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EXXON MINERALS COMPANY

CRANDON PROJECT

SOCIOECONOMIC STUDY

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PUBLIC FACILITIES AND SERVICES

ANALYSIS METHODOLOGY

SOCIOECONOMIC ASSESSMENT

EXXON CRANDON PROJECT

Prepared for
Exxon Minerals Company, U.S.A.

by
RPC, Inc.
Austin, Texas

October 1981

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We will appreciate any comments you may have on the methods and techniques we describe in this report. You may direct comments and suggestions to any of the following:

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HOW TO USE THIS REPORT

This report is part of a comprehensive study commissioned by Exxon Minerals Company to determine the potential socioeconomic effects of a proposed mine/mill complex in northern Wisconsin. The report describes the techniques we plan to use to estimate the potential effects of the project on public facilities and services in the local study area.

Part of the intent of Exxon Minerals Company in commissioning this socioeconomic assessment is that everyone with an interest in the proposed project should have access to the reports concerning the socioeconomic effects that might result from project development. However, this intended readership covers a wide spectrum of interests and technical backgrounds. In an effort to provide information for those with nontechnical interests, as well as for readers who want all the statistical and mathematical details, we have designed our reports in two parts. The first part, printed on yellow paper, covers the highlights of the technical work described in the white pages.

We have organized the technical discussion in the white pages as follows:

- Chapter 1: Purposes of the public facilities and services analysis
- Chapter 2: Relationship of the analysis to other parts of the socioeconomic assessment
- Chapter 3: The overall approach to the analysis
- Chapter 4: How we analyze current and future public facilities and services through the operation and maintenance module
- Chapter 5: Explanation of the capital expenditure module
- Chapter 6: General services and utilities and state expenditure modules
- Chapter 7: The data needs and limitations.

The yellow-page summary section describes the procedures we discuss in detail in the white pages, without listing specific data requirements, mathematical formulas, or other technical details.

SUMMARY

Exxon Minerals Company (Exxon) is considering the establishment of a mine/mill complex near Crandon, Wisconsin. This proposed complex would be based on a large ore deposit containing commercial quantities of zinc and copper. Engineering and economic feasibility studies are underway for the project, and environmental studies are in progress to satisfy local, state, and federal regulatory requirements. Exxon estimates that construction and operation phases of the project will each employ about 900 people.

Exxon has retained Research and Planning Consultants, Inc. (RPC) to prepare a comprehensive assessment of potential socioeconomic effects of the Crandon Project. The overall assessment forecasts effects of the project on the local study area's economy, demography, housing and land use, public facilities and services, fiscal capabilities, sociocultural characteristics, and Native American communities. We have conducted statistical surveys in the local study area to supplement available information for these analyses. In addition, we are preparing three case studies on communities that share characteristics with the local study area and that have experienced industrial development of a type similar to that expected from the Crandon Project.

In the public facilities and services analysis, we estimate potential effects of the proposed Crandon Project on the local study area. The local study area consists of 40 townships, three cities, and an incorporated village, encompassing most of Forest and Langlade counties and about half of Oneida County in northern Wisconsin. The housing and land analysis allocates the estimated future population to specific jurisdictions in the local study area. In the public facilities and services analysis, we estimate the demand for and the costs of providing public facilities and services by jurisdiction.

The overall approach of this analysis is to describe characteristics of current public facilities and services in the local study area jurisdictions and future conditions without and with development of the proposed project. We then compare the two types of future forecasts to determine the net effects of

project development on public facilities and services in the local study area.

The analysis consists of the following steps:

1. Describe the characteristics of existing public facilities and services

2. Assess the demand for personnel and costs for operation and maintenance

3. Estimate capital costs for school, water and wastewater facilities, and general government functions

4. Assess general services and utilities

5. Estimate state costs for the local study area

6. Determine the effects of the proposed project on public facilities and services.

To forecast futures for the local study area, we use a quantitative model with three computerized modules and one manually calculated module. The first module assesses demand for personnel and annual costs of operation and maintenance of public facilities and services. The second module estimates capital costs for school, water and wastewater facilities, and general government functions. The third module assesses those general services and utilities not amenable to computerized analysis. The fourth module estimates state costs for the local study area.

DESCRIBE THE CHARACTERISTICS OF EXISTING PUBLIC FACILITIES AND SERVICES

To describe the characteristics of the public facilities and services in the local study area, we combine an inventory of current conditions with an analysis of past trends and policies. We describe and analyze the following public facilities and services (RPC, 1981d):

Emergency medical services
Fire protection
General government
Health facilities and public health and welfare services
Library services
Police protection
Public education

Public transportation
Recreation
Solid waste disposal
Streets and roads
Utilities (electricity, heating fuels, and telephone)
Wastewater treatment
Water service

ASSESS THE DEMAND FOR PERSONNEL AND COSTS FOR OPERATION AND MAINTENANCE

The operation and maintenance module forecasts annual demand for personnel and costs of operating and maintaining facilities and services by jurisdiction for without- and with-project futures. The annual forecast of demand for personnel indicates when new staff need to be hired. For each jurisdiction, costs for all services are added together to obtain the net annual operation and maintenance costs for public facilities and services in that jurisdiction.

The operation and maintenance module uses our description of existing conditions and information on future population distribution from the housing and land use forecasts.

ESTIMATE CAPITAL COSTS FOR SCHOOL, WATER AND WASTEWATER FACILITIES, AND GENERAL GOVERNMENT FUNCTIONS

The capital expenditure module forecasts annual capital costs of school, water and wastewater facilities, and general government functions for without- and with-project futures. For the purposes of this analysis, we define capital costs as large purchases requiring bond financing. The module estimates when it will be necessary to increase the capacity of a physical facility, what size the increase should be, and how much the annual capital costs will be. The module also estimates when it will be necessary to provide bond financing for general governmental purposes.

The capital expenditure module uses the description of existing conditions, information on future population distribution from the housing and land use forecasts, and building cost estimates provided by engineering and architectural guides.

ASSESS GENERAL SERVICES AND UTILITIES

The general services and utilities module assesses those public facilities and services not amenable to computer analysis because of cross-jurisdiction service areas, private ownership, or sparse expenditure data. We describe, in general terms, the demand for their services, their ability to deliver services, trends in service programs, and plans for future development under both with- and without-project conditions.

The general services and utilities module uses the description of current conditions and information on future population distribution from the housing and land use forecasts.

ESTIMATE STATE COSTS FOR THE LOCAL STUDY AREA

The state expenditure module forecasts annual state government costs attributable to the local study area for without- and with-project futures.

The state expenditure module uses information on future population estimates from the demographic forecasts and the description of state expenditures from state of Wisconsin fiscal reports.

DETERMINE THE EFFECTS OF THE PROPOSED PROJECT ON PUBLIC FACILITIES AND SERVICES

We determine effects of the proposed Crandon Project on public facilities and services in the local study area by comparing the without-project and with-project forecasts generated by the four modules described above. Differences between the forecasts represent potential effects of project development on public facilities and services in the local study area.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

1. PURPOSES OF THE PUBLIC FACILITIES AND SERVICES ANALYSIS

This report describes the purposes, data, content, and methodology for estimating effects on local public facilities and services that might result from Exxon's proposed Crandon Project. Public facilities and services are defined generally to be the categories of services (and the associated physical facilities) which are provided to the general public and paid for through public funds. Those categories most important to the analysis are ones which are provided by public governmental entities, and which would therefore result in expenditures of publicly generated revenues. Some privately provided services are included in the analysis.

The public facilities and services analysis contains four parts:

1. Baseline description
2. Estimate of future conditions without the project
3. Estimate of conditions with the project
4. Description of effects on public services and facilities resulting from the project.

We describe and analyze the public facilities and services listed in Table 1 for all relevant localities in the local study area, as shown in Figure 1.

Table 1

PUBLIC FACILITIES AND SERVICES ASSESSED
FOR THE LOCAL STUDY AREA

Emergency medical services

Fire protection

General government

Health facilities and public health and welfare services

Library services

Police protection

Public education

Public transportation

Recreation

Solid waste disposal

Streets and roads

Utilities (electricity, heating fuels, and telephone)

Wastewater treatment

Water service

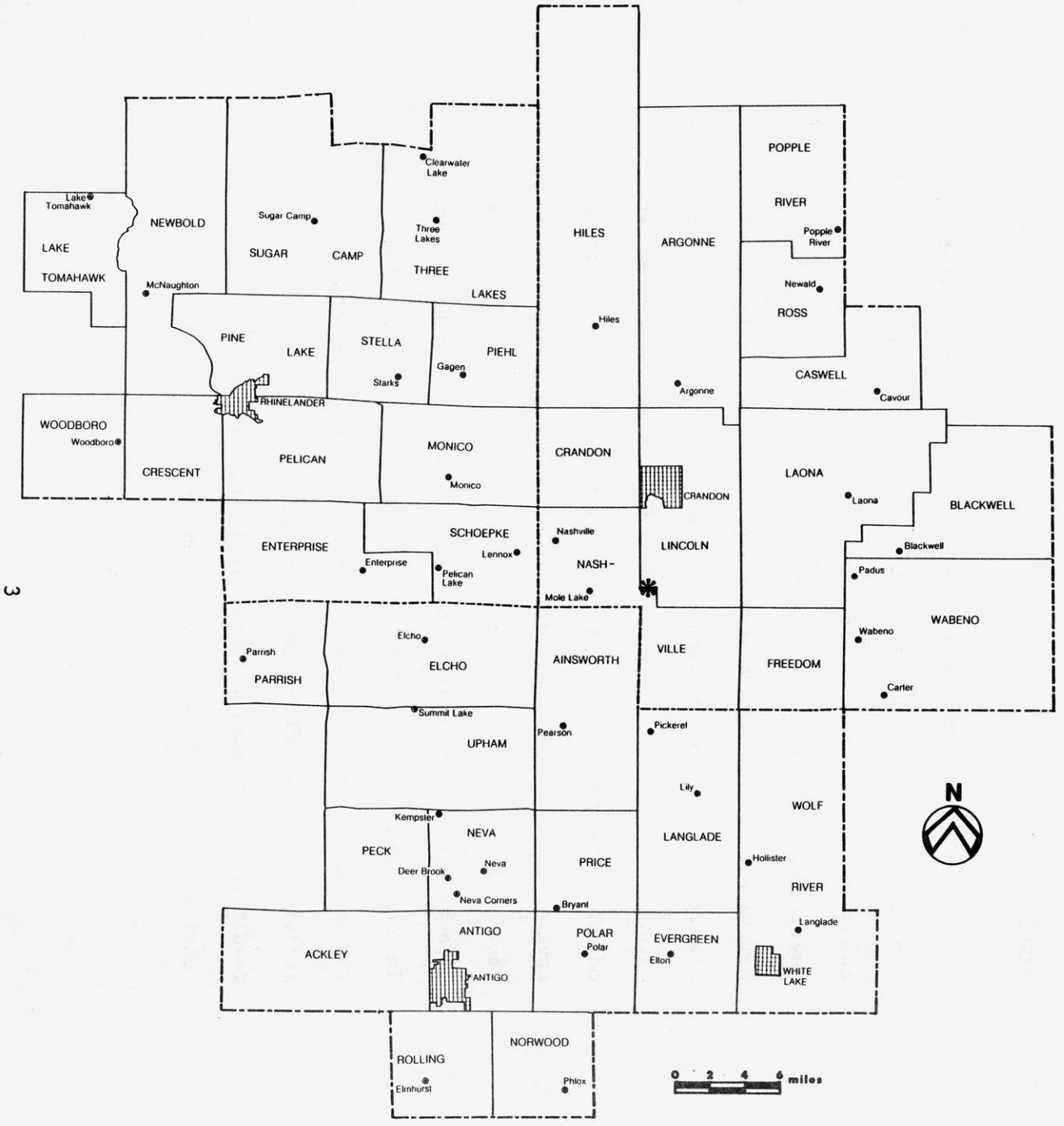


Figure 1

LOCAL STUDY AREA

- County Boundary
- Township Boundary
- Incorporated Area
- Unincorporated Village
- Crandon Project Discovery Site

Source: RPC, Inc., Definition of the Local Study Area.

