



Twenty-seventh annual report. July 1988

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SOUTHEASTERN
WISCONSIN
REGIONAL
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COMMISSION

1987 ANNUAL REPORT

**SOUTHEASTERN
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Graduate Research Center
Dept. of Urban & Regional Planning
The University of Wisconsin-Madison

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TWENTY-SEVENTH ANNUAL REPORT

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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Graduate Research Center
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July 31, 1988

TO: The State Legislature of Wisconsin and the Legislative Bodies of the Local Governmental Units Within the Southeastern Wisconsin Region

In accordance with the requirements of Section 66.945(8)(b) of the Wisconsin Statutes, this Commission each calendar year prepares and certifies an annual report to the State Legislature of Wisconsin and to the legislative bodies of the constituent county and local units of government within the Region. This, the 27th annual report of the Commission, summarizes the accomplishments of the Commission in calendar year 1987, and contains a statement of the financial position of the Commission as of the end of that calendar year as certified by an independent auditor.

While the Commission annual report is prepared to meet the legislative requirement noted above, the document also serves as an annual report to the state and federal agencies which fund several aspects of the Commission's work program. Importantly, however, the annual report is intended to provide county and local public officials and interested citizens with a comprehensive overview of current and proposed Commission activities, and thereby provide a focus for the active participation of those officials and citizens in regional plan preparation and implementation.

As do past annual reports, this report contains much useful information on development trends in the Region. In addition, this report summarizes the progress made during 1987 by the Commission in carrying out its three basic functions—data collection and dissemination, regional plan preparation, and plan implementation. Two new major plan elements were completed and adopted by the Commission during the year, these being a comprehensive water resources management plan for the Milwaukee Harbor estuary, and a second generation regional airport system plan. In addition, the Commission completed handicapped person service plans for each of the five transit systems operating within the Region. The Commission also adopted a number of important amendments to the regional water quality management plan, including detailed sanitary sewer service area plans for the Cities of Cedarburg, New Berlin, and Whitewater; the Villages of Grafton, Silver Lake, and Twin Lakes; and the Town of Lyons. Progress in these and other plan development efforts, and, importantly, plan implementation efforts, is summarized within this annual report.

The Commission hopes that the constituent units and agencies of government concerned are pleased with the work of the Commission in 1987. The Commission looks forward to continuing to serve its constituent local units of government and the state and federal agencies concerned by providing the planning services required to address the areawide environmental and developmental problems of southeastern Wisconsin, and by promoting the intergovernmental cooperation needed to resolve these problems.

Very truly yours,

Anthony F. Balestrieri
Chairman



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ABOUT THE COMMISSION

AUTHORITY

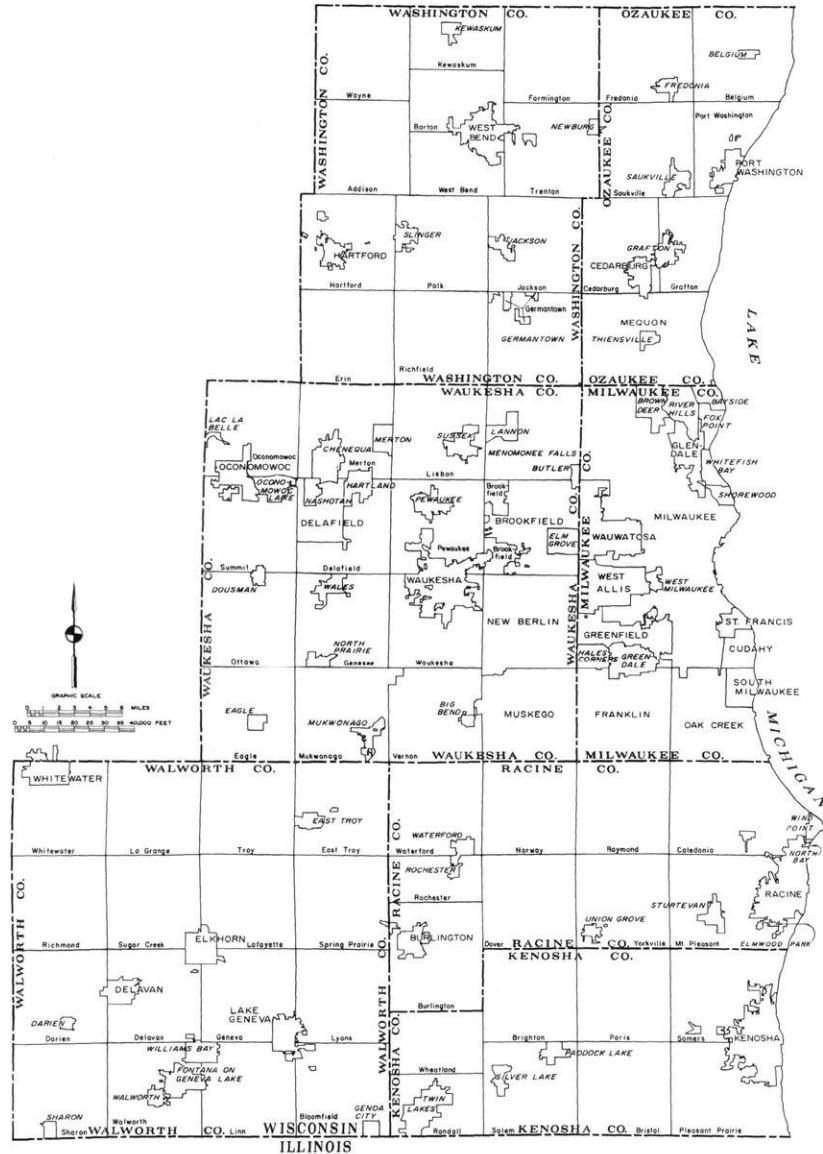
The Southeastern Wisconsin Regional Planning Commission was established in 1960 under Section 66.945 of the Wisconsin Statutes as the official areawide planning agency for the highly urbanized southeastern region of the State. The Commission was created to provide the basic information and planning services necessary to solve problems which transcend the corporate boundaries and fiscal capabilities of the local units of government comprising the Region.

AREA SERVED

The Commission serves a Region consisting of the seven counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha. These seven counties have an area of about 2,689 square miles, or about 5 percent of the total area of the State. These counties, however, have a resident population of 1.74 million persons, or about 36 percent of the total population of the State. The seven counties provide about 910,000 jobs, or about 40 percent of the total employment of the State,

Map 1

THE SOUTHEASTERN WISCONSIN REGION



and contain real property worth about \$44.3 billion as measured in equalized valuation, or about 38 percent of all the tangible wealth of the State as measured by such valuation. There are 154 general-purpose local units of government in the seven-county Region, all of which participate in the work of the Commission.

BASIC CONCEPTS

Regional or areawide planning has become increasingly accepted as a necessary governmental function in the large metropolitan areas of the United States. This acceptance is based, in part, on a growing awareness that problems of physical and economic development and of environmental deterioration transcend the geographic limits and fiscal capabilities of local units of government, and that sound resolution of these problems requires the cooperation of all units and agencies of government concerned and of private interests as well.

As used by the Commission, the term "region" means an area larger than a county but smaller than a state, united by economic interests, geography, and common developmental and environmental problems. A regional basis is necessary to provide a meaningful technical approach to the proper planning and design of such systems of public works as highway and transit and sewerage and water supply, and of park and open space facilities. A regional basis is also essential to provide a sound approach to the resolution of such environmental problems as flooding, air and water pollution, natural resource base deterioration, and changing land use.

Private as well as public interests are vitally affected by these kinds of areawide problems and by proposed solutions to these problems, and it appears neither desirable nor possible for any one level or agency of government to impose the decisions required to resolve these kinds of problems. Such decisions can better come from consensus among the public and private interests concerned, based on a common interest in the welfare of the entire Region. Regional planning is necessary to promote this consensus and the necessary cooperation between urban and rural, local, state, and federal, and public and private interests. In this light, regional planning is not a substitute for federal, state, or local public planning or for private planning. Rather, regional planning is a vital supplement to such planning.

COMMISSION OFFICES OLD COURTHOUSE WAUKESHA COUNTY



The work of the Regional Planning Commission is entirely advisory in nature. Therefore, the regional planning program in southeastern Wisconsin has emphasized the promotion of close cooperation among the various governmental agencies concerned with land use development and with the development and operation of supporting public works facilities. The Commission believes that the highest form of areawide planning combines accurate data and competent technical work with the active participation of knowledgeable and concerned public officials and private citizens in the formulation of plans that address clearly identified problems. Such planning is intended to lead not only to a more efficient regional development pattern but also to a more desirable environment in which to live and work.

BASIC FUNCTIONS

The Commission conceives regional planning as having three basic functions. The first involves the collection, analysis, and dissemination of basic planning and engineering data on a uniform, areawide basis in order that better development decisions can be made in both the public and private sectors. The Commission believes that the establishment and utilization of such data can in and of itself contribute to better development

decision-making within the Region. The second function involves the preparation of a framework of long-range areawide plans for the physical development of the Region. This function is mandated by state enabling legislation. While the scope and content of these plans can extend to all phases of regional development, the Commission believes that emphasis should be placed on the preparation of plans for land use and supporting transportation, utility, and community facilities. The third function involves the provision of a center for the coordination of day-to-day planning and plan implementation activities of all of the units and levels of government operating within the Region. Through this function, the Commission seeks to integrate regional and local plans and planning efforts and thereby to promote regional plan implementation.

ORGANIZATION

The Commission consists of 21 members, three from each of the seven member counties, who serve without pay. One Commissioner from each county is appointed by the county board and is an elected county board supervisor. The remaining two from each county are appointed by the Governor, one from a list prepared by the county board.

The full commission meets at least four times a year and is responsible for establishing overall policy, adopting the annual budget, and adopting regional plan elements. The Commission has four standing committees—Executive, Administrative, Planning and Research, and Intergovernmental and Public Relations. The Executive Committee meets monthly to oversee the work effort of the Commission and is empowered to act for the Commission in all matters except the adoption of the budget and the adoption of the regional plan elements. The Administrative Committee meets monthly to oversee the routine but essential house-keeping activities of the Commission. The Planning and Research Committee meets as necessary to review all of the technical work carried out by the Commission staff and its consultants. The Intergovernmental and Public Relations Committee serves as the Commission's principal arm in the communication process with the constituent county boards. The Committee meets as necessary to consider intergovernmental problems. The Commission and committee rosters are set forth in Appendix A. The Commission is assisted in its work by 30 technical, citizen, and intergovernmental coordinating and advisory committees. These committees include both elected

and appointed public officials and interested citizens with knowledge in the Commission work areas. The committees perform a significant function in both the formulation and the execution of the Commission work programs. Membership on the advisory committees, which totals 630 persons, is set forth in Appendix B.

STAFFING

The Commission prepares an annual work program which is reviewed and approved by federal and state funding agencies. This work program is then carried out by a core staff of full-time professional, technical, administrative, and clerical personnel, supplemented by additional temporary staff and consultants as required by the various work programs underway. At the end of 1987, the staff totaled 97, including 77 full-time and 20 part-time employees. Interagency staff assignments during the year involved one professional staff member from the Wisconsin Department of Natural Resources.

As shown in Figure 1, the Commission is organized into eight divisions. Five of these divisions—Transportation Planning, Environmental Planning, Land Use Planning, Community Assistance Planning, and Economic Development Assistance—have direct responsibility for the conduct of the Commission's major planning programs. The remaining three divisions—Administrative Services, Information Systems, and Cartographic and Graphic Arts—provide day-to-day support of the five planning divisions.

FUNDING

Basic financial support for the Commission's work program is provided by county tax levies apportioned on the basis of equalized valuation. These basic funds are heavily supplemented by state and federal aids. Revenues received by the Commission during 1987 totaled about \$5.4 million, of which about 50 percent, or \$2.7 million, represents contract revenues for local government data processing services. County tax levies in 1987 totaled \$875,910, or about \$0.50 per capita. The sources of this revenue for 1987 and the trend in funding since the inception of the Commission in 1960 are shown in Figures 2 through 5. It may be seen in Figure 2 that there has been little change in the tax levy for regional planning since 1963 when that levy is expressed in constant 1960 dollars.

Figure 1

SEWRPC ORGANIZATIONAL STRUCTURE

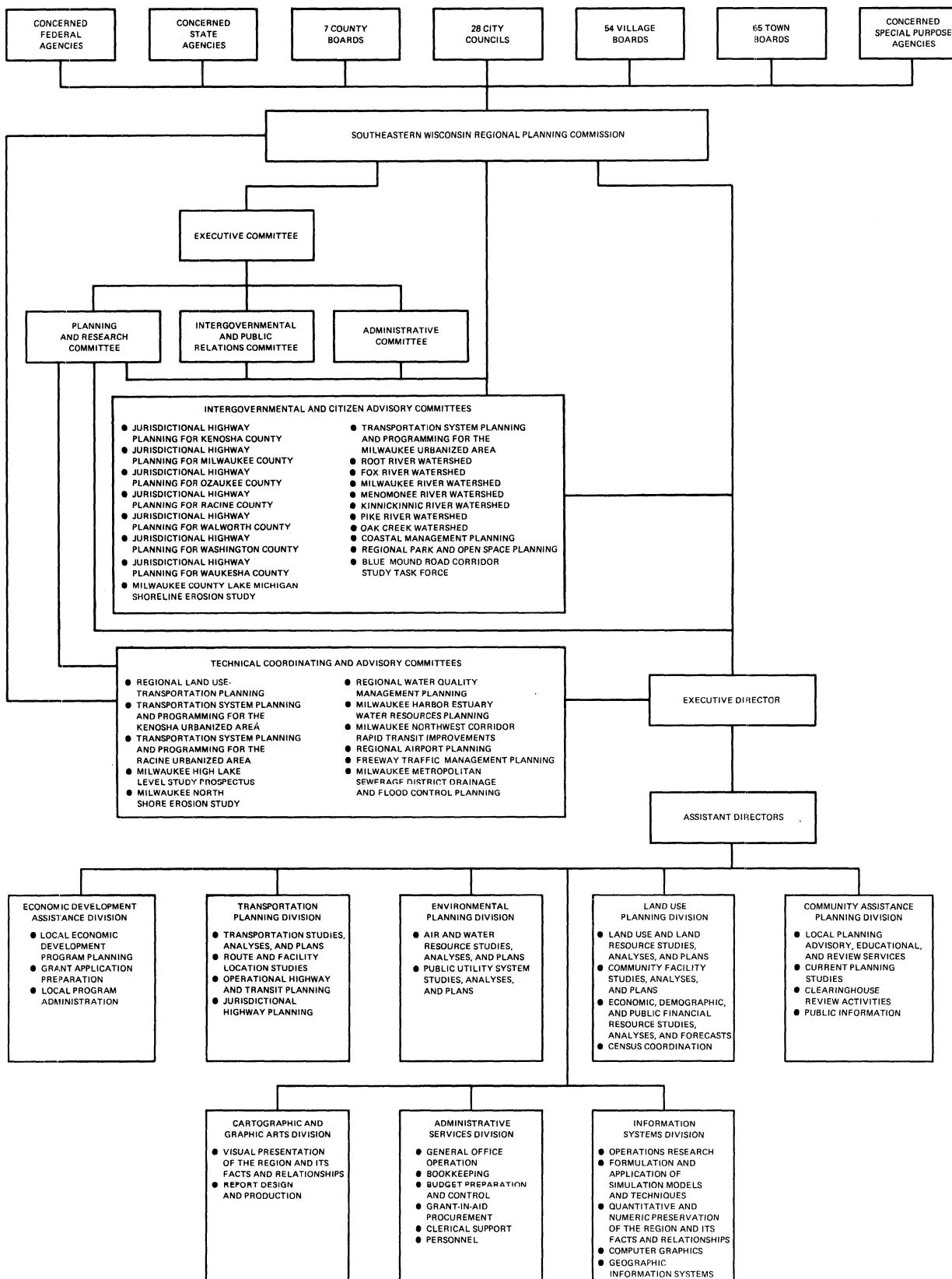


Figure 2

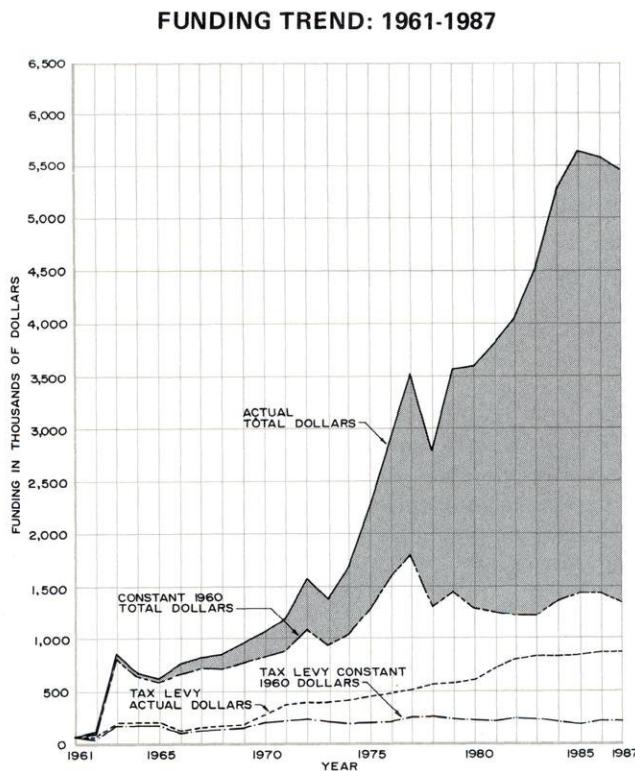


Figure 3

SOURCES OF REVENUES TREND: 1961-1987

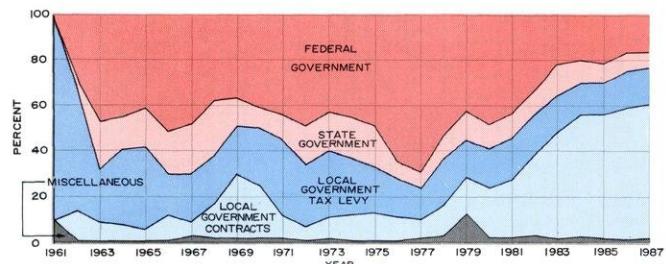


Figure 4

EXPENDITURES TREND: 1961-1987

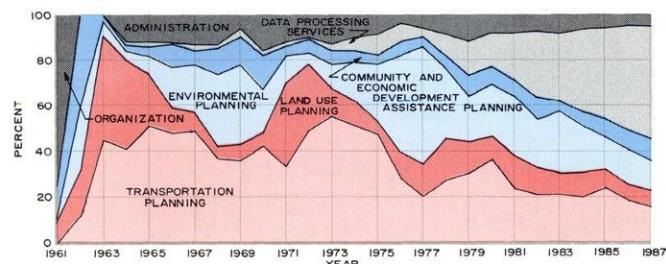
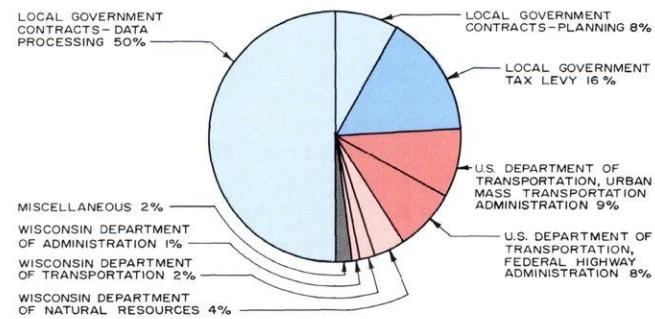


Figure 5

REVENUES AND EXPENDITURES: 1987

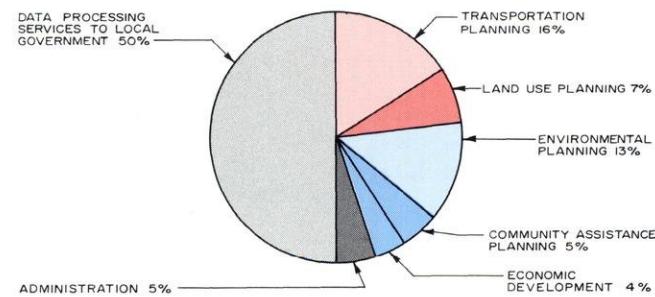
REVENUES

Federal Government	\$ 915,465	17%
State Government	380,253	7%
Local Government Tax Levy	875,910	16%
Local Government Contracts	3,200,594	58%
Miscellaneous	88,263	2%
Total	\$5,460,485	100%



EXPENDITURES

Transportation Planning	\$ 887,122	16%
Land Use Planning	389,095	7%
Environmental Planning	713,848	13%
Community Assistance Planning	244,349	5%
Economic Development Assistance	216,994	4%
Data Processing Services to Local Governments	2,736,698	50%
Administration	272,379	5%
Total	\$5,460,485	100%



1987 MEETINGS

COMMISSION AND ADVISORY COMMITTEE MEETINGS

Full Commission	4	Technical Advisory Committee on Regional Water Quality Management Planning	0
Executive Committee	8		
Administrative Committee	8		
Planning and Research Committee	6		
Intergovernmental and Public Relations Committee	0		
Technical Coordinating and Advisory Committee on Regional Land Use-Transportation Planning			
Land Use Subcommittee	0	Technical and Citizen Advisory Committee on Coastal Management in Southeastern Wisconsin	1
Highway Subcommittee	0	Technical Advisory Committee for the Milwaukee North Shore Erosion Study	8
Transit Subcommittee	0		
Socioeconomic Subcommittee	0	Technical Advisory Committee Milwaukee Harbor Estuary Comprehensive Water Resources Management Plan	2
Utilities Subcommittee	0	Advisory Committee on Stormwater Drainage and Flood Control Planning for the Milwaukee Metropolitan Sewerage District and District Service Areas	6
Natural and Recreation-Related Resources Subcommittee	0	Technical and Citizen Advisory Committee on Regional Park and Open Space Planning	0
Traffic Studies, Models, and Operations Subcommittee	0	Milwaukee High Lake Level Prospectus Advisory Committee	4
Technical Coordinating and Advisory Committee on Regional Airport Planning	1	Intergovernmental Coordinating and Technical Advisory Committee for the Milwaukee County Lake Michigan Shoreline Erosion, Bluff Recession, and Storm Damage Control Plan	0
Technical and Intergovernmental Coordinating and Advisory Committees on Jurisdictional Highway System Planning			
Kenosha County	0		
Milwaukee County	0		
Ozaukee County	0		
Racine County	1		
Walworth County	0		
Washington County	0		
Waukesha County	0		
Technical Coordinating and Advisory Committee for Detailed Planning and Rapid Transit Improvements in the Milwaukee Northwest Corridor	1		
Intergovernmental Coordinating and Advisory Committees on Transportation System Planning and Programming			
Kenosha Urbanized Area	1	Executive Director	295
Milwaukee Urbanized Area	1	Assistant Directors	186
Racine Urbanized Area	1	Cartographic and Graphic Arts Division	20
Technical Coordinating and Advisory Committee on Freeway Traffic Management	0	Community Assistance Planning Division	192
Bluemound Road Corridor Task Force	8	Environmental Planning Division	126
Watershed Committees		Land Use Planning Division	181
Root River	0	Transportation Planning Division	70
Fox River	1	Economic Development Assistance Division	320
Milwaukee River	0	Information Systems Division	35
Menomonee River	0		
Kinnickinnic River	0		
Pike River	1		
Oak Creek	0		

STAFF TECHNICAL MEETINGS

Executive Director	295
Assistant Directors	186
Cartographic and Graphic Arts Division	20
Community Assistance Planning Division	192
Environmental Planning Division	126
Land Use Planning Division	181
Transportation Planning Division	70
Economic Development Assistance Division	320
Information Systems Division	35

STAFF SPEAKING ENGAGEMENTS

Executive Director	37
Assistant Directors	26
Community Assistance Planning Division	2
Environmental Planning Division	21
Land Use Planning Division	13
Transportation Planning Division	15
Economic Development Assistance Division	7
Information Systems Division	1

The Commission has a complete financial audit performed each year by a certified public accountant. The report of this audit for 1987 is set forth in full in Appendix E. In addition to the Commission's own audit, the federal and state funding agencies perform periodic independent audits of projects to which they contribute financial support.

DOCUMENTATION

Documentation in the form of published reports is considered very important, if not absolutely essential, to any public planning effort. Printed planning reports represent the best means for disseminating inventory data that have permanent historic value and for promulgating plan recommendations and alternatives to such recommendations. Published reports are intended to serve as important references for public officials at the federal and state levels, as well as at the local level, when considering important development decisions. Perhaps most importantly, however, published reports are intended to provide a focus for generating enlightened citizen interest in, and action on, plan recommendations. Accordingly, the Commission has established a series of published reports.

The first and most important type of report in the series is the planning report. The planning report is intended to document the adopted elements of the comprehensive plan for the physical development of the Region. As such, these reports constitute the official recommendations of the Regional Planning Commission. Each planning report is carefully reviewed and formally adopted by the Commission.

The second type of report in the series is the planning guide. Planning guides are intended to constitute manuals of local planning practice. As such, planning guides are intended to help improve the overall quality of public planning within the Region, and thereby to promote sound community development properly coordinated on a regionwide basis. The guides discuss basic planning and plan implementation principles, contain examples of good planning practice, and provide local governments with model ordinances and forms to assist them in their everyday planning efforts.

The third type of report in the series is the technical report. Technical reports are intended to make available to various public and private agencies within the Region valuable information assembled

by the Commission staff during the course of its planning work on a work progress basis. Technical reports document the findings of such important basic inventories as detailed soil surveys, stream water quality surveys, potential park and open space site inventories, and horizontal and vertical control surveys.

The fourth type of report in the series is similar to the technical report and is known as the technical record. This journal is published on an irregular basis and is intended primarily to document technical procedures utilized in the Commission planning programs. The documentation of such procedures assists other planning and engineering technicians in more fully understanding the Commission work programs and contributes toward advancing the science and art of planning.

The fifth type of report in the series is the community assistance planning report. These reports are intended to document local plans prepared by the Commission at the request of one or more local units of government. Occasionally, these local plans constitute refinements of, and amendments to, adopted regional and subregional plans, and are then formally adopted by the Regional Planning Commission.

The sixth type of report in the series is the planning program prospectus. Prospectuses are prepared by the Commission as a matter of policy as the initial step in the undertaking of any new major planning program. The major objective of the prospectus is to achieve a consensus among all of the interests concerned on the need for, and objectives of, a particular proposed planning program. The prospectus documents the need for a planning program; specifies the scope and content of the work required to be undertaken; recommends the most effective method for establishing, organizing, and accomplishing the required work; recommends a practical time sequence and schedule for the work; provides sufficient cost data to permit the development of an initial budget; and suggests how to allocate costs among the various levels and units of government concerned. Importantly, the prospectuses serve as the basis for the review, approval, and funding of the proposed planning programs by the constituent county boards.

The seventh type of report in the series is the annual report. The annual report has served an increasing number of functions over the period of

the Commission's existence. Originally, and most importantly, the Commission's annual report was, and still is, intended to satisfy a very sound legislative requirement that a regional planning commission each calendar year prepare, publish, and certify to the State Legislature of Wisconsin and to the legislative bodies of the local units of government within the Region an annual report summarizing the activities of the Commission. In addition, the annual report documents activities under the continuing regional land use-transportation study and as such serves as an annual report to the federal and state Departments of Transportation. The Commission's annual report is also intended to provide local public officials and interested citizens with a comprehensive overview of the Commission's activities and thereby to provide a focal point for the promotion of regional plan implementation.

The eighth type of report in the series is the memorandum report. These reports are intended to document the results of locally requested special studies. These special studies usually involve

relatively minor work efforts of a short duration and are not normally intended to document formally adopted plans.

In addition to the eight basic types of reports described above, the Commission documents its work in certain miscellaneous publications, including the bimonthly newsletter, regional planning conference proceedings, study designs, public hearing and public informational meeting minutes, transportation improvement programs, and staff memoranda.

While many of the Commission's publications are relatively long and are, necessarily, written in a technical style, they do provide the conscientious, concerned citizen and elected official, as well as concerned technicians, with all of the data and information needed to comprehend fully the scope and complexity of the areawide developmental and environmental problems and of the Commission's recommendations for the resolution of those problems. A complete publication list is set forth in Appendix D.

THE EVOLVING COMPREHENSIVE PLAN FOR THE REGION

PLAN DESIGN FUNCTION

The Commission is charged by law with the function and duty of "making and adopting a master plan for the physical development of the Region." The permissible scope and content of this plan, as outlined in the enabling legislation, extend to all phases of regional development, implicitly emphasizing, however, the preparation of alternative spatial designs for the use of land and for supporting transportation and utility facilities.

The scope and complexity of areawide development problems prohibit the making and adopting of an entire comprehensive development plan at one point in time. The Commission has, therefore, determined to proceed with the preparation of individual plan elements which together can comprise the required comprehensive plan. Each element is intended to deal with an identified areawide developmental or environmental problem. The individual elements are coordinated by being related to an areawide land use plan. Thus, the land use plan comprises the most basic regional plan element, an element on which all other elements are based. The Commission believes the importance of securing agreement upon areawide development plans through the formal adoption of such plans not only by the Commission but also by county and local units of government and state agencies cannot be overemphasized.

The Commission has placed great emphasis upon the preparation of a comprehensive plan for the physical development of the Region in the belief that such a plan is essential if land use development is to be properly coordinated with the development of supporting transportation, utility, and community facility systems; if the development of each of these individual functional systems is to be coordinated with the development of the others; if serious and costly environmental and developmental problems are to be minimized; and if a more healthful, attractive, and efficient regional settlement pattern is to be evolved. Under the Commission's approach, the preparation, adoption, and use of the comprehensive plan are considered to be the primary objectives of the

planning process; and all planning and plan implementation techniques are based upon, or related to, the comprehensive plan.

The validity of the concept of the comprehensive plan has been questioned in recent years and its application, in fact, opposed by some segments of the planning profession. The Commission believes, however, that the comprehensive plan remains a viable and valid concept, a concept essential to coping with the developmental and environmental problems generated by areawide urbanization. The comprehensive plan not only provides the necessary framework for coordinating and guiding growth and development within a multi-jurisdictional urbanizing region having essentially a single community of interest, but provides the best conceptual basis available for the application of systems engineering skills to the growing problems of such a region. This is because systems engineering basically must focus upon a design of physical systems. It seeks to achieve good design by setting good objectives; determining the ability of alternative plans to meet these objectives through quantitative analyses; cultivating interdisciplinary team activity; and considering all of the relationships involved both within the system being designed and between the system and its environment.

ADOPTED PLAN ELEMENTS—1987

The Commission initiated the important plan design function in 1963 when it embarked upon a major program to prepare a regional land use plan and a regional transportation plan. Since that time, increasing emphasis has been placed on the plan design function. Beginning in the early 1970's, this plan design function has included major plan reappraisal as well as the preparation of new plan elements.

By the end of 1987, the adopted regional plan consisted of 22 individual plan elements. These plan elements are identified in Table 1. Four of these elements are land use related: the regional land use plan, the regional housing plan, the regional library facilities and services plan, and the regional park and open space plan.

Table 1

THE ADOPTED REGIONAL PLAN—1987

Functional Area	Plan Element	Plan Document	Date of Adoption
Land Use, Housing, and Community Facility Planning	Regional Land Use Plan ^a	Planning Report No. 25, <u>A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 19, 1977
	Amendment—Kenosha County	Community Assistance Planning Report No. 45, <u>A Farmland Preservation Plan for Kenosha County, Wisconsin</u>	June 17, 1982
	Amendment—Racine County	Community Assistance Planning Report No. 46, <u>A Farmland Preservation Plan for Racine County, Wisconsin</u>	June 17, 1982
	Amendment—Ozaukee County	Community Assistance Planning Report No. 87, <u>A Farmland Preservation Plan for Ozaukee County, Wisconsin</u>	June 16, 1983
	Amendment—Pewaukee Area	Community Assistance Planning Report No. 76, <u>A Land Use Plan for the Town and Village of Pewaukee: 2000, Waukesha County, Wisconsin</u>	December 1, 1983
	Amendment—Town of Pleasant Prairie	Community Assistance Planning Report No. 88, <u>A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, Kenosha County, Wisconsin</u>	March 11, 1985
	Regional Library Facilities and Services Plan	Planning Report No. 19, <u>A Library Facilities and Services Plan for Southeastern Wisconsin</u>	September 12, 1974
	Regional Housing Plan	Planning Report No. 20, <u>A Regional Housing Plan for Southeastern Wisconsin</u>	June 5, 1975
	Regional Park and Open Space Plan	Planning Report No. 27, <u>A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000</u>	December 1, 1977
	Amendment—Ozaukee County Park and Open Space Plan	Community Assistance Planning Report No. 133, <u>A Park and Open Space Plan for Ozaukee County</u>	September 14, 1987
Transportation Planning	Regional Transportation Plan ^b	Planning Report No. 25, <u>A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	June 1, 1978
	Amendment—Lake Freeway South Corridor	<u>Amendment to the Regional Transportation Plan—2000, Lake Freeway South Corridor</u>	June 18, 1981
	Amendment—Milwaukee Area Primary Transit System	Planning Report No. 33, <u>A Primary Transit System Plan for the Milwaukee Area</u>	June 17, 1982
	Amendment—Racine County	<u>Amendment to the Regional Transportation Plan—2000, Racine County</u>	December 2, 1982
	Amendment—Waukesha County	<u>Amendment to the Regional Transportation Plan—2000, Waukesha County</u>	December 2, 1982
	Amendment—Milwaukee Northwest Side/Ozaukee County	Planning Report No. 34, <u>A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area</u>	September 8, 1983
	Amendment—Lake Freeway North/Park Freeway East	<u>Amendment to the Regional Transportation Plan—2000, Lake Freeway North/Park Freeway East</u>	December 1, 1983
	Amendment—Stadium Freeway South Corridor	<u>Amendment to the Regional Transportation Plan—2000, Stadium Freeway South Corridor</u>	March 11, 1985
	Racine Area Transit Development Plan	Community Assistance Planning Report No. 3, <u>Racine Area Transit Development Program: 1975-1979</u>	September 12, 1974
	Regional Airport System Plan ^c	Planning Report No. 38, <u>A Regional Airport System Plan for Southeastern Wisconsin: 2010</u>	June 15, 1987
	Kenosha Area Transit ^d Development Plan	Community Assistance Planning Report No. 101, <u>Kenosha Area Transit System Plan and Program: 1984-1988</u>	March 11, 1985

Table 1 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Transportation Planning (continued)	Transportation Systems Management Plan	Community Assistance Planning Report No. 50, <u>A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1981</u>	December 4, 1980
	Amendment—Milwaukee Northwest Side/ Ozaukee County	Planning Report No. 34, <u>A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area</u>	September 8, 1983
	Elderly-Handicapped Transportation Plan	Planning Report No. 31, <u>A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982</u>	April 13, 1978
	Amendment—Racine Area	SEWRPC Resolution No. 78-17	December 7, 1978
	Amendment—Racine Area	Community Assistance Planning Report No. 39, <u>A Public Transit System Accessibility Plan, Volume Three, Racine Urbanized Area</u>	September 11, 1980
	Amendment—Racine Area	Memorandum Report No. 24, <u>A Public Transit Program for Handicapped Persons—City of Racine Transit System</u>	December 7, 1987
	Amendment—Milwaukee County	Community Assistance Planning Report No 39, <u>A Public Transit System Accessibility Plan, Volume Two, Milwaukee Urbanized Area/Milwaukee County</u>	June 20, 1980
	Amendment—Milwaukee County	Memorandum Report No. 21, <u>A Public Transit Program for Handicapped Persons—Milwaukee County Transit System</u>	December 7, 1987
	Amendment—Kenosha Area	Community Assistance Planning Report No. 39, <u>A Public Transit System Accessibility Plan, Volume One, Kenosha Urbanized Area</u>	September 11, 1980
	Amendment—Kenosha Area	Memorandum Report No. 23, <u>A Public Transit Program for Handicapped Persons—City of Kenosha Transit System</u>	December 7, 1987
	Amendment—Waukesha County	Community Assistance Planning Report No. 39, <u>A Public Transit System Accessibility Plan, Volume Four, Milwaukee Urbanized Area/Waukesha County</u>	September 11, 1980
	Amendment—Waukesha County	Memorandum Report No. 22, <u>A Public Transit Program for Handicapped Persons—Waukesha County Transit System</u>	December 7, 1987
	Amendment—City of Waukesha	Amendment to the <u>Public Transit Accessibility Plan for the Milwaukee Urbanized Area/Waukesha County, City of Waukesha Transit System Utility</u>	June 18, 1981
	Amendment—City of Waukesha	Memorandum Report No. 17, <u>A Public Transit Program for Handicapped Persons— City of Waukesha Transit System Utility</u>	December 7, 1987
Environmental Planning	Root River Watershed Plan	Planning Report No. 9, <u>A Comprehensive Plan for the Root River Watershed</u>	September 22, 1966
	Fox River Watershed Plan	Planning Report No. 12, <u>A Comprehensive Plan for the Fox River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	June 4, 1970
	Amendment—Water Pollution Control Time Schedule	Amendment to the <u>Comprehensive Plan for the Fox River Watershed</u>	September 13, 1973
	Amendment—Lower Watershed Drainage Plan	Community Assistance Planning Report No. 5, <u>Drainage and Water Level Control Plan for the Waterford-Rochester-Wind Lake Area of the Lower Fox River Watershed</u>	June 5, 1975
	Amendment—Pewaukee Flood Control Plan	Community Assistance Planning Report No. 14, <u>Floodland Management Plan for the Village of Pewaukee</u>	June 1, 1978
	Milwaukee River Watershed Plan	Planning Report No. 13, <u>A Comprehensive Plan for the Milwaukee River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	March 2, 1972

Table 1 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Lincoln Creek Flood Control Plan	Community Assistance Planning Report No. 13 (2nd Edition), <u>Flood Control Plan for Lincoln Creek, Milwaukee County, Wisconsin</u>	December 1, 1983
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Menomonee River Watershed Plan	Planning Report No. 26, <u>A Comprehensive Plan for the Menomonee River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	January 20, 1977
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Wastewater Sludge Management Plan	Planning Report No. 29, <u>A Regional Wastewater Sludge Management Plan for Southeastern Wisconsin</u>	September 14, 1978
	Kinnickinnic River Watershed Plan	Planning Report No. 32, <u>A Comprehensive Plan for the Kinnickinnic River Watershed</u>	March 1, 1979
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Regional Water Quality Management Plan ^e	Planning Report No. 30, <u>A Regional Water Quality Management Plan for Southeastern Wisconsin, Volume One, Inventory Findings; Volume Two, Alternative Plans; Volume Three, Recommended Plan</u>	July 12, 1979
	Amendment—Root River Watershed	Community Assistance Planning Report No. 37, <u>A Nonpoint Source Water Pollution Control Plan for the Root River Watershed</u>	March 6, 1980
	Amendment—Walworth County Metropolitan Sewerage District	Community Assistance Planning Report No. 56, <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District</u>	December 3, 1981
	Amendment—Cities of Brookfield and Waukesha	Amendment to the <u>Regional Water Quality Management Plan—2000, Cities of Brookfield and Waukesha</u>	December 3, 1981
	Amendment—Kenosha County	Community Assistance Planning Report No. 45, <u>A Farmland Preservation Plan for Kenosha County, Wisconsin</u>	June 17, 1982
	Amendment—Racine County	Community Assistance Planning Report No. 46, <u>A Farmland Preservation Plan for Racine County, Wisconsin</u>	June 17, 1982
	Amendment—City of Muskego	Community Assistance Planning Report No. 64 (2nd Edition), <u>Sanitary Sewer Service Area for the City of Muskego</u>	March 3, 1986
	Amendment—Ashippun Lake, Waukesha County	Community Assistance Planning Report No. 48, <u>A Water Quality Management Plan for Ashippun Lake, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—Okauchee Lake, Waukesha County	Community Assistance Planning Report No. 53, <u>A Water Quality Management Plan for Okauchee Lake, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—Lac La Belle, Waukesha County	Community Assistance Planning Report No. 47, <u>A Water Quality Management Plan for Lac La Belle, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—North Lake, Waukesha County	Community Assistance Planning Report No. 54, <u>A Water Quality Management Plan for North Lake, Waukesha County, Wisconsin</u>	December 2, 1982
	Amendment—City of West Bend	Community Assistance Planning Report No. 35, <u>Sanitary Sewer Service Area for the City of West Bend, Washington County, Wisconsin</u>	December 2, 1982
	Amendment—Village of Grafton	Amendment to the <u>Regional Water Quality Management Plan—2000, Village of Grafton</u>	December 2, 1982
	Amendment—City of Brookfield	Amendment to the <u>Regional Water Quality Management Plan—2000, City of Brookfield</u>	December 2, 1982
	Amendment—Village of Sussex	Community Assistance Planning Report No. 84, <u>Sanitary Sewer Service Area for the Village of Sussex, Waukesha County, Wisconsin</u>	June 16, 1983

Table 1 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Ozaukee County	Community Assistance Planning Report No. 87, <u>A Farmland Preservation Plan for Ozaukee County, Wisconsin</u>	June 16, 1983
	Amendment—Village of Germantown	Community Assistance Planning Report No. 70, <u>Sanitary Sewer Service Area for the Village of Germantown, Washington County, Wisconsin</u>	September 8, 1983
	Amendment—Village of Saukville	Community Assistance Planning Report No. 90, <u>Sanitary Sewer Service Area for the Village of Saukville, Ozaukee County, Wisconsin</u>	December 1, 1983
	Amendment—City of Port Washington	Community Assistance Planning Report No. 95, <u>Sanitary Sewer Service Area for the City of Port Washington, Ozaukee County, Wisconsin</u>	December 1, 1983
	Amendment—Pewaukee	Community Assistance Planning Report No. 76, <u>A Land Use Plan for the Town and Village of Pewaukee: 2000, Waukesha County, Wisconsin</u>	December 1, 1983
	Amendment—Belgium Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Onion River Priority Watershed Plan</u>	December 1, 1983
	Amendment—Geneva Lake Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Geneva Lake Area Communities</u>	December 1, 1983
	Amendment—Village of Butler	Community Assistance Planning Report No. 99, <u>Sanitary Sewer Service Area for the Village of Butler, Waukesha County, Wisconsin</u>	March 1, 1984
	Amendment—City of Hartford	Community Assistance Planning Report No. 92, <u>Sanitary Sewer Service Area for the City of Hartford, Washington County, Wisconsin</u>	June 21, 1984
	Amendment—Mukwonago Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Mukwonago, Towns of East Troy and Mukwonago</u>	June 21, 1984
	Amendment—Village of Fredonia	Community Assistance Planning Report No. 96, <u>Sanitary Sewer Service Area for the Village of Fredonia, Ozaukee County, Wisconsin</u>	September 13, 1984
	Amendment—Village of East Troy	Community Assistance Planning Report No. 112, <u>Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin</u>	September 13, 1984
	Amendment—City of Milwaukee	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Milwaukee</u>	September 13, 1984
	Amendment—Town of Pleasant Prairie	Community Assistance Planning Report No. 88, <u>A Land Use Management Plan for the Town of Pleasant Prairie, Carol Beach Area of the Town of Pleasant Prairie, Kenosha County, Wisconsin</u>	March 11, 1985
	Amendment—Village of Belgium	Community Assistance Planning Report No. 97, <u>(2nd Edition) Sanitary Sewer Service Area for the Village of Belgium, Ozaukee County, Wisconsin</u>	June 15, 1987
	Amendment—Town of Addison	Community Assistance Planning Report No. 103, <u>Sanitary Sewer Service Area for the Allenton Area, Washington County, Wisconsin</u>	March 11, 1985
	Amendment—Town of Yorkville	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Yorkville</u>	March 11, 1985
	Amendment—Village of Williams Bay	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Williams Bay/Walworth County Metropolitan Sewerage District</u>	March 11, 1985
	Amendment—Town of Trenton City of West Bend	<u>Amendment to the Regional Water Quality Management Plan—2000, City of West Bend/Town of Trenton</u>	March 11, 1985
	Amendment—Village of Hartland	Community Assistance Planning Report No. 93, <u>Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin</u>	June 17, 1985
	Amendment—Village of Jackson	Community Assistance Planning Report No. 124, <u>Sanitary Sewer Service Area for the Village of Jackson, Washington County, Wisconsin</u>	June 17, 1985
	Amendment—Pewaukee Area	Community Assistance Planning Report No. 113, <u>Sanitary Sewer Service Area for the Town of Pewaukee Sanitary District No. 3, Lake Pewaukee Sanitary District, and Village of Pewaukee, Waukesha County, Wisconsin</u>	June 17, 1985

Table 1 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—City of Waukesha	Community Assistance Planning Report No. 100, <u>Sanitary Sewer Service Area for the City of Waukesha and Environs, Waukesha County, Wisconsin</u>	December 2, 1985
	Amendment—Village of Slinger	Community Assistance Planning Report No. 128, <u>Sanitary Sewer Service Area for the Village of Slinger, Washington County, Wisconsin</u>	December 2, 1985
	Amendment—Delafield/Nashotah Area	Community Assistance Planning Report No. 127, <u>Sanitary Sewer Service Area for the City of Delafield and the Village of Nashotah and Environs, Waukesha County, Wisconsin</u>	December 2, 1985
	Amendment—Kenosha Area	Community Assistance Planning Report No. 106, <u>Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin</u>	December 2, 1985
	Amendment—Town of Eagle	Amendment to the <u>Regional Water Quality Management Plan—2000, Eagle Spring Lake Sanitary District</u>	December 2, 1985
	Amendment—Town of Salem	Community Assistance Planning Report No. 143, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>	March 3, 1986
	Amendment—Friess Lake, Washington County	Community Assistance Planning Report No. 98, <u>A Water Quality Management Plan for Freiss Lake, Washington County, Wisconsin</u>	March 3, 1986
	Amendment—Geneva Lake Walworth County	Community Assistance Planning Report No. 60, <u>A Water Quality Management Plan for Geneva Lake, Walworth County, Wisconsin</u>	March 3, 1986
	Amendment—Pewaukee Lake Waukesha County	Community Assistance Planning Report No. 58, <u>A Water Quality Management Plan for Pewaukee Lake, Waukesha County, Wisconsin</u>	March 3, 1986
	Amendment—Waterford/Rochester Area	Community Assistance Planning Report No. 141, <u>Sanitary Sewer Service Area for the Waterford/Rochester Area, Racine County, Wisconsin</u>	June 16, 1986
	Amendment—City of Burlington	Community Assistance Planning Report No. 78, <u>Sanitary Sewer Service Area for the City of Burlington, Racine County, Wisconsin</u>	June 16, 1986
	Amendment—City of Waukesha/Town of Pewaukee	Amendment to the <u>Regional Water Quality Management Plan—2000, City of Waukesha/Town of Pewaukee</u>	December 1, 1986
	Amendment—Salem/Paddock Lake/Bristol Area	Community Assistance Planning Report No. 145, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin</u>	December 1, 1986
	Amendment—Racine Area	Community Assistance Planning Report No. 147, <u>Sanitary Sewer Service Area for the City of Racine and Environs, Racine County, Wisconsin</u>	December 1, 1986
	Amendment—Town of Lyons	Amendment to the <u>Regional Water Quality Management Plan—2000, Country Estates Sanitary District/Town of Lyons</u>	March 2, 1987
	Amendment—Village of Silver Lake	Community Assistance Planning Report No. 119, <u>Sanitary Sewer Service Area, Village of Silver Lake, Kenosha County, Wisconsin</u>	June 15, 1987
	Amendment—Village of Twin Lakes	Community Assistance Planning Report No. 149, <u>Sanitary Sewer Service Area, Village of Twin Lakes, Kenosha County, Wisconsin</u>	June 15, 1987
	Amendment—Cedarburg/Grafton Area	Community Assistance Planning Report No. 91, <u>Sanitary Sewer Service Area, City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin</u>	June 15, 1987
	Amendment—Town of Walworth	Amendment to the <u>Regional Water Quality Management Plan—2000, Town of Walworth Utility District No. 1/Walworth County</u> Metropolitan Sewerage District	June 15, 1987
	Amendment—City of West Bend	Amendment to the <u>Regional Water Quality Management Plan—2000, City of West Bend</u>	June 15, 1987
	Amendment—City of Whitewater	Community Assistance Planning Report No. 94, <u>Sanitary Sewer Service Area for the City of Whitewater, Walworth County, Wisconsin</u>	September 14, 1987

Table 1 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Town of Lyons	Community Assistance Planning Report No. 158, <u>Sanitary Sewer Service Area for the Town of Lyons Sanitary District No. 2, Walworth County, Wisconsin</u> ,	September 14, 1987
	Amendment—City of Hartford	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Hartford</u>	September 14, 1987
	Amendment—Milwaukee Harbor Estuary Plan	<u>Planning Report No. 37, A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Amendment—City of New Berlin	<u>Community Assistance Planning Report No. 157, Sanitary Sewer Service Area for the City of New Berlin, Waukesha County, Wisconsin</u>	December 7, 1987
	Amendment—Village of Sussex	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Sussex</u>	December 7, 1987
	Amendment—Kenosha Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Kenosha and Environs</u>	December 7, 1987
	Regional Air Quality Plan	<u>Planning Report No. 28, A Regional Air Quality Attainment and Maintenance Plan for Southeastern Wisconsin: 2000</u>	June 20, 1980
	Amendment—Emission Reduction Credit Banking and Trading System	<u>Amendment to the Regional Air Quality Attainment and Maintenance Plan: 2000, Emission Reduction Credit Banking and Trading System</u>	December 1, 1983
	Pike River Watershed Plan	<u>Planning Report No. 35, A Comprehensive Plan for the Pike River Watershed</u>	June 16, 1983
	Amendment—Town of Mt. Pleasant	<u>Amendment to the Pike River Watershed Plan, Town of Mt. Pleasant</u>	June 15, 1987
Community Assistance Planning	Amendment—City of Kenosha/Town of Somers	<u>Amendment to the Pike River Watershed Plan, City of Kenosha/Town of Somers</u>	June 15, 1987
	Oak Creek Watershed Plan	<u>Planning Report No. 36, A Comprehensive Plan for the Oak Creek Watershed</u>	September 8, 1986
Community Assistance Planning	Kenosha Planning District Comprehensive Plan	<u>Planning Report No. 10, A Comprehensive Plan for the Kenosha Planning District, Volumes One and Two</u>	June 1, 1972
	Racine Urban Planning District Comprehensive Plan	<u>Planning Report No. 14, A Comprehensive Plan for the Racine Urban Planning District, Volume One, Inventory Findings and Forecasts; Volume Two, The Recommended Comprehensive Plan; Volume Three, Model Plan Implementation Ordinances</u>	June 5, 1975

^a The regional land use plan is a second generation plan. The initial regional land use plan was adopted by the Commission on December 1, 1966, and documented in SEWRPC Planning Report No. 7, Regional Land Use-Transportation Study, Volume Three, Recommended Regional Land Use and Transportation Plans—1990.

^b The regional transportation plan is a second generation plan. The initial regional transportation plan was adopted by the Commission on December 1, 1966, and documented in SEWRPC Planning Report No. 7, Regional Land Use-Transportation Study, Volume Three, Recommended Regional Land Use and Transportation Plans—1990, and was subsequently amended by the adoption on June 4, 1970, of the Milwaukee County jurisdictional highway system plan documented in SEWRPC Planning Report No. 11, A Jurisdictional Highway System Plan for Milwaukee County; the adoption on March 2, 1972, of the Milwaukee area transit plan set forth in the document entitled, Milwaukee Area Transit Plan; the adoption on March 4, 1973, of the Walworth County jurisdictional highway system plan documented in SEWRPC Planning Report No. 15, A Jurisdictional Highway System Plan for Walworth County; the adoption on March 7, 1974, of the Ozaukee County jurisdictional highway system plan documented in SEWRPC Planning Report No. 17, A Jurisdictional Highway System Plan for Ozaukee County; the adoption on June 5, 1975, of the Waukesha County jurisdictional highway system plan documented in SEWRPC Planning Report No. 18, A Jurisdictional Highway System Plan for Waukesha County; the adoption on September 11, 1975, of the Washington County jurisdictional highway system plan documented in SEWRPC Planning Report No. 23, A Jurisdictional Highway System Plan for Washington County; the adoption on September 11, 1975, of the Kenosha County jurisdictional highway system plan documented in SEWRPC Planning Report No. 24, A Jurisdictional Highway System Plan for Kenosha County; and the adoption on December 4, 1975, of the Racine County jurisdictional highway system plan documented in SEWRPC Planning Report No. 22, A Jurisdictional Highway System Plan for Racine County.

^c The regional airport system plan is a second generation plan. The initial plan was adopted by the Commission on March 4, 1976, and is documented in SEWRPC Planning Report No. 21, A Regional Airport System Plan for Southeastern Wisconsin.

^d The Kenosha area transit development plan is a second generation plan. The initial plan was adopted by the Commission on June 3, 1976, and documented in SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Plan: 1976-1980.

^e The regional water quality management plan is a second generation plan. The initial plan was adopted by the Commission on May 13, 1974, and documented in SEWRPC Planning Report No. 16, A Regional Sanitary Sewerage System Plan for Southeastern Wisconsin.

Six of the plan elements relate to transportation. These consist of the regional transportation plan (highway and transit), the regional airport system plan, the transportation systems management plan, the elderly and handicapped transportation plan, and detailed transit development plans for the Kenosha and Racine urbanized areas.

Ten of the adopted plan elements fall within the broad functional area of environmental planning. These consist of the regional water quality management plan, the regional wastewater sludge management plan, the regional air quality attainment and maintenance plan, and comprehensive watershed development plans for the Root, Fox, Milwaukee, Menomonee, Kinnickinnic, and Pike River watersheds, and for the Oak Creek watershed.

The final two plan elements consist of comprehensive community development plans for the Kenosha and Racine urbanized areas.

During 1987 the Commission adopted 23 amendments to the regional plan. These included a major amendment to the regional water quality management plan and to the Milwaukee, Menomonee, and Kinnickinnic River watershed plans, that amendment consisting of a comprehensive water resources management plan for the Milwaukee Harbor estuary. In another major plan amendment action, the Commission adopted a second generation regional airport system plan, updating and extending the first regional airport system plan adopted in 1976. During the year the Commission also adopted two amendments to the Pike River watershed plan; an amendment to the regional park and open space plan in the form of a new park and open space plan for Ozaukee County; and five amendments to the elderly and handicapped transportation plan, one for each of the five transit operators in the Region. The remaining 13 amendments dealt with changes to sanitary sewer service areas at various locations throughout the Region. As appropriate, each of these plan amendments is discussed in a subsequent section of this annual report.

THE CYCLICAL NATURE OF THE PLANNING PROCESS

The Commission views the planning process as cyclical in nature, alternating between system—or areawide—planning, and project—or local—planning. For example, with respect to

transportation planning, under this concept transportation facilities development and management proposals are initially advanced at the areawide systems level of planning, and then an attempt is made to implement the proposals through local project planning. If for whatever reasons a particular facility construction or management proposal advanced at the areawide systems planning level cannot be implemented at the project level, that determination is taken into account in the next phase of systems planning. A specific example of this is the Milwaukee River Parkway arterial facility included in the initial regional transportation system plan but rejected in the project planning phase of the cycle. Similar examples could be given for land use development, park and open space facilities, library facilities, flood control facilities, water pollution abatement facilities, or any of the other types of facilities or services that are the subject of Commission plan elements.

By the end of 1979, the second cycle of areawide systems planning for land use, transportation, and water quality management programs had been completed. The resultant plans represent "second generation" plans for the Region, incorporating the "feedback" from the intensive project and facilities planning efforts completed by local agencies after, and in implementation of, the first generation area-wide system plans.

The second generation regional land use plan is based upon the same three basic concepts that formed the basis of the initial regional land use plan; namely, the centralization of new urban land development to the greatest degree practicable, the preservation and protection of primary environmental corridor lands, and the preservation and protection of prime agricultural lands. While the second generation regional land use plan is thus conceptually identical to the original regional land use plan, it does differ in the detailed application of these concepts throughout the seven-county Southeastern Wisconsin Region, taking into account land use decisions that were made following adoption of the initial plan—sometimes at variance with that plan—as well as forecasts of reduced regional population and household growth. This second generation regional land use plan for the design year 2000 was adopted in December 1977.

The second generation regional transportation plan differs in some important respects from the first generation regional transportation plan,

reflecting decisions made during the project planning phase of the first cycle of planning. For example, planned freeway segments—the Park Freeway-West in its entirety and the Stadium Freeway-North in its entirety, the Bay Freeway from Pewaukee to Whitefish Bay, the Metropolitan Belt Freeway in its entirety, and the Racine Loop Freeway—as well as one major transit proposal—the exclusive freeway in the east-west travel corridor of Milwaukee County—were deleted from the second regional transportation plan. This second generation transportation plan for the design year 2000 was adopted in June 1978.

The initial cycle of water quality management planning consisted of the regional sanitary sewerage system plan adopted by the Commission in 1974 and the project level planning carried out by local water quality management agencies since that time. In July 1979 the Commission adopted a second generation regional water quality management plan, taking into account the results of the project and facility level planning efforts of the first cycle. This second generation plan differed from the first generation plan primarily in scope and complexity, the second generation plan dealing with such areas as regional sludge management and the control of water pollution from nonpoint sources, as well as with the control of water pollution from point sources which was the focus of the first systems level planning effort.

PLAN ELEMENTS UNDER PREPARATION

At the end of 1987, the Commission had underway a number of programs designed to refine, detail, or amend existing plan elements. Work underway in the area of transportation planning at the end of 1987 was focused in two major programs. First, late in 1987 the Commission began preparation of a third generation regional transportation system plan. Under this work effort, the regional transportation system plan would be extended to the plan design year 2010. Each of the seven county jurisdictional highway system plans would be updated and extended as a part of this work effort. Second, a feasibility study of a comprehensive freeway traffic management system in the Milwaukee urbanized area was underway in 1987, the findings and recommendations of which may be expected to result in an amendment to the regional transportation system plan. Under such a freeway traffic management system, the presently limited freeway ramp meter system serving central Milwaukee County would be

expanded into an areawide system under which all major on-ramps to freeways in the Milwaukee urbanized area would be metered to restrain automobile and truck access during peak travel periods. The ramp meters would be operated through a central control system, using an interconnected series of traffic-sensing devices. As freeway traffic volumes approached the level beyond which freeway operating speeds may be expected to deteriorate, fewer automobiles and trucks would be permitted to enter the freeway system. Buses and other high-occupancy vehicles—such as car and vanpool vehicles—however, would have free access to the system through preferential ramps. Sufficient constraint would be exercised in the operation of the system to ensure uninterrupted traffic flow and operating speeds of at least 40 miles per hour on all freeway segments, thus providing the basis for the provision of a high level of transit service over the freeways.

Work was also underway during 1987 on the preparation of a companion third generation regional land use plan. Like the transportation system plan, the new land use plan will be based upon forecasts of regional population and economic activity to the design year 2010. In addition, the Commission had underway at the end of 1987 an effort to update the regional park and open space plan. This updating effort is being carried out by preparing seven individual but coordinated county plans designed to refine, detail, and update as necessary the first generation regional park and open space plan. In part, the updating effort will ensure that the counties in the Region remain eligible for available federal and state funds for park and open space land acquisition and development.

Other studies were underway during 1987 to refine, detail, and amend as necessary the regional water quality management plan. A series of additional detailed sanitary sewer service area plans was being prepared in cooperation with the local communities concerned. Such planning efforts were underway at the end of 1987 for the communities of Franklin in Milwaukee County; Mequon and Thiensville in Ozaukee County; Darien and Williams Bay in Walworth County; Kewaskum in Washington County; and Brookfield, Elm Grove, Menomonee Falls, and Oconomowoc in Waukesha County. Work was nearing completion during 1987 on one additional lake management plan, that for Fowler Lake in the City of Oconomowoc, Waukesha County. Work began

late in 1987 on the preparation of a new element of the regional water quality management plan, that dealing with groundwater protection.

Work was also underway in 1987 on a composite stormwater drainage and flood control system plan for the Milwaukee Metropolitan Sewerage District. This work effort is being designed to reevaluate and update prior Commission recommendations attendant to drainage and flood control in the Milwaukee, Menomonee, Kinnickinnic, and Root River and Oak Creek watersheds, and to extend those plans as necessary to develop definitive drainage and flood control recommendations for all streams and watercourses for which the MMSD has taken jurisdiction.

FUTURE WORK PROGRAMS

The Commission is committed to carrying out a series of continuing planning efforts designed to ensure that the already adopted plan elements are kept up-to-date and extended in terms of design year. Thus, the Commission carries on annually a continuing regional land use planning program designed in part to update and extend the regional land use and regional park and open space plans; a continuing regional transportation planning program designed to update and extend the regional highway, transit, and airport system plans; and a continuing regional environmental planning program designed to update, amend, and extend the series of watershed plans and the regional water quality management plan.

In addition to these major continuing planning efforts, the Commission from time-to-time prepares supplemental plan elements as a part of the master plan for the physical development of the Region. In so doing, the Commission follows an established policy of preparing a prospectus and/or study design prior to undertaking any major new planning efforts.

As reported in the 1986 Annual Report, in 1986 the Commission completed a prospectus for an infrastructure study for the Southeastern Wisconsin Region. The purpose of that study would be to assemble information on the status of the major public infrastructure systems that provide the foundation for the economy of southeastern Wisconsin. Such information would be useful to public policy formulation at the local, county, state, and even federal levels of government.

By mid-1987, the infrastructure study prospectus had been approved by all seven of the county boards of supervisors concerned. Discussions were held during the year with state officials concerning efforts that might result in state funding of the study as recommended in the prospectus. While support was expressed for the work recommended in the prospectus, the state officials concerned indicated that budget and priority considerations would preclude any effort at this time to mount a comprehensive study such as that recommended in the prospectus. After receiving a report that the Commission would not likely be able to obtain state funding for the infrastructure study, and after consulting with the County Board Commissioners, the Commission determined to place the infrastructure study on an indefinite hold status.

In 1987 the Commission also completed a prospectus dealing with the impact of high Lake Michigan water levels on public and private lands, facilities, and structures in the Milwaukee central business district and adjacent areas along the shorelines of the outer harbor of the Milwaukee, Menomonee, and Kinnickinnic Rivers. This prospectus was requested by the Milwaukee County Board of Supervisors and the Milwaukee County Executive. The study recommendations contained in this prospectus are reported in a later section of this annual report.

LAND USE PLANNING DIVISION

DIVISION FUNCTIONS

The Land Use Planning Division conducts studies and prepares plan recommendations concerning the physical aspects of land use development. The Division is also responsible for developing demographic, economic, and public financial resource data that serve as the basis for the preparation of regional and subregional plans by the Commission. The kinds of basic questions addressed by this Division include:

- How many people live and work in the Region? How are these levels of population and employment changing over time?
- Where in the Region do people live and work? How are these distribution patterns changing over time?
- What is the most probable future level of population and employment in the Region? Where will people live and work in the future?
- What is the existing pattern of land use development in the Region? How is this pattern changing over time?
- Where are the significant natural resource areas of the Region located, including the wetlands, wildlife habitat areas, and prime agricultural lands? What is happening to these resources over time?
- What are the probable future demands within the Region for each of the land use categories, and what appears to be the best way to accommodate these demands?
- How can new urban development and redevelopment be adjusted to the limitations of the natural resource base?
- What is the demand for outdoor recreation in the Region, and how can this demand best be met through the provision of park and open space facilities?

In an attempt to provide answers to these and similar questions, the Land Use Planning Division, during 1987, conducted a number of

activities in three identifiable areas: economic and demographic base data collation and analysis, land use planning, and park and open space planning.

ECONOMIC AND DEMOGRAPHIC BASE ANALYSIS

During 1987, the Division continued to monitor secondary data sources for changes in population, employment, and school enrollment levels and to provide pertinent socioeconomic data in support of the work of the Land Use, Transportation, and Environmental Planning Divisions.

Number of Available Jobs

An important measure of economic activity within the Region is the number of available jobs. Since jobs are enumerated at their location,

Figure 6
LAND USE PLANNING DIVISION—1987 FUNDING

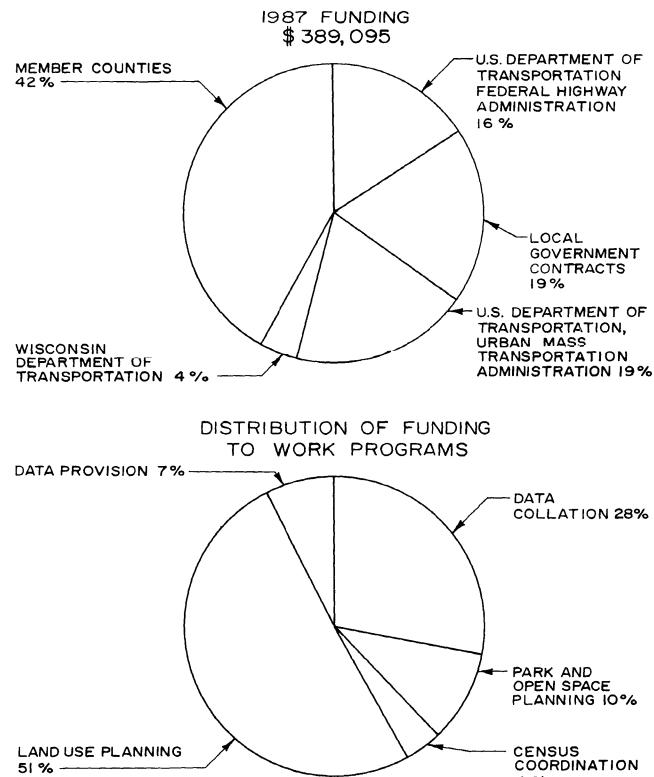


Table 2
REGIONAL EMPLOYMENT BY CATEGORY: 1970, 1980, AND 1987

Employment Category	Jobs (in thousands)			Difference			
				1970-1980		1980-1987	
	1970	1980	1987	Number	Percent	Number	Percent
Agriculture	11.9	12.8	10.9	0.9	7.6	-1.9	-14.8
Construction	27.2	25.8	25.9	-1.4	-5.1	0.1	0.4
Manufacturing							
Food and Kindred Products . . .	18.9	20.9	16.4	2.0	10.6	-4.5	-21.5
Printing and Publishing	14.9	16.3	21.1	1.4	9.4	4.8	29.4
Primary Metals	22.5	16.6	10.8	-5.9	-26.2	-5.8	-34.9
Fabricated Metals	24.6	31.8	25.7	7.2	29.3	-6.1	-19.2
Nonelectrical Machinery	68.1	73.1	54.3	5.0	7.3	-18.8	-25.7
Electrical Machinery	36.5	40.1	31.9	3.6	9.9	-8.2	-20.4
Transportation Equipment . . .	22.0	21.5	15.1	-0.5	-2.3	-6.4	-29.8
Other Manufacturing	44.8	41.5	43.7	-3.3	-7.4	2.2	5.3
Manufacturing Subtotal	252.3	261.8	219.0	9.5	3.8	-42.8	-16.3
Transportation, Communication, and Utilities	36.7	39.6	38.4	2.9	7.9	-1.2	-3.0
Wholesale Trade	35.3	43.5	44.4	8.2	23.2	0.9	2.1
Retail Trade	115.7	131.9	143.5	16.2	14.0	11.6	8.8
Finance, Insurance, and Real Estate	32.8	41.2	47.8	8.4	25.6	6.6	16.0
Services	119.6	158.2	187.4	38.6	32.3	29.2	18.5
Government and Education	83.3	120.7	132.1	37.4	44.9	11.4	9.4
Self-Employed, Except Farm . . .	37.2	46.2	58.1	9.0	24.2	11.9	25.8
Miscellaneous ^a	1.7	2.5	2.5	0.8	47.1	0.0	0.0
Total Jobs	753.7	884.2	910.0	130.5	17.3	25.8	2.9

^aIncludes agricultural services, forestry, commercial fishing, mining, and unclassified jobs.

they are often referred to as "place-of-work" employment data. It should be noted that the enumeration of jobs does not distinguish between full- or part-time jobs or indicate whether or not the job is held by a resident of the jurisdiction in which the job is enumerated or by a commuter. The number of jobs available in the Region in the years 1970, 1980, and 1987 is set forth in Table 2 by employment category.

The number of jobs in the Region was estimated at 910,000 in 1987, an increase of 26,800 jobs, or 3 percent, over the 1986 level of 883,200. As shown in Table 2, a majority of the employment sectors continued to provide more jobs in 1987 than in 1980. There were, however, about 43,000 fewer manufacturing jobs in 1987 than in 1980.

While 44 percent of this decline occurred in the nonelectrical machinery manufacturing sector, which accounted for about 18,800 fewer jobs in 1987 than in 1980, employment within this manufacturing sector has stabilized within recent years. Within the manufacturing category, only the printing and publishing and "other" manufacturing sectors provided more jobs in 1987 than in 1980.

Employment distribution by county is shown in Table 3. In five counties—Milwaukee, Ozaukee, Racine, Washington, and Waukesha—there were more jobs in 1987 than in 1980—about 5,200, 600, 1,300, 2,700, and 23,700 jobs, respectively. In the remaining two counties, there were fewer jobs available in 1987 than in 1980. Kenosha County

Table 3
REGIONAL EMPLOYMENT BY COUNTY: 1970, 1980, AND 1987

County	Jobs			Difference			
				1970-1980		1980-1987	
	1970	1980	1987	Number	Percent	Number	Percent
Kenosha	40,000	50,100	43,300	10,100	25.3	-6,800	-13.6
Milwaukee	507,100	542,300	547,500	35,200	6.9	5,200	1.0
Ozaukee	19,800	25,600	26,200	5,800	29.3	600	2.3
Racine	62,700	76,100	77,400	13,400	21.4	1,300	1.7
Walworth	24,500	31,100	30,200	6,600	26.9	-900	-2.9
Washington	23,100	31,400	34,100	8,300	35.9	2,700	8.6
Waukesha	76,500	127,600	151,300	51,100	66.8	23,700	18.6
Region	753,700	884,200	910,000	130,500	17.3	25,800	2.9

accounted for the largest absolute and percentage loss—losing about 6,800 jobs, or about 14 percent.

Comparison of Estimated and Projected Employment Levels

As reported in the Commission's 1984 Annual Report, the Commission in 1984 developed a new set of projections of regional employment change. These projections are for the design year 2010 and will provide one of the bases upon which all adopted regional plan elements, particularly the adopted regional land use and regional transportation system plans, will be reappraised and extended to the design year 2010. These projections are documented in SEWRPC Technical Report No. 10 (2nd Edition), The Economy of Southeastern Wisconsin.

Because of the increasing uncertainty surrounding future population levels, the Commission adopted an "alternative futures" approach in preparing a set of projections of regional employment levels for the year 2010. Three alternative regional economic scenarios were developed. Two of these were intended to represent "pessimistic" and "optimistic" extremes of future regional employment levels; the third was intended to identify an intermediate future—that is, a future that lies between the two extremes. While carried out under an alternative futures

approach, the regional employment projections presented in Technical Report No. 10 were developed using an approach similar to that used successfully by the Commission in its previous employment projection efforts—that is, by preparing a range of projections for each of the dominant and subdominant industry groups within the Region in order to arrive at projections of total regional employment levels to the year 2010 under the most optimistic and most pessimistic futures that could be reasonably envisioned for the economy of southeastern Wisconsin. This range of employment projections allows for the development of system plans at the regional level, as well as facility plans at the local level, that may be expected to remain viable under greatly varying future conditions.

The employment level in the Region was anticipated to be 955,900 jobs in 1987 under the optimistic scenario, 863,400 jobs under the intermediate scenario, and 810,200 jobs under the pessimistic scenario. The estimated 1987 level of 910,000 jobs is about 5 percent below the level anticipated under the optimistic scenario and about 5 percent and 12 percent, respectively, above the levels anticipated under the intermediate and pessimistic scenarios. The 1987 employment levels projected for each of the Region's seven counties under each of the three alternative futures and the 1987 estimated county employment levels are set forth in Table 4 and Figures 7 through 14.

Table 4
EXISTING AND PROJECTED NUMBER OF AVAILABLE JOBS BY COUNTY: 1987

County	Estimated 1987 Jobs	Projected 1987 Jobs		
		Pessimistic Scenario	Intermediate Scenario	Optimistic Scenario
Kenosha	43,300	45,300	48,700	53,900
Milwaukee	547,500	489,500	515,900	565,900
Ozaukee	26,200	23,000	25,300	29,500
Racine	77,400	72,200	79,300	90,000
Walworth	30,200	29,300	33,100	37,400
Washington	34,100	31,100	33,900	38,500
Waukesha	151,300	119,800	127,200	140,700
Region	910,000	810,200	863,400	955,900

Figure 7

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR THE REGION: 1960-2010

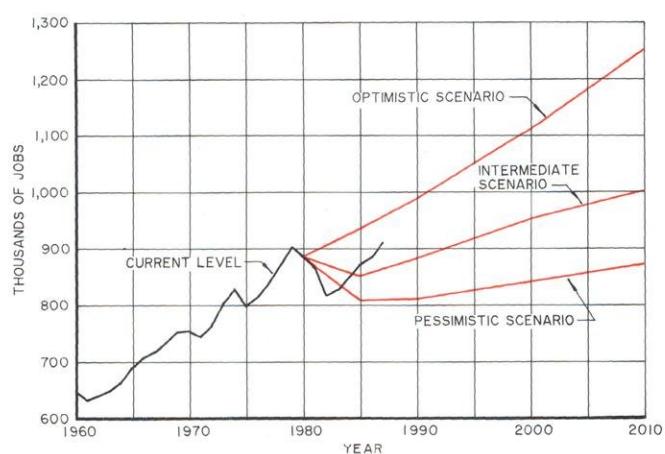


Figure 8

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR KENOSHA COUNTY: 1960-2010

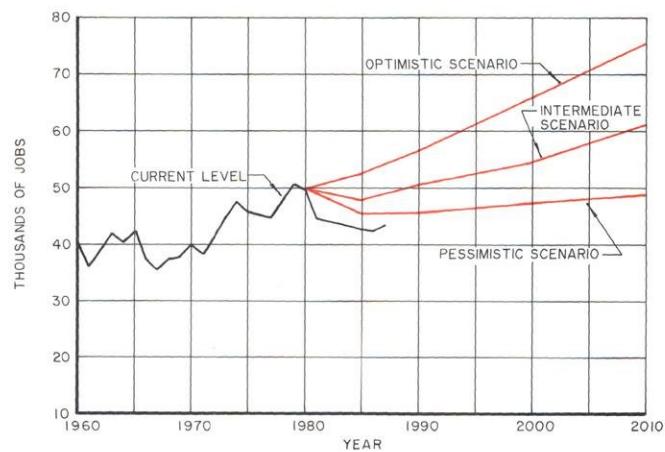


Figure 9

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR MILWAUKEE COUNTY: 1960-2010

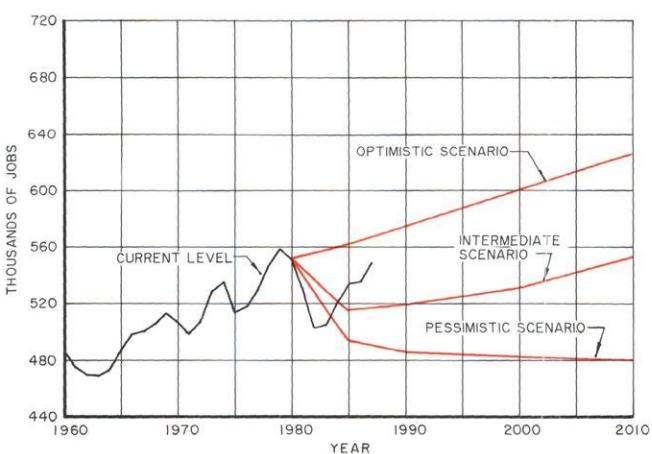
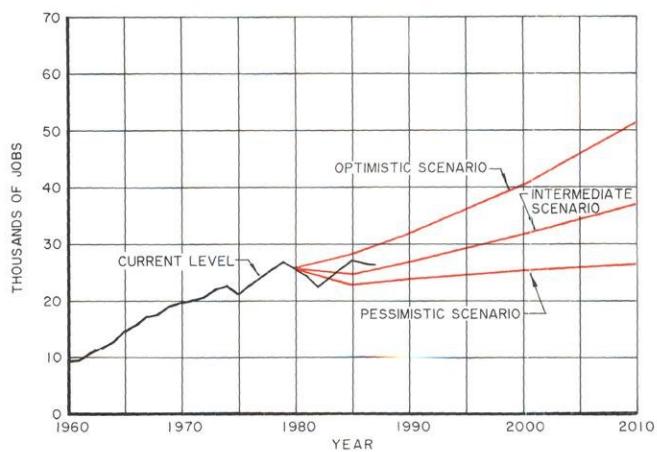


Figure 10

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR OZAUKEE COUNTY: 1960-2010



Civilian Labor Force Levels

Another important measure of economic activity within the Region is the composition of the Region's civilian labor force. By definition, the civilian labor force of an area consists of all of its residents 16 years of age and older who are either employed at one or more jobs or temporarily unemployed. Civilian labor force data are often referred to as "place-of-residence" employment data. Because of the different definitions and estimation procedures utilized in their preparation, "place-of-work" and "place-of-residence" employment data for a particular geographic area will often differ in absolute values, but generally exhibit similar trends, as

shown in Figures 15 through 22. In addition to providing information about regional economic activity, comparisons between "place-of-work" and "place-of-residence" employment data can provide important insights into such characteristics of the resident population of the Region as labor force participation and work trip commutation, and, when compared with changes in population levels, can provide indirect evidence of population migration.

