriate to the particular appraisal problem. In every instance, conscious recognition must be given to the fact that comparative analysis of verified market data is the essence of each approach.
 6. Careful analysis of findings and correlation into a final value estimate, rounded appropriately, which reflects the most applicable analysis to the problem at hand, and the availability and reliability of market data.
 7. Clear identification of special, contingent and limiting conditions affecting the appraiser's analysis and conclusions.
 8. Certification by the appraiser to the facts indicated in the preceding discussion of the requirements of Demonstration Narrative Appraisal Reports.
 9. Clear identification of the substantive contribution of others to the analysis and conclusions in the appraisal report.
- D. Every appraisal or valuation problem is essentially a research problem. There are five major steps in the research:
1. Define the problem in terms of property, interest, purpose, date, and budget-fee.
 2. Plan the appraisal approach.
 3. Apply the appropriate methods of collecting data.
 4. Apply the selected analytical techniques.
 5. Prepare and write an analysis and opinion of value so that the reader can arrive at the same conclusion.
- III. The traditional approach advanced by the professional societies is based on a presumption that the typical buyer will consider all alternatives available to him. Three courses of action are presumably available and provide the conceptual foundation for the traditional appraisal methods:
- A. Acquisition of an existing substitute property with the same utility as the subject property.
 - B. Acquisition of an income of the same size with the same risk as that forecast for the subject property.
 - C. Production of a substitute property with the same utility as that of the subject property.
 - D. The total appraisal process is outlined on attached boxed chart. Based on the three alternatives above the three approaches to value are called the market approach, the income approach, and the cost approach.
 - E. Standard appraisal procedures have been institutionalized by court precedents, federal and state government required appraisal forms. and public education in conditioning on what an appraisal should do.
- IV. Appraisal theory is being challenged from within and without.
- A. Three approaches not appropriate in every case.
 - B. Cost approach flawed by fictitious and subjective assumptions
 - C. Income approach as presently practiced does not directly recognize impact of leverage, federal income tax law, and short-term ownership on purchase price.
 - D. Format of traditional report is under criticism.

- V. Professor Ratcliff has most comprehensive revision of theory proposed; he sees two approaches to value:
 - A. Statistical inference of most probable selling price from analysis of other completed transactions involving similar properties.
 - B. Simulation of the investor calculus in order to anticipate what the typical buyer or the single most probable buyer would be willing to pay. Simulation assumes precise identification of the method by which the buyer determines the price he can pay for a property.
 - C. Each approach to value has become more feasible with application of computer techniques to real estate analysis.
 - D. The Bayside project is an example of statistical inference.
 - E. The computerized cash flow simulation model is an example of investor simulation.



MARKET DATA APPROACH: COMPARISON BY UNITS

	1 406 Webster	2 904 Webster	3 825 Menlo Oaks	4 402 Oaks Grove	5 837 Cowper St.	Subject Property
Date of sale	Jan., 19__	Feb., 19__	June, 19__	June, 19__	June, 19__	
Sale price	\$129,500	\$312,000	\$410,000	\$390,000	\$290,000	
Number of units	7	24	22	14	14	13
Price per unit	\$ 18,500	\$ 13,000	\$ 18,636	\$ 27,857	\$ 20,714	
Number square feet per unit	967	683	934	1,379	1,062	976
Ratio of unit size to subject	1.01	1.43	1.04	.71	.92	
Adjustment factors: Subject by comparison is:						
Time of sale	Slight increase	Slight increase	No change	No change	No change	
Reliability of sale	Excellent	Excellent	Good	Fair	Fair	
Location and neighborhood	Same	Same	Slightly poorer	Slightly better	Slightly better	
Site	Similar	Similar	Similar	Similar	Similar	
Size of units	+1%	+43%	+4%	-29%	-8%	
Exterior improvement	Slightly better	Slightly better	Same	Slightly poorer	Slightly poorer	
Interior improvement	Slightly poorer	Same	Same	Slightly poorer	Slightly poorer	
Quality, age, condition	Slightly poorer	Slightly better	Slightly poorer	Slightly poorer	Slightly poorer	
Composite*	Equal	+45%	Equal	-35%	-10%	
Indicated value of subject per unit	\$18,500	\$18,850 Say	\$18,636 \$18,650	\$18,107 \$18,100	\$18,643 \$18,650	

Adopted per unit value: \$18,500 x 13 units - \$240,500

*Developed by addition and subtraction

SUMMARY OF COST APPROACH TO VALUE

Reproduction cost of building, chattels, and other improvements		\$198,000
Depreciation:		
Curable physical deterioration	\$ 500	
Incurable physical deterioration	7,580	
Curable functional obsolescence	0	
Incurable functional obsolescence	960	
Economic obsolescence	<u>0</u>	
Estimated Total Depreciation		<u>- 9,040</u>
Reproduction cost less depreciation		188,960
Land value estimate		<u>50,000</u>
Total value indication by the cost approach		\$238,960
	Rounded	\$239,000

BUILDING RESIDUAL CAPITALIZATION

Annual net income before recapture, from Reconstructed Operating Statement,		\$ 18,870
Less interest on \$50,000 land value at 6.5%		<u>- 3,250</u>
Annual net income imputable to interest on and recapture of the investment in the improvements:		\$ 15,620
Interest and recapture rates on improvements:		
Interest rate:	6.5%	
Recapture rate (50 year remaining economic life):	<u>2.0%</u>	
Capitalization rate:	<u>8.5%</u>	
Improvement value: \$15,620 capitalized 8.5% = \$183,765		
	Rounded to	\$184,000
Add land value		<u>50,000</u>
Value indication by the income approach		\$234,000
	Rounded to	235,000

Lecture Outline
A Definition of Urban Land Economics

- I. Urban land economics at present has no generally accepted definition of what is proper subject matter should be. Professor Graaskamp's preliminary definition is:
 - A. Urban land economics is concerned with the allocation of man-made differentiated spaces designed to contain activities required for an urban society, so as to optimize the realization of user purposes given limited resources.
 - B. The resource called land is really space, space to contain an activity, space artificially given form or definition and given a locus relative to a specific land area.
 - C. Economics in general is concerned with the process of allocating a resource which is scarce relative to a demand according to some standard of efficient use, be it the utility curve of the consumer or the marginal increment of profit for the producer.
 - D. The basic problem in defining urban land economics is found in the use of the words "optimize" and "user" because the first presumes some standard of efficiency and the standard of efficiency depends on our definition of the user and his purposes.
 1. What is efficient for the firm may be inefficient for society.
 2. What is acceptable efficiency for the present generation may reflect costs shifted to future generations.
 3. Since the urban space we manufacture has a settling fact on the mind and chemistry of each generation, certain measure of efficiency remain unknown or undefined.
 - E. The subject matter is restricted to space problems characterized as urban and the standard of urbanity is arbitrary, such as persons per acre, degree of job specialization, or simply the geographic radius of a toll free telephone call.
- II. The Ratcliff text suggests that the form that our cities have taken reflects simply a process of aggregation and accretion of many individuals investment decisions. He suggests that we can predict the form and ~~and~~ quantity of future land uses by anticipating the decision making processes of the individual user. In this view land economics is a micro theory of behavior by individual space user establishments.
 - A. In Professor Graaskamp's opinion this explanation of city building explains only a brief period in our history, explaining neither the past nor future trends in overall land use pattern.
 - B. The purposes to be served and therefore the standards of efficiency to be met in the allocation of space resources are essentially non-economic in character.
 - C. For individual site development within community land use patterns is a matter of business management and finance.
 - D. Community purposes are non-economic in terms of the decision making process as will be shown by example and therefore not the subject of urban land economics.

Lecture on Definition of Urban Land Economics

- E. The subject matter for urban land economics in a School of Business is therefore the process of manufacturing, managing, financing, and ultimately pricing of a commodity called space.
 - F. In any decision making process a clear definition of purpose establishes the standards of efficiency for "optimization" and these bench marks then suggest the plan for any enterprise.
- III. Cities of the past possess a physical clarity in the form given land, layout and architecture, because urbanity emerged in direct response to relatively simple limited pressures. There was little population growth, slow technological change, and cultural continuity which combined to establish a land planning and building method that became a community standard, adjusted and refined through gradual trial and error.
- A. A specific purpose produced a desirable order - objectives generate criteria - which produce a physical plan. A social need had only to be identified to find its way into form; form was modified by experience.
 - B. There was an interaction between the inhabitants, their social purpose, and the manner of building which gave each city an identity.
 - C. A plan could influence the pattern of construction for hundreds of years because builders practice traditional techniques which change only under strong pressure of powerful and obvious irritations of the existing forms.
 - D. The translation of a social decision into form within the discipline of deductive logic can be seen in such city plans as :
 - 1. A defensive town such as Naarden.
 - 2. The nested form of Peking reflecting the ritual of political hierarchy.
 - 3. The Roman administrative and military camp format.
 - 4. A farm village in the Camaroons incorporating defense, corrals, and the social hierarchy into the layout of a village.
 - 5. The Japanese palace for the emperor reflecting the hierarchy of social ceremonies.
 - 6. The canal structure of Amsterdam and Venice to facilitate the exporting-importing and wholesaling commercial functions of the city.
 - 7. The boulevards of Paris designed for riot control.
 - E. Such a clear statement of purpose emerging from a slow process of development was only possible in the historic city because:
 - 1. There was a static building technology.
 - 2. There was a static cultural pattern.
 - 3. The population was relatively constant in size.
- IV. Modern industrial society does not meet these conditions. It has a rapidly expanding population, an ever changing technology, and a shifting social structure.
- A. Population in American urban center has been expanding at an accelerating rate for less than 150 years.

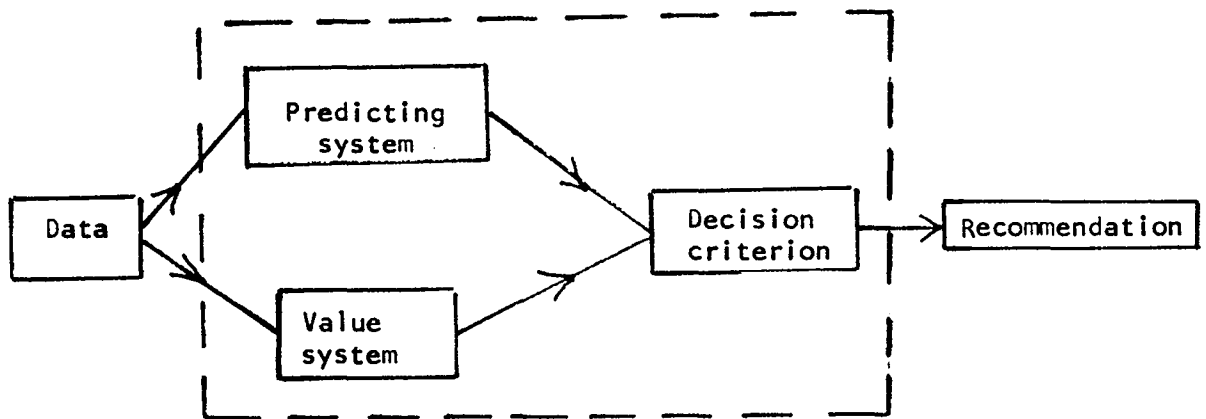
Lecture on Definition of Urban Land Economics

- B. Transportation, communications, structural systems, architectural styles, and sanitation requirements have altered drastically every 20 years.
 - C. As a result cultural continuity has been disintegrating with size, age, social strata and diversity of skills and interests which characterize the population.
 - D. The activity of an industrial city are so vast, so varied, and of such conflicting priorities there has been no overall consensus on the form of our urban environment.
 - E. Therefore, for the first half of this century it may be accurate to say that land use patterns and city building were the product of individual investors competing for alternative sites with no other restraint than their willingness to pay a given price. For obvious reasons these decisions might follow a pattern appropriate to the concentric ring theory, the sector theory, or the multiple nucleus theory.
- V. Cities which have ~~down~~ like Topsy without manifesting some clear community purposes have not worked well and there is some danger they fail to produce shelter, safety, convenience, healthy environment, or satisfaction.
- A. As a result community purposes are once again emerging as form giving forces within which and to which the private owner must adapt.
 - B. Today integrity of ~~form~~ and purpose requires the dictatorship of individual ownership or power of a powerful individual personality. In the United States there at least 75 cities under construction by individual, privately owned corporate city builders. Elk Grove to the south of us is such a community.
 - C. Columbia, now under construction between Baltimore and Washington, is such a city. It represents a clear example in our time of social and political purposes ~~prescribing~~ the standard which the city plan will follow and the economics must serve. The Columbia scheme is concerned with the need for small scale participation in education, government, social neighborhoods, as well as efficient transportation and industrial development. For a town of 150,000 people, the units are defined as:
 - 1. The town itself is divided into ten (mile-wide) villages.
 - 2. Each village is divided into five neighborhoods.
 - 3. Town, village and neighborhood each have their own centers.
 - 4. Permanent open space is interposed between the town center and the villages - and between the villages themselves.
 - 5. A bus-route - closed to automobiles - connects eight of the village centers with the town center.
 - D. The developer of Columbia, James Rouse, believes that we will have better cities when we can prove that they can be built to society requirements at a profit. In short, we can build the type of cities we can value if we can finance them and we can finance them if there will be a return on capital invested. His planners are controlled by cash flow and capital budget, and although he will have invested 80 million dollars before his cash flow turns positive, his unique financing organization will have brought in 5 million in capital for initial development.