SOCIOECONOMIC ASSESSMENT
CRANDON PROJECT
EXXON MINERALS COMPANY, U.S.A.
prepared by rpc inc.

We have two reasons for studying possible effects of the proposed Crandon Project on public facilities and services. First, Wisconsin law requires such an assessment as a prerequisite to considering permit applications. Second, we want to provide local officials and residents of the local study area with information that will help them plan for possible changes in the need for public facilities and services.

PERMIT REQUIREMENTS

In 1976 Exxon Minerals Company announced the discovery of a zinc and copper ore deposit south of Crandon, Wisconsin. The company is currently conducting feasibility studies for development of that ore deposit. According to the Metallic Mining Act of 1977, any minerals exploration or mining company is required to obtain permits from the Wisconsin Department of Natural Resources (DNR). In addition, any company contemplating mining may have to apply for permits from the federal Environmental Protection Agency (EPA). Both the DNR and the EPA govern the allowable levels of substances that can be released into the air and into local bodies of water by mining companies. In the same way, the DNR is also responsible for examining socioeconomic effects that may result from the proposed mining activity. If the DNR has reason to believe that the project will result in a "net negative economic impact" on the citizens of the local area, then it may prohibit the proposed mining activity.

One of the most important factors in estimating the net socioeconomic effects of the proposed project is the cost of providing sufficient public facilities and services to meet new needs that may result from project construction and operation. For example, if many new residents move into an area, the local jurisdictions may have to increase existing levels of law enforcement, fire protection, education, and other public facilities and services. Depending on where these new residents choose to live, where the project is located, and how public facilities and services are supported, there may be a net cost for these expanded facilities and services. Thus, one purpose of the work outlined in this report is to make the best possible estimates of new demands for public facilities and services that may result from the proposed Crandon Project.

INFORMATION FOR LOCAL OFFICIALS

The second major purpose of the public facilities and services analysis is to provide local officials and citizens with information about probable future conditions both with and without the proposed project. This information includes estimates of needs for additional staff, needs for expansion and modification of facilities, operating and maintenance costs, and capital expenditures.

Local officials can use estimates of future conditions without the proposed project complex to plan capital expenditures

and staffing as well as to estimate future budgets and necessary revenues. This information can guide them in scheduling the planning and development phases for capital expenditures. Local officials can make similar use of estimates of future conditions with the proposed project. If a community is likely to have increased demands for facilities and services, it can begin to plan to meet those needs.

2. RELATIONSHIP TO OTHER PARTS OF THE SOCIOECONOMIC ASSESSMENT

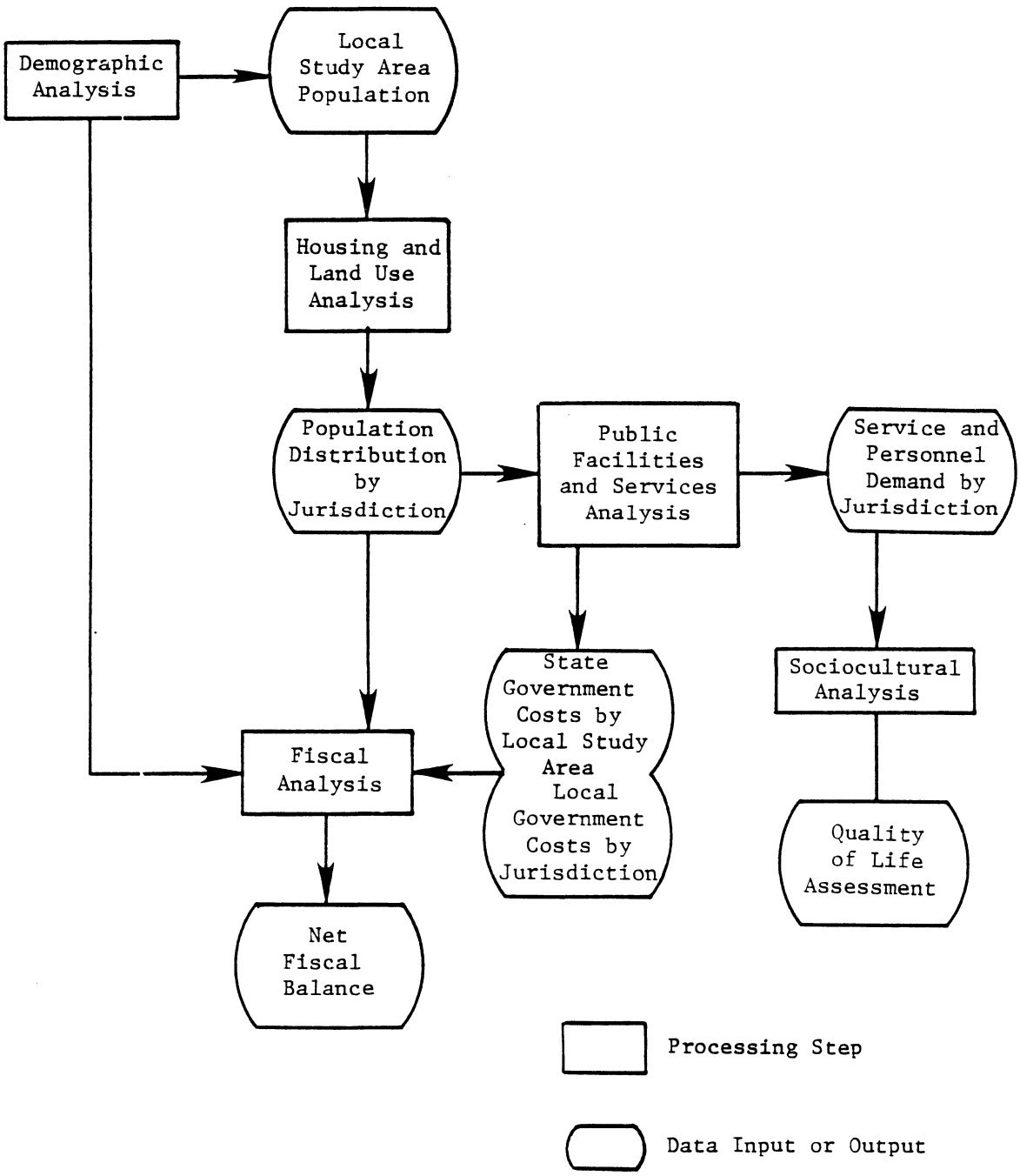
This analysis of public facilities and services is part of the comprehensive socioeconomic assessment being conducted for the proposed Crandon Project. The entire assessment consists of studies analyzing the effects of the project on housing and land use, economic trends, population characteristics, sociocultural conditions, fiscal balance, and Native American communities. All parts of the assessment are related; however, certain parts have a more direct bearing than others on the study of public facilities and services. Specifically, the public facilities and services analysis is directly related to the analyses of population (demography), housing and land use, public revenues (fiscal patterns), and sociocultural characteristics, as illustrated in Figure 2.

POPULATION

One of the major assumptions about demand for public facilities and services is that most new demands result from increased population (see discussion of assumptions, Chapter 3). Therefore, the estimates of demand for public facilities and services are closely linked to estimates of population. The

Figure 2

INTERACTIONS AMONG STUDY ANALYSES



SOURCE: Research and Planning Consultants, Inc.

demographic methodology report (RPC, 1981a) discusses how we estimate future population for the local study area.

HOUSING

The public facilities and services analysis uses housing and population distributions generated by the housing and land use analysis (RPC, 1981c) in estimating the new demand for public facilities and services in each local jurisdiction. If a community's water and sewer systems can accommodate a number of additional households, the main effect will be on operating and maintenance costs. On the other hand, if a community's water and sewer capacity is fully utilized, the community would need to make an additional capital investment to meet the new demand.

FISCAL ANALYSIS

One of the major purposes of the public facilities and services analysis is to estimate government expenditures needed to provide public facilities and services--one aspect of the fiscal analysis. The expenditure estimates of the public facilities and services analysis become inputs to the fiscal model. The fiscal analysis methodology (RPC, 1981b) describes in detail how we estimate all tax revenues local governments may collect, and how we compare costs (expenditure estimates from the

public facilities and services analysis) to revenues to determine net fiscal balance.

SOCIOCULTURAL CHARACTERISTICS

Another analysis in the socioeconomic assessment examines sociocultural characteristics of the local study area, both with and without the proposed Crandon Project (RPC, 1980). Because the pattern of public facilities and services is a major factor affecting quality of life (Gehrmann, 1978), we use the analysis of public facilities and services as a major input to the sociocultural analysis.

3. GENERAL APPROACH

This chapter describes the subject and general approach of the study; it serves to introduce the more detailed descriptions in Chapters 4, 5, and 6.

TOPICS INCLUDED IN THE ANALYSIS

We assess all the facilities and services commonly available in small cities and rural areas such as those in the local study area. These facilities and services are listed in Table 1. Most listed services are provided by government. Some privately provided services, such as telephone service, are listed because they are available to the entire public and are regulated as public utilities or services.

We study the facilities and services listed in Table 1 for all jurisdictions providing those services within the local study area. For example, we examine public educational facilities and services at the school district level. Wherever it is determined that private educational facilities and services are used by a significant portion of the jurisdiction's eligible population, then those facilities and services are included in the analysis. We also identify cooperative agreements between jurisdictions.

In addition, we work with local officials who must make decisions about public facilities and services and with the jurisdiction which provides the services.

GENERAL METHODOLOGY

Case Study Method

For the analysis or public facilities and service needs in the local study area we use the case study method, described in the Fiscal Impact Handbook (Burchell and Listokin, 1978), to estimate the service costs and demand for personnel needs.

> "The method projects future local costs based on specific future service demand determined by interviewing municipal department heads and school district administrators. The case study method assumes that each department head knows best the functional capacity of his agency and can respond most accurately to specific questions of future service extensions or retrenchments. Each determination of local service excess or deficiency is based on first-hand knowledge of existing local conditions."