The regional civilian labor force was estimated at 911,300 persons in 1987. Between 1986 and 1987, the civilian labor force increased by about 27,700 persons, or about 3 percent. During the same time, the number of employed members of

Figure 11

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR RACINE COUNTY: 1960-2010

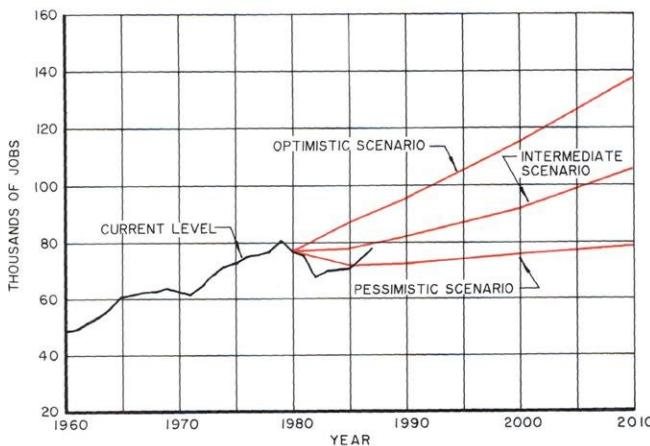


Figure 12

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR WALWORTH COUNTY: 1960-2010

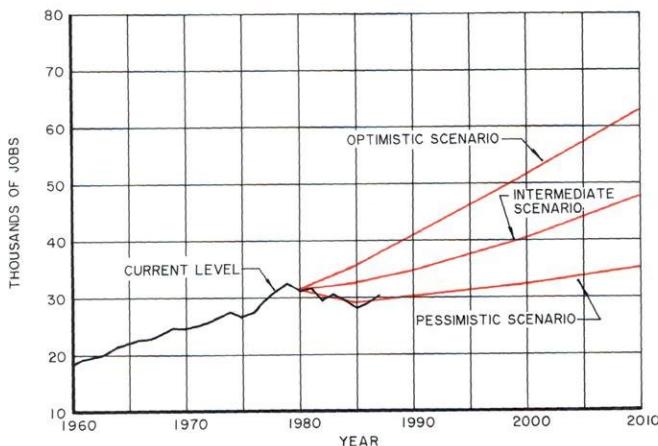


Figure 13

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR WASHINGTON COUNTY: 1960-2010

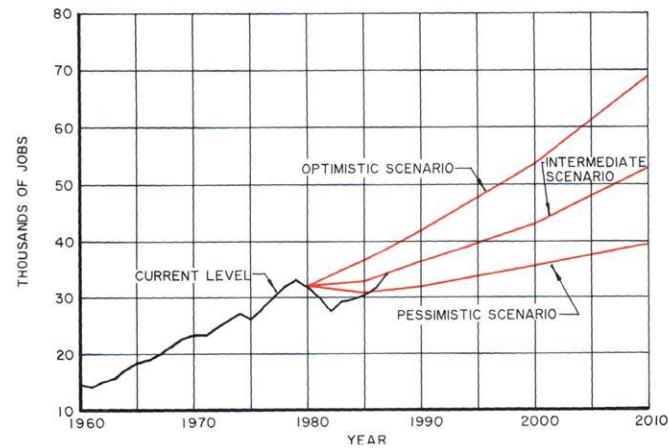


Figure 14

CURRENT AND ALTERNATIVE FUTURE NUMBER OF AVAILABLE JOBS FOR WAUKESHA COUNTY: 1960-2010

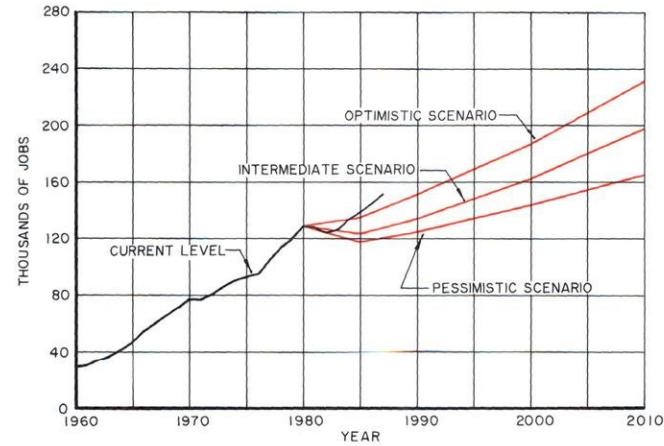


Figure 15

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR THE REGION: 1975-1987



Figure 18

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR OZAUKEE COUNTY: 1975-1987

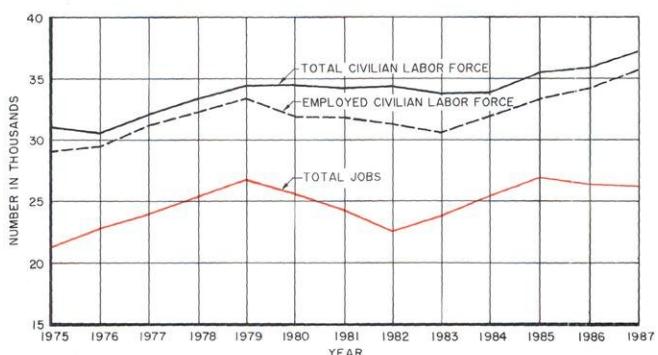


Figure 16

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR KENOSHA COUNTY: 1975-1987

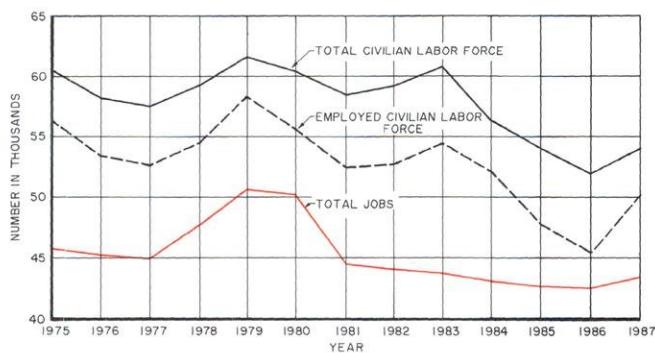


Figure 19

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR RACINE COUNTY: 1975-1987

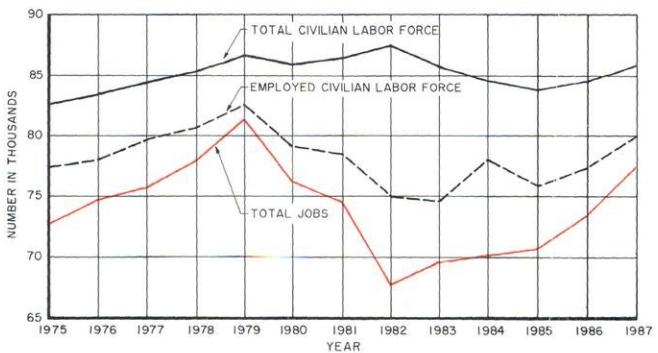


Figure 17

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR MILWAUKEE COUNTY: 1975-1987

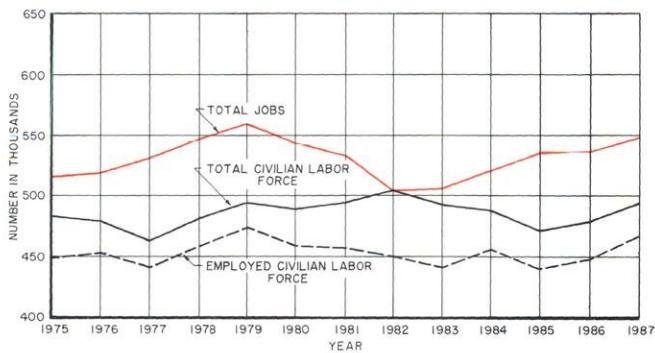


Figure 20

TRENDS IN SELECTED MEASURES OF EMPLOYMENT FOR WALWORTH COUNTY: 1975-1987

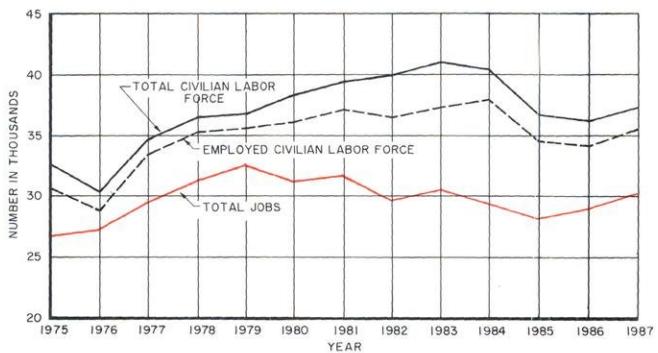


Figure 21

**TRENDS IN SELECTED MEASURES
OF EMPLOYMENT FOR
WASHINGTON COUNTY: 1975-1987**



Figure 22

**TRENDS IN SELECTED MEASURES
OF EMPLOYMENT FOR
WAUKESHA COUNTY: 1975-1987**



the civilian labor force increased from about 824,300 in 1986 to about 861,300 in 1987, an increase of 37,000 persons, or about 4 percent. The number of unemployed members of the civilian labor force decreased from about 59,300 in 1986 to about 50,000 in 1987—a decrease of about 9,300, or about 16 percent. The unemployment rate in 1987 was 5.5 percent, in comparison to 6.7 percent in 1986.

Current Population Levels

The size of the resident population of the Region remained virtually unchanged between 1970 and 1980, increasing from about 1,756,100 residents in 1970 to about 1,764,800 residents in 1980—an

increase of only about 8,700 residents, or less than 1 percent. This stands in marked contrast to the large population increases of the immediately preceding decades—333,000 residents, or about 27 percent, from 1950 to 1960, and 182,500 residents, or about 12 percent, from 1960 to 1970. In 1987, the resident population of the Region was estimated by the Wisconsin Department of Administration to be 1,742,600 persons—essentially unchanged from the 1986 estimated population of 1,743,200 persons. The 1987 population remained about 22,200, or about 1 percent, fewer persons than were enumerated in the 1980 federal census, and about 13,500, or about three-quarter percent, fewer persons than were enumerated in the 1970 federal census.

The Wisconsin Department of Administration (DOA) estimates of 1987 resident population levels are set forth in Table 5. The DOA has statutory responsibility for preparing intercensal population estimates as a basis for distributing state-shared taxes to local units of government. These estimates are based upon symptomatic indicators of population change, including automobile registrations, the number of persons filing income tax returns, and the dollar value of exemptions for dependents claimed on income tax returns. According to these estimates, Kenosha, Milwaukee, and Racine Counties experienced population declines—about 1 percent, 3 percent, and 2 percent, respectively—since the 1980 federal census was taken. The aggregate loss of population in these three counties totaled about 37,300 persons. The remaining four counties—Ozaukee, Walworth, Washington, and Waukesha—experienced increases of about 1,600 persons, 1,500 persons, 3,300 persons, and 8,700 persons, respectively.

An examination of recent resident population levels in the Region indicates that the character of the population of the Region may be undergoing some fundamental changes. This is particularly true in the outlying counties of the Region. The population of an area such as southeastern Wisconsin is constantly changing with the occurrence of vital events such as births and deaths, and through the inflow and outflow of persons migrating from one area to another.

Population increases result from births and immigration of persons; population decreases result from deaths and out-migration of persons. Thus, population change is not a simple phenomenon but is comprised of four major components:

Table 5

POPULATION IN THE SOUTHEASTERN WISCONSIN REGION BY COUNTY: 1970, 1980, AND 1987

County	Population			1970-1980 Change		1980-1987 Change	
	1970 Census	1980 Census	1987 Estimate	Number	Percent	Number	Percent
Kenosha	117,900	123,100	121,600	5,200	4.4	-1,500	-1.2
Milwaukee	1,054,300	965,000	932,300	-89,300	-8.5	-32,700	-3.4
Ozaukee	54,500	67,000	68,600	12,500	22.9	1,600	2.4
Racine	170,800	173,100	170,000	2,300	1.3	-3,100	-1.8
Walworth	63,500	71,500	73,000	8,000	12.6	1,500	2.1
Washington	63,800	84,900	88,200	21,100	33.1	3,300	3.9
Waukesha	231,300	280,200	288,900	48,900	21.1	8,700	3.1
Region	1,756,100	1,764,800	1,742,600	8,700	0.5	-22,200	-1.3

births, deaths, in-migration, and out-migration. The balance between births and deaths is termed "natural increase" and the balance between in-migration and out-migration is termed "net migration." Trends in natural increase and net migration over time thus provide one important basis for the evaluation of changes in resident population levels.

Changes in natural increase and net migration over the past 10 years in the Region and each of the Region's seven counties are illustrated in Figures 23 through 30. The measurement of natural increase is straightforward and subject to relatively little error since the registration of births and deaths is virtually complete in Wisconsin. The measurement of migration, however, is indirect, since there are no records kept on the movement of persons between places. For small areas such as counties, migration generally must be measured as the net balance between total population change from a given date to a subsequent date and the computed natural increase between the two dates. When estimates, rather than counts, of resident population levels are used to compute total population change, any error between "true" population change and the estimated population change becomes incorporated into the estimates of net migration. Net migration levels computed in this manner must, therefore, be viewed as approximate rather than absolute.

Natural increase in the Region has been relatively stable over the past 10 years, ranging from about 10,000 to 13,000 persons yearly. Since

1979, there has been a trend toward slightly higher levels of natural increase due to a modest increase of about 2,000 yearly in the number of births in the Region.

In contrast to natural increase, yearly net migration levels for the Region have fluctuated greatly over the past 10 years, although they have consistently indicated that larger numbers of people are moving from the Region than to the Region. Net out-migration was recorded in Milwaukee County during the 1960's and in Kenosha, Milwaukee, and Racine Counties during the 1970's. These trends for the most part have continued into the 1980's. Of particular note, however, is the general change from net in-migration to net out-migration that occurred in some of the outlying counties of the Region. Ozaukee and Washington Counties are estimated to have experienced net out-migration for six out of the seven years since 1980, while Walworth and Waukesha Counties have fluctuated between overall in-migration and out-migration during this time period.

Comparison of Actual and Projected Population Levels

As reported in the Commission's 1984 Annual Report, the Commission in 1984 developed a new set of projections of regional population change. Like the previously described employment projections, these projections are for the design year 2010, and will provide one of the bases upon which all adopted regional plan elements, particularly the adopted regional land use and

Figure 23

**TRENDS IN COMPONENTS
OF POPULATION CHANGE
FOR THE REGION: 1975-1987**

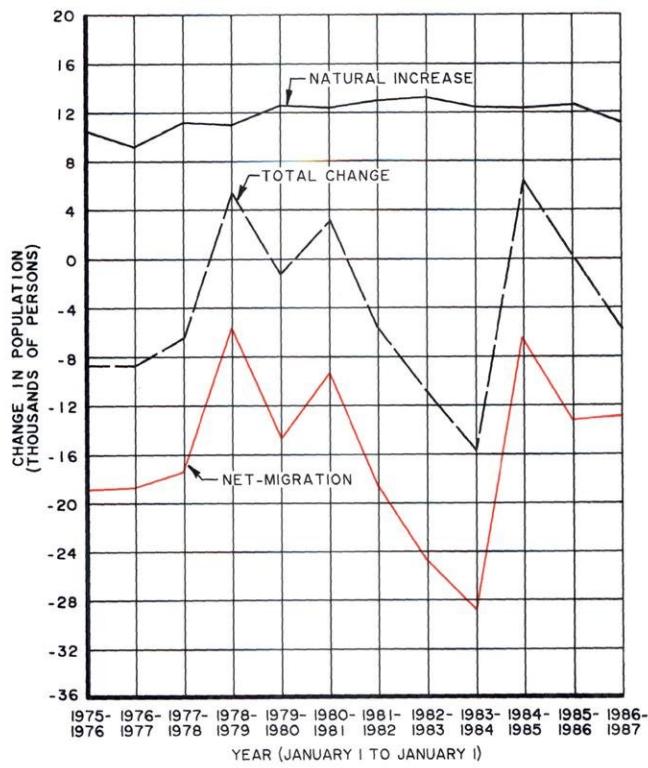


Figure 24

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
KENOSHA COUNTY: 1975-1987**

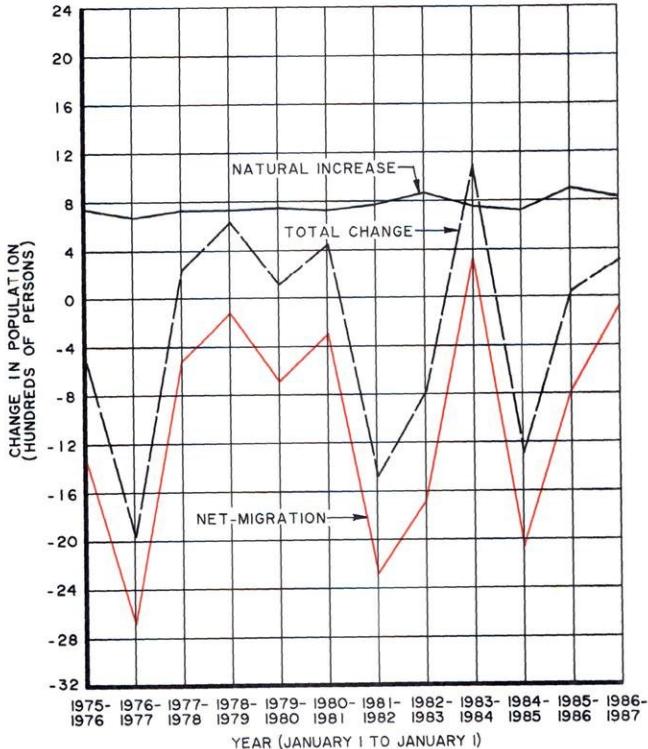


Figure 25

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
MILWAUKEE COUNTY: 1975-1987**

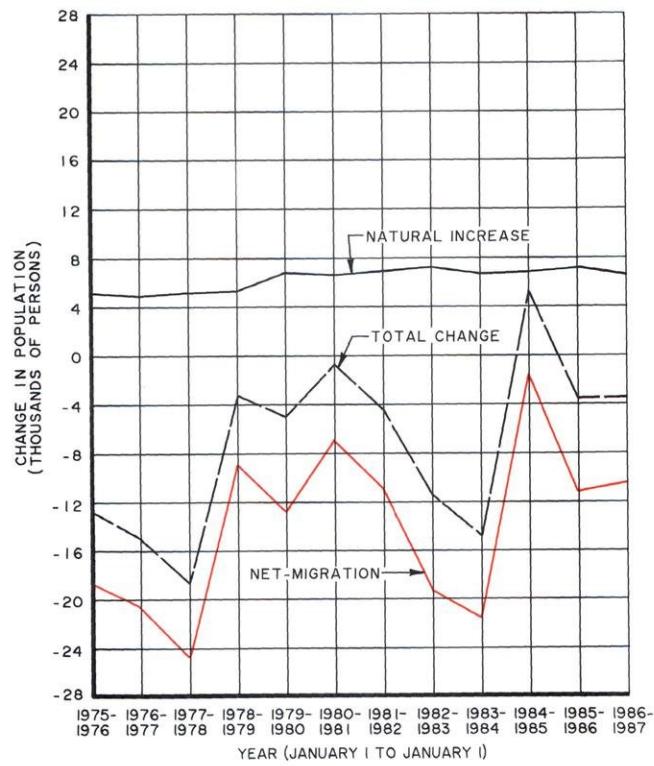


Figure 26

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
OZAUKEE COUNTY: 1975-1987**

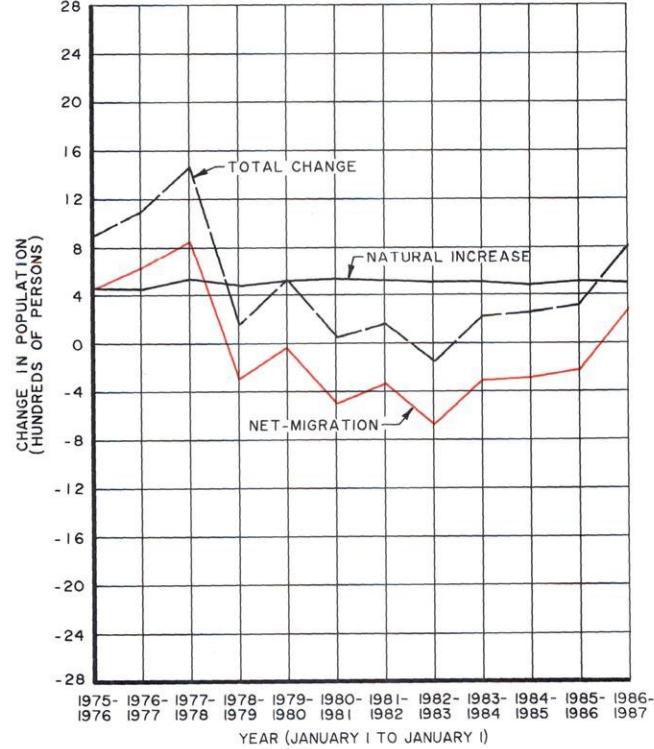


Figure 27

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
RACINE COUNTY: 1975-1987**

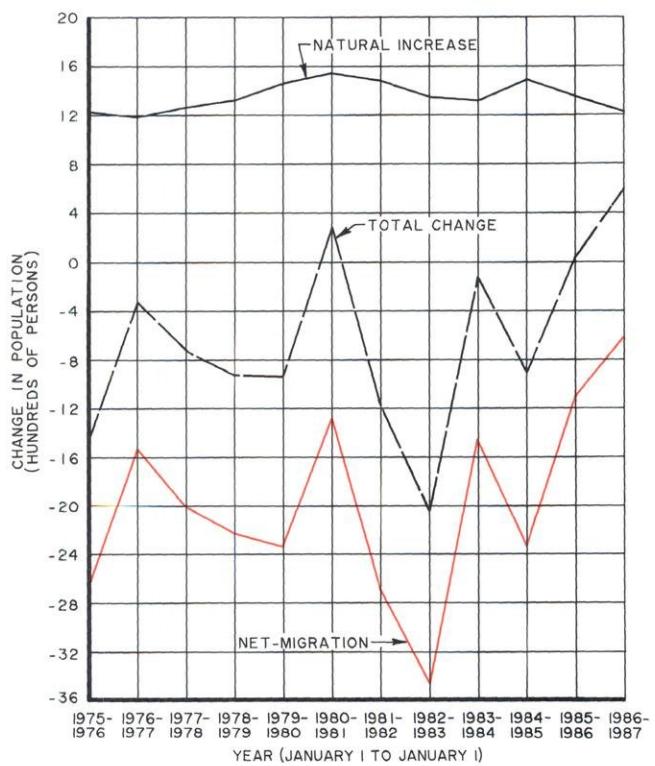


Figure 28

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
WALWORTH COUNTY: 1975-1987**

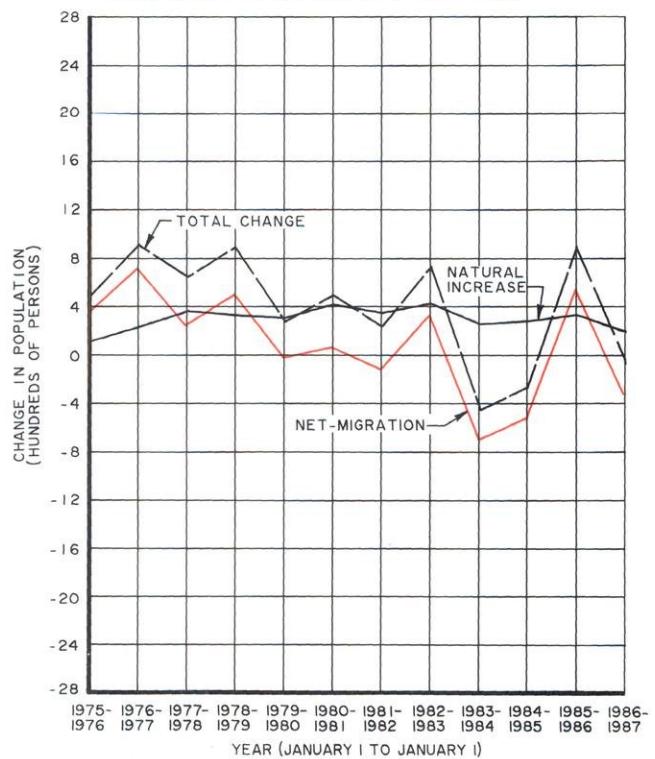


Figure 29

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
WASHINGTON COUNTY: 1975-1987**

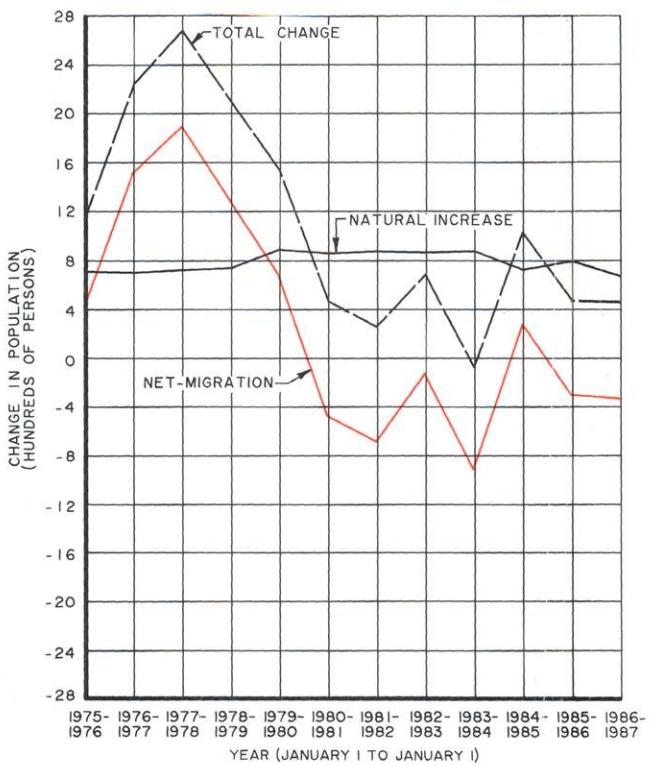


Figure 30

**TRENDS IN COMPONENTS
OF POPULATION CHANGE FOR
WAUKESHA COUNTY: 1975-1987**

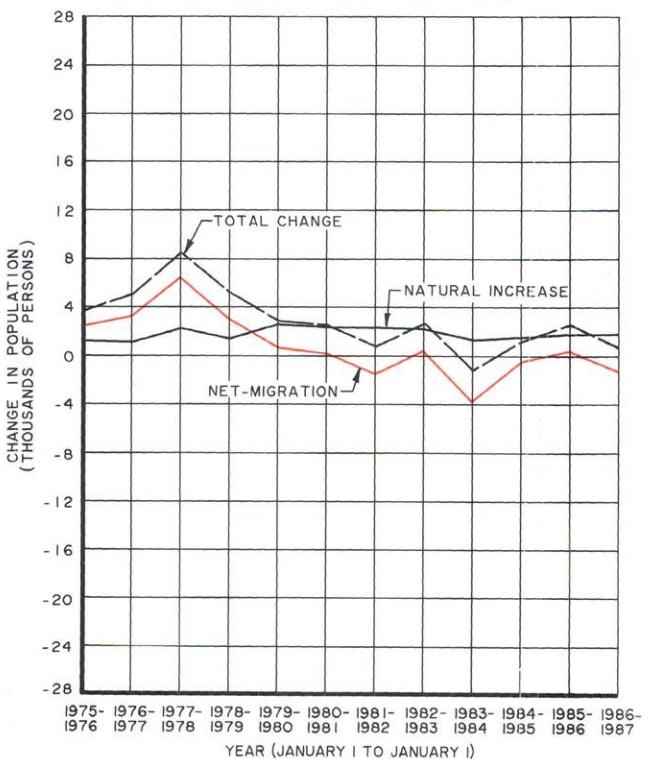


Table 6

EXISTING AND PROJECTED RESIDENT POPULATION LEVELS BY COUNTY: 1987

County	Estimated 1987 Population	Projected 1987 Population		
		Pessimistic Scenario	Intermediate Scenario	Optimistic Scenario
Kenosha	121,600	113,600	118,000	131,300
Milwaukee	932,300	890,300	926,200	962,300
Ozaukee	68,600	62,500	68,400	78,500
Racine	170,000	159,000	166,300	183,100
Walworth	73,000	69,100	75,300	80,900
Washington	88,200	80,600	91,500	104,900
Waukesha	288,900	272,400	294,800	330,300
Region	1,742,600	1,647,500	1,740,500	1,871,300

regional transportation system plans, will be reappraised and extended to the year 2010. These projections are documented in SEWRPC Technical Report No. 11 (2nd Edition), The Population of Southeastern Wisconsin.

As in the preparation of employment projections, the conceptual framework used by the Commission to develop the population projections was the "alternative futures" method. Three alternative regional population scenarios were developed, each of which is closely linked to a corresponding economic scenario for the Region. Two of these were intended to represent "pessimistic" and "optimistic" extremes of future regional population levels; the third was intended to identify an intermediate future—that is, a future that lies between the two extremes. While carried out under an alternative futures approach, the regional population projections were developed using a cohort-component procedure similar to that used by the Commission in its previous population projection efforts.

Under the optimistic scenario, the population level of the Region was anticipated to be 1.87 million persons in 1987. The estimated 1987 regional population level of 1.74 million persons noted above is about 7 percent below this anticipated level. Under the pessimistic scenario, the population level of the Region was anticipated to be 1.65 million persons in 1987. The estimated 1987 population level is about 5 percent above this level. The regional population level of just over 1.74 million persons anticipated

in 1987 under the intermediate scenario differs from the 1987 estimated regional population level by less than 1 percent. The 1987 population levels projected for each of the Region's seven counties under each of the three alternative futures and the 1987 estimated county population levels are set forth in Table 6 and Figures 31 through 38.

School Enrollment

Enrollment in public and nonpublic schools within the Region totaled 340,900 students in 1987, representing an increase of about 1,200 students, or less than 1 percent, over the 1986 level of 339,700 students. This represents the first increase in yearly school enrollment since 1969. As indicated in Table 7, the 1987 regional school enrollment was about 28,400 students, or about 8 percent, below the 1980 level of 369,300. Enrollment in public schools was about 275,300 students in 1987, about 19,700 students, or 7 percent, below the 1980 level of 295,000. Enrollment in nonpublic schools was about 65,600 students in 1987, about 8,700 students, or 12 percent, below the 1980 level of 74,300.

Map 2 shows public school enrollment changes between 1980 and 1987 for public high school districts operating wholly or partially within the Region. Union high school districts and their constituent feeder K-8 school districts have been combined into a single "district" for the purpose of preparing this map. About 83 percent of the

Figure 31

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS
FOR THE REGION: 1950-2010**

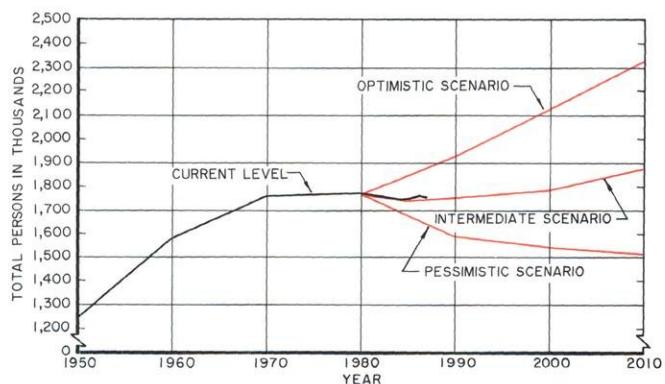


Figure 34

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
OZAUKEE COUNTY: 1950-2010**

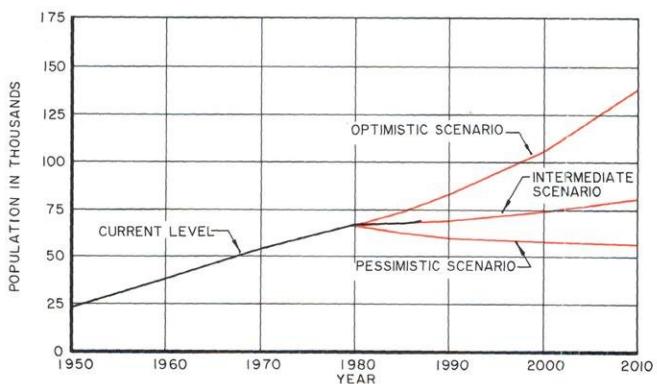


Figure 32

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
KENOSHA COUNTY: 1950-2010**

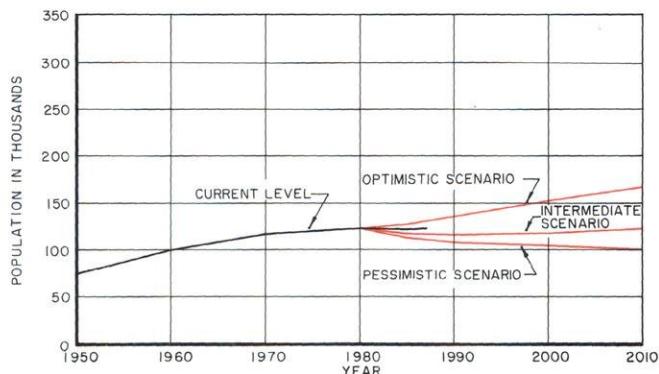


Figure 35

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
RACINE COUNTY: 1950-2010**

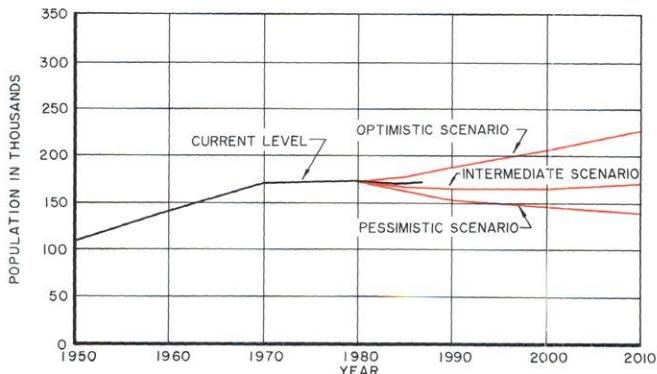


Figure 33

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
MILWAUKEE COUNTY: 1950-2010**

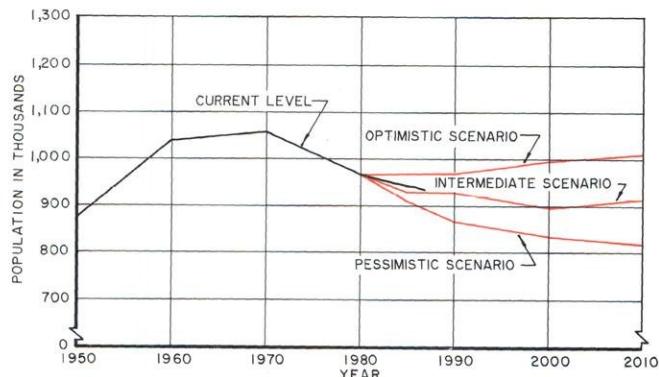


Figure 36

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
WALWORTH COUNTY: 1950-2010**

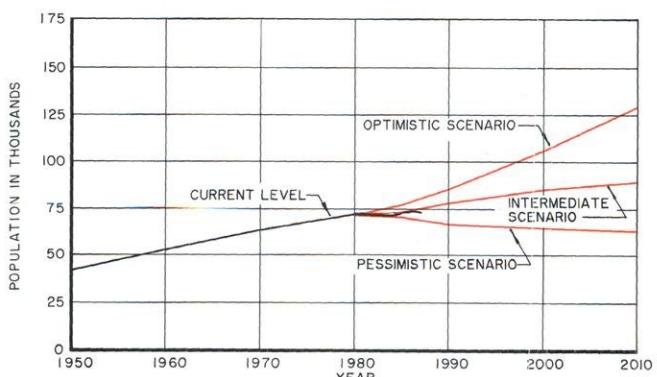


Figure 37

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
WASHINGTON COUNTY: 1950-2010**

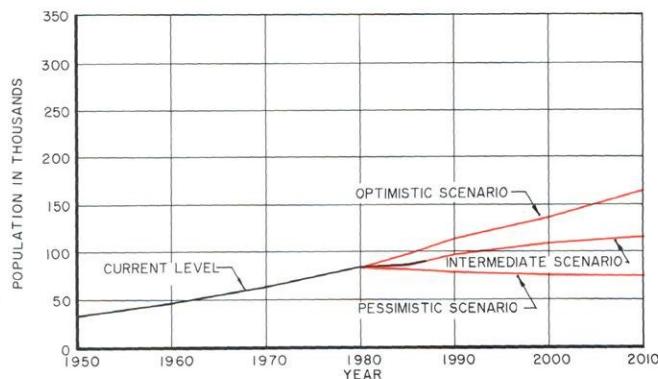
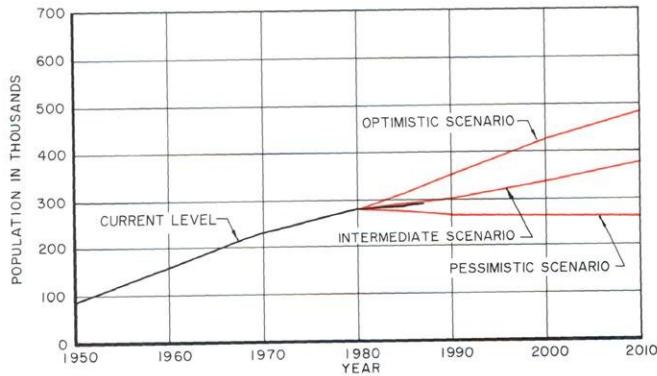


Figure 38

**CURRENT AND ALTERNATIVE
FUTURE POPULATION LEVELS FOR
WAUKESHA COUNTY: 1950-2010**



public K-12 and the combined union high school and K-8 districts have experienced enrollment declines of 5 percent or more since 1980. Three districts—Franklin Public Schools, Milwaukee Public Schools, and Mukwonago Area Schools—experienced an enrollment gain during this period.

Census Coordination

The Commission serves a coordinating function for the U. S. Bureau of the Census in the seven-county Southeastern Wisconsin Region. Under agreements between the Commission and the Census Bureau, the Commission provides staff services to Census Statistical Areas Committees

in each county. In this regard, the Commission serves as the census "Key Person" for Kenosha, Ozaukee, Walworth, Washington, and Waukesha Counties; provides direct staff support services to the census "Key Person" for Racine County; and serves as a member of the Census Statistical Areas Committee for Milwaukee County.

During 1987, the Commission, in cooperation with the U. S. Bureau of the Census and the Wisconsin State Data Center, co-sponsored two groups of workshops for local units of government in the Region to review the U. S. Census Bureau's "Local Review Program." The Local Review Program will provide each local unit of government 45 days to review and comment on the Census Bureau-estimated number of housing units in the community prior to the 1990 Census of Population and Housing, and another 15 days, at some time following the actual census, to review, confirm, or challenge the census housing unit and population counts determined by the Census. The workshops were intended to familiarize participants with materials the Census Bureau will provide under the Local Review Program, describe census geographic concepts and terms, and explain the manner in which current housing unit estimates can be determined using local data sources. The U. S. Bureau of the Census is initiating the local review process almost three years prior to the actual Census in order to ensure that local units of government are adequately prepared to participate in that process.

As part of its continuing census coordinating function within the Region, the Commission also serves as a clearinghouse and central repository for a wide variety of census data holdings. A computer-readable geographic base file containing street address ranges and census statistical tabulating and reporting unit boundaries is maintained by the Commission for portions of the Region. The Commission also participates in the U. S. Census Bureau State Data Center Program, a nationwide program under which the governor of each state designates an agency or group of agencies within the state government to serve as the lead agency within that state—the State Data Center—for the dissemination of the large volume of information collected and reported by the Census Bureau.

Within the State of Wisconsin, the State Data Center is a joint function of the Wisconsin Department of Administration and the Univer-

Table 7
REGIONAL SCHOOL ENROLLMENT BY COUNTY: 1970, 1980, AND 1987

County	School Enrollment			Difference			
				1970-1980		1980-1987	
	1970	1980	1987	Number	Percent	Number	Percent
Kenosha	32,300	26,700	23,600	-5,600	-17.3	-3,100	-11.6
Milwaukee	267,900	184,900	177,200	-83,000	-31.0	-7,700	-4.2
Ozaukee	15,900	15,000	13,000	-900	-5.7	-2,000	-13.3
Racine	48,600	38,800	34,700	-9,800	-20.2	-4,100	-10.6
Walworth	15,600	13,700	12,600	-1,900	-12.2	-1,100	-8.0
Washington	19,200	21,500	19,500	2,300	12.0	-2,000	-9.3
Waukesha	73,100	68,700	60,300	-4,400	-6.0	-8,400	-12.2
Region	472,600	369,300	340,900	-103,300	-21.9	-28,400	-7.7

sity of Wisconsin-Madison. Under a joint agreement between the Commission and the Wisconsin State Data Center, the Commission serves as an affiliate member of the Data Center and supplies census data access and technical assistance to census data users in the seven-county Southeastern Wisconsin Region. Included in the census material held by the Commission are all published reports, maps, and micro-fiche cards which contain data for the Southeastern Wisconsin Region. Also included is a complete set of computer-readable summary tape files for the State of Wisconsin as produced by the Census Bureau. Assistance is provided to local units of government, the public, and local businesses in accessing these materials.

LAND USE PLANNING

During 1987, the Division efforts in land use planning were directed primarily toward implementation of the regional land use plan. Major efforts in this regard involved the completion of an agricultural soil erosion control plan and an animal waste management plan for Waukesha County and the continuation of agricultural soil erosion control planning programs for Kenosha, Ozaukee, Racine, and Washington Counties. The Division also continued to monitor residential subdivision platting and farmland preservation activity within the seven-county Region during 1987.

Regional Land Use Plan—An Overview

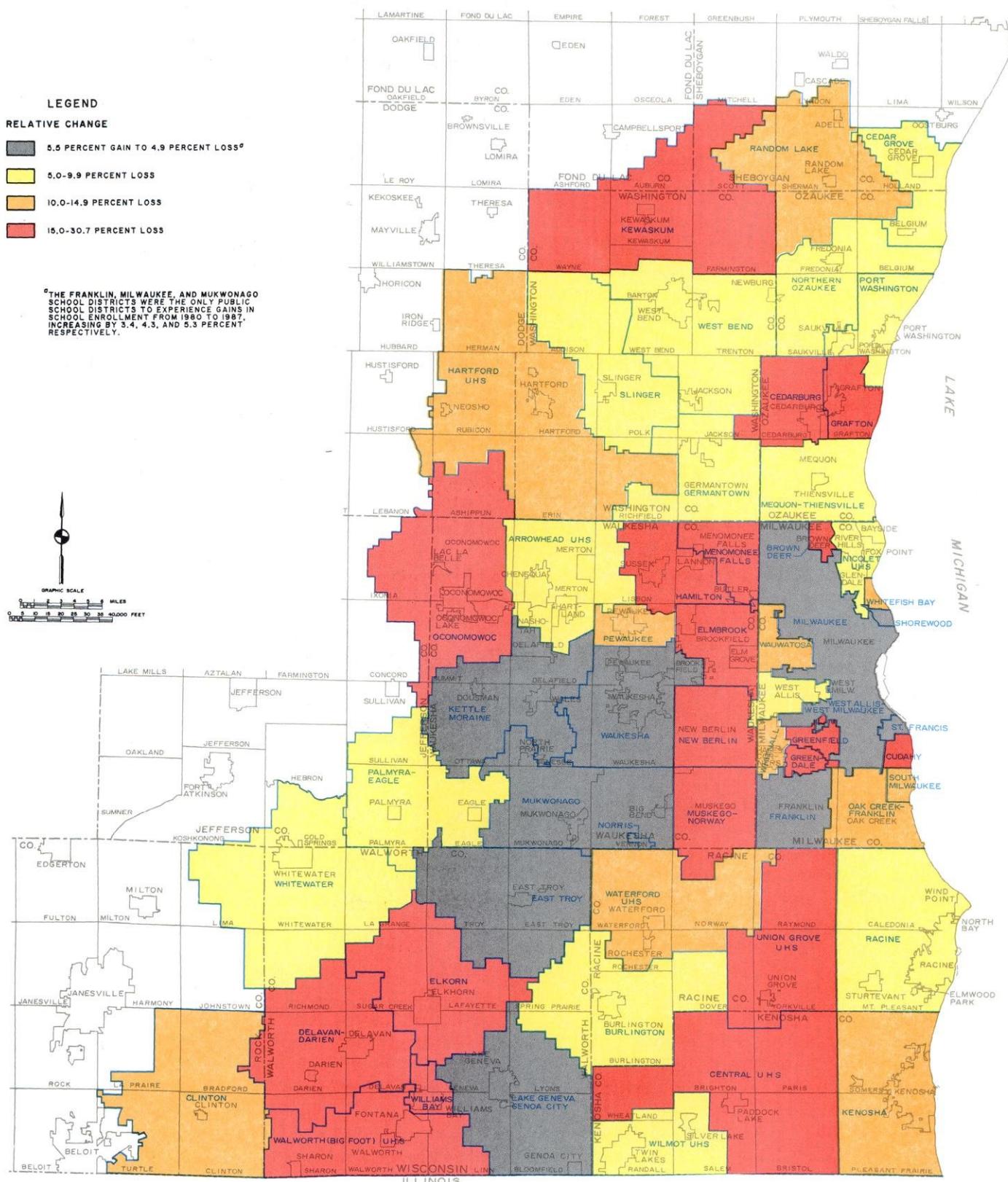
The second generation regional land use plan, documented in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume Two, Alternative and Recommended Plans, was formally adopted by the Commission in December 1977, published in the spring of 1978, and subsequently certified to various units and agencies of government for adoption and implementation.

The recommended regional land use plan for the year 2000 is shown in graphic summary form on Map 3. The basic concepts underlying the land use plan are essentially the same as those underlying the first generation regional land use plan for the year 1990. That plan had been adopted by the Commission in 1966. Like the year 1990 plan, the year 2000 land use plan advocates a return to the historic development trends that were evident within the Region prior to 1950, with new urban development proposed to occur largely in concentric rings along and outward from the full periphery of the established urban centers of the Region.

The recommended land use plan seeks 1) to centralize land use development to the greatest degree practicable; 2) to encourage new urban development to occur at densities consistent with

Map 2

RELATIVE PUBLIC SCHOOL ENROLLMENT CHANGES IN THE REGION: 1980-1987



the provision of public centralized sanitary sewer, water supply, and mass transit facilities and services; 3) to encourage new urban development to occur only in areas covered by soils well suited to urban use and not subject to special hazards such as flooding and erosion; and 4) to encourage new urban development and redevelopment to occur in areas in which essential urban facilities and services are available—particularly the existing urban centers of the Region—or into which such facilities and services can be readily and economically extended. In short, the plan seeks to promote a more orderly and economic settlement pattern; to avoid the intensification of existing and the creation of new areawide developmental and environmental problems; and generally to guide the operation of market forces into conformance with sound areawide land use development activities.

The recommended regional land use plan envisions converting about 113 square miles of land from rural to urban use from 1970 through 2000, less than half of the approximately 235 square miles that would have to be converted if decentralization of urban development were allowed to continue unrestrained; and seeks to encourage new urban development to occur primarily in planned neighborhood development units at medium-density population levels—that is, about four dwelling units per net residential acre, or about 5,000 persons per gross square mile. The plan envisions that by the year 2000, about 92 percent of all urban land and 93 percent of all the people in the Region will be served with public sanitary sewer service.

The most important elements of the natural resource base of the Region, including the best remaining woodlands; wetlands; wildlife habitat areas; surface waters and associated shorelands and floodlands; areas covered by organic soils; areas containing rough topography and significant geological formations; scenic, historic, and scientific sites; groundwater recharge and discharge areas; existing park sites; and potential park and related open space sites, have been found to occur largely together in linear patterns termed primary environmental corridors by the Commission. Like the year 1990 regional land use plan, the design year 2000 regional land use plan proposes that these environmental corridors be protected and preserved in essentially

natural, open uses. Such protection and preservation is considered essential to the protection and wise use of the natural resource base; to the preservation of the Region's cultural heritage and natural beauty; and to the enrichment of the physical, intellectual, and spiritual development of the resident population. In addition, protecting and preserving the natural resource base serves to prevent the creation of new problems such as flooding and water pollution. The topography, soils, and flood hazards existing in these corridors, moreover, make them poorly suited to intensive urban development of any kind, but well suited to recreational and conservancy uses. The intrusion of urban development into these corridors may be expected to result in costly environmental and developmental problems, including flooding; water pollution; failing foundations for buildings, pavements, and other structures; wet basements; excessive operation of sump pumps; and excessive infiltration of clear water into sanitary sewers. Together, the primary environmental corridors encompass about 500 square miles, or about one-fifth of the total area of the Region.

Also like the year 1990 regional land use plan, the design year 2000 regional land use plan proposes to preserve, to the greatest extent practicable, those areas identified as prime agricultural lands. In 1970 these lands totaled about 746 square miles, or 28 percent of the area of the Region. The year 2000 plan proposes that only those prime agricultural lands that have already been, in effect, committed to urban development because of their proximity to expanding concentrations of urban uses and the prior commitment of heavy capital investments in utility extensions be converted to urban uses. Only about 13 square miles, or 2 percent, of the prime agricultural lands would be converted to urban use under the plan.

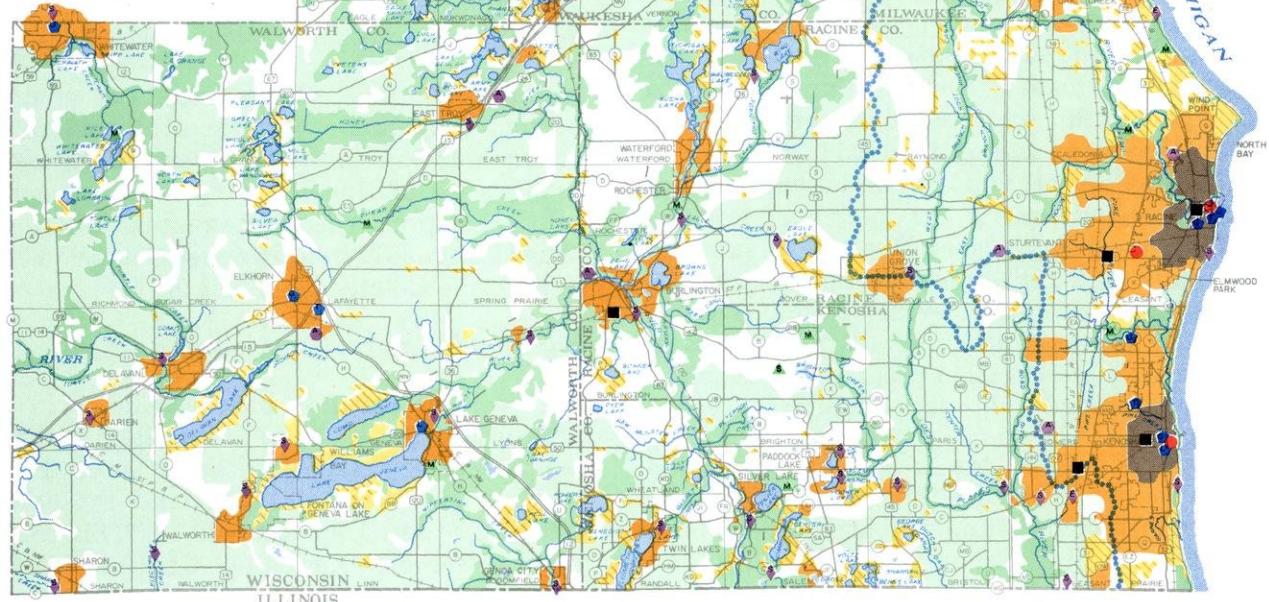
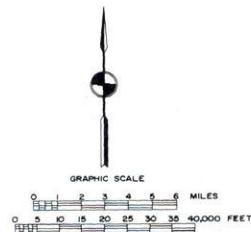
By the end of 1987, the year 2000 regional land use plan had been adopted by the Kenosha, Racine, Walworth, and Waukesha County Boards of Supervisors; the Common Councils of the Cities of Burlington and Milwaukee; the Village Board of the Village of River Hills; the Town Board of the Town of Norway; and the Kenosha County Park Commission, the City of Oconomowoc Plan Commission, and the Town

Map 3

ADOPTED REGIONAL LAND USE PLAN FOR SOUTHEASTERN WISCONSIN: 2000

LEGEND

- [Yellow Box] SUBURBAN RESIDENTIAL (0.2-0.6 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- [Yellow Box with diagonal lines] LOW DENSITY URBAN (0.7-2.2 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- [Orange Box] MEDIUM DENSITY URBAN (2.3-6.0 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- [Dark Gray Box] HIGH DENSITY URBAN (7.0-17.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- [Red Circle] MAJOR RETAIL AND SERVICE CENTER
- [Black Square] MAJOR INDUSTRIAL CENTER
- [Green Triangle] MAJOR PUBLIC OUTDOOR RECREATION CENTER
- M - MULTI-USE SITE
- S - SPECIAL PURPOSE SITE
- [Purple Circle] MAJOR TRANSPORTATION CENTER
 - A - AIRPORT
 - B - BUS TERMINAL
 - R - PASSENGER RAIL TERMINAL
 - S - SEAPORT
- [Purple Diamond] MAJOR UTILITY CENTER
 - S - PUBLIC SEWAGE TREATMENT PLANT
 - E - ELECTRIC POWER GENERATION PLANT
- [Blue Pentagon] MAJOR GOVERNMENTAL OR INSTITUTIONAL CENTER
 - G - COUNTY, STATE, OR FEDERAL ADMINISTRATIVE OFFICE
 - M - MEDICAL
 - U - UNIVERSITY
 - T - TECHNICAL / VOCATIONAL
 - L - LIBRARY
 - C - CULTURAL/ENTERTAINMENT
 - MENT
- [Light Green Box] PRIMARY ENVIRONMENTAL CORRIDOR
- [Light Green Box with diagonal lines] PRIME AGRICULTURAL LAND
- [White Box] OTHER AGRICULTURAL AND RURAL LAND



of Dover Plan Commission. In addition, the plan had been endorsed by the U. S. Department of Housing and Urban Development; the U. S. Department of Transportation, Federal Highway Administration and Urban Mass Transportation Administration; the U. S. Department of Agriculture, Soil Conservation Service; the Wisconsin Department of Transportation; and the Wisconsin State Board of Soil and Water Conservation Districts.

Preservation of Farmland

As already noted, a major recommendation of the regional land use plan is the preservation of the remaining prime agricultural lands in the Southeastern Wisconsin Region. Planning for the preservation of agricultural lands and implementation of such planning efforts through zoning received major impetus in 1977 with the passage of the Wisconsin Farmland Preservation Program, a program that combines planning and zoning provisions with tax incentives for the purpose of ensuring the preservation of farmlands. The program is intended to help county and local units of government preserve farmland through local plans and zoning and to provide tax relief, in the form of state income tax credits, to farmland owners who participate in the program. The following is a description of the Wisconsin Farmland Preservation Program and the status of farmland preservation planning within the Region.

Wisconsin Farmland Preservation Program

The Wisconsin Farmland Preservation Program provides property tax relief in the form of state income tax credits to eligible owners of farmland who decide to participate. In southeastern Wisconsin, owners of farmland are eligible to participate in the program only if their land has been placed in a state-certified exclusive agricultural zoning district and if certain other program eligibility requirements are met. For example, the farm must be at least 35 acres in size and must have produced a value of farm product of at least \$6,000 in the last year or \$18,000 in the past three years. In addition, all participants in the farmland preservation program are required to adhere to sound soil conservation practices.

The level of income tax credits for which the farmland owner is eligible depends on the personal financial situation of the farmland owner and on the actions taken by county and

local units of government to preserve farmland. Under the program, the level of income tax credit for which a farmland owner is eligible is determined in part by a formula which takes into account the owner's household income and the property tax on his farm. In general, the higher the property tax and the lower the household income, the higher the income tax credit.

The level of tax relief for which a farmland owner is eligible is also dependent upon planning and zoning actions taken by county and local units of government to preserve agricultural lands. As noted above, farmland in southeastern Wisconsin must be placed in an exclusive agricultural zoning district to enable the farmland owner to participate in the tax relief program. The highest tax credits are available where a county has prepared and adopted a farmland preservation plan and implemented that plan through the application of exclusive agricultural zoning.

A farmland owner who claims a farmland preservation tax credit must include in his state income tax return a certificate from the local zoning administrator verifying that the land in question is located within an exclusive agricultural zoning district. A total of 1,351 zoning certificates for farm parcels encompassing 179,810 acres were issued in the Region for tax year 1986 (see Table 8, Figure 39, and Map 4). Among the seven counties in the Region, Walworth County had the highest level of participation in the Farmland Preservation Program. A total of 782 zoning certificates for farm parcels encompassing 110,216 acres were issued in Walworth County for tax year 1986.

In tax year 1986, the average tax credit for participating landowners in southeastern Wisconsin was \$1,509, or 38 percent of the average property tax of \$4,018. Among the seven counties in the Region, the average tax credit level ranged from \$877 in Milwaukee County to \$2,047 in Kenosha County (see Table 9).

Farmland Preservation Planning

Considerable progress has been made in planning for the preservation of farmland within the Southeastern Wisconsin Region since the passage of the Wisconsin Farmland Preservation Act by the State Legislature in 1977. Six counties in the Region—Kenosha, Ozaukee, Racine,

Figure 39

PARTICIPATION IN THE WISCONSIN FARMLAND PRESERVATION PROGRAM FOR THE REGION: TAX YEARS 1977-1986

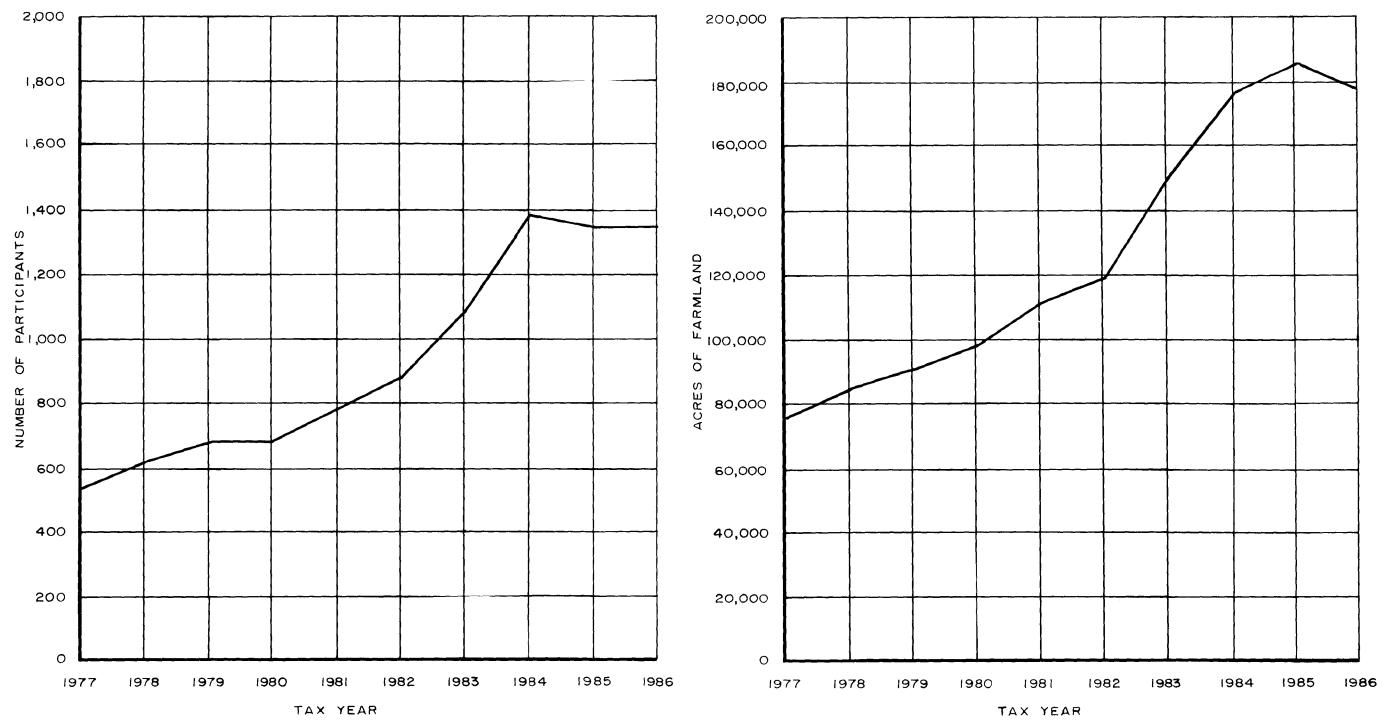


Table 8

PARTICIPATION IN THE WISCONSIN FARMLAND PRESERVATION PROGRAM: TAX YEAR 1986

County	Certificates Issued		Acres Certified	
	Number	Percent of Region	Number	Percent of Region
Kenosha	40	3.0	5,851	3.3
Milwaukee	4	0.3	263	0.1
Ozaukee	245	18.1	30,147	16.8
Racine	33	2.4	6,236	3.5
Walworth	782	57.9	110,216	61.3
Washington . . .	131	9.7	15,541	8.6
Waukesha	116	8.6	11,556	6.4
Region	1,351	100.0	179,810	100.0

Walworth, Washington, and Waukesha—have adopted farmland preservation plans which were subsequently certified by the Wisconsin Land Conservation Board (see Map 5).

Farmland Preservation Zoning

As noted above, farmland owners in southeastern Wisconsin are eligible to apply for income

Table 9

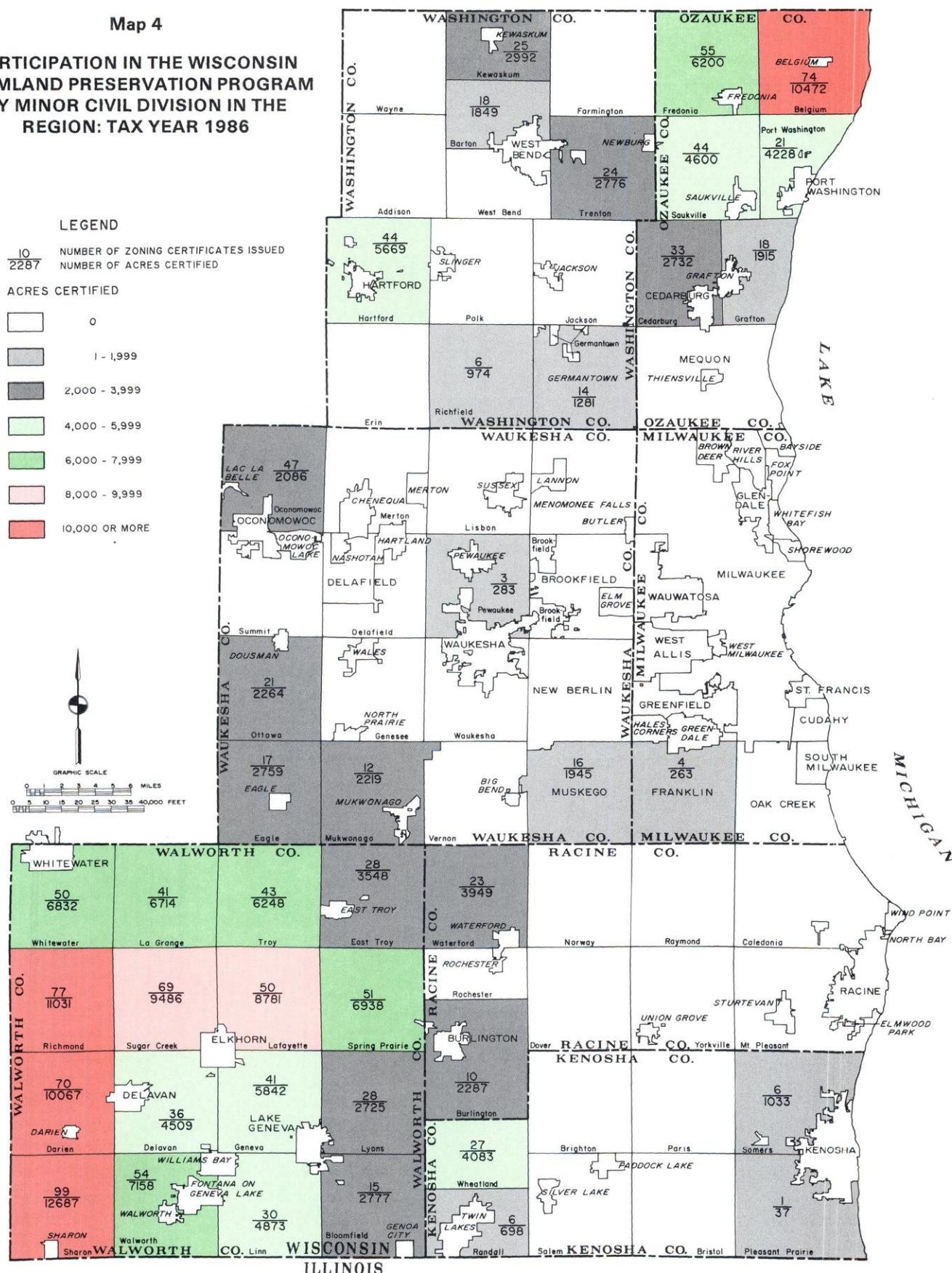
AVERAGE TAX CREDIT LEVELS UNDER THE WISCONSIN FARMLAND PRESERVATION PROGRAM: TAX YEAR 1986

County	Average Tax Credit		
	Average Property Tax	Amount	Percent of Property Tax
Kenosha	\$3,937	\$2,047	52.0
Milwaukee	2,517	877	34.8
Ozaukee	4,371	1,513	34.6
Racine	4,519	1,660	36.7
Walworth	4,025	1,507	37.4
Washington	3,783	1,411	37.3
Waukesha	3,674	1,547	42.1
Region	\$4,018	\$1,509	37.6

tax credits under the Farmland Preservation Program only if the land concerned has been placed in an exclusive agricultural zoning district which has been certified by the Wisconsin Land Conservation Board. Under Chapter 91 of the Wisconsin Statutes, exclusive agricultural zoning is defined as zoning which limits the use of land to agricultural use; specifies a minimum parcel size of 35 acres for a residence or farm

Map 4

PARTICIPATION IN THE WISCONSIN
FARMLAND PRESERVATION PROGRAM
BY MINOR CIVIL DIVISION IN THE
REGION: TAX YEAR 1986



Map 5

CERTIFICATION STATUS OF
FARMLAND PRESERVATION PLANS
AND EXCLUSIVE AGRICULTURAL
ZONING IN THE REGION:
TAX YEAR 1987

LEGEND

EXCLUSIVE AGRICULTURAL ZONING CERTIFIED BY THE WISCONSIN LAND CONSERVATION BOARD

COUNTY - ENACTED ZONING

TOWN - ENACTED ZONING

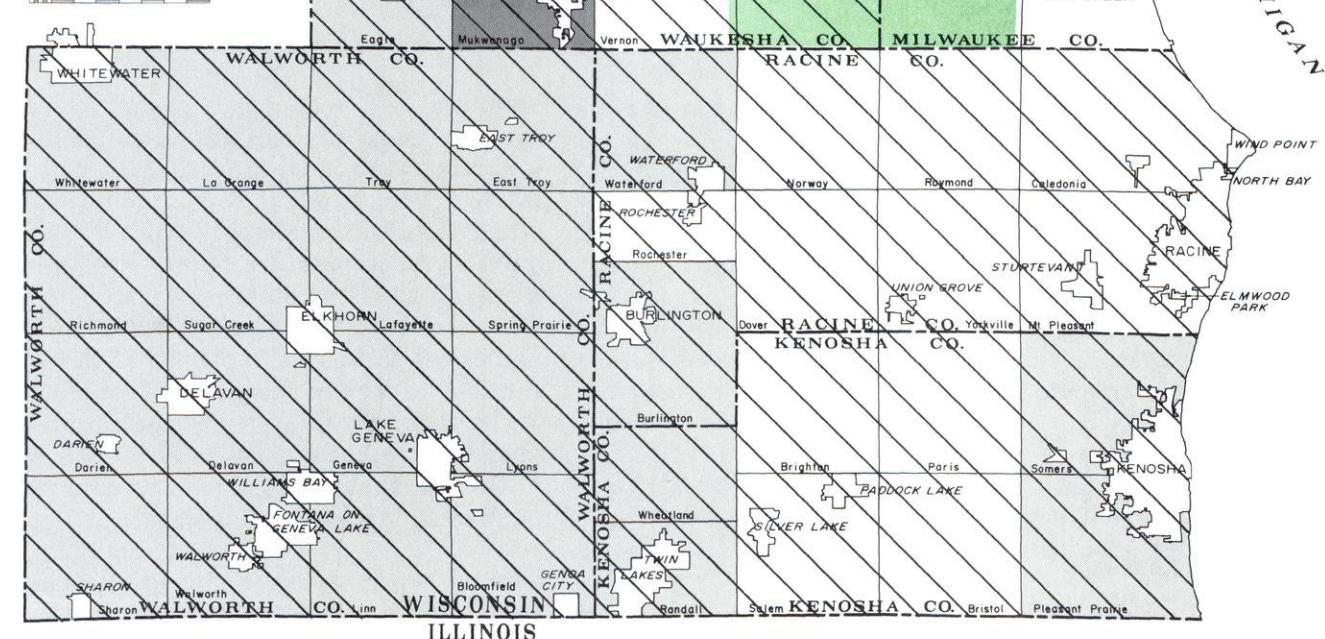
CITY / VILLAGE - ENACTED ZONING

COUNTY FARMLAND PRESERVATION PLAN CERTIFIED BY THE WISCONSIN LAND CONSERVATION BOARD



GRAPHIC SCALE

0 5 10 15 20 25 30 35 40,000 FEET



operation; and prohibits structures or improvements on the land unless consistent with agricultural uses.

By the end of 1987, exclusive agricultural zoning ordinances certified by the Wisconsin Land Conservation Board were in effect in 41 local units of government in the Region. Twenty-five towns—4 in Kenosha County, 2 in Racine County, 16 in Walworth County, and 3 in Waukesha County—have adopted exclusive agricultural zoning under county-enacted zoning ordinances. Thirteen towns—6 in Ozaukee County, 5 in Washington County, and 2 in Waukesha County—have applied exclusive agricultural zoning under town-enacted zoning ordinances. The City of Franklin in Milwaukee County, the City of Muskego in Waukesha County, and the Village of Germantown in Washington County have also adopted exclusive agricultural zoning in conformance with the standards of the Farmland Preservation Act (see Map 5).

As previously noted, the level of tax credit available to individual farmers depends, in part, on the level of household income and the level of property tax on the farmland, as specified on a state-promulgated schedule. The level of tax credit also depends on the planning and zoning actions taken by county and local units of government to preserve farmland.

- If the county has adopted a state-certified farmland preservation plan and the farmland is within an exclusive agricultural district under a city, village, or county zoning ordinance, farmland owners receive 100 percent of the schedule amount. For tax year 1987, these conditions applied to the Towns of Pleasant Prairie, Randall, Somers, and Wheatland in Kenosha County; the Towns of Burlington and Waterford in Racine County; the Village of Germantown in Washington County; the City of Muskego and the Towns of Eagle, Oconomowoc, Ottawa, and Pewaukee in Waukesha County; and all civil towns in Walworth County.
- If the county has adopted a state-certified farmland preservation plan and the farmland is within an exclusive zoning district under a town ordinance, farmland owners may receive 90 percent of the schedule amount. For tax year 1987, these conditions

applied to the Towns of Belgium, Cedarburg, Fredonia, Grafton, Port Washington, and Saukville in Ozaukee County; the Towns of Barton, Hartford, Kewaskum, Richfield, and Trenton in Washington County; and the Town of Mukwonago in Waukesha County.

- If the county has not adopted a farmland preservation plan but the farmland is within an exclusive agricultural zoning district under a city, village, or county zoning ordinance, farmland owners may receive 70 percent of the schedule amount. For tax year 1987, these conditions applied only to the City of Franklin in Milwaukee County.
- If the county has not adopted a farmland preservation plan but the farmland is within an exclusive agricultural zoning district under a town zoning ordinance, farmland owners may receive an income tax credit equal to 10 percent of eligible property taxes, up to a maximum credit of \$600. For tax year 1987, these conditions did not apply to any communities in the Region.
- If there is no exclusive agricultural zoning in effect, farmers are not eligible to receive tax credits, regardless of whether or not there is a county-adopted farmland preservation plan. This condition applied to the remaining cities, villages, and towns in the Region in tax year 1987.

Soil Erosion Control Planning

Cropland soil erosion is a matter of increasing concern, especially in light of shifts away from dairy farming and traditional crop rotation patterns to continuous row cropping operations, which result in increased soil erosion unless special precautions are taken. Recognizing this concern, the Wisconsin Legislature in 1982 revised the state soil and water conservation law, as set forth in Chapter 92 of the Wisconsin Statutes, to require the preparation of county soil erosion control plans focusing on cropland soil erosion. A total of 55 counties located generally in the southern two-thirds of the State are required to prepare such a plan.

As part of the initial State legislation in 1982 requiring counties to prepare soil erosion control plans, the Wisconsin Legislature also estab-

lished a financial assistance program for farmers in support of the recommended soil erosion control practices. Farmer eligibility for cost-share assistance under that program depended upon completion of a county soil erosion control plan and approval of that plan by the State Land Conservation Board. That cost-share assistance program was eliminated in 1987 through statutory changes contained in the 1987-1989 State Budget Bill. Limited cost-share assistance to farmers in support of needed land management practices may eventually be available under the new state Soil and Water Resources Management Program created as part of that budget bill. The new program, however, may be expected to place greater emphasis on the provision of state aid to counties in support of the maintenance of technical staff and less emphasis on direct assistance to farmers.

Five counties in the Region—Kenosha, Ozaukee, Racine, Washington, and Waukesha—have requested the assistance of the Regional Planning Commission in the preparation of county soil erosion control plans. A soil erosion control plan for Waukesha County was completed in 1987. Soil erosion control plans for Kenosha, Ozaukee, Racine, and Washington Counties are expected to be completed in 1988.

Waukesha County Soil Erosion Control Plan

Recognizing the need for soil erosion control, and in an effort to comply with the planning requirements of Chapter 92 of the Wisconsin Statutes, the Waukesha County Board in 1985 requested the assistance of the Regional Planning Commission in the preparation of an agricultural soil erosion control plan. The County received a grant from the Wisconsin Department of Agriculture, Trade and Consumer Protection in partial support of the planning program. Begun in February 1986, the planning effort was carried out cooperatively by the Waukesha County Land Conservation Department and Regional Planning Commission staffs working under the guidance of the Waukesha County Land Conservation Committee. The staffs were assisted in the preparation of the plan by a Technical Advisory Committee consisting of county farmers and representatives of concerned governmental agencies. The findings and recommendations of the planning program are documented in SEWRPC Community Assistance Planning Report No. 159, Waukesha

County Agricultural Soil Erosion Control Plan. A summary of those findings and recommendations is presented herein.