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 - C. Economics in general is concerned with the process of allocating a resource which is scarce relative to a demand according to some standard of efficient use, be it the utility curve of the consumer or the marginal increment of profit for the producer.
 - D. The basic problem in defining urban land economics is found in the use of the words "optimize" and "user" because the first presumes some standard of efficiency and the standard of efficiency depends on our definition of the user and his purposes.
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 3. Since the urban space we manufacture has a settling fact on the mind and chemistry of each generation, certain measure of efficiency remain unknown or undefined.
 - E. The subject matter is restricted to space problems characterized as urban and the standard of urbanity is arbitrary, such as persons per acre, degree of job specialization, or simply the geographic radius of a toll free telephone call.
- II. The Ratcliff text suggests that the form that our cities have taken reflects simply a process of aggregation and accretion of many individuals investment decisions. He suggests that we can predict the form and quantity of future land uses by anticipating the decision making processes of the individual user. In this view land economics is a micro theory of behavior by individual space user establishments.
 - A. In Professor Graaskamp's opinion this explanation of city building explains only a brief period in our history, explaining neither the past nor future trends in overall land use pattern.
 - B. The purposes to be served and therefore the standards of efficiency to be met in the allocation of space resources are essentially non-economic in character.
 - C. For individual site development within community land use patterns is a matter of business management and finance.

- D. Community purposes are non-economic in terms of the decision making process as will be shown by example and therefore not the subject of urban land economics.
 - E. The subject matter for urban land economics in a School of Business is therefore the process of manufacturing, managing, financing, and ultimately pricing of a commodity called space.
- III. Man is biologically deficient because he seems to lack elaborate instinctive chemistry or behavior patterns with which to make successful decisions affecting his survival. Born virtually helpless, man must of necessity make education of the young a major occupation.
- A. Simple group activities led to a pyramid of organization of decision making specialists and history has been the evolution of decision making systems - witch doctors, chiefs, kings, priests, presidents, and real estate counselors.
 - B. Cause and effect was recognized to be the pattern of life but causes were first identified as devils and later deductively explained with reason and logic.
 - C. To close the gap between Logic and the real world the scientific method was developed to move inductively from observations to statements. Statistical decision making is an intellectual mechanism based on the scientific method.
 - D. Today decision theorists organize decision systems something like the simple minded schematic drawing below:



- E. The elements of this system are the building blocks of this course:
 1. All manner of factual real estate data will be suggested to identify a list of alternative courses of action relative to land use decisions.
 2. Hopefully you will be able to learn the cause and effect chain leading to alternative outcomes for each alternative courses of action. (A forward pass can have three results, two of which are bad).

3. Each alternative outcome has a different mix of desirable and undesirable aspects which imply there are value systems within society or for each investor relative to land use decisions.
4. Each alternative outcome can be assigned a probability (statistical or subjective) so all real estate plans must have a tolerance for the surprise potential.
5. Therefore, we will move down parallel subject matter - identifying social values which become specified in terms of planning objectives and investment values which become specified as financial objectives, both producing decision criteria with which to screen and to recommend real estate investment proposals.

F. A form cities take reflects the purposes of its inhabitants and the internal consistency and desirability depends on the degree of consensus as to the "city beautiful" that exists among its inhabitants.

VI. Ekistics is a new term by a Greek city planner named Doxiadis to describe the signs of city building, including within it the disciplines of sociology, political science, building technology, the arts and economics.

- A. He advocates a city plan which can adapt to expansion, technology change, and shifts in the cultural pattern while maintaining historical continuity. In short, the city should be planned for a fourth dimension, time as well as height, width and length and available capital resources.
- B. Modern planning is also taking a regional approach to establishing a consensus on standards for urban planning and construction. The best example is the Southeast Regional Planning Commission in Waukesha about which you will hear more as the semester progresses.
- C. Planning functions involve much democratic action and political restructuring.
 1. Therefore, I would argue that urban land economics as a macro theory of land and building allocations has disappeared within a broad science of ekistics.
 2. We are left with a field concerned with individual establishments making choices as to the form and substance of their own real estate needs. Given a price economy and the need to compete for capital funds, the subject area can then stress analysis of the relationships between pricing, financing, management, and construction of urban space for urban establishments adapting to the form of the city which surrounds them. The form or plan of the city will be predetermined by social considerations so that individual decisions may be made in the context of the political consensus and social pattern of the city.

A DEFINITION OF URBAN LAND ECONOMICS

1. The subject area of urban land economics at present has no generally accepted definition of what urban land economics is or of what its subject matter should be. Today I propose to venture where my associates have feared to tread.
 - A. I submit: Urban land economics is concerned with the allocation of man-made differentiated spaces designed to contain activities required for an urban society, so as to optimize the realization of user purposes given limited resources.
 - B. Economics in general is concerned with the process of allocating a resource which is scarce relative to a demand according to some standard of efficient use, be it the utility curve of the consumer or the marginal increment of profit for the producer.
 - C. The resource called land is really space, artificially given form or definition.
 1. The moment when man requires some feature in his environment which differentiated it from the natural environment, real estate began. The rock rolled in front of the cave created an artificial division and a resource called real estate. Today the first improvement of land is a survey mark, whether it be as tangible as a pylon on the flood banks of the Nile or as intangible as a condominium plat filed in the register of deeds.
 2. To the layman real estate is concerned with earth and man-made structures and improvements.
 3. The more sophisticated looks at real estate as intangible legal quantities - a bundle of rights and privileges in regard to possession and benefit of earth and improvements. But from what do the benefits of law ultimately stem?
 4. The ancient and traditional view of rights in land saw the domain of the landlord extend from the center of the world to the periphery of the universe. A square of land on the surface of the globe presumably gave domain over a vast inverted pyramid included within lines drawn from the center of the earth through the corners of the parcel in question and out to infinity.
 5. Consider the theoretical question: If all the earth and improvements within one such parcel were dug out to the center of the earth and exchanged for a similar amount of earth from another parcel in another place, has ownership been transferred?
 6. Moreover, if one parcel had sold for more than another though mineral values were identical, have we changed the value of the parcels by the transfer?
 7. Probably not. The essence of real property would seem to be space to contain an activity, and space in particular reference to a specific piece of land surface. Hence land is the locus for space, required by a user - an establishment.

- D. The economic good is space and it is a manufactured commodity. The space in question located in an area characterized as urban and the standard of urbanity is arbitrary. The standard might be persons per acre, degree of job specialization, or simply the geographic circumference of a toll-free telephone call.
- E. As a manufactured commodity, space is constructed of land, materials, labor, and skills according to the same economic prescriptions as any capital good. The basic problem in defining urban economics, however, lies in the use of the words "optimize" and "user".
1. Recall our definition: Urban land economics is concerned with the allocation of man-made differentiated spaces designed to contain activities required for an urban society, so as to optimize the realization of user purposes given limited resources.
 2. To optimize anything presumes a standard of efficiency and the standard of efficiency depends on our definition of the user and his purposes.
 3. It may be most efficient for a firm to dump its wastes in a passing creek or river and if his only purpose is to minimize capital investment, operating cost or price squeeze this serves very well. But if there is a larger social purpose to conserve clear water resources, user purposes conflict and the standard of efficiency may change.
 4. To manufacture urban space is to give form to our environment and we have already changed our environment more drastically than the change which killed the dinosaurs. In some parts of the country you must go inside to breathe fresh air, you are without natural surfaces, and surrounded with waters which are lethal in their content of disease bacteria.
- F. The Ratcliff text suggests that the form that our cities have taken reflects simply a process of aggregation and accretion of many individuals investment decisions. He suggests that we can predict the form and quantity of future land uses by anticipating the decision making processes of the individual user. In this view land economics is a micro theory of behavior by individual space user establishments.
1. I am of the view that this explanation of city building explains only a brief period in our history, explaining neither the past nor future trends in overall land use pattern.
 2. I submit that the purposes to be served and hence the standards of efficiency to be met in the allocation of resources so far as land use patterns are concerned are non-economic.
 3. On the other hand, I would argue that individual site development is a matter of finance, given the relationship of the site to community purposes.
 4. If community purposes may be considered non-economic then these aspects of the decision making process are not the subject of anything called urban land economics.

5. The subject left for urban real estate in a school of business is therefore the process of manufacturing, managing, financing, and ultimately pricing of the commodity called space.
6. Therefore I would like to demonstrate for the remainder of the hour how community purpose gives form to the city and why investors in the future are limited in their choices primarily to those alternatives which are consistent with social purpose.
- G. In any decision making process a clear definition of purpose establishes the standards of efficiency for "optimization" and these bench marks then suggest the plan for any enterprise.
11. Cities of the past possess a physical clarity in the form given land, layout and architecture, because urbanity emerged in direct response to relatively simple limited pressures. There was little population growth, slow technological change, and cultural continuity which combined to establish a land planning and building method that became a community standard, adjusted and refined through gradual trial and error.
 - A. A specific purpose produced a desirable order - objectives generate criteria - which produce a physical plan. A social need had only to be identified to find its way into form; form was modified by experience.
 - B. There was an interaction between the inhabitants, their social purpose, and the manner of building which gave each city an identity.
 - C. Deductive logic prevailed in those times. The unselfconscious culture followed firmly set traditions followed by all builders of form. Building of both cities and homes was surrounded with ritual, myths, taboos, and tradition which resisted willful change. Form builders made changes only under strong compulsion where there were powerful and obvious irritations in the existing forms which demanded correction. Unfortunately rigidity is also true of the modern age, although a selfconscious culture has expressed rules such as zoning, building codes, and consumers who expect a house to look like a house.
 - D. An expression of purpose, order of deductive logic and plan - an example of direct translation of a social force into form can be seen in the following city plans:
 1. A defensive town such as Naarden. The encircling bastions are a direct expression of the need to fortify the town against the fire of newly invented cannons. The points permit fire fields to protect the walls. The depth of fortifications coupled with the range of defensive guns placed the community at the core of the defenses out of range of then available weapons. The river provided an inner water supply as well as fire protection against the aerial bombs of that era.

2. The nested form of Peking's northern half, the Tartar City, surrounding the Imperial City which in turn surrounds the Forbidden City, is principally determined by the sanctity of the emperor and the pressures of custom and ritual demanding various degrees of association with his person.
 3. The Roman camp form as seen at Aosta, developed from the need for Roman troops to garrison captured territory. This form, a cross with each quadrant subdivided by another cross, made the internal administration and supervision of the town extremely simple and minimized the risk of revolt.
 4. A farm village in the Camaroons reflects the need for defense, corrals for a cattle economy, and arrangement of huts to reflect the social structure. The measure of social prestige is the degree of privacy, and this seemingly random plan provides for increasing privacy as you move from the entry to the chief domain and women's quarters.
 5. The Japanese palace for the emperor is a direct expression of a social hierarchy. Each pavillion represents an increase in the significance of ceremonial functions and significance declining in size as you reach the private pavillion and private garden of the emperor himself.
 6. The canal structure of Amsterdam and Venice were originally intended to organize the commercial function in the city while overcoming the building problems of a swampy site and we all have heard that the wide boulevards of Paris were intended to be fire lanes for an emperor who planned to control mob biolence with a small detachment of artillery, at the core.
 7. In short, urban areas and their buildings represented a physical expression of purpose or function, such as security, ceremony and statement of community versus private activities. There isn't time to develop the historic integrity of these forms relative to building technology or cultural pattern.
- E. Such a clear statement of purpose emerging from a slow process of development was only possible in the historic city because:
1. There was a static building technology.
 2. There was a static cultural pattern.
 3. The population was relatively constant in size.
- III. The industrial society does not meet these conditions. It has a rapidly expanding population, an ever changing technology, and a shifting social structure.
- A. Population in our urban centers has been expanding at an accelerating rate for only a 150 years. In the United States alone we must build as much urban space in the next 30 years as we have build and accumulated since 1492.