The case study method has two major advantages for the analysis required for the proposed Crandon Project. First, the method provides detailed operational information about estimated levels of service that will be needed to meet new demands. For example, it provides estimates of increased numbers of law enforcement officers, fire fighters, and education personnel that may be needed, as well as the size of necessary expansions to water and wastewater treatment systems. In addition, the method allows calculation of realistic costs for each jurisdiction.

A second advantage of the case study method is that all estimates are based on close communication with local officials and reflect their judgments about desired levels of service and the willingness of the public to bear the cost of service. The method does not use demand multipliers or other factors based on state or national averages which may not be appropriate to the local study area. While it is sometimes appropriate to use state or national averages in economic analysis, the public facilities and services analysis concentrates on obtaining specific information for the actual service levels of each jurisdiction or district. As a result, the local choice of an appropriate service level is reflected in forecasting expenditures and service expansions. We can alter the basic input variables to reflect specific local facilities and service conditions, and we make several estimates of the effects associated with the proposed project to represent the range of possible future conditions.

The case study method has the same limitations as any other forecasting technique. We know only the past, and our ideas about the future are limited by our knowledge of the past. For example, we assume that wastewater will continue to be treated by present techniques in centralized wastewater treatment plants or in private septic tanks. We do not consider new technologies that may be found or existing technologies that may be declared unsuitable. These are possibilities, but they are so uncertain

that we cannot reasonably base estimates on them. The method we describe in this report bases most estimates of future conditions on past relationships, assumes no major changes in technology, and yields approximate results. Consequently, the estimates we make by this method--or any other--must be taken truly as estimates and not as predictions. They must be understood to be a range of possible future conditions.

Cost-Estimate Technique

Two general approaches for estimating costs of meeting new demands for public facilities and services are average costing and marginal costing (Burchell and Listokin, 1978). Average costing involves calculating the current average per capita cost of providing a given service to the existing population and assumes that future costs will approximate those costs. We use this technique to analyze operation and maintenance costs.

Because average costing does not account for capital expenditures that may be required to meet new demands when the present system is operating at or near capacity, we use the marginal costing approach to assess capital expenditures. This approach calculates the cost of each additional demand for public facilities or services. It allows us to take account of current capacities of public facilities and services and thereby to estimate realistically the cost of meeting additional demand. For example, if we estimate that a community within the local

study area is likely to experience a population increase of 200 people, we can compare that additional demand for services against the current capacity of public facilities. We can then determine whether the community can meet the new demand with existing facilities or whether it must add new facilities to meet the new demand.

JURISDICTIONS

The jurisdictions for which we provide data and offer analyses are counties, cities, secondary service centers, nonservice towns, and school districts. Table 2 lists the jurisdictions. Unincorporated secondary service centers are distinguished from other towns by larger populations, particularly population concentrations in a single center within a town, and by a greater variety of available services made possible by a larger population concentration. Nonservice towns are characteristically rural with a dispersed population and few centralized services.

DATA BASE

In preparing the socioeconomic assessment, we develop a data base for many factors, including those related to public facilities and services. The appendix to this report shows the data profile forms we use to organize the information on public

Table 2

JURISDICTION CLASSIFICATIONS

COUNTIES

Forest
Langlade
Oneida

CITIES

Crandon
Antigo
Rhinelander

SECONDARY SERVICE CENTERS

Laona
Wabeno
Elcho
Three Lakes
White Lake Village

SCHOOL DISTRICTS

Crandon
Laona
Wabeno
Antigo
Elcho
White Lake
Rhinelander
Three Lakes

TOWNS

Argonne
Blackwell
Caswell
Crandon
Freedom
Hiles
Lincoln
Nashville
Popple River
Ross
Ackley
Ainsworth
Antigo
Evergreen
Langlade
Neva
Norwood
Parrish
Peck
Polar
Price
Rolling
Upham
Wolf River
Crescent
Enterprise
Lake Tomahawk
Monico
Newbold
Pelican
Piehl
Pine Lake
Schoepke
Stella
Sugar Camp
Woodboro

facilities and services. We collect data for each jurisdiction by interviewing local officials knowledgeable about specific facilities or services and by checking published and unpublished data sources. We also survey permanent residents of the local study area to obtain their views about service adequacy.

ANALYTICAL MODULES AND PROCEDURES

The public facilties and services analysis is based on the principle that population determines the level of demand for facilities and services. The model forecasts the effects of population change on public facilities and services by:

1. Estimating future demand for units and unit costs
2. Comparing estimated demand to the present or planned capacity.

The model offers community leaders and government officials a systematic process for understanding and evaluating the effects of a population increase or decrease. By anticipating growth in an area, local officials gain lead time to hire new personnel, expand physical facilities, and plan revenue sources. Since one of the major purposes of the public facilities and services analysis is to estimate government expenditures, we also estimate state expenditures in the local study area.

The model uses four modules to estimate future conditions for public facilities and services in the local study area:

1. Operation and maintenance module
2. Capital expenditure module

3. General services and utilities module
4. State expenditure module.

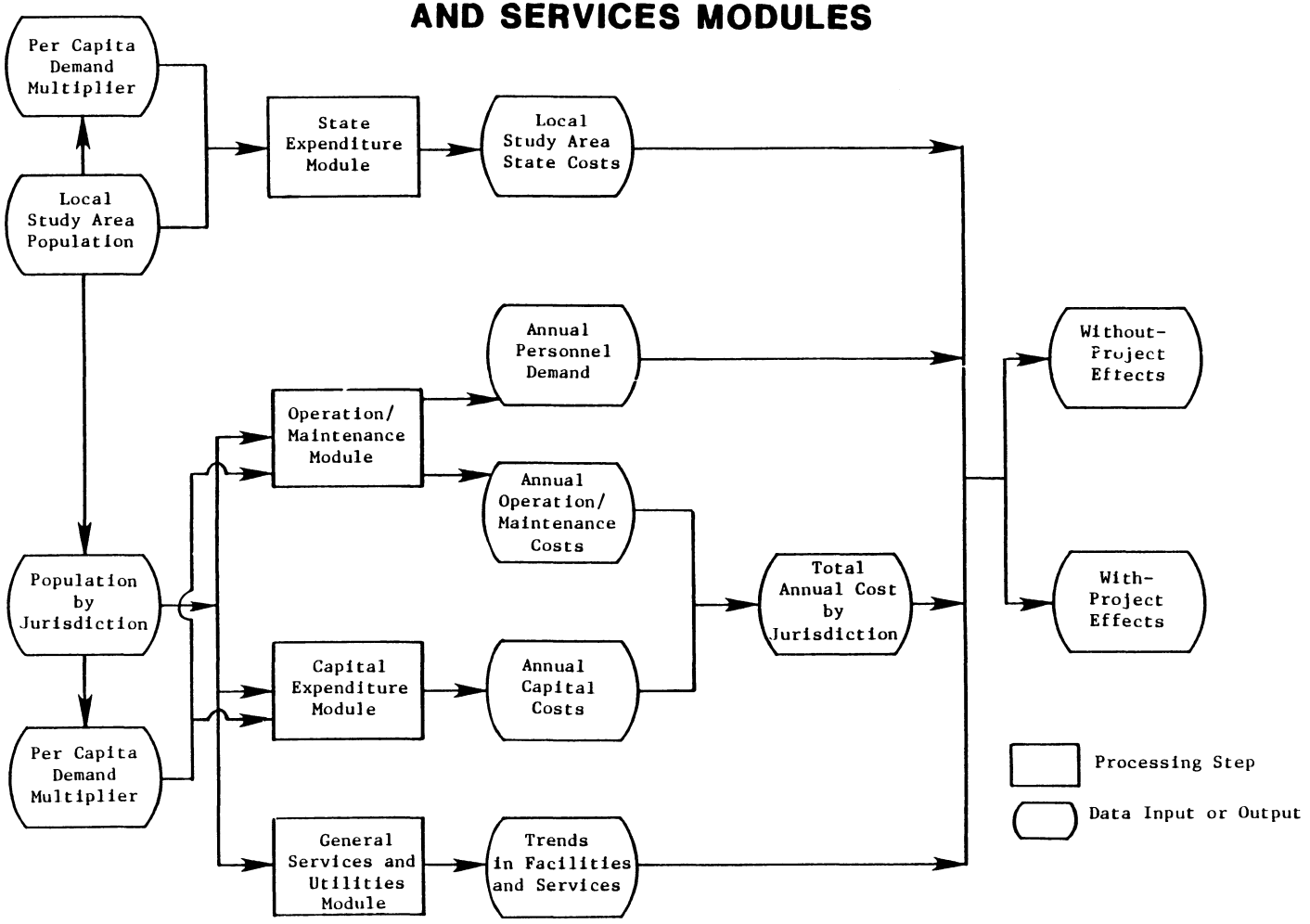
The operation and maintenance (O/M) module estimates changes in operation and maintenance staffing and expenditures resulting from changes in demand. The capital expenditure (CE) module indicates when it may be necessary to make major capital investments in order to expand supply capacity for a period of future years. The third module addresses general services and utilities which cannot appropriately be analyzed by the O/M or CE modules because of their ownership, basis of support, or service area. An example is electric service. The state expenditure module estimates the total state expenditures in the local study area. Figure 3 shows the relationships between these modules.

Because all public facilities and services have operation and maintenance costs, we analyze each facility and service for these costs. We analyze capital expenditures, however, only for water, wastewater, education, and general government services, as they require major capital investment costs financed through bond issues. The other facilities and services have smaller capital expenditures treated as recurring expenses and paid through current accounts. Examples are the purchase of police cars every few years and the replacement of office equipment on a regular cycle.

The O/M and CE modules are used in tandem to analyze a facility or service. For example, education involves operation and maintenance costs for faculty, staff, and supplies as well as

Figure 3

INTERACTIONS AMONG PUBLIC FACILITIES AND SERVICES MODULES



SOURCE: Research and Planning Consultants, Inc.

capital expenditures for buildings. Using the O/M module, we analyze current operation and maintenance characteristics of each school district. We then forecast staff additions and costs of meeting estimated new demand. We use the CE module to estimate the number of additional students the buildings can accommodate and to identify years when new facilities may be needed. We then estimate the cost, method of financing, and construction date for those additional facilities.

The general services and utilities module assesses those services not amenable to analysis by either the capital expenditure or operation and maintenance module because they operate in a cross-jurisdiction service area, are privately owned, or do not generate specific expenditure data. We quantitatively and qualitatively analyze these services as appropriate to the particular service dimensions. For example, the analysis of health care assesses and quantifies number of physicians, number of hospital beds, hospital vacancy rates, and emergency medical services required by population change.

The state expenditure module estimates the total state expenditures in the local study area, excluding state-to-local transfers, which are attributable to the local study area. We use a per capita multiplier derived from current state expenditure information to produce one annual cost estimate for the local study area.

The following three chapters discuss the concept, elements of analysis, and procedures for estimating service needs, costs, and effects for the operation and maintenance module, the capital expenditure module, the general services and utilities module, and the state expenditure module.