Soil Erosion Control Objective

The primary objective of the cropland soil erosion control plan, as recommended by the Technical Advisory Committee, is the maintenance of the long-term productivity of the soils of the County through the prevention of "excessive" cropland soil erosion. "Excessive" erosion is defined as erosion in excess of the soil loss tolerance—or T-value—as determined by the U. S. Department of Agriculture, Soil Conservation Service. The soil loss tolerance is defined as the maximum level of soil erosion that can be experienced and still permit a high level of crop productivity to be sustained economically and indefinitely. For soils in Waukesha County, T-values generally range between two and five tons per acre per year. The soil erosion control plan seeks to reduce cropland soil erosion to the soil loss tolerance levels by the year 2000.

Soil Erosion Inventory and Analysis

Under the soil erosion control planning program, an inventory and analysis of existing cropland was conducted in order to determine the extent and severity of cropland soil erosion problems within the County, focusing, in particular, on "sheet" and "rill" erosion. Sheet erosion is characterized by the removal of a relatively uniform, thin layer of soil from the land surface by runoff in the form of shallow sheets of water flowing over the ground. Such shallow surface flow typically does not move more than a few feet before collecting in surface depressions. Rill erosion occurs when sheet runoff begins to concentrate in surface depressions and, gaining in velocity, cuts small, but well-defined channels termed "rills." Sheet and rill erosion is a widespread problem causing massive amounts of soil to be moved about on and, in many cases, completely off inadequately protected cropland. Though often not perceived as a problem by the farm operator, sheet and rill erosion can seriously impair soil productivity in the long term, and can cause costly offsite damages and environmental problems.

Estimates of the amount of sheet and rill erosion on farm fields in Waukesha County were developed in the study through application of a formula known as the universal soil loss equa-

Table 10

CROPLAND SOIL EROSION RATES
IN WAUKESHA COUNTY: 1987

Soil Loss Rate (tons per acre per year)	Cropland	
	Acres	Percent of Total
Less than 3.0	48,805	46.3
3.0 - 3.9	9,925	9.4
4.0 - 4.9	8,334	7.9
5.0 - 5.9	8,302	7.9
6.0 - 6.9	5,071	4.8
7.0 - 7.9	4,143	3.9
8.0 - 8.9	5,072	4.8
9.0 - 9.9	2,058	1.9
10.0 - 14.9	9,156	8.7
15.0 - 19.9	3,057	2.9
20.0 or More	1,592	1.5
Total	105,515	100.0
Average Soil Loss Rate	4.8 Tons/Acre/Year	

Table 11

CROPLAND SOIL EROSION RELATIVE TO
T-VALUE IN WAUKESHA COUNTY: 1987

Soil Loss Rate in Multiples of T-Value	Cropland	
	Acres	Percent of Total
1.0 or Less	61,753	58.5
1.1 - 1.5	14,177	13.4
1.6 - 2.0	8,553	8.1
2.1 - 3.0	10,019	9.5
3.1 - 4.0	5,367	5.1
4.1 - 5.0	2,806	2.7
5.1 - 10.0	2,635	2.5
10.1 or More	205	0.2
Total	105,515	100.0

tion. Taken into account in the universal soil loss equation are the erodibility of the soil; the slope length and steepness; cropping and management practices; any special erosion control practices such as contouring or contour strip-cropping; and the erosive force of rainfall. Resulting estimates of soil erosion are usually expressed in tons of soil per acre per year.

The inventories conducted under the study indicated that the average rate of sheet and rill erosion in Waukesha County is 4.8 tons per acre per year. The soil loss rate is less than 3.0 tons per acre per year on about 48,800 acres of cropland, representing about 46 percent of all cropland in the County in 1987 (see Table 10). The soil loss rate is 9.0 tons per acre per year or more on about 15,900 acres, representing about 15 percent of all cropland.

In order to provide perspective on the severity of the soil erosion problem, soil loss rates, as estimated by the universal soil loss equation, are frequently expressed in multiples or fractions of T-value. More than 43,700 acres of cropland, representing just over 41 percent of all cropland in Waukesha County, was found to be eroding at rates exceeding T-value in 1987—including about 22,700 acres, or 22 percent of all cropland, eroding at rates between 1.1 and 2.0 times T-value; about 10,000 acres, or just over 9 percent,

eroding at rates between 2.1 and 3.0 times T-value; and about 11,000 acres, or just over 10 percent, eroding at rates of more than 3.0 times T-value (see Table 11). The remaining cropland—totaling about 61,800 acres, or just over 58 percent of all cropland in the County—was found to be eroding at rates less than T-value.

Recommended Soil Erosion Control Practices

A variety of conservation practices are available to farmers for the control of cropland soil erosion. These practices range from structural approaches, such as the installation of terraces and the construction of grassed waterways, to management approaches, such as conservation tillage and contour plowing. An important objective of the county soil erosion control planning program was the identification of those practices that would most effectively address soil erosion problems within the County. In identifying recommended practices, preference was given to those practices that would allow farmers to continue to raise essentially the same types of crops as in the recent past.

The plan recommends that some form of conservation tillage be utilized on most of the excessively eroding cropland in the County. More specifically, reduced tillage systems leaving between 30 and 40 percent of the surface area

covered by crop residue after planting are recommended for about 28,700 acres, or almost 66 percent, of the excessively eroding cropland in the County; reduced tillage systems leaving between 40 and 60 percent of the surface area covered by crop residue after planting are recommended for about 8,800 acres, or 20 percent, of the excessively eroding cropland; and no-till systems leaving between 60 and 70 percent of the surface area covered by crop residue after planting are recommended for about 6,100 acres, or 14 percent, of the excessively eroding cropland. Under the plan, the remainder of the excessively eroding cropland in the County, about 145 acres, or less than 1 percent of the total, would be taken out of production and permanent vegetative cover established, owing to the steepness and complexity of the slopes concerned. In addition to conservation tillage, contour plowing and crop rotation changes would be implemented on about 2,300 acres and 700 acres, respectively, of excessively eroding cropland. Approximately 35,900 feet of grassed waterway would be constructed within the County.

It is important to note that conservation tillage systems may require greater pesticide inputs than conventional tillage. Accordingly, the reliance on conservation tillage as the primary method to reduce cropland soil erosion in Waukesha County to a tolerable level requires a concomitant effort to judiciously manage agricultural inputs. The need for such management is borne out by both economic and environmental necessities. On the environmental side, there is increasing public concern over the excessive use of not only pesticides—insecticides, herbicides, and fungicides—but also fertilizers which may pollute surface- and groundwaters. Concerns regarding the long-term adverse effects of widespread chemical usage on human and animal life are becoming as real among rural farm operators as they are among the rest of society. On the economic side, judicious chemical usage can help ensure farm profitability. For these reasons, the careful monitoring of all agricultural inputs is extremely important.

The plan recommends that, when helping farmers address soil erosion problems, soil conservationists encourage farmers to utilize conservation practices other than conservation tillage when the operator exhibits a general lack of sensitivity concerning potential surface water or groundwater pollution. The use of no-till

systems, in particular, should be discouraged on farmland located in areas susceptible to groundwater contamination.

Conservation Planning Requirements

While the county soil erosion control plan identifies the general types of practices that may be utilized to control soil erosion, detailed farm conservation plans will be required to adapt and refine those recommendations for individual farm units. Conservation plans are detailed plans, generally prepared with the assistance of the U. S. Soil Conservation Service or County Land Conservation Department staffs, intended to guide agricultural activity in a manner that conserves soil and water resources. The conservation plan recommends site-specific desirable tillage practices, cropping patterns, and rotation cycles, considering the topography, hydrology, and soil characteristics of the farm, together with the resources of the farm operator and the operator's objectives as owner or manager of the land. Farm conservation plans have been prepared in the recent past for about 110 farms in Waukesha County, or about 11 percent of the 980 farm operations in the County. No additional conservation planning would be required for these farms during implementation of the county soil erosion control plan.

Plans for an estimated 200 farms—just over 20 percent of all farms in Waukesha County—prepared in the more distant past under the U. S. Soil Conservation Service continuing technical assistance program should remain substantially valid, but would require review and updating during implementation of the county soil erosion control plan.

The remaining 670 farms, representing just over 68 percent of all farms in the County, either have conservation plans that are outdated or have no farm conservation plans whatsoever. It is estimated that at least 5 percent of these farms—about 34 farms—are not experiencing any excessive cropland soil erosion, and accordingly would not require a farm conservation plan. Farm plans are expected to be prepared for the balance—about 636 farms—during implementation of the county soil erosion control plan.

The conservation planning requirements envisioned under the county soil erosion control plan would require a commitment of about nine man-years of time by soil conservationists. The costs

attendant to such a commitment, expressed in 1987 dollars, would approximate \$221,000 through the year 1999, or an average of \$18,400 per year for 12 years. Most of the farm conservation planning work would be cooperatively undertaken by the Waukesha County Land Conservation Department and the U. S. Department of Agriculture, Soil Conservation Service.

Erosion Control Priority Areas

The rank ordering of subareas of the County for soil erosion control purposes is a key aspect of the county soil erosion control plan. The Waukesha County Soil Erosion Control Planning Program Technical Advisory Committee determined that the U. S. Public Land Survey section, each approximating 640 acres in area, should serve as the basic geographic unit for the rank ordering—each U. S. Public Land Survey section being classified into a priority category based upon the average soil loss rate and the amount of excessive erosion occurring. The approach recommended by the Advisory Committee was intended to address the most serious soil erosion problems first, and to achieve the maximum reduction in soil erosion as quickly as possible with the limited resources available.

Priority areas for erosion control recommended under the county soil erosion control plan are shown on Map 6. Priority Area A—the highest priority area for erosion control—contained 108 U. S. Public Land Survey sections, which together encompassed about 26,128 acres of cropland in 1987. On the average, cropland in Priority Area A was eroding at 2.1 times T-value, and about 18,226 acres, or about 70 percent of all cropland in the 108 sections concerned, was eroding at rates exceeding T-value. Conversely, Priority Area D—the lowest priority area for erosion control—contained 158 U. S. Public Land Survey sections, which together encompassed about 21,045 acres of cropland. On the average, cropland in Priority Area D was eroding at 0.8 times T-value, and about 3,985 acres, or about 19 percent of all cropland in the 158 sections concerned, was eroding at rates exceeding T-value.

As previously indicated, the primary long-range objective of the county soil erosion control plan is the reduction of soil erosion on all cropland in Waukesha County to tolerable levels by the year 2000. In order to meet this objective, it is

recommended that, to the extent practicable, available public soil erosion control resources—including financial and technical assistance to farmers and information and education efforts—be directed toward the resolution of soil erosion problems in Priority Area A during the years 1988 through 1990; in Priority Area B during the years 1991 through 1993; in Priority Area C during the years 1994 through 1996; and in Priority Area D during the years 1997 through 1999.

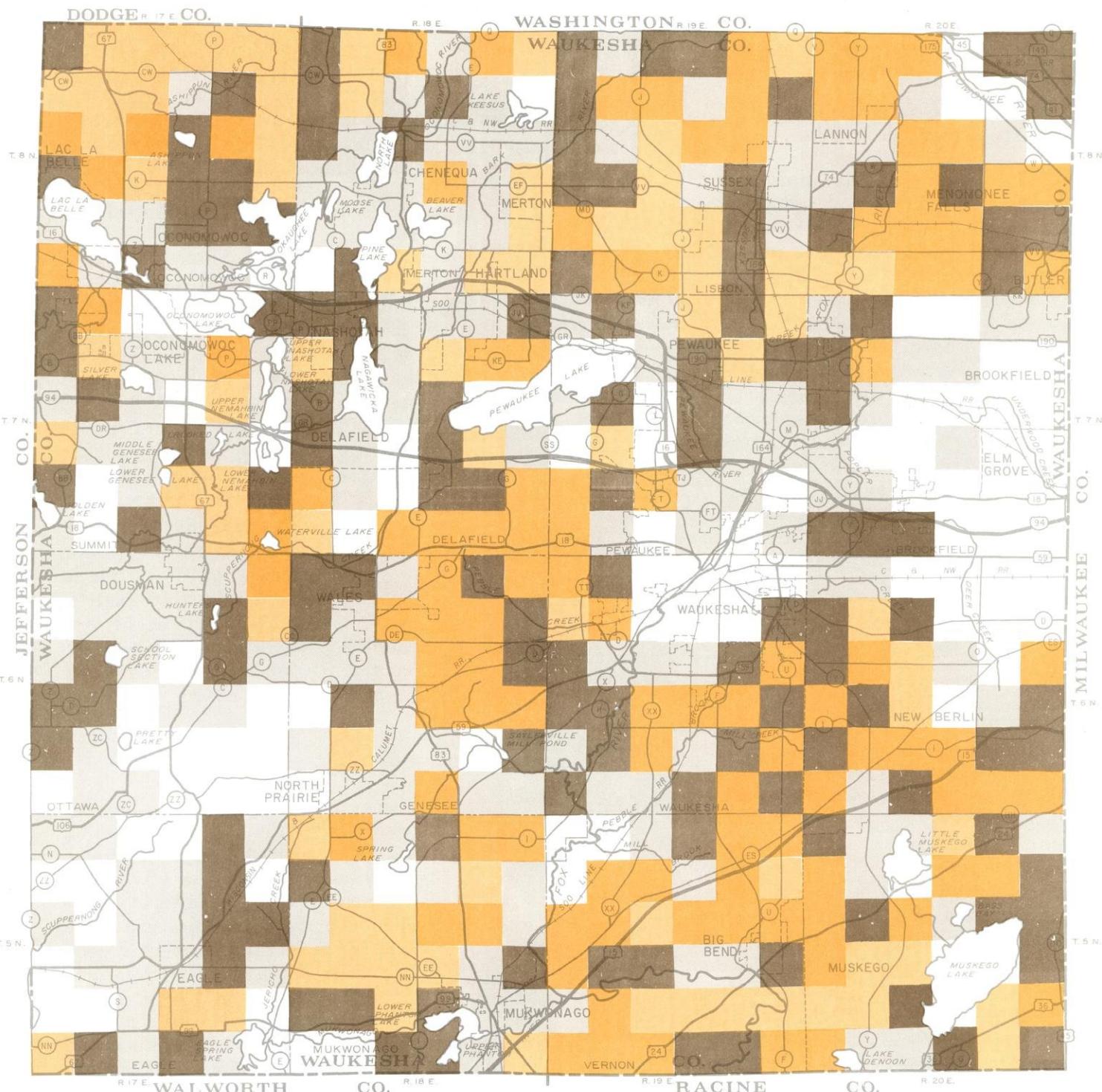
Plan Implementation

Implementation of the soil erosion control plan depends on the cooperative actions of a number of county, state, and federal units and agencies of government. Those units and agencies of government whose actions will have a significant effect, directly or indirectly, upon the successful implementation of the recommended soil erosion control plan include, at the county level, the Waukesha County Board, the Waukesha County Land Conservation Committee, and the Waukesha Park and Planning Commission; at the state level, the Wisconsin Department of Agriculture, Trade and Consumer Protection, the Wisconsin Department of Natural Resources, and the University of Wisconsin-Extension; and at the federal level, the U. S. Department of Agriculture—Agricultural Stabilization and Conservation Service, Soil Conservation Service, and Farmers Home Administration.

The major activities to be carried out by the concerned county, state, and federal agencies in an effort to implement the county soil erosion control plan would include the provision of technical assistance to farmers, particularly in the preparation of farm conservation plans, as well as assistance in the design of soil erosion control improvements, as appropriate; the provision of financial assistance to farmers in the application of needed practices; the administration of state and federal farm program conservation compliance requirements; and the conduct of information and education programs to increase the awareness among farmers of soil erosion problems, of the types of practices that may be used to address those problems, and of the public financial and technical resources that are available to help implement those practices. The plan recommends that to the extent possible given existing program regulations, available technical, financial, and educational resources

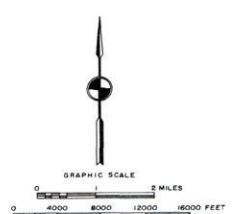
Map 6

RECOMMENDED PRIORITY AREAS FOR CROPLAND SOIL EROSION CONTROL IN WAUKESHA COUNTY



LEGEND

A legend consisting of four colored squares with corresponding labels: a yellow square for 'PRIORITY AREA A', an orange square for 'PRIORITY AREA B', a brown square for 'PRIORITY AREA C', and a white square for 'PRIORITY AREA D'.



be used to address soil erosion problems in Waukesha County in general conformance with the priority area recommendations and related time frame described above.

Waukesha County Animal Waste Management Plan

In 1987, the Regional Planning Commission also completed work on an animal waste management plan for Waukesha County. The plan was prepared as a guide to the abatement of animal waste-related water pollution problems within the County, complementing similar efforts already being undertaken in certain areas of the County under the Wisconsin Department of Natural Resources priority watershed program. The plan was prepared by the Regional Planning Commission in conjunction with the Waukesha County Land Conservation Department under the guidance of the Waukesha County Land Conservation Committee. The Land Conservation Department and Commission staff were assisted in the preparation of the plan by a technical advisory committee consisting of county farmers and representatives from the Waukesha County Health Department, the Waukesha County Park and Planning Commission, the Wisconsin Department of Natural Resources, the University of Wisconsin-Extension, and the U. S. Department of Agriculture. The findings and recommendations of the planning program are documented in SEWRPC Community Assistance Planning Report No. 156, Waukesha County Animal Waste Management Plan.

The preparation of the county animal waste management plan included the identification of watersheds, and critical areas within those watersheds, having the greatest potential for livestock-related water pollution; an analysis and subsequent rank ordering of livestock operations within the identified critical areas in terms of water quality impacts; and the formulation of recommendations for the abatement of identified animal waste water pollution problems. The animal waste management plan includes recommendations for barnyard improvements needed to remedy the identified problems; for the use of cost-sharing funds to assist barnyard operators in financing needed improvements; and for the development and adoption of a county animal waste management ordinance to minimize the creation of additional animal waste water pollution problems.

Implementation of the barnyard improvement recommendations set forth in the plan would contribute materially toward the abatement of animal waste water pollution problems within the County. Adoption of a county animal waste management ordinance would, in turn, help prevent the creation of animal waste water pollution problems in the future.

Residential Subdivision Platting Activity

The Commission annually monitors land subdivision activities in the Region. A total of 2,295 residential lots were created in the Region during 1987 through subdivision plats, compared with 1,631 lots platted in 1986. Of the total residential lots created in 1987, 2,005 lots, or about 87 percent, were served by public sanitary sewers, and the remaining 290 lots, or 13 percent, were designed to be served by onsite septic tank sewage disposal systems (see Table 12 and Map 7). With respect to the seven counties in southeastern Wisconsin, the number of residential lots created through subdivision plats in 1987 ranged from a low of 44 lots in Kenosha and Walworth Counties to a high of 1,233 lots in Waukesha County. The historic trend in residential platting activity since 1960 is shown for the Region and by county in Figures 40 through 47.

Chiwaukee Prairie-Carol Beach Land Use Plan Implementation

One of the most complex and difficult planning programs undertaken by the Regional Planning Commission in recent years involved the preparation of a land use plan for the Chiwaukee Prairie-Carol Beach area of the Town of Pleasant Prairie, Kenosha County. A description of the plan was set forth in the Commission 1985 Annual Report. This planning program, which was undertaken by the Commission at the request of Kenosha County and the Town of Pleasant Prairie, attempted to achieve a sound balance between competing resource protection and urban development objectives for the Chiwaukee Prairie-Carol Beach area. It sought to do so by identifying in detail those lands—both wetlands and uplands—that should be protected and preserved in the public interest for their resource value despite prior subdivision platting activity, and those lands upon which urban growth should continue to be accommodated as sanitary sewers are introduced into the area. Importantly, the planning process sought a way

to fairly compensate owners, in particular those owners of platted lots, whose land would have to be zoned against development to protect the natural resource base. The development of the plan was particularly complex and difficult because most of the wetlands in the Chiwaukee Prairie-Carol Beach area had in prior years been publicly sanctioned for development through approvals of subdivision plats at the state and local levels of government.

The resulting plan was adopted by the Town of Pleasant Prairie, Kenosha County, and the Regional Planning Commission, and was further endorsed by the Wisconsin Department of Natural Resources and the U. S. Army Corps of Engineers. Since the plan adoption in 1985, a number of important steps have been taken to act upon, and carry out, the plan recommendations. These including the following:

- Rezoning Action

On March 3, 1987, the Kenosha County Board of Supervisors completed rezoning of the wetlands lying within the shoreland area attendant to Lake Michigan and within the area proposed in the plan for preservation. All such wetlands were placed within a protective resource conservancy zone specially created for the Chiwaukee Prairie-Carol Beach area.

- Federal 404 Permit

In an action unprecedented in Wisconsin and rare in the United States, on August 27, 1987, the U. S. Army Corps of Engineers, at the request of the Town of Pleasant Prairie, issued a mass permit that would allow the landowners of 289 individual lots covering about 63 acres of wetlands found in the plan to be not worthy of preservation to fill and develop their lots.

- Extension of Sanitary Sewers

The Town of Pleasant Prairie has begun a program that will result in the extension of sanitary sewers to those portions of the Chiwaukee Prairie-Carol Beach planning area recommended for such service. A major trunk sewer to provide conveyance of sewage to the Kenosha sewage treatment plant, which is to be located along Sheridan Road, is scheduled for construction in the summer of 1988. Also, the Town has announced plans to—in 1989—construct collection

systems in two of the most heavily developed subdivision areas lying east of Sheridan Road.

- State Land Acquisition Program

On September 25, 1985, the Wisconsin Natural Resources Board acted to approve a land acquisition project in the Chiwaukee Prairie-Carol Beach area. Under the plan, the DNR was to acquire about 347 acres of land for resource protection purposes. This acquisition is made up of 686 individual platted lots and seven larger tracts. The Department has proceeded expeditiously to secure appraisals on the lands in question and to negotiate on a voluntary basis with individual landowners for the purchase of the many properties involved. By the end of 1987, the DNR either had fully acquired or had accepted offers to purchase a total of 107 acres, representing 31 percent of the total proposed in the plan to be acquired. The acquired land is made up of 288 individual platted lots and three larger tracts of land. The area proposed in the plan to be acquired and the lands acquired to date within that area are shown on Map 8.

- Expansion of The Nature

Conservancy Project Boundary

For many years, The Nature Conservancy, a private nonprofit organization, had been acquiring wetlands and uplands in the area lying south of 116th Street. The Chiwaukee Prairie-Carol Beach land use plan recommended that The Nature Conservancy continue its acquisition program, adjusting its boundaries to reflect a somewhat larger area found in the plan to be worthy of preservation. At the end of 1987, The Nature Conservancy had under consideration for approval a larger project area, shown on Map 8, which comprises nearly the total preservation area recommended in the plan. The Nature Conservancy continues to negotiate on a voluntary basis with the landowners in the area concerned for acquisition of lands within that project boundary.

PARK AND OPEN SPACE PLANNING

The Commission adopted a regional park and open space plan for southeastern Wisconsin on December 1, 1977. The plan consists of two basic elements: an open space preservation element and an outdoor recreation element. The open

Table 12
RESIDENTIAL SUBDIVISION PLATTING ACTIVITY IN THE REGION: 1987

County	Sewered Lots		Unsewered Lots		Total Lots	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Region
Kenosha	44	100.0	0	--	44	1.9
Milwaukee	234	100.0	0	--	234	10.2
Ozaukee	339	100.0	0	--	339	14.8
Racine	78	100.0	0	--	78	3.4
Walworth	44	100.0	0	--	44	1.9
Washington	282	87.3	41	12.7	323	14.1
Waukesha	984	79.8	249	20.2	1,233	53.7
Region	2,005	87.4	290	12.6	2,295	100.0

Map 7

RESIDENTIAL PLATTING ACTIVITY IN THE REGION: 1987

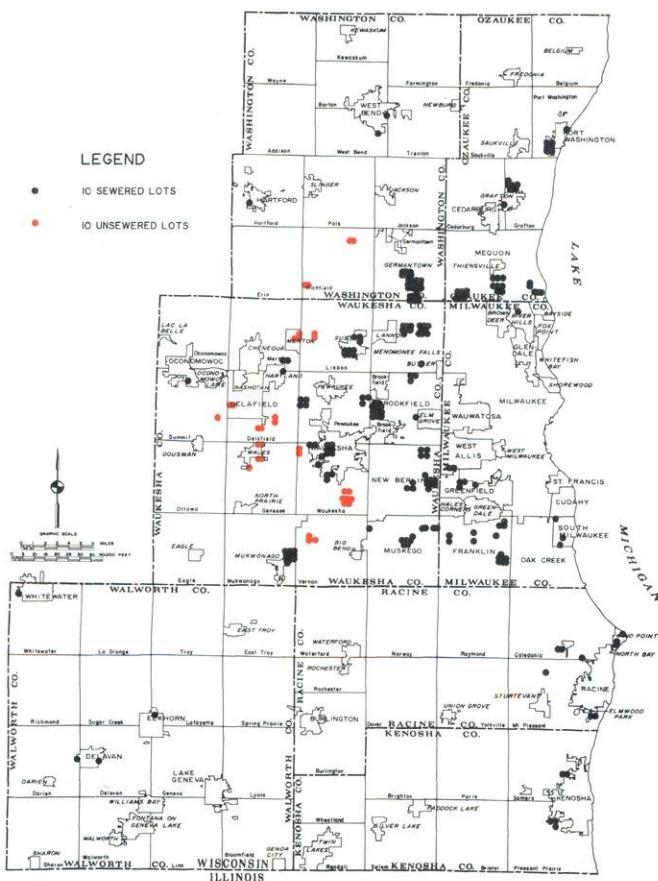


Figure 40

RESIDENTIAL LOTS PLATTED IN THE REGION: 1960-1987

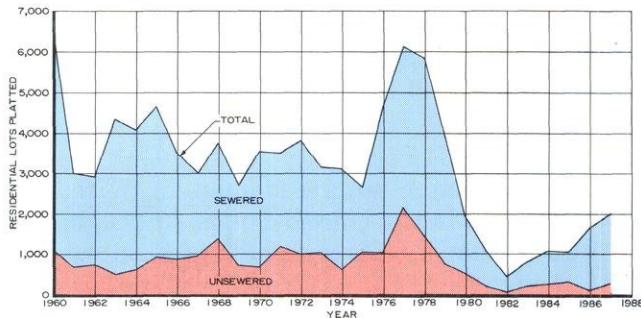


Figure 41

RESIDENTIAL LOTS PLATTED IN KENOSHA COUNTY: 1960-1987

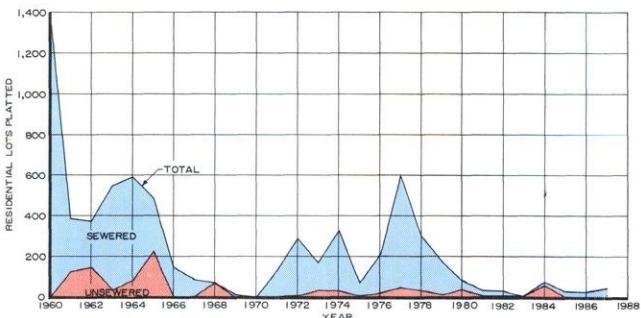


Figure 42

RESIDENTIAL LOTS PLATTED IN
MILWAUKEE COUNTY: 1960-1987

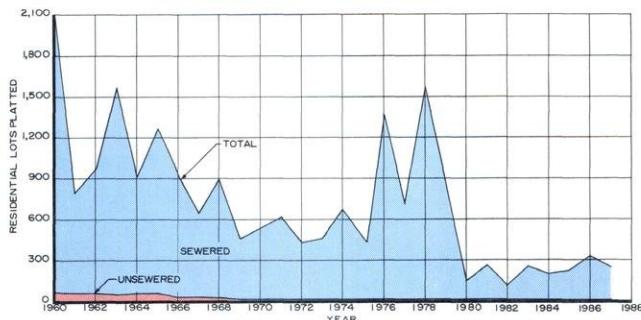


Figure 43

RESIDENTIAL LOTS PLATTED IN
OZAUKEE COUNTY: 1960-1987

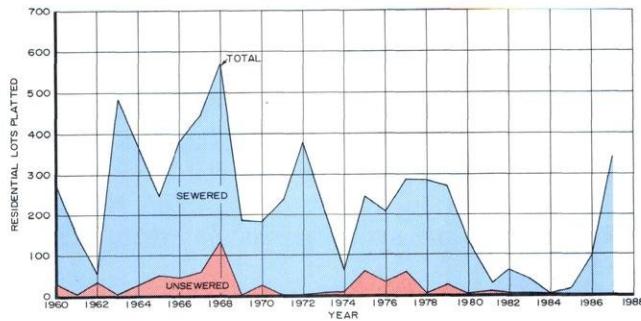


Figure 44

RESIDENTIAL LOTS PLATTED IN
RACINE COUNTY: 1960-1987

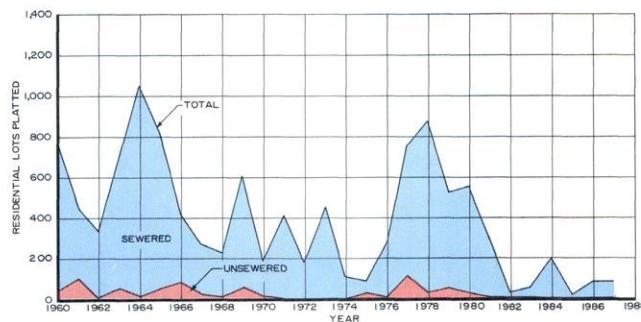


Figure 45

RESIDENTIAL LOTS PLATTED IN
WALWORTH COUNTY: 1960-1987

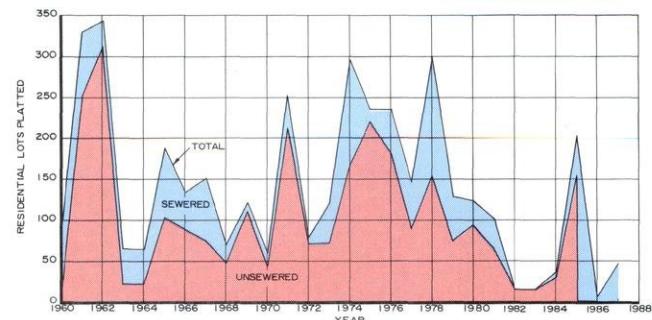


Figure 46

RESIDENTIAL LOTS PLATTED IN
WASHINGTON COUNTY: 1960-1987

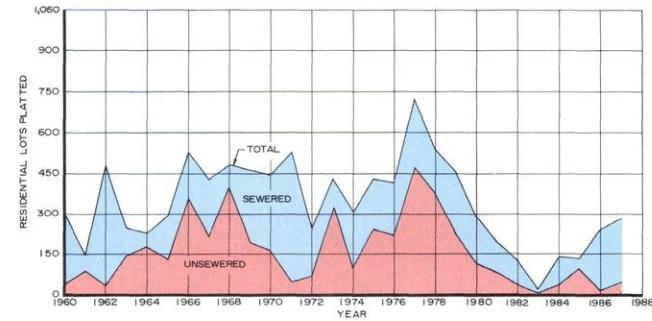
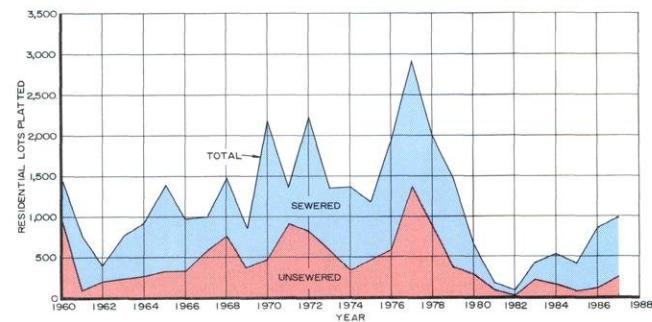


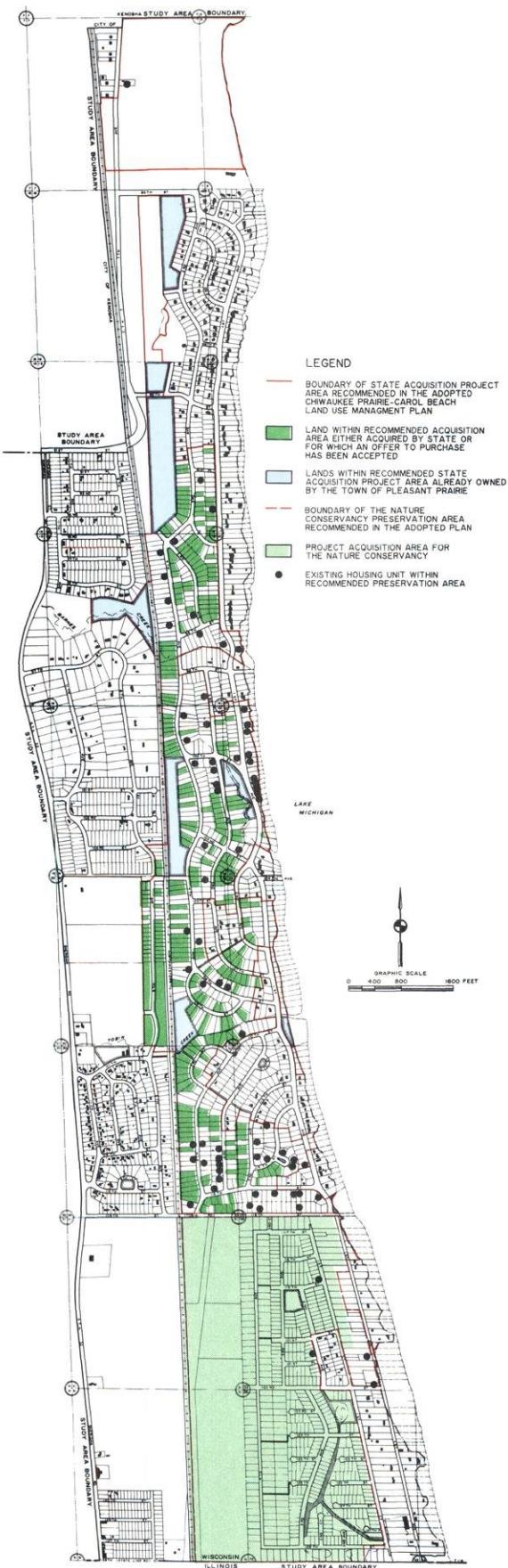
Figure 47

RESIDENTIAL LOTS PLATTED IN
WAUKESHA COUNTY: 1960-1987



Map 8

STATUS OF LAND ACQUISITION IN THE
CHIWAUKEE PRAIRIE-CAROL BEACH AREA



space preservation element consists of recommendations for the preservation of primary environmental corridors and prime agricultural land. The outdoor recreation element consists of: 1) a resource-oriented outdoor recreation plan, which provides recommendations for the number and location of large parks, recreation corridors to accommodate trail-oriented activities, and water access facilities to enable the recreational use of rivers, inland lakes, and Lake Michigan; and 2) an urban outdoor recreation plan, which provides recommendations for the number and distribution of local parks and outdoor recreational facilities required in urban areas of the Region. The plan is documented in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, and is graphically summarized on Map 9.

The regional park and open space plan was certified to various governmental units and agencies for adoption and implementation early in 1978. Five of the seven constituent counties in southeastern Wisconsin—Kenosha, Milwaukee, Racine, Washington, and Waukesha Counties—adopted the regional plan as their county plan in 1978. In addition, the Commission prepared a refinement of the regional plan as it relates specifically to Ozaukee County. This plan was adopted by Ozaukee County in 1978. Thus, all of the counties in southeastern Wisconsin except Walworth County, have adopted the regional park and open space plan or a refinement of that plan. In addition, the plan was endorsed by the Wisconsin Natural Resources Board in January 1979.

During 1987, Division efforts on park and open space planning were directed primarily toward the implementation of the regional park and open space plan. Implementation activities consisted of preparing detailed local park and open space plans consistent with the guidelines provided by the regional plan. These local plans are documented in SEWRPC community assistance planning reports and contain a set of park and open space preservation, acquisition, and development objectives and supporting standards relative to the needs of the citizens of the local community; present pertinent information on the supply of and need for park and open space sites in the community; and identify the actions required to meet park and open space needs.

Specifically, during 1987 the Commission published SEWRPC Community Assistance Planning Report No. 72, A Park and Open Space Plan for the City of Oconomowoc, Waukesha

Map 9

REGIONAL PARK AND OPEN SPACE PLAN: 2000

LEGEND

OPEN SPACE PRESERVATION ELEMENT

PRIMARY ENVIRONMENTAL CORRIDOR COMPONENT

- EXISTING STATE OWNERSHIP
- EXISTING LOCAL OWNERSHIP
- EXISTING COMPATIBLE PRIVATE OUTDOOR RECREATION USE (PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION)
- PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION

- PROPOSED STATE OWNERSHIP
- PROPOSED LOCAL OWNERSHIP

PRIME AGRICULTURAL LAND COMPONENT

OUTDOOR RECREATION ELEMENT

RESOURCE ORIENTED COMPONENT

MAJOR PUBLIC PARK SITE—TYPE I (250 OR MORE ACRES)

- ▲ EXISTING STATE OWNERSHIP
- ▲ EXISTING LOCAL OWNERSHIP
- ▲ OTHER PUBLIC PARK SITE—TYPE II (100-249 ACRES)
- ▲ EXISTING STATE OWNERSHIP
- ▲ EXISTING LOCAL OWNERSHIP

- ▲ PROPOSED STATE OWNERSHIP
- ▲ PROPOSED LOCAL OWNERSHIP

RECREATION CORRIDOR (TRAIL)

- PROPOSED STATE RESPONSIBILITY
- - - PROPOSED LOCAL RESPONSIBILITY

PROPOSED RECREATIONAL BOATING WATER ACCESS POINT

- MAJOR INLAND LAKE OR RIVER

- LAKE MICHIGAN

URBAN ORIENTED COMPONENT

- EXISTING OR PLANNED URBAN DEVELOPMENT REQUIRING TYPE III AND TYPE IV PUBLIC PARK SITES

MAJOR PUBLIC PARK SITE—TYPE III (25-99 ACRES)

- EXISTING
- PROPOSED

OTHER PUBLIC PARK SITE—TYPE IV (5-24 ACRES)

- EXISTING
- PROPOSED

OTHER OUTDOOR RECREATION SITE OR LAND USE

EXISTING MAJOR SPECIAL PURPOSE STATE OUTDOOR RECREATION SITE

EXISTING MAJOR SPECIAL PURPOSE LOCAL OUTDOOR RECREATION SITE

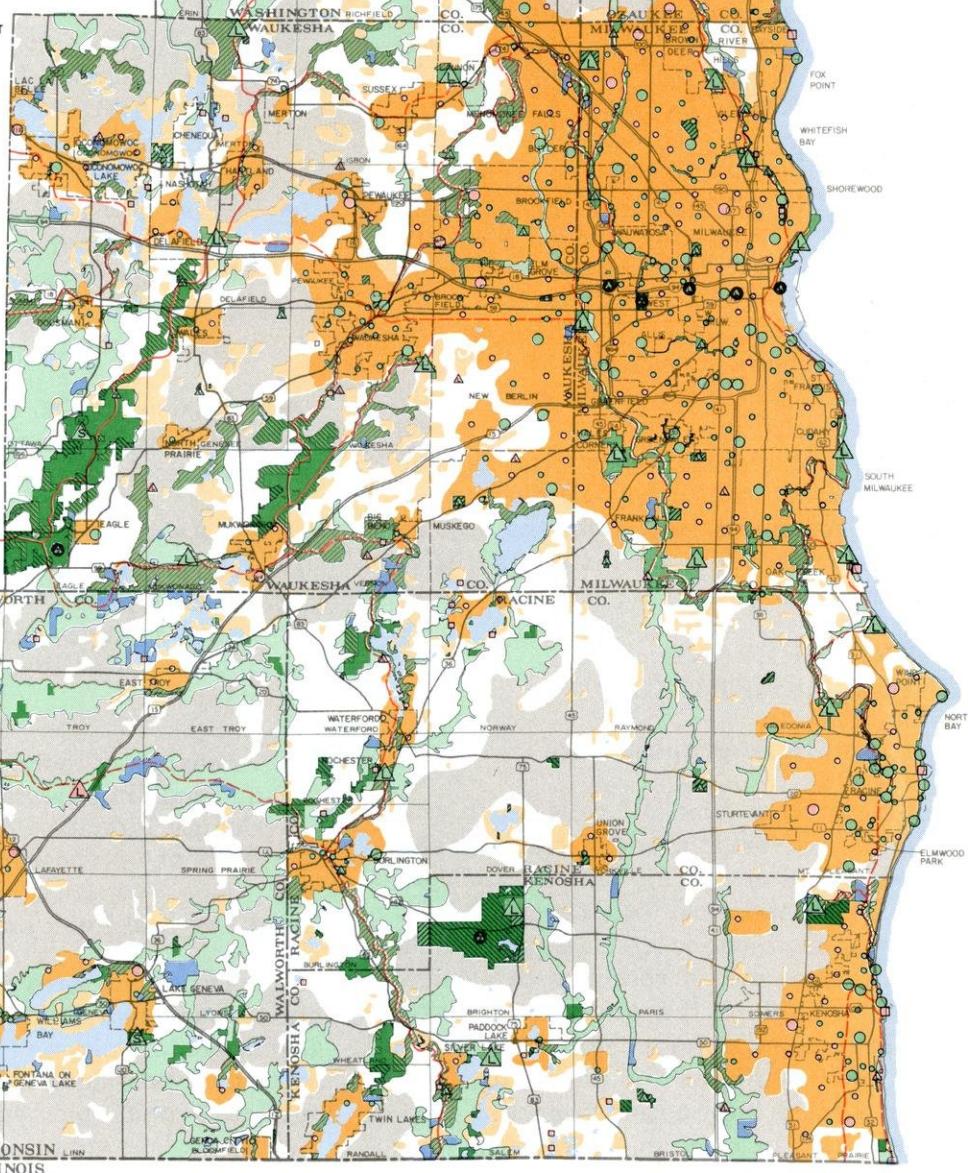
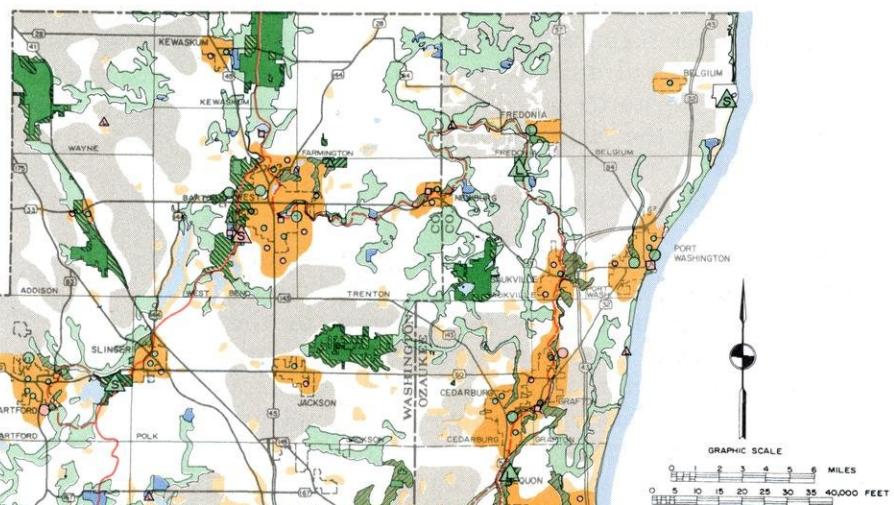
EXISTING OTHER STATE OUTDOOR RECREATION OR OPEN SPACE SITE

EXISTING OTHER LOCAL OUTDOOR RECREATION OR OPEN SPACE SITE

OTHER EXISTING URBAN DEVELOPMENT

OTHER RURAL LAND

WATER



County, Wisconsin. Adoption of such plans by the local communities and approval of the plans by the Wisconsin Department of Natural Resources make the local units of government eligible to apply for up to 50 percent state and federal assistance for the acquisition and development of the outdoor recreation and open space sites and related facilities proposed in the plans.

Also during 1987, the Commission continued work on the refinement of the regional park and open space plan as that plan relates to the county and state levels and agencies of government. A preliminary draft of each individual county park and open space plan was completed in 1986 and transmitted to the respective county park agencies and the Wisconsin Department of Natural Resources for review. The county plans are being documented in a series of seven community assistance planning reports. During 1987, the Commission published two of these county reports, SEWRPC Community Assistance Planning Report No. 131, A Park and Open Space Plan for Kenosha County, and SEWRPC Community Assistance Planning Report No. 133, A Park and Open Space Plan for Ozaukee County. The Ozaukee County plan was adopted by the County Board of Supervisors on July 1, 1987, and by the Regional Planning Commission on September 14, 1987. The remaining five county reports are scheduled for completion in 1988 and 1989. Adoption of each county plan by the county board of supervisors and approval by the Wisconsin Department of Natural Resources make each county eligible to apply for state and federal assistance for the acquisition of sites and development of facilities recommended in the plans.

DATA PROVISION AND TECHNICAL ASSISTANCE

Economic and Demographic Data

Considerable Division time is directed each year to answering requests for demographic, economic, and related data. This function includes the provision of technical assistance to local units of government, public agencies, and school districts in the conduct of special data acquisition activities and in the analysis of data. During 1987, the Division prepared letter responses to 115 requests for population, economic, and related information from the Commission data files. In addition, 137 requests were

handled by telephone and 80 requests were accommodated through personal visits to the Commission offices. These requests came from county and local units of government, federal and state agencies, private firms, and individual citizens. The following are some examples of Division activity during 1987 in performing this function.

- Provision of demographic data and technical assistance to the Cities of Hartford and Oak Creek to facilitate development of an industrial attraction program.
- Provision of population data pertaining to Racine County to the Racine County Planning and Zoning Department for use in economic development efforts.
- Provision of demographic and income data to the Elmbrook, Kettle Moraine, and West Bend School Districts for use in program planning.
- Provision of land use, demographic, traffic count, equalized value, and building permit data to the Town of Bristol volunteer fire department for use in assessing future fire protection needs.
- Provision of 1980 detailed land use data to a consultant for use in an industrial site analysis for the City of Milwaukee.
- Provision of current demographic data as well as Commission-prepared population forecasts to the Waukesha County Internal Audit Manager for use in preparing a youth detention facility use and management study.
- Provision of current population, income, and building permit data to the Waukesha County Finance Department for use in the study of a proposed wheel tax.

Land Use and Park and Open Space Data

The land use and park and open space data files are used extensively by state, county, and local governmental units and agencies and by private interests. Examples of the provision of land use and park and open space data during 1987 include the following:

- Provision of technical assistance and land use and natural resource information to the Wisconsin Department of Natural Resources and to local units and agencies of government to assist in the evaluation of the location of a proposed natural gas pipeline in northwestern Walworth and southern Waukesha Counties.
- Provision of technical assistance to the Village of Fontana-on-Geneva Lake in the preparation of a general development plan for a 10-acre undeveloped village park site. Assistance included the identification of a nature study area and of the proper location of a nature trail within this area, and the identification of an area suitable for picnicking, parking, and restroom facilities.
- Provision of technical assistance to the Town of Randall Park Commission in the evaluation of the need for a town park site within or adjacent to a proposed residential subdivision in the Town.
- Provision of land use and natural resource information to the Milwaukee County Department of Parks, Recreation and Culture for use in identifying selected parklands in the County which may have potential, and which would be suitable, for disposition and use for urban development purposes.
- Provision of historical 1963, 1970, 1975, and 1980 land use information to the City of West Bend for use for planning purposes by the Department of City Development.
- Provision of detailed land use and natural resource information to the Wisconsin Department of Natural Resources for use in the preparation of an environmental impact statement for the proposed Lulu Lake natural area in the Town of Troy.

Special Environmental Inventories, Assessments, and Evaluations

Reports evaluating and assessing the environmental quality of selected sites within the Region were prepared at the request of federal, state, and local units and agencies of government operating in the Region. During the year, a total of 52 requests for such information were received and fulfilled. Examples of such special

environmental inventories, assessments, and evaluations prepared during 1987 include the following:

- Provision of wetland plant community information to the Kenosha County Office of Planning and Development. The information was used to determine the areal extent of wetlands within the proposed Glen Investors Shopping Mall site in the IH 94 corridor located in the Town of Pleasant Prairie.
- Provision of technical assistance to the Town of Pleasant Prairie and the Kenosha County Office of Planning and Development concerning proposed CTH Q alternative routes crossing the Des Plaines River. Also, mitigation plans to offset wetland losses associated with the proposed CTH Q Des Plaines River crossings were reviewed.
- Provision of technical assistance to the Racine County Division of Planning and Development in the form of recommendations attendant to the preservation and enhancement of an existing pond in the Oak Ridge Office Park lands located in the Town of Mt. Pleasant.
- Provision of a wetland inventory, wildlife habitat information, and primary environmental corridor and wetland boundary delineations for a parcel located adjacent to Cedar Creek in the Town of Cedarburg, Ozaukee County. The information was provided to the City of Cedarburg Engineer for use in evaluating future development on the subject parcel.
- Provision of a wetland vegetation inventory and a wetland boundary determination to the Wisconsin Department of Natural Resources for use in verifying the areal extent of a wetland located in the City of Mequon, Ozaukee County.
- Provision of a vegetation survey, natural area and natural resource information, and resource management recommendations to the Geneva Lake Environmental Agency for an approximately 16-acre oak opening and dry prairie on properties located in the Town of Walworth, Walworth County. The information was used to evaluate the natural area quality of, and develop management alternatives for, the properties.

- Provision of a wetland vegetation inventory, wildlife habitat information, and a wetland boundary determination to the Washington County Land Use and Park Department for use in verifying the areal extent of a wetland located adjacent to Silver Lake, and in evaluating a permit for filling the wetland.
- Identification for the City of Hartford of the areal extent of the wetland in, and primary environmental corridor boundaries of, the proposed Monroe Park Development Subdivision in the City.
- Identification for the the City of West Bend of the areal extent of the wetland in, and primary environmental corridor boundaries of, the Anna Albecker Trust lands in the City. In addition, the Commission staff provided a wetland vegetation inventory, wildlife habitat information, and a wetland boundary determination for the subject trust lands to the Wisconsin Department of Natural Resources.
- Provision of vegetation surveys, wildlife habitat information, and a wetland boundary determination to the City of Muskego, Waukesha County, for use in evaluating the potential impacts on wetlands and flood-plains of the proposed Emerald Park landfill site located in the City.
- Identification for the Village of Menomonee Falls of the areal extent of the Menomonee Falls Tamarack Swamp located between Tamarack Trail and W. Good Hope Road in the Village. The information was provided to the Village Department of Community Development for the purpose of evaluating the proposed Tamarack Trail extension route.

TRANSPORTATION PLANNING DIVISION

DIVISION FUNCTIONS

The Commission's Transportation Planning Division makes recommendations concerning various aspects of transportation system development within the Region. The kinds of basic questions addressed by the Division include:

- What are the travel habits and patterns in the Region? How are these changing over time?
- What is the existing supply of transportation facilities and services?
- How can existing transportation facilities best be used and transportation demand managed to avoid new capital investment?
- How much travel in the future will likely be accommodated by the various travel modes, particularly the private automobile and public transit?
- What new transportation facilities are needed to accommodate existing and anticipated future travel demand?
- Who should be responsible for providing needed transportation facilities?
- What are the relationships between land use and travel demand?

In attempting to find sound answers to these and other questions, to formulate plans containing recommendations concerning these questions, and to monitor transportation system development activities in the Region, the Transportation Planning Division during 1987 conducted a number of activities in eight identifiable areas: data collection, collation, and development; long-range planning; transportation systems management planning and traffic engineering; transportation improvement programming; elderly and handicapped transportation planning; rail transportation planning; air transportation planning; and data provision and technical assistance.

As the official metropolitan planning organization for transportation planning in the Southeastern Wisconsin Region, the Commission not

only conducts transportation planning work programs with its own staff and with consultants, but also oversees related subregional transportation planning by other governmental agencies. In 1987 Milwaukee County undertook such planning work related to transit operations. The Commission is ultimately responsible for all transportation-related planning work funded by federal agencies. Accordingly, all transportation planning activities bearing upon the Commission's overall work program are reported herein irrespective of whether they are directly conducted by the Commission.

DATA COLLECTION, COLLATION, AND DEVELOPMENT

During 1987, the Division continued to monitor secondary data sources for changes in automobile and truck availability; mass transit ridership; carpool parking facility capacity and use; and traffic volumes.

Figure 48
TRANSPORTATION PLANNING DIVISION

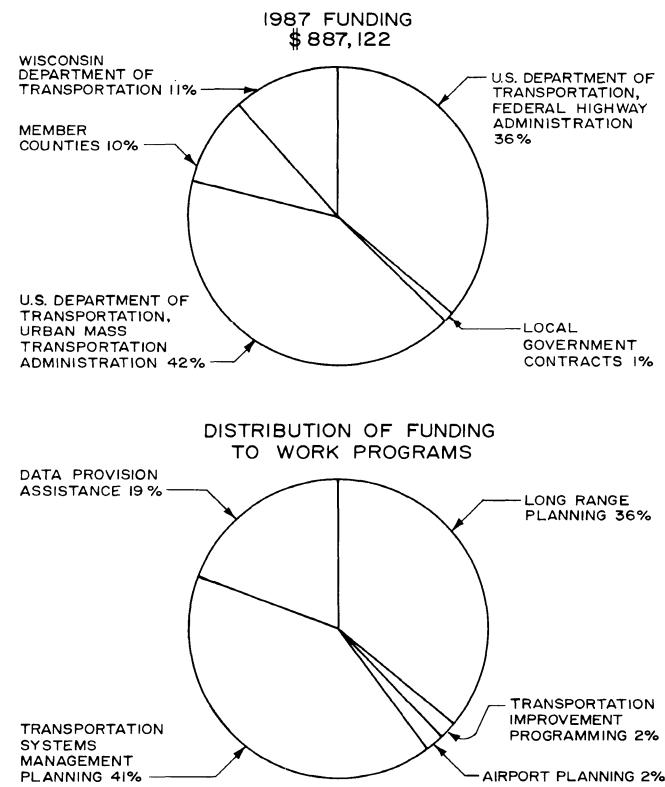


Table 13
AUTOMOBILE AVAILABILITY

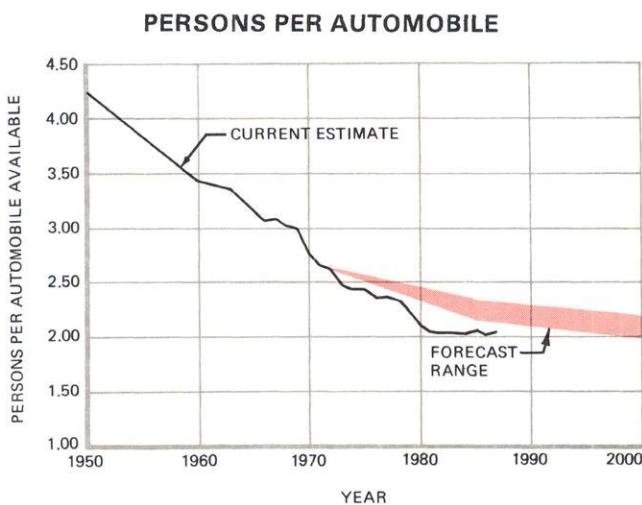
County	1963	1972	1986	1987
Kenosha	35,160	48,010	60,740	60,910
Milwaukee	304,120	397,690	435,830	431,460
Ozaukee	14,320	24,430	37,810	38,110
Racine	47,580	68,270	85,130	85,050
Walworth	19,440	27,430	38,220	38,790
Washington	16,240	27,030	44,150	44,730
Waukesha	61,900	102,910	160,030	160,990
Total	498,760	695,770	861,640	860,040

Automobile and Truck Availability

The number of automobiles available to residents of the Region in 1987 totaled 860,040. This represents a decrease of 1,600, or about 0.2 percent, from the 1986 level of 861,640 (see Table 13). The slight decrease in automobile availability in 1987 is due primarily to a decrease within Milwaukee County. The other counties demonstrated the slowing, but steady, trend of continued increases in the number of automobiles available to residents of the Region over the past 27 years. As shown in the table, Kenosha, Ozaukee, Walworth, Washington, and Walworth Counties registered slight gains in automobile availability during the year. Automobile availability declined about 1 percent in Milwaukee County and was virtually unchanged in Racine County. The average annual rate of growth in automobile availability within the Region from 1963 through 1987 was 2.3 percent.

The number of persons per automobile within the Region was estimated to be 2.03 in 1987, slightly higher than the estimated 2.02 in 1986, as shown in Figure 49. The estimated number of automobiles available within the Region in 1987 may be compared to the forecast range of automobile availability as developed under the long-range regional transportation system plan, as shown in Figure 50, which depicts the historical and forecast growth in automobile availability. The 1987 forecast automobile availability ranged from 852,600 under the adopted regional transportation system plan to 924,600 under the "no build" alternative. Thus, the 1987 regional automobile availability of 860,040 was about 7.0 percent lower than the "no build"

Figure 49



forecast, and about 0.9 percent higher than the automobile availability envisioned under the adopted regional transportation system plan.

The number of motor trucks available in the Region during the year totaled about 153,990, an increase of about 6,570, or 4.5 percent, over the 1986 level of 147,420 trucks (see Table 14 and Figure 51). The increase in 1987 motor truck availability follows the trend of annually increasing vehicle availability in spite of declines observed in 1961, 1962, and 1985. Light trucks accounted for about 57 percent of all trucks in 1960, 60 percent of all trucks in 1970, 74 percent of all trucks in 1980, and 75 percent of all trucks in 1987. The number of light trucks

Table 14
TRUCK AVAILABILITY

County	1963	1972	1986	1987
Kenosha	4,860	7,040	13,170	14,170
Milwaukee	25,870	33,350	55,260	56,300
Ozaukee	2,290	3,290	6,670	7,010
Racine	6,200	9,140	17,170	18,250
Walworth	4,490	6,430	11,510	12,420
Washington	3,410	5,400	11,330	12,100
Waukesha	8,280	15,060	32,310	33,740
Total	55,400	79,710	147,420	153,990

Figure 50

FORECAST RANGE OF AUTOMOBILE AVAILABILITY

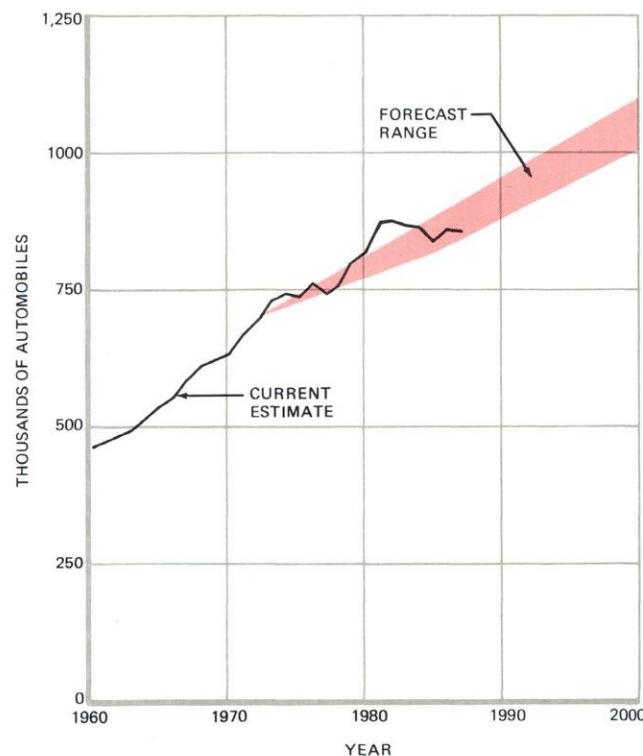
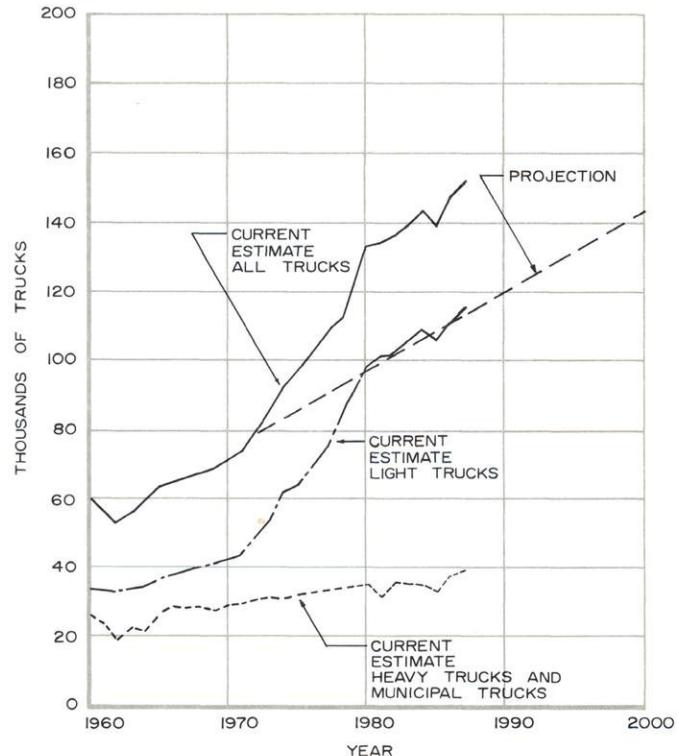


Figure 51

TRUCK AVAILABILITY



available in 1987 totaled about 115,050, an increase of 4,330, or about 3.9 percent, over the number of light trucks available in 1986. The number of heavy trucks and municipal trucks increased to 38,940 in 1987, an increase of about 2,240 trucks, or about 6.1 percent, over the 1986 level of 36,700. The average annual rate of growth in motor truck availability within the Region from 1963 to 1987 was 4.4 percent.

Public Transit Ridership

Publicly owned mass transit service is provided in the Region in the Kenosha, Racine, and Milwaukee urbanized areas, and in nonurbanized portions of the Region in the Cities of Hartford and Whitewater (see Table 15 and Figure 52). In the Kenosha urbanized area, ridership on the fixed-route public transit system

Table 15
PUBLIC TRANSIT RIDERSHIP

Transit Operators By Area	1963	1972	1986	1987	Percent Change 1986-1987
Urbanized Areas					
Kenosha					
City of Kenosha	1,876,000	503,000	1,137,600	1,098,300	-3.4
Milwaukee					
Milwaukee County	88,546,000	52,141,000	47,073,300	47,761,400	1.5
Waukesha County	--	--	282,100	266,200	-5.6
City of Waukesha	451,000	227,000	381,900	347,300	-9.1
Subtotal	88,997,000	52,368,000	47,737,300	48,374,900	1.3
Racine					
City of Racine—					
Local Bus	2,907,000	526,000	2,287,400	2,280,300	-0.3
City of Racine—					
Commuter Bus	165,000	153,000	82,400	75,000	-9.0
Subtotal	3,072,000	679,000	2,369,800	2,355,300	-0.6
Urbanized Area Total	93,945,000	53,600,000	51,244,700	51,828,500	1.1
Nonurbanized Areas					
City of Hartford	--	--	14,600	12,400	-15.1
City of Whitewater	--	--	27,000	38,300	41.9
Nonurbanized Area Total	--	--	41,600	50,700	21.9
Total Region	93,945,000	53,600,000	51,286,300	51,879,200	1.2

serving the City of Kenosha decreased during 1987 (see Figure 53). Ridership during the year approximated 1,098,300 revenue passengers, a decrease of about 3 percent from the 1986 ridership level of about 1,137,600 revenue passengers. The number of bus miles operated in revenue service totaled about 650,800, a decrease of about 1 percent from the 658,900 bus miles operated during 1986. The basic fare for the Kenosha system was increased from \$0.45 in 1986 to \$0.50 in 1987.

To assist in the public operation of the transit system, the Commission prepared, at the request of the City, a five-year transit development plan in 1976 for the years 1976-1980.¹ Many of the

plan's recommendations regarding transit route layout and scheduling were implemented in the mid-1970's as ridership increased on the system. In 1984, the Commission completed work on another transit development plan for the City of Kenosha transit system for the period 1984-1988.² Virtually all of the routing changes recommended under the new plan were implemented by the transit system in late December 1984.

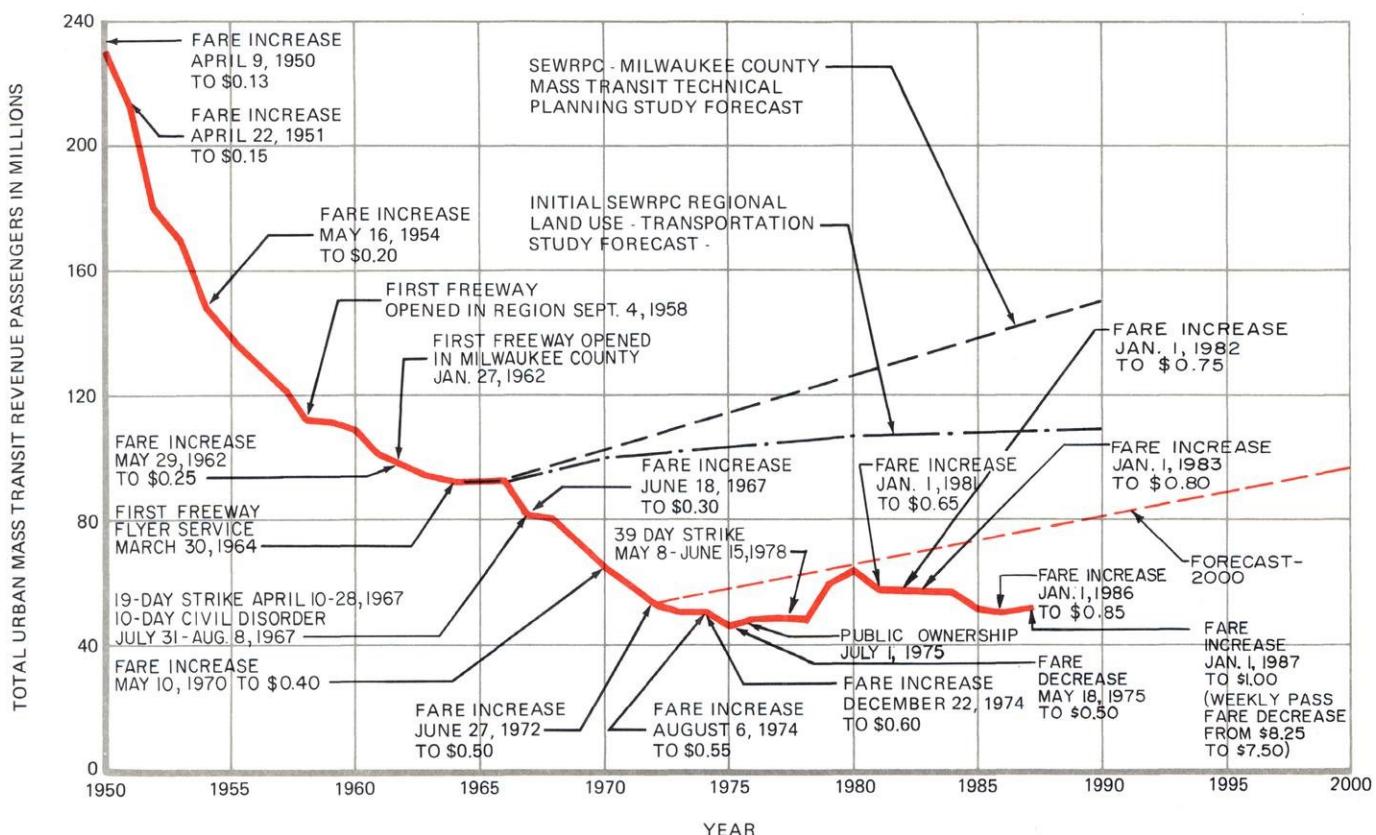
Ridership on the fixed-route public transit system serving the City of Racine remained virtually unchanged between 1986 and 1987. Public transit ridership during 1987 decreased by less than 1 percent from the 1986 level of

¹See SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Program: 1976-1980.

²See SEWRPC Community Assistance Planning Report No. 101, Kenosha Area Transit System Plan and Program: 1984-1988.

Figure 52

HISTORICAL TREND IN MASS TRANSIT RIDERSHIP IN THE REGION



NOTE: FARE INCREASES AND DECREASES SHOWN IN THIS FIGURE REFER ONLY TO THE MILWAUKEE COUNTY TRANSIT SYSTEM AND TO THE SINGLE-RIDE ADULT CASH FARE FOR LOCAL SERVICE.

approximately 2,287,400 revenue passengers to about 2,280,300 revenue passengers in 1987. The number of bus miles operated in revenue service increased by about 1 percent during 1987—from about 1,236,400 bus miles in 1986 to about 1,248,300 bus miles in 1987. The basic fare for the Racine transit system was \$0.35 in 1987 and has not changed since 1982.

Transit ridership declines on the City of Racine transit system during 1982 and 1983 and again in 1985 and 1986 broke a trend of increasing ridership which began in July 1975 with the public acquisition and operation of the formerly privately operated system. To guide the public acquisition of the system and its initial years of operation, the Commission prepared, at the request of the City of Racine, a transit development plan covering the years 1975 to 1979.³ Nearly all of the plan recommendations for transit route layout, schedule, fare structure, and

service levels were implemented in the first years of public operation. In 1984, the Commission completed work on another transit development program for the City of Racine transit system for the period 1984-1988.⁴ Several of the routing changes recommended under the new plan were implemented by the transit system by December 1985.

During 1987, the City of Racine, in a joint effort with the City of Kenosha and Racine and Kenosha Counties, also provided commuter bus

³See SEWRPC Community Assistance Planning Report No. 3, Racine Area Transit Development Program: 1975-1979.

⁴See SEWRPC Community Assistance Planning Report No. 79, Racine Area Transit System Plan and Program: 1984-1988.

Figure 53

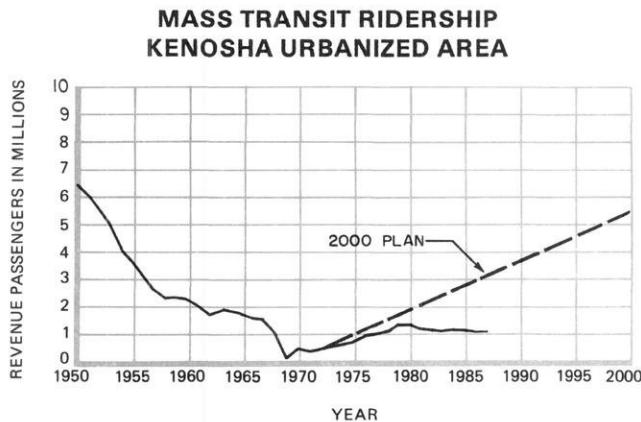
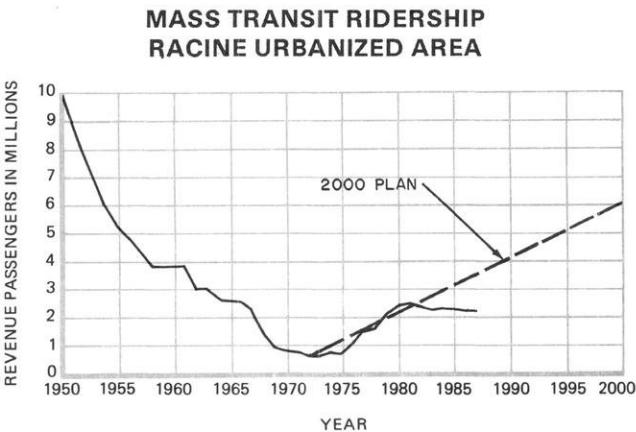


Figure 54



service between downtown Milwaukee and the Cities of Racine and Kenosha. The commuter bus service was provided by a private transit operator: Wisconsin Coach Lines, Inc. Until 1984, the route was operated without public subsidy, the passenger and freight revenues being sufficient to offset the operating costs. More recently, however, the operation of the route entailed a loss. During 1984, the Company approached the four governmental units and asked for financial assistance to subsidize the operation of the route. As a result, the four local units of government joined to help provide the Company with the financial assistance necessary to operate the bus service through the State of Wisconsin.

The City of Racine has assumed responsibility as the lead agency for the commuter bus project by acting as the applicant/grantee for the state urban transit assistance funds needed to subsidize the operation of the service. State transit assistance funds are the only public monies being used to subsidize the operating costs of the service. Ridership on the service approximated 75,000 revenue passengers during 1987, a decrease of about 9 percent from the 1986 ridership level of about 82,400 revenue passengers. The number of bus miles operated in revenue service increased by less than 1 percent from 192,600 bus miles in 1986 to about 192,900 bus miles in 1987. Total transit ridership within the Racine urbanized area—including the City of Racine transit system and the special commuter bus service—decreased by less than 1 percent—from the 1986 ridership level of 2,369,800 revenue

passengers to about 2,355,300 revenue passengers in 1987 (see Figure 54).

In the Milwaukee urbanized area, publicly subsidized, fixed-route transit service was provided during 1987 by the Milwaukee County Transit System, Waukesha County, and the City of Waukesha. During 1987, the Milwaukee County Transit System made only minor changes to the transit system route structure. Ridership on the transit system increased during 1987 by over 1 percent over the 1986 level of about 47,073,300 revenue passengers to 47,761,400 revenue passengers, representing the first ridership increase since 1980. The basic cash fare for the Milwaukee County Transit System was increased from \$0.85 in 1986 to \$1.00 in January 1987. However, beginning in January 1987, the transit system lowered the price of a weekly pass or a book of 10 fare tickets from \$8.25 to \$7.50. The ridership increase in 1987 may be attributed to the lower price of the pass and advance purchase fares, and to service expansion implemented during reconstruction of the high-rise bridge on the North-South Freeway (IH 94).

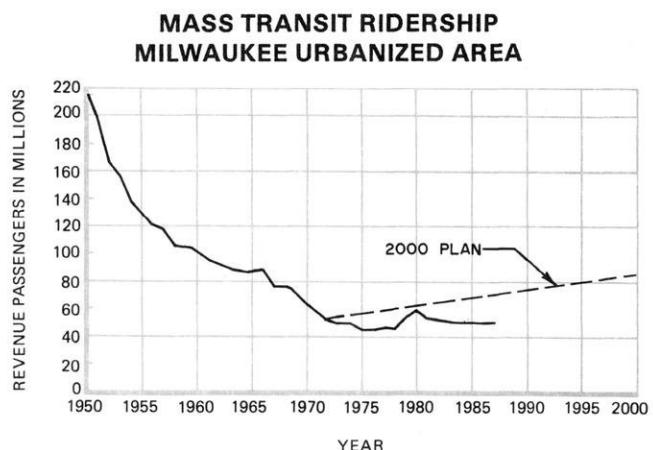
During 1987, Waukesha County continued to provide publicly supported, fixed-route bus service between Waukesha and Milwaukee Counties. Operated for Waukesha County on a contract basis by both the Milwaukee County Transit System and Wisconsin Coach Lines, Inc., bus service included the commuter-oriented service supported by the County since 1977 between the City of Milwaukee central business district and the Cities of Oconomowoc and Waukesha, and additional service provided over

three bus routes initiated by the County during 1981. These three bus routes were originally part of a total of seven new routes implemented by Waukesha County on April 1, 1981. The Commission identified these seven routes in 1980 at the request of Waukesha County and proposed that any service implemented be on a trial basis.⁵

The three routes which continued to be operated during all or part of 1987 included two routes providing modified rapid, or "freeway flyer," transit service between the Milwaukee central business district and the Village of Menomonee Falls and the City of Oconomowoc, and one route providing local bus service from Milwaukee County to the Brookfield Square Shopping Center. The freeway flyer bus routes serving the City of Oconomowoc and the Village of Menomonee Falls, and the local bus route serving the Brookfield Square Shopping Center, continued to be successful in attracting transit ridership during 1987. Ridership on the Waukesha County transit system declined by about 6 percent in 1987, from 282,100 trips in 1986 to 266,200 trips in 1987. Transit fares on the Waukesha County Transit System—which are distance-related—were between \$1.25 and \$3.35 in 1987, unchanged from 1986.

Local bus service was reestablished in the City of Waukesha in August 1981, when the City placed into full-scale operation a new fixed-route transit system. The community had previously been without public transit service since June 1976, when local bus service provided by a private transit operator was discontinued. The reinstitution of transit service was guided by a transit development plan prepared by the Regional Planning Commission in 1980 at the request of the City of Waukesha.⁶ The new Waukesha transit system—routes, schedule, service levels, and fare structure—was implemented essentially as recommended by that

Figure 55



plan. During calendar year 1987, the system carried approximately 347,300 revenue passengers, a decrease of about 9 percent from the 381,900 revenue passengers carried on the system during 1986.