Page 5
is missing

- 6 -

Time does not permit a further analysis of the organization of each neighborhood center, village center or town center. The imposition of control is possible because of ownership is in the hands of a \$60,000,000 corporation which in turn is a combination of insurance company money and the genius of James Rouse.

- D. The science of city building which includes the disciplines of sociology, political science, building technology, the arts as well as economics has been called the science of ekistics by a Greek city planner named Doxiadis.
 1. As a planner advising cities all over the world he is advocating cities designed to accept expansion, technological change, and shifts in the cultural pattern as well as maintaining historical continuity. In short he argues a dynamic city should be planned for a fourth dimension - time - as well as height, width, and length.
- E. His scheme would eliminate the succession of rings of expansion which gradually strangle the core of the city. Instead he would regulate the city growth to proceed basically one direction with successive increments of various land uses so that a city would eventually develop along an elliptical path. There are many good reasons for this proposal and it has been imposed on numbers of older cities in the world trying today to adapt to expanding urbanism with limited public resources.
- F. In Waukesha, a Regional Planning Commission, Providing research information for a seven county area, has been established, largely supported by federal grant. Called the Southeastern Wisconsin Regional Planning Commission, it is already the foremost organization in the country. It is attempting to use rational decision making processes to identify and establish the objective of urban life, the standards for urban planning and construction, and programs for implementing public control of private users of land.
- V. I suggest that the basic form giving decisions in regard to urban life are once again being made by society. In the not too distant future, land use patterns and resource allocations for the development of urban space will be made to advance social objectives. Moreover the values underlying the criteria of choice will be essentially noneconomic - reflecting social, political, medical, and esthetic purposes. These objectives, however, will be accomplished through a price-economy.

Therefore I would argue that urban land economics as a macro theory of land and building allocations has disappeared within a broad science of ekistics.

We are left with a field concerned with individual establishments making choices as to the form and substance of their own real estate needs. Given a price economy and the need to compete for capital funds, the subject area can then stress analysis of the relationships between pricing, financing, management, and construction of urban space for urban establishments adapting to the form of the city which surrounds them.

*Similar topic as preceding
pages - but numbers not
consecutive -*

- VIII. Succession of uses in all of these descriptive theories depends on cycles of increasing and decreasing value, physical decline, regeneration, and eventual wholesale destruction and wholesale building at the expense of historical landmarks, unused wealth, and areas of blight.
- A. There is a Greek city planner by the name of Doxiadis who is well known internationally for his thinking on modern city planning. He points out that the essential purpose of the city today should be to choose and order which will enable it to withstand and accept the unbelievable population pressures and technological dynamism of the next 50 years.
 - B. He points out that concentric expansion of a city eventually strangles the center and its functions and that sectors lead to multiple centers and a loss in community identity. If a city is dynamic there is a fourth dimension, specifically time, so that the city should be designed to expand logically in time as well as height, width, and length.
 - C. He proposes that the city of the future be designed to expand in only one direction over time. The idea gram suggests a concept of Dynapolis. (page 56)
 - D. A number of actual cities are being built according to this plan, such as Khartoum in Egypt and Islamabad, the new capital of Pakistan.
 - 1. Khartoum is the capital of Sudan and straddles the two Nile Rivers and is experiencing considerable growth despite limited public resources. Doxiadis determines that if the city were to continue growing in all sectors, most of the cities capital budget would be required for bridges. It was decided the city should grow in only one direction between the two rivers. It was decided therefore to leave north Khartoum and Omdurman to be static and to wither and to avoid renewal over congested areas. The same amount of expenditures would then create ~~an~~ more useable space between the rivers to the south.
 - 2. Islamabad is a demonstration of two nuclei developing parallel to one another within the limits of existing mountain valleys. The old city of Rawalpindi already possessed a regional center and static land use pattern. A new capital would have exerted such pressure on the old form the city would have strangled without transforming it into a modern regional center let alone the capital of the nation. The capital is therefore a parallel force, a separate entity, inter-related to the services offered by the old city.
 - E. In the United States there are at least 75 cities under construction by private, large scale corporate city builders. Perhaps the most exciting one is Columbia, now under construction between Baltimore and Washington. We will talk more about this city during this semester but it is important here to demonstrate that social objectives have determined the schematic form of this city which is now in process of translation by the planners and architects. This city represents the first clear example in our time of an explicit ekistical program determining the urban land economics which will follow.

- F. While it is more dramatic to build an all new city, it is more realistic to plan for regions consisting of a number of existing cities. By coincidence the most advanced of such regional planning systems is located here in Wisconsin and is called the Southeastern Wisconsin Regional Planning Commission.
1. Much will be said about this later in the course, but for now it is important to understand that a central ekistical program is underway in Southeastern Wisconsin. The program attempts to use rational decision making processes to identify and establish the objectives of urban life, standards for urban planning and performance, and programs for implementing control of private development.
 2. SEWPRC carries the implication that the emphasis of urban land economics will soon dramatically shift from of the Ratcliff text. Your text presumes that the investor may determine highest and best use within broad constraints of public zoning and planning. The process of accretion and succession of land users proceeds according to Ratcliff essentially on current economic forecasts of productivity as seen by the individual bidding for site use. Restrictions on these uses are negative, defensive for existing interests, and derivative of static city concept.
 3. It may be that in the not too distant future land use patterns will be predetermined by central planning according to stated objectives, standards, and organized factual information. Urban land economics then becomes concerned with appropriate development of particular site uses. Urban land economics would then fit into a hierarchy of economic decision making. Moreover an understanding of the process of the investor calculus would give the planner sophisticated ways of inducing the investor to serve the social purpose as well as the investment function.
- G. Urban land economics therefore has a dual role in the urban crisis at hand. It would suggest to the investor his opportunities for profit within a highly fluid, dynamic, and satisfying field of endeavor. At the same time urban land economics offers the planner the next step in the application of big plans to little people. Urban land economics is a study of the process which links needs to satisfactions in the area of the physical urban environment.

Lecture #1
Some Definitions & Objectives

I. This semester represents a new departure in the conduct of Urban Land Economics 520. For some time we have been dissatisfied with aging text materials as well as the straight lecture method of teaching.

A. Therefore, we are building our own text by means of an anthology of selected reading materials from a variety of sources. However, we will still use parts of the former text - Real Estate Analysis by Ratcliff and we urge you to consider purchasing the book.

S-1 3:30 AM B.
S-2 8:00 T
S-3
S-4 7:00 PM M
S-5 grade
S

We will experiment with two hour discussion sections so there will be more opportunity, even with a semi-lecture approach, for give-and-take discussion with the students. The University requires that such two hour labs be at other than prime time slots and hence the necessity for Monday evening and Tuesday sessions.

Mon 7-9 - 124 Comm

C. To assure uniformity of coverage, the subject matter for any one week will be handled by the same individual in each quiz section. I think we have one of the best teaching teams in the University. But there can only be one chief.

1. The man in command is Chuck Clettenberg (210) who will decide all issues regarding grades, excused absences, room assignments, etc. There is no appeal to Dr. Andrews or myself. (Mobil home case)

2. Chuck's assistant in regard to grading is ^{Paul Roberts} ~~Warner Stone~~ (210). ~~Ex-Texas, ex-Navy~~ ex - tank battalion commander.

3. Chuck's associate in teaching is Bob Richardson (210), an appraiser with the Highway Department and now on his own and a Ph. D. candidate as well.

4. Dr. Andrews is one of the top urban land economists in the country and will cover the macro economics and planning aspects of urban land.

5. Yours truly was elected spokesman as I had my own set of spokes. My bag is development and investment.

D. We guarantee you will spend more time studying and at work on an investment case problem than 3 credits will merit. At the end of the semester we would very much appreciate your criticism of material and format and teaching styles.

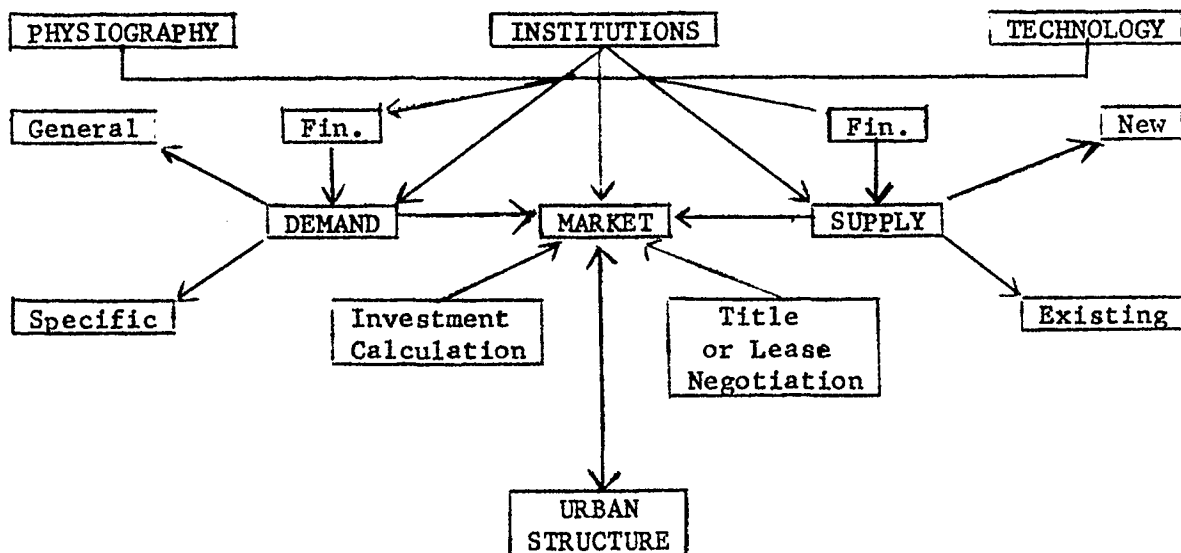
E. The Friday session will be used for special lectures, and we hope to have outlines of each lecture prepared beforehand so that you may listen more and write less. In addition we will use it as an examination period.

F. The grading system, time schedule, and objectives of the course are all contained in the syllabus. Some readings will be on the reserve desk in the Business Library but will be in short supply relative to the size of this group so plan to read the material before the day of the exam.

Material Change
None.

Commerce - Economics - Planning 520
Urban Land Economics

DIAGRAM
of
URBAN DEVELOPMENT FORCES



PUBLIC RECORD SYSTEMS

Basic reference sources:

1. Tract Index - organized by property descriptive (and location).
(Index to Tract Index)
2. Grantor-Grantee Index - organized by seller and buyer
(parties), or other party designation such as mortgagor-
mortgagee.
3. Both systems cross-reference their entries to the other.
 - (a) Tract index contains seller-buyer or other party designation
 - (b) Grantor-Grantee Index contains property description

Organization of basic reference sources:

1. Tract Index Organization:
 - (a) Lower right hand label indicating section by number,
subdivision by name.
 - (b) Column heads:
 - Lot by number (if subdivided)
 - Document number
 - Instrument (Volume and page)
 - Date of transaction
 - Date of recording
 - Grantor
 - Grantee
 - Description: "Part of Lot 38;" and cross references,
as with mortgage and satisfaction.

Organization of basic reference sources: (con't.)

2. Grantor-Grantee Index Organization:

(a) General Index -- Grantors:

1. Index (alphabetical) by surname, and firms and corporations
2. Column heads:

Document number

Instrument type

Time of reception

Grantors (surname and given names)

Grantees (surname and initials)

Description of real estate

Recording location (volume and page)

To whom delivered

(b) Grantee Index

1. Index (alphabetical) by surnames, firms and corporations
2. Column heads:

Document number

Grantees (surname and given name)

Grantors (surname and initials)

Recorded (location) volume and page

Instrument type

Basic instruments and location:

1. Basic references are guides to the instruments which represent the legal documentation of real estate transactions.

2. Deeds

- (a) Photostats of documents located in separate deed volumes arranged by volume number and page.
- (b) Deed types: warranty, (joint tenancy), quit claim, sheriff
- (c) General information:
 - Parties (grantor, grantee)
 - Property description
 - Witnesses
 - Cash consideration (revenue stamps)

3. Mortgages

- (a) Photostats of documents located in separate mortgage volumes arranged by volume number and page.
- (b) Mortgage types: straight, amortized, purchase in only refinancing. Satisfactions of mortgages included in same volumes.
- (c) General information:
 - Parties to mortgage
 - Face amount of mortgage, not outstanding amount.
 - Terms
 - Property description

4. Miscellaneous

- (a) Photostats of several types of official documents relating to real estate transactions are bound in a series of volumes called "Miscellaneous."