4. OPERATION AND MAINTENANCE MODULE

CONCEPT

Operation and maintenance expenditures are expenses incurred routinely and paid from current accounts. These expenses include salary and nonsalary costs. Salary costs include fringe benefits. Nonsalary costs are recurring expenses for supplies, rents, office equipment, utilities, service vehicles, and so forth. The operation and maintenance (O/M) module assumes that most expenditures for operation and maintenance vary with demand for those services and that there is little or no reserve capacity. For example, rural law enforcement agencies usually increase their staff by one officer at a time. The same holds true for teachers and fire fighters. Likewise, staff size can be decreased rather easily. Therefore, public service organizations seldom maintain a substantial amount of excess or reserve capacity.

ELEMENTS OF ANALYSIS

To forecast demand, the O/M module uses an independent variable and a cost/personnel coefficient. The independent variable is the estimate of what causes the demand, and the cost/

personnel coefficient translates that into demand for the specific facility or service in question.

Independent Variable

We use annual population for each jurisdiction as the independent variable. The demographic analysis of the socioeconomic assessment estimates annual population for the local study area. The housing and land use analysis estimates where that population may reside within the local study area. From these studies we obtain an estimated population for each of the jurisdictions within the local study area. Since most facilities and services in this study are directly affected by demands of the local study area residents, we use measures of population change to estimate new demand for facilities and services.

Cost/Personnel Coefficient

The second variable in projecting future demand is the cost/personnel coefficient. This coefficient is the amount of a facility or service that will be required to meet demand generated by the independent variable. For example, if the independent variable for estimating demand for police protection is cost per capita, then the coefficient for that calculation will be the cost per person for police protection.

There are several sources of cost/personnel coefficients; one simple and reliable source is the current budget of the local facility or service. For example, a city of 4,000 people may have operating costs of $80,000 for police services. Thus, the city's cost/personnel coefficient for police services is currently $20 per person.

$$\frac{\$80{,}000 \text{ Annual Cost}}{4{,}000 \text{ Population}} = \$20 \text{ Annual per Capita Cost}$$

If the same city of 4,000 people has 10 full-time law enforcement officers, the coefficient for law enforcement officers is one officer per 400 people or 0.0025 officer per person.

$$\frac{10 \text{ Officers}}{4{,}000 \text{ Population}} = 0.0025 \text{ Officers per Person}$$

The Fiscal Impact Handbook refers to cost/personnel coefficients as "service standards." In the model these service standards represent the average per capita levels of facilities and services within a distinct geographic jurisdiction. We calculate these coefficients from recent operating budgets. As stated earlier, permanent residents are surveyed and local officials are consulted about their views on current service adequacy. We believe they have the best understanding of desired levels of service. We work very closely with local officials to ensure that all coefficients reflect local priorities as we believe they know what their voters are willing to pay for.

PROCEDURE

The purpose of the O/M module is to estimate annual operation and maintenance costs and personnel demand. The O/M module assumes that for every change in the independent variable there is a consequent change in demand for the service in question equal to the cost/personnel coefficient. The module calculates nonsalary and salary cost demand by multiplying the independent variable by the cost/personnel coefficient. We use population as the independent variable in most cases. For example, if we estimate that a school district is likely to have 500 students, and the nonsalary cost/personnel coefficient per student is $1,000, then annual nonsalary costs will be $500,000.

Nonsalary Cost Coefficient per Capita		Student Population		Future Nonsalary Cost
$1,000	x	500 Students	=	$500,000

If we estimate that a school district is likely to have 500 students and the cost/personnel coefficient of school personnel is one staff person per 25 students, or 0.04 staff person per student, the school would need 20 school personnel.

School Personnel Coefficient per Student		Student Population		Future Personnel
0.04	x	500 Students	=	20 School Personnel

Consequently, if the annual salary is $15,000 per staff person, the annual salary operation and maintenance cost including fringe benefits will be $300,000.

Salary Personnel Coefficient per Capita		School Personnel Population		Future Salary Cost
$15,000	x	20 School Personnel	=	$300,000

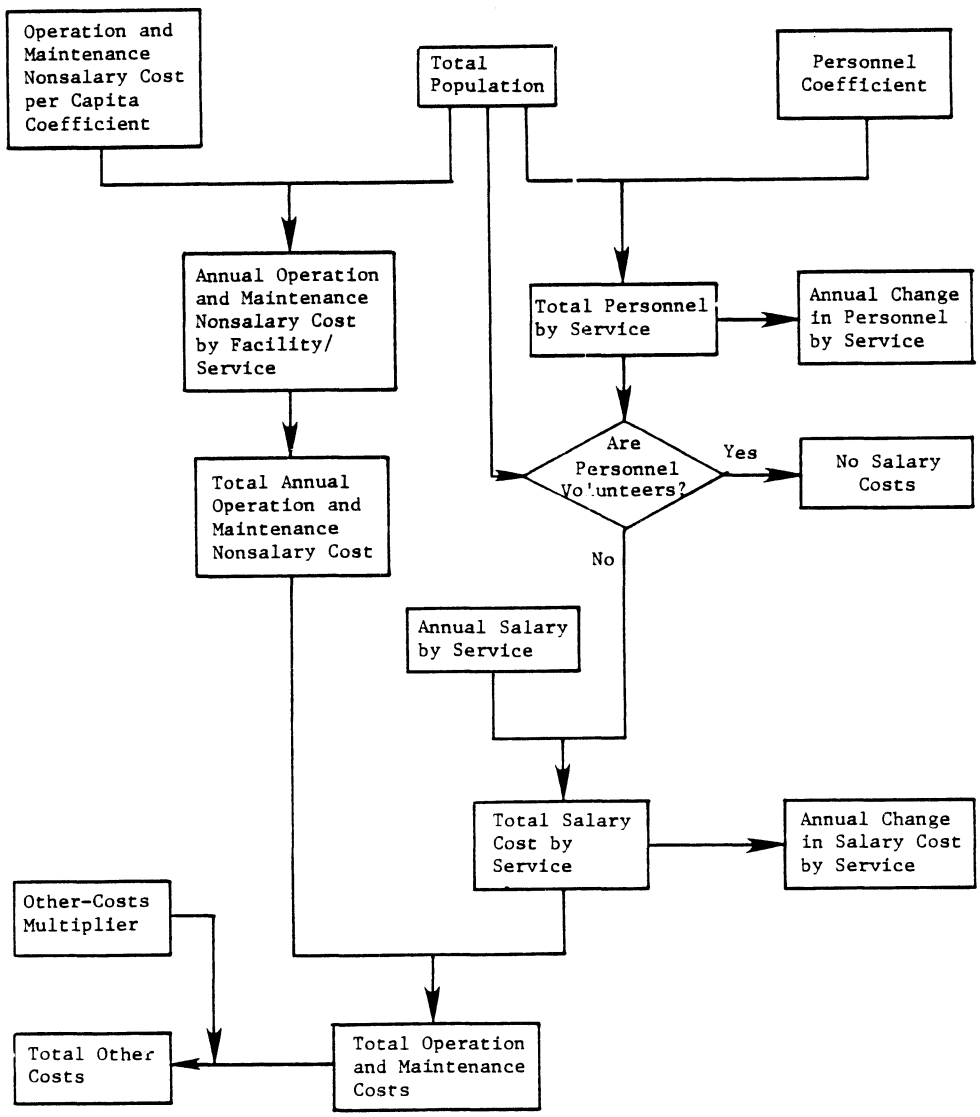
The total nonsalary and salary costs are then added; their sum equals the annual total operation and maintenance costs for this school district.

Salary Costs		Nonsalary Costs		Total Future Cost
$300,000	+	$500,000	=	$800,000

The O/M module estimates costs and personnel size for each service/facility in cities, service centers, and school districts for the forecast period of the assessment. Figure 4 presents the flowchart of the module. Figure 5 shows the output categories by which the computer printouts report O/M costs by service/facility by jurisdiction. We sum O/M costs for individual service/facilities to obtain total operation and maintenance costs for each jurisdiction (see Figure 6). For services with volunteer staffs the module tracks population growth and identifies when they reach a threshold requiring increased services and salaried personnel. We then compute the transition from volunteer to salaried personnel along with the salary costs.

Figure 4

OPERATION AND MAINTENANCE MODULE: CITIES, SERVICE CENTERS, AND SCHOOL DISTRICTS



SOURCE: Research and Planning Consultants, Inc.

Figure 5

ANNUAL EXPENDITURES BY JURISDICTION AND FACILITY/SERVICE FOR CITIES, SERVICE CENTERS, AND SCHOOL DISTRICTS

Forecast Year	Estimated Population	Nonsalary Expenditures	Salary Expenditures	Capital Expenditures	Total Expenditures	Percent Change of Total Expenditures	Per Capita Expenditures	Percent Change of Per Capita Expenditures	Total Personnel	Change in Personnel
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
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2001										
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2027										

SOURCE: Research and Planning Consultants, Inc.

Figure 6

ANNUAL SERVICE EXPENDITURES BY JURISDICTION FOR CITIES AND SERVICE CENTERS

Forecast Year	Fire Protection Expenditures	General Government Expenditures	Library Services Expenditures	Police Protection Expenditures	Recreation Expenditures	Street and Road Expenditures	Water Expenditures	Waste Water Expenditures	Other Expenditures	Total Expenditures	Percent Change of Total Expenditures	Per Capita Expenditures	Percent Change of per Capita Expenditures
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989													
1990													
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1992													
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2015													
2016													
2017													
2018													
2019													
2020													
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.													
2027													

SOURCE: Research and Planning Consultants, Inc.

We calculate O/M costs for the counties and nonservice towns (approximately 39 jurisdictions) using the O/M module with a few adjustments to the routine (see Figure 7). Due to the smaller size, volunteer nature, or absence of facilities and services, we forecast a total O/M cost for each county and nonservice town (see Figure 8). In the event that the county's or town's population reaches the threshold, an average population level for the region at which point substantially increased services and salaried personnel have been observed to occur, we begin forecasting expenditures for these "new" facilities/services individually as is done for the cities and secondary service centers.