The number of bus miles operated in revenue service in the Milwaukee urbanized area during the year totaled about 17.5 million, a decrease of about 2 percent from the approximately 17.9 million bus miles operated during 1986. Total transit ridership within the Milwaukee urbanized area increased by more than 1 percent over the 1986 ridership level of about 47.7 million revenue passengers to about 48.4 million revenue passengers in 1987 (see Figure 55). This ridership increase may be attributed to the increase in ridership on the Milwaukee County Transit System.

During 1987, rapid transit service in the Milwaukee urbanized area was provided by freeway flyer bus service operated by both Milwaukee and Waukesha Counties from 19 outlying parking terminals to the Milwaukee central business district. In January 1987, service on the Brookfield freeway flyer Route 78 was discontinued by Waukesha County owing to low ridership and high public subsidy requirements. Service was also discontinued on the Watertown Plank U-Bus Route 41U as of July 1987 owing to low ridership. In April 1987, the South Shore freeway flyer Route 48 was established to serve the southeastern suburbs and relieve traffic congestion during the North-South Freeway reconstruction program. Although originally scheduled to operate from April through September, the route

⁵See SEWRPC Community Assistance Planning Report No. 44, Proposed Public Transit Service Improvements—1980, Waukesha County, Wisconsin.

⁶See SEWRPC Community Assistance Planning Report No. 31, Waukesha Area Transit Development Program: 1981-1985.

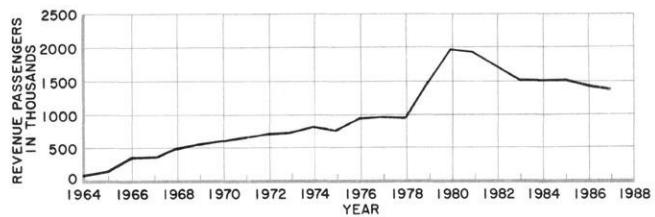
experienced steadily increasing ridership, and thus service on the South Shore freeway flyer was extended indefinitely. Ridership on the freeway flyer bus service totaled about 1,350,600 passengers in 1987, representing a decrease of about 5 percent from the 1,428,500 passengers carried in 1986 (see Figure 56). This decrease in freeway flyer ridership can be directly attributed to continued low fuel prices and a decrease in ridership on freeway flyer routes serving the University of Wisconsin-Milwaukee. Ridership on these special U-Bus routes has been affected by the decline in gasoline prices over the past year, and by a reduction in the severity of the parking problems that have existed in the past around the University campus. Ridership on the regular freeway flyer routes decreased about 4 percent, from 1,392,800 revenue passengers in 1986 to about 1,330,200 revenue passengers in 1987.

Progress in providing the public transit stations recommended in the adopted year 2000 transportation plan is summarized on Map 10. During 1987, no new public transit stations were constructed to add to those which existed during 1986. Table 16 and Figure 57 provide data on both the number of parking spaces available and the number of parking spaces used on an average weekday in 1987 at all transit stations by patrons of freeway flyer bus service and carpoolers. As shown in the table, transit service was provided at 12 of the 14 public transit/park-ride stations and at seven shopping center lots. The total of 21 freeway flyer terminal facilities represents a decrease of two facilities from the 23 which existed in 1986. Two shopping center lots in the City of Brookfield are no longer served because of the discontinuation of freeway flyer Route 78. The number of spaces available at public transit/park-ride stations and at shopping center lots decreased from 1986 to 1987—from 3,260 and 1,175 to 3,255 and 1,075, respectively.

Of the 3,255 spaces available at the 14 public transit/park-ride stations, 1,452 spaces were used on an average weekday during the fourth quarter of 1987, representing a utilization rate of about 45 percent. Of the 1,075 spaces available at the seven shopping center lots, 419 spaces were utilized during the last quarter of 1987, representing a utilization rate of about 39 percent. In total, about 43 percent of all available parking spaces were used on an average weekday during the last quarter of 1987.

Figure 56

MILWAUKEE URBANIZED AREA
FREEWAY FLYER RIDERSHIP



Publicly operated transit service was also provided in the nonurbanized portion of the Region during 1987 by the City of Hartford in Washington County, which operated a shared-ride taxicab service and a special commuter shuttle bus service. Operated by the City of Hartford Municipal Recreation Department, the taxicab service was initiated in 1981 and is available to the public seven days a week for travel primarily within the City of Hartford and environs. The special commuter bus service was initiated in late 1982 and is operated to shuttle passengers from Hartford and West Bend to and from a transit stop used by an intercity bus operator serving the Milwaukee urbanized area. The services are provided using funds available for capital and operating assistance under the federal Section 18 rural transportation assistance program. During 1987, the Hartford taxicab and shuttle bus services carried approximately 12,400 revenue passengers and operated about 64,800 total vehicle miles. These figures represent a decrease of about 15 percent from the 14,600 revenue passengers carried in 1986, and an increase of about 12 percent over the 57,700 total vehicle miles operated during 1986.

In January 1986, the City of Whitewater in Walworth County initiated operation of a shared-ride taxicab service. Operated by Brown's Cab Service based in Fort Atkinson, the taxicab service is available seven days a week for travel primarily within the Whitewater area. Adult fares for the service were established at \$2.00 per one-way trip, with a half-fare program provided for students and elderly and handicapped users. The service was initiated using federal funds available for capital and operating assistance under the federal Section 18 rural transportation assistance program. During 1987, the White-

Map 10

PRIMARY TRANSIT SYSTEM
PLAN FOR THE REGION: 2000

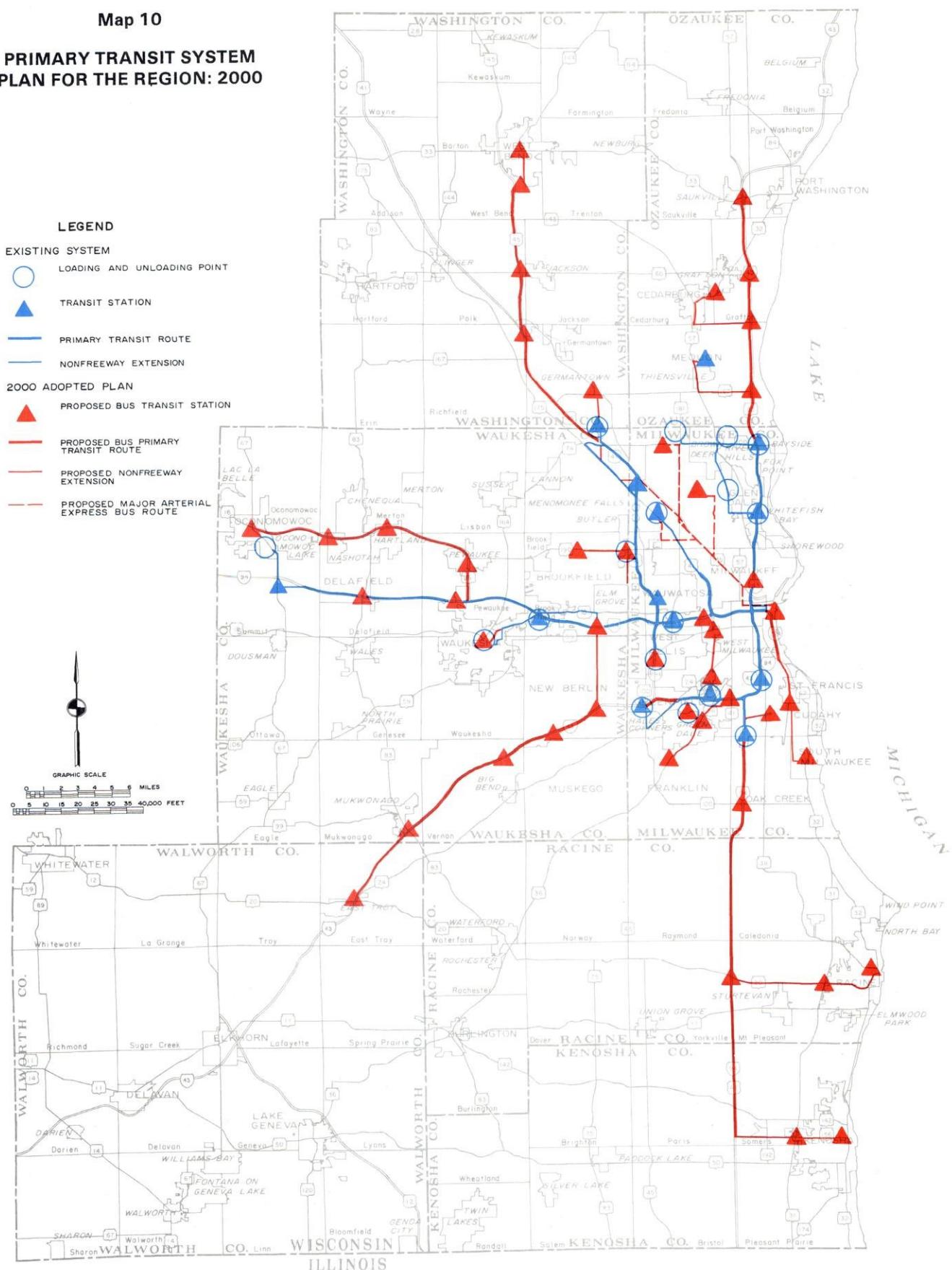


Table 16

USE OF PARKING AT FREEWAY FLYER TERMINALS: FOURTH QUARTER 1987

Location	Available Parking Spaces	Autos Parked on an Average Weekday—Fourth Quarter: 1987	Percent of Spaces Used
Public Transit Stations			
W. College Avenue (Milwaukee)	530	314	59
W. Watertown Plank Road (Wauwatosa)	200	90	45
North Shore (Glendale)	190	119	63
Brown Deer (River Hills)	250	125	50
Goerkes Corners (Brookfield)	250	126	50
Milwaukee Area Technical College (Mequon)	200	19 ^a	9 ^a
W. Holt Avenue (Milwaukee)	240	108	45
Whitnall (Hales Corners)	360	230	64
Pilgrim Road (Menomonee Falls)	65	55	85
STH 67 and IH 94 (Summit)	80	30	37
State Fair Park (West Allis)	200	66	33
Timmerman Field (Milwaukee)	140	48	34
W. Loomis Road (Greenfield)	415	112	27
W. Good Hope Road	135	10 ^a	7 ^a
Subtotal	3,255	1,452	45
Shopping Center Lots			
Northland (Milwaukee)	100	21	21
Zayre-Kohls (West Allis)	250	113	45
Zayre (Brookfield)	200	62	31
Southridge (Greendale)	250	133	53
Northridge (Milwaukee)	100	25	25
Zayre (Brown Deer)	125	65	52
Olympia (Oconomowoc)	50	— ^b	— ^b
Subtotal	1,075	419	39
Total	4,330	1,871	43

^aPublic transit service to this station was not provided during 1987. The number of autos parked represents use by carpoolers.

^bData not available.

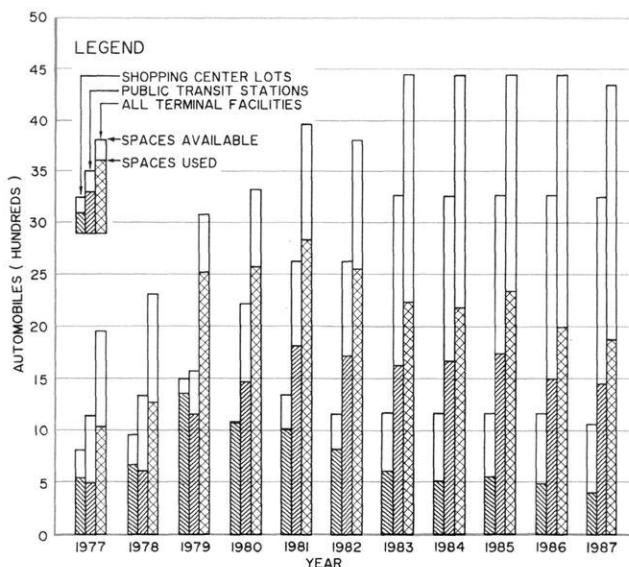
water taxicab service carried approximately 38,300 revenue passengers—an increase of 42 percent over the level carried during the initial year of service in 1986—and operated about 71,700 total vehicle miles.

Transit operating subsidies in the Region during 1987 totaled about \$42.1 million, as compared with about \$41.0 million during 1986, as shown in Table 17. The overall public operating subsidy per ride in the Kenosha urbanized area decreased from about \$1.45 in 1986 to about \$1.43 in 1987 (see Figure 58). In the Racine

urbanized area, the overall operating subsidy per ride remained unchanged at \$1.02 in 1986 and 1987 (see Figure 59). In the Milwaukee urbanized area, the overall operating subsidy per ride increased from about \$0.77 in 1986 to about \$0.79 in 1987 (see Figure 60). By individual operator in the Milwaukee urbanized area, the per-ride subsidies in 1986 and 1987 were as follows: Milwaukee County Transit System, \$0.76 and \$0.77; Waukesha County, \$2.17 and \$2.38; and City of Waukesha, \$1.99 and \$2.39. The overall operating subsidy per ride for the taxicab and shuttle bus services operated by the City of

Figure 57

**FREEWAY FLYER PARKING LOT USE:
FOURTH QUARTER: 1977-1987**



Hartford increased markedly from about \$5.06 per ride in 1986 to about \$7.67 per ride in 1987 (see Figure 61). In Whitewater, the per-ride subsidy increased from \$1.10 in 1986 to \$1.27 in 1987 (see Figure 62).

Carpool Parking Facilities

During 1987, the Commission collected data on the use of available parking supply at carpool parking facilities within the Region. As shown in Table 18, 15 publicly owned carpool parking facilities were in operation at key freeway interchanges in the outlying areas of the Region in 1987. This number represents no change from the number of carpool parking facilities available in 1986, as no new facilities were placed into service during 1987. During the fourth quarter of 1987, about 353 of the total 1,160 parking spaces available were used on an average weekday (see Figure 63). This represents a utilization rate of 30 percent in 1987, compared with a utilization rate of 29 percent in 1986. The progress in providing the carpool parking lots recommended in the adopted year 2000 regional transportation plan is summarized on Map 11.

Traffic Count Data

The Commission collates on a continuing basis traffic count data collected by other state, county, and local agencies during the year. These data are essential to monitoring changes in travel occurring in the Region and to determining levels of, and trends in, vehicle miles of travel. During 1987 traffic volume data were collected from the Wisconsin Department of Transportation, the Milwaukee County Department of Public Works, and the City of Milwaukee, all of which operate regular traffic-counting programs. In addition, during the year the Commission conducted traffic counts for use in the analysis and planning activities of the community assistance and traffic engineering services provided to municipalities within the Region. At selected sites, data were collected on vehicle classification, turning movements, peak-hour factors, and other traffic engineering considerations.

LONG-RANGE PLANNING

Long-Range Transportation System Plan

On June 1, 1978, the Commission adopted a long-range regional transportation system plan for the design year 2000. This plan is documented in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume Two, Alternative and Recommended Plans. The plan extends and amends the regional transportation system plan for the design year 1990 adopted in 1966. The adopted plan is graphically summarized on Map 12. The long-range regional transportation system plan was prepared to accommodate the existing and probable future travel demand in the Region. Such demand is expected to increase by about 28 percent—from a total of about 4.5 million person trips per average weekday in 1972 to about 5.7 million such trips by the year 2000. Total vehicle miles of travel on an average weekday is anticipated to increase by more than 49 percent—from about 20.1 million to about 30.1 million. The design year 2000 regional transportation system plan seeks to provide the Region with a safe, efficient, and economical transportation system which can effectively serve the existing and probable future travel demand within the Region, which will meet the recommended regional transportation system development

Table 17

PUBLIC TRANSIT OPERATING SUBSIDIES WITHIN THE REGION: 1986-1987

Area	Public Transit Operating Assistance (dollars)							
	1986 Actual				1987 Estimated			
	Federal	State	Local	Total	Federal	State	Local	Total
Urbanized Areas								
Kenosha								
City of Kenosha	821,000	711,600	0	1,532,600	552,800	764,700	254,800	1,572,300
Milwaukee								
Milwaukee County . . .	5,997,200	23,964,900	5,446,000	35,408,100	5,983,900	25,693,100	4,804,700	36,481,700
Waukesha County . . .	199,500	364,600	48,300	612,400	226,900	378,600	28,500	634,000
City of Waukesha . . .	199,500	348,900	207,100	755,500	179,400	379,600	269,700	828,700
Subtotal	6,396,200	24,678,400	5,701,400	36,776,000	6,390,200	26,451,300	5,102,900	37,944,400
Racine								
City of Racine—								
Local Bus	1,169,300	1,097,400	0	2,266,700	1,100,400	1,134,000	0	2,234,400
City of Racine—								
Commuter Bus . . .	0	151,400	11,700	163,100	0	166,600	6,800	173,400
Subtotal	1,169,300	1,248,800	11,700	2,429,800	1,100,400	1,300,600	6,800	2,407,800
Urbanized Area								
Subtotal	8,386,500	26,638,800	5,713,100	40,738,400	8,043,400	28,516,600	5,364,500	41,924,500
Nonurbanized Areas								
City of Hartford	36,900	33,400	3,500	73,800	47,500	42,600	4,900	95,000
City of Whitewater . . .	10,100	19,800	0	29,900	19,900	28,700	0	46,600
Subtotal	47,000	53,200	3,500	103,700	67,400	71,300	4,900	143,600
Nonurbanized Area Total	8,433,500	26,692,000	5,831,100	40,956,600	8,110,800	28,587,900	5,369,400	42,068,100

Area	Operating Subsidy per Ride (cents)							
	1986 Actual				1987 Estimated			
	Federal	State	Local	Total	Federal	State	Local	Total
Urbanized Areas								
Kenosha								
City of Kenosha	72	63	0	135	50	70	23	143
Milwaukee								
Milwaukee County . . .	13	51	12	76	13	54	10	77
Waukesha County . . .	71	129	17	217	85	142	11	238
City of Waukesha . . .	52	91	55	198	52	109	78	239
Subtotal	13	52	12	77	13	55	11	79
Racine								
City of Racine—								
Local Bus	51	48	0	99	48	50	0	98
City of Racine—								
Commuter Bus . . .	0	184	14	198	0	222	9	231
Subtotal	49	53	0	102	47	55	0	102
Nonurbanized Areas								
City of Hartford	253	229	24	506	383	344	40	767
City of Whitewater . . .	37	73	0	110	52	75	0	127
Nonurbanized Area Subtotal	113	128	8	249	133	141	10	284

Figure 58

MASS TRANSIT OPERATING SUBSIDIES IN THE KENOSHA URBANIZED AREA: 1975-1987

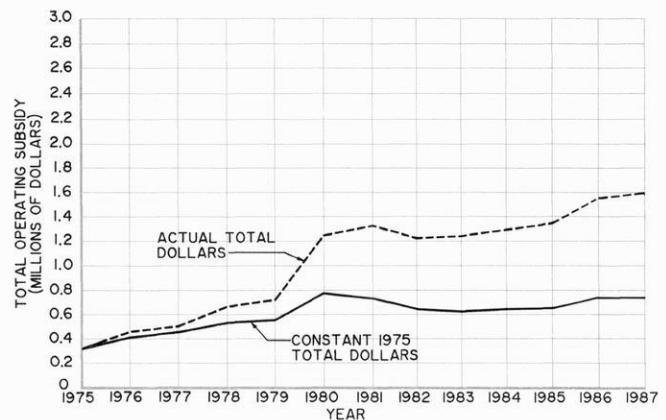
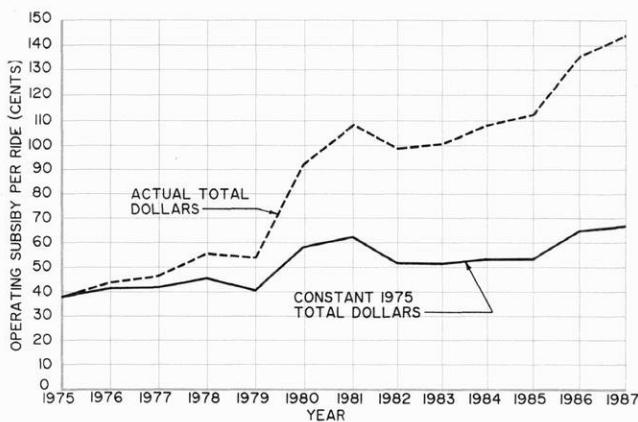
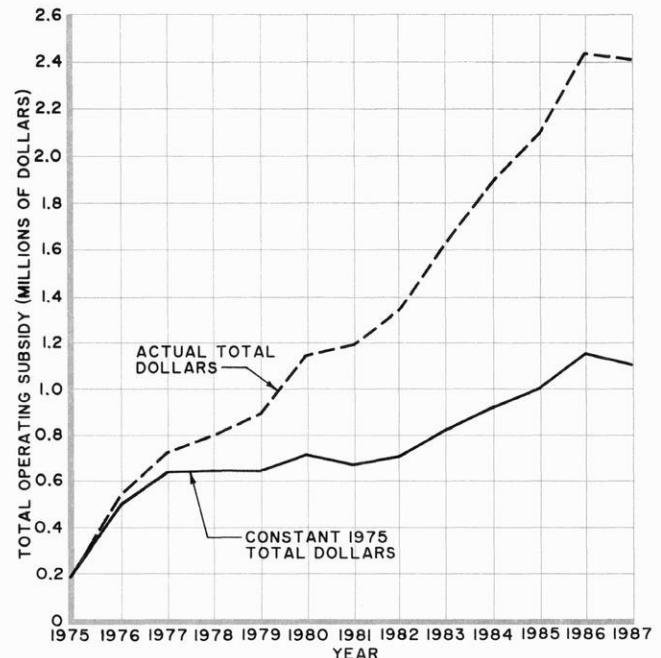
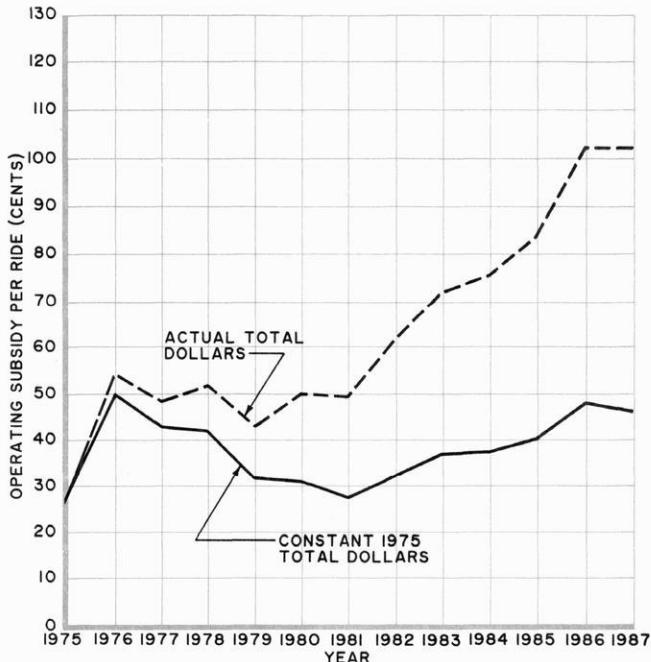


Figure 59

MASS TRANSIT OPERATING SUBSIDIES IN THE RACINE URBANIZED AREA: 1975-1987



objectives, and which will serve and promote implementation of the adopted regional land use plan.

The plan did not include a number of previously planned freeways, including the Milwaukee Metropolitan Belt Freeway, the Bay Freeway from Pewaukee to Whitefish Bay, the Stadium

Freeway-North, the Park Freeway-West, and the Racine Loop Freeway. The plan did, however, include the following freeways: the West Bend Freeway (USH 45), the USH 41 Freeway conversion in Washington County, the STH 16 Freeway in Waukesha County, the USH 12 Freeway in Walworth County, the Lake Freeway-South, the Milwaukee Downtown Loop Freeway, and the Stadium Freeway-South.

Figure 60

MASS TRANSIT OPERATING SUBSIDIES IN THE MILWAUKEE URBANIZED AREA: 1975-1987

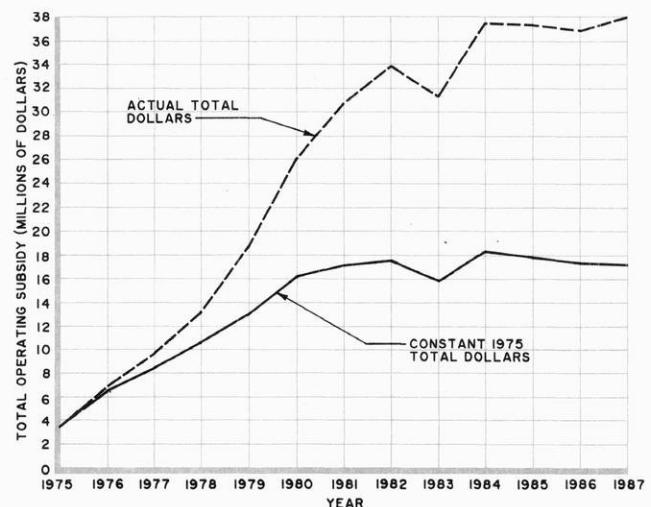
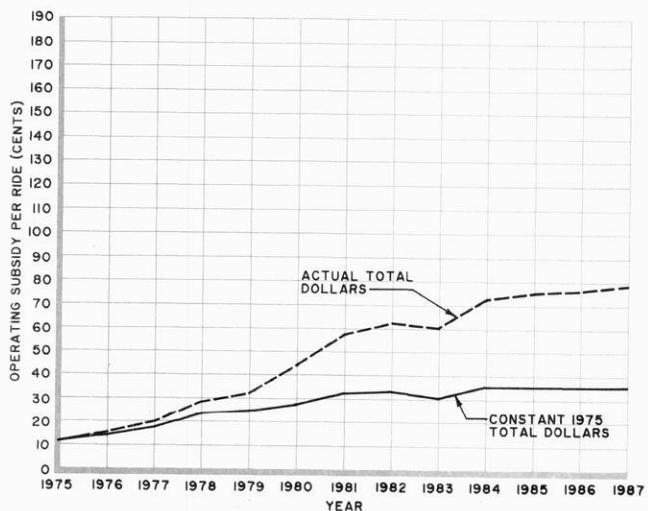


Figure 61

MASS TRANSIT OPERATING SUBSIDIES
IN THE CITY OF HARTFORD: 1982-1987

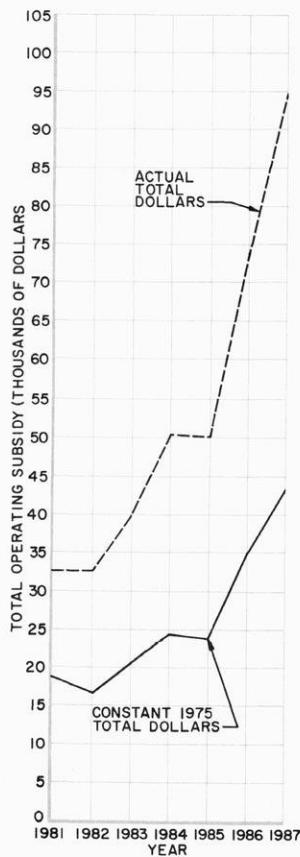
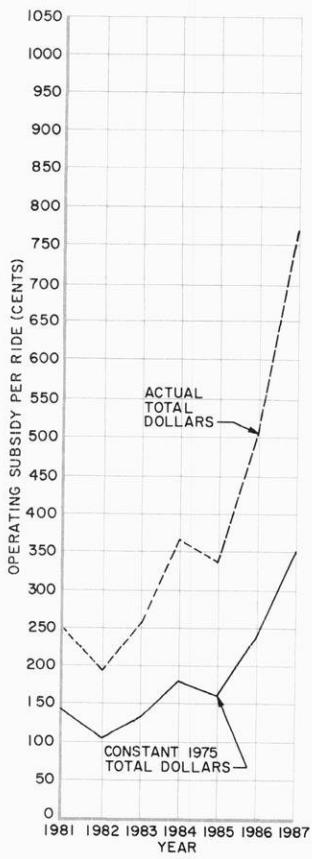


Figure 62

MASS TRANSIT OPERATING SUBSIDIES
IN THE CITY OF WHITEWATER: 1986-1987

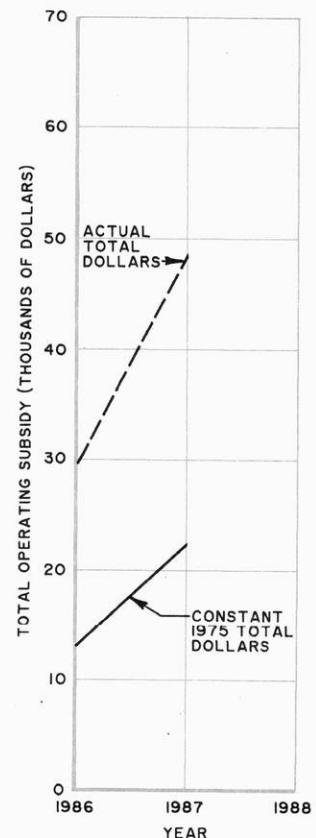
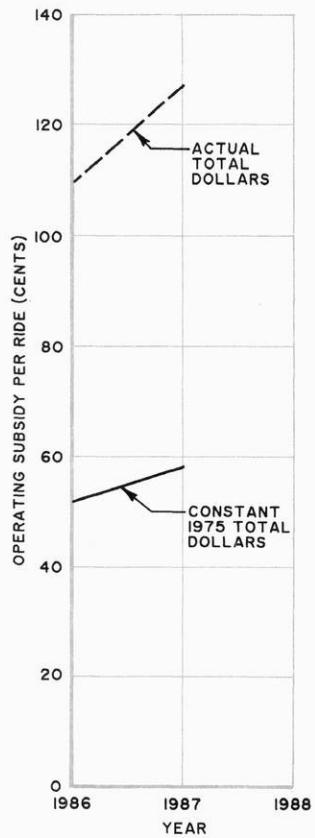


Table 18

USE OF PARKING SUPPLY AT CARPOOL PARKING LOTS: FOURTH QUARTER 1987

Location	Available Parking Spaces	Autos Parked on an Average Weekday Fourth Quarter 1987	Percent of Spaces Used
Ozaukee County IH 43 and STH 57 (Saukville)	100	18	18
IH 43 and CTH C (Grafton)	50	27	54
STH 57 and STH 84 (Fredonia)	20	6	30
Washington County USH 41 and CTH Y (Germantown) . . .	120	14	12
Waukesha County STH 16 and CTH C (Nashotah)	50	14	28
STH 16 and STH 83 (Chenequa)	65	11	17
IH 94 and STH 67 (Oconomowoc)	80	30	35
STH 16 and CTH P (Oconomowoc)	40	14	35
IH 94 and CTH CC (Delafield)	30	10	33
IH 94 and STH 164 (Pewaukee)	80	36	48
STH 15 and STH 83 (Mukwonago)	95	34	36
STH 15 and CTH F (Big Bend)	100	30	30
STH 15 and CTH Y (New Berlin)	60	20	33
STH 15 and CTH O (New Berlin)	200	28	14
USH 41 and Pilgrim Road (Menomonee Falls)	70	61	87
Total	1,160	353	30

In 1981 the plan was amended to replace the Lake Freeway-South with a four-lane, limited access surface arterial. In 1983 the plan was further amended to remove the Milwaukee Downtown Loop Freeway and to add in its place a connection of the Park Freeway-East leg of that loop to N. Jefferson Street and a permanent connection of the East-West Freeway and Lake Freeway-North to N. Harbor Drive. Construction of the recommended permanent treatments at the end of the Park Freeway-East and the Lake Freeway-North and East-West Freeway to the surface arterial system began in 1984. The connections of the Lake Freeway-North and East-West Freeway were opened to traffic in December 1985.

In March 1985, the Commission further amended the plan to incorporate recommended changes in the Stadium Freeway-South corridor. These changes consist of the deletion from the plan of the Stadium Freeway-South from W.

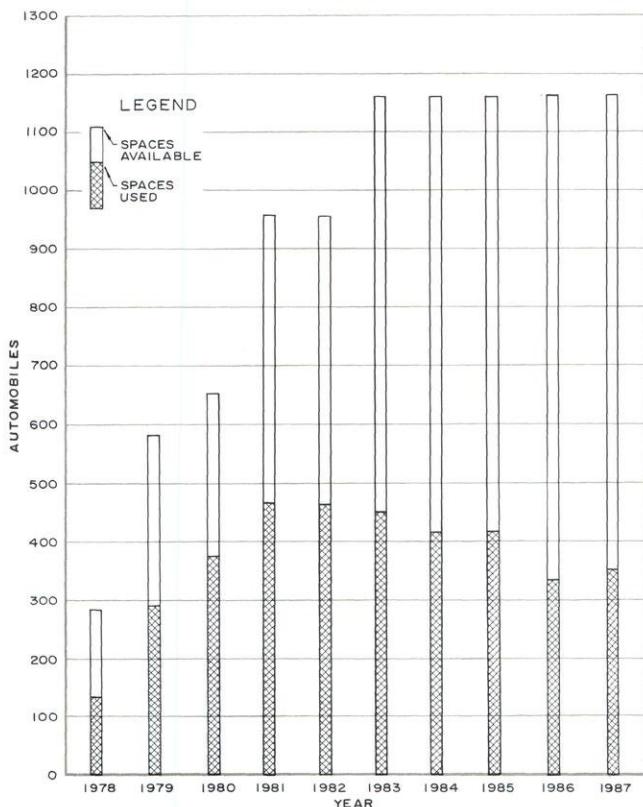
National Avenue to the Airport Freeway and the addition of a freeway "stub end" improvement at W. National Avenue, consisting of a new at-grade intersection directly connecting to S. 43rd Street. From that intersection, S. 43rd Street would be improved to a divided boulevard section south to W. Lincoln Avenue. These Stadium Freeway-South improvements are more fully described in the 1984 Annual Report, and are under construction and scheduled to be opened to traffic late in 1988.

Southern Connection to Hoan Bridge

On March 3, 1986, the Commission created a 28-member Task Force to seek a community-based consensus as to how best to resolve the growing costly and disruptive traffic problems at the south end of the Daniel Webster Hoan Memorial Bridge, while, at the same time, preserving community values in the Bay View area and encouraging the sound development and redevel-

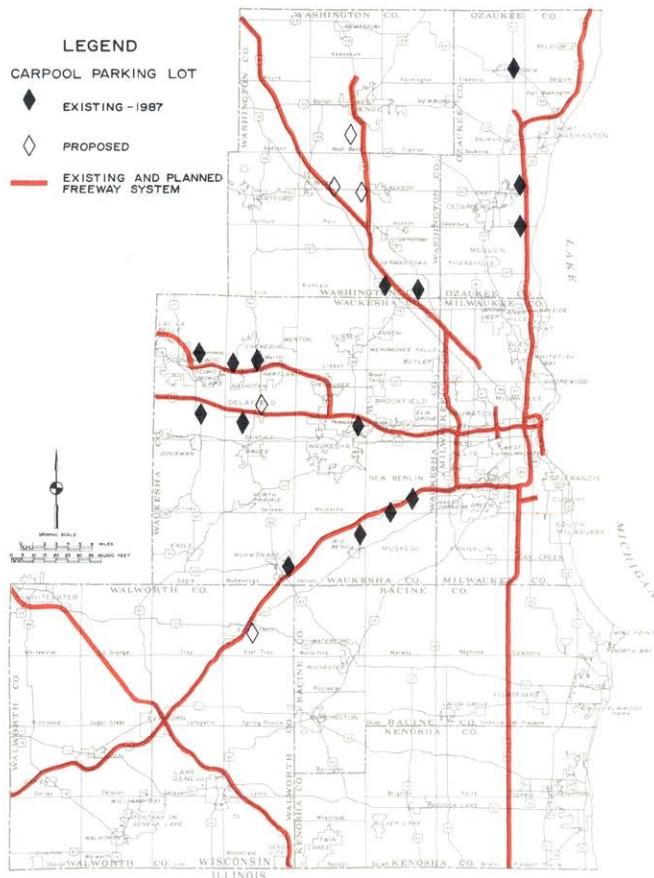
Figure 63

CARPOOL PARKING LOT USE: 1978-1987



Map 11

EXISTING 1987 AND PROPOSED CARPOOL PARKING LOTS



opment of the St. Francis, Cudahy, and South Milwaukee areas. The Task Force was created at the request of Commissioner Harout O. Sanaarian, Milwaukee County Board Supervisor, in response to a request from concerned citizen leaders and elected officials.

The Task Force requested information from the Commission in order to identify the best alternative means of abating existing and probable future traffic and related community development problems. The information was analyzed for a study area bounded on the north by the stub end of the Hoan Bridge at approximately E. Lincoln Avenue, on the east by Lake Michigan, on the south by E. Layton Avenue, and on the west by S. Howell Avenue and S. 1st Street.

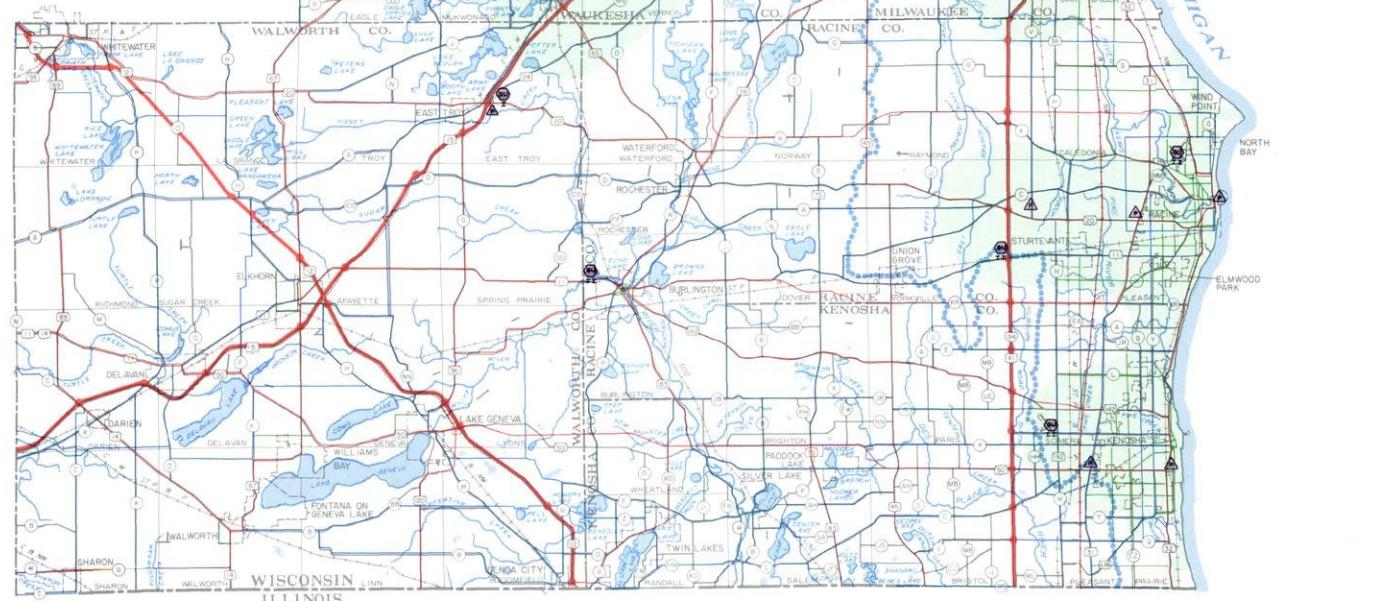
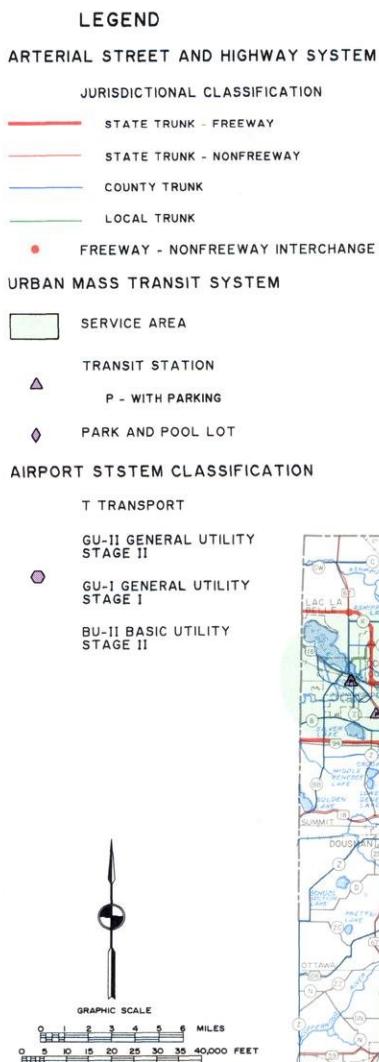
Traffic congestion problems in the study area were found to be particularly severe at the existing terminus of the Hoan Bridge; along S.

Lincoln Memorial Drive and E. Russell Avenue; along S. Superior Street and S. Lake Drive; and along segments of S. Kinnickinnic, E. Layton, and E. Oklahoma Avenues. The traffic congestion problems at many of these locations and on additional segments were forecast to substantially increase by the year 2000.

On December 17, 1986, the Hoan Bridge South Task Force acted to recommend construction of a four-lane arterial connection from the southern end of the Hoan Bridge to and along the Chicago & North Western Railway right-of-way to a connection with S. Pennsylvania Avenue at E. Layton Avenue (see Map 13). The new facility as proposed by the Task Force would be developed with special attention to aesthetics, including extensive plantings of trees and shrubs and the use of stone facings on structures and retaining walls.

Map 12

REGIONAL TRANSPORTATION SYSTEM PLAN FOR THE SOUTHEASTERN WISCONSIN REGION: 2000



The minimal four-lane highway recommended may be expected to resolve traffic and related community development problems in the Bay View area. It would abate traffic congestion on, and remove excess traffic from, S. Superior Street without diverting such traffic to other local streets in the area. Excessive traffic would also be removed from other local residential and arterial streets in the area, and a pedestrian-oriented environment would be re-created in the Bay View area immediately south of the Hoan Bridge and east of the railway right-of-way. The proposed facility would have a capital cost of approximately \$49 million, including recommended landscaping, and would require the taking of only six properties—four residences and two businesses. The final environmental impact statement was completed in the fall of 1987. Construction is set to begin in 1990, and the facility is anticipated to be completed and open to traffic in 1994. The work of the Task Force and its recommendations are presented in SEWRPC Memorandum Report No. 6, Report of the Hoan Bridge South Task Force.

Racine Loop Arterial

On August 27, 1985, the Racine County Board requested the Commission to conduct a study of the need for highway improvements in eastern Racine County. This area of the County was in 1966 proposed to be served by a freeway loop. In 1978, this freeway loop was removed from the regional transportation system plan and replaced with an arterial loop. That arterial loop was to have been composed of a new highway interchange with IH 94 at Four Mile Road; an improved segment of Four Mile Road from that interchange to STH 31; and an improved segment of CTH KR from STH 31 to its interchange with IH 94. The improvements proposed for the arterial loop included, in addition to the construction of a new interchange with Four Mile Road on IH 94, the widening of STH 31 to four lanes between CTH KR and STH 11 and between Four Mile Road and CTH MM, and to six lanes between STH 11 and CTH MM, and the designation of the entire arterial loop as a state trunk highway. Of these proposed improvements, only the widening of STH 31 to six lanes between STH 11 and CTH MM has been implemented, having been completed from STH 11 to STH 20 in 1975, and from STH 20 to CTH MM in 1982. The Racine County Board requested the study

because no action was being taken to implement the remainder of the arterial loop improvements, and yet major land use developments that were to have been served by this arterial loop were already in place or underway.

The requested study investigated existing and probable future transportation needs in eastern Racine County, and, more specifically, in the area bounded by the proposed arterial loop—that is, Four Mile Road on the north, STH 31 on the east, CTH KR on the south, and IH 94 on the west. The impact of traffic that moves through the study area and is generated by areas outside the study area—such as the City of Racine—was explicitly considered in the study. Also, alternative configurations of the arterial loop were examined, including the development of a system of east-west and north-south arterial streets, which would provide a grid, rather than a loop, system of arterials in the eastern Racine County area.

The arterial street improvements recommended to resolve existing and probable future traffic problems in the eastern Racine County study area include street widening to provide the recommended number of travel lanes; parking prohibition to provide the recommended number of lanes; the construction of new facilities; and resurfacing and reconstruction (see Map 14). The total estimated cost of the recommended improvements ranges from \$46.2 to \$50.9 million, with the cost depending upon whether the roadway improvements are constructed with rural or urban design standards. The recommended plan improvements differ somewhat from the adopted regional long-range plan. The principal difference is that a new interchange on IH 94 with Four Mile Road is no longer recommended. Rather, the northern connection of the arterial loop and the northern entrance to eastern Racine County are proposed to be CTH K and STH 38. The report was approved by the Racine County Public Works Committee in February 1987. The recommendations in the report will be taken into account when the Racine County jurisdictional highway system plan is updated and extended to the year 2010.

Blue Mound Road Corridor

In August 1986, the City of Brookfield and the Wisconsin Department of Transportation asked the Commission to prepare updated land use and

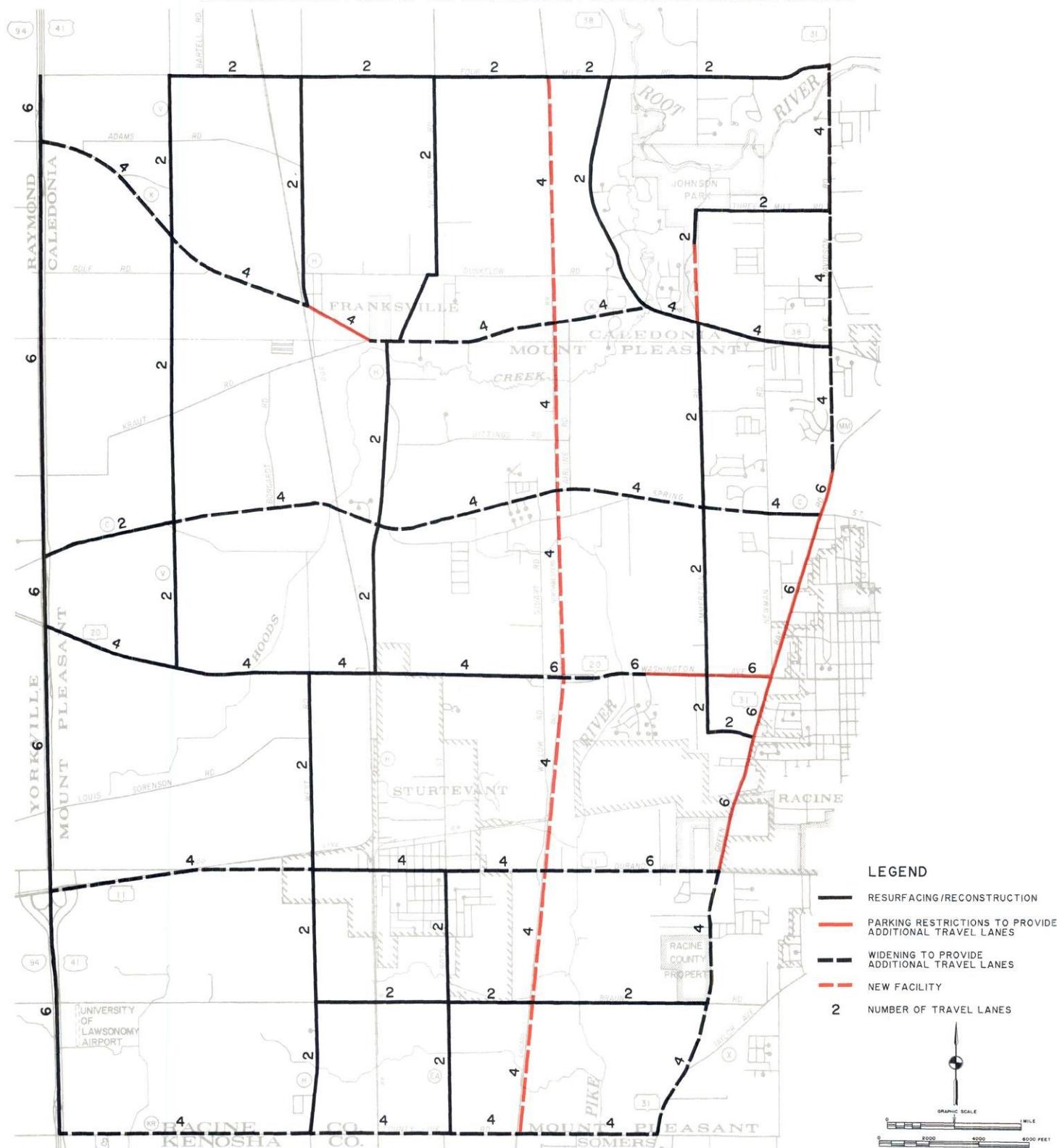
Map 13

RECOMMENDED FACILITY SOUTH END OF HOAN BRIDGE: MINIMAL FOUR-LANE ARTERIAL ALONG CHICAGO & NORTH WESTERN RAILWAY RIGHT-OF-WAY WITH CONNECTION TO E. LINCOLN AVENUE EXTENSION



Map 14

RECOMMENDED PLAN OF IMPROVEMENTS FOR EASTERN RACINE COUNTY



transportation system plans for the Blue Mound Road corridor. The plans were requested because rapid changes in land development within the corridor were perceived as creating massive traffic congestion within the corridor and a need for extensive roadway improvements beyond those currently planned. The plan preparation effort was also needed to assist the City in considering alternative land use plans for a portion of the corridor, and to assist the Department of Transportation in considering the need for additional interchanges on IH 94. The study was guided by a Task Force consisting of elected and appointed officials from state, county, and municipal governments within the corridor.

The Blue Mound Road corridor is bounded by STH 100 on the east, W. Greenfield Avenue on the south, CTH T on the west, and W. North Avenue on the north. The transportation system plan identified those streets and highways in the corridor that are proposed to function as arterials in the year 2010, and that will therefore have as a primary function the carrying of traffic within and through the corridor. The plan identified all improvements to the arterial street system needed to meet current and probable future needs in the design year 2010.

The transportation system plan was based upon a land use plan also prepared for the design year 2010. The land use plan reflects local, as well as regional, development objectives and plans, and recent proposals for development in the corridor. The attendant year 2010 levels of population, households, and employment within the corridor were identified, along with the person and vehicle trips that may be expected to be generated by the existing and planned land use development within the corridor, and the attendant traffic loadings on the arterial street and highway system within the corridor.

For a portion of the corridor lying within the City of Brookfield, consideration was given to four alternative land use plans as identified by that City. The person and vehicle trips that may be expected to be generated under each land use plan and the attendant traffic loadings on the arterial street system were determined.

Based upon consideration of these traffic impacts, in December 1987 the Commission staff and Advisory Committee recommended a trans-

portation system plan for the Blue Mound Road corridor, including required new streets and street extensions; required street widenings to provide additional traffic lanes; and required freeway improvements, including an additional freeway interchange at Calhoun Road with the surface arterial street system (see Map 15).

The plan also presented the recommended jurisdictional classification for each arterial street and highway in the Blue Mound Road corridor. The State of Wisconsin would be the primary agency responsible for about \$45.6 million in arterial street improvements in the corridor; Waukesha County would be the primary agency responsible for \$29.6 million in arterial street improvements; and the local units of government would be the primary agencies responsible for \$8.1 million in arterial street improvements.

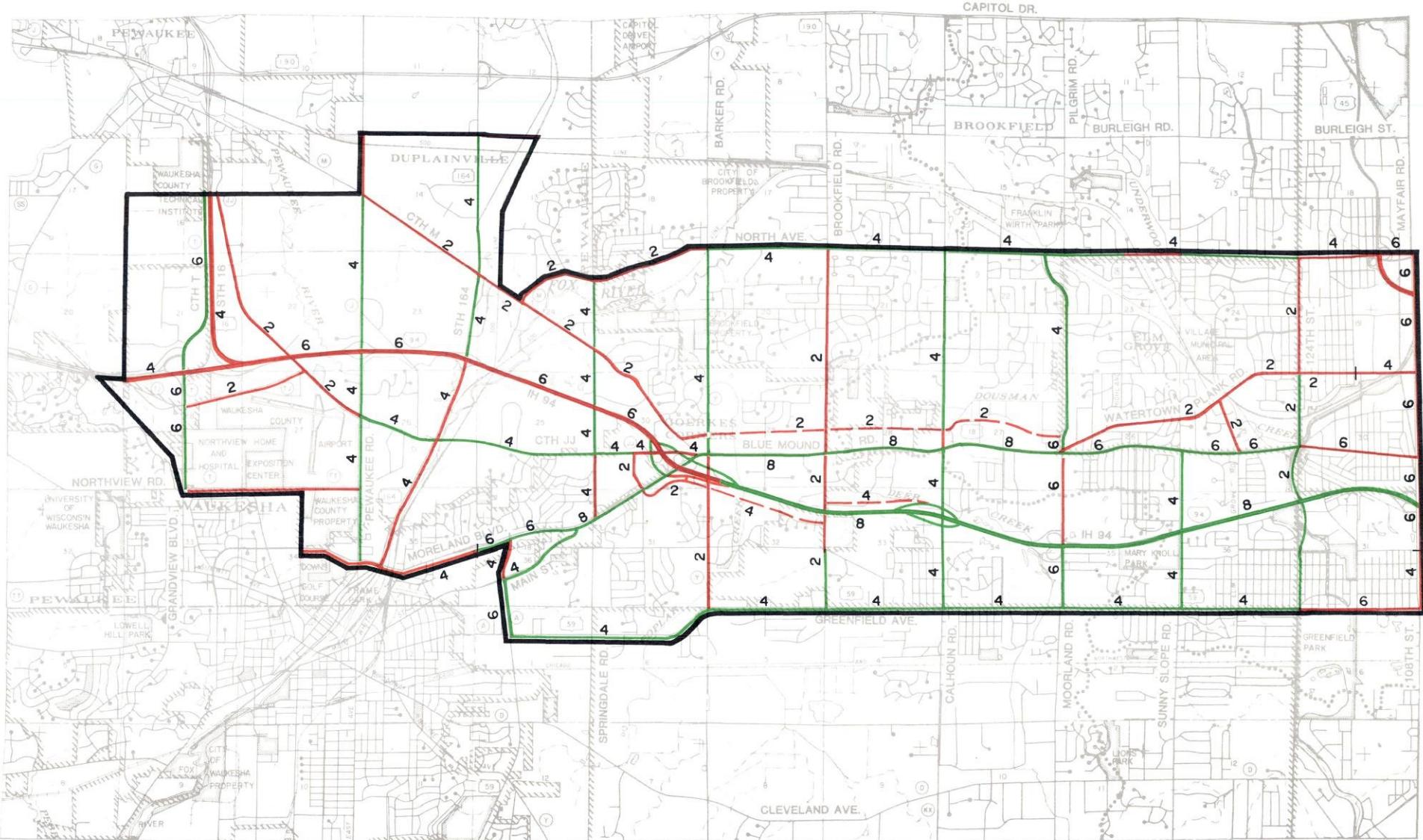
At year's end, the Blue Mound Road Task Force's recommendations were under review by the Wisconsin Department of Transportation. Those recommendations are documented in SEWRPC Community Assistance Planning Report No. 151, A Transportation System Plan for the Blue Mound Road (USH 18) Corridor.

Milwaukee Northwest Corridor Rapid Transit Study

In 1987, work neared completion on the second phase of the Milwaukee northwest corridor rapid transit study. The first phase of this study was completed in 1982 and documented in SEWRPC Planning Report No. 33, A Primary Transit System Plan for the Milwaukee Area. One of the primary recommendations of that study was for Milwaukee County to consider further the possible construction of a light rail transit line in the northwest corridor of Milwaukee County. At the request of the Milwaukee County Executive and Milwaukee County Board, the Commission prepared a prospectus setting forth the general scope of the necessary detailed facility planning and preliminary engineering work attendant to this matter. The second phase of the study would provide a comprehensive comparison of the benefits and costs of alternative light rail and express bus service in the Milwaukee northwest corridor, generally defined as extending from the Milwaukee central business district north and west to the Northridge Shopping Center. The study would also include a detailed assessment

Map 15

RECOMMENDED ARTERIAL STREET IMPROVEMENTS IN THE BLUE MOUND ROAD CORRIDOR: 2010



LEGEND

- FREEWAYS
- PROPOSED COLLECTOR STREET
- ARTERIAL STREETS AND HIGHWAYS
- IMPROVED OR NEW ARTERIAL STREETS
- 4 RECOMMENDED NUMBER OF TRAFFIC LANES

GRAPHIC SCALE
0 2000 4000 FEET

of the environmental, social, and economic development impacts attendant to the basic light rail and express bus alternatives.

The second phase study is being funded cooperatively by the federal Urban Mass Transportation Administration, the Wisconsin Department of Transportation, and Milwaukee County. On behalf of Milwaukee County, the Commission applied for and received in September 1983 a federal grant in the amount of \$713,800, representing 80 percent of the cost of the study. Milwaukee County and the Wisconsin Department of Transportation are equally sharing the remaining 20 percent of the cost, or \$89,225 each. By June 1984, the Commission had completed a final scope of work for the study which had been approved by the Milwaukee County Board of Supervisors. By September 1984, the County Board had approved the recommendations of a consultant selection panel, and an agreement for the consultant work with the firm of Parsons, Brinckerhoff, Quade & Douglas, Inc., had been executed.

In 1985, the study advisory committee approved study documents completed by the consultant team and the Commission staff which included the detailed study design and eight technical memoranda documenting methodologies to be followed in the critical areas of patronage estimation, operating and maintenance cost estimation, capital cost estimation, alternative evaluation and environmental impact analysis, financial analysis, assessments of land development and redevelopment potential, and public involvement.

Much of the technical work for the evaluation of the rapid transit alternatives was also completed in 1985. The study advisory committee reviewed and approved study documents created by the consultant team which described the detailed design criteria and the preliminary operating plans for the alternatives. The advisory committee also recommended specific express bus and light rail routing alignments to be fully evaluated during the study, and the station spacing to be followed under each rapid transit alternative. Ridership forecasts were also completed in 1985 for each of the 10 alternative rapid transit configurations in the northwest corridor using the Commission's travel simulation models and procedures.

The remaining technical work for the evaluation of the rapid transit alternative study was completed during 1986, along with all other technical reports documenting the results of the analyses conducted. One such document, which was completed by the consultant team and reviewed by the study advisory committee in February 1986, was a report documenting an in-depth market analysis of the potential for different transit technologies and alternative routing alignments to influence sound land use development and redevelopment within the Milwaukee northwest corridor. Other technical reports documenting the final operating plans, estimated operating and maintenance costs, estimated capital costs, and the financial plans for the rapid transit alternatives considered were completed by the consultant team and approved by the study advisory committee in July, August, and December 1986.

In addition to the completion of the technical reports for the study, work was completed during 1986 on the two major reports to be prepared under the study. The first of these reports was an alternatives analysis/draft environmental impact assessment report, following the format defined by the federal Urban Mass Transportation Administration (UMTA) and the U. S. Environmental Protection Agency (EPA) regulations—the former having responsibility for reviewing the transportation impacts of the proposed rapid transit facilities and the latter having responsibility for reviewing the environmental impacts. The second of these reports, which will be published as SEWRPC Community Assistance Planning Report No. 150, A Rapid Transit Facility Plan for the Milwaukee Northwest Corridor, documents the findings and recommendations of the study with regard to the preferred rapid transit alternative for the Milwaukee northwest corridor, as recommended by the study advisory committee. In this respect, the advisory committee acted unanimously to adopt the recommendations set forth in SEWRPC Community Assistance Planning Report No. 150 on December 22, 1986, identifying as the "best" express bus alternative an express bus line to be operated over W. Fond du Lac Avenue, and as the "best" light rail alternative, a light rail line to be operated over the N. 33rd Street railway right-of-way. The advisory committee did not make a recommendation concerning which alternative should be implemented,

determining that such a decision should be made cooperatively by the elected officials of Milwaukee County, the City of Milwaukee, and the State of Wisconsin. After approval by the study advisory committee, copies of all reports were subsequently transmitted to the federal Urban Mass Transportation Administration for review and comment.

With virtually all the technical work for the study completed during 1986, work on the study during 1987 consisted primarily of final editing of all reports to respond to all significant comments raised by advisory committee members and the Urban Mass Transportation Administration, and to prepare each report for final publication. In addition, the Commission staff met with Milwaukee County officials several times during the year to brief them on the study recommendations, particularly with regard to the recommended express bus alternative. On October 1, 1987, the Milwaukee County Board of Supervisors adopted the aforereferenced SEWRPC Community Assistance Planning Report, thus endorsing the Committee-recommended best express bus and light rail alternatives, and further endorsed implementation of the express bus alternative, with the option for future implementation of the best light rail alternative to be kept open. Publication of all study reports is expected to be completed in 1988.

TRANSPORTATION SYSTEMS MANAGEMENT PLANNING

During 1987, the Commission completed a number of transportation systems management planning efforts for communities in southeastern Wisconsin. These included an analysis of a street conversion from one-way to two-way operation in the City of Burlington, and a traffic impact study of proposed development along Paradise Drive in the City of West Bend. In addition, the Commission conducted other work efforts attendant to freeway traffic management, ridesharing, and transit system short-range planning and programming.

Analysis of Conversion from One-Way to Two-Way Operation of Pine Street from State Street to Jefferson Street: City of Burlington

In 1987, at the request of the City of Burlington, the Commission analyzed the potential impacts

of converting the segment of Pine Street from State Street to Jefferson Street from one-way to two-way operation. The purpose of the study was to identify the impacts of such a conversion of Pine Street, including the impacts on on-street parking, land use impacts, and capital costs. Study findings and recommendations are documented in SEWRPC Memorandum Report No. 31, Analysis of Conversion from One-Way to Two-Way Operation of Pine Street from State Street to Jefferson Street.

The study of the proposed conversion of Pine Street from Jefferson Street and State Street to two-way operation indicated that such a conversion would improve land use access and the ease of use of the central business district street network, and eliminate the need for unnecessary circuitous travel. The conversion may be expected to have a modest capital cost of \$3,000 and relatively minimal impacts on on-street curb parking. While the conversion may be expected to increase average weekday traffic volumes on Pine Street between Jefferson Street and State Street, and on Jefferson Street between Pine Street and Dodge Street, the anticipated volumes of traffic should not exceed the design capacities of the street segments concerned, and therefore should not result in traffic congestion. However, with growth in the City of Burlington in the future, traffic volumes on these street segments may begin to exceed design capacity and new measures may need to be considered to improve traffic flow, such as peak-period parking prohibitions, a return to the one-way street system, or a new highway bypass.

Traffic Impact Study of Proposed Development Along Paradise Drive Between the USH 45 Bypass and S. Main Street: City of West Bend

In October 1986, the City of West Bend requested that the Commission conduct a study of the traffic impacts of, and the type of access which should be provided to, planned urban development along Paradise Drive between the USH 45 bypass and S. Main Street, including the proposed expansion of the Paradise Mall located at the northwest corner of the intersection of Paradise Drive and S. Main Street. The study, including the analysis of alternative improvements and recommendations, is documented in SEWRPC Memorandum Report No. 25, Traffic Impact Study of Proposed Development Along

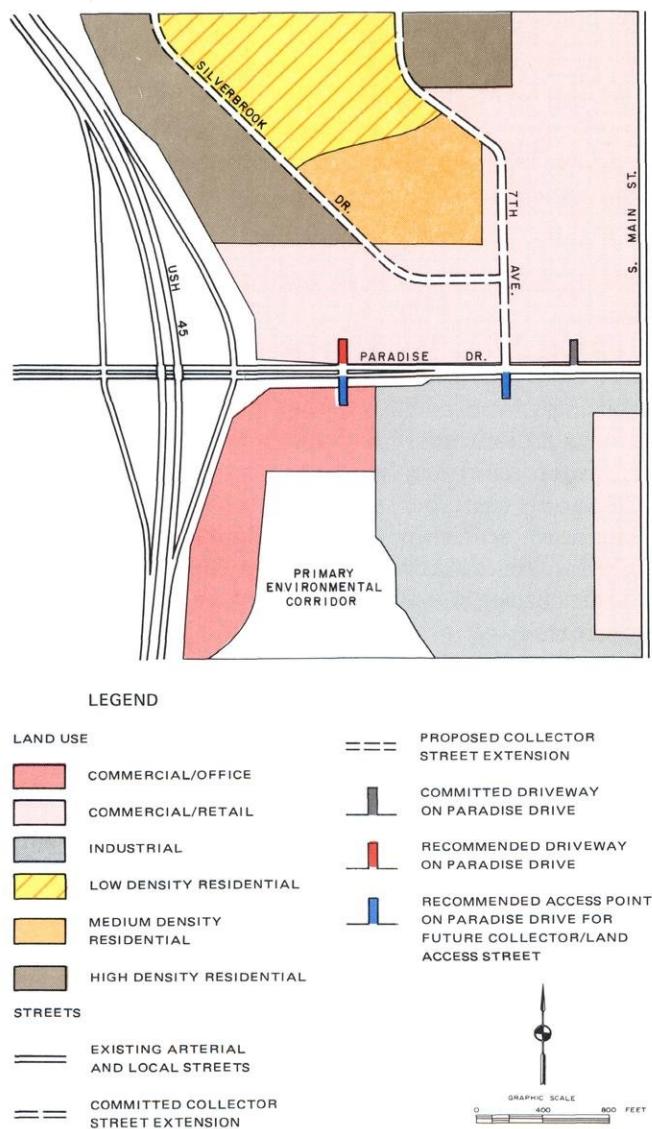
Paradise Drive Between the USH 45 Bypass and S. Main Street. Three alternative extensions of a collector street—Silverbrook Drive—which would, in part, provide such access were to be considered in the study. The study was to recommend which, if any, of these collector street extensions should be implemented, and the location and type of any additional access which should be provided to the lands abutting Paradise Drive to the north and to the south.

The study was also to recommend the improvements to Paradise Drive and its intersections with S. Main Street, with the proposed extension of 7th Avenue, and with any proposed new access to Paradise Drive that would be required under a set of future development conditions, including upon the extension of 7th Avenue to Paradise Drive; upon the completion of a proposed extension of the Paradise Mall shopping center; upon the full development of the lands adjacent to Paradise Drive between the USH 45 bypass and S. Main Street; and, by the year 2000, upon the development of the planned land use pattern for the City of West Bend and environs.

The study was requested by the City of West Bend because the City wishes to preserve the traffic-carrying capacity of Paradise Drive which, at its interchange with the USH 45 bypass—a facility which is proposed to provide a full freeway connection south to USH 41—serves as a principal entrance to the City of West Bend.

The collector street extension recommended upon careful evaluation of the alternatives, as shown on Map 16, would extend Silverbrook Drive to the east to connect with 7th Avenue. The properties north of Paradise Drive between 7th Avenue and the USH 45 bypass which are proposed to be developed for commercial uses are recommended to be served by a single driveway on Paradise Drive which would be located approximately 550 feet east of the USH 45 bypass and 1,000 feet west of 7th Avenue extended. The driveway is recommended to provide the sole access from Paradise Drive to the proposed commercial land uses north of Paradise Drive between 7th Avenue and the USH 45 bypass. Access to these commercial land uses is also recommended to be provided from Silverbrook Drive extended and 7th Avenue extended.

Map 16
RECOMMENDED ACCESS TO PARADISE DRIVE
AND EXTENSION OF SILVERBROOK DRIVE
IN THE CITY OF WEST BEND



The access proposed to be provided to Paradise Drive from lands to the south of Paradise Drive between the USH 45 bypass and Main Street, also shown on Map 16, would be limited to two points, one which would be located immediately opposite 7th Avenue and provide an extension of 7th Avenue south of Paradise Drive, and the other which would be located opposite the proposed driveway to the commercial land uses planned north of Paradise Drive between USH 45 and 7th Avenue.

The study provided estimates of the expected total and afternoon peak-hour (4:30 to 5:30 p.m.) average weekday traffic volumes on Paradise Drive and at its intersections upon the extension of 7th Avenue to Paradise Drive in 1987; upon the proposed expansion of Paradise Mall in 1987; upon the full development of lands adjacent to Paradise Drive; and, in the year 2000, upon further growth in the City of West Bend and environs. Anticipated traffic problems under each of these four sets of future conditions were described, and roadway improvements to alleviate those problems recommended.

Freeway Traffic Management Study

During 1987, the Commission continued the detailed planning and preliminary engineering for the proposed Milwaukee area freeway traffic management system. Such a system was recommended in both the new design year 2000 regional transportation system plan and the regional transportation systems management plan. The detailed planning and preliminary engineering study will examine in depth the performance of, and economic and technical features of, alternative freeway traffic management systems for the greater Milwaukee area in order to determine the best means of managing the freeway system to meet specified objectives. The study is a major step toward implementation of a freeway traffic management system.

The envisioned freeway traffic management system would provide preferential treatment on area freeways for buses and carpool and vanpool vehicles through operational control of area freeways. Traffic entering freeway on-ramps throughout the greater Milwaukee area during peak travel periods, except buses and carpool and vanpool vehicles, would be metered, and sufficiently restrained so that freeway traffic breakdowns would be avoided. To the extent possible, smooth traffic flow at speeds of at least 40 miles per hour would be maintained on all segments of the freeway system, particularly on those that would otherwise be congested and subject to stop-and-go traffic. Buses and carpool and vanpool vehicles would be provided with exclusive freeway on-ramps or on-ramp lanes in order to bypass the ramp meters. As a result, the peak-period level of service for buses and carpool and vanpool vehicles on area freeways would substantially increase. The peak-period level of service for automobiles and trucks on area freeways should not necessarily be significantly

affected, and may even increase slightly, as the required waiting period at freeway on-ramps should be offset by the faster and more reliable speeds on area freeways. The freeway operational control system may also incorporate a freeway advisory information system to inform motorists of freeway and surface street traffic conditions, and freeway incident management strategies may be applied to identify and minimize the effects of freeway incidents.

During 1987, the Commission continued to consider alternative systems of ramp meter locations throughout the Milwaukee area, and alternative systems of freeway incident management and advisory information. The study is scheduled for completion in 1988.

Ridesharing Programs

One of the recommendations of the regional transportation systems management plan is the continued promotion of ridesharing. A formal Milwaukee area carpooling program was conducted by Milwaukee County from April 1975 to April 1976. The Commission assisted in that effort, conducting an evaluation of the effectiveness of the carpooling project and determining the extent of carpooling in the Milwaukee metropolitan area. The results of that initial effort are presented in SEWRPC Technical Report No. 20, Carpooling in the Metropolitan Milwaukee Area. That initial carpooling effort indicated a sufficient latent demand for carpooling programs and concluded that a continued carpool promotional program would be effective in reducing motor fuel consumption and automobile traffic.

Late in 1979 Milwaukee County received approval of a funding request for federal urban aid funds to conduct a three-year continuing carpool promotional program. This program included media promotion of ridesharing activities, direct contact with major employers to encourage carpooling on an industry-by-industry basis, and a computerized matching program for potential carpoolers. The Commission assisted in that effort by providing the computer facilities necessary to conduct the matching program. In addition, near the end of the third year of the program, the Commission conducted an assessment of the program to determine the changes in the extent of ridesharing over the duration of the three-year program; the characteristics of rideshare participants; factors influencing the

decision not to rideshare; the impact of ridesharing on traffic user costs and energy conservation; the latent demand for ridesharing; and the awareness of the Milwaukee Area Rideshare Program by commuters.

Based on the survey findings it was recommended that the program be continued, since the benefits derived by the program substantially outweighed its modest cost. It was further recommended that the program be extended to residents of Kenosha, Racine, and Walworth Counties; techniques be employed to improve the timeliness of response to rideshare requests; the use of public park-ride and park-and-pool lots be promoted for ridesharing purposes; the promotion of the use of vanpools, buspools, and taxipools be expanded; and a diversified marketing program be developed to reach a broader spectrum of employed persons. The findings and recommendations of the survey are documented in SEWRPC Technical Report No. 28, Evaluation of the Milwaukee Area Rideshare Program: 1979-1982.

Early in 1983, Milwaukee County received approval of a funding request for federal urban aid funds to conduct a two-year ridesharing promotional program. This program includes media promotion of ridesharing activities, continuation of a computerized matching program for potential carpoolers with the additional feature of staff contact to follow up persons who have requested services, development of a marketing program to focus on employers and employees in the Milwaukee central business district, promotion of park-ride lots for carpool use, and erection of 35 additional rideshare information signs. Late in 1984, federal funding was provided to extend the promotional program through 1989. The Commission has continued to assist in this effort by providing the computer facilities necessary to conduct the matching program. In April 1987, administrative responsibilities for the conduct of the rideshare program were transferred from Milwaukee County to the Wisconsin Department of Transportation, District 2.

Transit System Plans and Programs

During 1987, the Commission began preparation of new development plans and programs for the public transit systems serving Waukesha County and the City of Waukesha. The new plans are intended to provide direction in the

operation and development of the Waukesha County and City of Waukesha transit systems for the remainder of the 1980's and into the early 1990's, in much the same way previous plans and programs provided direction to the County and the City during the early 1980's, when the City of Waukesha was establishing a new fixed-route bus system and Waukesha County was expanding the number of commuter bus routes it operated. The original transit plans for both the County and the City were completed by the Commission in the early 1980's. The majority of the recommendations for each of those plans have been successfully implemented.

At year's end, work on the Waukesha County transit plan had progressed to the point where the transit service objectives, principles, and standards had been defined; the operating and service characteristics of the existing county transit services had been described; and the land use, socioeconomic, and travel characteristics of the County had been identified, in particular with regard to how they impact the need for public transit services within the County. In addition, a performance evaluation of the existing county transit services had been completed, with the results of that evaluation used to prepare alternative transit service changes for the 1988 transit system operating budget and for the following period from 1989 through 1992. Following review of alternative service changes proposed for the 1988 transit system operating budget, which primarily involved eliminating the most inefficient transit services currently operated to bring the projected 1988 county funding requirement to within local budget limits, the Waukesha County Highway and Transportation Committee decided that, rather than make cut-backs in existing transit services, it should competitively procure transit services for 1988, thereby making the County eligible to receive additional federal and state transit assistance funds. Work was also underway at the end of the year on an analysis of alternative service changes for the period 1989 through 1992.

At the end of 1987, work was underway on the inventories of the land use, socioeconomic, and travel characteristics of the service area for the City of Waukesha transit system, as well as of the operating and service characteristics of the transit system. The potential impacts of an alternative proposed by the City of Waukesha

for the county transit system which called for modifications to one of the city bus routes were also being examined. Both the city and the county transit plans are scheduled to be completed during 1988.

Private Sector Involvement in Public Transit

In 1987 the Commission initiated a study of private sector involvement in the provision of public transit services. One of the primary functions of this work effort was to provide assistance to transit operators in the Region, upon request, with competitively obtaining services from private transit operators, and with meeting guidelines concerning private sector involvement as set forth by the Urban Mass Transportation Administration (UMTA). Extensive assistance was provided to the Waukesha County staff in efforts to competitively procure transit services for the Waukesha County transit system. The Commission staff met on numerous occasions with Waukesha County staff and the Waukesha County Highway and Transportation Committee and, as well, with a private operator under contract to Waukesha County, to discuss competitive contracting options available to Waukesha County, and to discuss service proposals made by the private operator. The assistance provided by the Commission to Waukesha County was a major factor leading to a decision by Waukesha County to competitively award service contracts for five of the six bus routes which the County would operate during 1988. The Commission staff also provided assistance to Waukesha County staff in the preparation of a "request for proposals" document, and in the conduct of a pre-bid meeting. Finally, the Commission staff participated in a panel which reviewed the service proposals submitted by transit operators, and recommended a transit operator for the services to be provided.

Milwaukee County Short-Range Transit Planning

During 1987, short-range transit planning activities for the Milwaukee County transit system were conducted by the staff of that system and the Milwaukee County Department of Public Works. Through this planning effort, the following major activities were carried out during the year: preparation of a transportation plan for the transportation handicapped, preparation of a transit maintenance plan, and development of

the annual element of the regional transportation improvement program. In addition, this work effort included the preparation of such federally required reports as a Title VI assessment evaluating the provision of transit service to special population groups, and updated programs for the inclusion of business enterprises operated by the disadvantaged, minorities, and women in the provision of transit service.