4. Miscellaneous (con't.)

(b) Types of documents located in "Miscellaneous"

1. Land contracts (parties, amount, terms of payment, property description)
2. Terminations of Life and Joint Tenancies.
3. Easements
4. Releases (from tax and contractors liens)
5. Subdivision restrictions
6. Affidavits (relating to title)
7. Leases

ECONOMICS OF URBAN POLLUTION

- I. Location, location, location is now environment ecology and effluent
 - A. Population density and take-off principle
 - B. Tolerate is both physical and mental
 - C. Urban technology or environmental quality requires hardware, money, and a social mechanism for decisions and financing.
- II. Technology of water and air quality is obsolete. Problem of water and air quality is interrelated.
 - A. Water is used as vehicle for solid waste disposal but limited in capacity both in nature and in processed form.
 1. Primary treatment
 2. Secondary treatment
 3. Advanced treatment
 4. Sewer taps limit urban growth
 5. Recycling of sewage water in Denver
 6. Cost to transport fresh water or remove waste water
 7. Combining waste disposal with agricultural irrigation
 8. Recycling of sewage sludge as animal feed
 9. Grinding sewage and pumping solids
 10. Vacuum systems
 11. Oxidizing of sewage
 - B. Water quality and solid waste
 1. Vacuum system to collect garbage
 2. Sanitary land fill and water table pollution
 3. Incineration, sterile fill, and recharged area
 - C. Industrial waste such as sulphite liquor
 1. High volume, low quality by-products
 2. High value, low value by-products
- III. Air pollution related to invention of fire and use of fossil fuels
 - A. Economics of smoke control

- B. Air pollution result of single family home and car
 - C. Electric capacity related to coal and natural gas
 - 1. Purification of exhausts means contamination of water
 - 2. Transmission problems mean inefficient land use
 - 3. Inert gas and transmission line insulators
 - D. Atomic power, water pollution, and air pollution
- IV. The gasoline engine and the private automobile
- A. Paving for automobile destroys necessary green oxygen producers
 - B. Exhaust is major source of urban pollution
 - C. Public transportation or electric automobile requires urban density and compactness.
 - 1. Modern location theory implies private mobility and inertia of convenience.
 - 2. Environmental theory for urban economics requires public systems of mobility and consumer preference for active motion.
- V. Privacy is a resource
- A. The hierarchy of residential design layout for privacy
 - B. The counterpoint of natural environment
- VI. Market economy does not work well to internalize cost of environment controls. Economics of controls differ for society as opposed to individual investor in the urban site.
- A. Marginal benefit vs marginal cost for society
 - B. No benefit for cost incurred for investor
 - C. Competing claims for investment productivity
 - D. Some urban environment has benefit for developer
 - 1. Good esthetics can be good merchandising
 - 2. Environment undisturbed lowers cost
 - E. Legislative mechanisms to internalize cost
 - 1. Uniform cost allocations shifted to consumer through price
 - 2. Legal penalties

3. Incentive in the form of subsidies, tax relief or privilege
 4. Education to create social approval or disapproval for individual actions.
- F. Problem remains to define environmental quality required, rate of investment innovations, consumer education and political implementation.
- To be discussed in final lecture on the next 20 years.

Lecture - Urban Land Economics - The Next 25 Years

I. Urban space problems may be grouped for discussion purposes into problem areas which are converging into a major crisis:

A. The decision process

1. Alternative courses of action
2. Values and objectives
3. Selection criteria

B. Unresolved mechanical problems leave alternatives undefined.

1. Population pressure - space users
2. Urban construction technology bottlenecks - space forms
3. The money constraint - space quantity and quality

C. Conversion of value to objectives through political action.

1. The urban political constraint - space control through community action.
2. Space control - a consensus on environment desired
3. Political participation and community scale

D. Luxury of democratic process versus efficiency of autocratic systems engineering.

II. Ambiguous alternative futures and technical constraints

A. Population pressure magnified physical urban problems and reduces opportunity to create intangible sense of community for value expression.

1. Population estimate - 250,000,000 by 1987 and 324,000,000 by 2015. 85% of increase in present metropolitan statistical areas.
2. A fall in the average number of children per family from 3 in 1957 to only 2 in 1965 reduced the forecast in A-1 from 360,000,000 by the year 2000 and 500,000,000 by the year 2015!
3. Rising population - requires increasing economic base for jobs, increasing productivity as percentage of population at working age falls, further productivity increase to provide rising standard of living.

B. Technical constraints on urban engineering

1. Inadequate water resources to operate water flush sewage system and to absorb sewage contamination.
2. No acceptable engineering alternative to present sewage systems available for a mass market adaptation.
3. Solid waste disposal problem of industrial urban society requires restructuring of production and distribution system.
4. Air pollution is primarily attributable to fossil fuels in the family car and family home furnace, industrial techniques and electric power production.

5. Unless public accepts atomic fuel a fossil fuel shortage will complicate choice of energy system requiring a transportation alternative to the automobile which presently determines all urban planning.
 6. Environment control will require some relocation of industry and and social dispersion with nuclei for public transportation terminals.
 7. A codified residential building system and style wastes resources as well as land and capital.
 8. Urban construction materials are finite. Resource conservation requires that we respect the resource rather than the user - Malthus still has something to say to an industrial society with rising standards of resource consumption per capita combined with increasing number of capitas.
- C. Technological innovation is subject to the money constraint, both private and public.
1. Annual income of \$5,200 a year required for minimum standards in good life suburbia in 1960 Department of Labor study for family of four. Half of Wisconsin households do not qualify for home ownership.
 2. In Madison in 5 years useable land has increased 80% in value and construction costs more than 15%.
 3. A national prefab of 920 sq. ft. sold new for \$13,000 in 1960 including a \$5,000 lot. Virtually the same house today by the same builder costs \$18,500 with a lot costing at least \$4,800.
 4. Milwaukee-March 1967-\$22,200 home lumber cost
 - 1967 - \$2,920
 - 1968 - \$3,469
 - 1969 - \$4,712
 - 1971 - \$3,895
 5. Housing costs are outstripping purchasing power gains of the young family requiring new space. Consumer housing dollar:
 - cost of money - 42¢
 - cost of building - 33¢
 - cost of land - 25¢
 6. Public budgets are increasing. Madison net tax of 55 mills is increase of 7 mills over since 1969 of 48 mills an increase of over 14%.
 - a. 40% of population in Madison is under the age of 9 and about 50% of our city budget goes for education. Average age in Madison is 10 years below the national average so Madison is a prototype for other communities in the 70's.
 - b. Area serviced by city has tripled in 10 years so that lower density of population means public transportation cannot

operate at a profit, sewer is not immediately available, and public services are increasing in cost per capita.

- b. Public budgets cannot build or service existing public plants so there is little public financing power to research and install innovations for air and water pollution, transportation, energy systems, inequities in education, or reconstruction of decaying areas.

III. Basic constraint is the value system of urban residents as the form and quality of future cities will reflect standards operating through the urban political structure.

A. Political division is between pro-urbanites and non-urbanites.

- 1. The pro-urbanites are those actively engaged in developing a community life, ironically the rich elite and the underprivileged minority.
- 2. The non-urbanite is the city dweller who is essentially disengaged and alienated from the process of creating a sense of community. This group is preoccupied by the insecurities of job, family, and home.

B. This working American in the \$6,000 to \$10,000 income group involves 20,000,000 American families and is the dominant political force in the center city.

- 1. Job, family, and home are principle preoccupations.
- 2. Job security threatened by lay-off, strike, plant relocation, technical unemployment and government sponsored alternatives to unionism for upward mobility of the young or the unskilled.
- 3. New urban systems means obsolescence and excessive carrying cost via the Real Estate tax not to mention his need to relocate for job stability.
- 4. His sense of family is threatened by his ties to neighborhood, his peer group at work, and what the media tell him about the urban inner core and the generation gap.

C.. Robert Wood further expressed this problem as follows:

"The future of city-building in modern America, turns less on the indignation of the disprivileged or the conscience of the exceptional than commonly supposed. The issue becomes increasingly how to dispose the working American to reorient his life from one of relative isolation and alienation and to find real aspirations in participation in a genuine community. How does he find new satisfaction in a modern metropolitan area akin to the old town atmosphere of mixed population - where butcher, blacksmith, baker, give life and character to the community."

- IV. City building or urban reconstruction begins with the political science of converting value judgment to a consensus sufficient to provide long term decision criteria for public administrators and legislative direction.
 - A. On engineering questions it is a matter of education and public finance
 - 1. The power of facts - SEWRPC
 - 2. Public awareness - Earth Week or E-Day
 - 3. Mechanisms to internalize cost - penalty, subsidy, value added tax on user
 - B. Reduction of insecurity generated resistance to change
 - 1. Job security and guaranteed income
 - 2. Insured homeowner equities to protect citizen savings from property value cycles
 - 3. Reduction of barriers to vocational mobility and job accessibility
 - C. Increase sense of community identification and participation
 - 1. The subsidy of community heroes, etc. via profession sports
 - 2. Physical structuring of community to reduce scale of participation to affected groups - the Columbia plan and the Neighborhood Association
 - 3. Heterogeneous schools and neighborhoods through land planning
 - 4. More dependence on pedestrian and public transportation
 - 5. Better financing for individual aspirations to have a small shop, family business, adult education to support the realization that individual fantasy can generate realizable goals and that to strive is to succeed
- V. Careers in Real estate offer an opportunity to participate in the urban process, to have a tangible impact on urban environment with the realism imposed by cash solvency.
 - A. Real estate is the process of manufacturing of space of our environment - of building our own aquarium.
 - B. Progress is the degree to which we can control and establish equilibrium in our aquarium
 - C. The facts in this course will quickly be obsolete but functional systems will continue to evolve. The objective of the course - to recruit you as a pro-urbanite.

STRUCTURE OF THE MORTGAGE MARKETS

520 Lecture Outline

PART #1: LECTURE OUTLINE

1. High cost of real estate requires heavy debt financing.
2. Debt financing requires a capital pool.
3. A capital pool requires savings.
4. Intermediary institutions convert savings to mortgages.
5. Intermediary institutions have five basic decision systems:
 - A. A market system to compete for savings.
 - B. A market system to compete for loans.
 - C. A transaction preference system.
 - D. A liquidity system.
 - E. A safety system.
6. Historical development of these systems:
 - A. The nature of a mortgage.
 - B. Mortgage finance prior to the Great Depression.
 - C. Reform of mortgage finance caused by the Great Depression.
 - D. The present mortgage market structure related to lessons of history.

PART #2: CHARACTERISTICS OF MORTGAGES

1. Basic document a negotiable note.
2. Secondary document--a recorded lien on specific property.
3. High cost, durability, slow payout of real estate require long term debt.
4. Mortgage credit competes for capital from savings on basis of:
 - A. Safety.
 - B. Management costs.
 - C. Liquidity.
 - D. Yield.

PART #3: RATE OF MORTGAGE INTEREST & INVESTMENT RETURN

1. Contract rate is interest specified in contract.
2. Investor rate is contract rate minus servicing cost.
3. Prospective yield to investor is investor rate adjusted by discount or premium to set desired market yield.
4. Retrospective yield includes gains from prepayment penalties and discounts taken for loans not held to maturity.

PART #4: CHARACTERISTICS OF PRE-DEPRESSION MORTGAGES

1. Balloon payment at maturity.
2. Interest only each six months.
3. Low ratio--50% of appraisal market value.
4. Combined with high cost second mortgages.
5. Marketed directly to savers by mortgage banking companies.