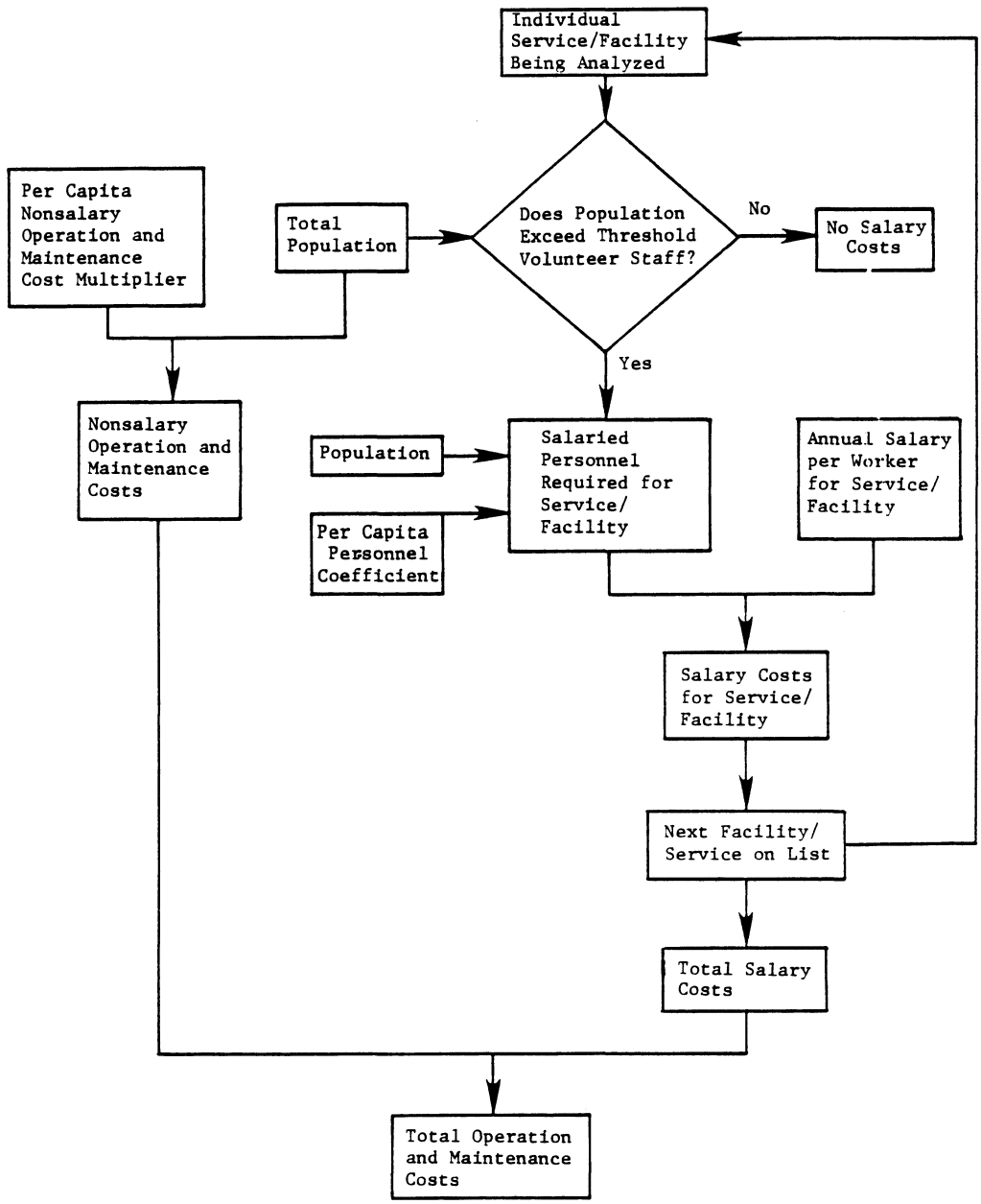
Operation and maintenance costs and personnel demands may be calculated annually or at less frequent intervals. We forecast operation and maintenance costs and staffing for the future without and with the proposed Crandon Project.

COST ESTIMATES

Estimating costs of operation and maintenance is simplified because the O/M module treats nonsalary and salary expenditures separately. Nonsalary expenditures include costs for materials, supplies, equipment, facility rentals, utilities, and other nonpersonnel expenses. Salary costs include salary, fringe benefits, and other overhead costs where applicable. For example, we estimate that a school district will need four new

Figure 7

OPERATION AND MAINTENANCE MODULE: COUNTIES AND NONSERVICE TOWNS



SOURCE: Research and Planning Consultants, Inc.

Figure 8

ANNUAL TOTAL SERVICE EXPENDITURES BY JURISDICTION FOR COUNTIES AND NONSERVICE TOWNS

Forecast Year	Estimated Population	Total Operation and Maintenance Expenditures	Total Expenditures	Percent Change of Total Expenditures	Per Capita Expenditures	Percent Change of per Capita Expenditures
1980						
1981						
1982						
1983						
1984						
1985						
1986						
1987						
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						
1996						
1997						
1998						
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2027						

SOURCE: Research and Planning Consultants, Inc.

teachers. Current average annual cost per teacher is $16,000. Therefore, increased staff costs for the district will be $64,000 ($16,000 x 4).

Both nonsalary and salary expenditure data for public facilities and services are available by individual Wisconsin jurisdiction in the annual Municipal Resources Provided and Expended (Wisconsin Department of Revenue, Bureau of Local Financial Assistance, 1973-1979).

ESTIMATION OF PROJECT-RELATED EFFECTS

We use the O/M module to estimate future conditions without the proposed Crandon Project and with several project development scenarios. We then compare estimates of with-project and without-project conditions and determine the differences, which are attributable to the project. These comparisons of with- to without-project conditions produce a "minimum-effect" to "maximum-effect" set of estimates of project effects. We report the minimum, maximum, and most likely estimated effects.

5. CAPITAL EXPENDITURE MODULE

CONCEPT

Capital expenditures include capital outlays for land, equipment, or structures. For the purposes of this analysis, we define them as large purchases requiring bond financing. The capital expenditure (CE) module is based on the assumption that public facilities are usually built to meet needs larger than the immediate need and consequently have some amount of reserve capacity. For example, when a community builds a wastewater treatment plant, it usually designs the plant to meet current needs plus a reasonable amount of additional capacity to allow for community growth. Therefore, the CE module includes an estimate of reserve capacity. If the reserve capacity of a system is small, increased population may require expansion of the system. On the other hand, if a system has a large amount of reserve capacity, it can absorb some population increases before it must be expanded.

ELEMENTS OF ANALYSIS

The major variables of the CE module are current effective capacity, current demand, effective reserve capacity, the

independent variable, and the cost/personnel coefficient. These variables are defined below.

Current Effective Capacity

Current effective capacity is the total demand that can realistically and continually be served by a facility or service. We use the term effective capacity to express the difference between the rated engineering capacity of a facility or service and the actual capacity limitations experienced under operating conditions. For example, a city's water wells may have a capacity to produce 100,000 gallons per day. However, the water pump may be capable of pumping only 80,000 gallons per day. Thus the true effective physical capacity, or realistic daily production rate of the water well system, is 80,000 gallons. As with other parts of the analysis, we estimate this factor in consultation with local officials and staff members familiar with the facility in question.

Current Demand

Current demand is the current use of a facility or service. Because current demand is subtracted from current effective capacity to yield reserve capacity, we must be careful in determining current demand. For example, most water and wastewater treatment systems record both average daily and peak

daily demands. We use the peak daily demand because this value provides the most conservative estimate of reserve capacity. Again, we stress that final decisions about appropriate estimates of demand are based on consultation with local officials.

Effective Reserve Capacity

Effective reserve capacity is the difference between current effective capacity and current demand. Effective reserve capacity is the amount of new demand the facility can absorb and continue to operate safely and properly.

Independent Variable

As in the O/M module, the independent variable determines demand for the CE module. We use total annual population for the jurisdictions as the independent variable. As the population size and composition change over the years, they directly affect the demand of local study area residents for facilities and services. Therefore, the population variable determines current effective capacity, current demand, and effective reserve capacity.

Cost/Personnel Coefficient

The cost/personnel coefficient is per capita demand for use of the facility. We use this coefficient to translate a change

in the independent variable into an estimate of new demand for a service or facility.

The experience of officials operating a local facility or service is important in determining a realistic cost/personnel coefficient. For example, if a given city has a population of 4,000 and a current average daily demand for 300,000 gallons of water, the coefficient for water supply is 75 gallons per day per person.

$$\frac{\text{300,000 Gallons/Day}}{\text{4,000 People}} = \text{75 Gallons/Person/Day}$$

However, this coefficient may be misleading. If the city is providing the service at unusually high or low levels, the current cost/personnel coefficient requires adjustment. If local officials believe a service level is high or low, we can adjust the coefficient. We believe local officials have the best understanding of desired service levels and know what voters are willing to pay for. Therefore, we work with them in selecting cost/personnel coefficients.

PROCEDURE

The purpose of the capital expenditure module is to estimate when it will be necessary to increase the capacity of a capital-intensive facility, what the size of that increase should be, and how much the increase will cost the jurisdiction. In making

these estimates the module considers current effective capacity, current demand, and effective reserve capacity (see Figure 9). We forecast capital expenditures in this manner for schools, water, and wastewater treatment facilities. To estimate future demand, the CE module uses population as the independent variable and a per capita cost/personnel coefficient for the facility being analyzed.

The mathematical relationships in the module are as follows:

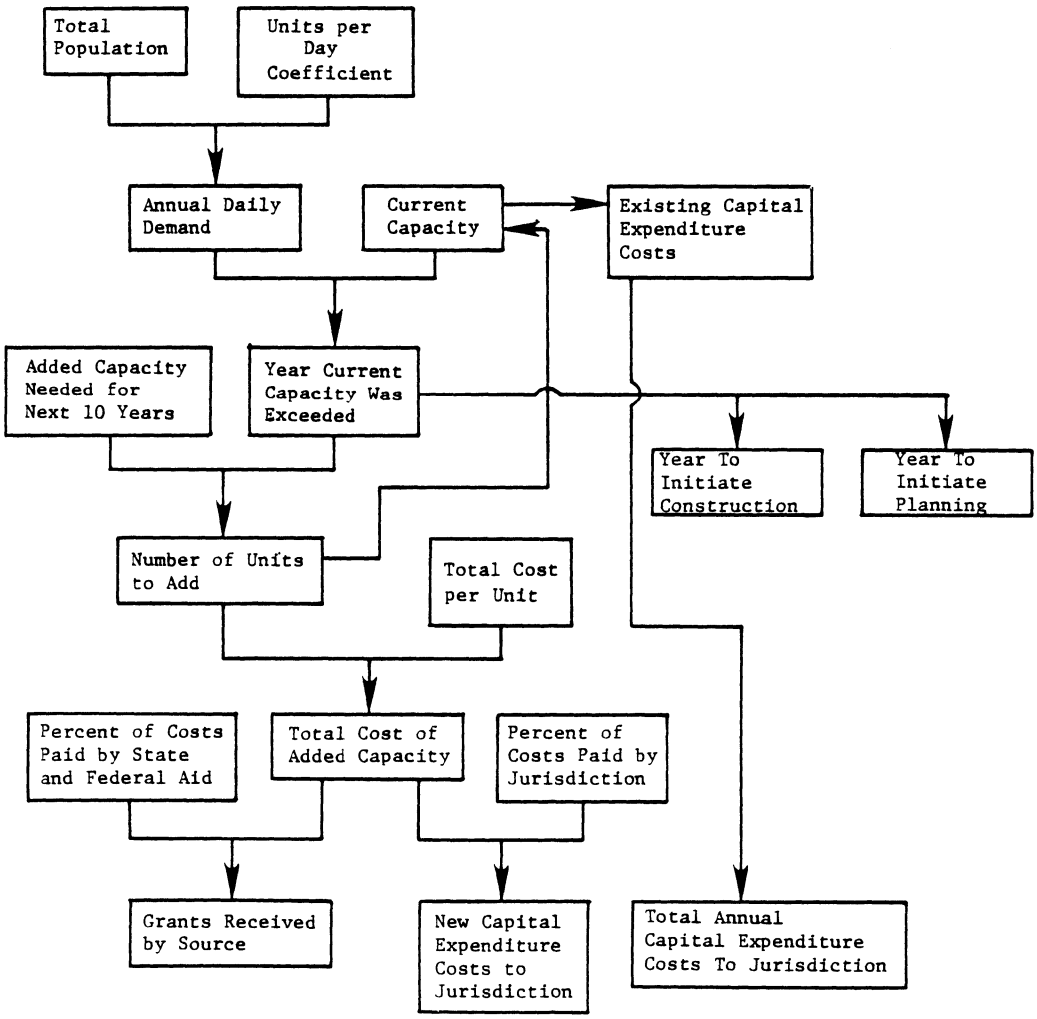
Effective Reserve Capacity	=	Effective Capacity	-	Current Peak Demand
Future Daily Demand	=	Cost/Personnel Coefficient	x	Independent Variable
Percent Capacity Remaining in Reserve	=	$\frac{\text{Reserve Capacity}}{\text{Effective Capacity}}$	x	100

We take advantage of the CE module's sensitivity to local conditions by determining the variables in this procedure through consultation with local officials responsible for the facilities or services being analyzed. We can change the independent variable to reflect future population growth or decline scenarios.