ELDERLY AND HANDICAPPED TRANSPORTATION PLANNING

In 1978 the Commission adopted a transportation plan for transportation-handicapped people in the Region. The plan is documented in SEWRPC Planning Report No. 31, A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982. The plan is designed to reduce, and sometimes to eliminate, the existing physical and/or economic barriers to independent travel by transportation-handicapped individuals. In accordance with the thrust of the federal rules then in effect, the plan recommended that the local bus systems serving the Milwaukee, Kenosha, and Racine urbanized areas be equipped with wheelchair lifts and ramps or other conveniences to the extent that the nonpeak-hour bus fleets would be fully accessible to wheelchair users and semiambulatory persons. For those transportation-handicapped persons in the three urbanized areas who would continue to be unable to use public bus systems, the institution of a user-side subsidy program was recommended. Such a program would enable eligible transportation-handicapped persons to arrange for their own transportation by taxi or private chair car carrier, with the local transit operator subsidizing the cost of the trip. For transportation-handicapped persons living outside the three major urban areas, the plan recommended that each county implement a demand-responsive transportation service administered through the county and operated by either an interested privately owned transportation service provider or a social service transportation provider. The plan also recommended that the transportation services provided by existing social service agencies in each county be coordinated to make more efficient use of their transportation-related facilities and services, with the county board in each county given the responsibility of effecting such coordination.

Section 504 Public Transit Programs for Handicapped Persons

The adopted transportation plan for the transportation handicapped was amended during 1987 following the completion of public transit plans for handicapped persons for each of the urban public transit operators within the Region. These planning efforts were designed to identify actions necessary to ensure that the planning and provision of public transit service in the Region is fully in accordance with Section 504 of the federal Rehabilitation Act of 1972. That act prohibits discrimination on the basis of handicap in all programs and activities receiving federal financial assistance. These planning efforts were conducted in accordance with new rules promulgated by the Secretary of the U. S. Department of Transportation and issued in 1986. The recommended public transit programs for each transit operator are documented in SEWRPC Memorandum Reports No. 17, A Public Transit Program for Handicapped Persons—City of Waukesha Transit System Utility; No. 21, A Public Transit Program for Handicapped Persons—Milwaukee County Transit System; No. 22, A Public Transit Program for Handicapped Persons—Waukesha County Transit System; No. 23, A Public Transit Program for Handicapped Persons—City of Kenosha Transit System; and No. 24, A Public Transit Program for Handicapped Persons—City of Racine Transit System.

The new—or “final”—regulations are more explicit than previous regulations in that they mandate that each recipient’s public transportation program must make services available to handicapped persons through one of three service options: 1) providing some form of demand-responsive and specialized transportation service which is accessible to wheelchair-bound and semiambulatory persons; 2) providing fixed-route bus service which is accessible to wheelchair-bound and semiambulatory persons over the regular routes operated by the recipient; or 3) providing a mix of accessible specialized transportation and accessible bus services.

For four of the five major transit operators—Milwaukee County and the Cities of Kenosha, Racine, and Waukesha—the plans recommend essentially a continuation of the specialized transportation services currently being provided. The plan for the Waukesha County transit system recommends certain modifications to the

current special efforts strategy in order for the system’s program to meet the new regulations. The major characteristics of the handicapped public transit services offered under each program are listed in Table 19. A summary of the recommended programs for each of the five operators is provided below.

Milwaukee County

The handicapped transit program for Milwaukee County recommended that the County continue to subsidize the trips made by handicapped persons using the door-to-door specialized transportation services provided in the County by private taxicab companies and wheelchair van carriers. Four private taxicab companies and 11 private van carriers were under contract to participate in the program during 1987. The service area for the program is all of Milwaukee County and, under the program, eligible users request service from a participating provider in accordance with the methods being used by the provider. Generally, taxicab service is available seven days a week, 24 hours a day. Wheelchair van carrier service is generally available seven days a week between 7:00 a.m. and midnight. To become eligible for the program, handicapped persons must register for the program, pay an annual registration fee of \$7.00, and obtain a certification form from the Milwaukee County Department of Public Works. The completed form is then submitted by the Department to the handicapped person’s doctor or licensed health professional for certification, and, upon such certification, the person is registered in the program.

Four minor modifications to the Milwaukee County program were recommended. The first modification called for was the development of a computerized trip management system for the program that would establish a computer link with participating carriers to allow the County to coordinate trips in various ways. The second modification called for was the utilization of a competitive bid process in selecting private carriers. The third modification called for was the replacement of the paper identification cards currently used with plastic cards that include a picture of the user. The final modification called for was the development and implementation of standardized routes for users who are located in the same general area and who make trips on a regular and frequent basis to the same destination at the same time of day.

Table 19

**COMPARISON OF THE CHARACTERISTICS OF THE HANDICAPPED
PUBLIC TRANSIT PROGRAMS FOR THE FIVE URBAN TRANSIT
OPERATORS WITHIN THE SOUTHEASTERN WISCONSIN REGION**

Service Characteristic	Characteristics of Handicapped Public Transit Programs for Each Transit Operator		
	City of Kenosha		Milwaukee County
	Assessible Bus Service Provided by Kenosha Transit System	Specialized Transportation Service Provided by Care-A-Van Program	Specialized Transportation Service Offered Under Milwaukee County User-Side Subsidy Program
Eligibility	All handicapped individuals who must use a wheelchair	All persons 60 years of age or over and handicapped persons of any age who are unable to use regular public transportation and assessed to be in need of specialized transportation	Any elderly or nonelderly handicapped Milwaukee County resident who has a disability which requires him/her to use a wheelchair, walker, or crutches and leg braces to gain mobility; or who is legally blind
Reponse Time	Advance notice of 24 hours suggested, but not required	Service on a 24-hour advance reservation basis	Taxicab service provided generally within 30 minutes of request for ser- vice. Wheelchair van carrier service provided within 24 hours to 48 hours of request for service
Restrictions or Priorities Placed on Trips	None	Priority given first to medical trips, then to nutritional, employment, adult day care, educational, and recreational trips, respectively	None
Fares	One-way trip fare of \$0.25 all-day. Transfer free	One-way trip fare of \$0.50 to nutritional sites One-way trip fare of \$1 to all other destinations	Fare of \$2 charged to all users for trips, with a total trip charge equal to or less than \$8 per trip for nonwheel- chair users and \$11 per trip for wheel- chair users. Additional costs above these maximum trip charge levels paid by users. A maximum total trip charge of \$12 per one-way trip is in effect for wheelchair users
Hours and Days of Operation	Weekdays: 6:00 a.m.-6:00 p.m. Saturdays: 6:00 a.m.-6:00 p.m. Sundays and Holidays: No service	Weekdays: 7:30 a.m.-7:00 p.m. (except on Tuesdays and the fourth Wednesday of every month, when service is extended to 9:00 p.m.) Saturdays: 9:00 a.m.-7:00 p.m. Sundays and Holidays: No service	Taxicab service provided 24 hours a day, seven days a week. Wheelchair van carrier service provided between 7:00 a.m. and midnight, seven days a week
Service Area	Service provided on demand over all seven regular bus routes	All of Kenosha County east of IH 94 including the entire City of Kenosha and Kenosha transit system service area	Service provided throughout Milwaukee County

Table 19 (continued)

Service Characteristic	City of Racine	City of Waukesha Transit System Utility
	Specialized Transportation Service Offered Under the Racine County Human Services Department Specialized Transportation Program	
	Specialized Transportation Service Provided Under Metrolift Program	
Eligibility	Any transportation-handicapped Racine County resident	All elderly and nonelderly persons whose handicap makes it absolutely impossible for them to use the regular fixed-route bus service provided by Waukesha Metro Transit
Response Time	Service on a 24-hour advance-reservation basis	Service on a 24-hour advance-reservation basis
Restrictions or Priorities Placed on Trips	Priority given to serving trips for medical, nutritional, and work-related purposes	None
Fares	Fare of \$1 per one-way trip plus \$0.25 for each zone entered charged to users making priority trips Fare of \$1.50 per one-way trip plus \$0.25 for each zone entered charged to users making nonpriority trips. (Average fare for all users during the first two months of 1987 was \$1.28)	Fare of \$1.75 charged all users regardless of length of trip or time of day trip is made
Hours and Days of Operation	Weekdays: 7:00 a.m.-6:30 p.m. Saturdays: 10:00 a.m.-4:00 p.m. Sundays and Holidays: No service	Weekdays: 6:15 a.m.-6:00 p.m. Saturdays: 9:00 a.m.-6:00 p.m. Sundays and Holidays: No service
Service Area	Service provided throughout portion of Racine County east of USH 45, including all of Racine urbanized area and entire service area of the Belle Urban System	Service provided to all areas within one-quarter mile of fixed bus routes for the general public operated by Waukesha Metro Transit

Waukesha County

The handicapped transit program for Waukesha County recommended that the County continue its present strategy of providing door-to-door, lift-equipped bus service to handicapped persons through its "parallel commuter bus transportation project." Under this program, the County offers door-to-door, lift-equipped van service to handicapped individuals on an advance-reservation basis for trips with origins and destinations within one mile of both sides of any of the six bus routes subsidized by the County during 1987. Four of these routes were operated by a private transit operator, Wisconsin Coach

Lines, Inc., and the remaining two routes were operated by the private management firm for the Milwaukee County Transit System.

Under the recommended program, the service characteristics of the existing program would be modified to allow all handicapped county residents to use the program. Only handicapped residents 18 years of age and older are eligible for the current program. Also, origin-to-destination van service for the handicapped would be offered an additional 46 hours a week along three of the six existing mass transit bus routes which operate in the corridor between the City of Waukesha in Waukesha County and

Table 19 (continued)

Service Characteristic	Waukesha County	
	Specialized Transportation Service Offered Under the Parallel Commuter Bus Transportation Project	
	Origin-to-Destination Service ^a	Point-to-Point Service ^b
Eligibility	All physically handicapped Waukesha County residents who would normally use the regular bus service if it were accessible	All physically handicapped Waukesha County residents who would normally use the regular bus service if it were accessible
Response Time	Service provided on a 24-hour advance-reservation basis	Service provided on a 24-hour advance-reservation basis
Restrictions or Priorities Placed on Trips	None	None
Fares	Fare of \$1 per one-way trip for travel within one community within Waukesha County Fare of \$2 per one-way trip for travel between communities within Waukesha County Fare of \$3 per one-way trip for travel between Waukesha and Milwaukee Counties	Fare of \$1 per one-way trip for travel within one community within Waukesha County Fare of \$2 per one-way trip for travel between communities within Waukesha County Fare of \$3 per one-way trip for travel between Waukesha and Milwaukee Counties
Hours and Days of Operation	Area Served by Wisconsin Coach Lines, Inc., Routes Weekdays: 5:30 a.m.-10:00 p.m. Saturdays: 8:00 a.m.-10:00 p.m. Sundays and Holidays: 11:00 a.m.-10:00 p.m. Area Served by Milwaukee County Transit System Route Weekdays: 6:30 a.m.-7:00 p.m. Saturdays: 8:00 a.m.-6:00 p.m. Sundays and Holidays: No service	Weekdays: 6:00 a.m.-8:30 p.m. 4:00 p.m.-6:30 p.m. Saturdays: No service Sundays: No service
Service Area	Area within one mile on either side of regular bus routes subsidized by Waukesha County	Park-ride lots, terminals, and bus stops along commuter bus routes subsidized by Waukesha County

^aSpecialized transportation provided to serve trips made by handicapped persons between origins and destinations located within one mile of both sides of the subsidized bus routes providing regular bus service during both the peak and nonpeak hours of the day. The regular bus routes subsidized by Waukesha County operate between downtown Milwaukee and the City of Waukesha and the Brookfield Square Shopping Center.

^bSpecialized transportation provided to serve trips made by handicapped persons between the bus stops, terminals, and park-ride lots served by the peak-hour commuter bus routes subsidized by Waukesha County. The commuter bus routes subsidized by the County operate between downtown Milwaukee and the City of Oconomowoc and the Village of Menomonee Falls in Waukesha County.

downtown Milwaukee. These three bus routes provide regular local transit service and are operated throughout the entire day. With this expanded service, the hours and days of specialized service would be virtually the same as those of the regular bus services. In addition, the County would provide transportation to handicapped persons for trips made between the terminals, park-ride lots, and bus stops served by the remaining three bus routes subsidized by the County, which provide peak-hour, commuter-oriented service between outlying Waukesha County communities and downtown Milwaukee.

Currently, the parallel commuter bus transportation project is provided and administered by the Waukesha County Department of Aging in combination with two other projects—the Ride Line transportation project and the PM Ride Line transportation project. The Ride Line project offers an advance-reservation, door-to-door transportation service to all persons 60 years of age and older and to handicapped persons over the age of 18. The service is available weekdays between 8:00 a.m. and 4:30 p.m. The PM Ride Line project provides similar services on Wednesday and Friday evenings and Saturday afternoons and evenings. Under the recommended program, all requests for rides under the Ride Line and PM Ride Line projects would be reviewed to determine if they could be filled by the County's parallel commuter bus transportation project. This action would enable the County to estimate the cost of providing specialized transportation service at the full performance level. It is further recommended that the fares charged for parallel commuter bus transportation be changed to be similar to those charged under the current Ride Line and PM projects for trips made within Waukesha County. Fares for trips made between Waukesha and Milwaukee Counties would be slightly higher.

City of Kenosha

The handicapped transit program for the City of Kenosha recommended that the City continue to provide the dual special efforts strategy currently in effect. Under this program, the City provides on-call accessible bus service on the regular fixed routes, and participates in the provision of a specialized door-to-door transportation service that operates throughout the service area of the City's transit system. The

service currently provided as part of the accessible fixed-route bus service is available to all residents in the City who require the use of a wheelchair. The door-to-door—Care-A-Van—service is available to persons 60 years of age and older and to all handicapped persons who do not have access to the City's regular public transportation system. Both services are available on an advance-reservation basis. The accessible fixed-route service would continue to be provided between 6:00 a.m. and 6:00 p.m. Monday through Saturday. The Care-A-Van program would continue to be provided generally from 7:30 a.m. to 7:00 p.m. weekdays, and from 9:00 a.m. to 7:00 p.m. Saturdays. The hours and days of operation for the specialized services are virtually the same as those of the fixed-route service operated by the City.

City of Racine

The handicapped transit program for the City of Racine recommended that the City continue to provide specialized transportation service through a project administered by the Racine County Human Services Department in eastern Racine County, which is partially funded by the City of Racine's public transportation program. Under this program, an accessible door-to-door transportation service is available to all handicapped persons in the service area of any of the regular bus routes operated by the City who are unable to use the City's regular public transportation system.

The service provided under the current program is available on an advance-reservation basis. Service is provided between 7:00 a.m. and 6:30 p.m. weekdays, and between 10:00 a.m. and 4:00 p.m. Saturdays. These hours are somewhat more restrictive than the regular hours of operation for the fixed-route service. The area served includes that portion of Racine County east of USH 45, which encompasses all of the Racine urbanized area as defined by the U. S. Bureau of the Census, and includes the entire area served by the City's regular fixed-route bus service.

City of Waukesha

The handicapped transit program for the City of Waukesha recommended that the Waukesha Transit System Utility continue to provide the Metrolift program operated by the Utility. Under

this program, which serves all areas within one-quarter mile of the City's regular bus routes, accessible, door-to-door transportation service is provided to handicapped persons on an advance-reservation basis. The service is available to all handicapped persons who are unable to use the regular bus service provided by the Utility. Service under the Metrolift program is available between 6:15 a.m. and 6:00 p.m. weekdays, and between 9:00 a.m. and 6:00 p.m. Saturdays. These hours and days of operation are virtually the same as those of the regular fixed-route bus service.

Public Participation

Under the recommended transit programs for the handicapped, all of the transit operators would continue to maintain the public participation process followed in the development of the transit programs. In this respect, any proposed changes to the programs would be presented to the respective handicapped communities in accordance with the public participation process outlined in the final federal regulation, which requires that comments from the handicapped community be solicited through a formal public comment period and through a public hearing. A report would then be prepared documenting any proposed revisions to the public transit program for handicapped persons, the schedule for implementing the changes, and the public comments received from the handicapped, along with responses to the comments from the transit system operator. Finally, the report would be submitted to the UMTA for review and approval.

Assessment of Unmet Elderly and Handicapped Transportation Needs in Ozaukee County

At the request of the Ozaukee County Commission on Aging, the Commission in 1987 completed an assessment of unmet transportation needs of the elderly and handicapped population in Ozaukee County. The purpose of this assessment was to identify the quantity and characteristics of the transportation needs of the elderly and handicapped persons residing in Ozaukee County that were not being met by the special transportation services provided within the County. Guidance in the assessment effort, particularly in the design of the survey and in efforts to publicize the survey, was provided by the Ozaukee County Transportation Coordinating Committee, which was appointed by the

Ozaukee County Board of Supervisors to guide the provision of special transportation services for the elderly and handicapped population of Ozaukee County. The results of the assessment effort are documented in SEWRPC Memorandum Report No. 8, Assessment of Transportation Needs of Elderly and Handicapped Residents of Ozaukee County.

Ozaukee County currently operates a door-to-door transportation service for the elderly and transportation-handicapped residents of the County. This service is currently provided to about 220 persons during the course of a year. The service operates daily Monday through Friday from 8:00 a.m. to 5:00 p.m., with 24-hour advance reservation required. Trips for medical, nutritional, and work-related purposes receive highest scheduling priority. No trips are made outside Ozaukee County except for limited purposes. Fares charged range from \$1.00 to \$5.00 per one-way trip, according to the distance traveled, and cover about 20 percent of the total cost of providing the service. Each rider is limited to three round trips per week. Similar services, with similar restrictions, are provided by the Cities of Port Washington and Cedarburg within their city limits. The services provided by these communities provide transportation to about 50 persons and 75 persons, respectively.

The first step in the assessment of the unmet transportation needs of the elderly and handicapped residents of Ozaukee County was an extensive effort to notify Ozaukee County elderly and handicapped residents that such an assessment was being made. The elderly and handicapped population of Ozaukee County were notified of the assessment effort in two ways. The primary means of notification was a letter informing elderly and handicapped residents of the survey effort and including a copy of a survey to be filled out and returned, using a self-addressed, postage paid, mailback envelope. The survey was designed to be completed and returned only by those elderly and handicapped residents with unmet transportation needs. All households with members on the newsletter mailing lists of the organizations serving the elderly and transportation-handicapped population identified by the Ozaukee County Transportation Coordinating Committee were mailed the letter, survey form, and return envelope. A total of 4,756 survey packets were mailed directly to Ozaukee County households with elderly and

handicapped residents, representing about 20 percent of the total households in the County. Ozaukee County elderly and handicapped residents were also informed of the survey through an extensive outreach effort—including articles in local newspapers and announcements on local radio programs; notices posted at senior centers, nutrition sites, special housing complexes for elderly and handicapped persons, public and private social service agencies serving handicapped persons, and local churches; and newsletters. Also, a total of 32 surveys were distributed to agencies or individuals in response to a special request.

Of the 4,788 surveys distributed through the mail or through the Office of Aging Services in response to a request, only 215 surveys were returned, with 163 of the respondents being county residents having unmet transportation needs. Therefore, it was concluded that the transportation needs of nearly the entire elderly and handicapped population of Ozaukee County are being adequately met by either existing special transportation services, their own personal transportation, or other transportation services. Of the 163 survey respondents with unmet transportation needs, 111 generally desired expansion of the current specialized transit services to meet their transportation needs, which included travel outside Ozaukee County, on weekends, during early morning or evening hours, and/or more than three times per week. However, only 18 of these 111 survey respondents indicated that the lack of such service prevented them from making necessary travel. Also, 34 of these 111 survey respondents were using the existing specialized transit services provided in the County. Thus, the survey identified a potential 77 "new" users of expanded service within the County, which may be compared with a total of approximately 350 regular users of the current specialized transit services.

Of the 163 survey responses indicating unmet transportation needs, 140, or 86 percent, were elderly—that is, over the age of 60. Of these 140 respondents, 89, or 64 percent, indicated they had a disability that affected their mobility. The remaining 23 of the 163 respondents were under the age of 60 and had a disability that limited their mobility. Only four of the survey respondents, or 3 percent, were residents of nursing homes.

The other 52 Ozaukee County residents who completed and returned the survey included 16 persons who are users of the existing specialized transportation services provided within the County. However, it was not considered reasonable to assume that all 52 had transportation needs that were not being met by the current special transportation services, since the trip needs identified by these respondents could all be made on the existing services. In addition, eight of the 52 respondents indicated that they currently used their own automobile or the automobile of a friend or relative for travel purposes, and that they completed the survey to indicate that they may have a need for the service in the future; and another 11 noted that until they received the survey, they were unaware that the existing services could meet their needs.

The comments of some of these 52 respondents could, however, indicate the need for review and possible modification of the existing services. Some of these respondents indicated that the present services did not permit full choice of destination for certain trips; that difficulties were encountered in entering and exiting the vehicles currently being used to provide specialized service; that the present services occasionally required rescheduling of shopping or personal business travel; and that the medical assistance sometimes required during travel was not provided by the present services.

TRANSPORTATION IMPROVEMENT PROGRAM

In December 1987, the Commission completed an updated five-year transportation improvement program (TIP) for the Kenosha, Milwaukee, and Racine urbanized areas of the Region, as required by the U. S. Department of Transportation. This program is set forth in a document entitled, A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1988-1992. The program was developed with the assistance of the Wisconsin Department of Transportation staff and through the cooperation of various local units and agencies of government in the three urbanized areas of the Region, and of the Cities of Kenosha, Milwaukee, and Racine and the Counties of Milwaukee and Waukesha as the operators of special mass transportation systems in these areas.

Table 20

**COST SUMMARY OF PROJECTS WITHIN ANNUAL ELEMENT OF
TRANSPORTATION IMPROVEMENT PROGRAM BY URBANIZED AREA**

Funding	Kenosha	Milwaukee	Racine	Total
Federal	\$ 5,858,600	\$148,255,300	\$ 6,602,100	\$160,716,000
State	2,663,900	81,775,200	2,956,200	87,395,300
Local	1,875,200	72,350,700	2,032,950	76,258,850
Total	\$10,397,700	\$302,381,200	\$11,591,250	\$324,370,150

The 1988-1992 TIP document identifies all highway and mass transportation projects in the three urbanized areas programmed for implementation during this five-year period with the aid of U. S. Department of Transportation funds administered through the Federal Highway Administration (FHWA) and the Urban Mass Transportation Administration (UMTA). Following approval of the 1988-1992 TIP by the Inter-governmental Coordinating and Advisory Committees on Transportation System Planning and Programming for the Kenosha, Milwaukee, and Racine Urbanized Areas, the Regional Planning Commission formally adopted the program on December 7, 1987.

The 1988-1992 TIP authorizes funding for many important projects essential to maintaining the existing highway system, including the reconstruction and resurfacing of the North-South Freeway (IH 94) from the Mitchell Interchange to the Marquette Interchange (including the reconstruction of the high-rise bridge over the Menomonee Valley); the resurfacing of W. Capitol Drive (STH 190) from N. 124th Street to Mayfair Road; and the replacement of the Silver Spring bridge over the Milwaukee River. The TIP also authorizes funding for key transit maintenance projects, including the construction of a new fleet maintenance facility and the purchase of new buses for the Milwaukee County Transit System. In addition, the TIP authorizes projects essential to the improvement of the Region's highway and transit systems. For example, included in the TIP are the reconstruction of the Silver Spring Interchange on IH 43 and the construction of the Hoan Bridge arterial connection.

Within the three urbanized areas of the Region, the program contains 456 projects for the five-year programming period, representing a total

potential investment in transportation improvement and services of about \$825 million. Of this total, \$364 million, or about 44 percent, is proposed to be provided in federal funds; \$256 million, or about 31 percent, in state funds; and \$205 million, or about 25 percent, in local funds.

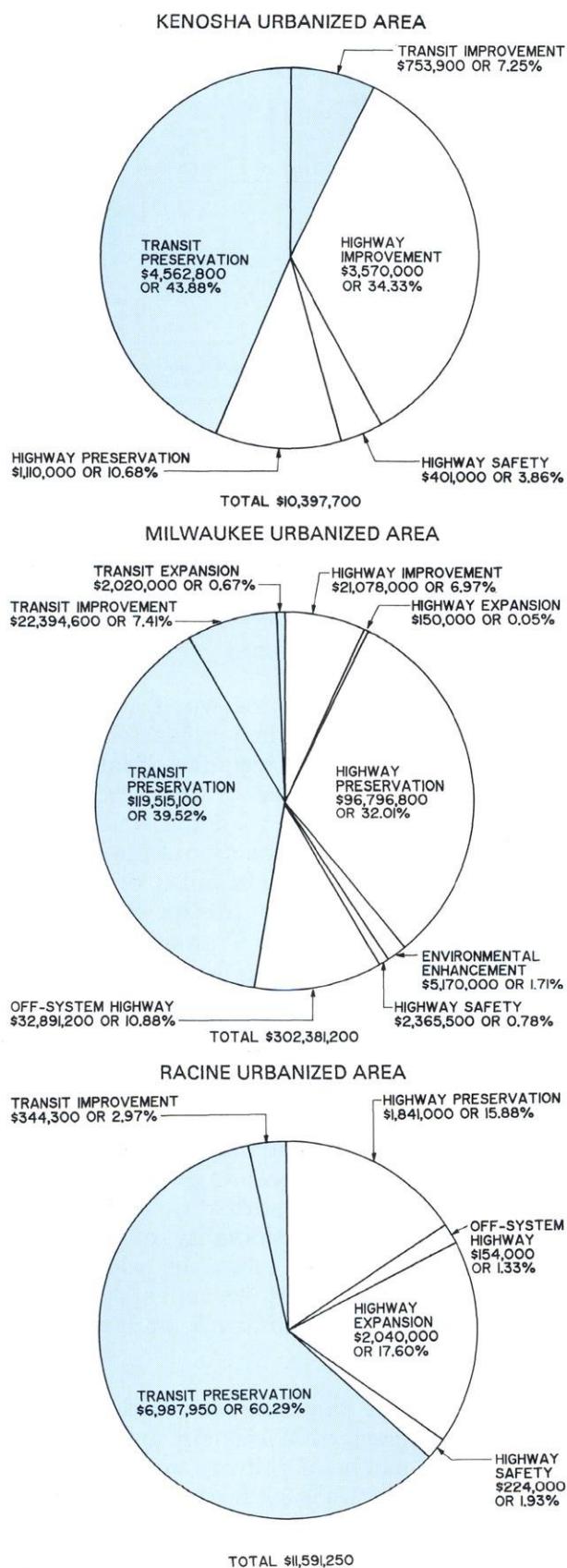
While the entire five-year program is an important planning tool, it is the annual element which is of primary interest, for it represents those projects that are intended to be implemented over the 12- to 24-month period beginning January 1, 1988. The annual element for the federal aid highway funding support is a 21-month element to match the federal fiscal year funding allocation, and is broken into the first nine months of calendar year 1988 and the federal 1989 fiscal year beginning October 1, 1988 and extending through September 30, 1989. For federally funded transit projects involving transit system operating assistance, the annual element consists of a 24-month period, calendar years 1988 and 1989. All other federally assisted transit projects within the transportation improvement program have an annual element consisting of a 12-month period of calendar year 1988.

A cost summary for these projects is shown in Table 20. The cost data in this table represent the proposed annual element expenditures for a total of 317 projects.

In order to provide a basis for a better understanding of the types of transportation improvements proposed to be undertaken in the three urbanized areas, projects have been grouped into nine categories: 1) highway preservation—that is, reconstruction of existing facilities to maintain present capacities; 2) highway improvement—that is, reconstruction of existing facilities to expand present capacities; 3) highway expan-

Figure 64

DISTRIBUTION OF EXPENDITURES IN THE ANNUAL ELEMENT OF THE 1988-1992 TRANSPORTATION IMPROVEMENT PROGRAM BY PROJECT CATEGORY



sion—that is, the construction of new facilities; 4) highway safety; 5) highway-related environmental enhancement projects; 6) off-federal aid system highway improvement; 7) transit preservation; 8) transit improvement; and 9) transit expansion projects. Figure 64 graphically reflects the proposed expenditures in the annual element of these nine project categories for each of the three urbanized areas. At least three of the expenditure patterns apparent in the figures deserve some comment:

- A significant proportion of financial resources is to be devoted to the preservation of the existing transportation facilities and services in the 1988 annual element—about 71 percent in the Milwaukee urbanized area, about 76 percent in the Racine urbanized area, and about 55 percent in the Kenosha urbanized area. This allocation of resources is especially notable when it is realized that virtually none of the funding for routine highway maintenance activities—snowplowing, ice control, grass cutting, power for street lighting, and litter pickup—is included in the TIP.
- The expenditure of funds for highway expansion is a small portion of the total expenditures in the urbanized areas of the Region—no expenditures for this purpose are proposed in the Kenosha urbanized area, and less than 1 percent of the total expenditures is proposed for this purpose in the Milwaukee urbanized area, and about 18 percent in the Racine urbanized area.
- A significant proportion of financial resources is devoted to public transit projects, which account for about 48 percent of the resources in the Milwaukee urbanized area annual element, about 63 percent of the resources in the Racine urbanized area annual element, and about 51 percent of the resources in the Kenosha urbanized area annual element.

A comparison of the 1988 annual element of the TIP with the 1987 annual element of the 1987-1991 TIP as reported in the Commission's 1986 Annual Report indicated the following:

- In the Kenosha urbanized area, total expenditures are proposed to decrease by about 16 percent—from \$12.4 million to about \$10.4 million. Expenditures for highways, which constituted about 55 percent of total expenditures in 1987, are proposed to equal about

Table 21
ACTIVE COMMON CARRIER RAILWAY MAINLINE MILEAGE
IN SOUTHEASTERN WISCONSIN: DECEMBER 31, 1987

County	Soo Line Railroad Company		Chicago & North Western Transportation Company		Wisconsin Central Limited		Wisconsin & Southern Railroad Company		Wisconsin & Calumet Railroad Company, Inc.		Municipality of East Troy Wisconsin Railroad		Total	
	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region	Mileage	Percent of Total in Region
Kenosha	12.2	2.6	28.5	6.0	10.2	2.2	--	--	--	--	--	--	50.9	10.7
Milwaukee	31.1	6.6	61.2	12.9	6.1	1.3	9.1	1.9	--	--	--	--	107.5	22.7
Ozaukee	--	--	25.8	5.4	25.1	5.3	--	--	--	--	--	--	50.9	10.7
Racine	25.2	5.3	24.5	5.2	13.5	2.9	--	--	--	--	--	--	63.2	13.4
Walworth	--	--	3.8	0.8	4.0	0.8	--	--	6.5	1.4	5.0	1.0	19.3	4.1
Washington	--	--	27.3	5.8	25.3	5.3	22.5	4.8	--	--	--	--	75.1	15.9
Waukesha	25.6	5.4	32.1	6.8	26.5	5.6	2.4	0.5	18.6	3.9	1.3	0.3	106.5	22.5
Total	94.1	19.9	203.2	42.9	110.7	23.4	34.0	7.2	25.1	5.3	6.3	1.3	473.4	100.0

NOTE: This table constitutes an inventory of only first track mainline mileage within the seven-county Southeastern Wisconsin Region. Other trackage such as exists in switching, terminal, industrial, and classification yard areas, as well as trackage considered by the railroad companies to be of a secondary nature, and thus not published in operating timetables, is not included. Trackage owned by private carriers is also not included. These mileages are based upon trackage that is owned or leased by the particular railroad and do not include trackage rights over trackage owned by another railroad company.

49 percent of total expenditures in 1988. Expenditures for transit were about 45 percent of total expenditures in 1987, and are proposed to account for about 51 percent of expenditures in 1988.

- In the Milwaukee urbanized area, total expenditures are proposed to decrease by less than 1 percent—from about \$304.4 million to about \$302.4 million. Expenditures for highways, which made up about 53 percent of total expenditures in 1987, are proposed to constitute about 51 percent of expenditures in 1988.
- In the Racine urbanized area, total expenditures are proposed to decrease by about 29 percent—from \$16.4 million to \$11.6 million. Expenditures for highways, which made up about 56 percent of total expenditures in 1987, are proposed to account for about 37 percent of total expenditures in 1988. Expenditures for transit were about 44 percent of total expenditures in 1987, and are proposed to account for about 63 percent of expenditures in 1988.

RAIL TRANSPORTATION PLANNING

The Regional Planning Commission participates in railway planning by monitoring the status of, and changes to, railway service within the Southeastern Wisconsin Region, proposals for service abandonments, and related issues that may affect the Region, and by providing technical assistance to local communities as requested on these and other railway matters. During 1987,

Commission activities included review and monitoring of the regional railway system, facilities, and services; railway line ownership changes; shortline railway activities; and railway line abandonment activities.

Regional Railway System

As of December 31, 1987, railway freight service was being provided within southeastern Wisconsin over a total of 473 active miles of railway line by six railroads. Three of the six carriers operated about 86 percent of the total railway miles in the Region: the Soo Line Railroad Company, which operated 94 miles, or 20 percent of the railway mileage in the Region; the Chicago & North Western Transportation Company, which operated 203 miles, or 43 percent of the railway mileage in the Region; and Wisconsin Central, Ltd., which operated 111 miles, or 23 percent of the railway mileage in the Region. Operation of the remaining 14 percent of the railway mileage in the Region was divided among three shortline carriers: the Wisconsin & Southern Railroad Company—34 miles; the Wisconsin & Calumet Railroad Company, Inc.—25 miles; and the Municipality of East Troy Wisconsin Railroad—6 miles. In addition, the Region contained about 48 miles of inactive railway main line with track and structures intact.

The locations of the common carrier railway lines in southeastern Wisconsin are shown on Map 17. The extent of railway mileage in each of the seven counties is set forth in Table 21. The 473 active miles of railway line in southeastern

Map 17

COMMON CARRIER RAILWAY
FREIGHT LINES IN SOUTHEASTERN
WISCONSIN: DECEMBER 31, 1987

LEGEND

- SOO LINE RAILROAD COMPANY (SOO)
- CHICAGO & NORTH WESTERN TRANSPORTATION COMPANY (CNW)
- WISCONSIN CENTRAL LTD. (WC)
- WISCONSIN & SOUTHERN RAILROAD COMPANY (WSOR)
- WISCONSIN & CALUMET RAILROAD COMPANY, INC. (WICT)
- MUNICIPALITY OF EAST TROY WISCONSIN RAILROAD (METW)
- JOINT USE OR PRIVATE FACILITIES
- INACTIVE TRACKAGE

TRACKAGE RIGHTS

RAILROAD HAVING TRACKAGE RIGHTS	RAILROAD GRANTING TRACKAGE RIGHTS	LOCATION
SOO	WSOR	NORTH MILWAUKEE - N. 91 ST. STREET (CITY OF MILWAUKEE)
WC	SOO	DUPLINVILLE - MILWAUKEE
WC	SOO	NORTH MILWAUKEE - MILWAUKEE
WICT	SOO	THRU CITY OF WAUKESHA

TO MINNEAPOLIS-
ST. PAUL VIA
PORTAGE

GRAPHIC SCALE
0 1 2 3 4 5 6 MILES
0 10 20 30 40 50 40,000 FEET

TO JANEVILLE

WHITEWATER

La Grange

Troy

Eagle

WALWORTH CO.

Wisconsin at the end of 1987 represent a net increase of about 15 miles over the 458 miles in southeastern Wisconsin at the end of 1986. This net increase is the result of the reactivation of service between Janesville and Waukesha by the Wisconsin & Calumet Railroad Company, Inc., together with the reclassification of several short stretches of railway line owned by the Soo Line Railroad Company from mainline status to switching status because of either abandonment or sale.

Intercity passenger service in the Region is provided by the National Railroad Passenger Corporation (Amtrak) between Chicago and Minneapolis-St. Paul over Soo Line Railroad Company trackage, with trains stopping within southeastern Wisconsin at Milwaukee and Sturtevant. Commuter rail service is provided between Kenosha and Chicago, with intermediate stops throughout the north shore suburbs of northeastern Illinois. This service is operated by the Chicago & North Western Transportation Company under an agreement with the Northeast Illinois Railroad Corporation (Metra), the commuter rail division of the Regional Transportation Authority in northeastern Illinois.

Soo Line Railroad Activities

During 1986, the Soo Line Railroad Company created its Lake States Transportation Division, consisting of many secondary and branch lines located in Wisconsin and the upper peninsula of Michigan. This Division was created to restore an acceptable level of profitability to these railway lines through reduced operating and labor expenses. In early 1987, Soo Line officials concluded that the railway lines that were part of the Lake States Transportation Division could not be made sufficiently profitable under Soo Line ownership and announced that the company was seeking bids for the Division. On October 12, 1987, the Lake States Transportation Division was sold by the Soo Line Railroad Company to Wisconsin Central, Ltd. The Wisconsin Central Railroad has about 2,000 miles of railway line, of which about 1,400 miles are in Wisconsin. With 111 of these miles in the Southeastern Wisconsin Region, the railroad has the second largest amount of railway mileage of all railroads in the Region.

Shortline Railroad Activities

An important railway planning issue of continuing concern within the Southeastern Wisconsin Region is the status of shortline railroads,

especially those that have begun operations over branch lines formerly operated by major railroads. During 1987, efforts to resume freight service over certain railway lines owned by the Wisconsin Department of Transportation were continued by the Department and the Wisconsin River Rail Transit Commission. During April 1987, the Wisconsin & Calumet Railroad Company, Inc., resumed freight service over one of these lines between Janesville and Waukesha. Within the Southeastern Wisconsin Region, this railway line serves the communities of White-water, Eagle, North Prairie, and Waukesha. At the end of 1987, the railway lines between Janesville, Walworth, and Fox Lake, Illinois, including a branch to Darien, Delavan, Elkhorn, and Burlington, remained inactive.

Railroad Abandonment Activity

Another railway planning issue of concern in southeastern Wisconsin is the status of railway lines that are being abandoned by railroad companies. During 1987, four railway line segments in the Region were under some type of actual or proposed abandonment action. These are summarized below.

Chestnut Street Line

In 1984, the Trustee of the Chicago, Milwaukee, St. Paul & Pacific Railroad Company (Milwaukee Road) filed an application before the Interstate Commerce Commission (ICC) to abandon 2.7 miles of industrial trackage in the Milwaukee terminal area. This segment of railway line—locally referred to as the “Beer Line”—was located entirely within the City of Milwaukee and extended from W. Highland Avenue north to N. Richards Street. During 1987, the CMC Real Estate Corporation, successor to the Milwaukee Road, received permission to abandon one segment of this railway line effective June 15, 1987, and a second segment effective August 31, 1987. Together, these two segments total 2.4 miles of the 2.7 miles originally proposed for abandonment, and extend from W. Highland Avenue to E. Chambers Street in the City of Milwaukee. As of the end of 1987, most of this trackage had been dismantled. The 0.3 mile of railway line for which authority had not been given for abandonment remains in service.

Brookfield to P.D.C. Junction

In 1987, the Soo Line Railroad Company filed a petition before the ICC for exemption from obtaining the usual ICC approval necessary to

abandon a railway segment, in seeking to abandon a 3.25-mile railway segment between the City of Brookfield and P.D.C. Junction located in the Town of Pewaukee near the interchange of IH 94 and STH 164. Exemption authority for this segment was authorized by the ICC, effective February 11, 1987, whereupon the railway segment was abandoned by the Soo Line. In May 1987, the Wisconsin Department of Transportation exercised its first right to acquire this railway line, acting on a request from the Wisconsin River Rail Transit Commission. The Transit Commission has indicated that retention of this railway line is necessary in order to preserve a direct connection between railway lines in the south-central portion of Wisconsin and the Port of Milwaukee for the Wisconsin & Calumet Railroad Company. At the end of 1987, negotiations to acquire this segment were still underway, and the line remained inactive.

City of Waukesha

In 1987, the Soo Line Railroad filed a petition before the ICC for exemption from obtaining the usual ICC approval necessary to abandon a railway segment, in seeking to abandon a 1.88-mile railway segment in the downtown area of the City of Waukesha. In recent years, the railway segment has seen only negligible use by the Soo Line but, beginning in April 1987, was used regularly by the Wisconsin & Calumet Railroad as part of a route through the City of Waukesha.

Exemption authority for this segment was authorized by the ICC effective May 30, 1987, with the condition that the Soo Line Railroad Company construct a connecting track so that the Wisconsin & Calumet Railroad is able to connect with other trackage in the Waukesha area. At the end of 1987, this railway segment was still in use by the Wisconsin & Calumet Railroad, and alternative routings for rail traffic were being examined by the Wisconsin Department of Transportation, in cooperation with area railroads, the City of Waukesha, and the Wisconsin River Rail Transit Commission, which would bypass downtown Waukesha and allow this segment to be dismantled.

Burlington to Union Grove

In 1987, the Soo Line Railroad Company identified a 10.2-mile railway segment between the City of Burlington and the Village of Union Grove as a potential candidate for abandonment

within three years. This railway segment presently serves no customers.

AIRPORT TRANSPORTATION PLANNING

During 1987, Commission activities in air transportation and airport planning included completion of a second generation regional airport system plan, the continued monitoring of aviation activities within the Region through secondary data sources, the continued monitoring of airport master planning activities, and the provision of technical assistance to the Chicago airport capacity study.

Regional Airport System Plan Revision

In 1987, work was completed on the second generation regional airport system plan for southeastern Wisconsin. The purpose of this work effort was to review the original regional airport system plan adopted by the Commission in 1976 and the underlying assumptions supporting it, particularly the forecasts that differ substantially from actual levels of aviation activity; to examine alternative airport improvement plans as necessary given changes in the existing and forecast air carrier, passenger, and general aviation demands; and to revise, update, and amend the adopted regional airport system plan based upon the actual implementation of the plan that has occurred, and upon changes in aviation travel demand in the Region. This work effort was cooperatively conducted with the Wisconsin Department of Transportation, which conducted a similar work effort for the balance of the State of Wisconsin.

The new plan is documented in SEWRPC Planning Report No. 38, A Regional Airport System Plan for Southeastern Wisconsin: 2010. This second generation plan recommends a coordinated set of airport facilities to serve the air transportation needs of the seven-county Southeastern Wisconsin Region through the year 2010. The new regional airport system plan for southeastern Wisconsin was adopted by the Regional Planning Commission at its meeting held on June 15, 1987.

The final plan as adopted by the Commission incorporates one significant change to the preliminary plan which was described in the 1986 Annual Report. During the public hearing process for this plan, local public officials and business interests from central Racine County

expressed strong support for inclusion of Sylvania Airport in the basic regional airport system. Sylvania Airport had been included in the original regional airport system plan, but was not included in the preliminary second generation plan because of the revised forecasts of general aviation activity in Racine County. It was indicated that Sylvania Airport should be included in the plan because of its importance to the economic development of central Racine County, its location along IH 94, and the need for an airport to serve the owners of single-engine and light twin-engine aircraft located in the eastern half of Racine County.

Following review of the advantages and disadvantages of including Sylvania Airport in the plan by the study advisory committee, the conduct of an intergovernmental meeting in February 1987 among concerned public officials and private interests, and adoption by the Racine County Board in April 1987 of a resolution recommending that Sylvania Airport be retained in the regional airport system plan, the advisory committee concluded that the airport should be included in the second generation plan. Like Capitol Airport and Horlick-Racine Airport, the other two privately owned airports in the regional plan, it is recommended that Sylvania Airport continue to be privately owned, but operated as a public use airport, with public ownership pursued only if the private operators propose to close the airport. It is also recommended that the airport, currently classified as below Basic Utility-Stage I standards, be developed over the plan design period to Basic Utility-Stage II standards. Thus, the final recommended second generation regional airport system plan proposes a system of 11 public use airports to meet the commercial, business, personal, and military aviation needs of the Region, as shown on Map 18.

Aviation Activity

The Commission staff continued to monitor aviation activity within the Region during 1987. General trends in the level of aviation activity within southeastern Wisconsin are indicated by the number of aircraft operations at, and passengers using, General Mitchell International Airport. General Mitchell International Airport is the largest and busiest airport in the Region, and the only airport within the Region with scheduled air carrier service. As shown in Figure 65, in 1987 aircraft operations of all types at

Mitchell International totaled about 185,600, a decrease of about 6,100, or about 3 percent, from the 191,700 operations that occurred during 1986. This total is about 2 percent below the 189,200 operations forecast to occur at Mitchell International during 1987 under the second generation regional airport system plan.

Total aircraft operations at Mitchell International can be divided into three categories: air carrier, general aviation, and military. Air carrier operations during 1987 totaled about 76,100, about a 16 percent decrease from the 1986 level of 90,800 operations. General aviation operations at Mitchell International Airport totaled about 103,400 during 1987, an increase of 10 percent over the 1986 level of 94,000 operations. Military aircraft operations at Mitchell International Airport during 1987 totaled about 6,000, a decrease of about 13 percent from the 1986 level of 6,900 operations.

From 1986 to 1987, air carrier enplaning and deplaning passengers at General Mitchell International Airport increased by about 186,000 to about 3,570,000 passengers per year, about 5 percent above the 1986 level. The 1987 level was about 336,000, or about 10 percent, greater than the 3,234,000 passengers forecast for 1987 under the second generation regional airport system plan, as shown in Figure 66. The increase in the actual 1987 passenger level demonstrates a continuing recovery of passenger traffic following several consecutive years of passenger decline during the early 1980's attributed primarily to the economic recession experienced in the Region and to the impacts of federal deregulation of commercial air service at that time. The increase in traffic in 1987 reflects a turnaround of these early impacts of deregulation, which has resulted in aggressive competition among air carriers for traffic originating in the Milwaukee area. This, in turn, has resulted in competitive ticket pricing, a significantly increased level of service, and the continuing entry of new carriers into the Milwaukee market, all of which have contributed to increases in passenger traffic at Mitchell International.

General aviation activity can also be measured in terms of the number of aircraft based within southeastern Wisconsin. A total of 1,402 aircraft were based in the Region during 1987, representing no change from the number of aircraft based in the Region during 1986, as shown in Figure

Map 18

FINAL RECOMMENDED REGIONAL
AIRPORT SYSTEM PLAN: 2010

LEGEND

PUBLIC USE AIRPORT SITES

● PUBLIC OWNERSHIP

● PRIVATE OWNERSHIP

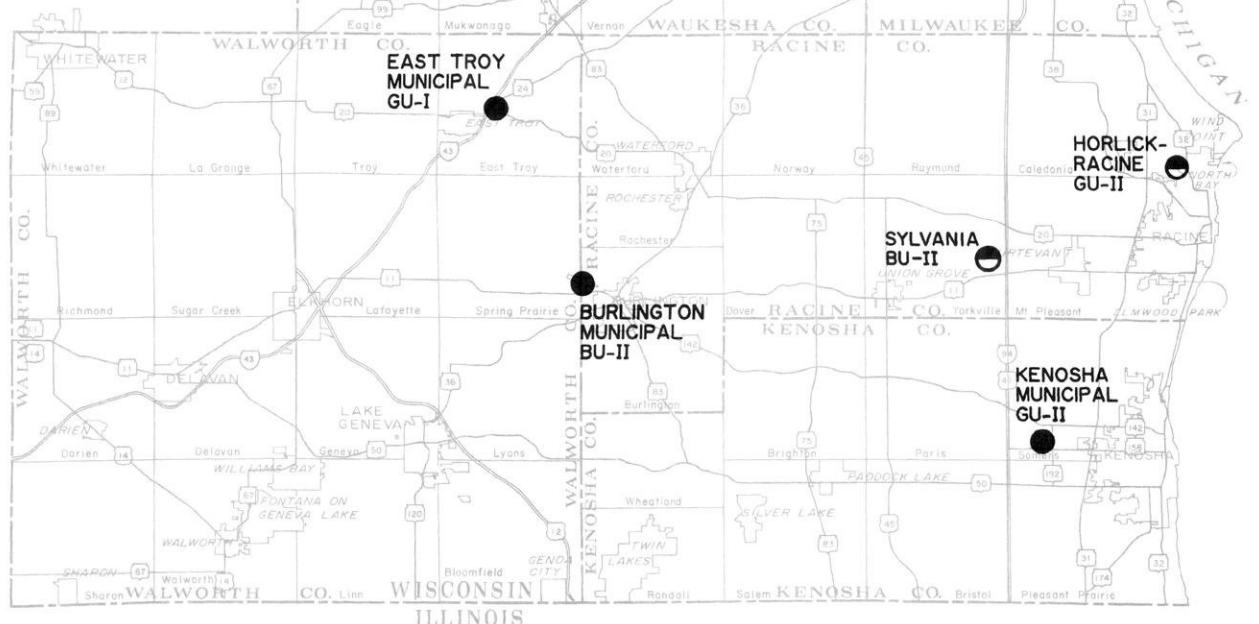
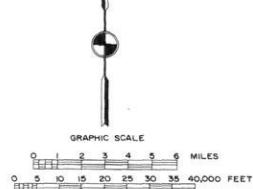
AIRPORT CLASSIFICATION

T TRANSPORT

GU-II GENERAL UTILITY-STAGE II

GU-I GENERAL UTILITY-STAGE I

BU-II BASIC UTILITY-STAGE II



67 and Table 22. The number of aircraft based in the Region during 1987 was about 17 percent lower than the total of 1,690 aircraft forecast for 1987 under the second generation regional airport system plan.

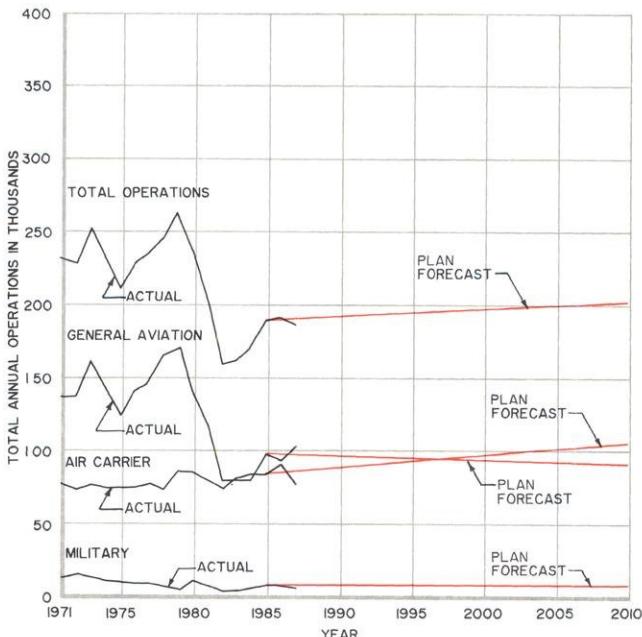
Chicago Airport Capacity Study

During 1987, the Regional Planning Commission staff continued to serve as a member of the Technical Committee for the Chicago airport capacity study. This study, which is part of the Illinois state airport and heliport system plan update work effort, was begun in 1986 and is directed by a policy committee consisting of members from Illinois, Indiana, and Wisconsin. The objective of this study is to determine if there will be a need for additional air carrier capacity in the greater Chicago metropolitan area, and, if so, to define at what point in time and for what type of activity facilities will be required. If such a need is found to exist in the Region, the study is to determine one or more sites, including existing airports, at which additional air carrier capacity could be provided. Milwaukee County's General Mitchell International Airport was identified as one of the existing airports to be examined under this study.

As a member of the study Technical Committee, the Commission staff was requested by the Wisconsin Department of Transportation and Milwaukee County to closely monitor the progress of the study. This work has included the provision of transportation-related and socioeconomic data and information to the study consultants, and detailed review of draft materials concerning various phases of the study. Also, in cooperation with the Wisconsin Department of Transportation and Milwaukee County officials, the Commission staff provided comments on the draft materials, as well as comments at meetings of the Technical Committee and Advisory Committee for the study. At the end of 1987, the study consultants had completed much of the work for Part I of the study, which was to determine the need for additional capacity in the Chicago region, and were beginning work on Part II of the study, which includes an evaluation of promising existing airport sites as well as new sites for development of a supplemental airport.

Figure 65

ANNUAL AIRPORT OPERATIONS AT GENERAL MITCHELL INTERNATIONAL AIRPORT, MILWAUKEE



Airport Master Plans

Airport master plans are intended to refine the recommendations of the adopted regional airport system plan. Specifically, an airport master plan is intended to specify precise land-area requirements for acquisition and protection; provide a detailed airport layout plan; provide an analysis of financial feasibility and set forth a capital improvement budget; provide environmental impact information; and provide for local citizen participation in the work effort. The preparation of airport master plans is primarily the responsibility of the local implementing governmental agency, and such plans establish eligibility for federal financial aid under the Airport and Airway Improvement Act of 1982.

As discussed in previous annual reports, airport master plans have been completed for, and adopted by, the local governing bodies for the Kenosha, West Bend, and Hartford municipal airports and Waukesha County-Crites Field. All technical work was completed on an airport master plan for General Mitchell International Airport in Milwaukee, but the plan has yet to be

Table 22
GENERAL AVIATION AIRCRAFT BASED IN THE REGION

County	1960	1965	1970	1975	1980	1985	1987
Kenosha	28	60	76	148	123	112	120
Milwaukee	338	362	356	371	388	373	380
Ozaukee	19	13	32	28	29	27	30
Racine	65	89	108	151	179	207	225
Walworth	23	31	48	82	98	121	122
Washington	45	63	118	136	158	165	184
Waukesha	118	163	243	255	304	350	341
Total	636	781	981	1,171	1,279	1,355	1,402

Figure 66

ANNUAL AIR CARRIER ENPLANING AND
DEPLANING PASSENGERS AT GENERAL
MITCHELL INTERNATIONAL AIRPORT, MILWAUKEE

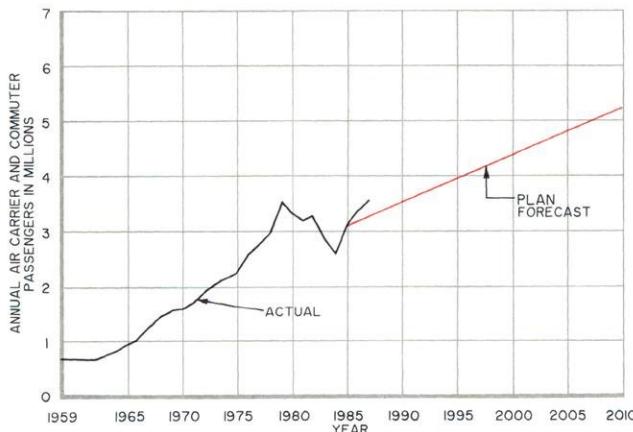
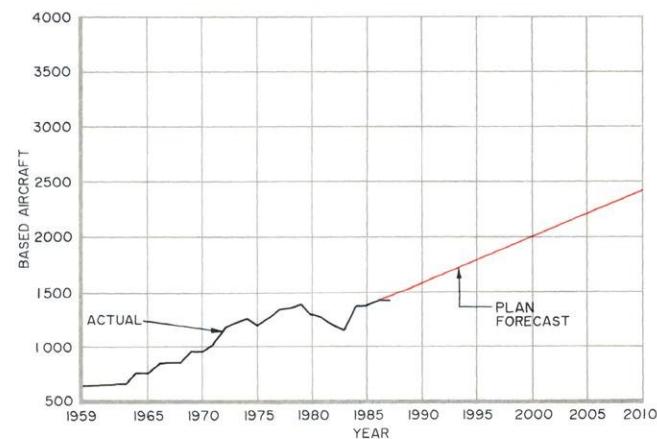


Figure 67

GENERAL AVIATION AIRCRAFT
BASED IN THE REGION



adopted by the Milwaukee County Board of Supervisors. During 1987, Milwaukee County began an update of the master plan for Mitchell International. In addition, airport layout plans—an important element of the airport master planning process—have been completed for Horlick-Racine and East Troy Municipal Airports.

**DATA PROVISION AND
TECHNICAL ASSISTANCE**

The Commission spends a considerable amount of time and effort each year in responding to requests for transportation data and technical

assistance. Many transportation data requests involve obtaining existing or forecast traffic volumes on selected arterial facilities. Other requests are usually for data necessary for the support of special studies. These special requests are typically made by local units of government, the Wisconsin Department of Transportation, and private businesses and developers.

The following is a sample listing of the assistance provided by the Division in 1987:

- At the request of the Village of Brown Deer, the Commission prepared a traffic impact study for a proposed development to be

located along W. Brown Deer Road at N. Park Plaza Court. The study included an estimate of the traffic expected to be generated by the development, an evaluation of access alternatives for the site, and recommendations for providing access to this site.

- The Commission, at the request of Milwaukee County, prepared current estimates and forecast traffic volumes for the intersection of S. 60th Street, S. 68th Street, and S. 74th Street with W. Layton Avenue. This effort included the determination of vehicular turning movements, as well as of total volumes.
- At the request of the Village of Hartland, the Commission prepared a traffic impact analysis of the proposed development of two sites in the Village's industrial park along Cottonwood Avenue—one proposed for development as a grocery store and one for development as a U. S. Post Office. Existing average weekday traffic volumes, as well as forecast traffic due to the development of the sites and year 2000 traffic forecasts, were prepared.
- At the request of Milwaukee County, the Department of Public Works was provided with traffic forecasts for use in the preparation of plans for the S. 13th Street bridge over the Root River.
- At the request of the City of Waukesha, the Commission provided assistance to Waukesha Metro in the conduct of an on-board transit user survey. The purpose of the survey was to determine rider characteristics and rider perceptions of service.
- At the request of the City of Glendale, the Commission conducted analyses of the intersection of W. Silver Spring Drive with N. Bridgewood Lane. The staff recommendations included the installation of a traffic signal at the intersection to provide for access to and egress from N. Bridgewood Lane and the coordination of that signal with the existing traffic signal at the intersection of W. Silver Spring Drive with the North Milwaukee River Parkway.
- In March 1987, Commission staff scheduled an intergovernmental meeting to discuss

the status of existing commuter rail service between the Chicago area and the City of Kenosha, and the potential for expanding that service to the Cities of Racine and Milwaukee, as well as the potential for initiation of commuter rail service between western Kenosha and Racine Counties and the Chicago area. This meeting was arranged at the request of the Kenosha County Executive in response to private citizen concerns. The Commission staff provided preliminary information concerning this issue to Kenosha County; prepared a comprehensive list of possible meeting attendees representing state, regional, and local units of government and public agencies, transit operators, and railroads; and arranged for the actual conduct of the meeting.

- At the request of Ozaukee County, the Commission conducted a traffic engineering study on the segment of Wauwatosa Road (CTH N) between Western Avenue and Sherman Road to assess the potential traffic impacts of a proposed addition to the Ozaukee County Lasata Nursing Home. The Commission obtained turning movement and 24-hour average daily traffic volumes on CTH N, Bridge Road, and the driveway entrances to the Lasata Nursing Home and Webster Middle School. The study concluded that the additional traffic generated by the Lasata Nursing Home addition would not significantly exacerbate traffic problems on CTH N. It was determined, however, that traffic accident and speeding vehicle problems do exist along the study segment of CTH N, and traffic engineering improvement actions were recommended to resolve these problems. The results of the study are documented in SEWRPC Memorandum Report No. 20, CTH N Traffic Study.
- At the request of the Wisconsin Department of Transportation, the Commission analyzed the trends in public transit ridership in southeastern Wisconsin from 1975 to 1986 for each of the five public transit operators in the Region. The study analyzed the level of transit service provided, the cost of transit service, the quality of the equipment used, the reliability of the service, and weather and economic conditions. The

general trend showed substantial increases in transit ridership and service from 1975 to 1980, followed by modest declines in response to changing economic conditions. The results of the study are documented in SEWRPC Memorandum Report No. 7, Public Transit Ridership Trends in Southeastern Wisconsin: 1975-1986.

- At the request of the Village of Bayside, the Commission staff conducted a traffic impact study for the Village which estimated the impacts of relocating existing drive-through banking operations from the northwest quadrant of the intersection of W. Brown Deer Road and N. Port Washington Road to Bayside Woods in the Village of Bayside. The study concluded that traffic operations at the W. Brown Deer Road and N. Port Washington Road intersection would be slightly improved and that no roadway or traffic control improvements would be required at the proposed site. The analysis and conclusions were documented in a letter to the Village and presented at a Village Board meeting.
- At the request of the Village of West Milwaukee, the Commission staff met with village staff and residents to discuss the potential opening of those local streets that are currently barricaded at their intersection with W. National Avenue. The Village was provided with photographs and cost estimates of gates that could be installed at the local streets, thereby permitting the opening of these streets to traffic during selected hours of the day.
- At the request of the City of West Bend, traffic volume forecasts were prepared for the proposed intersection of Silverbrook Drive and 7th Avenue.
- At the request of the Village of Greendale, traffic volume forecasts were prepared for S. 84th Street from W. Grant Avenue to the north village limits.
- At the request of engineering consultants for the City of Racine and Town of Mt. Pleasant preparing plans for the extension of S. Memorial Drive from Durand Avenue to Chicory Road, traffic forecasts were prepared for the purpose of roadway pavement design and environmental assessment.
- At the request of the Village of Elm Grove, the traffic impacts of constructing N. and S. 124th Street from W. Watertown Plank Road to W. Greenfield Avenue were analyzed and documented for village officials.
- At the request of the City of Waukesha, the Commission reviewed and commented on a proposal for the improvement of the frontage road serving the bank and theater north of USH 18 and east of Kossow Road.
- At the request of the City of Cedarburg, the Commission conducted a review of the traffic impact analysis and site plan prepared for a shopping center proposed to be located at the intersection of STH 57 and Lincoln Boulevard.
- At the request of the Village of Brown Deer, traffic volume forecasts and alternative roadway cross-sections were prepared for W. Bradley Road between N. Sherman Boulevard and N. 51st Street.

ENVIRONMENTAL PLANNING DIVISION

DIVISION FUNCTIONS

The Commission's Environmental Planning Division conducts studies related to and provides recommendations for the protection and enhancement of the Region's environment. The kinds of basic questions addressed by this Division include:

- What is the existing quality of the lakes, streams, and groundwaters of the Region? Is water quality getting better or worse over time?
- What are the sources of water pollution? How can these sources best be controlled to abate water pollution and meet water quality objectives?
- What is the extent of the natural floodlands along lakes and streams?
- What are the best ways to resolve existing flooding problems and to ensure that new flooding problems are not created?
- What are the best ways to resolve existing stormwater drainage, as opposed to flooding, problems and to provide adequate drainage facilities for existing and probable future rural and urban development? How can improved stormwater drainage systems best be integrated with needed nonpoint source water pollution abatement measures?
- What areas of the Region should be provided with sanitary sewer service, and what are the most cost-effective ways of providing such service?
- What needs to be done to ensure a continued ample supply of safe drinking water?
- How can solid wastes best be managed for recycling and disposal in an environmentally safe and energy-efficient manner?
- How can the Lake Michigan shoreline best be protected and used?

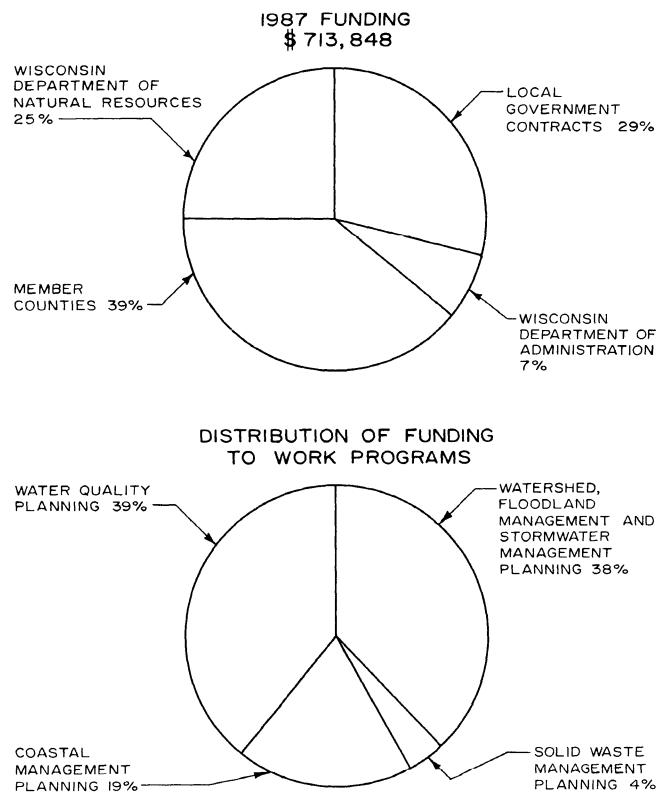
In attempting to find sound answers to these and related questions, develop recommendations concerning environmental protection and

enhancement, monitor levels of environmental quality in the Region, and respond to requests for data and technical assistance, activities were conducted in 1987 in four identifiable program areas: water quality management planning; watershed, floodland, and stormwater management planning; coastal management planning; and solid waste management planning.

WATER QUALITY MANAGEMENT PLANNING

During 1987, Commission water quality planning efforts continued to be focused primarily on activities relating to implementation of the adopted regional water quality management plan and on an important extension of that plan by the completion of the comprehensive Milwaukee Harbor estuary water resources planning program. Activities related to plan implementation included providing assistance and coordination in the preparation of more detailed and

Figure 68
ENVIRONMENTAL PLANNING DIVISION



refined nonpoint source pollution abatement plans, providing assistance in the preparation of inland lake water quality management plans, and preparing local sanitary sewer service area plans. In addition, the Commission continued to assist local units of government in completing detailed sewerage facilities plans in preparation for the construction of point source pollution abatement facilities identified as needed in the adopted regional plan. The Commission also continued to assist the Wisconsin Departments of Natural Resources and of Industry, Labor and Human Relations in the review of proposed public sanitary sewer extensions and proposed private main sewers and building sewers, and of large onsite sewage disposal systems and holding tanks.

Regional Water Quality Management Plan

In 1979, the Commission completed and adopted a regional water quality management plan. The plan, designed in part to meet the Congressional mandate that the waters of the United States be made to the extent practicable "fishable and swimmable," is set forth in SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings; Volume Two, Alternative Plans; and Volume Three, Recommended Plan. The plan provides recommendations for the control of water pollution from point sources—such as sewage treatment plants, points of separate and combined sewer overflow, and industrial waste outfalls—and from non-point sources—such as urban and rural stormwater runoff. This regional plan element is one of the more important plan elements adopted by the Commission for, in addition to providing clear and concise recommendations for the control of water pollution, it provides the basis for the continued eligibility of local units of government for federal and state grants in partial support of sewerage system development and redevelopment; for the issuance of waste discharge permits by the Wisconsin Department of Natural Resources (DNR); for the review and approval of public sanitary sewer extensions by the DNR; for the review and approval of private sanitary sewer extensions and large onsite sewage disposal systems and holding tanks by the Wisconsin Department of Industry, Labor and Human Relations; and for federal and state financial assistance in support of local nonpoint source water pollution control projects.

The adopted regional water quality management plan for southeastern Wisconsin consists of five major elements: a land use plan element, a point source pollution abatement element, a nonpoint source pollution abatement element, a sludge management element, and a water quality monitoring element. A descriptive summary of the regional water quality management plan is provided in the Commission's 1979 Annual Report.

Nonpoint Source Pollution Abatement Planning

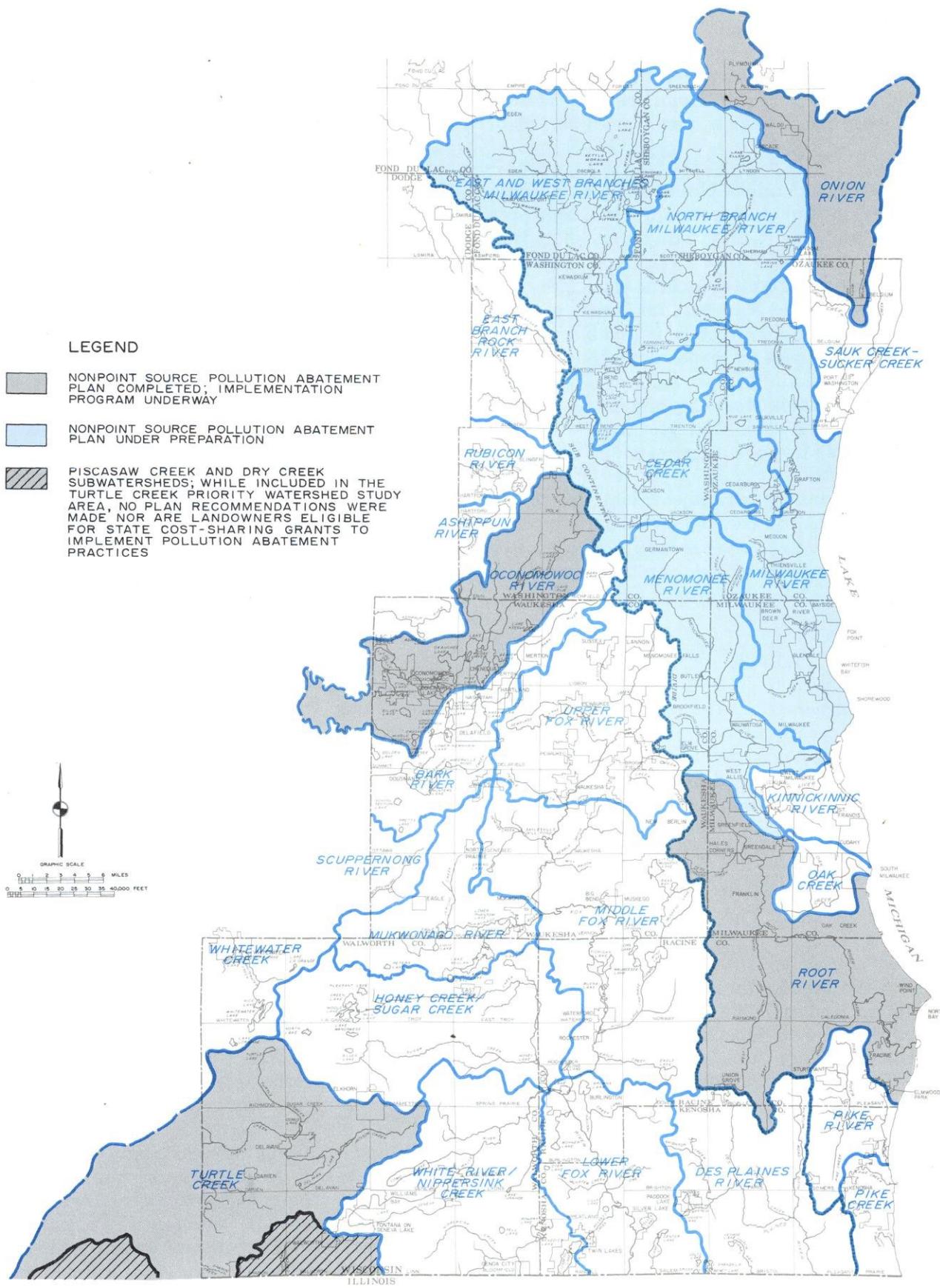
The adopted regional water quality management plan recommends that local agencies charged with responsibility for nonpoint source pollution control prepare refined and detailed, local level, nonpoint source pollution control plans. Such plans are to identify the nonpoint source pollution control practices that should be applied to specific lands. This more detailed level of planning was recommended because the design of nonpoint source pollution abatement practices should be a highly localized, detailed, and individualized effort, an effort that is based on highly specific knowledge of the physical, managerial, social, and fiscal considerations that affect the landowners concerned.

Working with the individual county land conservation committees and the Commission, the Wisconsin Department of Natural Resources is carrying out the recommended detailed planning for nonpoint source water pollution abatement on a watershed-by-watershed basis. This detailed planning and subsequent plan implementation program, known as the Wisconsin Nonpoint Source Priority Watershed Pollution Abatement Program, provides matching funds of up to 80 percent of the cost of an individual project or land management practice to local governments and private landowners upon completion of the detailed plans.

For nonpoint source detailed planning and plan implementation purposes, the DNR has divided the Southeastern Wisconsin Region into 27 "priority" watersheds, as shown on Map 19. Prior to 1987, priority watershed nonpoint source pollution abatement plans had been completed for the Root River watershed, lying primarily in Racine and Milwaukee Counties; for the Onion River watershed, a small portion of which lies in Ozaukee County and which drains north out of the Region through Sheboygan County; for the

Map 19

STATUS OF PRIORITY WATERSHEDS IN SOUTHEASTERN WISCONSIN: 1987



Turtle Creek watershed, a major portion of which lies in Walworth County and which drains west out of the Region through Rock County; and for the Oconomowoc River watershed, major portions of which lie within Washington and Waukesha Counties and which drains west out of the Region through Jefferson County.

Each of these detailed plans includes specific recommendations for nonpoint source water pollution abatement in urban areas, including construction site erosion control, improved street sweeping and vegetative debris collection and disposal, roadside and stream bank erosion control, landfill site runoff control, and the installation of spent oil disposal stations; and in rural areas, including improved cropping practices, better livestock waste management, stream bank erosion control, and stormwater runoff control. Each of the priority watershed projects includes a detailed planning phase which lasts from 18 to 24 months; a project "sign-up" phase which begins at the completion of the plan and ends from three to five years later; and a project completion phase which ends from three to five years after the end of the project sign-up phase.

The Root River priority watershed plan was completed in 1980. The project sign-up phase ended on December 31, 1984. The projects and practices completed through the end of 1987 in the Root River watershed are summarized in Table 23. Local governments and landowners in the Root River watershed have through the end of December 1989 to complete all of the projects and practices which had been approved by the DNR at the end of the sign-up phase.

The Onion River priority watershed plan was completed in 1981. The project sign-up phase concluded on June 30, 1984. The projects and practices completed within the portion of the watershed in the Region through the end of 1987 are summarized in Table 24. Local governments and landowners in the Onion River watershed will have through the end of June 1989 to complete all projects and practices that are approved by the DNR during the sign-up phase.

The Turtle Creek priority watershed plan was completed in 1984. The project sign-up phase concluded on April 12, 1987. The projects and practices completed within the portion of the watershed in the Region through the end of 1987

are summarized in Table 25. Local governments and landowners in the Turtle Creek watershed will have through the end of April 1992 to complete all projects and practices that are approved by the DNR during the sign-up phase.

The Oconomowoc River priority watershed plan was completed in 1986. The project sign-up phase will conclude on April 15, 1989. The projects and practices completed within that portion of the Oconomowoc River watershed in the Region through the end of 1987 are summarized in Table 26. Local governments and landowners in the Oconomowoc River watershed will have through the end of April 1994 to complete all projects and practices that are approved by the Department of Natural Resources during the sign-up phase.

In May 1984, the Wisconsin Legislature and Governor, through special legislation, designated five additional priority watersheds in the Region and directed the DNR to begin the priority watershed planning process for those watersheds. These five watersheds are all tributary to the Milwaukee Harbor estuary and include the Menomonee River, Cedar Creek, the North Branch of the Milwaukee River, the East and West Branches of the Milwaukee River, and the Milwaukee River main stem. The Wisconsin Department of Natural Resources is accordingly proceeding with the preparation of individual priority watershed plans for each of the five subwatersheds to be studied over a multi-year period.