PART #5: POST-DEPRESSION MORTGAGE REFORMS

1. For the saver:

- Insured savings accounts--FDIC and FSLIC
- New forms of Government security secured by mortgages
- Regulation of mortgage loan practices

2. For the borrower:

- Long term, high ratio loans
- Monthly payments including insurance, taxes, interest and principal
- Credit analysis on basis of income rather than assets
- Lower interest and financing charges

3. For the lender:

- New loan procedures
- Guaranty against loss on many types of loans
- Standardization of control and appraisal
- Secondary markets to provide geographic mobility or liquidity
- More liberal regulation--broader market participation
- Special programs for marginal borrowers

Lecture #11 Outline Institutional Structure of Mortgage Lending

- I. High cost of real estate requires heavy debt financing. Real estate capital represents 2/3 of the nation's wealth and almost 50% of this is mortgage.
 - A. A capital pool for loans requires assembly of small savings through intermediary financial institutions.
 - B. Dominant institutions have been insurance companies, banks, and savings & loan associations but in the last decade several new institutional intermediaries have been created.
 - C. Differences between institutional intermediaries can be shown by comparison of five basic subsystems:
 1. A marketing system to compete for savings.
 2. A marketing system to compete for loans
 3. The transaction preference system of the policy makers
 4. The liquidity system
 5. The safety system
 - D. This lecture will relate historical development and reform affecting subsystems above.
- II. Mortgage always associated with financial panic and brutality of capitalistic system.
 - A. Absence of federal real estate credit policy until after World War I. Cheap land was incentive for national development.
 - B. Mortgage business very local, provincial, and cyclical and subject to abuse by promoter.
 - C. Mortgage banking industry grew up after World War I to bring capital surpluses into contact with real estate development needs.
 1. Prosperity made mortgages the blue chip investment for the middle class.
 2. Savings pools were created by cooperative action (S & L's)
 - D. Flaws on mortgage instrument and lending procedures contributed to depression.
 1. Short term 1-5 year notes, interest only
 2. 50% loan ratios led to second and third mortgages to reduce down-payment.
 3. Decline in prices made borrower unable to refinance or unwilling to pay.
 4. Amount of loan depended upon appraisal so competition took advantage of distorted appraisal.
 - E. Depression made it impossible to finance which accelerated foreclosures which meant intermediaries were illiquid.
 1. Investors lost confidence in the mortgage form.
 2. Savers lost confidence in intermediary

- F. Collapse of orderly market gave liquid investors tremendous buying power.

III. 1930's were a remarkable period of successful federal reforms of the individual mortgage transaction and mortgage lending intermediary.

- A. Immediate temporary relief through HOLC Home Owners Loan Corporation and Reconstruction Finance Corporation.
- B. Protection of the saver through FDIC and FSLIC.
- C. For the borrower - long term, monthly amortized loan including interest, principle, insurance and taxes at high ratios to eliminate need for large downpayments or second mortgages.
- D. Protection for the lender by insuring the loan against default by the Federal Housing Administration.
- E. Federal takeover of appraisal and credit analysis functions.
- F. Regional mobility and liquidity through Federal National Mortgage Association (FNMA). Injection of federal funds into mortgage money supply through Fannie May.
- G. Modification of lenders ability to compete for funds to favor savings & loans as a residential mortgage intermediary.
- H. Depression taught federal government it could manipulate total supply of mortgage money available.
- I. Control of money supply led to special credit for special housing problems.
 - 1. Housing for veterans
 - 2. Housing for college students
 - 3. Housing for the elderly
 - 4. Housing for low income groups
 - 5. Housing for those displaced by urban renewal
- J. While protecting special groups it learned it could manipulate housing quality or relate to other social issues or cause problems in:
 - 1. Urban sprawl or land conservation
 - 2. Social fragmentation or integration
 - 3. Proliferation of the auto or public transportation
 - 4. Inflation of labor costs or labor saving innovation

IV. Institutional innovation since 1960 brought about by tremendous demands for mortgage money and serious credit cycles.

- A. For the saver looking for appropriate denomination, safety, and better yields.
 - 1. Variety of thrift plan offered by banks and S & L's for deposits of alternative maturity dates.

2. Collateral trust bonds guaranteed by GMA.
 3. Real estate mortgage trusts.
 4. New bond series issued by Home Loan Bank, Freddie Mack, Fannie May and Ginnie May.
- B. For the lender looking for a better spread between cost of savings and yield on mortgages with liquidity, safety, etc.
1. One bank holding companies with mortgage company.
 2. Savings and loan savings corporation.
 3. Real estate investment trusts management company.
 4. Home Loan Bank subsidy by federal government.
 5. Private mortgage loan insurance.
 6. Secondary mortgage market for both FHA and conventional loans.
- C. The borrower enjoys more liberal terms due to:
- 95% loan ratio conventional loans.
2. Subsidized loan rates for low income families.
 3. Subsidized loans for industrial development.
 4. Piggyback loans to reduce points on multi-family projects via tandem plans through GMAA, and FHMA.
- D. Capital requirements for real estate target of 26,000,000 new and rehabilitated housing by 1980 will require further reform of:
1. Consumer savings patterns
 2. Reduction in non-durable financing
 3. Modification of building cost
 4. Further modification of credit delivery systems
 5. Long term stabilization of the dollar.

NOTES ON ASSIGNED READINGS IN URBAN
ECONOMICS BINDER

- I. Housing and Mortgage Markets, Litterer and Lehman - The concern of their inquiry is whether a decline in the rate of increase in mortgage debt may not reduce building starts and thereby weaken prosperity, which in turn would weaken the ability of existing mortgage owners to meet their payments.

The article first relates housing demand to changes in the population composition of the ninth district of the Federal Reserve bank in Minneapolis for the 1955-59 period.

Population is related to households as the basic unit in housing needs and as equivalent to the number of dwelling units occupied. The authors then arrive at a high-low estimate of the annual increase in households and therefore a measure of necessary home building for a five year projection.

The article is then concerned with effective demand as indicated by rise in income per capita, family income, and the rise in liquid assets available to prospective home purchasers. Liquid assets present the first barrier to home ownership for many families have difficulty saving, although they may have non-liquid equities in other property.

The rise in the price of houses in the median price class must be related to the rise in median family income. In this case he showed a five year increase of \$900 in family income but an increase of \$3,450 in the median VA price and of \$2,400 in the FHA price.

Effective demand is also influenced by shifts in consumer preferences and competition for consumer dollars. But these several sources of demand for housing do not account for the status of the existing stock of houses and its utilization. In the ninth district housing stock was generally older than true of the national supply so there was some demand from obsolescence and demolition.

Utilization was indicated by density of occupancy, which in this case showed ~~and~~ decrease, despite bigger families, indicating a trend in the population toward less crowded quarters. Moreover, units occupied were getting bigger in area. At the same time vacancy rates were declining indicating a smaller number of unoccupied units. A rise in the net vacancy rate of significant proportions presages saturation and a drop in building. In this particular case a very low vacancy rate with positive demand factors in the other areas mentioned suggested demand should remain high.

At that point the availability of mortgage credit will establish the limit on effective demand. The author's first note the rise in liberal mortgage credit encouraged by the FHA-VA program and the chief institutional mortgage investor, S&L's, commercial banks, and insurance companies.

The author's then touch on their basic question - as to whether the magnitude in absolute size and growth rate of residential mortgage debt would discourage further investment.

For one thing the rise in new mortgage loans was increasing more rapidly than housing starts should indicate as the average amount per mortgage increased. Mortgage funds were being used for non-housing purposes.

One reason the mortgage debt burden seems excessive is because critics confuse the total debt with actual cost, and the cost has been held to a lower rate of increase by extending the rate of amortization and low interest rates. The aggregate amount of debt reflects the increasing amount of debtors. The burden of housing cost was actually declining as the population spent a smaller proportion of real income for housing cost.

Therefore the author's maintain that the existing mortgage debt was secure **because** it still represented a conservative demand on available incomes and probably a conservative proportion of appraised property values due to inflation and better appraisal techniques. Moreover, lenders were willing to supply more funds for mortgage lending because the techniques introduced by FHA-VA had shown that lending could be safe and profitable

- II. The role of credit in the real estate market, by Ernest M. Fisher is organized around (1) a description of the market, (2) a definition of the nature of credit, (3) observation of the role it plays in the market.

The real estate market deals in rights to real estate objects and these rights and objects are of infinite variety so that there is no uniform market. Discussion is limited to the single family residence.

Two advantages of home ownership is freedom from interference by a third party such as a landlord and protection against a rising market for rent. At the same time he assumes the risk of a falling market which means the collateral benefits or rights of ownership are worth less.

These benefits are pledged for credit so that credit can only be used within the limits of probable fluctuation in the value of the collateral.

Credit is purchasing power in the hands of the borrower and therefore its impact must vary with purchasing power of the dollar in the real estate market. The ability of the borrower to provide for the debt depends on the amount of his reasonably assured income, the amount of the loan, period of repayment, rate of interest, and the relationship of repayment demands to income receipts.

Fisher than shows the impact on the purchasing power of \$25.00 a month where the loan term is stretched from 10 years to 30 years and the interest rate is dropped from 5% to 4%. As you will recall it meant a change of purchasing power from \$2,357 to \$5,236 or 120%.

In a buyer's market additional credit should not push housing prices too much higher for the buyer will tend to buy a better house rather than pay more for his previous choice. But in a seller's market an attempt to gain housing benefits for those without liquid assets by liberalizing terms will only accentuate the problem. Therefore credit policies must reflect housing demand characteristics.

CHART I

OUTLINE OF PROPERTY DEVELOPMENT LECTURE

I. DESCRIPTION OF PROPERTY DEVELOPMENT LECTURE

1. VARIETY OF SCALE AND TYPE
2. DEVELOPMENT AND MANAGEMENT
3. CASH FLOW AND DECISION PROCESS

II. OUTLINE OF DEVELOPMENT DECISION AREAS

III. PROPERTY DEVELOPMENT AND TIME CONSTRAINTS

IV. PROPERTY DEVELOPMENT TRENDS

1. NEW CAPITAL SOURCES
2. SHIFT TO CONSUMPTION SYSTEM STRATEGY
3. DEVELOPMENT OF NEW JOB OPPORTUNITIES

Chart II

The Development Process

- A. SELECTION OF A GRAND STRATEGY--THE DEVELOPMENT OBJECTIVE
- B. DETERMINATION OF EFFECTIVE DEMAND
- C. DETERMINATION OF TECHNICAL FEASIBILITY
- D. DETERMINATION OF LEGAL-POLITICAL FEASIBILITY
- E. ETHICAL AND ESTHETIC SUITABILITY
- F. FINANCIAL FEASIBILITY

CHART IV

- I. HISTORICAL DIVISION AND SEPARATION OF DEVELOPMENT PROCESS BY FUNCTION
- II. CONTEMPORARY TREND TO FULL SERVICE OF THE LAND USE CONSUMPTION SYSTEM
- III. QUICK SALE VS. LONG TERM RELATIONSHIP WITH CONSUMER
- IV. IMPLICATIONS --
 1. BIGGER PROJECTS
 2. LARGER CAPITAL ENTRY REQUIREMENTS
 3. LARGER PERMANENT DEVELOPMENT ORGANIZATIONS
 4. PUBLIC AGENCY--PRIVATE CORPORATION PARTNERSHIP

City-County Building, 210 Monona Avenue

A great deal of information concerning real estate is a matter of public record because of the public interest associated with it. Most of the information about real estate located in Dane County (Madison is located in Dane County) can be found in the City-County Building, 210 Monona Avenue, Madison, Wisconsin. You will use some of this information for Projects I and II.

For your benefit, arrangements have been made for orientation at the various offices. It may be necessary for you to return to complete your data collection; these offices close sharply at 4:30 and are not open on weekends.

(1) City Assessor's Office (Room 101)

(a) Information:

- parcel number (for tax purposes).
- legal description (may not coincide word-for-word with the description on the deed, but describes the property nonetheless).
- assessed valuation--land, improvements, and total.
- tax (the current tax rate in Madison is \$45 per \$1,000 of assessed value).

(b) As a thumb rule (no exact guide) property in Madison is assessed at 60-65% of market value.

(c) Information items listed in (a) may also be obtained from the County Treasurer's Office.

(2) Building Inspector's Office (Room 109)

(a) Information:

- zoning.
- building permits.
- building inspections.

(b) Zoning information is presented on a zoning map.

(3) City Engineer's Office (Room 115)

(a) This office is in charge of and keeps records of all of the municipal utility systems in the City of Madison. These include water, sanitary sewer, and storm sewer.

PUBLIC RECORD SYSTEMS

Basic reference sources:

1. Tract Index - organized by property descriptive (and location)
(Index to Tract Index)
2. Grantor-Grantee Index - organized by seller and buyer
(parties), or other party designation such as mortgagor-
mortgagee.
3. Both systems cross-reference their entries to the other.
 - (a) Tract index contains seller-buyer or other party designation
 - (b) Grantor-Grantee Index contains property description

Organization of basic reference sources:

1. Tract Index Organization:
 - (a) Lower right hand label indicating section by number,
subdivision by name.
 - (b) Column heads:
Lot by number (if subdivided)
Document number
Instrument (Volume and page)
Date of transaction
Date of recording
Grantor
Grantee
Description: "Part of Lot 38;" and cross references,
as with mortgage and satisfaction.

Organization of basic reference sources: (con't.)