The CE module allows us the option to estimate future capacity increases in two ways. First, we can determine needed

Figure 9

CAPITAL EXPENDITURE MODULE: CITIES, SERVICE CENTERS, AND SCHOOL DISTRICTS



SOURCE: Research and Planning Consultants, Inc.

capacity increases by the amount of new demand. Having calculated demand increases, effective reserve capacity, and lead time to complete a facility, we allow the model to automatically determine that planning should start in a given year to have the facility ready for use by the time it is needed.

Alternatively, we can determine timing of capital expenditures through a more judgmental, trial-and-error process. The procedure allows us to make a series of demand forecasts into the future until existing capacity is absorbed. Then we backtrack in the time sequence to determine when capital expenditures should be made to expand services/facilities in order to prevent future capacity shortages.

For both procedures we are able to plan the service/facility to meet future demand. Demand increases, effective reserve capacities, and lead times all reflect local, case-by-case conditions.

The CE module allows us to estimate future requirements for the financing of general governmental capital expenditures through issuance of bonds as well, but the procedure is somewhat different. Since the general functions of government may include numerous service categories which are not analyzed independently in the CE module, the general government category represents an aggregate service with no clearly defined physical demand or physical capacity limitations. Demand for this category of capital expenditure is expressed in financial units rather than physical units as a wastewater system demand would be. Capacity

is expressed as the debt ceiling in a given jurisdiction, that is, the maximum level of general obligation bonded indebtedness allowed by law. This capacity is incorporated into the fiscal analysis (RPC, 1981b).

For each jurisdiction, we calculate a per capita cost coefficient that represents the amount transferred from general funds to finance annual capital expenditures for minor purchases of equipment or other items in all service categories. The CE module determines the level of population growth and the annual growth rate at periodic intervals and assigns a fiscal impact multiplier corresponding to the jurisdiction's size and rate of growth. The fiscal impact multipliers are based on cross-sectional analyses of municipal financing described in the Fiscal Impact Handbook (Burchell and Listokin, 1978). Using the per capita cost coefficient and the appropriate fiscal impact multiplier, the CE module allows us to estimate the amount of general bond financing required to support any increase in population expected over a specified period of time.

We calculate the capital expenditure program and annual bonded indebtedness (see Figures 10 and 11) for the four services most likely to incur bond financing--education, water services, wastewater treatment, and general government. We estimate capital expenditures for jurisdictions which maintain these services--the eight school districts, and the cities and the service centers.

Figure 10

ANNUAL CAPITAL EXPENDITURES BY JURISDICTION AND FACILITY/SERVICE FOR CITIES, SERVICE CENTERS, AND SCHOOL DISTRICTS

Decision Year	Year on Line	Capacity	Total Cost	Grant Money Received		Bond Money Issued	Annual Cost
				Federal	State		

SOURCE: Research and Planning Consultants, Inc.

Figure 11

ANNUAL BONDED INDEBTEDNESS BY JURISDICTION FOR CITIES, SERVICE CENTERS, AND SCHOOL DISTRICTS

Forecast Year	School Bonds	Water Bonds	Wastewater Bonds	General Government Bonds	Outstanding Debt	Debt per Capita
1980						
1981						
1982						
1983						
1984						
1985						
1986						
1987						
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						
1996						
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2027						

SOURCE: Research and Planning Consultants, Inc.

When a nonservice town grows to a predetermined population threshold, a CE module subroutine determines if the town should begin capital investments for water or wastewater systems (see Figure 12). If the decision is to invest in facility construction, the facility-building routine is modeled in the same manner as for service centers (see Figure 13). If a nonservice town reaches a similar population level, then institution of general government bond financing may similarly be allowed to occur.

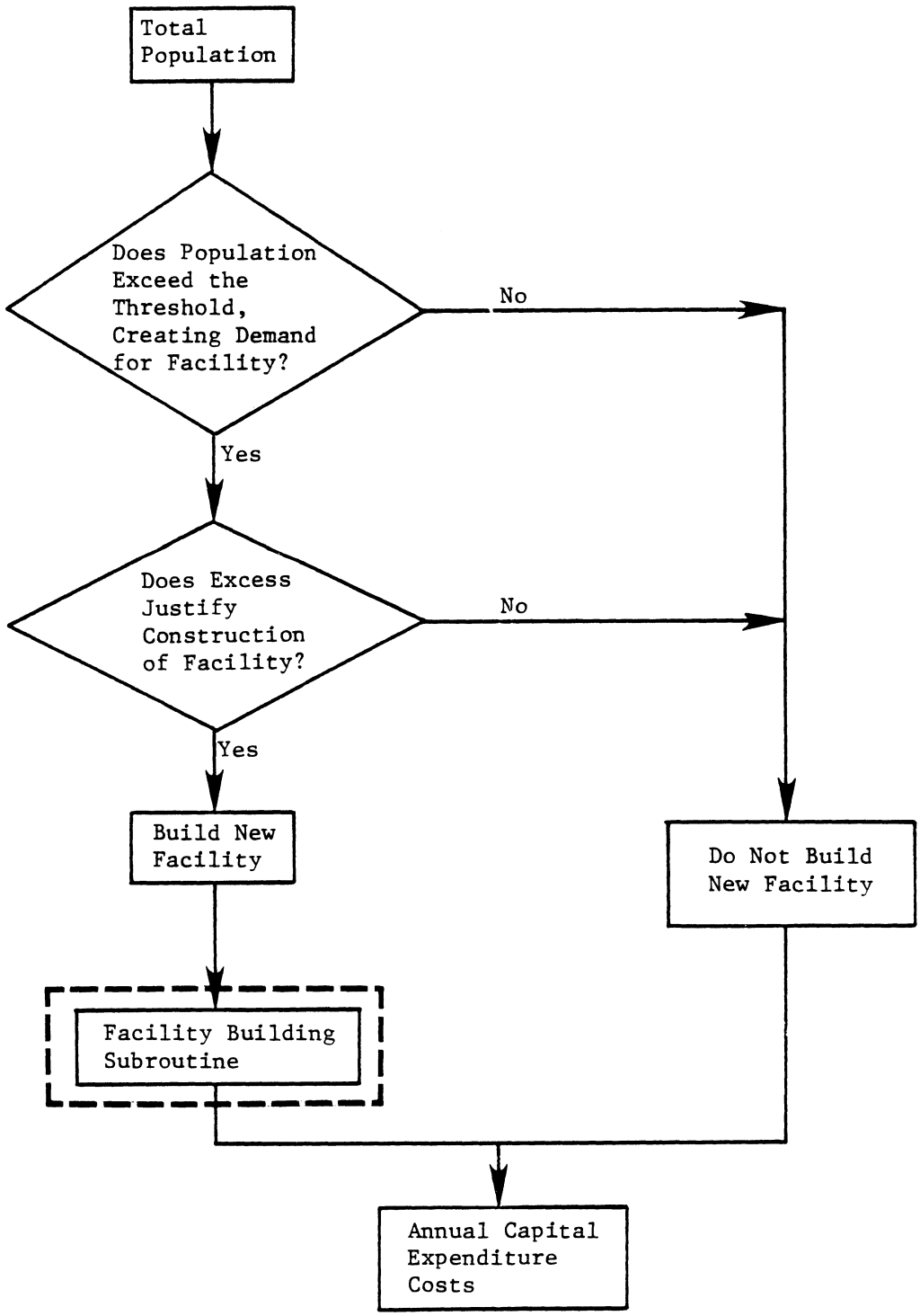
These calculations may be made for each year of the forecast period or for a longer time segment such as every five years.

COST ESTIMATES

The CE module estimates when facilities may have to be expanded or improved and how large the expansions or improvements must be. We estimate the costs of those expansions or improvements using architectural and engineering guidelines for determining costs (Gumerman, Culp, and Hansen, 1979; Hyun, 1979; U.S. Environmental Protection Agency, 1979). For example, if a school district in the local study area needs to build a new school, a preliminary engineering/architectural cost estimate defines the range of costs to build a school of the required size in that school district. The estimate is based on a range of costs per square foot, not on architectural drawings and local choices of types of materials, finishes, and the like. It is