During 1987, the Commission assisted the Department in its urban data collection and inventory efforts for the Milwaukee River priority watersheds. The Commission staff attended six interagency coordinating meetings, and met with the Department staff to discuss procedures to calculate the costs of nonpoint source control measures in urban areas and to determine soil infiltration rates. The Commission began an urban land inventory of the watershed tributary to the East and West Branches of the Milwaukee River. This work included the preparation of a base map of the watershed; the delineation of subbasins within the watershed; the identification and mapping of 1985 land development categories; and the preparation of an estimate of land under urban development and land planned for development. In addition, the Commission began editing and verifying upland soil erosion

Table 23
ROOT RIVER PRIORITY WATERSHED PROJECTS AND PRACTICES
COMPLETED IN THE REGION AS OF DECEMBER 31, 1987

Projects and Practices	Extent Recommended	Extent Implemented	Cost of Implemented Projects and Practices		
			Wisconsin Fund	Local Government or Landowner	Total
Contour Farming . . . . .	..^a	70 acres	\$ 820	\$ 820	\$ 1,640
Contour Strip-cropping	490 acres	58 acres	477	478	955
Diversions	50,000 feet	11,446 feet	37,810	16,204	54,014
Terraces	1,225,200 feet	41,650 feet	91,990	39,425	131,415
Waterways	182 acres	86 acres	488,689	210,581	699,270
Conservation Tillage	11,500 acres	825 acres	18,687	18,688	37,375
Barnyard Runoff Systems	23 systems	8 systems	49,040	21,017	70,057
Manure Storage Facilities	44 facilities	3 facilities	16,900	8,671	25,571
Stream Cattle Crossing	10 crossings	1 crossing	591	253	844
Stream Bank Fencing	3,350 feet	5,810 feet	3,566	1,529	5,095
Stream Bank Rip-rap	13,650 feet	12,995 feet	517,381	221,736	739,117
Stream Bank Shaping and Seeding	26,370 feet	41,170 feet	786,325	239,456	1,025,781
Critical Area Stabilization	18 acres	327 acres	201,348	76,685	278,033
Grade Stabilization Structures	111 structures	81 structures	4,131,758	2,154,864	6,286,622
Street Sweeping	4 new programs	1 new program	2,326	2,327	4,653
Infiltration Systems . . . . .	..^a	2 systems	300	129	429
Oil Disposal Storage Units	20 units	2 units	314	314	628
Concrete Lined Waterway . . . . .	..^a	1,264 feet	10,910	4,675	15,585
Total	--	--	\$6,359,232	\$3,017,852	\$9,377,084

^aNot specified in priority watershed plan recommendations.

Table 24
ONION RIVER PRIORITY WATERSHED PROJECTS AND PRACTICES
COMPLETED IN THE REGION AS OF DECEMBER 31, 1987

Projects and Practices	Extent Recommended	Extent Implemented	Cost of Implemented Projects and Practices		
			Wisconsin Fund	Local Government or Landowner	Total
Strip-cropping	585 acres	13 acres	\$ 156	\$ 156	\$ 312
Diversions	22,500 feet	400 feet	700	300	1,000
Waterways	41 acres	15 acres	12,995	5,569	18,564
Conservation Tillage	975 acres	204 acres	3,593	3,593	7,186
Barnyard Runoff Systems	12 systems	1 system	140	60	200
Manure Storage Facilities	5 facilities	6 facilities	36,000	114,000	150,000
Fencing Livestock from Woods . . . . .	..^a	1 foot	50	50	100
Stream Bank Fencing	450 feet	2,500 feet	190	110	300
Stream Bank Shaping and Seeding	5,550 feet	1,800 feet	2,450	1,050	3,500
Grade Stabilization Structures	1 structure	2 structures	2,450	1,050	3,500
Total	--	--	\$ 58,674	\$125,888	\$184,562

^aNot specified in priority watershed plan recommendations.

Table 25
TURTLE CREEK PRIORITY WATERSHED PROJECTS AND PRACTICES
COMPLETED IN THE REGION AS OF DECEMBER 31, 1987

Projects and Practices	Extent Recommended	Extent Implemented	Cost of Implemented Projects and Practices		
			Wisconsin Fund	Local Government or Landowner	Total
Contour Farming	499 acres	174 acres	\$ 1,352	\$ 1,352	\$ 2,704
Contour Strip-cropping	560 acres	198 acres	2,741	2,741	5,482
Diversions	5,456 feet	3,680 feet	5,288	2,267	7,555
Terraces	96,873 feet	23,200 feet	25,340	10,860	36,200
Conservation Tillage	3,930 acres	2,277 acres	85,940	185,944	171,884
Grassed Waterways	182 acres	67 acres	72,854	31,223	104,600
Barnyard Runoff Systems	22 systems	12 systems	98,420	42,180	140,600
Manure Storage Facilities	15 facilities	1 facility	6,000	29,500	35,500
Stream Bank Fencing	15,000 feet	5,550 feet	7,580	2,570	10,150
Stream Bank Rip-rap	3,750 feet	10,653 feet	200,252	99,322	299,574
Stream Bank Shaping and Seeding	10,125 feet	500 feet	2,800	1,200	4,000
Critical Area Stabilization	7 acres	4 acres	4,674	1,989	6,663
Grade Stabilization Structures	8 structures	2 structures	3,150	1,350	4,500
Cover Crop for Wind Erosion	-- ^a	150 acres	1,604	688	2,292
Wind Break	-- ^a	22,152 acres	1,632	700	2,332
Total	--	--	\$519,627	\$313,886	\$833,513

^aNot specified in priority watershed plan recommendations.

Table 26
OCONOMOWOC RIVER PRIORITY WATERSHED PROJECTS AND PRACTICES
COMPLETED IN THE REGION AS OF DECEMBER 31, 1987

Projects and Practices	Extent Recommended	Extent Implemented	Cost of Implemented Projects and Practices		
			Wisconsin Fund	Local Government or Landowner	Total
Contour Strip-cropping	700 acres	18 acres	\$ 216	\$ 216	\$ 432
Conservation Tillage	4,020 acres	197 acres	6,825	6,825	13,650
Grassed Waterways	90 acres	3 acres	6,850	2,695	9,545
Barnyard Runoff Systems	30 systems	2 systems	22,730	11,670	34,400
Stream Bank Shaping and Seeding	19,000 feet	150 feet	4,225	2,275	6,500
Other Stream Bank Best Management Practices	-- ^a	550 feet	77,197	19,299	96,496
Critical Area Stabilization	350 acres	13 acres	6,547	1,824	8,371
Grade Stabilization Structures	10 structures	2 structures	5,315	1,329	6,644
Total	--	--	\$129,905	\$46,133	\$176,038

^aNot specified in priority watershed plan recommendations.

inventory data which are used to calculate soil loss using the universal soil loss equation. These inventories are scheduled to be conducted for the other four Milwaukee River priority watersheds.

Lake Water Quality Management Planning

The adopted regional water quality management plan recommended that in-depth lake water quality management plans be prepared for the drainage areas directly tributary to each of the 100 major lakes in southeastern Wisconsin. The Commission and the DNR have been working with lake community organizations and agencies, including formal lake protection and rehabilitation districts, to complete over time the preparation of such plans. Where budget and work program conditions permit, these lake studies are being documented in SEWRPC community assistance planning reports. These reports describe the existing chemical, biological, and physical water quality conditions of the lake; the existing and proposed uses of the lake and attendant water quality objectives and standards; the land management and land use measures required in each lake watershed; and required point and nonpoint source pollution abatement measures.

By the end of 1987, lake water quality management plans had been completed for seven lakes—Ashippun, La Belle, Pewaukee, North, and Okauchee in Waukesha County; Geneva Lake in Walworth County; and Friess Lake in Washington County. These plans were adopted by the Commission as amendments to the regional water quality management plan.

The Commission also continued to provide assistance to lake districts in carrying out their activities. For example, during 1987 the Commission provided information and advice to the District of Powers Lake in Kenosha and Walworth Counties concerning detailed sanitary surveys and water quality studies for Powers Lake. The Commission also provided information and met with local officials in conjunction with water quality planning efforts for the Tri Lakes area in the Town of West Bend, Washington County, and for the Wind Lake District in the Town of Norway, Racine County.

At the end of 1987, the Commission had lake studies underway for Oconomowoc Lake and Fowler Lake in Waukesha County and Pike Lake

in Washington County. The Fowler Lake study is expected to be completed in 1988 and the studies for Oconomowoc Lake and Pike Lake are proposed to be completed over the next several years as budget conditions permit.

Local Sewerage Facilities Planning

During 1987, the Commission continued to work with local engineering staffs and consultants in the preparation of detailed local sewerage facilities plans designed to meet the requirements of Section 201 of the federal Clean Water Act, the requirements of the Wisconsin Fund established by the State Legislature in 1978 and administered by the Wisconsin Department of Natural Resources, and good preliminary engineering practice. Work activities during 1987 included the provision of basic economic, demographic, land use, and natural resource base data for use in the preparation of the facilities plans; the extension of the findings and recommendations of the regional water quality management plan, in particular those regarding sanitary sewer service areas, trunk sewer configurations, and treatment plant locations, capacities, and levels of treatment; and the review of, and comment on, the preliminary plans.

During 1987, local sewerage facilities plans were completed for the Town of Pleasant Prairie Sewer Utility District F and the Wisconsin Department of Transportation Rest Area No. 26 in the Town of Pleasant Prairie, Kenosha County; the City of Port Washington and the City of Cedarburg, Ozaukee County; and the Country Estates Sanitary District—the Town of Lyons Sanitary District No. 2, the Town of Walworth Utility District No. 1, and the Wisconsin Department of Transportation Rest Area No. 36 in the Town of Lafayette, all in Walworth County. These plans set forth recommendations for the construction of new sewerage facilities in accordance with the recommendations of the adopted regional water quality management plan as amended. As such, these facilities plans were recommended by the Commission to the Wisconsin Department of Natural Resources for approval. At year's end, similar sewerage facilities plans were under development for the City of Burlington, the Village of Union Grove and Southern Wisconsin Center, and the Raymond Heights Sanitary District in Racine County; the Village of Darien in Walworth County; the City

of Hartford and the Town of Rubicon Sanitary District No. 1 in Washington County and an adjacent portion of Dodge County; and the Upper Fox River watershed, including all or portions of the Villages of Sussex, Lannon, and Menomonee Falls and the Town of Lisbon, in Waukesha County.

During 1987, the Commission continued to respond to requests to amend the regional water quality management plan as that plan relates to sewerage facilities. Action was completed during the year on the requests for the Town of Walworth Utility District No. 1 connection to the WalCoMet sewerage system; and for the Country Estates Sanitary District connection to the Town of Lyons Sanitary District No. 2 sewerage system.

During 1987, the Commission also continued to work with the Bark Lake Sanitary District located in the Town of Richfield, Washington County, in response to that District's request to amend the regional water quality management plan. As reported in the Commission's 1985 Annual Report, the District's request would have the Commission create a Bark Lake sanitary sewer service area and designate in the plan a new sewage treatment plant to serve that area. That plant would discharge treated effluent to the headwaters of the Bark River. Cost-effectiveness analyses completed by the Commission prior to 1987 demonstrated that it would be more cost-effective and environmentally sound to connect the Bark Lake Sanitary District to the Milwaukee Metropolitan Sewerage District (MMSD) system through the adjacent Village of Germantown than to build a permanent sewage treatment facility that would discharge effluent to the Bark River. During the year, the Commission continued to work with the Bark Lake Sanitary District as that District attempted to secure an agreement with the MMSD. At year's end, the Bark Lake Sanitary District, the MMSD, and the Department of Natural Resources were continuing discussions toward implementation of the recommendation to connect the Bark Lake District to the MMSD system.

Finally, at the request of the Village of Union Grove and the Wisconsin Department of Health and Social Services, a reevaluation was initiated of a recommendation contained in the adopted regional water quality management plan. That recommendation called for the abandonment of

the sewage treatment facility serving the Southern Wisconsin Center operated by the Department of Health and Social Services, and the connection of the Center to the sewerage system owned and operated by the Village of Union Grove. In making this request, the Village noted that at an interagency meeting held on July 22, 1987, representatives of the Wisconsin Department of Natural Resources had raised questions concerning the cost-effectiveness of the current plan recommendation and indicated that a reevaluation of that recommendation would be in order.

Sanitary Sewer Extensions and Sewer Service Area Refinement Process

The adoption during 1979 of a regional water quality management plan for southeastern Wisconsin set into motion a process whereby, under rules promulgated by the Wisconsin Department of Natural Resources, the Commission must review and comment on all proposed public sanitary sewer extensions. Such review and comment must relate a proposed public sewer extension to the sanitary sewer service areas identified in the adopted plan. Under Section NR 110.08(4) of the Wisconsin Administrative Code, the Wisconsin Department of Natural Resources may not approve public sanitary sewer extensions unless such extensions are found to be in conformance with an adopted areawide water quality management plan. In addition, rule changes promulgated by the Wisconsin Department of Industry, Labor and Human Relations during 1985 require the Commission to comment on certain private sanitary sewer extensions and large onsite sewage disposal systems and holding tanks relative to the Commission's adopted areawide water quality management plan. Under Section ILHR 82.20(4) of the Wisconsin Administrative Code, the Wisconsin Department of Industry, Labor and Human Relations may not approve private main sewer or building sewer extensions unless such extensions are found to be in conformance with an adopted areawide water quality management plan.

When the regional water quality management plan was adopted in 1979, that plan included preliminary recommended sanitary sewer service areas tributary to each recommended public sewage treatment facility in the Region. A total of 85 such sanitary sewer service areas were delineated and named in the adopted plan.

These initially recommended sanitary sewer service areas were based upon the adopted regional land use plan for the year 2000. As such, the preliminary delineations were necessarily general in nature and did not reflect detailed local planning considerations. Accordingly, the Commission determined that upon adoption of the regional water quality management plan, steps would be taken to refine and detail each of the sewer service areas in cooperation with the local units of government concerned. A process for refining and detailing the areas was set forth in the plan, consisting of intergovernmental meetings with the affected units of government and culminating in the holding of a public hearing on the refined and detailed sewer service area map. Such a map would identify not only the planned perimeter of the sewer service area, but also the location and extent of the primary environmental corridors within that service area, such corridors containing the best and most important elements of the natural resource base. Preserving the environmental corridor lands in essentially natural, open uses is important to the maintenance of the overall quality of the environment, and helps avoid the creation of serious and costly developmental problems. Accordingly, urban development should be discouraged from occurring within the corridors identified in the sewer service area plans, an important factor to be considered in the extension of sanitary sewer service.

The Commission determined that each refined and detailed sanitary sewer service area plan, including detailed delineations of primary environmental corridors, would be documented in a Commission community assistance planning report. That report would be formally adopted by the appropriate local sewerage agency and by the Commission, and forwarded to the Wisconsin Department of Natural Resources and the U. S. Environmental Protection Agency as an amendment to the adopted regional water quality management plan.

By the end of 1987, the recommended plan refinement process had been completed for 50 of the 85 initially identified sanitary sewer service areas. Forty-three of these refinements had been completed and adopted both by the local governments concerned and by the Commission prior to 1987. During 1987, such detailed planning efforts were completed for seven additional

areas: the Silver Lake and Twin Lakes areas in Kenosha County; the Cedarburg and Grafton areas, renamed the Cedarburg/Grafton area, in Ozaukee County; the Lyons area, renamed the Town of Lyons Sanitary District No. 2, and the Whitewater area, both in Walworth County; and the New Berlin area in Waukesha County. The plans for all of these areas were adopted locally and by the Commission during 1987. The refinement process has resulted in a redefinition and combination of certain areas such that, upon completion of the refinement of the 50 areas, there remained only 43 such areas.

In addition to the refinement of previously delineated sanitary sewer service areas, the planning process followed since adoption of the regional water quality management plan in 1979 has resulted in the creation of six new sanitary sewer service areas. Refined sewer service area plans for four of these service areas—Army Lake in Walworth County, Eagle Spring Lake Sanitary District and Mukwonago County Park in Waukesha County, and Rainbow Springs lying in both Waukesha and Walworth Counties—were completed prior to 1987. In 1987 such plans were completed for two additional areas—the Country Estates Sanitary District in the Town of Lyons, Walworth County, and the Town of Walworth Utility District No. 1, also in Walworth County.

The existing status of all planned sanitary sewer service areas is summarized in Table 27 and on Map 20. This table identifies the originally defined 85 sewer service areas and the relationship of those areas to the 50 refined and detailed sewer service areas and the six new sewer service areas referenced above. The table also identifies the documents setting forth each refined and detailed sewer service area, and the date on which the Commission adopted that document as an amendment to the regional water quality management plan.

Additional sewer service area refinement plans were underway at the end of 1987. These included plans for the Mequon and Thiensville areas in Ozaukee County; the Darien area in Walworth County; the Kewaskum area in Washington County; and the Brookfield, Elm Grove, and Menomonee Falls areas in Waukesha County.

Pending the completion of such plan refinement studies in cooperation with the local units of

Table 27
PLANNED SANITARY SEWER SERVICE AREAS IN THE REGION: 1987

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Kenosha	Bristol-George Lake	Town of Bristol Utility District Nos. 1 and 1B	December 1, 1986	SEWRPC Community Assistance Planning Report No. 145, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin</u>
	Bristol IH 94 Pleasant Prairie North	Town of Pleasant Prairie Sewer Utility District D	December 2, 1985	SEWRPC Community Assistance Planning Report No. 106, <u>Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin</u>
	Camp-Center Lakes	Town of Salem Utility District No. 2	March 3, 1986	SEWRPC Community Assistance Planning Report No. 143, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>
	Cross Lake	Town of Salem Utility District No. 2	March 3, 1986	SEWRPC Community Assistance Planning Report No. 143, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>
	Hooker-Montgomery Lakes	Town of Salem Utility District No. 1	December 1, 1986	SEWRPC Community Assistance Planning Report No. 145, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin</u>
	Kenosha Pleasant Park Somers	Kenosha	December 2, 1985	SEWRPC Community Assistance Planning Report No. 106, <u>Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin</u>
	Pleasant Prairie South	Town of Pleasant Prairie Sanitary District No. 73-1	December 2, 1985	SEWRPC Community Assistance Planning Report No. 106, <u>Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin</u>

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Kenosha (continued)	Paddock Lake	Paddock Lake	December 1, 1986	SEWRPC Community Assistance Planning Report No. 145, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin</u>
	Rock Lake	Town of Salem Utility District No. 2	March 3, 1986	SEWRPC Community Assistance Planning Report No. 143, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>
	Silver Lake	Silver Lake	June 15, 1987	SEWRPC Community Assistance Planning Report No. 119, <u>Sanitary Sewer Service Area for the Village of Silver Lake, Kenosha County, Wisconsin</u>
	Twin Lakes	Twin Lakes	June 15, 1987	SEWRPC Community Assistance Planning Report No. 149, <u>Sanitary Sewer Service Area for the Village of Twin Lakes, Kenosha County, Wisconsin</u>
	Wilmot District No. 2	Town of Salem Utility	March 3, 1986	SEWRPC Community Assistance Planning Report No. 143, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>
Milwaukee	Milwaukee Metropolitan Sewerage District	--	--	--
	South Milwaukee	--	--	--
Ozaukee	Belgium	Belgium	March 11, 1985	SEWRPC Community Assistance Planning Report No. 97, <u>Sanitary Sewer Service Area for the Village of Belgium, Ozaukee County, Wisconsin</u>
	Cedarburg	Cedarburg/Grafton	June 15, 1987	SEWRPC Community Assistance Planning Report No. 91, <u>Sanitary Sewer Service Area for the City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin</u>
	Fredonia	Fredonia	September 13, 1984	SEWRPC Community Assistance Planning Report No. 96, <u>Sanitary Sewer Service Area for the Village of Fredonia, Ozaukee County, Wisconsin</u>
	Grafton	Cedarburg/Grafton	June 15, 1987	SEWRPC Community Assistance Planning Report No. 91, <u>Sanitary Sewer Service Area for the City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin</u>

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Ozaukee (continued)	Lake Church	--	--	--
	Mequon	--	--	--
	Port Washington	Port Washington	December 1, 1983	SEWRPC Community Assistance Planning Report No. 95, <u>Sanitary Sewer Service Area for the City of Port Washington, Ozaukee County, Wisconsin</u>
	Saukville	Saukville	December 1, 1983	SEWRPC Community Assistance Planning Report No. 90, <u>Sanitary Sewer Service Area for the Village of Saukville, Ozaukee County, Wisconsin</u>
	Thiensville	--	--	--
	Waubeka	Waubeka	September 13, 1984	SEWRPC Community Assistance Planning Report No. 96, <u>Sanitary Sewer Service Area for the Village of Fredonia, Ozaukee County, Wisconsin</u>
Racine	Burlington	Burlington	June 16, 1986	SEWRPC Community Assistance Planning Report No. 78, <u>Sanitary Sewer Service Area for the City of Burlington, Racine County, Wisconsin</u>
	Caddy Vista	Caddy Vista	December 1, 1986	SEWRPC Community Assistance Planning Report No. 147, <u>Sanitary Sewer Service Area for the City of Racine and Environs, Racine County, Wisconsin</u>
	Center for the Developmentally Disabled	--	--	--
	Eagle Lake	--	--	--
	Racine	Racine	December 1, 1986	SEWRPC Community Assistance Planning Report No. 147, <u>Sanitary Sewer Service Area for the City of Racine and Environs, Racine County, Wisconsin</u>
	Tichigan Lake	Town of Waterford Sanitary District No. 1	June 16, 1986	SEWRPC Community Assistance Planning Report No. 141, <u>Sanitary Sewer Service Area for the Waterford/Rochester Area, Racine County, Wisconsin</u>
	Union Grove	--	--	--
	Waterford/Rochester	Waterford/Rochester Sanitary District No. 1	June 16, 1986	SEWRPC Community Assistance Planning Report No. 141, <u>Sanitary Sewer Service Area for the Waterford/Rochester Area, Racine County, Wisconsin</u>
	Wind Lake	--	--	--
	Yorkville	--	--	--

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Walworth	--	Army Lake	September 13, 1984	SEWRPC Community Assistance Planning Report No. 112, <u>Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin</u>
	--	Country Estates Sanitary District	March 3, 1987	Amendment to the Regional Water Quality Management Plan—2000, Country Estates Sanitary District, Town of Lyons
	Darien	--	--	--
	Delavan	Delavan	December 3, 1981	SEWRPC Community Assistance Planning Report No. 56, <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District</u>
	Delavan Lake	Delavan Lake	December 3, 1981	SEWRPC Community Assistance Planning Report No. 56, <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District</u>
	East Troy	East Troy	September 13, 1984	SEWRPC Community Assistance Planning Report No. 112, <u>Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin</u>
	Elkhorn	Elkhorn	December 3, 1981	SEWRPC Community Assistance Planning Report No. 56, <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District</u>
	Fontana	--	--	--
	Genoa City	--	--	--
	Lake Como	--	--	--
	Lake Geneva	--	--	--
	Lyons	Town of Lyons Sanitary District No. 2	September 14, 1987	SEWRPC Community Assistance Planning Report No. 158, <u>Sanitary Sewer Service Area for the Town of Lyons Sanitary District No. 2, Walworth County, Wisconsin</u>
	Potter Lake	Potter Lake	September 13, 1984	SEWRPC Community Assistance Planning Report No. 112, <u>Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin</u>
	Sharon	--	--	--
	Walworth	--	--	--

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Walworth (continued)	--	Town of Walworth Utility District No. 1	June 15, 1987	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Walworth Utility District No. 1/Walworth County Metropolitan Sewerage District</u>
	Walworth County Institutions	Walworth County Institutions	December 3, 1981	SEWRPC Community Assistance Planning Report No. 56, <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District</u>
	Whitewater	Whitewater	September 14, 1987	SEWRPC Community Assistance Planning Report No. 94, <u>Sanitary Sewer Service Area for the City of Whitewater, Walworth County, Wisconsin</u>
	Williams Bay	--	--	--
Washington	Allenton	Allenton	March 11, 1985	SEWRPC Community Assistance Planning Report No. 103, <u>Sanitary Sewer Service Area for the Allenton Area, Washington County, Wisconsin</u>
	Germantown	Germantown	September 8, 1983	SEWRPC Community Assistance Planning Report No. 70, <u>Sanitary Sewer Service Area for the Village of Germantown, Washington County, Wisconsin</u>
	Hartford	Hartford	June 21, 1984	SEWRPC Community Assistance Planning Report No. 92, <u>Sanitary Sewer Service Area for the City of Hartford, Washington County, Wisconsin</u>
	Jackson	Jackson	June 17, 1984	SEWRPC Community Assistance Planning Report No. 124, <u>Sanitary Sewer Service Area for the Village of Jackson, Washington County, Wisconsin</u>
	Kewaskum	--	--	--
	Newburg	--	--	--
	Slinger	Slinger	December 2, 1985	SEWRPC Community Assistance Planning Report No. 128, <u>Sanitary Sewer Service Area for the Village of Slinger, Washington County, Wisconsin</u>
	West Bend	West Bend	December 2, 1982	SEWRPC Community Assistance Planning Report No. 35, <u>Sanitary Sewer Service Area for the City of West Bend, Washington County, Wisconsin</u>
	Beaver Lake	--	--	--
Waukesha	Brookfield East	--	--	--

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Waukesha (continued)	Brookfield West	--	--	--
	Butler	Butler	March 1, 1984	<u>SEWRPC Community Assistance Planning Report No. 99, Sanitary Sewer Service Area for the Village of Butler, Waukesha County, Wisconsin</u>
	Delafield-Nashotah Nashotah-Nemahbin Lakes	Delafield-Nashotah	December 2, 1985	<u>SEWRPC Community Assistance Planning Report No. 127, Sanitary Sewer Service Area for the City of Delafield and the Village of Nashotah and Environs Waukesha County, Wisconsin</u>
	Dousman	--	--	--
	--	Eagle Spring Lake	December 2, 1985	<u>Amendment to the Regional Water Quality Management Plan—2000, Eagle Spring Lake Sanitary District</u>
	Elm Grove	--	--	--
	Hartland	Hartland	June 17, 1985	<u>SEWRPC Community Assistance Planning Report No. 93, Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin</u>
	Menomonee Falls	--	--	--
	Mukwonago	--	--	--
	--	Mukwonago County Park	June 21, 1984	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Mukwonago, Towns of East Troy and Mukwonago</u>
	Muskego	Muskego	June 17, 1982	<u>SEWRPC Community Assistance Planning Report No. 64, Sanitary Sewer Service Area for the City of Muskego, Waukesha County, Wisconsin</u>
	New Berlin	New Berlin	December 7, 1987	<u>SEWRPC Community Assistance Planning Report No. 157, Sanitary Sewer Service Area for the City of New Berlin, Waukesha County, Wisconsin</u>
	North Lake	--	--	--
	North Prairie	--	--	--
	Oconomowoc- Lac La Belle	--	--	--
	Oconomowoc Lake	--	--	--
	Okauchee Lake	--	--	--

Table 27 (continued)

County	Name of Initially Defined Sanitary Sewer Service Area(s)	Name of Refined and Detailed Sanitary Sewer Service Area	Date of SEWRPC Adoption of Plan Amendment	Plan Amendment Document
Waukesha (continued)	Pewaukee	Pewaukee	June 17, 1985	<u>SEWRPC Community Assistance Planning Report No. 113, Sanitary Sewer Service Area for the Town of Pewaukee Sanitary District No. 3, Lake Pewaukee Sanitary District, and Village of Pewaukee, Waukesha County, Wisconsin</u>
	Pine Lake	--	--	--
	--	Rainbow Springs	June 21, 1984	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Mukwonago, Towns of East Troy and Mukwonago</u>
	Silver Lake	--	--	--
	Sussex-Lannon	Sussex	June 16, 1983	<u>SEWRPC Community Assistance Planning Report No. 84, Sanitary Sewer Service Area for the Village of Sussex, Waukesha County, Wisconsin</u>
	Wales	--	--	--
	Waukesha	Waukesha	December 2, 1985	<u>SEWRPC Community Assistance Planning Report No. 100, Sanitary Sewer Service Area for the City of Waukesha and Environs, Waukesha County, Wisconsin</u>

government concerned, the Commission must use the more general sewer service area recommendations set forth in the adopted regional water quality management plan as a basis for reviewing and commenting on individual proposed sanitary sewer extensions. During 1987, such review comments were provided on 228 public sanitary sewer extensions and 243 private main sewers or building sewers, distributed by county as shown in Table 28.

Milwaukee Harbor Estuary Comprehensive Water Resources Planning Program

In 1987, the Commission completed work on a multi-year study of the water resources of the Milwaukee Harbor estuary. This study was undertaken at the request of the Common Council of the City of Milwaukee. Technical work on the study was carried out in a cooperative manner with the staffs of participating governmental agencies, including the U. S.

Environmental Protection Agency (EPA), the U. S. Geological Survey (USGS), the Milwaukee Metropolitan Sewerage District, the Wisconsin Department of Natural Resources (DNR), and the Commission; and with private consultants engaged by the Commission, including Hydro-Qual, Inc., Aero-Metric Engineering, Inc., and National Survey and Engineering, Inc. The primary objectives of the Milwaukee Harbor estuary study were to assess the existing and historical water quality, flooding, and storm damage problems in the inner and outer harbors of the estuary; to identify and quantify sources of water pollutants—including in-place sediments; to review water uses and supporting water quality objectives and standards; to formulate and evaluate alternative means of attaining those objectives and standards; and to recommend a cost-effective water resources management plan for the Milwaukee Harbor estuary. The study had particularly important implications for the selection of the level of

Map 20

RECOMMENDED SANITARY SEWER SERVICE AREAS IN THE REGION: 1987

LEGEND

WALES	UNREFINED SANITARY SEWER SERVICE AREA
WEST BEND	REFINED SANITARY SEWER SERVICE AREA COMPLETED PRIOR TO 1987
	REFINED SANITARY SEWER SERVICE AREA COMPLETED DURING 1987

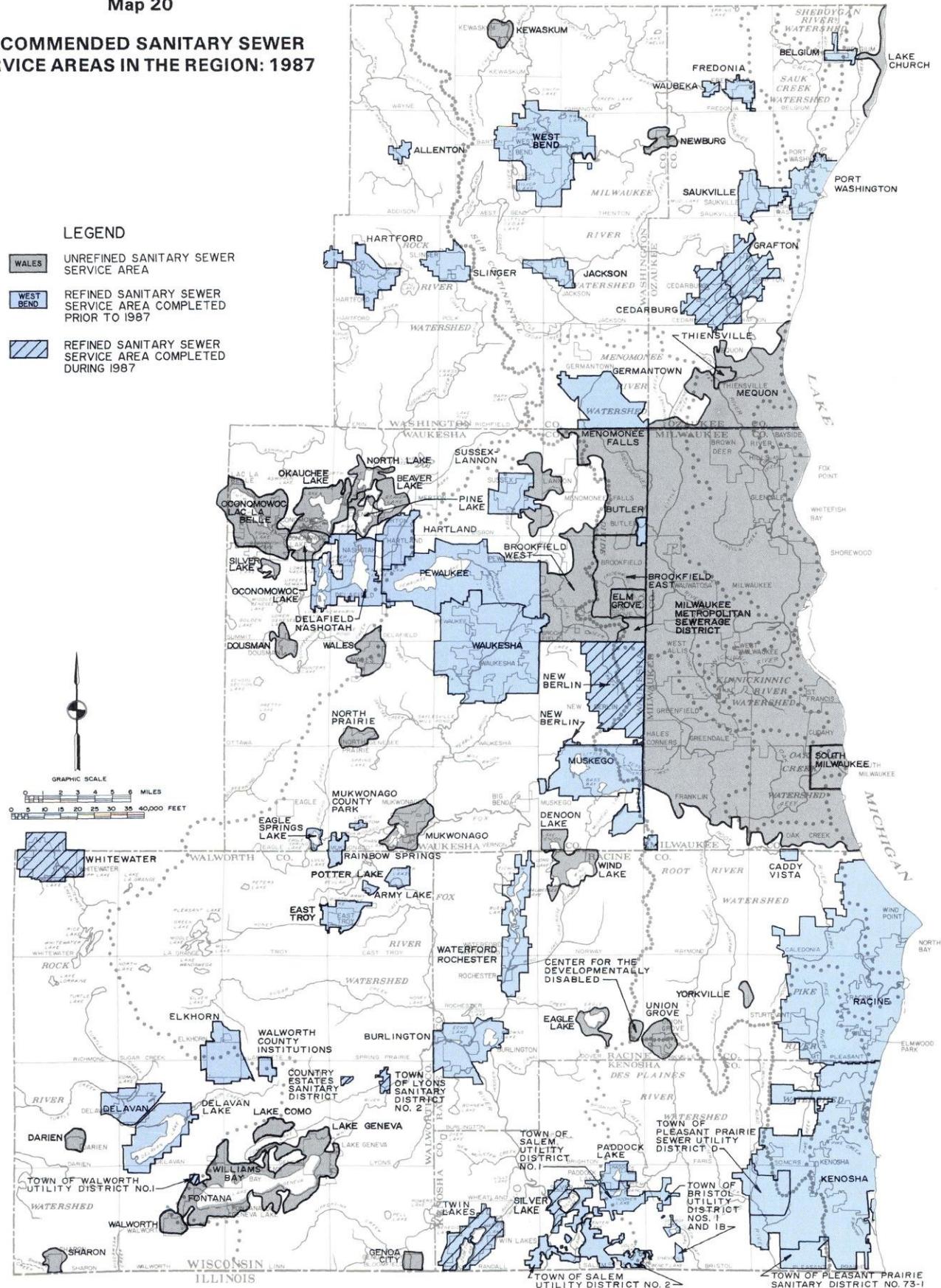


Table 28

SANITARY SEWER EXTENSION REVIEWS: 1987

County	Public Sanitary Sewer Extensions	Private Main Sewer or Building Sewer Extensions	Total
Kenosha	20	19	39
Milwaukee	44	56 ^a	100
Ozaukee	20	12	32
Racine	22	22	44
Walworth	11	20	31
Washington . . .	24	33	57
Waukesha	87	81	168
Total	228	243	471

^aThe Commission has delegated the responsibility for the review of building sewer extensions within the City of Milwaukee to the City. During 1987, 412 reviews of building sewer extensions were conducted by the City.

protection to be provided by the combined sewer overflow abatement measures, and for the need to provide instream treatment measures.

The study estimated the point source and non-point source pollutant loadings to the Milwaukee Harbor estuary. Generally, about one-half of the pollutant loadings studied came from nonpoint sources. The largest and most important point source loadings are those discharged from combined sewers, primarily to the inner harbor. Pollutants contributed from nonpoint sources are primarily transported to the inner harbor via the three tributary rivers.

Analyses of the water quality data indicate that the water use objectives and supporting water quality standards recommended for the estuary were not fully met in any portion of the estuary during the survey period. The standards violated and the severity of those violations in each reach of the estuary are shown graphically on Map 21. The inventory data collected under the study confirmed that a serious pollution problem exists in the Milwaukee Harbor estuary which affects not only the water, but also the bottom sediments and biological communities residing within the estuary. Bottom sediment quality can have adverse effects upon water quality and upon aquatic biota. Therefore, an intensive sampling program of in-place sediments in the tributary rivers and inner harbor was under-

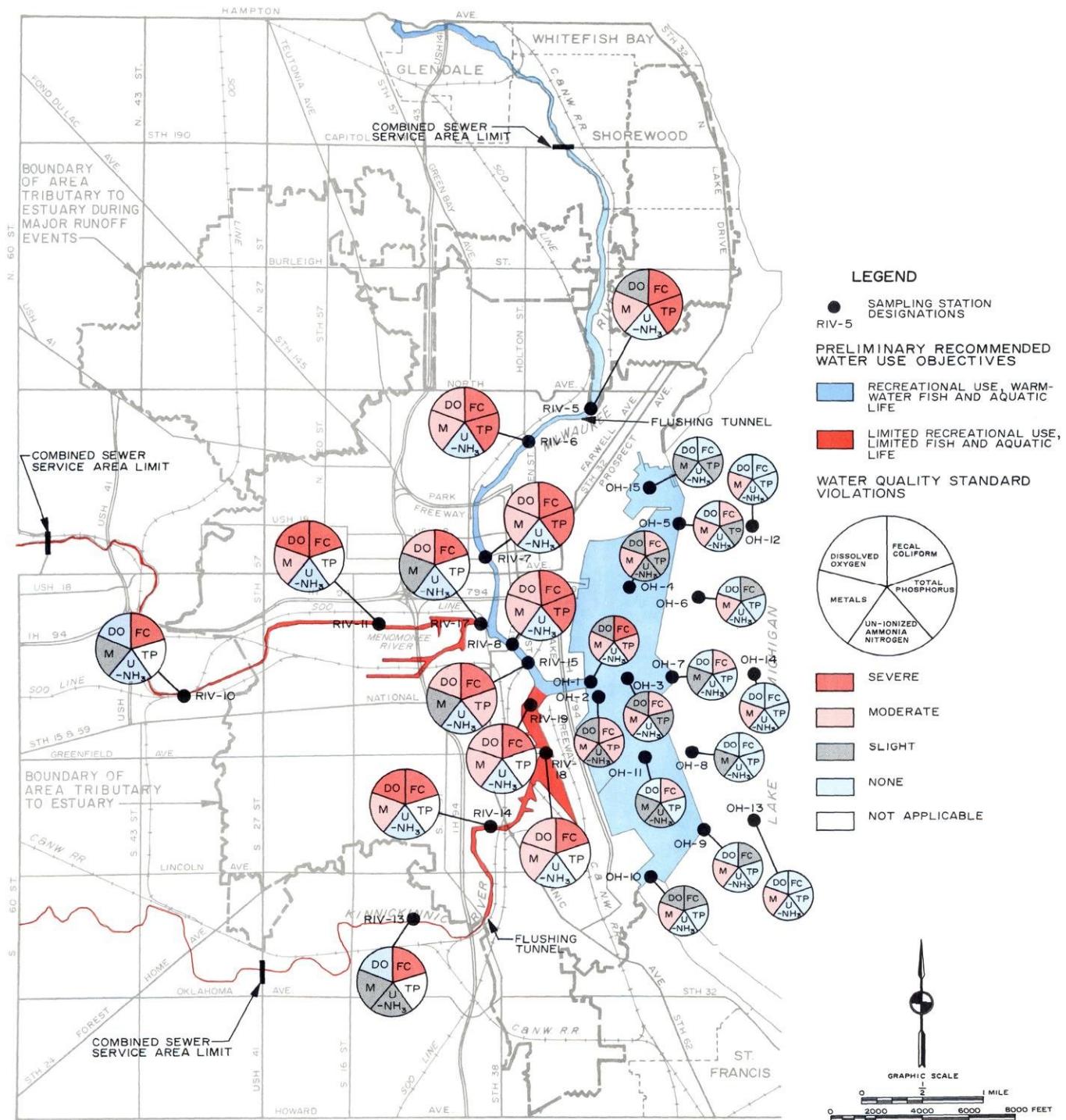
taken, and the results are shown on Map 22. The sediments at sampling stations located upstream of the estuary were moderately polluted for most indicators, while sediments at the inner harbor stations were heavily polluted for nearly all indicators. Polychlorinated biphenyl (PCB) levels were highly variable throughout the inner harbor, but in general were lower than the heavily polluted category level. The sediment studies, as well as a detailed analysis of continuous water quality monitoring data, indicated that sediment scouring during combined sewer overflow events was not the major cause of severe dissolved oxygen depletions in the inner harbor. Rather, most dissolved oxygen depletions occurred during dry-weather, low-flow, high-temperature periods. Combined sewer overflows were found to account for 60 to 93 percent of the loading of particulate organic carbon reaching the inner harbor, with the remaining particulate organic carbon loading being contributed from upstream algae and detritus.

The existing biota—fish, minute animals including benthic (bottom dwelling) invertebrates and zooplankton, and algae—in addition to aquatic habitat provide important information about the overall ecological health and stability of the Milwaukee Harbor estuary (see Figure 69). Extensive fishery surveys were conducted within the estuarine portions of the Milwaukee, Menomonee, and Kinnickinnic Rivers, and within the outer harbor, by the Wisconsin Department of Natural Resources in 1983. Although warmwater and even some coldwater fish can be found in the inner harbor, the water quality conditions and the heavily polluted sediments found throughout most of this area provide a poor habitat for desirable organisms. There are localized areas within the inner harbor, nevertheless, that provide suitable feeding, cover, and spawning habitats for warmwater fish and aquatic life. Generally, carp and white sucker were the most abundant fish caught within the inner harbor, while yellow perch were the most abundant fish caught within the outer harbor. The predominant fish species caught in both the inner and outer harbors are tolerant of polluted water conditions, including low levels of dissolved oxygen.

Of particular importance to the planning effort was the selection of recommended water use objectives and supporting standards for the

Map 21

EXISTING WATER QUALITY CONDITIONS IN THE MILWAUKEE HARBOR ESTUARY

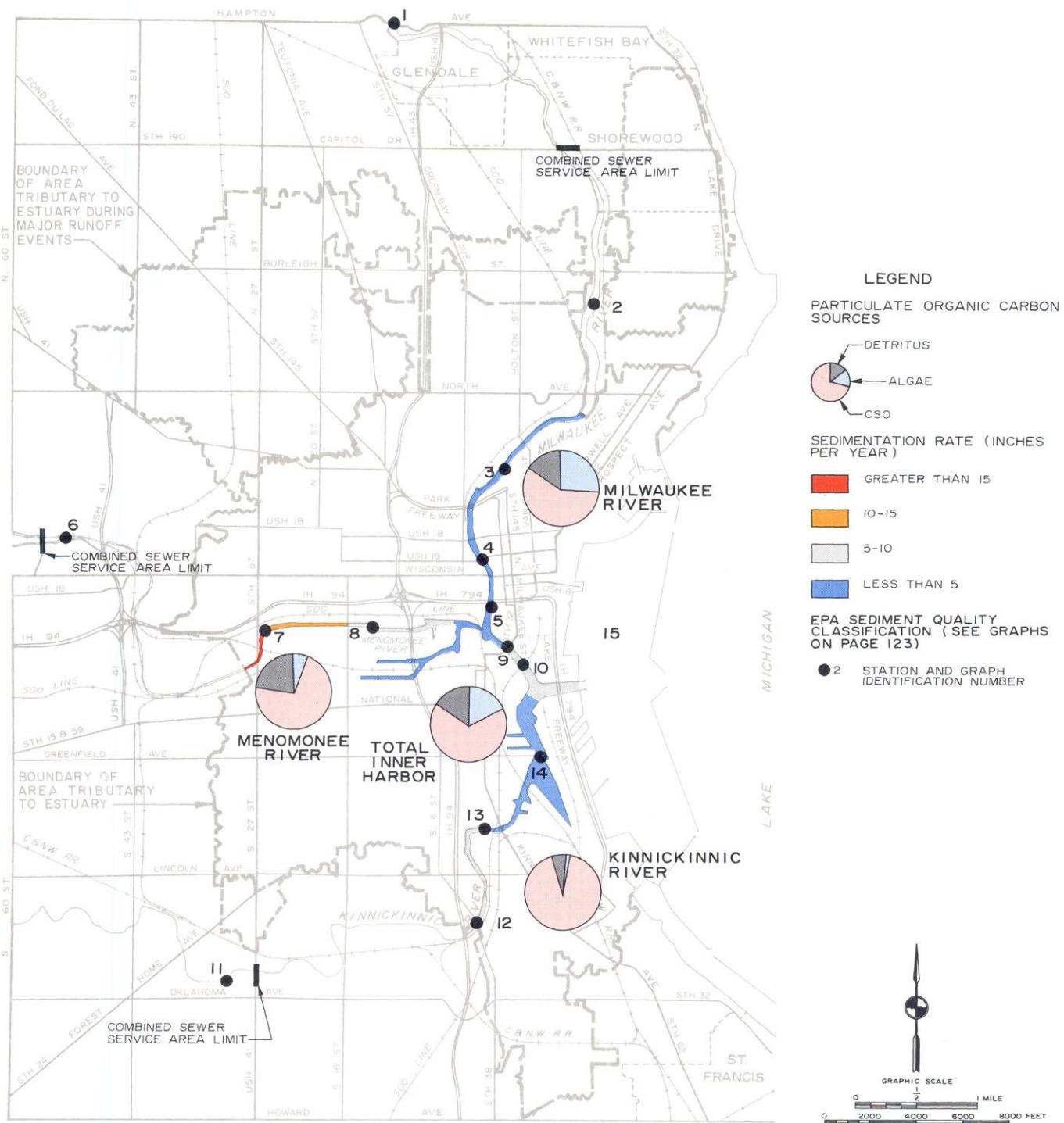


Milwaukee Harbor estuary. Prior regional planning efforts, culminating in the adoption in 1979 of the regional water quality management plan, recommended water use objectives for the three rivers draining to the harbor estuary. No water use objectives were recommended for the harbor estuary itself.

The Technical Advisory Committee to the plan debated at length during the course of the study the appropriateness of attempting to design a plan that would achieve for all of the estuary waters the fully "fishable and swimmable" water use objectives. Initially, the Commission staff recommended to the Advisory Committee

Map 22

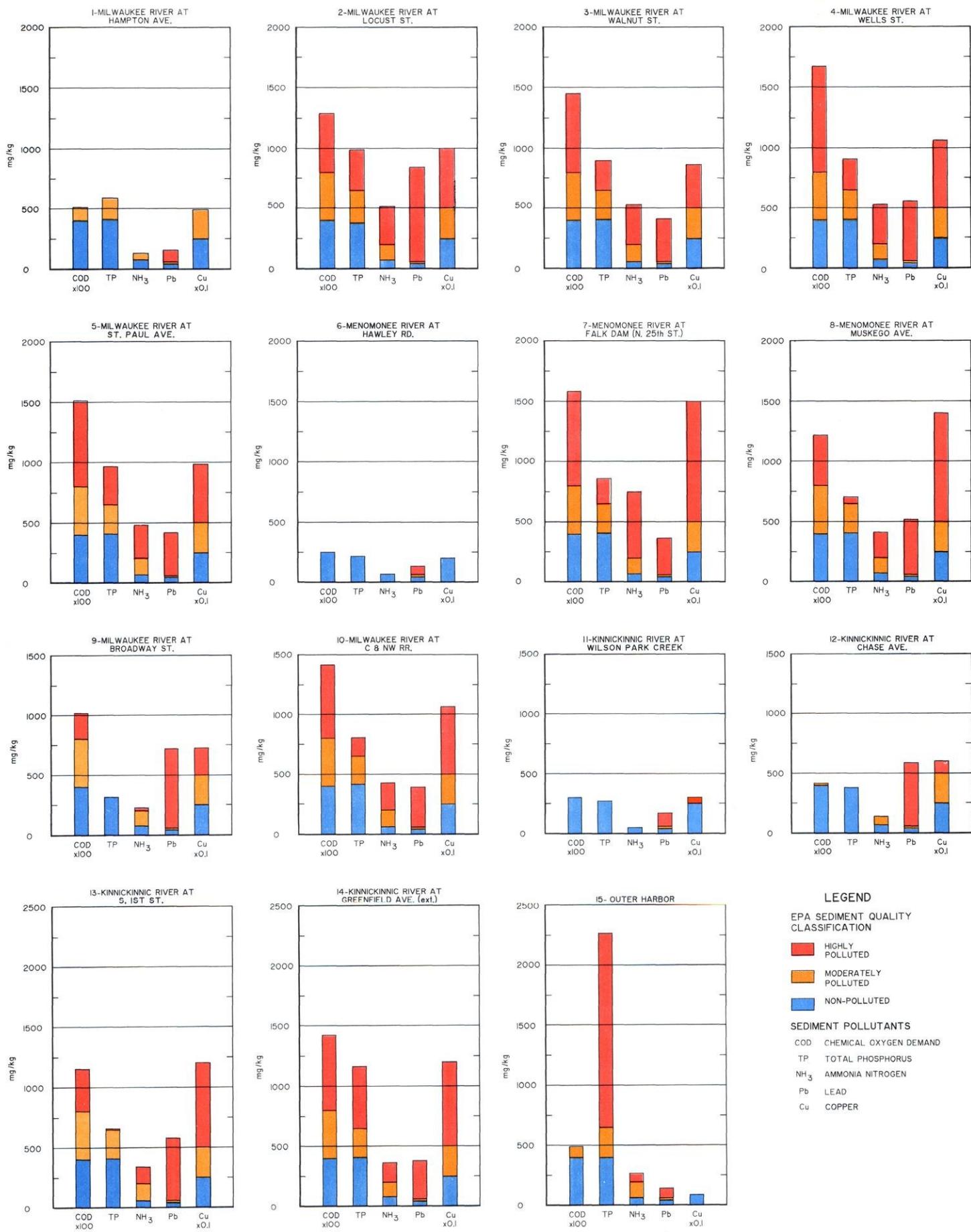
EXISTING SEDIMENT CONDITIONS IN THE MILWAUKEE HARBOR ESTUARY: 1982-1983



that fully "fishable and swimmable" water use objectives—that is, the maintenance of a healthy warmwater fishery and full body contact recreational uses—be recommended for the entire outer harbor, together with that portion of the inner harbor comprised of the Milwaukee River estuary. The maintenance of a limited fishery and partial body contact recreational uses were recommended for that portion of the inner harbor created by the Menomonee River and

Kinnickinnic River estuaries. This initial staff recommendation was founded upon consideration of the character of the Menomonee and Kinnickinnic River channels with their dredged deepwater navigation channels and sheer dock walls, and the character of the adjacent land uses. Advisory Committee review of these staff-recommended water use objectives resulted in a directive to also explore the technical feasibility and potential costs of achieving the full "fisha-

Map 22 (continued)



LEGEND

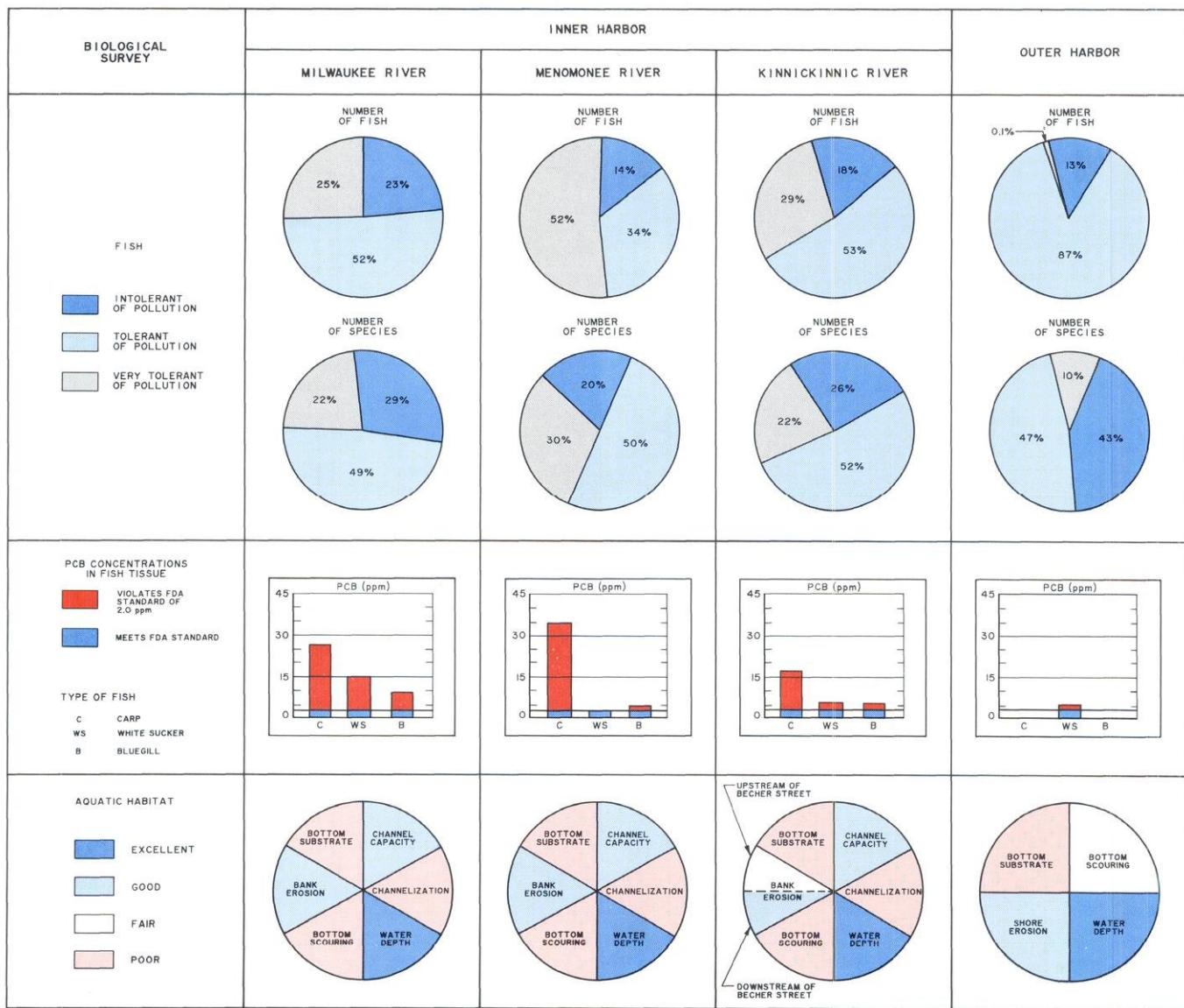
EPA SEDIMENT QUALITY CLASSIFICATION

- █ HIGHLY POLLUTED
- █ MODERATELY POLLUTED
- █ NON-POLLUTED

SEDIMENT POLLUTANTS

- COD CHEMICAL OXYGEN DEMAND
- TP TOTAL PHOSPHORUS
- NH₃ AMMONIA NITROGEN
- Pb LEAD
- Cu COPPER

Figure 69
EXISTING BIOLOGICAL CONDITIONS IN THE MILWAUKEE HARBOR ESTUARY



ble and swimmable" water use objectives for all of the estuary waters.

The final recommended water use objectives for the Milwaukee Harbor estuary are shown on Map 23. These objectives envision the maintenance of a healthy warmwater fishery and full recreational use only for the outer harbor. The maintenance of a healthy warmwater fishery was recommended for the estuaries of all three rivers comprising the inner harbor. However, only limited recreational use of the inner harbor was recommended. The conclusion was reached

during the course of the study that even if hundreds of millions of dollars were spent in an attempt to further reduce both point and non-point source pollution from the tributary watersheds, it would not be possible to attain fully "fishable and swimmable" water use objectives within the inner harbor.

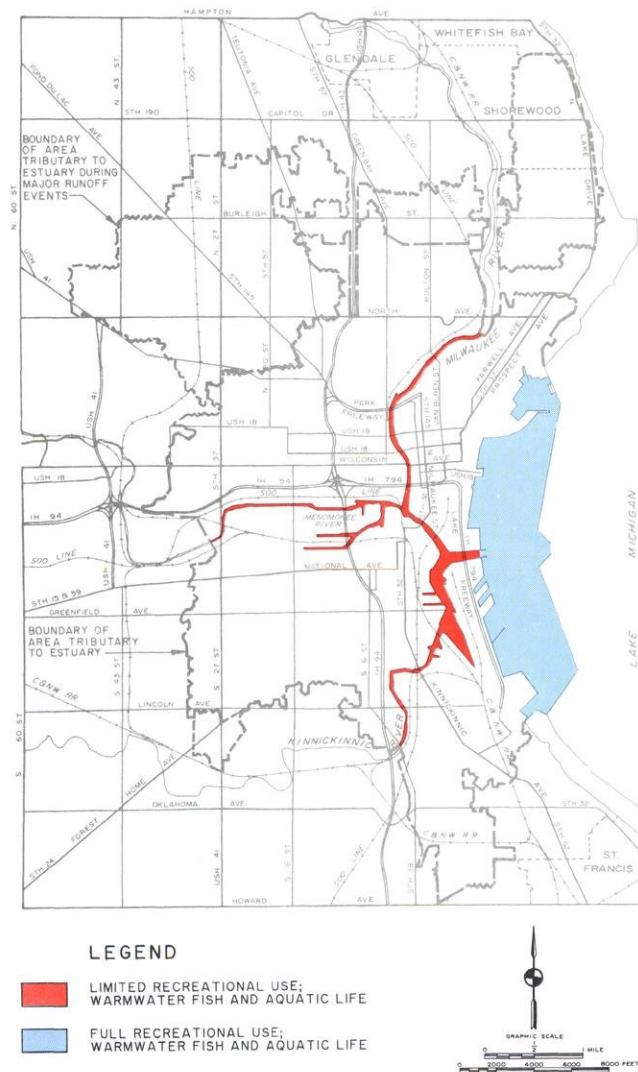
After carefully evaluating a series of alternatives, a comprehensive water resources management plan for the Milwaukee Harbor estuary was developed. The recommended plan is comprised of four major elements: 1) a water quality

management plan element, 2) a dredging and dredge spoils disposal element, 3) a shoreline storm damage and flood protection element, and 4) a toxic substances management element.

The recommended water quality management plan element consists of a point source pollution abatement subelement, a nonpoint source pollution abatement subelement, an instream water quality measures subelement, and an auxiliary water quality management subelement. The recommended water quality management plan, shown on Map 24, includes the provision of deep tunnel storage facilities to abate combined sewer overflows at a 0.7-year level of protection—or one overflow occurrence about every eight months on the average—and the virtual elimination of discharges from all separate sanitary sewer flow relief devices within the tributary watersheds; the establishment of the number and location of, and effluent limitations for, sewage treatment plants and industrial wastewater discharges as set forth in the regional water quality management plan; the application of agricultural land management measures to about 15 percent of the rural land within the tributary watersheds, and the installation of livestock waste control measures on about 30 percent of the livestock operations in those watersheds; the application of construction erosion control measures in urban and urbanizing areas within the tributary watersheds; the continued operation of the existing flushing tunnels that discharge to the northerly and southerly termini of the estuary in the Milwaukee and Kinnickinnic Rivers, respectively, and the installation and operation of an instream aeration system in the Menomonee River estuary; the control of pollutant loadings from contaminated stormwater runoff and seepage from salt piles, scrap metal yards, and other material storage sites located in areas draining directly to estuary waters; and the development and continued operation of a water quality, sediment quality, and biological conditions monitoring program to document the extent to which desired water use objectives are being met over time.

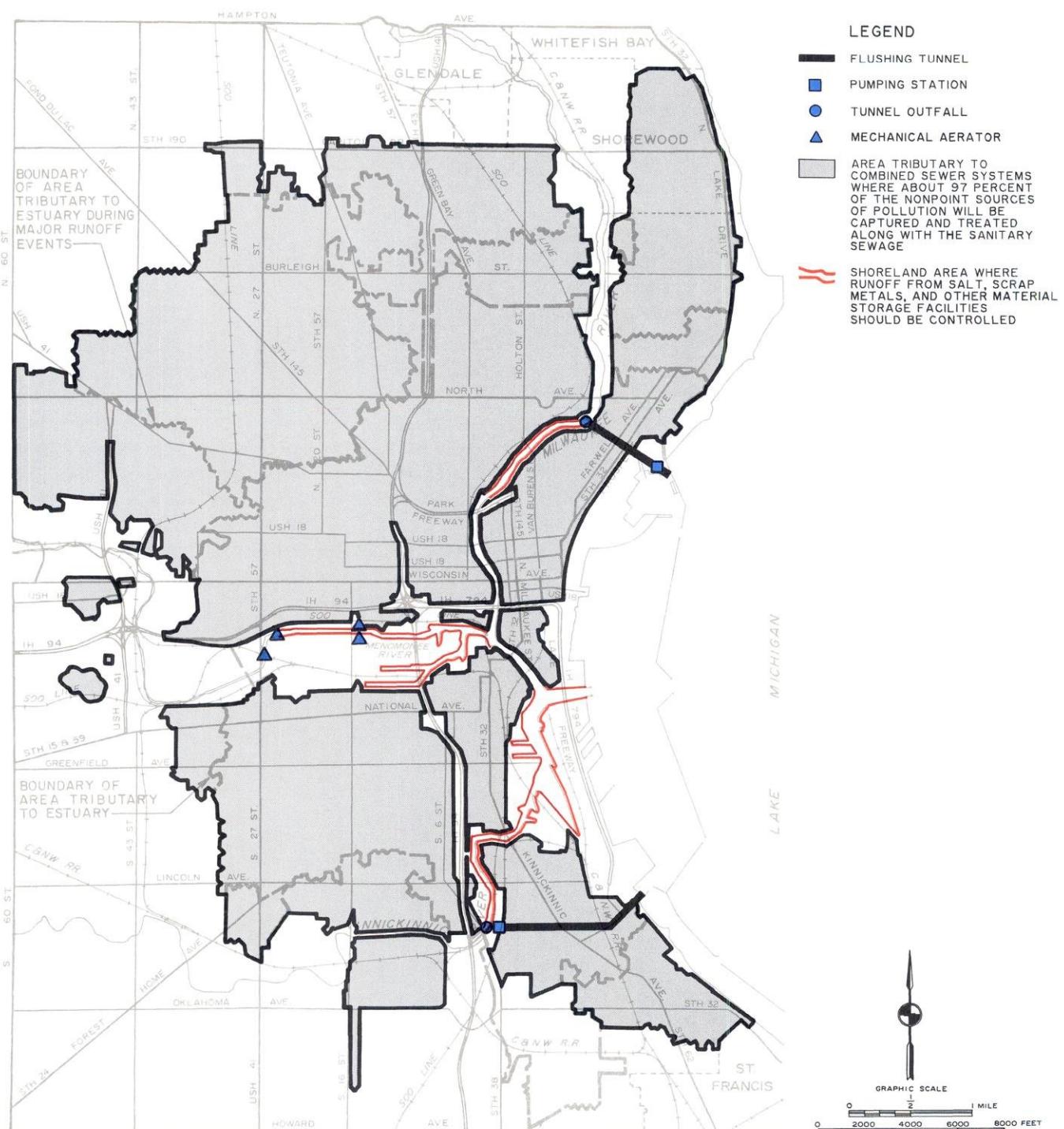
Dredging is presently carried out within the estuary to maintain adequate water depths for commercial navigation and for the construction of new port facilities. The recommended dredging and dredged materials disposal plan element, as shown on Map 25, includes the continued dredging and disposal of dredged materials within the

Map 23
**RECOMMENDED WATER USE OBJECTIVES
FOR THE MILWAUKEE HARBOR ESTUARY**



Map 24

RECOMMENDED WATER QUALITY MANAGEMENT PLAN ELEMENT FOR THE MILWAUKEE HARBOR ESTUARY



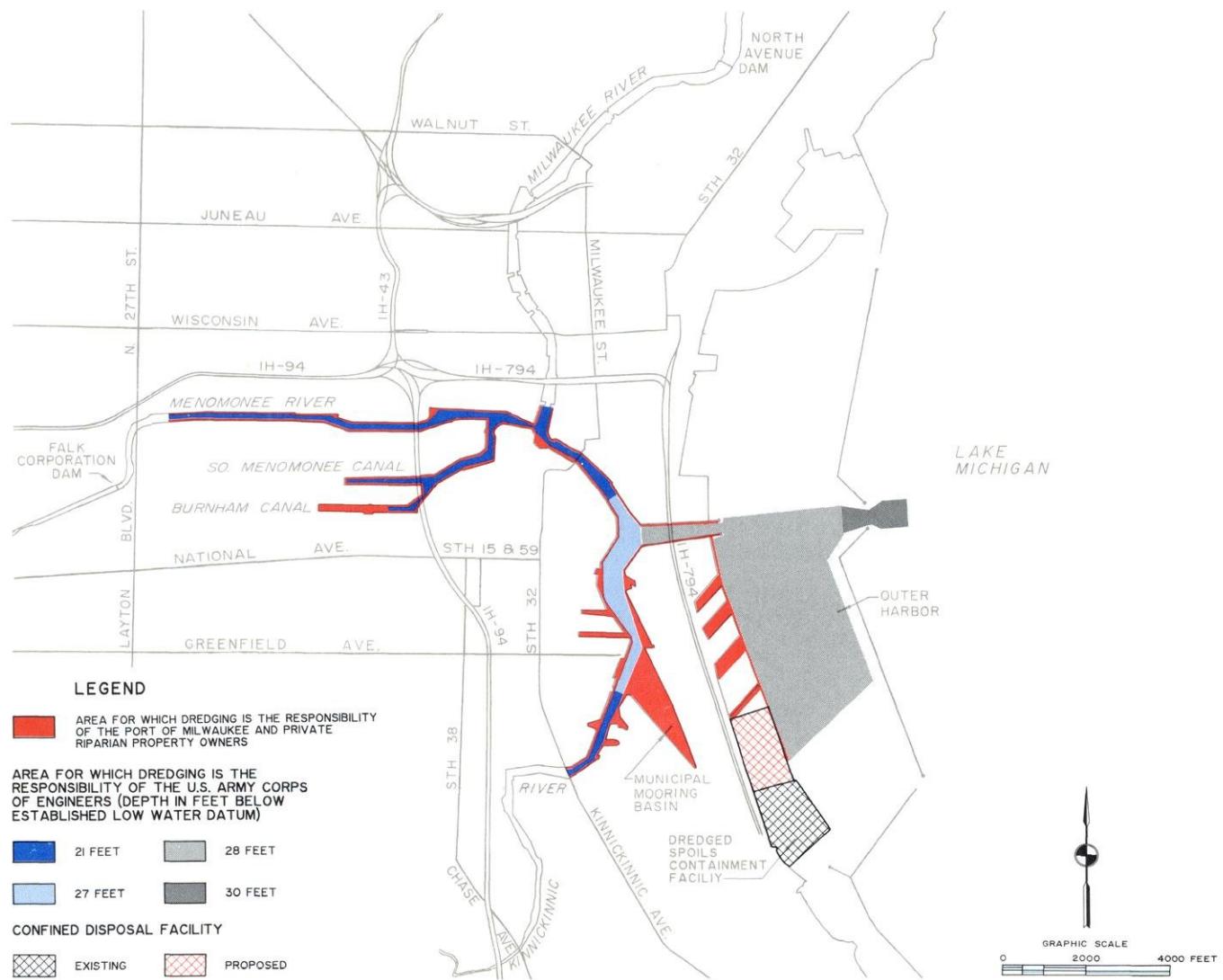
to improve dissolved oxygen or other conventional pollutant levels, or for the maintenance of aquatic habitat conditions, was not needed.

The shoreline storm damage and flood protection plan element includes the consideration by architects and engineers, on a project-by-project basis, of the Lake Michigan and inner harbor

flood levels developed under the study; the construction and repair of individual shore protection measures such as revetments, bulkheads, and dockwalls, and floodproofing to protect facilities in the outer harbor—although substantial modification of the outer harbor breakwater was not recommended; and the installation of a diffused compressed air system

Map 25

RECOMMENDED DREDGING AND DREDGED MATERIALS
DISPOSAL ELEMENT FOR THE MILWAUKEE HARBOR ESTUARY



in the McKinley anchorage area to prevent ice accumulation and associated damages, with such a system to be tested on a pilot scale basis initially. In addition, the preparation of a contingency plan was recommended to deal with flooding and high groundwater problems should Lake Michigan be in a long-term rising trend. This special study would address the impacts of future high lake levels on the many important land uses lining the shorelines of the inner and outer harbors, and on the public infrastructure systems supporting those land uses. Potential

problems in this regard would include overland flooding, including flooding of lands in the Menomonee River Valley, of port facilities, and of major utilities such as the Jones Island sewage treatment plant; the flow of inner harbor estuary waters back over diversion gates into intercepting sewers, and through sewer surcharging into basements; impaired flows from storm sewers and other clearwater discharge pipes; and high groundwater levels affecting the infiltration and inflow of clear water into sewers and basements.

The work conducted under the Milwaukee Harbor estuary study considered 71 toxic substances, of which 27 substances, including 20 organic substances and 7 metals, were found to be present in the sediment, water column, or fish in amounts exceeding recommended levels. Of particular concern were the bottom sediments, which may act as a residual source—as well as a sink—of toxic substances. With respect to human health, the greatest known hazard is related to the consumption of fish containing excessive levels of polychlorinated biphenyls (PCB's). The recommended toxic substances management plan element includes the establishment of water quality and sediment quality standards for each of the 126 priority pollutants identified by the U.S. Environmental Protection Agency; the verification and update of available data on the presence of toxic substances in the estuary; the identification of historical and existing sources of toxic substances, including atmospheric sources, upstream sources, direct tributary drainage area sources, and in-place sediment sources; the development and application of a mathematical model capable of simulating sediment water and biological interactions related to toxic substances; and the development and evaluation of alternative toxic substance abatement plans and the selection of a recommended plan.

The capital cost of implementing the entire Milwaukee Harbor estuary plan is estimated at \$381.3 million, as set forth in Table 29. About \$376.1 million, or nearly 99 percent of the total capital cost of the plan, is for plan elements that have been committed under other planning and programming efforts. Nearly all of the total plan costs would be expended by public agencies, the exception being about \$14.4 million, or about 4 percent, which would be borne directly by the private sector. This cost is attributable to construction site erosion control and to a portion of the rural nonpoint source control land management practices, with a small cost for dredging adjacent to private port facilities. The capital investment and operation and maintenance costs required for plan implementation are expected to total \$29.2 million on an average annual basis, or about \$16 per capita per year for the population of the study area over the 14-year plan implementation period.

All of the major recommendations of the Milwaukee Harbor estuary plan can be undertaken

by the existing federal agencies and state, county, and local units and agencies of government. Primary plan implementation responsibilities rest with the Milwaukee Metropolitan Sewerage District and the Wisconsin Department of Natural Resources.

The recommended Milwaukee Harbor estuary plan was discussed at a formal public hearing held on December 2, 1987. Thirty-seven people attended the hearing, and only five chose to comment. Of these five persons, three generally supported the plan, while two expressed concerns, primarily related to the need to expand the toxic substances management element.

It is extremely important that the waters comprising the inner and outer harbors of Milwaukee be restored to a quality that will enhance the image of this area of the Region and that will provide an ongoing basis for the navigational, recreational, and aesthetic uses of those waters. The comprehensive water resources plan for the Milwaukee Harbor estuary would, if fully implemented, provide the level of water quality needed to ensure that this most important resource contributes to the economic and social well-being of the area. Attaining the water use objectives for the Milwaukee Harbor estuary will significantly enhance the ongoing corresponding efforts to develop and redevelop the central business district of Milwaukee and its environs.

WATERSHED, FLOODLAND, AND STORMWATER MANAGEMENT PLANNING

During 1987, Commission efforts in watershed, floodland, and stormwater management consisted of completion of the preparation of amendments to the Pike River watershed plan and adoption of those amendments; continuation of a stormwater drainage and flood control policy and system planning program for the Milwaukee Metropolitan Sewerage District; provision of technical assistance to local governmental units in the development and implementation of floodland and stormwater management plans, policies, and practices; provision of hydrologic and hydraulic data—including flood-flow and stage data—to consulting engineers and governmental agencies; and the conduct of a cooperative stream gaging program. Map 26 indicates the coverage of the watershed studies conducted by the Commission through 1987.

Table 29

**ESTIMATED COST OF THE RECOMMENDED WATER RESOURCES
MANAGEMENT PLAN FOR THE MILWAUKEE HARBOR ESTUARY**

Plan Element	Capital: 1987-2000 ^a		Average Annual Operation and Maintenance Upon Full Implementation ^a	
	Cost (millions)	Percent of Total	Cost	Percent of Total
Water Quality Management Element				
Point Source Pollution Abatement Subelements				
1. Abatement of Combined Sewer Overflows at a 0.7-Year Level of Protection	\$204.0 ^b	53.5	\$ 617,000 ^b	19.5
2. Elimination of Separate Sanitary Sewer Flow Relief Devices ^c	134.4 ^b	35.2	923,000 ^b	29.1
Subtotal	\$338.4 ^b	88.7	\$1,540,000 ^b	48.6
Nonpoint Source Pollution Abatement Subelement	\$ 25.8 ^b	6.8	\$ 750,000 ^b	23.7
Instream Water Quality Measures Subelement				
1. Operation of Existing Flushing Tunnels in Milwaukee and Kinnickinnic River Estuaries	\$ 0.3	0.1	\$ 130,000	4.1
2. Instream Aeration of the Menomonee River Estuary	0.3	0.1	20,000	0.6
Subtotal	\$ 0.6	0.2	\$ 150,000	4.7
Auxiliary Plan Subelements				
1. Salt and Scrap Metal Storage	\$ 0.6	0.2	\$ --	--
2. Water Quality Monitoring Program	0.2	0.1	114,000	3.6
Subtotal	\$ 0.8	0.2	\$ 114,000	3.6
Total Water Quality Management Element	\$365.6	95.9	\$2,554,000	80.6
Dredging and Dredged Material Disposal Plan Element				
Dredged Material, Processing, Transportation, and Disposal Subelements				
1. Use of Existing Confined Disposal Facility: 1987 through 1992	\$ 2.9 ^b	0.8	\$ 690,000 ^b	21.7
2. New Confined Disposal Facility: 1993 through 2000	9.0 ^b	2.3	550,000 ^b	17.3
Total Dredging and Dredged Material Disposal Element	\$ 11.9 ^b	3.1	\$ 600,000 ^b	19.0
Shoreline Storm Damage and Flood Protection Element				
Outer Harbor Anchorage Area and Shoreline Facilities Wind Storm Protection Subelement	\$ -- ^d	--	\$ -- ^d	--
Ice Control Subelement	0.3	0.1	15,000	0.4
Inner Harbor High Water and Flood Protection Subelement	0.3	0.1	--	--
Total Shoreline Storm Damage and Flood Protection Element	\$ 0.6	0.1	\$ 15,000	0.4
Toxic Substances Management Plan Element	\$ 3.2	0.9	\$ --	--
Total Comprehensive Plan Cost	\$381.3	100.0	\$3,169,000	100.0
Total Cost of Plan Elements Previously Committed Under Other Planning Programs	\$376.1	98.6	\$2,890,000	91.2
Net Additional Cost of Recommended Plan Over and Above Committed Measures	\$ 5.2	1.4	\$ 279,000	8.8

^aAll costs are expressed in 1986 dollars.

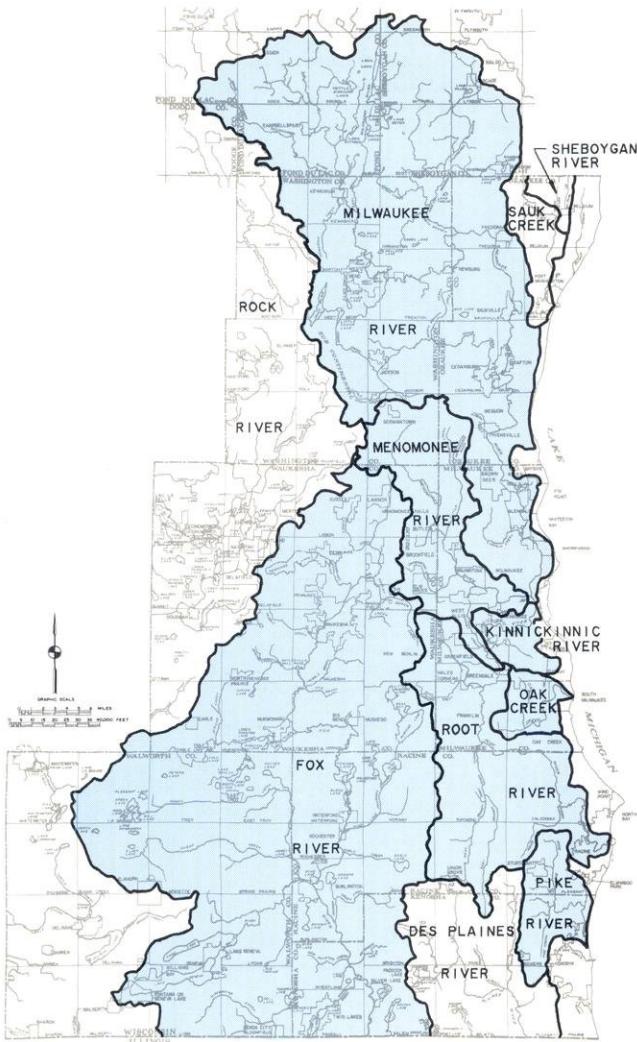
^bPreviously committed cost.

^cCosts do not include costs for major relief sewers in the Milwaukee Metropolitan Sewerage District service area since these sewers were largely constructed prior to 1987.

^dThis subelement is considered in the proposed second level study recommended under the inner harbor high-water and flood protection subelement.

Map 26

SEWRPC WATERSHED STUDIES COMPLETED: 1987



Pike River Watershed Plan Amendments

During 1987, the Commission adopted two amendments to the comprehensive plan for the Pike River watershed. That watershed plan, originally adopted by the Commission in June 1983, is set forth in SEWRPC Planning Report No. 35, A Comprehensive Plan for the Pike River Watershed. Under the first amendment, which was requested by Mt. Pleasant Stormwater Drainage District No. 1, the proposed major channel improvement along the Upper Pike River was revised to provide for a further deepening of the channel downstream of Oakes Road a distance of about two miles to Braun

Road. With this additional channel deepening, all structure flooding problems along the Steele Branch, a Pike River tributary, would be resolved, and proper local drainage to developed lands along that tributary provided. This amendment to the Pike River watershed plan is set forth in a document entitled, Amendment to the Pike River Watershed Plan, Town of Mt. Pleasant, June 1987.