2. Grantor-Grantee Index Organization:

(a) General Index -- Grantors:

1. Index (alphabetical) by surname, and firms and corporations
2. Column heads:
 - Document number
 - Instrument type
 - Time of reception
 - Grantors (surname and given names)
 - Grantees (surname and initials)
 - Description of real estate
 - Recording location (volume and page)
 - To whom delivered

(b) Grantee Index

1. Index (alphabetical) by surnames, firms and corporations
2. Column heads:
 - Document number
 - Grantees (surname and given name)
 - Grantors (surname and initials)
 - Recorded (location) volume and page
 - Instrument type

Basic instruments and location:

1. Basic references are guides to the instruments which represent the legal documentation of real estate transactions.

2. Deeds

- (a) Photostats of documents located in separate deed volumes arranged by volume number and page.
- (b) Deed types: warranty, (joint tenancy), quit claim, sheriff
- (c) General information:
 - Parties (grantor, grantee)
 - Property description
 - Witnesses
 - Cash consideration (revenue stamps)

3. Mortgages

- (a) Photostats of documents located in separate mortgage volumes arranged by volume number and page.
- (b) Mortgage types: straight, amortized, purchase in only refinancing. Satisfactions of mortgages included in same volumes.
- (c) General information:
 - Parties to mortgage
 - Face amount of mortgage, not outstanding amount.
 - Terms
 - Property description

4. Miscellaneous

- (a) Photostats of several types of official documents relating to real estate transactions are bound in a series of volumes called "Miscellaneous."

4. Miscellaneous (con't.)

(b) Types of documents located in "Miscellaneous"

1. Land contracts (parties, amount, terms of payment, property description)
2. Terminations of Life and Joint Tenancies.
3. Easements
4. Releases (from tax and contractors' liens)
5. Subdivision restrictions
6. Affidavits (relating to title)
7. Leases

III. Cities may grow by internal expansion. Either it creates new surface space or permits higher density development of existing space.

- A. Vacant land areas such as golf courses may be subdivided. Presently in Milwaukee a subdivider is building a golf course on the far north side, which, when completed, he will trade for an existing golf course which is now in the middle of a well developed area. The city may encourage this kind of development by assessing the land holdings of the golf course at a value comparable to improved building lots in the area. The tax burden may become unacceptable to the golfer.
- B. Reclamation of swamp areas, ravines, and lake shore are familiar to all of us. Northwestern University is acquiring land for a whole new campus by filling in the lake shore to the east for nearly a mile out into the lake. Pittsburg is filling in an ugly ~~razing~~ ^{razing} with a big research center, built like an inverted pyramid, over a roadway running along the bottom of the steep ravine. Fort Lauderdale has built a city of canals by pumping out a swamp to create dry building sites and dredge channels for pleasure boating.
- C. Land use can be intensified by a succession of uses:
 - 1. Structural alteration or conversion - for example changing the old mansion to a boarding house.
 - 2. Structural replacement as we see on State St. - a two story McNeal and Moore store is being replaced by a ten story dormitory and shopping complex.
 - 3. Greater density is also possible by permitting taller buildings or vertical extension of present buildings. Only a few years ago the Campus Motel added a third story.

IV. Physical growth can also be explained by the fancy term polynucleation. This expression applies to the entire metropolitan area and is kind of an extension of the clusters found in early axial development.

- A. One form of growth by polynucleation is the gradual integration of a city with its satellite. Madison has expanded to include Monona Village, Middleton, and earlier such satellites as Shorewood, Nakoma, and Maple Bluff. Each of these areas had been a relatively complete suburban unit.
- B. As these communities grow toward each other, there results progressive coalescence, a coalescence which occurs quite quickly near the center of the metropolitan area and declines as one reaches the perimeter. The sprawl effect continually creates new nuclei which will eventually coalesce with the main city area.

C. Present planning theory makes great use of polynucleation on several scales of planning activity.

1. City planners try to encourage subdivision by neighborhood. They will analyze the direction of growth and select a section of land appropriate for redevelopment in the next three to five years. After selecting the appropriate kind and quality they will plan suggested street patterns, locate parks and schools, and plan necessary facilities as fire protection and storm water drainage. On the basis of this plan the city Budget will be designed to build the school, the park, or the water shed in this neighborhood before developing some other area. Developers will flock to the area where they can find building sites which enjoy the advantages of city services and schools of the newest design.
2. Another phenomenon has been the appearance of private firm with land holding so large that they can build an entire town. They create the necessary economic base as they go along creating a semi independent satellite community. Last month House and Home magazine reported 75 such towns under construction. For example Centex is building a town northwest of Chicago around an industrial park which it also built. The Irvine ranch is building a town south of Los Angeles. To start a suitable economic base it has given the state of California 1,100 acres for a new University which is now under construction.
3. Each nucleus in a metropolitan planning district permits control of size and direction of development, prevention of sprawl and creation of better related more efficient land use.
4. Perhaps most important the space between these nuclei will be used for parks, forest preserves, Truck farming, expressway systems, reservoirs, and the continual problem of cemeteries.
5. These greenbelts should provide a visual break in the urban pattern for esthetics - and the gloom, ones point out it creates a fire break to check fire storms.
6. While the nuclei concept means urbanized areas will become more extensive, actual land use for areas which are not greenbelt will become more intensive. Subdividers now use small lots in cluster plans and planned unit developments which mix apartments and single family homes.

V. Lets change the subject slightly and return to the subject of the economic growth pattern of cities. This is the subject of urban land use structure.

A. Urban land use structure is a geographic expression of economic competition for location, for situs patterns, the basis of the productivity of real estate space and use. Whoever finds a specific sight most useful, most productive, is willing to pay the best price for it. Unless the community has some objection as reflected in zoning and building laws, land will have a tendency to be sold to the highest bidder.

B. The arrangement of land uses within the physical urban area and the way these uses change will also represent the economic efficiency of the land use layout.

C. As you are aware there are three versions of theories, conceptual interpretations if you will, which have evolved from each other:

1. Concentric zone theory
2. Sector theory
3. Multiple nuclei theory

D. The idealized concept of concentric zone theory is a set of concentric circles around the core of the city. Topography would make breaks in the circles.

E. Within each circle land uses would be arranged by zone - RUM text is the current version of several which have been put forth:

- Zone 1- Central Business District
- Zone 2- Wholesaling and Light Mfg.
- Zone 3- Low income housing merging into zones 2 and 4
- Zone 4- Heavy Manufacturing
- Zone 5- "Bright-light" area of neighborhood shopping center and higher dwelling units
- Zone C- Commuters zone

F. Each ring has independent growth power with an expansion effect and with transition problems. Consider the conversion of the Prospect Avenue area in Milwaukee. This transition also reflects the evolutionary stages of land use. Therefore there are zones which reflect:

- (a) Age of structure (as in a tree)
- (b) Condition of structure. (Rel. to age and transition)
- (c) Value for smaller residential structures.
- (d) Income and social status of residential occupants.

G. Of course the concentric zone theory has many flaws including:

- (1) Extremes of topographical technological and institutional interference make theory almost meaningless in some cases.
- (2) Assumption of a common center.
- (3) Disregard of effects of radials (street and transit) on land use pattern.
- (4) Represents version of a large and relatively mature city in terms of range and location of uses.
- (5) Commuters zone assumes an unincorporated area, no provision for decentralized industry and commerce.

VI. The Sector theory can be described as establishing residential segments of the city by defining the areas according to value and borders defined by radials of street and transit systems or the contours of topography.

- A. The pie shaped pieces of the city that result create an irregular periphery. The Sectors tend to gravitate toward a high rent sector.
- B. At the same time this sector tends to drift outward toward high land, open country, or scenic lake shores. (Chicago Michigan Avenue-Madison Square trend)
- C. As the pole of value moves, value transitions take place within sectors. A high rent sector can fan out on its periphery while gradually yielding to boarding house conversions at the core. In some cases, as in Georgetown, a high rent sector can gradually convert a slum area on its periphery.
- D. Although the Sector theory is primarily residential, it is adaptable to other uses. Industrial sectors may develop along railroad patterns and commercial areas may string out along arterials.
- E. The theory is limited because generally, it deals with only one land use, although residential land use is dominant in terms of area.
- F. While commercial uses will fit into the pattern for a CBD or string development, it is a single center concept. As such it does not adapt to multi-nuclei patterns.
- G. Another flaw is that high rent areas are not always the main pole of attraction. Many times middle income areas or an industrial park is a pole for peripheral development fanning.

VII. The multiple nuclei theory pictures each land use as an irregular shaped area representing zones of maximum concentration of use. One use may merge into the next.

A. Each single use may have many different points of nucleation within the urban structure. The theory is flexible because it will account for:

1. City use patterns at different stages of city area growth.
2. For a metropolitan area it will picture the coalescing of the central city with satellite communities.
3. The pattern will reflect influences of topography and institutions on the land use pattern. It may cover as many uses as you may define a point to include.

B. However this theory does not explain economic relationships of the various nuclei or the causal sequence of development. The theory produces a pattern which is weak on transit or radio effects.

C. All three theories are inadequate for a number of reasons:

1. Use classification of an area reflects only one of the following factors, obscuring desirable heterogeneity: FIRST FLOOR USE - INTENDED USE or DOMINATE USE.
2. No provision is made for the large land areas committed to public uses such as streets, parks, schools, churches, and hospitals.
3. It is difficult to recognize land uses in transition where land use is classified as is no.1.

VII. Economic patterns of land use structure are becoming less sharply defined as has been true of cities in the past.

A. During the semester we will find that zoning of land uses is becoming more flexible. More sophisticated. The public will accept more mixed land uses as compatible.

B. Sociologists, Marketing experts, and real estate people are beginning to realize heterogeneous use of land can be more stimulating more conducive to mental health, more efficient, and more natural.

C. Future urban development may be better related to a total community plan as planning departments make themselves known and effective.

BUSINESS-ECONOMICS-PLANNING 520
URBAN LAND ECONOMICS

Project I

PART A. TRANSACTION, LEGAL DESCRIPTION, AND ASSESSMENT DATA

1. Property Transaction Records (Register of Deeds Office, City-County Bldg)

The Tract Index provides a key to all transactions of public record concerning real estate. This index will indicate the volume and page of any recorded instrument affecting your parcel. The volumes (marked "Deeds," "Mortgages," "Miscellaneous," etc.) can be found in this office, and include the photostatic copies of the actual instruments. From either the Tract Index or the photostats determine the following information:

- (a) What are the dates of the latest deed entries affecting the ownership of each of the parcels which comprise your site? (If your site consists of only one parcel, obtain the date of the latest entry affecting this parcel.)
- (b) Who are the latest grantees of record for each of the parcels which comprise your site? In what volumes are the deeds recorded? On what pages? What type of instruments were used to convey ownership of these parcels?
- (c) What values are shown for each parcel as of the most recent sale, as revealed by the revenue stamps affixed to the deeds?
- (d) What are the amounts of the latest mortgages recorded for each of the parcels comprising your site? What are the dates of these mortgages?

2. Legal Description (Register of Deeds Office, City-County Building)

From the deed and mortgage recordings analyzed above, obtain the legal description of the parcels comprising your site. This description will be by lot and block or metes and bounds.

3. Assessed Valuation (City Assessor's Office, City-County Building)

Using the parcel numbers for your site, obtain the assessed valuations and tax levies for the parcels comprising your site from the tax rolls.

PART B. ANALYSIS OF SITE AND SITUS PATTERN; PROPERTY ZONING

1. Site Analysis

- a. Obtain a site area map from the Wisconsin Blue Print Company, 340 State Street. Alternatively, a Xerox copy of the site area map appearing in the Dane County Atlas may be obtained at the recorder's office.

- b. Obtain a folding map of Madison at the Memorial Union Main Desk, Brown's, or the Co-op.
- c. At City-County Building:
 - (1) Get a broader detail perspective of site area from the Dane County Atlas.
 - (2) Outline your site with a heavy black line on your area map.
- d. Visit your site and the neighborhood. Note the size, shape, topography, and orientation of the site. Note also any trees, utility lines, etc. Consider how these characteristics might benefit or limit development.

2. Situs Pattern

- a. On the basis of your field inspection above, indicate on your area map land uses in the neighborhood (2 block radius) of your site. Print neatly on street frontage line the names of the typical uses, i.e., single family residence, flats, commercial, etc.
- b. Locate, and indicate on your Madison map, the following:
 - (1) Bus lines serving your site. (Bus routes and schedule may be obtained from any city bus.)
 - (2) The point of nearest convenience shopping and the nearest supermarket.
 - (3) Parks and other cultural amenities.
 - (4) Nearest churches and parochial schools.
 - (5) Nearest public schools (check the city or telephone directory).
 - (6) Any other information which you feel would be valuable in the analysis of your site.
- c. Where any of the factors in b above appear on your area map, so indicate.