Figure 12

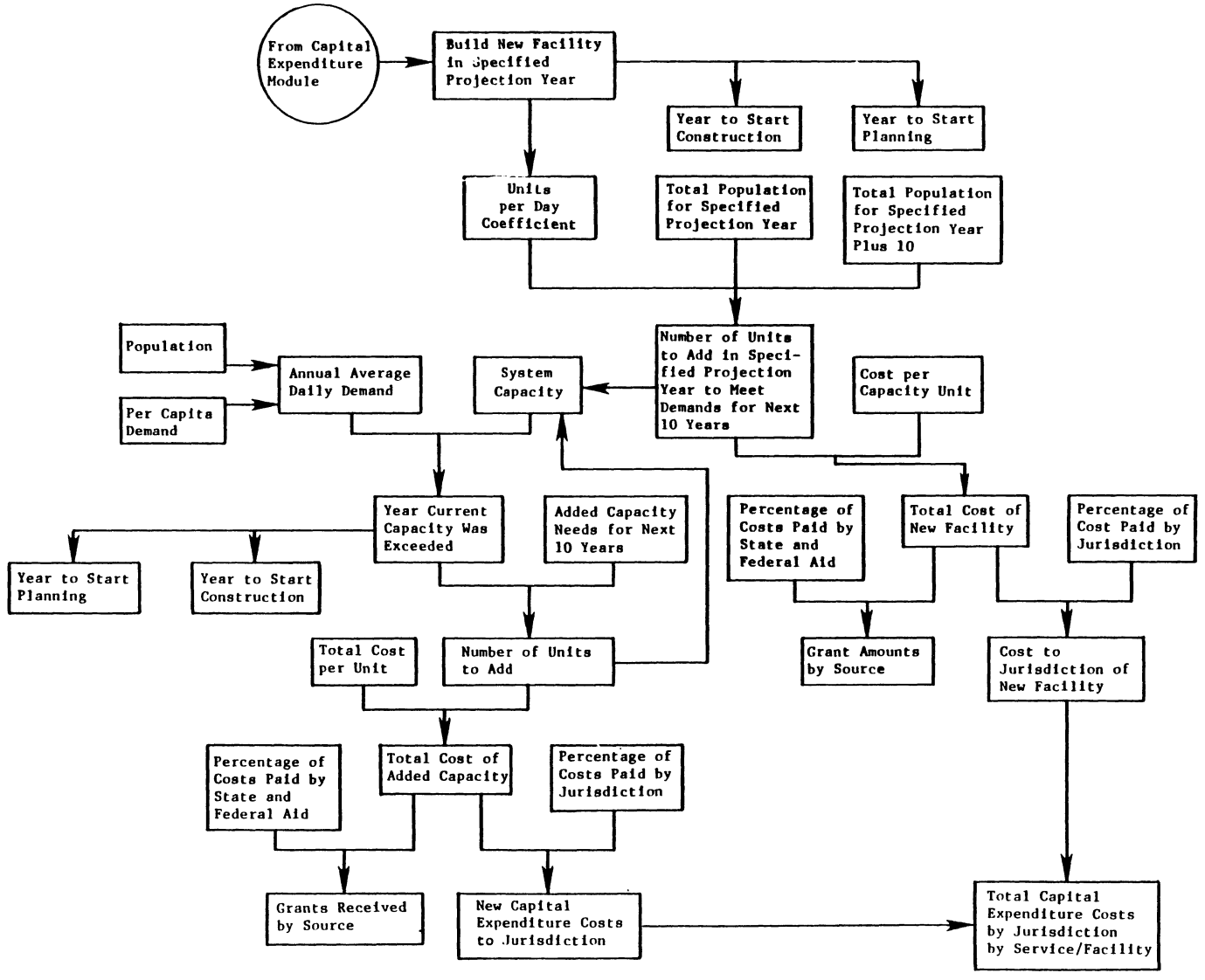
CAPITAL EXPENDITURE MODULE: NONSERVICE TOWNS



SOURCE: Research and Planning Consultants, Inc.

Figure 13

CAPITAL EXPENDITURE MODULE FACILITY BUILDING ROUTINE



SOURCE: Research and Planning Consultants, Inc.

reasonable to expect that real costs will fall close to the average.

We schedule all capital expenditures on a pay-back and interest basis consistent with current practice for the jurisdiction. However, if local experience is inadequate, we use standard amortization schedules. We then estimate annual debt service costs for the local government for the life of the debt.

ESTIMATION OF PROJECT-RELATED EFFECTS

We estimate capital expenditure costs for the without-project future and for a variety of with-project scenarios. We compare these estimates and establish a range of effects from minimum to maximum, including the most likely. This is the same procedure used with the O/M module. We include the range of estimates in the report.

6. GENERAL SERVICES AND UTILITIES AND STATE EXPENDITURE ANALYSIS

Certain public facilities and services cannot be analyzed by either the capital expenditure or the operation and maintenance module because they operate in a cross-jurisdiction service area, are privately owned, or do not generate specific expenditure data. We analyze these facilities and services using qualitative and quantitative approaches tailored for the individual situation to determine the effects on each service area associated with minimum, maximum, and most-likely effects of the proposed project. This group includes health care, social service programs, public transportation, and utilities such as telephone, electricity, natural gas, and fuel oil.

GENERAL SERVICES AND UTILITIES MODULE

Concept

Several factors necessitate the placement of certain facilities and services in the "general services and utilities" category. One factor complicating analysis of these facilities and services is that the service areas often are not well defined. Consequently, the size of the population served may be

difficult to determine. For example, people are willing to bypass local practitioners and to travel great distances if specialized medical care is available elsewhere. Moreover, solid waste disposal and emergency medical services within the local study area are frequently shared among a number of jurisdictions. Also, service areas frequently do not follow jurisdiction boundaries such as towns. Therefore, it is difficult to estimate the size of the population served, and evaluation of per capita demand is a guess at best. A similar complication is that electric companies are usually tied into state and regional networks that allow them to buy and sell power as necessary. Thus, estimating generating capacity in or near the local study area may be meaningless because the supplier can purchase power from a variety of sources.

A second complicating factor is private ownership. Services such as health care and utilities are provided largely by the private sector. Though these services are regulated by state and federal agencies, initiatives to increase or decrease services are largely private business decisions. The decisions of private providers to increase or decrease services may be affected by many factors other than local demand.

Elements of Analysis

We use the following definitions of terms in gathering data on general services and utilities.

Constraints. A constraint is any physical, economic, or legal factor that places a limit on how much the capacity of a system can be expanded in the local study area.

Response to Increased Demand. Response to increased demand means specific actions that would probably be taken by the service provider to meet new demands for services and/or facilities in the local study area.

Trends in Appropriations. Trends in appropriations are observable trends at the state and federal levels toward increases or reductions in service availability and capacity.

Procedure

For privately owned services and facilities we interview pertinent managers at the local level to determine the following:

1. Constraints on present ability to deliver services
2. Specific plans for services and capacities in the future
3. Response of the service or facility to an increase in demand in the local study area
4. Specific constraints to increasing capacity to meet new local demand.

For publicly supported facilities and services we interview relevant officials to determine the following:

1. Trends in appropriations for the near and long-term future

2. Special programs or service areas identified as important

3. Specific plans for services and capacities in the future

4. The status of service provision to rural areas such as the local study area

5. The response of the agency or organization to an increase in demand in the local study area.

We gather the information listed above along with the descriptive information outlined on the relevant data sheets in the appendix to this report. We then use this information to describe existing conditions for this category of services and facilities and to describe the most likely future without the proposed Crandon Project and under various scenarios of project development. Figures 14 and 15 present the outputs of the analysis. Facilities and services funded by the state are estimated in a separate analysis, discussed in the following section.

Cost Estimates

Local revenues do not usually meet costs for general services and utilities. To the extent possible, we estimate costs of increased services.

We estimate state costs for general services and utilities as well as other state supported services in the local study area by multiplying a per capita cost multiplier times the local study

Figure 14

GENERAL SERVICES AND UTILITIES
BY COUNTY AND SERVICE

Forecast Year	Estimated Population	Percent Remaining Capacity	Will Need Expansion? (Yes, No)	Total Personnel	Change in Personnel
1980					
1981					
1982					
1983					
1984					
1985					
1986					
1987					
1988					
1989					
1990					
1991					
1992					
1993					
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2027					

SOURCE: Research and Planning Consultants, Inc.

Figure 15

FACTORS INFLUENCING DELIVERY OF GENERAL SERVICES AND UTILITIES BY COUNTY

Factors	Health Services		Public Transportation	Solid Waste Disposal	Utilities		
	Hospitals	Emergency Medical Service			Electricity	Heating Fuels	Telephone
Limitations on Analysis							
Constraints on Service Delivery							
Source of Operation and Maintenance Funds							
Future Plans							
Potential Response to Increased Demand							
Constraints on Increasing Capacity							
Funding Sources for Expansions							

SOURCE: Research and Planning Consultants, Inc.

area population. This procedure yields an aggregate cost estimate for the entire local study area. State expenditure data are available in the Annual Fiscal Report (Wisconsin Department of Administration, Bureau of Financial Operations, 1978).

Estimation of Project-Related Effects

We identify possible increases or reductions in service that may result from increased demand due to the proposed Crandon Project.

STATE EXPENDITURE MODULE

The economic effects of the proposed Crandon Project are likely to extend beyond the local study area to the state as a whole, since development of the project is likely to include greater production in those industries, especially machinery and equipment manufacturing, that are expected to supply goods and services to the Crandon Project. The increased economic activities in turn are likely to increase incomes within the state, thereby expanding the tax base for many state taxes and contributing to tax revenues. We estimate state tax revenues generated within the state as a whole in the fiscal analysis. Revenues from some taxes are returned in part to local governments in the local study area.

While some increase in tax revenue for the state as a whole is expected, the effect of the project on total direct state government costs should be minimal. Such costs are population related: while the project may cause migration into the local study area, thereby increasing local and state government costs attributable to the local study area, many of these project-related immigrants to the local study area will come from other parts of the state. As a result, there would be little if any increase in demand for state government public services in the state as a whole. Therefore, the state public facilities and services analysis focuses on estimating state government costs attributable to the local study area rather than on estimating total state expenditures. In this analysis we estimate costs excluding state-to-local government transfers. In the fiscal analysis we estimate state-to-local transfers.

Elements of Analysis

The major variables of the state expenditure module are the independent variable and the cost/personnel coefficient. They are defined below.

Independent Variable. As with the O/M and CE modules, the independent variable is the major determinant of demand for state expenditures. For this module, the independent variable is the population of the local study area.

Cost/Personnel Coefficient. The cost/personnel coefficient translates the independent variable into an estimate of demand for state expenditures in the local study area. This coefficient is the ratio between the independent variable and state expenditures. We calculate the per capita coefficient for the baseline year (1979) by dividing total current state expenditures by the state population. The resulting per capita multiplier becomes the cost/personnel coefficent for the state expenditure module.

Procedure

The purpose of the state expenditure module is to estimate state costs attributable to the local study area using the per capita method and to estimate one aggregate cost for the local study area per year. In the fiscal analysis, this cost is compared to estimated local shares of state revenues that would be expected according to the state fund distribution formulae existing in the baseline year (1979). Like the O/M module, the state expenditure module assumes that for every change in the independent variable (local study area population), there is a corresponding change in future demand. The per capita basis for forecasting annual demand for state expenditures at the local level is the most reasonable approach to estimating the need for state transfers, as it directly reflects any population change. Although the actual supply of state funds to meet this demand may

be greater or less, the level of demand is represented as a reasonable estimate of the population's need. The module calculates future demand by multiplying the independent variable by the cost/personnel coefficient.

Per Capita Cost/Personnel Coefficient	x	Local Study Area Population	=	Local Study Area Demand

We calculate the annual demand during the forecast period for state expenditures for both the future without- and with-project scenarios. Figure 16 presents the outputs of the analysis.

Cost Estimates

We obtain state expenditure data for the baseline year (1979) from current state budget information. We calculate the per capita cost/personnel coefficient by dividing the annual state budget by total state population.

Estimation of Project-Related Effects

As for the O/M and CE modules, we estimate state expenditures for the without-project future and for several with-project futures. By comparing these estimates we establish a range of minimum to maximum including most-likely effects.

Figure 16

STATE EXPENDITURES FOR THE LOCAL STUDY AREA

Forecast Year	Estimated Population	State Expenditures
1980		
1981		
1982		
1983		
1984		
1985		
1986		
1987		
1988		
1989		
1990		
1991		
1992		
1993		
1994		
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2027		

SOURCE: Research and Planning Consultants, Inc.

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UWDC
University of Wisconsin Digital Collections

Interviews

During the interviews we discuss the nature of our request, review how the information we develop should be useful to the officials, and answer any questions. Then we gather the data on the data sheets.

Initial Compilation

After the personal or telephone interviews, we compile the collected data, review the data for completeness, and use secondary sources when necessary. Most of the secondary data come from state of Wisconsin sources.