The second Pike River watershed plan amendment came about because of changes made by the Wisconsin Department of Transportation to STH 32 through the Carthage College and Alford Park areas in the City of Kenosha. In order to eliminate flooding problems on STH 32, the Department proposed roadway improvements, including changing both the vertical and horizontal alignments of STH 32 as proposed by the Department of Transportation, together with the reconstruction of the STH 32 bridge over the Pike River to provide a larger waterway opening. This plan amendment is set forth in a document entitled Amendment to the Pike River Watershed Plan, City of Kenosha/Town of Somers, June 1987.

Stormwater Drainage and Flood Control Planning Program for the Milwaukee Metropolitan Sewerage District

During 1987, the Commission continued work on the preparation of a stormwater drainage and flood control plan at the request of the Milwaukee Metropolitan Sewerage District. That District is charged by Section 66.89 of the Wisconsin Statutes with the function and duty of planning, designing, constructing, maintaining, and operating a system of facilities for the collection, transmission, and disposal of stormwater. In carrying out its responsibilities in this respect, the District recognized that a plan was needed that could be used to guide the development, over time, of drainage and flood control facilities within the greater Milwaukee area.

The program being carried out by the Commission for the District is being conducted in accordance with a prospectus published by the Commission in March 1985. In preparing the prospectus, it was recognized that sound public administration, as well as good planning and engineering practice, would dictate that the broad District responsibilities for stormwater management be carried out within explicit policy guidelines set forth by the governing body of the

District, as well as within the context of a comprehensive stormwater drainage and flood control system plan consistent with the policy plan. Accordingly, the prospectus proposed that the District stormwater drainage and flood control plan consist of two elements—a policy plan and a system plan. The policy plan is intended to identify those streams and watercourses for which it is recommended that the MMSD assume jurisdictional responsibility for drainage and flood control purposes; to identify the type of watercourse improvements for which it is recommended that the MMSD assume responsibility; to set forth a recommended manner in which watercourse improvement costs should be shared between the MMSD and benefited municipalities; and to set forth a procedure for prioritizing MMSD drainage and flood control projects. The policy plan was completed in 1986, and was summarized in the Commission's 1986 Annual Report.

The MMSD system plan—to be prepared within the framework of the policy plan—will identify the type, capacity, location, and horizontal and vertical alignment of needed drainage and flood control facilities. To this end, the system plan will recommend the appropriate elevation, size, grade, and capacity of channels and appurtenant bridge waterway openings, major storm sewers, detention and retention basins, pumping stations, and other appurtenances of areawide significance. The system plan will also include such data on flood stages under existing and planned conditions as may be required for sound public decision-making concerning flood protection elevations. The system plan will be in sufficient depth and detail to provide a sound basis for local flood control planning and design, as well as for proceeding with final engineering of the recommended watercourse and other major drainage projects proposed to be constructed by the District. The system plan will identify the benefits and costs of the recommended improvements, and an order of priority and schedule for their construction over time. In effect, then, the system plan culminates in the preparation of a capital improvements program for areawide drainage and flood control works within the existing and planned District service area.

During 1987 the Commission, working under the guidance of a technical advisory committee created for this purpose, completed preparation

of flood control and related stormwater drainage system plans for streams in the Kinnickinnic River, Milwaukee River, and Oak Creek watersheds. These streams include the Kinnickinnic River, Lyons Park Creek, Whitnall Park Creek, the Edgerton Ditch, the S. 43rd Street Ditch, Villa Mann Creek, and an unnamed tributary to Villa Mann Creek, all in the Kinnickinnic River watershed; Indian Creek, Lincoln Creek, Beaver Creek, Brown Deer Park Creek, and South-branch Creek, all in the Milwaukee River watershed; and Oak Creek, the North Branch of Oak Creek, and the Mitchell Field Drainage Ditch, all in the Oak Creek watershed. Also, final report chapters dealing with the natural and man-made resource base of the study area and with the system plan objectives and standards were completed. The technical advisory committee met five times to consider the final report materials relating to these items. At year's end, the Commission staff had begun the preparation of flood control and related drainage system plans for streams in the Root River watershed.

Stormwater and Floodland Management Planning

During 1987, the Commission staff provided technical assistance to state and local governmental agencies in resolving stormwater and floodland management problems. Both stormwater drainage and flood control deal with problems of disposal of unwanted water, and the distinction between these two concepts is not always clear-cut. The Commission defines flood control as the prevention of damage from the overflow of natural streams and watercourses. In contrast, drainage is defined by the Commission as the disposal of excess stormwater on the land surface before such water has entered defined stream channels. While the Commission continues to be extensively involved in flood control planning, in recent years the Commission's work efforts have been increasingly directed toward stormwater management planning.

In 1987 the Commission undertook a number of stormwater and floodland management planning activities at the request of local units of government. The following are examples of such work:

- Work continued on the preparation of a stormwater management plan for the Cray-

fish Creek subwatershed. This work is being conducted at the request of the City of Oak Creek. Crayfish Creek is a tributary of the Root River and flows through the City of Oak Creek in Milwaukee County and the Town of Caledonia in Racine County. At year's end, the Commission staff, working cooperatively with the City of Oak Creek Engineering Department, had completed the inventories and the evaluation of alternatives, and had prepared a preliminary recommended plan. The plan is to be reviewed by the City's Root River Drainage Task Force and to be taken to a public informational meeting during 1988. The preliminary recommended stormwater management system plan provides for the discharge of stormwater to the Root River at a location about 0.9 mile downstream of the present location; the provision of backwater control facilities to prevent flood flows on the Root River and Oak Creek from backing up into Crayfish Creek; and the provision of stormwater detention facilities for both flood-flow reduction and water quality management purposes. The recommended drainage system components consist of two storage facilities; over five miles of new or improved open channels; almost 5.7 miles of storm sewers; the installation of backwater gates; the preservation and maintenance of the existing environmental corridor/wetland complex in the subwatershed; and the continued use of the Crayfish Creek main channel in its present condition.

- Work commenced on the preparation of a stormwater management plan for the City of West Bend. At year's end, the Commission staff, working cooperatively with the City's planning and engineering staff, had completed basic inventories and had initiated development of alternative plans providing for a range of stormwater management options, including storage, conveyance, and nonpoint source pollution control strategies.
- At the request of the Village of Menomonee Falls, hydraulic analyses were conducted to determine the potential impacts on both major and minor flood stages of alternative replacement culverts and channel modification in the vicinity of the Maclynn Drive and Silver Meadows Drive crossings of

Willow Springs Creek. The purpose of the analyses was to enable the Village to select the most cost-effective flood control measures and to ensure that village and state floodplain and shoreland management regulations would be met.

- At the request of Racine County, hydraulic analyses were conducted attendant to proposed development and channel modification along the Upper Pike River in the Town of Mt. Pleasant. The analyses were conducted to ensure that county and state floodplain management regulations would be met, and that the proposed channel modifications were in conformance with the Commission's recommended flood control plan for the Pike River watershed.
- At the request of the Town of Wheatland, hydrologic and hydraulic analyses were conducted to determine the impacts of proposed drainage improvements to a tributary to New Munster Creek. The results of the analyses were to be used to determine the effectiveness of such improvements in abating the frequent drainage and high groundwater problems experienced by residents in the vicinity, and to ensure that county and state floodplain and shoreland management regulations would be met.
- At the request of the City of Burlington, hydraulic analyses were conducted of the potential impacts on regulatory flood stages of a proposed pedestrian bridge over the Fox River. The analyses were conducted to ensure that city and state floodplain management regulations would be met.
- At the request of Waukesha County, hydrologic and hydraulic analyses were conducted to develop alternative flood control measures for a reach of Willow Springs Creek in the Town of Lisbon. The analyses were to enable selection of the most cost-effective flood control plan to prevent potential increases in regulatory flood stages caused by the unauthorized placement of fill in the floodway.
- At the request of the Town of Grafton, hydraulic analyses were conducted of the potential impacts on regulatory flood stages of a private road proposed to be located

within the floodway of the Milwaukee River. The analyses were conducted to determine if county and state floodplain management regulations would be met.

In 1988 the Commission will continue its involvement in stormwater management and floodland management activities, maintaining a staff capability to respond to requests for assistance from local governmental units and state agencies.

Floodplain Data Availability

The status of existing flood hazard data in the Region is shown on Map 27. The Commission has completed comprehensive watershed studies for the Fox, Kinnickinnic, Menomonee, Milwaukee, Root, and Pike River watersheds, and for the Oak Creek watershed, resulting in the development of flood hazard data for about 699 miles of stream channel, not including stream channels in the Milwaukee River watershed lying outside the Region in Sheboygan and Fond du Lac Counties. In addition, special Commission floodland management studies have resulted in the development of flood hazard data for about 27 additional miles of stream channel. Large-scale flood hazard maps prepared to Commission specifications are available for the riverine areas along about 382 miles of stream channel for which the Commission and the Federal Emergency Management Agency have developed flood hazard data.

Flood Insurance Rate Studies

Under the National Flood Insurance Act of 1968, the Federal Emergency Management Agency (FEMA) was given authority to conduct studies to determine the location and extent of floodlands and the monetary damage risks related to the insurance of urban development in floodland areas. FEMA is proceeding with the conduct of such studies on a community-by-community basis throughout the United States. While the Commission has not directly contracted with FEMA for the conduct of such studies, the Commission does cooperate with all of the engineering firms and agencies involved in the conduct of such studies, particularly in the provision of basic floodland data already developed by the Commission in a more comprehensive and cost-effective manner through its series of watershed studies. The Commission provides

to the contractors all of the detailed hydrologic and hydraulic data developed under the watershed studies for the various streams in the Region, and shares with the contractors the results of the analytical phases of such studies. Development by the Commission of such data makes it possible for FEMA to carry out the flood insurance rate studies more efficiently and at considerably less cost than if such data had to be developed on a community-by-community basis. Commission participation in, and review of, the study findings, moreover, assures consistency between studies for communities located along a given river or stream.

Federal flood insurance studies are carried out individually for incorporated cities and villages and for the remaining unincorporated areas of counties. The status of flood insurance rate studies in the Region at the end of 1987 is shown on Map 28. During 1987, studies were underway only for the Village of Sussex. In addition, the federal government had contracted for updated studies for the Cities of Cedarburg and Mequon, the Villages of Grafton, Pewaukee, and Saukville, and the unincorporated area of Ozaukee County to reflect new information and development since completion of the initial studies. It is the intent of FEMA to update older studies depending upon need and funding availability.

As shown on Map 28, as of 1987 there were a total of 24 cities or villages in the Region for which FEMA had not conducted a flood insurance rate study. In eight cases, FEMA has instead published a "flood hazard boundary map," which shows an approximate location of floodlands without the support of detailed engineering studies. The remaining 16 cities or villages in the Region are not considered by FEMA to contain flood hazard areas. In one of those 16—the Village of Newburg in Washington and Ozaukee Counties—a flood hazard area was identified and delineated by the Commission in the Milwaukee River watershed study. Although FEMA has not yet undertaken a flood insurance study for the Village of Newburg—the newest incorporated community in the Region—the Village has enacted appropriate floodland zoning regulations.

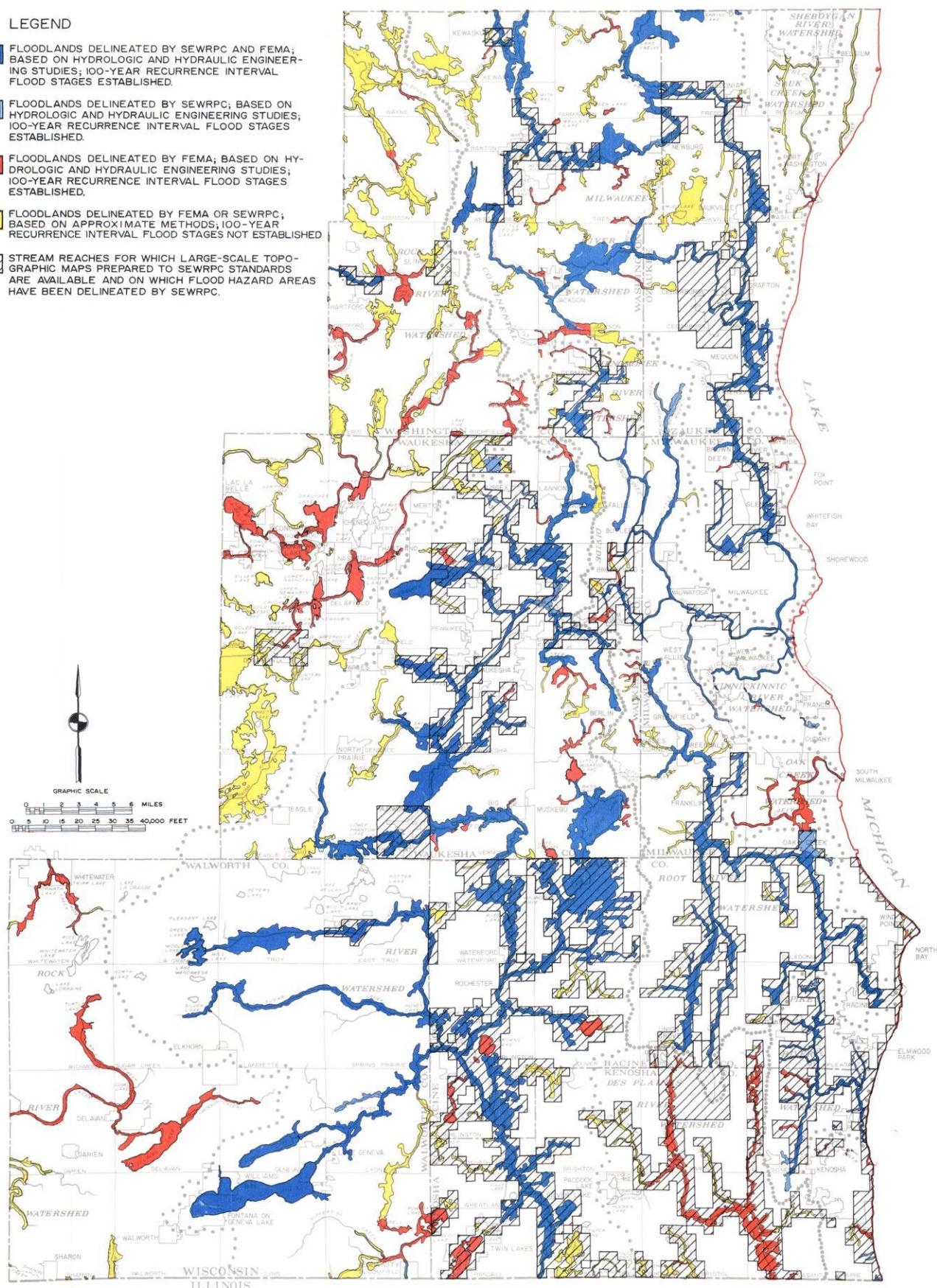
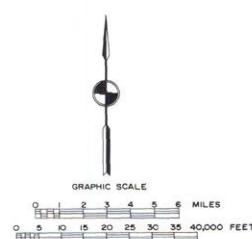
Besides providing available data from the Commission files to the contractors conducting such studies for FEMA, the Commission helps to delineate regulatory floodways and attends

Map 27

DELINEATION OF FLOODLANDS: 1987

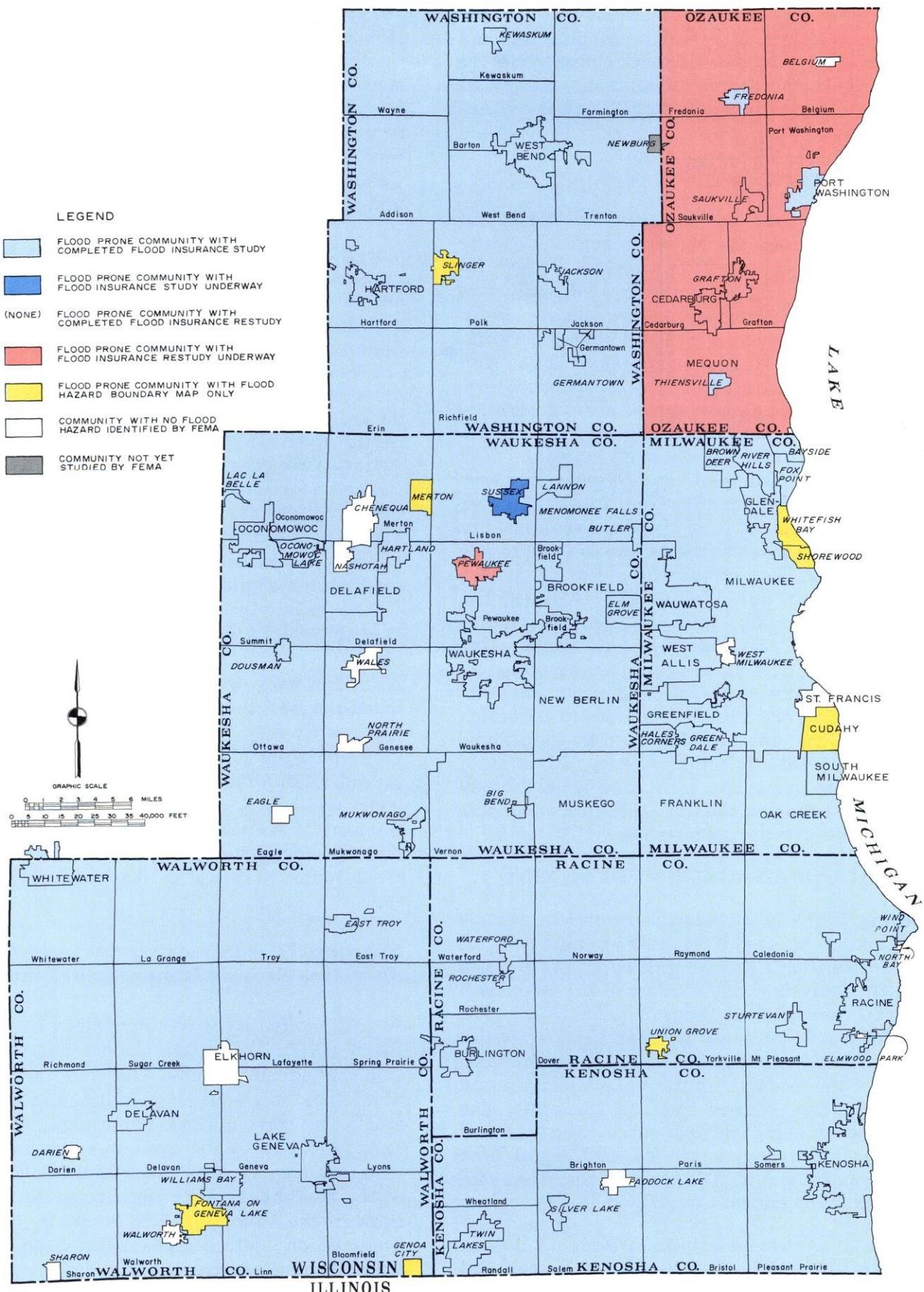
LEGEND

- [Solid Blue Box] FLOODLANDS DELINEATED BY SEWRPC AND FEMA; BASED ON HYDROLOGIC AND HYDRAULIC ENGINEERING STUDIES; 100-YEAR RECURRENCE INTERVAL FLOOD STAGES ESTABLISHED.
- [Light Blue Box] FLOODLANDS DELINEATED BY SEWRPC; BASED ON HYDROLOGIC AND HYDRAULIC ENGINEERING STUDIES; 100-YEAR RECURRENCE INTERVAL FLOOD STAGES ESTABLISHED.
- [Solid Red Box] FLOODLANDS DELINEATED BY FEMA; BASED ON HYDROLOGIC AND HYDRAULIC ENGINEERING STUDIES; 100-YEAR RECURRENCE INTERVAL FLOOD STAGES ESTABLISHED.
- [Yellow Box] FLOODLANDS DELINEATED BY FEMA OR SEWRPC; BASED ON APPROXIMATE METHODS; 100-YEAR RECURRENCE INTERVAL FLOOD STAGES NOT ESTABLISHED.
- [Hatched Box] STREAM REACHES FOR WHICH LARGE-SCALE TOPOGRAPHIC MAPS PREPARED TO SEWRPC STANDARDS ARE AVAILABLE AND ON WHICH FLOOD HAZARD AREAS HAVE BEEN DELINEATED BY SEWRPC.



Map 28

STATUS OF FLOOD INSURANCE RATE STUDIES: 1987



meetings with local officials and citizens to discuss the results of flood insurance rate studies. Under its community assistance program, the Commission also assists local communities in enacting sound floodland regulations as required for participation in the Federal Flood Insurance Program.

Stream Gaging Program

Streamflow data are essential to the sound management of the water resources of the Region. When the Commission began its regional planning program in 1960, only two continuous recording streamflow gages were in operation on the entire regional stream network. Since that time, the Commission has been instrumental in establishing, through cooperative, voluntary, intergovernmental action, a more comprehensive streamflow gaging program (see Map 29). In 1987, there were a total of 18 continuous recording streamflow gages in operation in the Region. Of that total, 15 were financially supported by the Waukesha County Board of Supervisors, the Milwaukee Metropolitan Sewerage District, the City of Racine and the Racine Water and Wastewater Utilities, the Village of Slinger, and the Kenosha Water Utility under the Commission's cooperative program. In addition, one gage was supported by the U. S. Army Corps of Engineers; one was supported by the Illinois Department of Transportation; and one was supported by the Illinois Environmental Protection Agency, Division of Water Resources. The U. S. Geological Survey annually publishes the data collected under this streamflow monitoring program.

COASTAL MANAGEMENT PLANNING

During 1987, the Division continued to provide assistance to the Wisconsin Department of Administration's Bureau of Energy and Coastal Policy Analysis in the conduct of the Wisconsin coastal management program. This program is intended to coordinate governmental activities toward achieving the objective of better management of the resources of the Lake Michigan and Lake Superior coastal zones of the State. The program is being carried out by the State of Wisconsin pursuant to the federal Coastal Zone Management Act of 1972 through the Wisconsin Coastal Management Council.

Under an agreement with the Wisconsin Department of Administration, Bureau of Energy and

Coastal Policy Analysis, the Commission in 1975 formed and staffed a Technical and Citizen Advisory Committee on Coastal Management in Southeastern Wisconsin. This Committee represents a variety of interests, including local elected officials, the university community, and recreational, navigational, and environmental interest groups. The primary function of this Committee is the review of state coastal studies and reports as they are proposed and produced.

One of the continuing functions of the Division under the coastal management program is the designation of special coastal areas. In 1987, no additional areas in the Region were formally designated as special coastal areas. The existing Lake Michigan shoreline special coastal areas are shown on Map 30. These special areas have natural, scientific, economic, cultural, or historic importance. Designation by the Wisconsin Coastal Management Council as a special coastal area ensures eligibility for financial or technical assistance for special coastal area management activities through the Wisconsin coastal management program, and focuses attention on a valuable coastal resource.

During 1987, work continued on the northern Milwaukee County shoreline erosion control plan, and work was initiated on a similar plan to encompass the remaining shoreline of Milwaukee County. In addition, work was completed on a prospectus for a study of the impacts of and alternative solutions to future high lake levels on lands, buildings, and utility systems in the central Milwaukee area. Finally, an unpolluted dredge material disposal plan for the Port Washington harbor was also completed during 1987.

Northern Milwaukee County Shoreline Erosion Management Plan

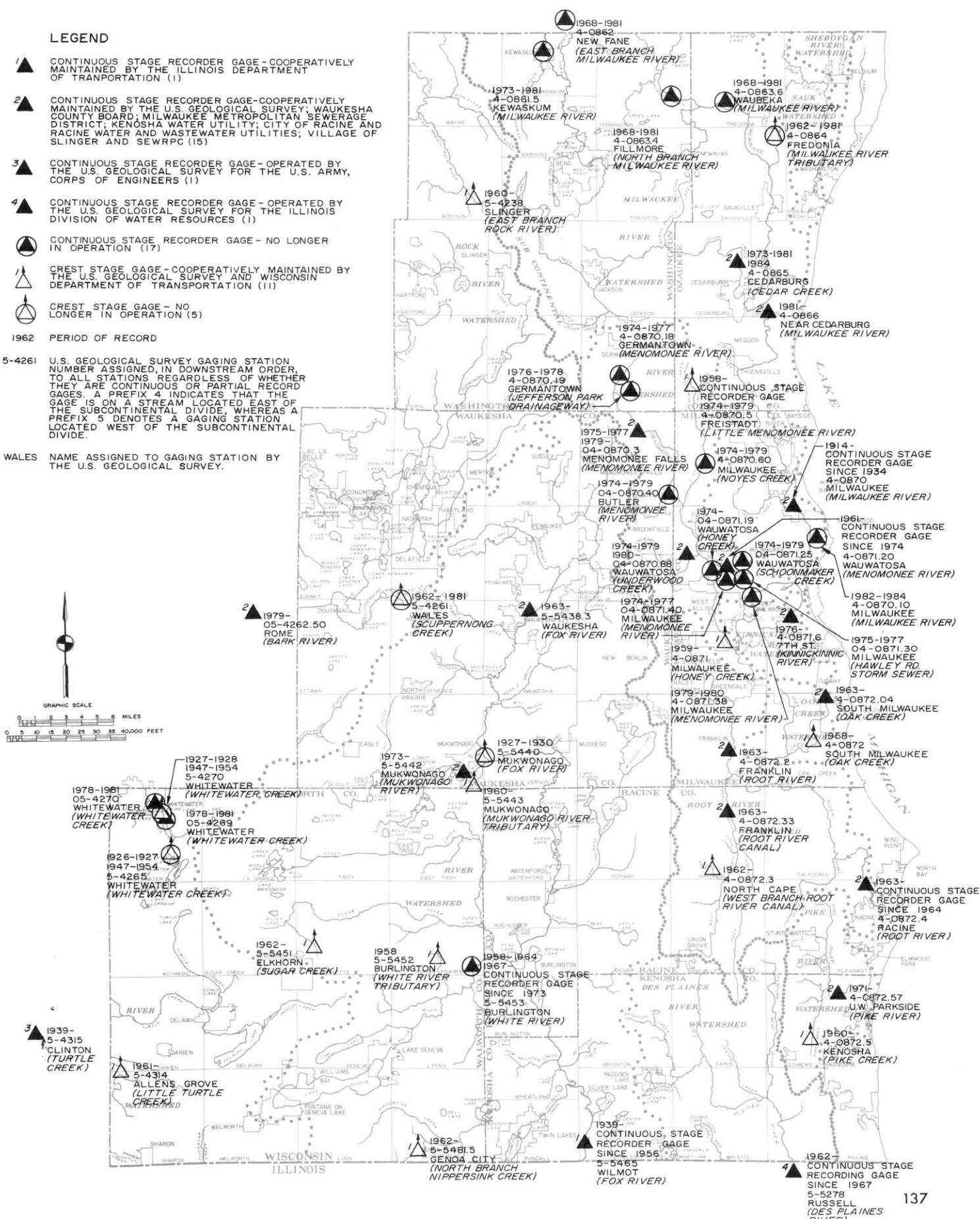
A draft study report was completed in 1987 for the northern Milwaukee County shoreline erosion management study. The study is intended to address both bluff slope failure and shoreline erosion by wave and ice action along a 7.3-mile reach of the Lake Michigan shoreline extending from the City of Milwaukee Linnwood Avenue water treatment plant northward to Doctors Park in the Village of Fox Point. In 1987, the Commission staff completed the study inventories, conducted analyses—including computer

Map 29

LOCATION OF U. S. GEOLOGICAL SURVEY STREAM GAGING STATIONS

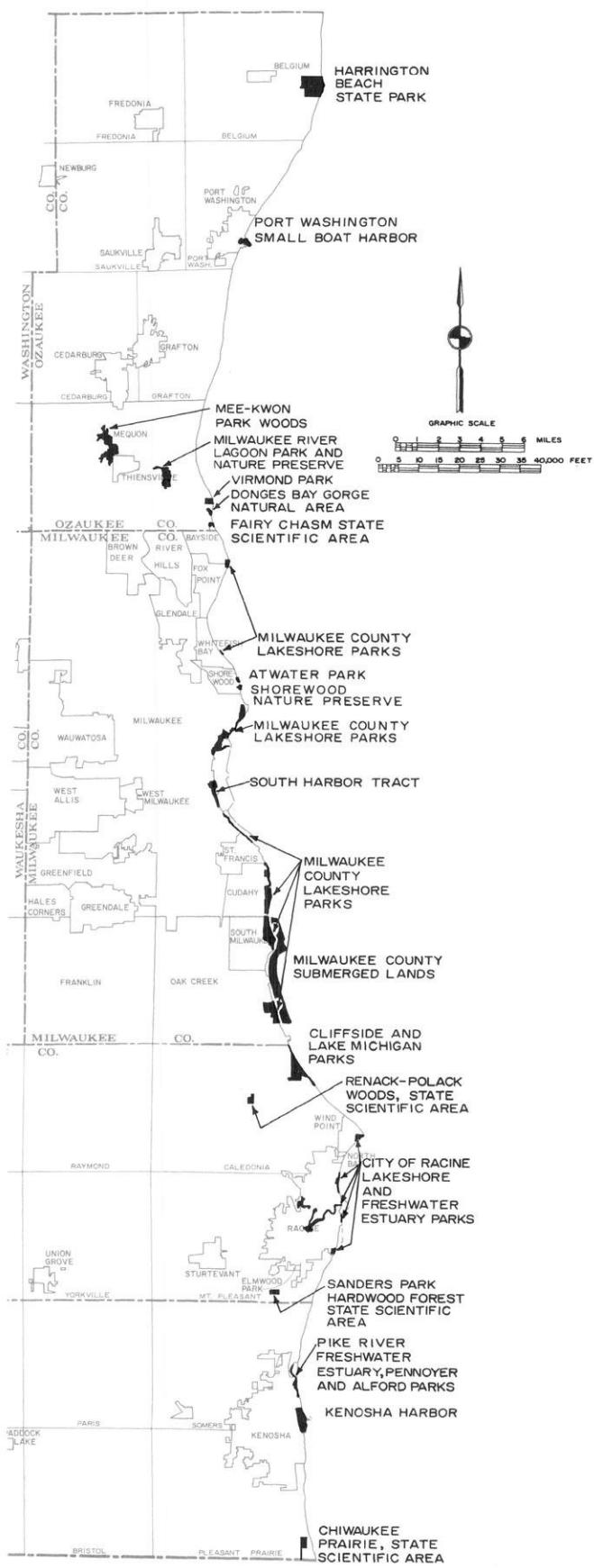
LEGEND

- ▲ CONTINUOUS STAGE RECORDER GAGE - COOPERATIVELY MAINTAINED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (1)
- ▲ CONTINUOUS STAGE RECORDER GAGE - COOPERATIVELY MAINTAINED BY THE U. S. GEOLOGICAL SURVEY; WAUKESHA COUNTY BOARD; MILWAUKEE METROPOLITAN SEWERAGE DISTRICT; KENOSHA WATER UTILITY; CITY OF RACINE AND RACINE WATER AND WASTEWATER UTILITIES; VILLAGE OF SLINGER AND SEWRPC (15)
- ▲ CONTINUOUS STAGE RECORDER GAGE - OPERATED BY THE U. S. GEOLOGICAL SURVEY FOR THE U. S. ARMY, CORPS OF ENGINEERS (1)
- ▲ CONTINUOUS STAGE RECORDER GAGE - OPERATED BY THE U. S. GEOLOGICAL SURVEY FOR THE ILLINOIS DIVISION OF WATER RESOURCES (1)
- ▲ CONTINUOUS STAGE RECORDER GAGE - NO LONGER IN OPERATION (17)
- ▲ CREST STAGE GAGE - COOPERATIVELY MAINTAINED BY THE U. S. GEOLOGICAL SURVEY AND WISCONSIN DEPARTMENT OF TRANSPORTATION (11)
- ▲ CREST STAGE GAGE - NO LONGER IN OPERATION (5)
- 1962 PERIOD OF RECORD
- 5-4261 U. S. GEOLOGICAL SURVEY GAGING STATION NUMBER ASSIGNED, IN DOWNSTREAM ORDER, TO ALL STATIONS REGARDLESS OF WHETHER THEY ARE CONTINUOUS OR PARTIAL RECORD GAGES. A PREFIX 4 INDICATES THAT THE GAGE IS ON A STREAM LOCATED EAST OF THE SUBCONTINENTAL DIVIDE, WHEREAS A PREFIX 5 DENOTES A GAGING STATION LOCATED WEST OF THE SUBCONTINENTAL DIVIDE.
- WALES NAME ASSIGNED TO GAGING STATION BY THE U. S. GEOLOGICAL SURVEY.



Map 30

DESIGNATED COASTAL AREAS IN SOUTHEASTERN WISCONSIN: 1987



slope stability analyses, developed and selected a comprehensive shoreline erosion management plan, prepared a draft study report, and presented the draft plan to the local units of government concerned. Arrangements were made to present the plan at public hearings to be held in 1988.

It was determined that about 80 percent of the total shoreline was being eroded by wave action in 1986, when record high lake levels were recorded. Shoreline and bluff recession rates ranged up to 1.6 feet per year. Field surveys were conducted to evaluate existing beach characteristics, assess the degree of bluff toe erosion, and determine the adequacy of existing shore protection structures. About 61 percent of the shoreline was found to be protected by revetments, groins, bulkheads, or breakwaters. A 1986 inventory of all 80 shore protection structures in the study area indicated that 76 percent of the structures were in need of substantial repair.

Bluff characteristics and the stability of the bluff slopes were also evaluated. Groundwater seepage within the lake sediments (which discharges from the face of the bluffs) as well as bluff toe erosion by wave action were identified as major causes of slope failure. Approximately 70 percent of the northern Milwaukee County bluffs exhibited a potential for bluff slope failure.

A preliminary recommended shoreline erosion management plan was prepared to provide guidance to the local communities and lakefront property owners on how to effectively protect the shoreline without adversely affecting other shoreline areas, or the coastal environment. To stabilize the bluff slopes, the plan recommended that bluff slopes be regraded—either by filling or by cutting back the top of the bluff—along 29 percent of the shoreline. The plan recommended that groundwater drainage systems be considered for about 15 percent of the shoreline, and surface water control for about 4 percent. Revegetating the bluff slope was recommended for about 18 percent of the shoreline.

Three alternative means of protecting the bluff toe from wave action were considered: rip-rap revetments; nourished gravel beaches; and offshore breakwaters, peninsulas, and islands. The preliminary plan recommends large sand beaches contained by offshore breakwaters at Atwater Park, Klode Park, and Doctors Park; about 19,000 feet of nourished gravel beaches

contained by rock groins; and nearly 17,000 feet of rip-rap revetments. Offshore breakwaters were proposed only for public parks where sand beaches for swimming are desired.

The preliminary recommended plan would entail a capital cost of about \$17.8 million, and an annual maintenance cost of about \$1.2 million. About 28 percent of the total cost would be financed by the public sector to protect public shoreline property, while the remaining 72 percent would be financed by private property owners.

The study concluded that the preliminary recommended plan could best be implemented within entire portions of shoreline, referred to as implementation segments. Eighteen implementation segments were identified. Nine permanent access areas for construction and maintenance operations were recommended.

The cooperation, coordination, and local support needed to successfully implement projects within entire implementation segments can best be provided by the four municipalities concerned: the City of Milwaukee and the Villages of Fox Point, Shorewood, and Whitefish Bay. Thus, it was recommended that the municipalities assume primary responsibility for carrying out the plan. To enhance the efficiency and coordination of the functions needed to carry out the plan, it was recommended that once the municipalities formally adopt the plan, they jointly form a cooperative contract commission to assist in plan implementation. The successful implementation of the plan, which requires a stable, long-range commitment to the plan, would provide a high-quality, well-managed coastal environment for northern Milwaukee County.

Milwaukee County Lake Michigan Shoreline Erosion, Bluff Recession, and Storm Damage Control Plan

Work began in 1987 on a shoreline erosion, bluff recession, and storm damage control plan for the entire Milwaukee County shoreline. The northern Milwaukee County plan described above would represent one important element of the entire county plan. The plan is evaluating shoreline erosion-related problems—including damage to existing structures—under various Lake Michigan water level and storm wave conditions.

The preparation of new one-inch equals 100 feet scale, two-foot contour interval, topographic maps for the coastal area of the Village of

Bayside and the updating of topographic maps for the coastal area of the City of Oak Creek, initially prepared in 1977, were initiated in 1987. The large-scale topographic maps are being prepared to National Map Accuracy Standards and are based upon a monumented system of survey control, combining the U. S. Public Land Survey and State Plane Coordinate Systems.

A detailed field inventory of bluff characteristics, stability, and stratigraphy was conducted. Bluff profiles were prepared at 60 locations and include data on slope geometry, stratigraphy, vegetative cover, and groundwater conditions. Soil borings obtained from sites near the shoreline were compiled and used in mapping the bluff stratigraphy. A field survey of beach materials, slope, and widths was completed, and a boat survey was conducted of all in-place shore protection structures lying within the County. The structure survey was later followed by detailed inspections of 47 major structures. Work began on determining the economic value of the land and improvements located immediately adjacent to Lake Michigan. Work also began on measuring historical bluff recession rates over the period 1963 through 1985 using Commission one inch equals 400 feet scale, ratioed and rectified aerial photographs. Oblique color aerial photographs of the entire study area shoreline taken in April 1987 were used to help identify shoreline sections with threatened bluff slopes.

Finally, the Commission staff compiled, reviewed, and summarized all available existing reports and studies related to shoreline erosion in Milwaukee County. Reports were obtained from the Commission files, Milwaukee County, and the Milwaukee Public Library.

Milwaukee High Lake Level Impact Study Prospectus

In response to a request from the Milwaukee County Board of Supervisors, the Commission in 1987 prepared a prospectus outlining the need for, and major work elements of, a study of the potential impacts of high Lake Michigan water levels on lands, buildings, and supporting infrastructure systems in the central Milwaukee area. The prospectus discusses the relationship of such a study to other activities related to high lake levels, presents an overview of Lake Michigan water levels, identifies those factors affecting the lake levels, and discusses the need for the study and the potential impacts of high lake levels. The prospectus concluded that high Lake Michigan water levels may be expected to have serious impacts on public and private lands,

structures, and facilities in the Milwaukee central business district and adjacent areas. The prospectus also indicated a need for a more detailed assessment of these problems.

Major work elements of a high lake level impact study were identified, these being a land element, a buildings element, a utility element, a transportation facility element, and an outer harbor wave impacts element. It was proposed that the study be carried out over a two-year period.

The prospectus recommended that the study be administered by the Regional Planning Commission, with technical assistance from other agencies or private consultants, as needed, and in cooperation with the City of Milwaukee, the Milwaukee Metropolitan Sewerage District, and Milwaukee County. It was also recommended that a technical advisory committee be created to oversee the conduct of the work program. It was estimated that the study would entail a total cost of \$253,000. It was proposed that the Milwaukee Metropolitan Sewerage District and the Wisconsin Department of Administration each contribute one-half of the cost—or \$126,500. The prospectus was published in December 1987.

Unpolluted Dredge Material Disposal Plan for the Port Washington Harbor

During 1987 the Commission staff, at the request of the Wisconsin Coastal Council and the City of Port Washington, conducted a study of the Port Washington harbor leading to the preparation of a 10-year unpolluted dredge material disposal plan. The plan is documented in SEWRPC Memorandum Report No. 16, Unpolluted Dredge Materials Disposal Plan for the Port Washington Harbor, City of Port Washington, Ozaukee County, Wisconsin.

The study evaluated six alternative methods for the disposal of unpolluted dredge materials from Port Washington's outer harbor. The comparative evaluation of the six methods considered economic and environmental cost and implementability. Based upon the results of the comparative evaluation, the plan recommended that a combination of alternative disposal methods be utilized. Specific recommendations include disposal of the dredge material primarily through beach nourishment and, where appropriate, the stockpiling of coarse dredge materials for use as fill material. In addition, the study recom-

mended that the existing confined disposal facilities be retained as a backup method for dredge materials not disposed of by these two reuse measures.

The major advantage of utilizing these recommended alternatives for the disposal of unpolluted dredge materials is that they would provide a flexible and environmentally safe method of disposal for the wide variety of materials that may be encountered in dredging the Port Washington harbor. Furthermore, these disposal methods can be utilized at all times of the year. The major disadvantage of this combination of alternatives is the need for sampling of the bottom sediments prior to dredging. In addition, upon the commencement of the dredging process, the coarse dredged materials would need to be properly segregated from the finer sediments to ensure that the reusable fill and beach nourishment fractions were identified and separated.

Two sites were selected as having a potential for unpolluted dredge material disposal in the form of beach nourishment. Shoreline erosion problems at both sites, Harrington Beach State Park and the City of Port Washington's Lake Park, are of sufficient magnitude to warrant remedial action to help mitigate the destructive effects of excessive shoreline erosion. Consideration of the present littoral currents and recession rates in the vicinity of the Port Washington Lake Park beach, as well as of the proximity of the park to the Port Washington harbor, indicates that any beach nourishment effort at the beach may be expected to result in the immediate erosion of the nourished areas and the subsequent deposition of the materials at or near the mouth of the Port Washington harbor. The Harrington Beach Park site, located to the north of the Port Washington harbor, may be expected to be a better site for beach nourishment. Although Harrington Beach and Lake Park experience the same littoral current and recession activities, the rate of recession is not as great at Harrington Beach as at Lake Park, and use of this site would result in a lesser amount of unpolluted dredged material being deposited at or near the Port Washington harbor. It is therefore recommended that the beach nourishment alternative, which involves the deposition of up to 4,000 cubic yards of unpolluted dredge material per year, be considered for application at the Harrington Beach site.

The report described the characteristics of dredged material and criteria for disposal by the various recommended measures. Near-shore disposal projects must meet specific criteria. The average proportion of the dredged materials finer than 0.074 millimeter (mm) must be within 10 to 15 percentage points of the average proportion of the materials at the disposal site finer than 0.074 mm. If, during the sediment sampling phase of implementation of the recommended disposal plan, it is determined that the dredge materials do not meet this criterion, then it is recommended that the materials be used for fill or placed in an existing confined disposal facility.

SOLID WASTE MANAGEMENT

During 1987, the Commission continued to assist counties in the Region in the preparation and implementation of locally developed, county-oriented, solid waste management plans. A comprehensive solid waste management plan for Milwaukee County was completed during the year. A similar plan for Kenosha County was underway. At year's end, all inventory work for the Kenosha County plan had been completed and reviewed by the Technical Coordinating and Advisory Committee appointed by Kenosha County for this purpose. A draft of the report chapters describing and evaluating alternative solid waste management plans and implementation measures was completed, with Technical Coordinating and Advisory Committee review anticipated early in 1988.

Milwaukee County Solid Waste Management Plan

In cooperation with the Milwaukee County Department of Public Works, Division of Engineering, Environment and Energy Services, the Commission staff worked with a 38-member Intergovernmental Solid Waste Management Planning Task Force composed of state and local officials and knowledgeable citizens to complete the Milwaukee County solid waste management plan. The study was funded jointly by the Wisconsin Department of Natural Resources, Milwaukee County, and the City of Milwaukee, and is documented in SEWRPC Community Assistance Planning Report No. 120, A Solid Waste Management Plan for Milwaukee County, Wisconsin.

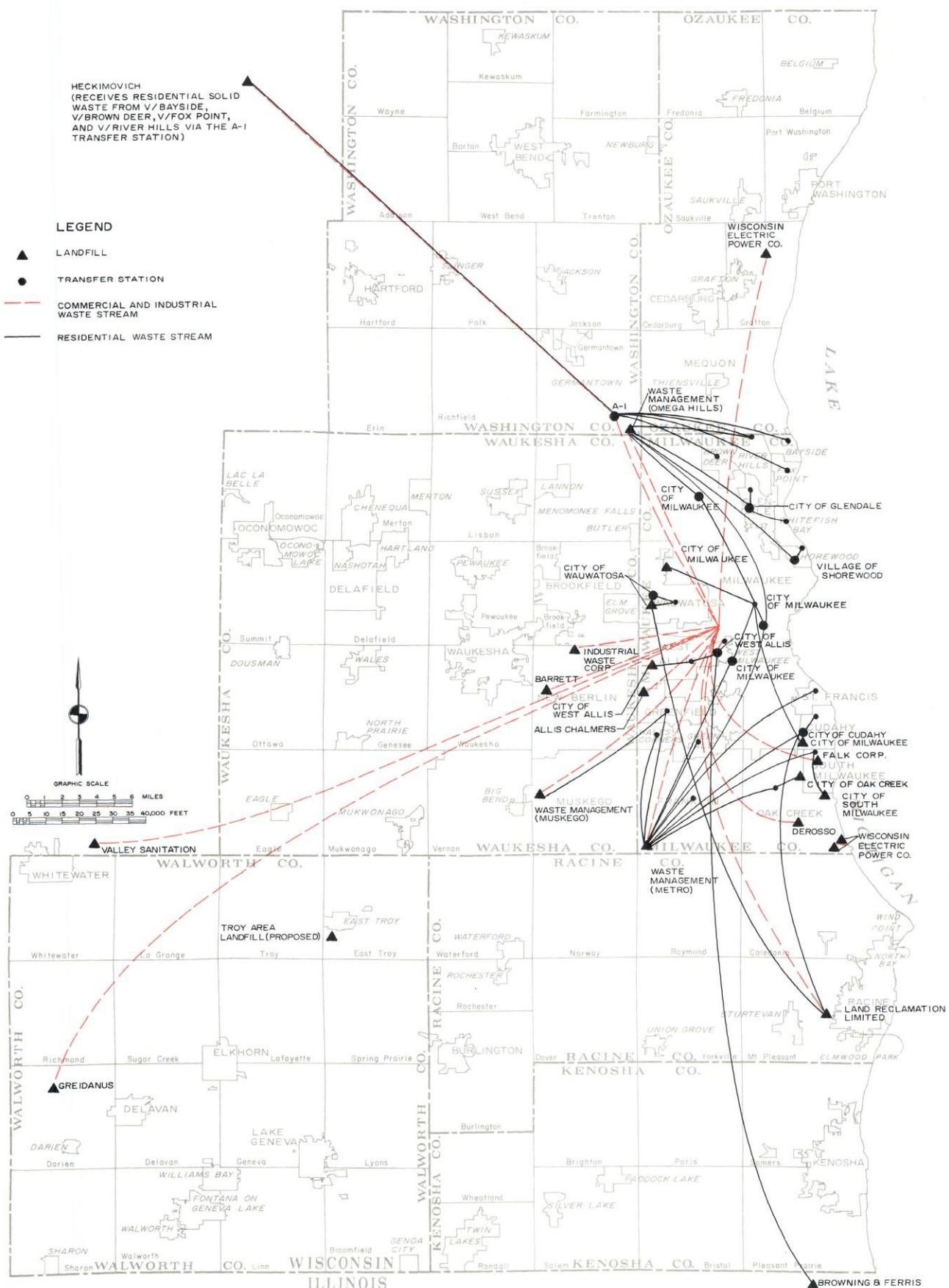
The report evaluated the existing and anticipated future physical and demographic characteristics of the County, as well as the existing and anticipated solid waste types, quantities, and sources, and associated disposal methods. The existing solid waste disposal facilities in the County and the transportation pattern for the residential and commercial solid wastes generated in and around the County are shown on Map 31. The report also evaluated the components and associated costs of 12 alternative solid waste management plans for Milwaukee County. The plans contain alternative proposals with respect to the number and location of solid waste landfill sites; the number and location of transfer stations; the use of incineration—and related production of steam and electricity; the conversion of solid waste to refuse-derived fuel; and the level of recycling. Under these solid waste management alternatives, the cost for the disposal of solid wastes ranged from \$27 to \$36 per ton.

The recommended plan constitutes an integrated approach to future solid waste management efforts in Milwaukee County, and includes seven plan components (see Maps 32 and 33). These components include continued use of the existing storage, collection, transportation, and transfer systems; the use and expansion of existing landfills; the construction of incinerators for combustion of solid waste and concomitant generation of steam and electricity; and source separation to remove the recyclable materials from the solid waste stream prior to collection. There is concern that the heavy metals and other contaminants in incinerator ash could leach out from the ash when placed in the acid leachate environment of a conventional solid waste landfill. Thus, it is recommended that a new incinerator ash landfill or, alternatively, the segregation of a new series of cells at the site of an existing landfill, be considered for incinerator ash.

The source separation component of the plan consists of four subelements, including 1) a residential solid waste recycling program for paper, glass, metal, and plastic, whereby residents would transport these materials to a recycling center; 2) a curbside collection program for newsprint, whereby municipal and private solid waste collection vehicles would be equipped with special racks for temporary storage and transport of separated newsprint; 3) a compost-

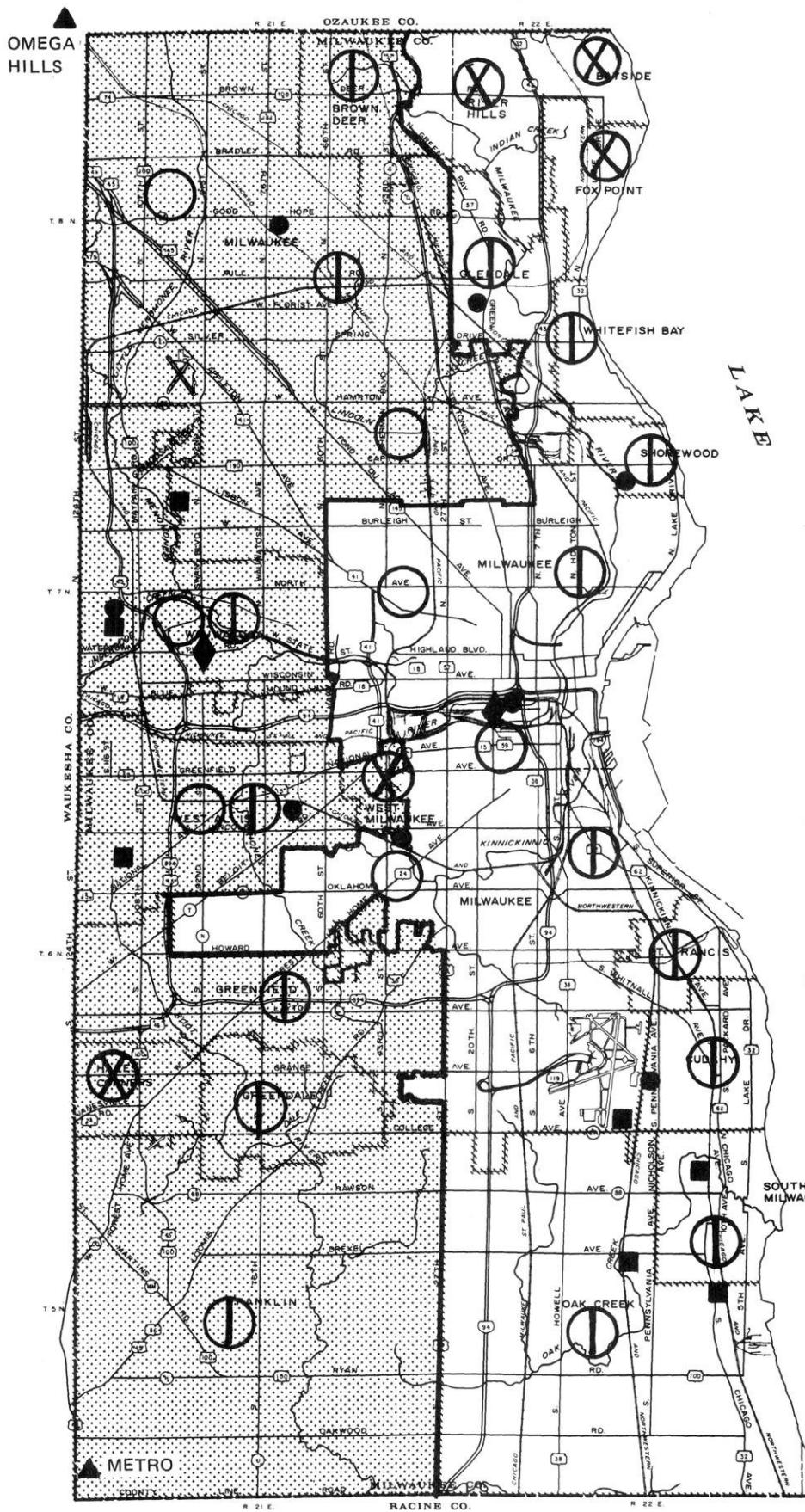
Map 31

EXISTING RESIDENTIAL, INDUSTRIAL, AND COMMERCIAL SOLID WASTE TRANSPORTATION PATTERNS AND DISPOSAL SITES FOR MILWAUKEE COUNTY: 1985



Map 32

RECOMMENDED SOLID WASTE MANAGEMENT PLAN FOR MILWAUKEE COUNTY



LEGEND

- SPECIAL-USE LANDFILL
- ▲ COMMERCIAL GENERAL-USE LANDFILL
- TRANSFER STATION
- ◆ POTENTIAL INCINERATOR SITE
- AREA FROM WHICH A PORTION OF THE SOLID WASTE WOULD BE TRANSPORTED TO THE AMERICOLOGY INCINERATOR SITE
- ▨ AREA FROM WHICH A PORTION OF THE SOLID WASTE WOULD BE TRANSPORTED TO THE MILWAUKEE COUNTY GROUNDS INCINERATOR SITE
- GENERALIZED LOCATIONS OF RECYCLING CENTERS (7)
- □ GENERALIZED LOCATIONS OF RECYCLING CENTERS AND COMPOSTING SITES (16)
- X GENERALIZED LOCATIONS OF COMPOSTING SITES (5)

Map 33

ALTERNATIVE RECOMMENDED SOLID WASTE MANAGEMENT PLAN TO BE USED IF THE MILWAUKEE COUNTY GROUNDS INCINERATION FACILITY SITE PROVES NOT TO BE VIABLE

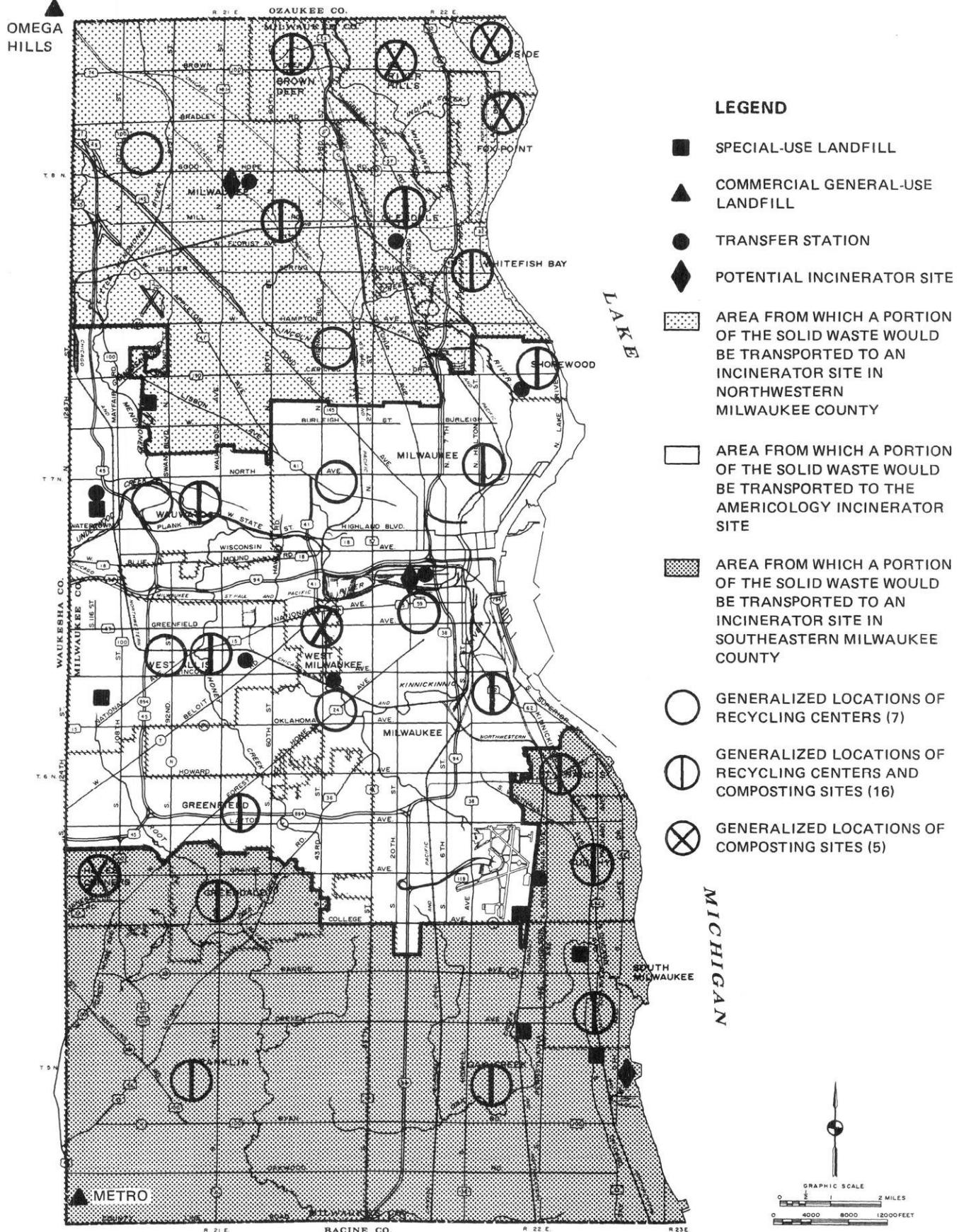


Table 30

**DISPOSITION OF SOLID WASTE STREAM IN MILWAUKEE
COUNTY UNDER EXISTING (1984) AND RECOMMENDED
PLAN CONDITIONS IN THE PLAN DESIGN YEAR (2010)^a**

Waste Disposition	1984		2010	
	Tons/Year	Percent of Total	Tons/Year	Percent of Total
Recycling				
Residential	13,000	1	58,000	4
Commercial	55,000 ^b	4	82,500	6
Industrial	250,000 ^b	20	290,430	22
Subtotal	318,000	25	430,930	32
Incineration				
Residential	-- ^b	--	420,000	32
Commercial	-- ^b	--	50,000	4
Industrial	-- ^b	--	60,000	5
Subtotal	--	--	530,000	41
Landfill				
Residential	447,500	36	40,560	3
Commercial	135,675	11	71,700	5
Industrial	346,800	28	246,370	19
Subtotal	929,975	75	358,630 ^c	27
Total				
Residential	460,500	37	518,560	39
Commercial	190,675	15	204,200	16
Industrial	596,800	48	596,800	45
Total	1,247,975	100	1,319,560	100

^aThe waste stream identified in this table does not include construction and demolition debris, sludge from sewage and water treatment plants, trees and brush, or bulk materials consisting primarily of used appliances.

^bSmall portions of the existing commercial and industrial solid waste stream are known to be internally incinerated at a number of generation sites. No quantitative estimates of such local incineration were made in the Milwaukee solid waste study; however, review of questionnaire results indicates that a limited number of industrial or commercial firms incinerate wastes, and, in most cases, those that do incinerate a small portion of their individual waste streams. In some cases these quantities were not reported separately and were included in the internally recycled material quantity estimates.

^cIn addition to this total, about 170,000 tons annually of residual ash from the incineration process would require landfilling.

ing program for the processing of yard waste; and 4) a household toxic and hazardous waste management program.

The level of recycling recommended to be provided in Milwaukee County is meant to be flexible, with each community ultimately being responsible for the levels achieved. The amounts envisioned in the plan for system planning purposes are set forth in Table 30. It is expected that recently enacted legislation which prohibits the disposal of yard waste in landfills after January 1, 1993, will result in increased levels of recycling over and above those set forth in Table 30. However, these increases are not expected to result in a change in the need for an integrated approach to solid waste management using the components described above. Rather, the size and capacity of the components will need to be refined as part of subsequent detailed facility planning and design.

In addition, if the term recycling is broadly defined to encompass resource recovery operations—the State Statutes frequently link these terms—then that part of the waste stream scheduled for incineration in the plan design year 2010—totaling about 530,000 tons per year, or about 41 percent of the total solid waste stream—could also be categorized as waste recycling, since the incineration operations are proposed to generate steam and/or electricity for institutional and industrial use. Thus, depending upon the way the term recycling is defined, from 32 to 73 percent of the total waste stream in the plan design year could be considered as being recycled. This change from the current level of about 25 percent would come about through a significant decrease in dependence on landfilling. Currently, about 930,000 tons of waste per year, or about 75 percent of the total waste stream, are landfilled. If the plan is fully implemented, only about 359,000 tons per year, or about 27 percent of the total waste stream,

would be landfilled. The incineration would produce about 170,000 tons of ash per year, which would probably have to be placed in a specially designed landfill. The Milwaukee County plan may thus be considered to be consistent with state policy as expressed in Section 144.792 of the Wisconsin Statutes. This section encourages the following priorities: reduction of solid waste generation, reuse of solid waste, recycling of solid waste, composting, recovery of energy, and land disposal.

The capital investment cost of implementing the recommended Milwaukee County solid waste management plan is estimated at \$141,670,000 over the 20-year plan implementation period. The total average annual cost of carrying out the recommended plan, including the construction of new facilities and the operation and maintenance of those facilities, may be expected to approximate \$28,551,000, or about \$28 per ton of solid waste handled. Based upon the anticipated design year resident population of the plan area, the total average annual cost would be about \$31 per capita.

The solid waste management plan for Milwaukee County sets forth the recommended means, costs, and implementation methods for meeting the existing and forecast year 2010 solid waste management needs in Milwaukee County. Adoption and implementation of this plan will provide for the sound management of solid wastes in the County in an efficient, environmentally safe, and cost-effective manner, and will at the same time result in the recovery of valuable recyclable materials and the generation of energy from waste materials that would have otherwise required landfilling. Adoption and implementation of the plan would provide Milwaukee County with a comprehensive, long-term solution to the resolution of the county solid waste management problems.

ECONOMIC DEVELOPMENT ASSISTANCE DIVISION

DIVISION FUNCTIONS

The Economic Development Assistance Division assists county and local units of government in the Region in pursuing economic development activities and coordinating county and local economic development plans and programs. The Division provides four basic types of services: economic development program planning; data provision; grant application preparation and grant award administration; and project planning.

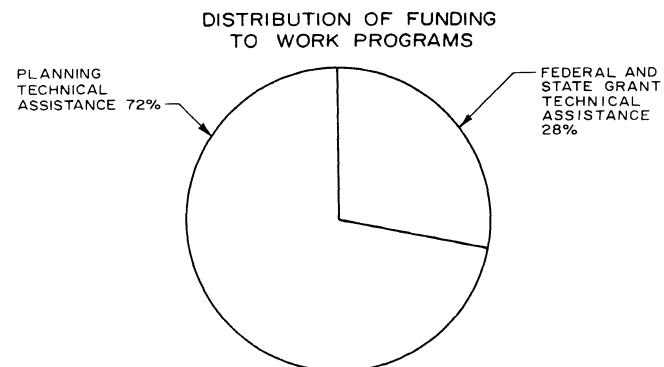
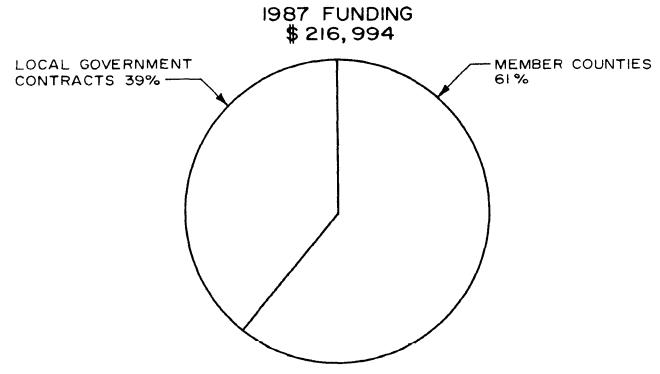
LOCAL ECONOMIC DEVELOPMENT PROGRAM PLANNING

Increasingly, communities within the Southeastern Wisconsin Region have identified a need for ongoing local economic development program activities. This need has often been evidenced by a variety of local and regional economic development problems, including: 1) structural changes in the regional and national economies evidenced by a declining proportion of manufacturing employment and an increasing proportion of retail trade and service employment; 2) the growing importance to employers of international trade and government sales; 3) the availability of workers for the full range of employment opportunities in the Region; and 4) decisions by local businesses and industries to relocate to, or expand in, areas outside the community.

There has been an increasing interest in carefully planning local economic development programs because of the rising costs of promoting economic development. In order to attract new employers and retain existing employers, some communities have chosen to purchase land for industrial parks and to provide the necessary infrastructure for development—roadway, sanitary sewer, water supply, and stormwater drainage improvements. Other communities have improved central commercial business districts through street resurfacing; improvements to curbs and gutters, sidewalks, public parking lots, and utilities; and the provision of streetscape amenities such as trees and curbside benches.

However, because the costs of these improvements have continued to escalate, and because business establishments have become less attached to existing geographic locations, many communities have begun to reevaluate previous decisions to promote economic development. While some have decided not to promote the growth of existing business and industry, or the location of new firms within their communities, others have decided to continue to pursue a range of local economic development measures. These include identifying the types of economic growth compatible with overall community development goals and objectives, and promoting compatible economic activities. In response to the increased interest in furthering economic development at the county and local level, the

Figure 70
ECONOMIC DEVELOPMENT ASSISTANCE DIVISION



Commission has developed a staff capability to assist public agencies and private organizations in such efforts.

During 1987, the Commission engaged in the following overall economic development program planning efforts:

- Preparation of local economic development program plans for the City of Burlington in Racine County; the Cities of South Milwaukee and West Allis in Milwaukee County; and the City of Oconomowoc and the Village of Menomonee Falls in Waukesha County. At the end of 1987, the program plans had been adopted by the Common Councils of the Cities of Oconomowoc and South Milwaukee, and by the Village Board of the Village of Menomonee Falls. The program plans for the Cities of Burlington and West Allis are expected to be considered for adoption in 1988. In addition, the Commission received requests from the Village of Slinger in Washington County and the City of Brookfield in Waukesha County to initiate the preparation of program plans in 1988.
- Preparation of updated countywide economic development program plans for Kenosha and Racine Counties which would serve to maintain county eligibility for federal public works grants and business loan guarantees to further economic development.

PROVISION OF ECONOMIC DEVELOPMENT INFORMATION

Considerable Commission staff effort is directed at answering requests for economic development information. This function also includes the provision of short-term technical assistance to local units of government, public agencies, and local development corporations in the analysis of economic development data. During 1987, the Division prepared letter responses to 35 requests for economic development data and related information from the Commission data files. In addition, approximately 200 requests were handled by telephone and through personal visits to the Commission offices. These requests came from local units of government, federal and state agencies, local development organizations, and

private firms and individual citizens. The following are some examples of Division activity in performing this function during 1987:

- Provision of employer information to: the Kenosha Area Development Corporation; Gateway Technical Institute in Kenosha County; Manke Insurance Agency in the City of Waukesha; and the Anderson-Roethle Company, Inc. The information was used in identifying the number and industry type of employers in the service areas of these organizations.
- Provision of demographic and economic data and land use information to Mooney, LeSage & Associates, a commercial and industrial real estate firm, for the purpose of analyzing the potential for industrial development of various land parcels in the City of Oconomowoc.
- Provision of demographic and socioeconomic data and information regarding small business investment companies in the Southeastern Wisconsin Region to Forward Wisconsin, Inc., Wisconsin's lead economic development organization, for the purpose of working with industrial prospects that are interested in locating in the Region.
- Provision of information to the Racine County Division of Planning and Development regarding the development of a computerized inventory system for collecting and maintaining data on vacant industrial buildings in Racine County.
- Provision of comments to the Wisconsin Department of Development regarding the effect of proposed changes in the Wisconsin Development Fund-Economic Development Program on those communities in the Southeastern Wisconsin Region not eligible for entitlement grants under the federal community development block grant program. The implementation of the changes proposed by the Commission staff resulted in a more competitive position for communities in the Region with regard to the receipt of grants that, in turn, could be loaned to companies for business expansion projects.

PREPARATION AND ADMINISTRATION OF ECONOMIC DEVELOPMENT GRANT APPLICATIONS

The Commission staff provides assistance to local units of government in the preparation of economic development grant applications to state and federal agencies and in the administration of programs following grant awards. In most cases, the grant applications seek to acquire state or federal funding to improve community facilities and services in order to meet the needs of business and industry, and to provide below-market interest rate loans to businesses in an effort to expand employment opportunities and to increase the community's tax base.

The following applications for grants filed during 1987 resulted in grant awards:

- An application prepared at the request of Kenosha County for an economic development program grant from the Wisconsin Development Fund in the amount of \$300,000. This grant was used to provide a business loan to Bristol Container Corporation, a manufacturer of large stainless steel shipping containers in the Town of Bristol. The loan is expected to result in 15 new jobs and \$300,000 in private capital investment.
- An application prepared at the request of the City of Hartford for an economic development program grant from the Wisconsin Development Fund in the amount of \$250,000. This grant was used to provide a business loan to the STW Corporation, a manufacturer of snowplow equipment. The loan is expected to result in a total of 40 new jobs and \$260,000 in private capital investment.
- An application prepared at the request of the City of Hartford for an economic development program grant from the Wisconsin Development Fund in the amount of \$285,000. This grant was used to provide a business loan to the HED Corporation, a new business venture that intends to manufacture specialized digital computers that function as controllers for electro-hydraulic valves in construction equipment. The loan is expected to result in a total of 40 new jobs and \$340,000 in private capital investment.
- An application prepared at the request of Kenosha County for a federal grant from the U. S. Department of Commerce, Economic Development Administration, in the amount of \$350,000. The monies were used to establish a countywide low-interest revolving business loan fund, the first such countywide fund in southeastern Wisconsin.

The following applications for grants were prepared during 1987 and were awaiting federal and state decisions at the end of the year:

- An application prepared at the request of Kenosha County and the Village of Twin Lakes for an economic development program grant from the Wisconsin Development Fund in the amount of \$170,000. The grant monies would be used to provide a business loan to Des Automotive Products, Inc., a manufacturer of automotive disc brake pads and a remanufacturer of automotive brake shoes and heavy duty air brake components. If approved, the loan would result in 10 new jobs and \$325,000 in private capital investment.
- An application prepared at the request of Kenosha County for a public facilities and housing rehabilitation program grant from the Wisconsin Development Fund in the amount of \$688,000. The grant monies would be used to provide low- or no-interest loans to low- and moderate-income families to rehabilitate 63 owner-occupied housing units and seven vacant renter-occupied housing units; to provide handicapped person accessibility improvements to six housing units; to defray the cost of installing sanitary sewer laterals to 12 housing units; and to defray the cost of removing two blighted properties owned by Kenosha County.
- An application prepared at the request of the City of Hartford for a public facilities program grant from the Wisconsin Development Fund in the amount of \$481,500. The grant monies would be used to help pay the cost of extending centralized sanitary sewer service from the Hartford sewage treatment facility to the Rubicon Sanitary District, an urban enclave west of the City of Hartford in the Town of Rubicon, Dodge County.

- An application prepared at the request of the Village of Slinger for a public facilities program grant from the Wisconsin Development Fund in the amount of \$177,880. The grant monies would be used to help pay the cost of extending centralized sanitary sewer service to the Wheel Estates Mobile Home Park in the Village.
- An application prepared at the request of the Village of Saukville for a public facilities program grant from the Wisconsin Development Fund in the amount of \$353,100. The grant monies would be used to help pay the cost of constructing a 100,000-gallon water storage reservoir in the Village.
- An application prepared at the request of the Village of Saukville for a housing rehabilitation program grant from the Wisconsin Development Fund in the amount of \$284,577. The grant monies would be used to provide low-interest housing rehabilitation loans to low- and moderate-income families and individuals in the Village.

In addition to helping local counties and communities apply for available federal and state funds, the Commission will, upon request, contract with successful applicants for the administration of the grant monies. A number of activities are involved in administering the grant monies, including, importantly, ensuring that the terms of the grant award are met. During 1987, the Commission provided contract services to administer the following projects that were aided by federal and state grant awards:

- A Wisconsin Development Fund grant in the amount of \$300,000 awarded to Kenosha County in 1987 by the Wisconsin Department of Development to provide a business loan to the Bristol Container Corporation, Town of Bristol. As noted above, the loan is expected to result in 15 new jobs and \$300,000 in private capital investment.
- Two federal urban development action grants totaling \$859,000 awarded to the City of Whitewater by the U. S. Department of Housing and Urban Development in 1985. The awarded monies have been used to make business development loans to the

Moksnes Manufacturing Company and the Hawthorn Mellody Company. These two firms have undertaken expansion programs that, when completed, will create about 40 new jobs in the City.

- A Wisconsin Development Fund grant in the amount of \$648,000 awarded to Kenosha County in 1985 by the Wisconsin Department of Development. The grant monies are being used to help rehabilitate 98 low- and moderate-income housing units throughout Kenosha County, but targeted primarily in the Town of Salem and the Villages of Paddock Lake, Silver Lake, and Twin Lakes.
- A Wisconsin Development Fund grant in the amount of \$720,000 awarded to the City of Whitewater in 1985 by the Wisconsin Department of Development. The grant monies are being used to establish a revolving low-interest business loan fund to help local firms create about 100 new jobs in the Whitewater area over a three-year period.
- A Wisconsin Development Fund grant in the amount of \$270,300 awarded to the City of West Bend in 1986 by the Wisconsin Department of Development. The grant monies are being used to provide a business loan to Elite Plastic Services, Inc. The project is expected to help create about 40 new jobs.
- A Wisconsin Development Fund grant in the amount of \$400,000 awarded to Kenosha County in 1986 by the Wisconsin Department of Development. The grant monies are being used to provide a business loan to I.T.O. Industries, Inc., in the Town of Bristol. The project is expected to help retain about 60 jobs at the Bristol plant.

ECONOMIC DEVELOPMENT PROJECT PLANNING SERVICES

Economic development project planning services involve the conduct of detailed economic development planning studies for local units of government, development corporations, and other organizations interested in economic development and seeking Commission assistance. During 1987, the following representative project planning services were conducted:

- At the request of the Sherman Park Community Association and the Cooperation West Side Association in Milwaukee County, the Commission assisted with the conduct of, and data processing attendant to, an exterior survey of housing conditions in the organizations' service areas. The results of the surveys provide important information for a number of the Associations' neighborhood improvement projects.
- At the request of the Village of Mukwonago, the Commission staff provided assistance to the Village Economic Development Committee in preparing a development plan for the existing industrial park in the Village. The Commission provided assistance in the following areas: 1) analyzing the characteristics of the industrial park site; 2) organizing the industrial park development; 3) designing the industrial park design; 4) establishing industrial park development controls; and 5) marketing and advertising the industrial park. At year's end, the project had proceeded to the point where new large-scale topographic mapping of the existing industrial park site had been obtained and alternative designs for the development of the park had been prepared.
- At the request of the City of West Bend, the Commission staff initiated a study of the size and quality of the labor force in Washington County. The City's request resulted from a concern by local economic development officials that, owing to declining unemployment rates in the City, the City's economic development organizations will need to develop strategies that will increase the supply of workers to area businesses. The study is expected to be completed during 1988.
- At the request of Forward Wisconsin, Inc., the Commission staff participated in the Economic Conditions Subcommittee of the Southeast Wisconsin Regional Marketing Group. The Subcommittee identified and analyzed significant economic conditions in the Region and their effect on future economic development initiatives by Forward Wisconsin, Inc., and other economic development organizations. The results of the study will be used to provide a better focus for the economic development activities in the Region.



COMMUNITY ASSISTANCE PLANNING DIVISION

DIVISION FUNCTIONS

The Community Assistance Planning Division has primary responsibility for assisting local units of government in the Region in the conduct of local planning efforts, thereby promoting coordination of local and regional plans and plan implementation actions, and generally promoting good public administration as well as sound physical development within the Region. The Division provides five basic types of services: educational, advisory, review, project planning, and resident planning.