3. Zoning (Building Inspector's Office, City-County Building)

- a. Determine the zoning of the site and of the area included on your neighborhood or area map. Lightly color blocks on this map to represent the zoning in effect in your area and prepare a zoning color key for use with your map.

- b. By referring to Madison Zoning Ordinances, pick out any elements that might be either beneficial or detrimental to the subject parcel. For example, what uses does zoning classification R-6 allow which would be suitable to the subject parcel? - which would be detrimental to the subject parcel or to the neighborhood? Remember that zoning is a maximum or minimum limitation, and not necessarily a suggested standard. A copy of the zoning ordinances and the zoning map are on file in the Business School Library.

GENERAL INFORMATION

1. In preparing your materials keep in mind that their accuracy and legibility are important inasmuch as they will be used in connection with Project III.
2. In completing the requirements for Part A, you may outline your answers, where appropriate.
3. In completing Part B-1 and Part B-2, after you analyze and describe the site and situs pattern, draw any conclusions you consider appropriate as to the locational desirability of the subject property, and as to logical uses to which it might be put. Do not consider zoning in writing this part of the report.
4. In fulfilling the requirements of Part B-3, be specific in your description of major elements of the zoning ordinance which affects your property. After reviewing the key aspects of the zoning ordinance, what use would you now recommend for the site? Is this a different use than you described in answering Parts B-1 and B-2 of this project?
5. If, for some reason, you feel that you do not have adequate information on which to base one or more of your conclusions, state that fact. But also include the reason(s) that the information is inadequate and how the situation might be remedied (should you get the missing facts?).

Business-Economics-Planning 520

Urban Land Economics

Project 11

Summer, 1969

Prepare to hand in for a grade, solutions to the following problems. Show all work and indicate any assumptions made beyond those provided in the problems.

Problems 1 and 2 are designed to suggest to the student some basic tools of financial and appraisal analysis in real estate investment. These two problems provide a practical introduction to present value theory and the use of mortgage funds. Problem 3 includes both of these concepts, but also causes the student to focus on net spendable income, accelerated depreciation and income and capital gains taxation as important facets of real estate investment analysis. For purposes of these problems, the present value factors may be selected from the tables on pages 138-139 of the text, Real Estate Analysis.

1. The Civic Center commercial property has been analyzed and it has been determined that its earnings from henceforth can be projected on a step pattern as follows: \$80,000 annual net income before income taxes for the first ten years, \$70,000 annual net income before income taxes for the second 10 years, and \$50,000 annual net income before income taxes for the following 10 years, after which time the property would have a residual capital value of \$350,000. An investor wishes to purchase it with 100% equity money at a price which will give him a 12% return before income taxes. What is the most he should pay for this property?

2. Now assume that the above investor would be willing to borrow money to finance purchase of the property, but that he still wants a 12% return on his equity down payment. The bank offers to loan him an amount which could be repaid with a debt service of \$45,000 per year at 6% for 15 years. An insurance company offers to lend him an amount which could be repaid at a rate of \$40,000 per year, 8% interest, for 30 years. Compare the investment opportunities under the two financing arrangements:

(a) How much of a loan is the bank willing to make? How much of an equity investment would the investor be willing to make? What is the total price offer for the property which would be justified under the assumptions? What percent of the value is the loan?

(b) Answer the same questions for the insurance company financing proposal.

3. For this problem, assume that an investor is considering paying \$200,000 for an apartment site. You are analyzing his proposed project and are trying to determine if it will be economical for him to go ahead with the project (that is, will the total after-tax productivity of the project justify the land and improvements cost?). In making your analysis, you incorporate the following assumptions:

(a) First year annual net income of \$60,000 increases by \$2,500 for five years and then by \$3,000 for four years.

Problem 3, cont'd

- (b) The improvements are estimated to cost \$550,000; thus, the total project cost will be \$750,000.
- (c) Mortgage debt of \$582,700 is available. This debt is to be amortized at 7% interest; annual payments are \$50,000.
- (d) The improvements will be depreciated through use of the double declining balance method; the economic life of the improvements is 50 years.
- (e) The sales price following a ten-year ownership period is \$100,000.
- (f) The investor's marginal income is taxed at 50%.
- (g) An after-tax return on equity investment of 15% is sought.
- (h) Capital gains on the sale of the property are taxed at 25%.

With this information provided, answer the following questions:

- (a) What is the total depreciation which the investor will take on the improvements over a ten-year ownership period?
- (b) What is the amount of the capital gains tax?
- (c) What is the amount of mortgage amortization?
- (d) What is the total present value of the net spendable income generated by the project over its ten-year life?
- (e) What is the present value of the net proceeds from the sale of the property?
- (f) What is the total investment value of the project? (This may be more or less than the cost of land and improvements.)

NOTE: You will probably find the lecture handout materials helpful in completing these problems.

Commerce 520
URBAN LAND ECONOMICS
(Real Estate)

Project I.

ANALYSIS OF
ECONOMIC, POPULATION & PHYSICAL DATA
FOR
WISCONSIN CITIES

*

This project is designed to acquaint you with information drawn from U.S. Census publications and other sources that have a bearing upon an understanding of urban socio-economic composition and its relation to real estate investment situations in selected Wisconsin cities.

Your assignment in this first project is to make a generalized and preliminary estimate of the relative desirability of certain broad types of real estate investment in two Wisconsin cities. For the purposes of this assignment the subject cities are:

Prepare a written analysis of 2 or 3 types pages, supplemented by whatever tabulated statistical data you consider appropriate, that will indicate how, in general terms, investment would fare in present circumstances (1960) in each of the cities if it concentrates on:

- (a) Small luxury apartments.
- (b) Single family residences of 3 and 4 bedrooms priced between \$15,000 and \$18,000.
- (c) Specialty commercial operations such as art supply shops, music stores, sports equipment centers.

In your analysis give consideration to community population characteristics, conditions of employment and economic activity, housing, public services and the like. Summary observations on all these conditions are presented in the County and City Data Book, 1962, published by the Bureau of the Census, U.S. Department of Commerce. Note particularly tabulations appearing on pages 566-75. Copies of this publication can be found at:

- (a) School of Commerce Reading Room.
- (b) Government Publications Division, Wisconsin Historical Library.
- (c) Reference Desk, Room 120, Memorial Library.
- (d) Reference Room, Madison Public Library.
- (e) Legislative Reference Bureau Library, State Capitol, North.

Commerce-Economics-Planning

URBAN LAND ECONOMICS

Project II

ANALYSIS OF SITE & SITUS PATTERN

The subject parcel of land for this exercise is the vacant lot at _____ . Its legal description is:

"Lot____, Block____, _____

Madison, Dane County, Wisconsin."

1. Site Analysis

- a. Obtain map of site area from Wisconsin Blue Print Company, 340 State Street.
- b. At City-County Building:
 - (1) In County Register of Deeds Office (in rear) look at Dane County Atlas to get broader detail perspective of site area.
 - (2) Outline subject site with heavy black line on your area map.
 - (3) Obtain folding map of Madison at City purchasing office or University Co-op.
- c. Visit site and neighborhood. Note size, shape, topography, and orientation of site. Consider how these characteristics might benefit or limit development.

2. Situs Pattern

- a. On the basis of the field inspection in 1(c), above, indicate on area map land uses in neighborhood (2 block radius) of your site. Print neatly on street frontage line the names of the typical uses, i.e., SF residence, flats, apartments, commercial, etc.
- b. Obtain a Madison Bus Company route schedule and map. Indicate on your Madison map the bus lines serving your site.

OVER

2. Situs Pattern (continued)

- c. Locate, and indicate on map of Madison, the point of nearest convenience shopping and the nearest supermarket.
 - d. Check neighborhood for nearest parks and other cultural amenities. Note their location on your Madison map.
 - e. Locate nearest churches and parochial schools, and indicate where they are on your Madison map.
 - f. Indicate location of nearest public schools. This can be done in field or by checking the City or telephone directory.
 - g. Where any of above factors appear on your area map, so indicate.
3. Write a brief report in three sections. The first section should concern site analysis, the second section, situs pattern analysis. In the third section, draw any conclusions you consider appropriate as to the locational desirability of the subject property, and as to logical uses to which it might be put.
4. In preparing your materials keep in mind that their accuracy and legibility are important inasmuch as they will be used in connection with future projects.

URBAN LAND ECONOMICS

Project III

PROPERTY ZONING, TAX AND TRANSACTION RECORDS

(Same parcel as in Project II)

1. Zoning

- a. Determine zoning for area included on your neighborhood or area map. Color blocks on this map lightly and prepare map key according to master map in Building Inspector's Office, City-County Building.
- b. By referring to Madison Zoning and Planning Ordinances pick out any elements that might be either beneficial or detrimental to the subject parcel. For example, what uses does zoning classification A-2 allow which would be suitable to the subject parcel? - which would be detrimental to the subject parcel or to the neighborhood? Copies of zoning ordinances are on file in the Commerce Library.

2. Property Transaction Records and Deeds (Register of Deeds Office, City-County Building)

- a. The Tract Index provides a key to all transactions of public record concerning real estate. In order to identify transactions involving your property, refer to Volume _____, marked _____. Turn to _____.
 - (1) What is date of the latest entry concerning subject lot?
 - (2) Who is the latest grantee of record? What type deed was used for the conveyance?
 - (3) In what deed volume is the entry on file? On what page?
- b. What value is shown for your property at most recent sale as revealed by revenue stamps on the deed in the volumes in this office marked Deeds?

3. Assessed Valuation

With a legal description or property address, you can obtain parcel number, tax levy and assessed valuation of a subject property from the tax rolls in city assessor's office, or office of county treasurer. Indicate in your final report these three facts.

4. With the information you developed in items 1 and 2 above, what use do you now suggest for the property? How does this differ from what you had in mind after project II?

In its present form, the information in item 3 is of limited use. Do not try to include it in your analysis. But do keep its source in mind, and the specific data involved.

5. Write a brief report summarizing your information, analyze its meaning, and include any new conclusions you may have arrived at concerning the subject property.

URBAN LAND ECONOMICS

Project Number VI

REAL ESTATE INVESTMENT PROPOSAL FOR A
SELECTED SITE

A. Purpose

The purpose of this project is to propose a real estate investment project for the site which you selected for previous analysis in Projects II, III, and V. Present your report in a form which would be convincing evidence for a financial institution or a potential investor.

B. Outline of procedure

1. Make a decision as to highest and best use for selected site, briefly supporting your conclusion from your knowledge of the local market as reported in Projects I through V.
2. Make a statement of your investment objective (income, long term capital gain, short term speculation) as related to potential of highest and best use.
3. Make a general description of the concept of the proposed investment and any necessary improvements as related to land use trend, value trend, zoning, and critical design element.
4. Suggest approximate rental values, comparable sales value, tax assessed values construction cost, financial terms, or other information indicating income and cost potential.
5. Analyze proposed investment in terms of:
 - a. approximate cash cost of project
 - b. approximate gross income (if any)
 - c. operating cost, etc.
 - d. financing arrangements
 - e. management possibilities
 - f. form of ownership, organization, etc.
 - g. estimated net income and net income pattern for the life of the investment
 - h. estimated reversion or residual values

C. Investment valuation

Place a valuation on your investment proposal through capitalization of expected earnings and returns.

1. State pertinent assumptions as to desired return on equity, useful life, mortgage terms, and so on.
2. Support your assumptions if you can with market data, interviews, or other authority.

D. Summary and conclusion

Summarize your thinking, and point out any special problems with site or zoning which might change the result. Make a conclusion as to the desirability and risk of the investment, and do not hesitate to conclude that cost does not justify value or that proposal is 5 or 10 years premature in light of existing market. Be objective and realistic in your thinking. As much as possible, relate your investment proposal and its various aspects to the real-life situation.

URBAN LAND ECONOMICS

Project III

REAL ESTATE INVESTMENT PROPOSAL FOR A
SELECTED SITE

A. Purpose

The purpose of this project is to formulate a proposal for a real estate investment project situated at the site which you selected and analyzed in Project I. Present your report in a form which would be convincing evidence for a financial institution or a potential investor.