Review by Local Officials

After we review and complete the data we send the compiled data sheets to each local jurisdiction's officials and ask for their review and comment on any errors or omissions.

Final Compilation

After receiving the corrected data sheets from the local officials, we prepare a final copy of the information and use it as our current data base for the public facilities and services analysis.

LIMITATIONS

As with all data collection efforts, there are some limitations on availability of information. Some of these limitations are easily overcome but others are not. Some of the obstacles encountered in data collection are:

1. We request five-to-ten-year trend information from each facility and service. Many local officials are volunteers or work part time and some do not have the long-term experience and the comprehensive historic knowledge to provide useful information on trends.

2. Many rural towns do not maintain comprehensive services; rather, they share in cross-jurisdiction agreements to obtain needed services. In these cases, complete data are difficult to obtain, given the variety of financial arrangements, service contracts, and points of view.

3. Local jurisdictions maintain records with varying levels of detail, complicating attempts to collect consistent data.

Appendix

Data Sheets

Public Facilities and Services Jurisdiction_____

EMERGENCY MEDICAL SERVICE/1

_____

_____

Supplier of EMS to the Jurisdiction:

_____

Location of Nearest Station:

_____

Emergency Equipment Available at That Station:

Type	Number	Condition

_____

Number of Certified Personnel Available at Nearest Station:

_____

Schedule of Availability of Equipment and Personnel:

_____

Average Response Time to the Jurisdiction:

_____

Average Run Time to Emergency Care Facility:

_____

Types of Life-Support Services and Equipment Provided during the Run:

_____

Is Radio Contact Provided with a Physician?

_____

Public Facilities and Services Jurisdiction_____

EMERGENCY MEDICAL SERVICE/2

Source of Funds:

Type	Amount	Purpose/Restrictions

Rate Structure:

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Public Facilities and Services Jurisdiction_____

FIRE PROTECTION/1

Population served
Number of full-time firefighters
Number of volunteer firefighters
Number of administrative personnel
Salary costs (including fringe benefits)
Expenditures for operation and maintenance
Expenditures for equipment
Key rate
Total number of calls

Facilities:

Station Number or Designation	Location	Floor Space ($Ft.^2$)	General Condition	Age

---

Vehicles and Equipment:

Type	Number	Age	Condition	Expected Life Span

Communication Equipment:

Type
Age
Adequacy: Poor _____ Fair _____ Good _____ Excellent_____

Cooperative Agreements:

Cooperating jurisdictions
Nature of agreements
Policy regarding calls outside service area

Public Facilities and Services Jurisdiction_____

FIRE PROTECTION/2

Emergency Service other than Fires:

Types of services provided
Specialized equipment available
Provisions for industrial accidents, oil, and chemical spills

---

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

GENERAL GOVERNMENT

Number of full-time employees
(not assigned to specific divisions)
Number of part-time employees
(not assigned to specific divisions)
Salary costs (including fringe benefits)
Expenditures for operation and maintenance

Office Facilities:

Floor space ($ft.^2$)
Age
General Condition: Poor____ Fair____ Good____ Excellent____
General Adequacy: Poor____ Fair____ Good____ Excellent____

Vehicles and Equipment:

Type	Age	Condition	Expected Life Span

Planned Modifications:

Type	Schedule	Estimated Cost

Public Facilities and Services Jurisdiction_____

HEALTH FACILITIES AND PUBLIC HEALTH AND WELFARE SERVICES/1

Clinics and Hospitals/1 Facility_____
Ownership_____

Number of beds
Average occupancy rate
Total number of patients served
Total number of physicians using facility
Number of RNs
Number of LPNs

Facilities and Equipment Available:

Type	Number	Capacity

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

HEALTH FACILITIES AND PUBLIC HEALTH AND WELFARE SERVICES/2

Geographic Origins of Users:

Percent of total patients served who came from
  Local city
  Local county

Health Care Personnel

Total number of full-time physicians who
  practice in the jurisdiction
Total number of part-time physicians who
  practice in the jurisdiction
Total number of full-time dentists who
  practice in the jurisdiction
Total number of part-time dentists who
  practice in the jurisdiction
Total number of full-time RNs who
  practice in the jurisdiction
Total number of part-time RNs who
  practice in the jurisdiction
Total number of full-time LPNs who
  practice in the jurisdiction
Total number of part-time LPNs who
  practice in the jurisdiction

Recognized Excess or Deficiencies:

Public Facilities and Services Jurisdiction_____

HEALTH FACILITIES AND PUBLIC HEALTH AND WELFARE SERVICES/3

Service	Provider	Location of Nearest Office	No. of Staff in Nearest Local Office	Budget for Nearest Local Office	Number of Clients Served by Nearest Local Office

Public Facilities and Services Jurisdiction_____

LIBRARY SERVICE

Number of full-time employees
Number of part-time employees
Salary costs (including fringe benefits)
Expenditures for operation and maintenance

Office Facilities:

Floor space ($ft.^2$)
Age
General condition: Poor____ Fair____ Good____ Excellent____
General adequacy: Poor____ Fair____ Good____ Excellent____

Number of cardholders
Service area
Number of books
Number of periodicals
Hours of operation

Planned Modifications:

Type	Schedule	Estimated Cost

Public Facilities and Services Jurisdiction_____

POLICE PROTECTION/1

Population served
Number of full-time certified officers
Number of part-time officers
Number of administrative personnel
Number of jail personnel
Salary costs (including fringe benefits)
Expenditures for operation and maintenance
Expenditures for purchase of patrol vehicles

Office Facilities:

Floor space ($ft.^2$)
Age
General Condition: Poor ____ Fair ____ Good _____ Excellent_____
General Adequacy: Poor ____ Fair ____ Good _____ Excellent_____

Detention Facilities:

Floor space ($ft.^2$)
Number of cells
Age
State Certification: Yes ____ No ____
General Condition: Poor ____ Fair ____ Good _____ Excellent ____
General Adequacy: Poor ____ Fair ____ Good _____ Excellent ____

Vehicles:

Type	Number	Age	Condition	Expected Life Span

Communication Equipment:

Type
Age
Adequacy: Poor _____ Fair _____ Good _____ Excellent _____

Public Facilities and Services Jurisdiction_____

POLICE PROTECTION/2

Cooperative Agreements:

Cooperating jurisdictions
Nature of agreements

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

PUBLIC EDUCATION/1

Number of pupils enrolled
Number of full-time teachers
Number of part-time teachers
Number of administrative personnel
Number of service personnel (food, custodial)
Number of pupils in bus programs
Number of buses
Operation and maintenance costs of bus program, including personnel
Salary costs (including fringe benefits)
Expenditures for operation and maintenance
Total expenditures per pupil

Facility:

Size ($ft.^2$)
Number of classrooms
Other features (gymnasium, cafeteria, etc.) and size of each

General Condition: Poor ____ Fair ____ Good ____ Excellent _____
Age
Maximum number of pupils who have used the facility during any given school year
Is the facility overcrowded?
Could the facility handle more pupils?
If so, how many?
Is the facility adequate for current programs?

Instructional Equipment:

List type and number of specialized equipment.
Is equipment adequate for current program?

Curriculum:

List subjects in curriculum.

Public Facilities and Services Jurisdiction_____

PUBLIC EDUCATION/2

Bus Program (for entire district):

Number of buses
Number of buses in each age category

Less Than 1 Yr. Old	1-3 Yrs. Old	4-6 Yrs. Old	More Than 6 Yrs. Old

Replacement schedule for buses
Cost of typical bus

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

PUBLIC TRANSPORTATION

Types of Service:

Air
Bus
Rail

Areas Served:

Planned Modifications and Expansions:

Air
Bus
Rail

Public Facilities and Services Jurisdiction_____

RECREATION

_____

_____

Population served
Number of parks
Total acreage of parks
Service area
Number of full-time employees
Number of part-time employees
Salary costs (including fringe benefits)
Expenditures for operation and maintenance

_____

Parks and Facilities:

Description	Size	Location	Facilities	Condition

_____

Public Facilities and Services Jurisdiction_____

SOLID WASTE DISPOSAL/1

Population served
Demand (tons/week)
Number of operation and service personnel
Salary costs (including fringe benefits)
Expenditures on operation and maintenance
Operation costs for site maintenance equipment

Disposal Sites:

Site Number or Designation	Size of Site	Expected Remaining Useful Life	Violations or Modification Orders

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Collection and Site Maintenance Equipment:

Type	Number	Age	Condition

Cooperative Agreements:

Participating jurisdictions
Nature of agreements

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Public Facilities and Services Jurisdiction_____

SOLID WASTE DISPOSAL/2

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

STREETS AND ROADS/1

Total miles of streets and roads
maintained by the jurisdiction
Number of full-time employees
Number of part-time employees
Salary costs (including fringe benefits)
Expenditures for materials and supplies
Expenditures for vehicles
Expenditures for contracts

Description of Streets and Roads:

Classification	Miles	General Condition	Work Needed

Vehicles and Equipment:

Type	Number	Age	Condition	Expected Life Span

Description of Bridges:

Classification	Number	General Condition	Work Needed

Public Facilities and Services Jurisdiction_____

UTILITIES

Electric Service:

Supplier
Areas served
Limitations on expansion
Planned modifications or expansion

Fuel Oil:

Supplier
Areas served
Limitations on expansion
Planned modifications or expansion

Natural or LP Gas:

Supplier
Areas served
Limitations on expansion
Planned modifications or expansion

Telephone:

Supplier
Areas served
Limitations on expansion
Planned modifications or expansion

Public Facilities and Services Jurisdiction_____

WASTEWATER TREATMENT/1

Population served
Number of connections
Peak daily demand (MGD)
Average daily demand (MGD)
Number of operation and maintenance personnel
Number of administrative personnel
Salary costs (including fringe benefits)
Expenditures for operation and maintenance
Expenditures on equipment

Treatment System:

Plant Designation or Number	Type	Capacity (MGD)	Current Demand (MGD)	Effective Reserve Capacity (MGD)	Age	Expected Remaining Useful Life

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Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

Public Facilities and Services Jurisdiction_____

WATER SERVICE/1

Population served
Number of connections
Peak daily demand (MGD)
Average daily demand (MGD)
Storage capacity (MG)
Number of operation and maintenance personnel
Number of administrative personnel
Salary costs (including fringe benefits)
Expenditures for operation and maintenance
Expenditures on equipment (including vehicles)

Wells:

Designation or Number	Production Capacity (MGD)	Current Demand (MGD)	Effective Reserve Capacity (MGD)	Age	Expected Remaining Useful Life

Pumps:

Designation or Number	Capacity (MGD)	Current Demand (MGD)	Effective Reserve Capacity (MGD)	Age	Expected Remaining Useful Life

Planned Modifications:

	Type of Modification	Schedule	Estimated Cost
Personnel			
Equipment			
Facilities			

Public Facilities and Services Jurisdiction_____

WATER SERVICE/2

Sources of Funds:

Type	Current Amount	Purpose/Restrictions

Debt:

Type	Amount	Amortization Schedule

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