B. Outline of procedure

1. As a back-drop for your investment decision, make a brief but thorough analysis of the City of Madison. Examine the nature and trend of important socio-economic and physical indicators. What is (and will be) the economic climate for an investment on your site? (Use sources listed below.)
2. Make a decision as to highest and best use for your selected site, briefly supporting your conclusion from your knowledge of the local market as reported in Project I, and from your analysis above.
3. Make a statement of your investment objective (income, long-term capital gain, short-term speculation) as related to potential of highest and best use.
4. Make a general description of the concept of the proposed investment and any necessary improvements as related to land use trend, value trend, zoning, and critical design element. Indicate the form of ownership, organization, etc.
5. Estimate the total investment (in dollars) that will be necessary for the completed project:
 - (a) Substantiate land costs with market information.
 - (b) Estimate the total costs of the improvements.
 - (c) Indicate any other costs (title search, architect's fee, etc.) which may be necessary.
6. Calculate the income that your project will generate:
 - (a) Local market information should be used to substantiate gross income, vacancies, and management and operating expenses.
 - (b) Indicate the income pattern for the life of the investment. Consider city-wide economic factors as well as local factors and the nature of the proposed improvement.

7. Indicate the financing arrangements which are feasible for your project.
8. Place a valuation on your investment proposal by capitalizing the expected returns:
 - (a) State pertinent assumptions as to desired return on equity, economic life, depreciation, income and capital gain taxes, residual value, mortgage terms, etc., which you have not substantiated in the local market.
 - (b) Show your investment calculations.

C. Conclusion (investment decision) and summary

1. Summarize your thinking up to this point. Make a decision as to the desirability and risk of your investment proposal. Would it be a wise investment?
2. Point out any special problems of site, zoning, or neighborhood trends which might change the result.
3. Review again your highest and best use. In view of the knowledge gained from this project, would you propose the same use again?

D. Sources of information

As much as possible, relate your investment proposal and its various aspects to the real-life situation.

1. The following publications dealing mainly with city-wide factors are on reserve in the Commerce Library. They can be helpful in predicting the future.

Madison Area Transportation Studies:

- 1) Tech. Report No. 15, Economic Analysis
- 2) Tech. Report No. 16, Population, Land Use, Etc.
- 3) Tech. Report No. 19, 1985 Projections

Madison Planning Department Publications

- 1) Madison's Plan for Use of Land
- 2) Information Series, Nos. 1 to current
- 3) Neighborhood Planning, Report No. 2
- 4) Campus Next Door
- 5) The Near West Neighborhood

Federal Housing Administration, Vacancy Studies:
1963, 1965, and 1966

County and City Data Book, 1967

Land Subdivision, City of Madison

Building Code, City of Madison

Zoning Ordinance, City of Madison

2. Henry Hoagland, Leo Stone,
Real Estate Finance
 3. Urban Land Institute,
The Community Builders Handbook
 4. James Downs, Jr.,
Principles of Real Estate Management
 5. American Institute of Real Estate Appraisers,
The Appraisal of Real Estate
 6. William Casey,
The Real Estate Desk Book
 7. E. H. Boeckh and Associates, Inc.,
Boeckh's Manual of Appraisals
 8. F. W. Dodge Company,
Dow Building Cost Calculator
 9. Madison League of Women Voters,
Zoning
2. Besides many government publications, the following are suggested as sources of information for selling prices (vacant land or improved land), rents, operating expenses, vacancies, costs of buildings, financing, arrangements, etc.:
- (a) Real estate brokers and salesmen
 - (b) Property managers (agents)
 - (c) Investors in property
 - (d) Owners or managers of specific properties
 - (e) Public records including the title records
(tax stamps, stated amounts, etc.)
 - (f) Daily classified ads
 - (g) Local banks, savings and loans, etc.

Use those sources which you feel will give you adequate information. Be aware of the different units of measurement (e.g., price or rent per square foot, front foot, dwelling unit, room, etc.). Also be aware of any unusual circumstances regarding vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.

3. On a separate sheet of paper, list those individuals or firms, with their addresses, who were particularly helpful to you. Also include on this list any useful publications you consulted which are not included under the above sources of information.

3

Project ~~II~~

REAL ESTATE INVESTMENT PROPOSAL FOR A SELECTED SITE

A. PURPOSE

The purpose of this project is to formulate a proposal for a real estate investment project. ~~situated at the site which you selected and analyzed in project I.~~ Present your report in a form which would be convincing evidence for a financial institution or investor.

B. OUTLINE OF PROCEDURE

1. As a back drop for your investment decision, make a brief but thorough analysis of the city of Madison. Examine the nature and trend of important socio-economic and physical indicators. What is (and will be) the economic climate for an investment on your site? Use the sources listed below.
2. Make a decision as to the highest and best use for your selected site, briefly supporting your conclusion from your knowledge of the local market and your analysis above.
3. Make a statement of your investment objective. That is, your investment objective is income, long term capital gain, short term speculation as related to potential of highest and best use.
4. Outline a general description of your concept of a proposed investment and any necessary improvements as related to land use trends, value trend, zoning, and critical design element. Indicate the forms of ownership, organization, etc.
5. Estimate the total investment, in dollars, that will be necessary for a completed project.
 - a. Substantiate land costs with market information.
 - b. Estimate the total costs of the improvements.
 - c. Indicate all other cost that may be necessary. Such as title search, architect's fee, etc.
6. Calculate the income that your project will generate:
 - a. Local market information should be used to substantiate gross income, vacancies, and management and operating expenses.
 - b. Indicate the income pattern for the life of the investment. Consider city-wide economic factors as well as local factors and the nature of the proposed improvement.
7. Indicate the financial arrangements that are feasible for your project.
8. Place a valuation on your investment proposal by capitalizing the expected returns.
 - a. State your pertinent assumptions as to the desired return on equity, economic life, depreciation, income and capital gain taxes, residual value, mortgage terms, etc., which you have not supported from the local market.
 - b. Show your investment calculations.

C. CONCLUSION AND SUMMARY

1. Summarize your thinking up to this point. Make a decision as to the desirability and risk of your investment proposal. Would it be a wise investment?
2. Point out any special problems of your site, zoning, or neighborhood trends that might change the results.
3. Review your highest and best use. In view of the knowledge gained from this project, would you propose the same use again?

D. SOURCES OF INFORMATION

As much as possible relate your investment proposal to the real-life situation.

1. The following publications dealing with city-wide factors are on reserve at the School of Business Library. They can be helpful in predicting the future.

Madison Area Transportation Studies:

1. Tech. Report No. 15, Economic Analysis
2. Tech. Report No. 16, Population, Land Use, Etc.
3. Tech. Report No. 19, 1985 Projections

Madison Planning Department Publications

1. Madison's Plan for Use of Land
2. Information Series, Nos. 1 to current
3. Neighborhood Planning, Report No. 2
4. Campus Next Door
5. The Near West Neighborhood
6. _____
7. _____

City and County Data Book

Land Subdivision, City of Madison

Building Code, City of Madison

Zoning Ordinance, City of Madison

2. Henry Hoagland, Leo Stone, Real Estate Finance
3. Urban Land Institute, The Community Builders Handbook
4. James Downs Jr. Principles of Real Estate Management
5. American Institute of Real Estate Appraisers The Appraisal of Real Estate
6. William Casey The Real Estate Desk Book
7. E.H. Boeckh and Associates, Inc. Boeckh's Manual of Appraisals
8. F.W. Dodge Company Dodge Building Cost Calculator
9. Marshall & Stevens (Swift) Building Valuation Guide
10. Assigned text.

E. OTHER SOURCES OF INFORMATION

1. Besides the government publications, the following are suggested as sources of information for selling prices of land both vacant or improved, rents, operating expenses, vacancies, cost of construction, financing, arrangements, etc.:

- a. Real estate brokers and salesmen
- b. Property managers or agents
- c. Investors in property
- d. Owners or managers of specific properties
- e. Public records
- f. Daily classified ads
- g. Local banks, savings and loans

Use those sources which you feel will give you adequate information. Be aware of the different units of measurement of dwelling units vs commercial sites. Keep an eye out for any unusual circumstances regarding vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.

2. In you wish, list on a separate sheet those individuals or firms who were particularly helpful to you. In addition list any periodical or other source of information that is not listed above.

Project V

MARKET ANALYSIS

Purpose. The purpose of this project is to introduce you to some of the sources of information for market data, to acquaint you with the market mechanisms, and to enable you to analyze a selected market. The scope of this project is obviously limited, but you will nonetheless want to proceed as though you were acting as a consultant for a \$10,000 fee. You will be expected to apply the techniques used here in your investment proposal (Project #6). Review Chapter X of your text so that you have a clear understanding of the market framework.

Assumptions and Procedure. You are on the verge of investing in some real property in the downtown Madison area (within 10 blocks of the University-Square area). You are as yet, however, not convinced that the market situation is as favorable as some would have you believe. Since you are a prudent investor you feel you must know more about the market.

1. Select an area within the downtown area which you feel would have good potential for you as an investor. Make a brief survey of the area and on the basis of your knowledge of land uses, zoning, long-term trends, etc., select several alternative investments which you feel would be good. The "subjects" could either be existing improved properties or vacant parcels on which you plan to build.
2. Select an alternative which is characterized by one of the following land use categories:
 - (a) office buildings
 - (b) apartment buildings
 - (c) retail stores

You may want to limit yourself to a particular sub-market of the above categories (e.g., high-rise apartment buildings).

3. Macro analysis.
Familiarize yourself with the urban-wide factors which would affect the demand and supply of any space which might compete with your property now or in the future. Institutional factors are also important.

Important considerations might include economic base, population, age distribution, number of families, number of housing units, building activity, vacancies, etc.

Various publications are on reserve in the Commerce Library and Memorial Library:

Madison Area Transportation Study

Population, Land Use, Socio-Economic Factors
Economic Analysis

Madison's Plan for Use of Land

City of Madison Planning Department Information Series,
Nos. 1-11.

FHA Vacancy Study (1963 and 1965)

4. Micro analysis.

You will want to determine the selling prices of land or improved properties and the rental values for your particular submarket and geographic area.

Besides many government publications, the following are suggested as sources of information:

- (a) Real estate brokers and salesmen
- (b) Property managers (agents)
- (c) Investors in property
- (d) Owners or managers of specific properties
- (e) Public records including the title records
(tax stamps, stated amounts, etc.)
- (f) Daily classified ads.

Use those sources which you feel will give you adequate information. Be aware of the different units of measurement (e.g. price or rent per square foot, front foot, dwelling unit, room, etc.). Also be aware of any unusual circumstances, vacancies, excessive expense situations, terms of rent or sale, differences in quality and services included, etc.

5. Summary.

Write a 2-3 page summary of your findings in parts 3 and 4. Include only those materials which you feel are particularly relevant. However, include enough material so that your conclusions are logical and clear.

6. Conclusions.

Write a concluding analysis indicating:

- (a) The price or prices you can expect to pay for the property.
- (b) The rentals you can expect to receive from the property.
Include the occupancy rate, expenses, etc. you might expect.
- (c) Any changes that you expect in the demand-supply relationship which you feel will affect the sales or rental value of your property in the future.
- (d) Include any assumptions, or qualifying or limiting factors -- that is, anything which might affect the reliability or level of your value predictions.

7. Supplement.

- (a) Include a list of those individuals or firms who were particularly helpful.
- (b) Include the actual data that you collected. Your worksheets are OK.

Discussion Problems

Name _____

The following problems are designed to acquaint you with the concepts of present value and discounting, and with the tables for finding present value. Use the materials and tables from Real Estate Analysis, Chapter VI, in understanding the problems and determining your answers.

There is no objection to working with other students, so long as you understand what you are doing.

Formal Project #4 will also involve the investment calculus, but will be more complicated and require more thought. The problems on this sheet should give you enough working knowledge to do a good job in that project.

These problems will be discussed in class March 15-16. Have them done before hand!

1. If you expect to receive a return of 7% on your investment, how much would you pay now for the right (a) to receive \$2,000 25 years from now, (b) to receive \$250 per annum for the next 25 years?

2. What is the PV of an annuity of \$1,100 for 15 years at 3%? What is the PV of a \$1,000 reversion 20 years hence at 3%?

3. Why are all the factors in the "PV of \$1" Table less than one? Why are all the factors in the "PV of \$1/yr." Table more than one (except for year one)?

4. How much would you pay for a property if you could expect a net income of \$1,800 per year for 15 years and could then sell the property for \$12,000? Assume that you want a 7% return on your investment and that you will not borrow any money. Diagram the problem.

5. How much would you pay for the property in problem four if instead you sold it after 30 years for \$4,000 and the expected income during the second 15-year period is \$1,600? (Still no borrowed money.)

6. Using the facts and assumptions in problem five how much would you pay for the property if you could now borrow money at 5% interest? The payments on the mortgage (including principal and interest) are \$300 per year and the loan will be completely amortized in 10 years.

7. What was the initial amount of the mortgage in problem six? Why is there a difference in value between problems five and six? Would you as an investor be satisfied with a 7% return in problem six if you were satisfied with a 7% return in problem five? Why or why not?