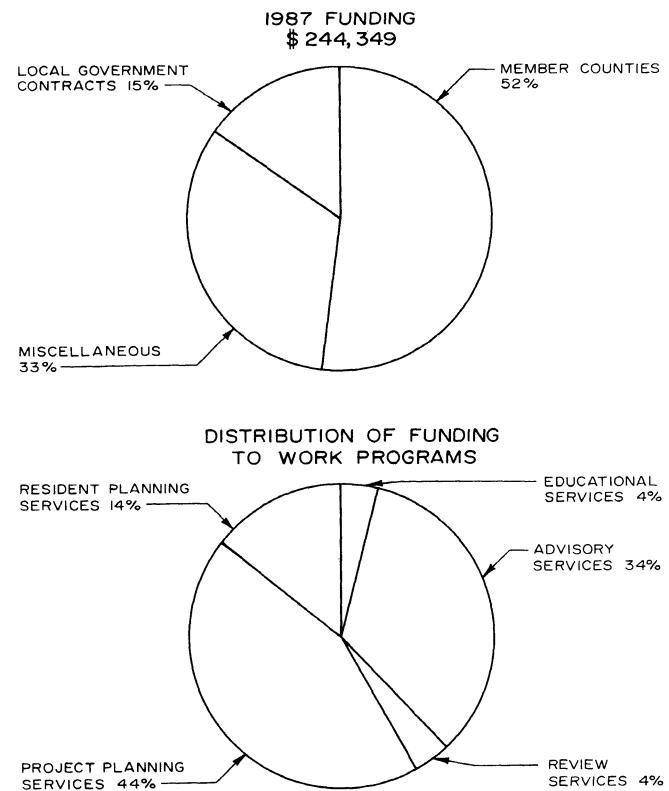
EDUCATIONAL SERVICES

Educational services are provided by the Division staff to local units of government and citizen groups on request, and are directed at explaining the need for, and purposes of, continuing local, regional, and state planning programs, and the relationships that should exist between these different levels of planning. In addition, these efforts are directed at encouraging the creation, organization, staffing, and financing of local planning programs. During 1987, educational efforts included the following:

- Presentations on the general scope of work done by the Commission and the details of specific work programs to local governmental, civic, and professional groups, such as the Village of Paddock Lake Plan Commission, the University of Wisconsin-Madison, the University of Wisconsin-Milwaukee, the University of Wisconsin-Whitewater, Waukesha County Technical Institute, Waukesha Catholic Memorial High School, the Brookfield Chamber of Commerce, the Agricultural Business Council of Waukesha County, the Wauwatosa League of Women Voters, the Burlington Kiwanis Club, the Menomonee Falls Sunshine Rotary Club, and the Milwaukee-North Rotary Club. The Commission staff also participated in a panel on farmland preservation at the annual meeting of the Wisconsin Land Conservation Association.

- Conduct of presentations on, and tours of, wetlands at the LacLawrann Nature Area, the Riveredge Nature Area, and the Vernon Marsh.
- Conduct of presentations on automated land records management for the Lake County, Illinois, Soil Conservationist and a delegation from the University of Queensland, Australia. The Commission staff also participated in a panel discussion on geo-processing at the Upper Midwest Regional Planning Conference.
- Preparation of six Commission newsletters discussing Commission planning programs and related activities. The newsletters are distributed to about 1,600 public officials and interested citizens.

Figure 71
COMMUNITY ASSISTANCE PLANNING DIVISION



- Preparation and distribution to newspapers and to radio and television stations of a news release concerning the completion of the Milwaukee Harbor estuary study and announcing a public hearing on the study findings.
- Preparation of the Commission's 1986 Annual Report.

ADVISORY SERVICES

Advisory services consist of the provision of basic planning and engineering data available in the Commission's files to local units of government and private interests, and the provision on an ad hoc basis of technical planning and engineering assistance to local communities. Representative advisory services performed during 1987 include:

- Provision of data and advice concerning the location of floodway and floodplain boundaries to the Cities of Brookfield, Mequon, Oak Creek, and West Allis; the Village of Germantown; and the Town of Pleasant Prairie.
- Conduct of hydraulic and hydrologic analyses of floodland-related development proposals for the City of Burlington, the Village of Menomonee Falls, and the Towns of Brookfield and Mt. Pleasant.
- Conduct of plant inventories on properties in the City of Muskego, Village of Germantown, and Town of Brookfield.
- Field verification of wetland boundaries on properties in the Cities of Franklin, New Berlin, Oconomowoc, and West Bend; the Village of Menomonee Falls; and the Towns of Brookfield and Mt. Pleasant.
- Preparation of wetland jurisdictional maps at a scale of 1 inch equals 400 feet for the City of Oconomowoc and the Villages of Elm Grove, Greendale, Hartland, Menomonee Falls, and Oconomowoc Lake to identify areas affected by the state-mandated wetland zoning requirements set forth in Chapter NR 117 of the Wisconsin Administrative Code.

- Preparation of an aldermanic redistricting plan for the City of Delafield.

REVIEW SERVICES

Review services are intended to encourage the incorporation of regional studies and plans into local planning programs, plans, and plan implementation devices, such as zoning and subdivision control ordinances. In addition, review services are intended to prevent unnecessary duplication of planning efforts, and to coordinate and encourage regional plan implementation. Four basic types of review services are performed: review of local plans, plan implementation devices, and development proposals; review of federal and state grant applications; review of environmental impact statements, reports, and assessments; and review of flood hazards affecting individual properties. The following is a representative sample of review services provided by the Division staff in 1987 in the first review category:

- Review of and comment on 24 preliminary land subdivision plats at the request of Walworth County; the Cities of Burlington, Franklin, Hartford, Mequon, Muskego, Port Washington, and Waukesha; the Villages of Hartland and Sussex; and the Towns of Darien, Delavan, East Troy, Pewaukee, and Somers.
- Review of and comment on seven certified survey maps at the request of the Cities of Burlington and Franklin and the Town of Somers.
- Review of and comment on 19 petitions to rezone lands and 10 proposed zoning text amendments at the request of the Cities of Burlington, Cedarburg, and Franklin; the Villages of Menomonee Falls and Sussex; and the Towns of Somers and Trenton.
- Review of and comment on the Master Plan prepared by the Wisconsin Department of Natural Resources for the Honey Creek Wildlife Area in Racine and Walworth Counties.
- Review of and comment on proposed heliport sites in the Cities of Kenosha, Milwaukee, and Racine.

Table 31
STATE AND FEDERAL GRANT REVIEWS: 1987

Review Category	Number of Reviews	Aggregate Amount of Federal and/or State Grant, Loan, or Mortgage Insurance Requests
Air Quality	1	\$ 4,612,644
Community Action	47	112,326,108
Community Development	7	2,400,640
Community Facilities	18	250,000
Conservation	32	16,344,830
Historic Programs	1	632,469
Housing	17	23,713,586
Law Enforcement	6	5,060,771
Park and Open Space	8	542,250
Sanitary Sewerage	1	483,750
Solid Waste	6	3,273,984
Transportation	23	39,486,270
Water Supply	2	1,701,314
Total	169	\$ 210,828,616

Table 32
ENVIRONMENTAL IMPACT STATEMENTS REVIEWED: 1987

Document Reviewed	Requesting Agency
Environmental Impact Statement for a Natural Gas Transmission Line from New Berlin to the Town of Fulton (Rock County)	Wisconsin Public Service Commission
Environmental Impact Statement for Improvements to STH 83 from IH 94 to STH 16	Wisconsin Department of Transportation

kee, Racine, and West Bend; the Village of Brown Deer; and the Town of Salem.

Commission activities regarding the review of federal and state grant applications are summarized in Table 31. In total, review comments were provided for 169 applications for federal and/or state grants, loans, or mortgage insurance guarantees, requesting in the aggregate nearly \$211 million in federal and state financial assistance. Of the 169 requests, 34 were found to be in conformance with and serving to implement the adopted regional plan elements, and 135 were found to be not in conflict with the adopted regional plan elements. None were

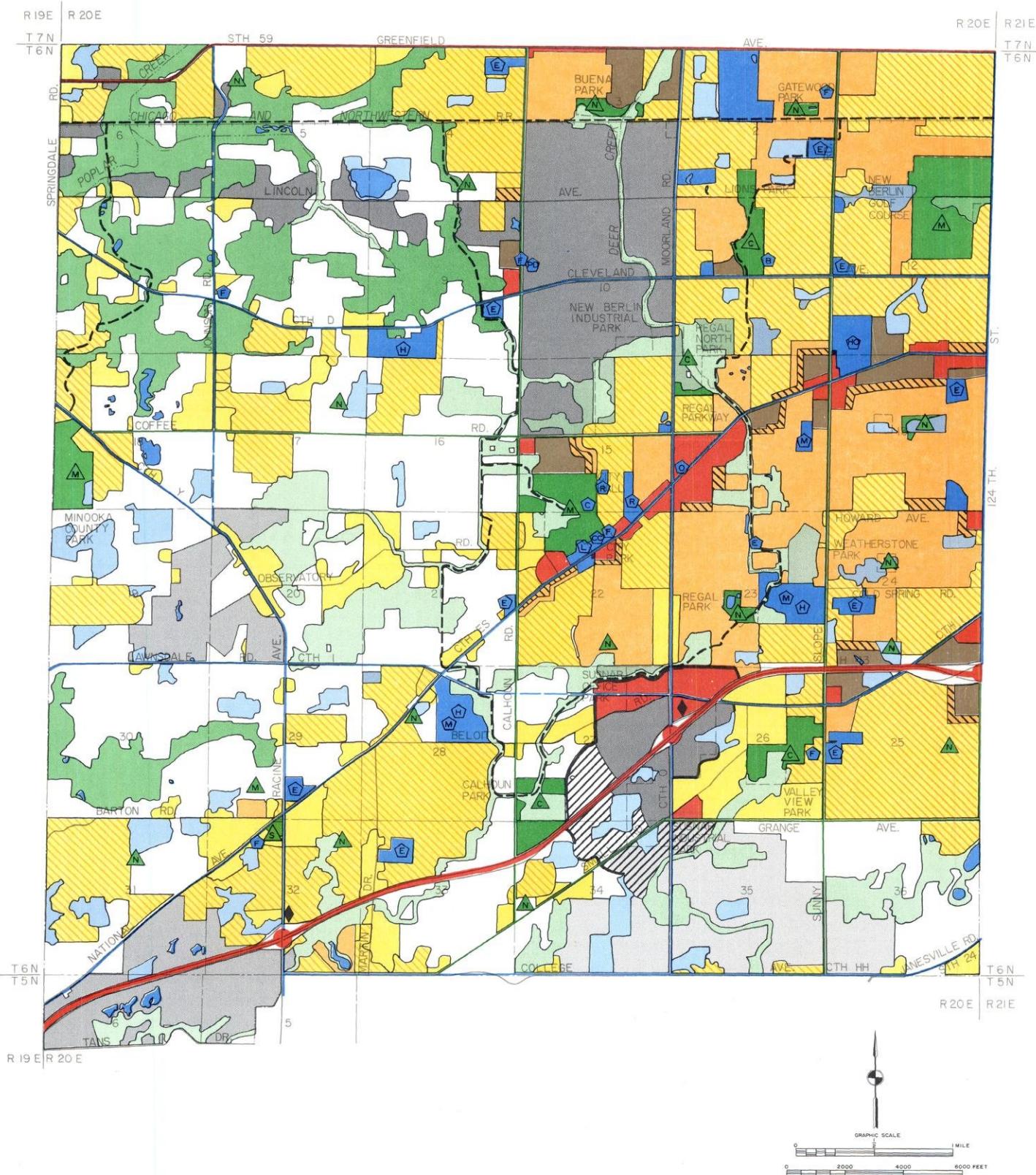
found to be in conflict with the adopted regional plan elements.

Division activities regarding the review of environmental impact statements, reports, and assessments are summarized in Table 32. Comments are provided, when required, relating the proposed projects and the data contained in the environmental impact statements to the adopted regional plans.

Flood hazard reviews relating to residential properties are requested by realtors and lending institutions. During 1987 the Division conducted

Map 34

ADOPTED LAND USE PLAN FOR THE CITY OF NEW BERLIN



Map 34 (continued)



a total of 433 flood hazard reviews, distributed by county as shown in Table 33.

PROJECT PLANNING SERVICES

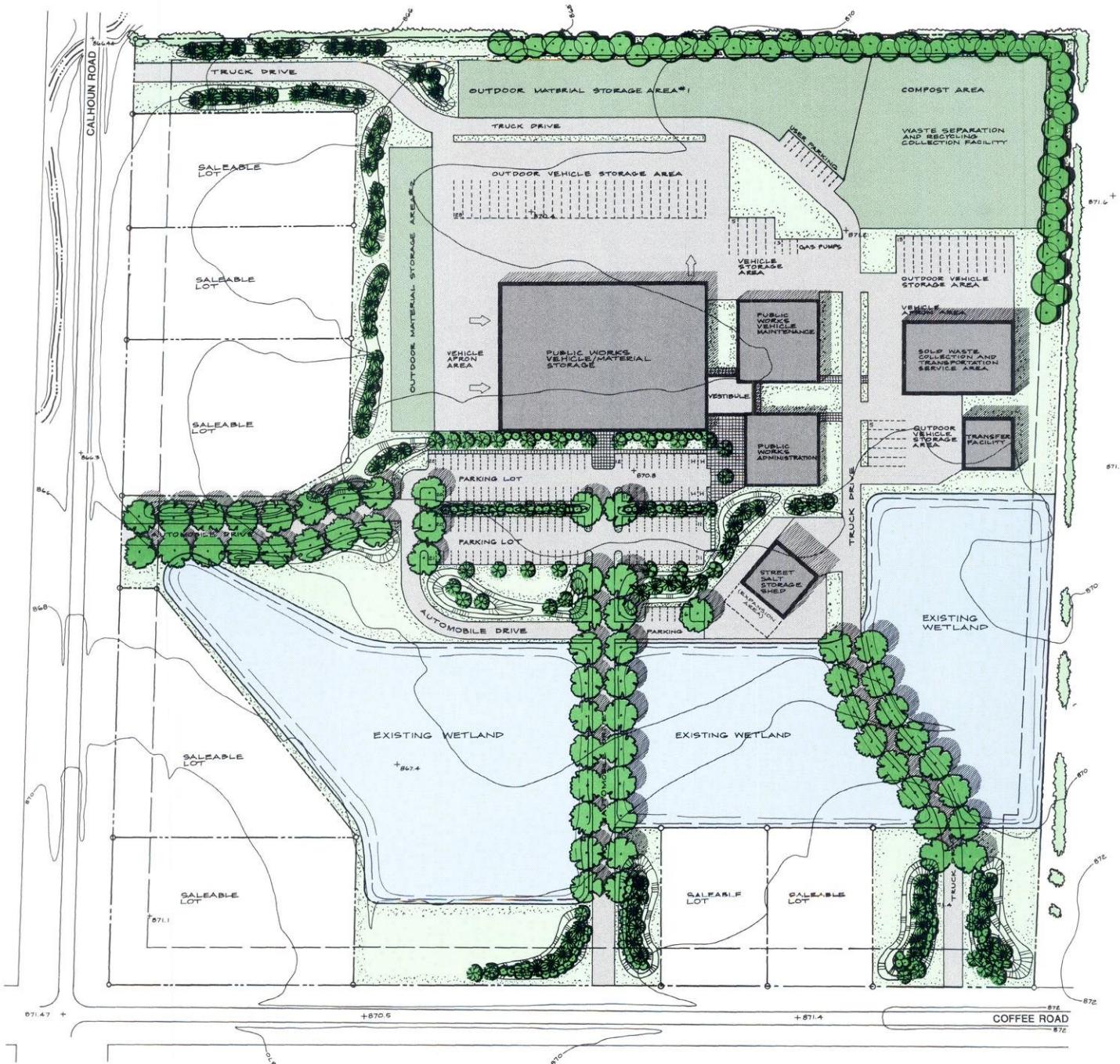
Project planning services involve the conduct for local member units of government, at cost, of detailed planning studies resulting in the preparation of local plans and plan implementation devices. During 1987, the following representative project planning efforts were conducted:

- Completion of a land use and urban design plan for the City of New Berlin. This plan, as set forth in SEWRPC Community Assistance Planning Report No. 111, A Land Use and Urban Design Plan for the City of New Berlin: 2010, refines and details the adopted regional land use plan. The plan, in addition to providing guidelines for land use
- Completion of a zoning map at a scale of 1 inch equals 1,000 feet for the Town of Kewaskum.
- Completion of a land subdivision control ordinance for the Town of West Bend. This ordinance regulates the creation of plats and certified survey maps within the Town.

development in the City, addresses certain issues of particular concern to the City of New Berlin, including the control and management of strip commercial development along W. National Avenue. The plan also delineates the boundaries of 10 residential neighborhoods, one industrial park neighborhood, and two special planning districts for further plan refinement and detailing. The adopted land use plan for the City of New Berlin is shown on Map 34.

Figure 72

LOCALLY PREFERRED CENTRAL PUBLIC WORKS FACILITY
SITE PLAN FOR THE RECOMMENDED SITE: CITY OF NEW BERLIN



LEGEND

- 0----0 EXISTING AND PROPOSED PROPERTY BOUNDARY LINES
- MINIMUM REQUIRED SETBACK LINES
- 870 EXISTING CONTOUR LINES (2' CONTOUR INTERVAL)
- +871.5 EXISTING SPOT ELEVATION
- EXISTING WETLAND AREA
- BUILDING
- PAVING
- WALKWAYS
- OUTDOOR USE AREA

- GRASS GROUND COVER AND OPEN SPACE
- EARTH BERM
- SIGNIFICANT EXISTING VEGETATION
- SHADE TREE
- TREE PLANTING SCREEN
- SPECIMEN / ORNAMENTAL TREE
- UPRIGHT CONIFEROUS TREE OR SHRUB
- HORIZONTAL CONIFEROUS SHRUB

GRAPHIC SCALE 100 200 FEET

Table 33
FLOOD HAZARD REVIEWS: 1987

County	Number of Reviews
Kenosha	2
Milwaukee	85
Ozaukee	29
Racine	27
Walworth	8
Washington	37
Waukesha	245
Total	433

- Preparation of a number of ad hoc planning studies to address special planning problems. These studies included an industrial park layout for the Electric Avenue Industrial Park in the Village of West Milwaukee, and a site analysis and building program for a new public works facility in the City of New Berlin. The findings of the New Berlin building program are set forth in SEWRPC Memorandum Report No. 18, A

Central Public Works Facility Building Program, Site Location Analysis, and Site Development Plan for the City of New Berlin. Figure 72 illustrates the locally preferred site plan for the public works facility.

RESIDENT PLANNING SERVICES

The Commission provides part-time resident staff assistance, on request, to local units of government. This type of assistance involves a commitment by the Commission staff to attend all local plan commission meetings and to provide such local planning recommendations as may be requested from time to time. The Commission views such assistance as an interim step to the eventual attainment of local full-time staffs.

During 1987, resident planning assistance was provided on a contractual basis to the Cities of Burlington, Cedarburg, and Franklin; to the Villages of Menomonee Falls and Sussex; and to the Town of Somers. Collectively, these services required Division staff attendance at and participation in a total of 82 plan commission, town board, village board, and city council meetings.



CARTOGRAPHIC AND GRAPHIC ARTS DIVISION

DIVISION FUNCTIONS

The Commission's Cartographic and Graphic Arts Division provides basic services to the other Commission divisions in a number of areas. The Division is responsible for creating and maintaining current a series of regional planning base maps that not only are used by the Commission, but are extensively used by other units of government and private interests. In addition, the Division is responsible for securing aerial photography of the Region at five-year intervals selected to coincide with U. S. Bureau of the Census decade census years and related mid-census periods. The Division also provides all necessary in-house reproduction services, as well as those reproduction services needed to provide copies of aerial photos, soil maps, and base maps for use by other units of government and private interests.

The Division also serves as a regional coordinating center for the conduct of large-scale topographic and cadastral mapping efforts and the collation of horizontal and vertical survey control data. This function includes the preparation on request of contracts and specifications for large-scale mapping efforts by local units of government. Another Division function, begun in 1984, is the indexing and filing of records of all land surveys completed in Milwaukee County. Finally, a major Division function involves final report production, including editing, type composition, proofreading, illustration preparation, offset printing, and binding.

BASE MAPPING

During 1987, work continued on the updating of the Commission 1 inch equals 2,000 feet scale county planning base maps using ratioed and rectified aerial photography and Wisconsin Department of Transportation state aid mileage summary maps. In 1987, the updating effort included updating of planimetric features and changing civil division corporate limit lines to reflect recent annexations and incorporations. As of the end of 1987, about one-third of the Commission base maps had been updated to 1985.

TOPOGRAPHIC MAPPING AND SURVEY CONTROL

The Commission prepares and encourages local units of government in the Region to prepare 1 inch equals 100 feet scale and 1 inch equals 200 feet scale, two-foot contour interval topographic maps based on a Commission-recommended monumented control survey network, relating the U. S. Public Land Survey System to the State Plane Coordinate System. The Division assists local communities in the preparation of contracts and specifications for these programs. All of the horizontal and vertical control survey data obtained as a part of these mapping efforts are compiled by the Division. The Commission thus serves as a center for the collection, collation, and coordination of control survey data throughout the Region.

In 1976, Racine County completed a pioneering program which resulted in the completion of large-scale topographic maps and the attendant relocation, monumentation, and coordination of all of the U. S. Public Land Survey corners within the County. That work was done in accordance with specifications prepared by the Regional Planning Commission. In 1980 Kenosha County undertook a similar program. The County Board assigned the responsibility for the preparation of the necessary contract documents and specifications and for the supervision of the work to the Executive Director of the Commission, a responsibility which includes the field inspection of the completed control survey monumentation and the quality control of the land survey, control survey, and topographic mapping work, as well as assistance in obtaining available state grants in partial support of the work. In 1981 Waukesha County undertook a similar countywide program and asked that the Commission staff provide the necessary supervision and assistance. These three county-level surveying and mapping programs represent model programs of national interest.

Map 35 shows those areas of the Region for which large-scale topographic maps have been or are being prepared to Commission-recommended standards. As shown in Figure 73 and

Table 34, this area totals 1,309 square miles, or almost 49 percent of the total area of the Region. A total of 6,736 U. S. Public Land Survey corners in the Region have been or are being relocated, monumented, and coordinated, representing over 57 percent of all such corners in the Region. The utility of the control survey data developed and collated by the Commission is indicated by the fact that the Commission received about 500 inquiries for such data during 1987 alone.

PROVISION OF OTHER SURVEY-RELATED DATA

The Commission provides on request information on the latitude and longitude of specific sites. Such requests come primarily from industrial and institutional establishments. In 1987, requests for such information were fulfilled for 18 sites, bringing to 88 the total number of sites for which information has been provided since 1980. This kind of information has been required in the past primarily for the location of radio transmitters. The need for this kind of information may be expected to greatly increase in the future as the U. S. Environmental Protection Agency requires the submittal of industrial hazardous and toxic waste data for integration into a national data bank.

MILWAUKEE COUNTY LAND SURVEY RECORDS

In 1984, legislation was enacted which in part requires that in a county having a population of 500,000 or more where there is no county surveyor, a copy of each land survey plat prepared by a land surveyor be filed in the office of the regional planning commission, the Executive Director of which is to act in the capacity of county surveyor for the county. Under this act, the commission is also made responsible for perpetuating corners of the U. S. Public Land Survey which may be subject to destruction, removal, or cover-up due to construction or other activities, and for maintaining a record of the surveys required for such perpetuation. This act became effective on May 28, 1984. In 1987, under the requirements of the new legislation, the Division received, indexed, and filed 2,615 records of land surveys completed within Milwaukee County—the only county within the Region which meets the statutory criteria—bringing the total number of records of land surveys completed within Milwaukee County which have been filed by the Division to 8,409.

In order to facilitate convenient use of the survey records by land surveyors, abstractors, assessors, appraisers, attorneys, engineers, and other interested parties, the survey records are filed by the Commission under five headings, and computer-generated lists of the recorded surveys can be provided upon request. The five headings are:

1. Numerically by U. S. Public Land Survey township, range, section, quarter section, and record of survey.
2. Alphabetically by minor civil division (city or village).
3. Alphabetically by the property owner or client for whom the survey was completed.
4. Alphabetically by the name of the land surveyor employed by the property owner or client.
5. Chronologically by the date of the survey.

Updated copies of the five lists are prepared quarterly and transmitted to the Milwaukee County Transportation Director, all City and Village Engineers within the County, and all land surveyors who have submitted records of surveys to the Commission for indexing and filing.

Since 1961, the Commission has maintained records on U. S. Public Land Survey corners within the entire Region. However as already noted, since 1984 the Commission has been responsible for the perpetuation of the U. S. Public Land Survey System in Milwaukee County. In 1987, five corners of that system that were threatened by destruction were perpetuated. This brings to 11 the total number of such corners so perpetuated in Milwaukee County since 1984. In addition, dossier sheets were prepared for 18 corners that were perpetuated by the Wisconsin Department of Transportation.

REPRODUCTION SERVICES

In addition to serving all other Commission divisions through in-house reproduction of reports, the Division provided reproduction services for local units of government and private interests. A total of 5,095 prints of aerial photographs of portions of the Region were reproduced, along with 63 soil map prints and 253 prints of maps in the Commission base map series. Aerial photographs were purchased primarily by local units of government, utilities,

Map 35

LARGE-SCALE TOPOGRAPHIC
MAPPING AND RELOCATION,
MONUMENTATION, AND
COORDINATION OF U. S. PUBLIC
LAND SURVEY CORNERS: 1987

LEGEND

U.S. PUBLIC LAND SURVEY CORNERS
WHICH HAVE BEEN OR ARE BEING
RELOCATED, MONUMENTED, AND
COORDINATED

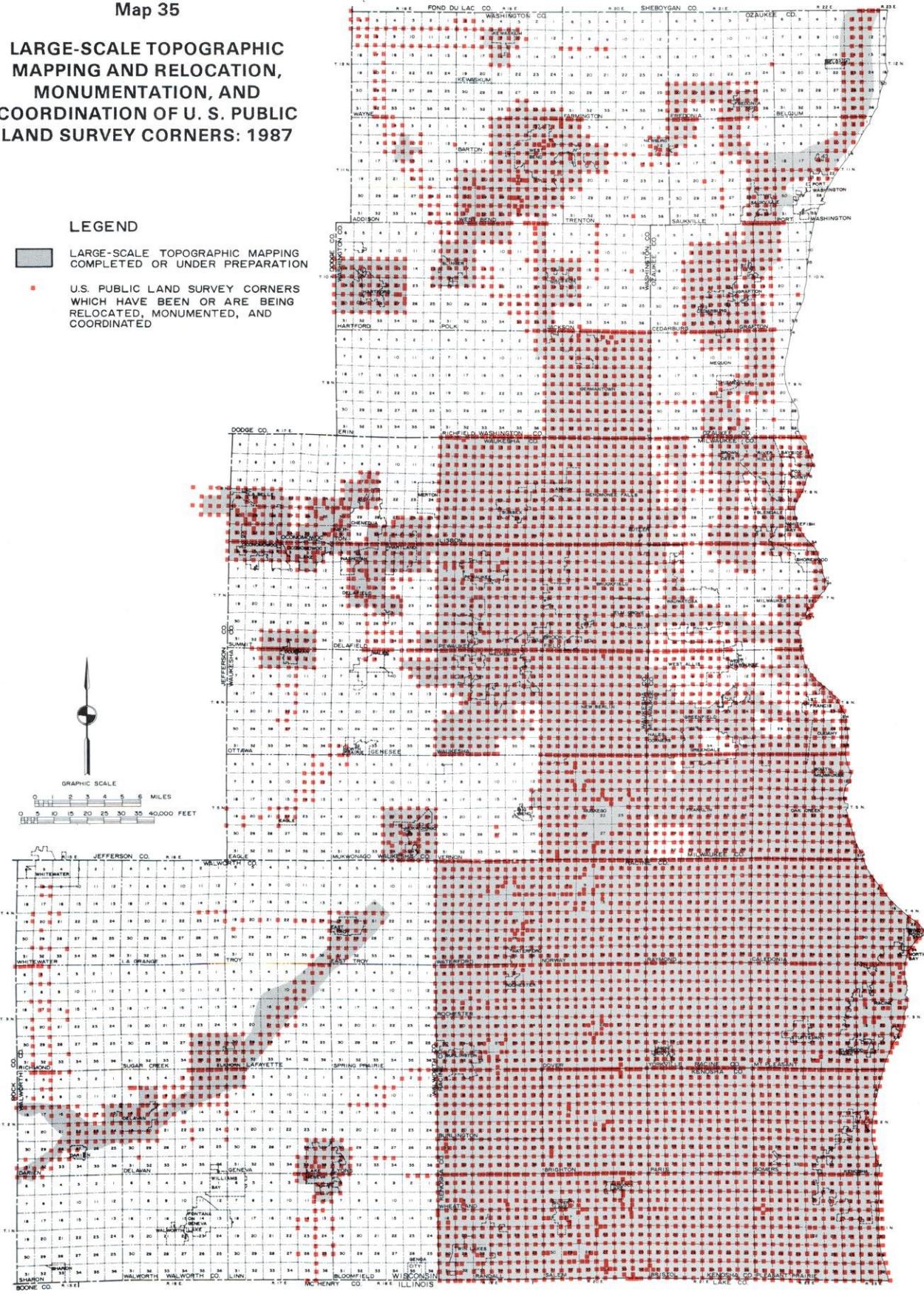
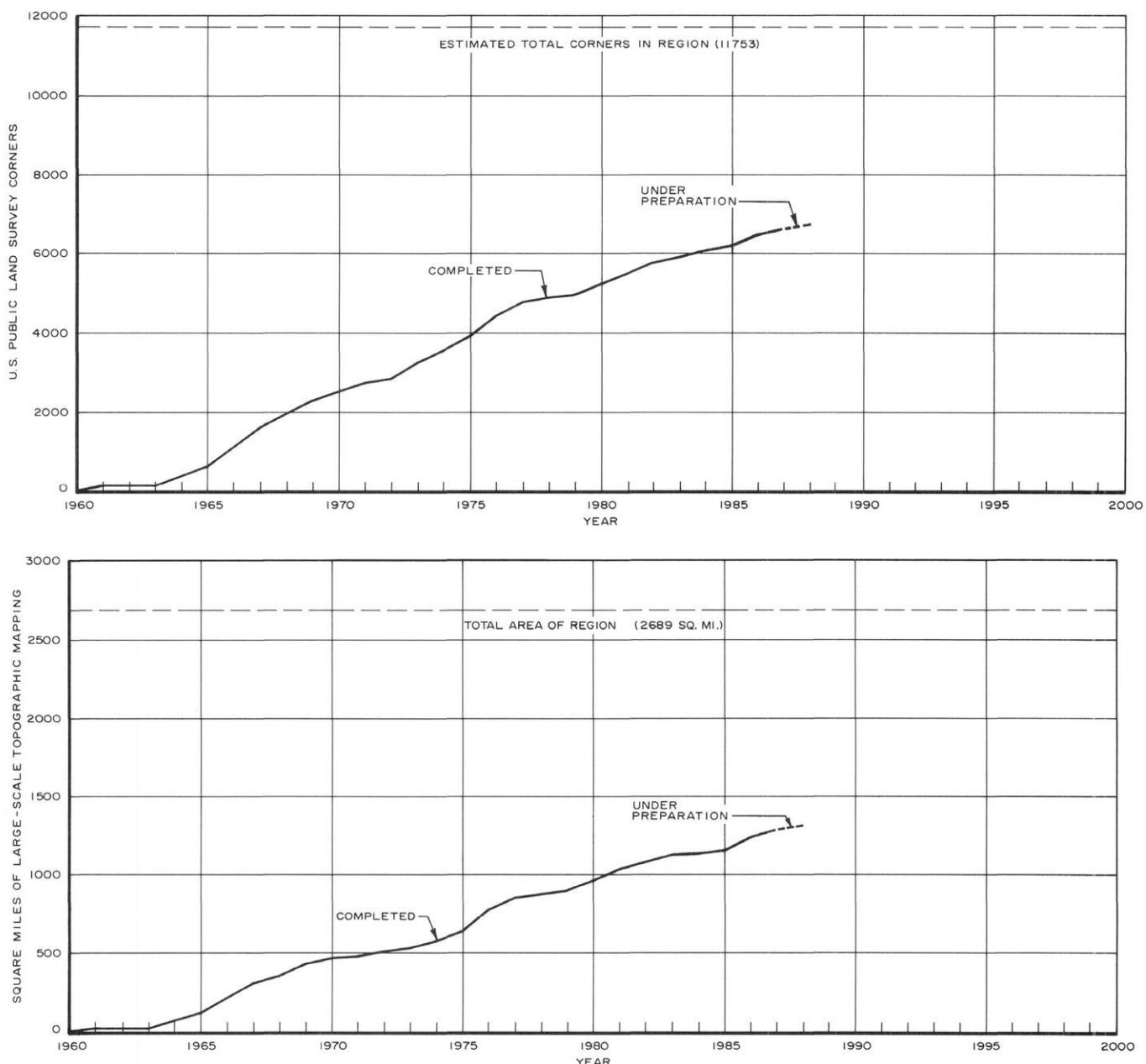


Figure 73

STATUS OF U. S. PUBLIC LAND SURVEY SECTION AND QUARTER
SECTION CORNER RELOCATION, MONUMENTATION, AND COORDINATION
AND LARGE-SCALE TOPOGRAPHIC MAPPING OF THE REGION: 1987



realtors, retail businesses, and service and manufacturing companies. Soil photo prints and base maps were purchased primarily by realtors, utilities, surveyors, engineers, and individual property owners.

FINAL REPORT PRODUCTION

During 1987 the Division was responsible for the production of the following Commission publications:

TYPICAL SEWRPC MONUMENT

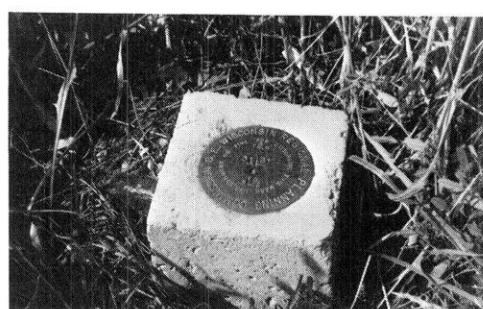


Table 34

LARGE-SCALE TOPOGRAPHIC MAPPING AND RELOCATION, MONUMENTATION,
AND COORDINATION OF U. S. PUBLIC LAND SURVEY CORNERS: 1987

County	Total Area (square miles)	Area (square Miles) of Large-Scale Topographic Mapping Completed or Under Preparation							
		Wisconsin Department of Transportation	SEWRPC	County	Milwaukee Metropolitan Sewerage District	Local ^a	Multi- Agency	Total	Percent
Kenosha	278	--	22.50	243.25	--	12.25	--	278.00	100.00
Milwaukee	242	--	26.75	6.25	31.75	78.25	2.50	145.50	60.12
Ozaukee	234	24.00	24.25	15.50	--	12.00	--	75.75	32.37
Racine	340	--	25.32	314.29	--	--	--	339.61	100.00
Walworth	578	30.25	--	--	--	24.00	--	54.25	9.39
Washington	436	1.50	22.75	--	--	83.75	--	108.00	24.77
Waukesha	581	1.25	75.50	102.50	--	129.00	--	308.25	53.06
Region	2,689	57.00	197.07	681.79	31.75	339.25	2.50	1,309.36	48.69

NOTE: Includes only those areas of the Region for which large-scale topographic maps have been or are being prepared and throughout which U. S. Public Land Survey corners have been or are being relocated, monumented, and coordinated utilizing SEWRPC-recommended procedures.

^aIncludes 19 cities, 18 villages, and 3 towns.

County	Estimated Total Corners	Number of U. S. Public Land Survey Corners Which Have Been or are Being Relocated, Monumented, and Coordinated							
		Wisconsin Department of Transportation	SEWRPC	County	Milwaukee Metropolitan Sewerage District	Local ^a	Multi- Agency	Total	Percent
Kenosha	1,203	58	168	914	--	63	--	1,203	100.0
Milwaukee	1,065	72	157	45	159	492	26	951	89.30
Ozaukee	1,064	114	177	69	--	63	--	423	39.76
Racine	1,478	--	172	1,306	--	--	--	1,478	100.00
Walworth	2,503	274	--	--	--	121	2	397	15.86
Washington	1,905	139	145	23	--	405	1	713	37.43
Waukesha	2,535	73	463	440	--	595	--	1,571	61.97
Region	11,753	730	1,282	2,797	159	1,739	29	6,736 ^b	57.31

^aIncludes 19 cities, 18 villages, and 3 towns.

^bBecause of the need to set witness corners these 6,736 U. S. Public Land Survey corners, including the centers of the sections, are marked by 6,831 monuments.

PROSPECTUSES

- Overall Work Program—1988 Southeastern Wisconsin Regional Planning Commission, November 1987, 225 pages
- Milwaukee High Lake Level Impact Study Prospectus, December 1987, 62 pages

ANNUAL REPORTS

- 1986 Annual Report, July 1987, 192 pages

PLANNING REPORTS

- No. 37, A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings, March 1987, 514 pages
- No. 37, A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume Two, Alternative and Recommended Plans, December 1987, 373 pages

- No. 38, A Regional Airport System Plan for Southeastern Wisconsin: 2010, May 1987, 372 pages

COMMUNITY ASSISTANCE PLANNING REPORTS

- No. 72, A Park and Open Space Plan for the City of Oconomowoc, Waukesha County, Wisconsin, November 1987, 84 pages
- No. 91, Sanitary Sewer Service Area, City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin, May 1987, 44 pages
- No. 94, Sanitary Sewer Service Area for the City of Whitewater, Walworth County, Wisconsin, September 1987, 34 pages
- No. 97 (2nd Edition), Sanitary Sewer Service Area, Village of Belgium, Ozaukee County, Wisconsin, June 1987, 30 pages
- No. 111, Land Use and Urban Design Plan for the City of New Berlin: 2000, April 1987, 383 pages
- No. 119, Sanitary Sewer Service Area, Village of Silver Lake, Kenosha County, Wisconsin, May 1987, 48 pages
- No. 120, A Solid Waste Management Plan for Milwaukee County, Wisconsin, July 1987, 480 pages
- No. 126, A Development Plan for Kenosha County, Wisconsin, Volume One, Inventory Findings, May 1987, 177 pages
- No. 131, A Park and Open Space Plan for Kenosha County, November 1987, 98 pages
- No. 133, A Park and Open Space Plan for Ozaukee County, July 1987, 92 pages
- No. 149, Sanitary Sewer Service Area, Village of Twin Lakes, Kenosha County, Wisconsin, May 1987, 39 pages
- No. 151, A Transportation System Plan for the Blue Mound Road (USH 18) Corridor, December 1987, 133 pages
- No. 156, Waukesha County Animal Waste Management Plan, August 1987, 53 pages
- No. 157, Sanitary Sewer Service Area for the City of New Berlin, Waukesha County, Wisconsin, November 1987, 101 pages

- No. 158, Sanitary Sewer Service Area for the Town of Lyons Sanitary District No. 2, Walworth County, Wisconsin, September 1987, 25 pages

MEMORANDUM REPORTS

- No. 7, Public Transit Ridership Trends in Southeastern Wisconsin: 1975-1986, May 1987, 37 pages
- No. 8, Assessment of Transportation Needs of Elderly and Handicapped Residents of Ozaukee County, June 1987, 22 pages
- No. 9, An Arterial Highway System Plan for Eastern Racine County, April 1987, 50 pages
- No. 12, Economic Development Fact Book, City of Oconomowoc, Waukesha County, Wisconsin, March 1987, 251 pages
- No. 13, Overall Economic Development Program Plan, City of Oconomowoc, Waukesha County, Wisconsin, March 1987, 52 pages
- No. 15, Overall Economic Development Program Plan, Village of Menomonee Falls, Waukesha County, Wisconsin, September 1987, 84 pages
- No. 16, Unpolluted Dredge Materials Disposal Plan for the Port Washington Harbor, City of Port Washington, Ozaukee County, Wisconsin, May 1987, 103 pages
- No. 17, A Public Transit Program for Handicapped Persons—City of Waukesha Transit System Utility, May 1987, 103 pages
- No. 18, A Central Public Works Facility Building Program, Site Location Analysis, and Site Development Plan for the City of New Berlin, May 1987, 133 pages
- No. 20, CTH Traffic Study, City of Cedarburg, Ozaukee County, Wisconsin, February 1987, 16 pages
- No. 21, A Public Transit Program for Handicapped Persons—Milwaukee County Transit System, June 1987, 167 pages
- No. 22, A Public Transit Program for Handicapped Persons—Waukesha County Transit System, June 1987, 98 pages

- No. 23, A Public Transit Program for Handicapped Persons—City of Kenosha Transit System, June 1987, 85 pages
- No. 24, A Public Transit Program for Handicapped Persons—City of Racine Transit System, June 1987, 52 pages
- No. 25, Traffic Impact Study of Proposed Development Along Paradise Drive Between the USH 45 Bypass and S. Main Street, City of West Bend, Washington County, Wisconsin, September 1987, 30 pages
- No. 26, Official Map, City of Burlington, Racine County, Wisconsin, December 1987, 18 pages
- No. 28, Streams and Watercourses for Which the Milwaukee Metropolitan Sewerage District Has Assumed Jurisdiction for Drainage and Flood Control Purposes, August 1987, 15 pages

NEWSLETTERS

- Volume 27, Nos. 1-6, 170 pages

OTHER

- Amendment to the Regional Water Quality Management Plan—2000, Country Estates Sanitary District, Town of Lyons, March 1987, 9 pages

- Amendment to the Regional Water Quality Management Plan—2000, City of West Bend, June 1987, 1 page
- Amendment to the Regional Water Quality Management Plan—2000, Town of Walworth Utility District No. 1/Walworth County Metropolitan Sewerage District, June 1987, 1 page
- Amendment to the Pike River Watershed Plan, City of Kenosha/Town of Somers, June 1987, 10 pages
- Amendment to the Pike River Watershed Plan, Town of Mt. Pleasant, June 1987, 20 pages
- Amendment to the Regional Water Quality Management Plan—2000, City of Hartford, September 1987, 11 pages
- Amendment to the Regional Water Quality Management Plan—2000, City of Kenosha and Environs, December 1987, 25 pages
- Amendment to the Regional Water Quality Management Plan—2000, Village of Sussex, December 1987, 1 page
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1988-1992, December 1987, 277 pages



INFORMATION SYSTEMS DIVISION

DIVISION FUNCTIONS

The Commission's Information Systems Division provides basic support to all other Commission divisions. The Division is responsible for maintaining a regional planning data bank that has been developed over a 26-year period. The Division is responsible for processing requests for retrieval of these data, with such requests coming not only internally from other divisions but externally from local units of government, state and federal agencies, and private interests. The Division also provides support to the Commission divisions in the development and application of simulation models. Finally, the Division provides special data processing services to member local units of government.

REGIONAL PLANNING DATA BANK

The Division maintains a master file of regional planning information on more than 9,000 reels of magnetic tape, representing approximately 3,600 active data files. This permits the efficient filing, conversion, and retrieval of planning and engineering data essential to the execution of areawide comprehensive planning. The file's basic unit of geographic reference is the U. S. Public Land Survey quarter section. This file is, however, also organized to permit retrieval of data for various other geographic units, such as civil divisions, census tracts, traffic analysis zones, special planning analysis areas, and watersheds.

During 1987, the Commission maintained two IBM 4341 mainframe central processing units. Both units have 8,000,000 bytes of main memory storage and share six high-speed magnetic tape drives. Both systems have approximately 16 billion characters of high-speed magnetic disk storage, 1,500-line-per-minute printers, and local and remote teleprocessing control units.

Attached to the mainframe computers are 40 IBM CRT units and eight IBM personal computers through which staff engineers, planners, and computer programmers can enter and retrieve data and use computer programs. Two IBM 3742 data stations are maintained for entering data into the computer via magnetic diskettes.

In addition to the "in-house" terminal equipment, the mainframe computers support approximately 300 remote terminal devices located at four counties and 10 communities. Also attached to the systems are five IBM System 36 computer systems. System 36 systems are used for local data and text processing and as control units for access to the Commission's teleprocessing network. During 1987, the workload averaged approximately 85,000 teleprocessing tasks and 600 batch runs daily.

During 1987, the Commission upgraded its computer-assisted mapping capability by replacing its technologically obsolete CALMA interactive graphics system with a software system called DELTAMAP. Two general types of computer software are currently available for computer-assisted mapping applications. These are computer-assisted drafting (CAD) software and geographic information systems (GIS) software. To the casual observer, these software products appear to operate in a similar fashion and to produce similar map products, but they are, in fact, quite different in design, operation, and function. As a simplistic way of distinguishing between these two products, it can be stated that CAD software treats maps as "pictures," whereas GIS software treats maps as "information."

CAD software functions quite well in situations where the only need is for the creation, maintenance, and replication of maps, but in situations where there is the additional need to extract, analyze, and report the information content of maps, or to synthesize map and map-related information, GIS software is a more appropriate tool. In addition, GIS software possesses the capability to simultaneously extract information from more than one map, synthesize and analyze that information, and produce "new" information and "new" maps from the process. The ability to perform these types of operations is especially valuable within the context of areawide planning.

The computer software necessary to establish and operate geographic information systems is complex and evolving. True GIS software has been commercially available only within the

past several years. In 1986, the Commission staff evaluated a number of the GIS software products then commercially available to identify a software system for purchase. Also evaluated were several products in advanced stages of development, but not yet ready for commercial release. This evaluation led in 1987 to the acquisition by the Commission of the DELTAMAP software system. DELTAMAP is a true GIS software product capable of supporting a wide variety of map digitizing, map production, and map data element analysis functions, including network- and land parcel-based functions.

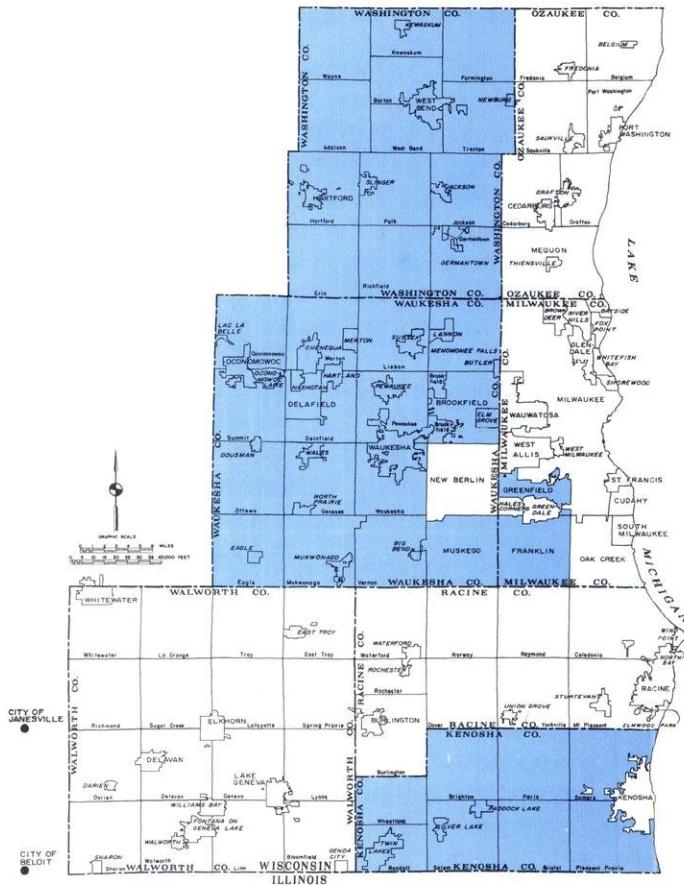
The new computer graphics hardware configuration upon which DELTAMAP operates is based around two networked Hewlett-Packard series 9000, Model 350, engineering work stations, each having a 19-inch, 16-color monitor and a 571 mb disk. These work stations share a Hewlett-Packard 1600/6250 dual-density tape drive and a Hewlett-Packard high-resolution, eight-color pen plotter capable of handling A-size through E-size cut sheet media or 36-inch roll feed media. One of the work stations is configured to handle remote-site support over telephone modems, and the two work stations jointly serve as the support devices for four Hewlett-Packard 12-inch, eight-color terminals, three of which are attached to Calcomp 44-inch by 60-inch, high-precision digitizing tables for interactive map data capture and editing. A Calcomp color electrostatic plotter is also available for off-line color map production. This device is capable of handling 44-inch roll feed media, and can produce monochrome and color line and solid color fill finished drawings at a resolution of 400 parts per inch.

SYSTEMS ENGINEERING

The Division provides support to other Commission divisions in systems analysis and engineering, particularly in the development and application of simulation models. Commission simulation modeling efforts at the present time are centered in the Transportation Planning and Environmental Planning Divisions, and personnel from these divisions work closely with personnel in the Information Systems Division.

Transportation-related simulation models currently being used by the Commission include the U. S. Department of Transportation, Federal Highway Administration, battery of highway

Map 36



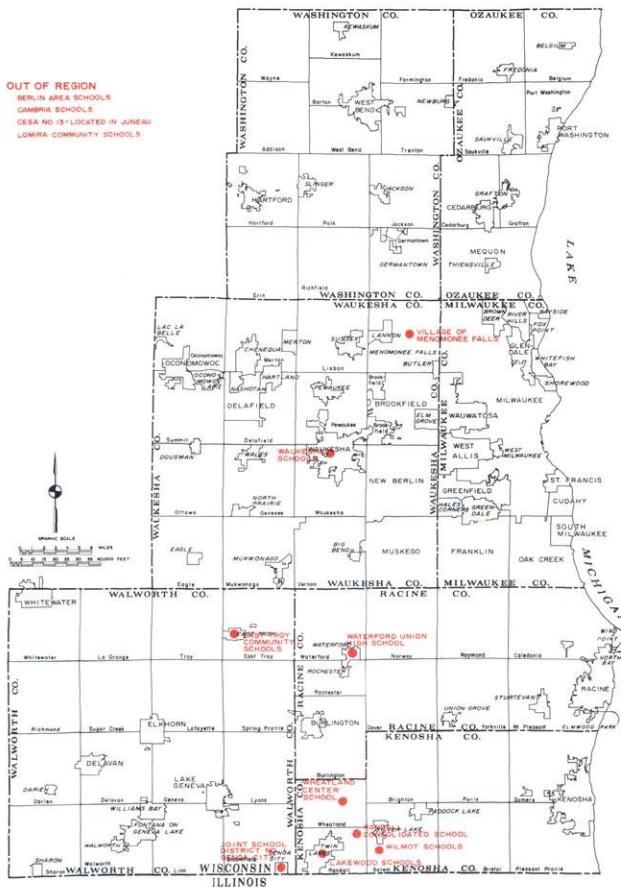
system simulation models; the U. S. Department of Transportation, Urban Mass Transportation Administration, battery of transit system simulation models; and a series of models developed over the years by the Commission staff, including trip generation and modal split models and an air quality emissions model. In the water resources planning field, the Commission uses a water surface profile model developed by the U. S. Army Corps of Engineers; a hydrologic, hydraulic, and water simulation model developed by Hydrocomp, Inc.; and a flood economics model developed by the Commission staff.

DATA PROCESSING SERVICES TO LOCAL GOVERNMENTS

Since its inception, the Commission has offered to its member units of government special services, including professional advice on the

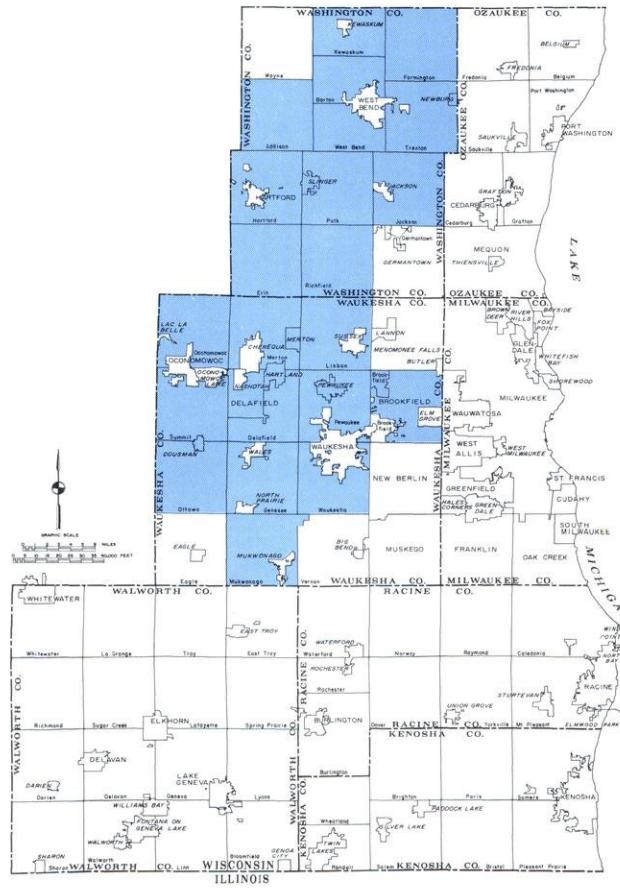
Map 37

SCHOOL DISTRICTS AND LOCAL COMMUNITIES USING SEWRPC FOR PAYROLL DATA PROCESSING: 1987



Map 38

LOCAL COMMUNITIES USING SEWRPC FOR VOTER REGISTRATION AND POLL DATA PROCESSING: 1987



selection of computer systems and the provision of special data processing services. Direct data processing services have been provided in the traditional "batch" mode of processing whereby the community delivers data to the Commission to process and the Commission returns appropriate reports and materials to the community. In 1987 the Commission continued to offer interested communities the opportunity to control and process their own data through the "on-line" use of small computer terminals attached to the Commission's Model 4341 computers via telephone lines. These terminals give the community the power of a large computer system at the price of a small computer.

During 1987, services were provided to communities utilizing both methods of processing. Some communities used both methods, doing some data processing in the "batch" mode and some data processing in the "on-line" mode.

One of the services provided in the "batch" mode is the tax bill processing system, which provides communities with property tax assessment rolls and tax bills. Throughout 1987 these property tax-related services were provided at cost to 72 communities, as shown on Map 36. Another service provided in the "batch" mode is the payroll processing system, which was provided to eight school districts and one village in the Region, as shown on Map 37. In addition, payroll services were provided to four school districts outside the Region. Map 38 shows those communities to which the Commission provided voter registration and poll list production services in the "batch" mode.

In addition to the above services, the Commission provided "batch" services to the Allenton Sanitary District in the area of utility billing; to the Brown Deer School District in the area of

Map 39

LOCAL GOVERNMENT—SEWRPC TELEPROCESSING CONFIGURATION AND APPLICATIONS

WAUKESHA COUNTY

- **CLERK OF COURTS**
Alimony and Support
Paternity Payments
Fine and Forfeiture Record Keeping
Cash Collection
- **TAX LISTER**
Property Tax File Maintenance
- **PERSONNEL DEPARTMENT**
Employee File Maintenance
- **PAYROLL DEPARTMENT**
Employee File Maintenance
- **DATA PROCESSING**
Accounts Payable
Receipts
Payroll
General Ledger
Register of Deeds Accounting
Sheriff Wants and Warrants
Highway Accident Frequency
Personnel Management Reports
Mailing Labels
4H
Grantor-Grantee Records
Physical Equipment Inventory
- **TREASURER**
Receipts
Property Tax File Inquiry
Cash Collections
Delinquent Tax Processing
- **SHERIFF**
Arrest and Confinement

CITY OF JANEVILLE

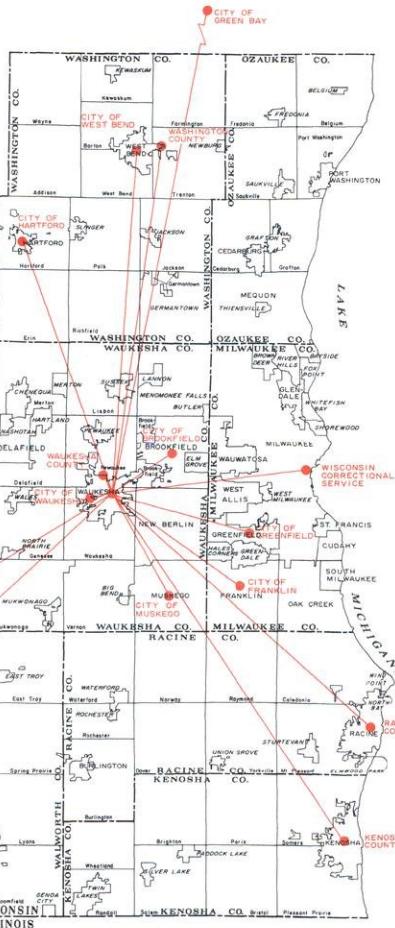
- **ASSESSOR**
Property Tax File Maintenance
- **TREASURER**
Cash Receipts

CITY OF BELOIT

- **ASSESSOR**
Property Tax File Maintenance
Computer-Aided Mass Appraisal
Mobile Home Billing
Delinquent Personal Property
Special Assessments
- **TREASURER**
Utility Billing
Tax Payment Inquiry
Dog/Cat Licensing
Cash Collection
- **BUILDING INSPECTOR**
Dwelling Description Inquiry

CITY OF WAUKESHA

- **COMPTROLLER**
Accounts Payable
Receipts
General Ledger
Special Assessments
Payroll
Municipal Invoices
- **ASSESSOR**
Property Tax File Maintenance
Computer-Aided Mass Appraisal
- **CLERK**
Bartender License
Voter Registration
- **POLICE DEPARTMENT**
Parking Tickets
Bicycle Registration
- **PARK/RECREATION DEPARTMENT**
Reservation/Registration System



CITY OF GREEN BAY

- **ASSESSOR**
Computer-Aided Mass Appraisal

WASHINGTON COUNTY

- **TAX LISTER**
Property Tax File Maintenance
- **TREASURER**
Property Tax File Inquiry
Receipts
Delinquent Tax Processing
- **AUDITOR**
Accounts Payable
Receipts
Payroll
General Ledger
Nursing Home Billing
Nursing Home Staff Statistics
Mental Health Billing
Welfare Payroll
District Attorney Case Disposition
- **CLERK OF COURTS**
Alimony and Support
Paternity
Traffic Fine and Forfeiture
Receipts

CITY OF WEST BEND

- **CLERK**
Cash Receipts
Purchase Orders
Special Tax Assessments
General Ledger
Accounts Payable
Dog/Cat Licensing
- **ASSESSOR**
Property Tax File Maintenance

WISCONSIN CORRECTIONAL SERVICE

Accounting System

CITY OF GREENFIELD

- **ASSESSOR**
Property Tax File Maintenance
- **TREASURER**
Utility Billing
Cash Receipts
Special Assessments

CITY OF BROOKFIELD

- **COMPTROLLER**
Receipts
Payroll
Accounts Payable
Special Assessments
General Ledger
Utility Billing
- **POLICE DEPARTMENT**
Uniform Crime Reporting
Officer Activity
- **ASSESSOR**
Property Tax File Maintenance
- **CLERK**
Voter Registration
- **TREASURER**
Receipts
- **LIBRARY**
Circulation
Fines
Reference
Inventory System

CITY OF FRANKLIN

- **CLERK**
Budget Processing
Accounts Payable
Receipts
Purchase Orders
Special Assessments
General Ledger
Utility Billing
- **ASSESSOR**
Property Tax
File Maintenance

RACINE COUNTY

- **SOCIAL SERVICES**
Foster Care
Work Relief
General Assistance

CITY OF MUSKEGO

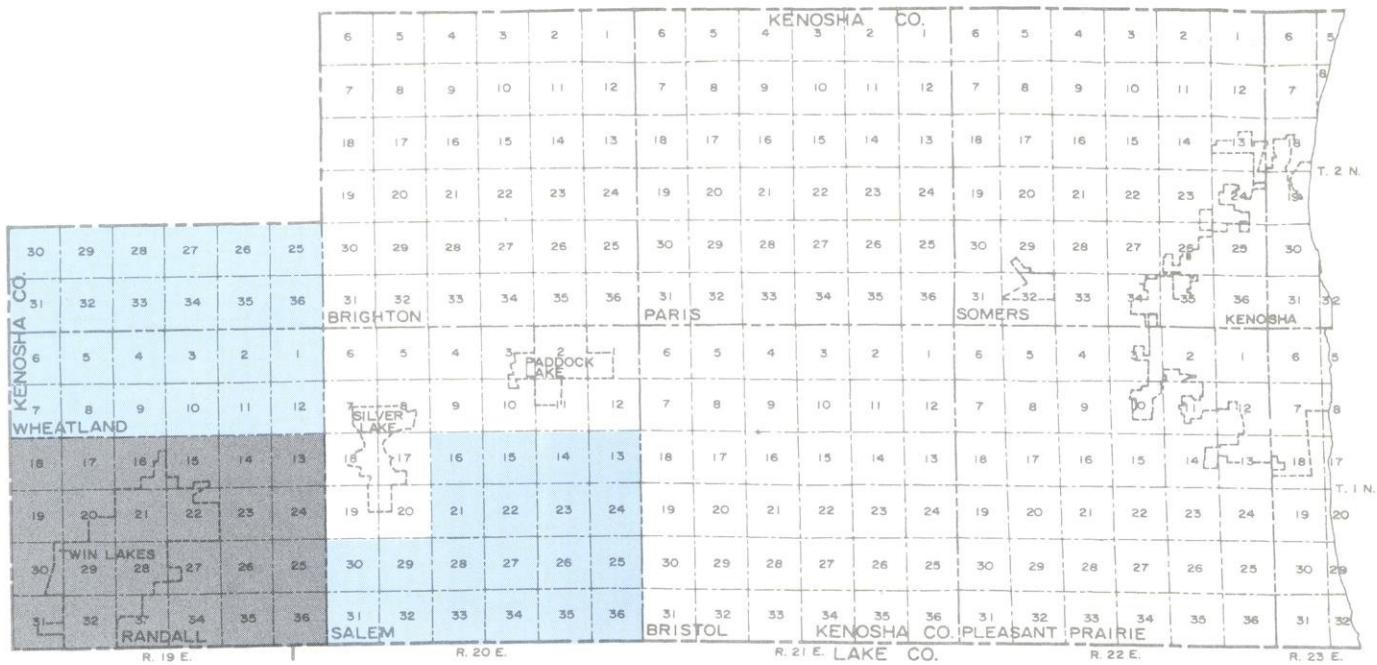
- **CLERK**
Voter Registration
- **ASSESSOR**
Property Tax
File Maintenance
Computer-Aided
Mass Appraisal
Special Assessments

KENOSHA COUNTY

- **SOCIAL SERVICES**
General Relief
Foster Care
Client Profile
Access (Hot Line) System
- **COUNTY WIDE TEXT PROCESSING**
- **ASSESSOR**
CAMA Tax System
Mobile Home System
- **TREASURER**
Delinquent System
Cash Collection
- **HIGHWAY DEPARTMENT**
Cost Accounting
- **FINANCE OFFICE**
County Accounting

Map 40

STATUS OF COMPUTER MAP FILE COMPLETION IN KENOSHA COUNTY: 1987



LEGEND

- COMPUTER MAP FILES COMPLETED PRIOR TO 1987
- COMPUTER MAP FILES UNDER PREPARATION IN 1987

school census; and to one county—Racine—in the area of foster home check processing.

In the "on-line" processing mode, the Commission has installed computer terminals in four counties, 10 cities, and one village, and at the Wisconsin Correctional Service, a government-funded nonprofit service agency. Map 39 shows the locations of the terminals and the applications which were processed from those terminals during 1987.

During 1987, the Commission also continued to help Kenosha County build a multi-purpose automated land information system. This system, which utilizes the state-of-the-art geographic information systems (GIS) computer hardware and software technology described earlier in this section, was described in the Commission's 1986 Annual Report. The system is built upon a demonstration project completed in 1986 for that portion of Kenosha County comprised of the Town of Randall and the Village of Twin Lakes. The findings of that demonstration project were reported in SEWRPC Technical Report No. 30, The Development of an Automated Mapping and Land Information

System: A Demonstration Project for the Town of Randall, Kenosha County.

The automated land information system being developed for Kenosha County is intended to ultimately provide continuous, readily available, and comprehensive land-related information at the parcel level. The system utilizes the computer equipment and software for the conversion, storage, retrieval, and analysis of land-related information which has traditionally been represented on paper maps. A portion of a computer-generated real property boundary map—which represents one type of land-related information contained in the system—is shown as Figure 74. Under contract to Kenosha County, the Commission during 1987 began preparing computer map files for the Town of Wheatland and approximately 20 square miles of the Town of Salem. Thus, by the end of 1987, the basic land information system had been made computer-accessible for the Town of Randall and the Village of Twin Lakes, and was under extension to the Town of Wheatland and a significant portion of the Town of Salem. Together these areas—shown on Map 40—represent approximately 68 square miles, or about 24 percent of the area of Kenosha County.

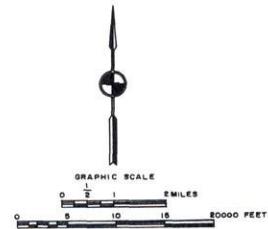
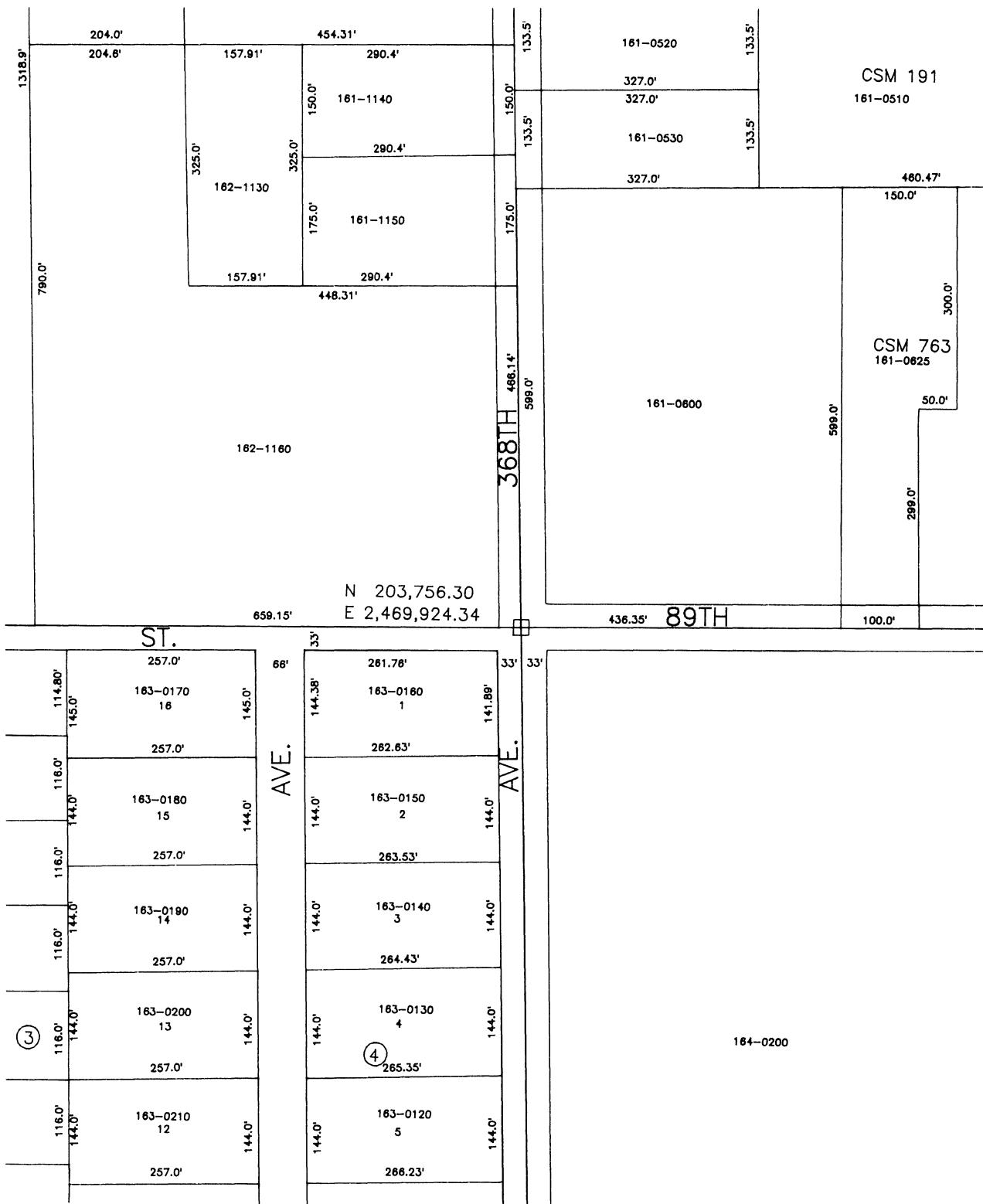


Figure 74

A PORTION OF A DIGITIZED CADASTRAL MAP FOR KENOSHA COUNTY



ADMINISTRATIVE SERVICES DIVISION

DIVISION FUNCTIONS

The Commission's Administrative Services Division performs a number of functions supportive of the work of all of the other Commission divisions. These functions include financial management, consisting of accounting, bookkeeping, budget control, personnel management, and the implementation of affirmative action and equal opportunity programs; grant-in-aid procurement; purchasing and clerical support; and the sale and distribution of publications.

FINANCIAL MANAGEMENT AND PLANNING

One of the most important functions of the Division is managing the Commission financial affairs. This includes maintaining a fund accounting system, preparing an annual Commission budget, preparing Commission payrolls, and processing accounts receivable and payable. Through the computerized accounting system, monthly financial management reports are prepared, including budget control, cash flow, and quarterly Treasurer's reports. These reports are utilized by the Commission, its committees, and the Executive Director to ensure that the financial integrity of the Commission is maintained.

The Division is also responsible for ensuring that financial institutions controlled by members of minority groups receive a fair share of the Commission's business. This task was continued during 1987 by maintaining a trust account with a minority-controlled bank within the Commission's service area. In addition, the Commission has established a business enterprise program, commencing with the generation of a list of disadvantaged/women businesses which were contacted as potential Commission vendors.

The Division is also responsible for preparing the Commission annual budget. With the help of this document and an accompanying federally required overall work program, the Commission is able to plan and organize its work effort from a sound financial basis.

PERSONNEL ADMINISTRATION

Personnel recruitment, testing, and selection are centered in the Administrative Services Division. During 1987 the Commission continued to make progress in carrying out a comprehensive equal employment opportunity program in the areas of recruitment, employment, promotion, transferring, and training. Action was taken to better monitor applicant flow in order to gage progress in attracting minority applicants as required in the affirmative action program. Efforts were continued toward attracting qualified minority and women applicants during the year.

GRANT-IN-AID PROCUREMENT

Along with accounting for the federal, state, and local funds received to operate the Commission, the Division is responsible for federal and state grant application preparation. This includes completing the necessary application forms, including supporting narratives describing proposed work programs, preparing budgets to carry out the work programs, and assisting in obtaining final grant approval. These grants provide a substantial portion of the working capital required to carry out the Commission's overall work program.

The Division also processes any claims for reimbursement of expenses incurred under each grant contract, prepares detailed financial status reports as required by federal and state funding agencies, and maintains detailed financial records for audit by grantor agencies.

The Commission's annual overall work program, a document, as already noted, required by federal regulation, is also prepared with the assistance of the Division. This report is an important vehicle for securing federal and state grants-in-aid, and serves as a guide to the financial management of the Commission.

PURCHASING AND CLERICAL SUPPORT

The Administrative Services Division provides the Commission with purchasing services and clerical

staff support in the typing of reports, in addition to the typing of routine and specialized correspondence.

SALE AND DISTRIBUTION OF PUBLICATIONS

During 1987 the Division distributed a total of 15,473 copies of Commission publications. These included: 124 prospectuses, 66 planning reports, 224 amendments to planning reports, 3 planning guides, 141 technical reports, 2,371 community assistance planning reports, 1,656 memorandum

reports, 23 technical records, 657 annual reports, 9,237 newsletters, 14 conference proceedings, 443 community economic development profiles, 7 lake use reports, 1 study design, 48 public hearing minutes, 137 transportation improvement programs, and 55 overall work programs. A total of 266 copies of the special publication entitled Twenty-five Years of Regional Planning were also distributed. In addition, the Division distributed 5,095 aerial photographs, 63 soils maps, 248 topographic maps, 690 control survey station dossiers, 277 control survey summary diagrams, and 253 maps from the Commission's base map series.

APPENDICES

Appendix A

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION COMMISSIONERS AND COMMITTEES AS OF DECEMBER 31, 1987

COMMISSIONERS	TERM EXPIRES	COMMITTEES
KENOSHA COUNTY		EXECUTIVE COMMITTEE
***Mary A. Plunkett	1988	Anthony F. Balestrieri, Chairman
**Sheila M. Siegler.....	1992	Harout O. Sanasarian, Vice-Chairman
*Francis J. Pitts	1992	Irene M. Brown
		Allen F. Bruederle
		Robert F. Hamilton
		John R. Hansen
		Allen L. Morrison
		Francis J. Pitts
		Alfred G. Raetz
		William D. Rogan
		James F. Rooney
		Sheila M. Siegler
		Frank F. Uttech
MILWAUKEE COUNTY		ADMINISTRATIVE COMMITTEE
**Irene M. Brown, Secretary	1992	Francis J. Pitts, Chairman
*Harout O. Sanasarian, Vice-Chairman	1978	Frank F. Uttech, Vice-Chairman
***Jean B. Tyler.....	1990	Anthony F. Balestrieri
		Irene M. Brown
		Allen F. Bruederle
		John R. Hansen
		Allen L. Morrison
		Alfred G. Raetz
		William D. Rogan
		James F. Rooney
OZAUKEE COUNTY		INTERGOVERNMENTAL AND PUBLIC RELATIONS COMMITTEE
***Sara L. Johann.....	1988	Robert F. Hamilton, Chairman
*Allen F. Bruederle	1990	Allen L. Morrison, Vice-Chairman
**Alfred G. Raetz.....	1990	Anthony F. Balestrieri
		Irene M. Brown
		Allen F. Bruederle
		John R. Hansen
		Allen L. Morrison
		Alfred G. Raetz
		William D. Rogan
		James F. Rooney
RACINE COUNTY		PLANNING AND RESEARCH COMMITTEE****
*John R. Hansen	1990	Sheila M. Siegler, Chairman
***James F. Rooney	1992	John R. Hansen, Vice-Chairman
**Earl G. Skagen	1988	John D. Ames
		Anthony F. Balestrieri
		Irene M. Brown
		Richard A. Congdon
		Robert F. Hamilton
		Sara L. Johann
		Allen L. Morrison
		Mary A. Plunkett
		William D. Rogan
WALWORTH COUNTY		Daniel S. Schmidt
**John D. Ames.....	1990	Earl G. Skagen
***Anthony F. Balestrieri, Chairman	1988	Patricia A. Strachota
*Allen L. Morrison.....	1988	Jean B. Tyler
WASHINGTON COUNTY		
**Daniel S. Schmidt	1992	
*Patricia A. Strachota.....	1990	
***Frank F. Uttech.....	1988	
WAUKESHA COUNTY		
***Richard A. Congdon	1992	
*Robert F. Hamilton	1988	
**William D. Rogan, Treasurer	1992	
<p>*County Board-appointed Commissioners.</p> <p>**Appointed by the Governor from a County Board-approved list of candidates.</p> <p>***Appointed by the Governor on his own motion without reference to any County Board-approved list.</p>		



Appendix B

COMMISSION ADVISORY COMMITTEES: 1987

TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON REGIONAL LAND USE-TRANSPORTATION PLANNING

The Technical Coordinating and Advisory Committee on Regional Land Use-Transportation Planning is divided into several functional subcommittees. Members of the Committee often serve on more than one subcommittee. The following key identifies the various functional subcommittees: 1) Land Use Subcommittee; 2) Highway Subcommittee; 3) Socioeconomic Subcommittee; 4) Natural and Recreation-Related Resources Subcommittee; 5) Transit Subcommittee; 6) Utilities Subcommittee; and 7) Traffic Studies, Models, and Operations Subcommittee.

C. Barry Bateman (7)	Airport Director, Milwaukee County	Gloria L. McCutcheon (1)	District Director, Wisconsin Department of Natural Resources
John M. Bennett (1,4)	City Engineer, City of Franklin	Paul Milewski (3)	Director, Department of Community Development, City of Oak Creek
James J. Blazek (2)	City Engineer, City of Racine	Paul E. Mueller (1,4)	Land Use and Park Administrator, Washington County
Richard A. Bolte (2)	Highway Commissioner, Waukesha County	William A. Muth, Jr. (6)	Director of Public Works, City of Brookfield
Richard R. Brandt (1)	Manager, Energy Requirements, Wisconsin Gas Company, Milwaukee	Roger M. Nacker (3)	Research Director, Wisconsin Department of Development
Donald M. Cammack (7)	Chief Planning Engineer, Bureau of Aeronautics, Wisconsin Department of Transportation	George J. Novenski (7)	Chief, Travel Statistics and Data Coordination Section, Wisconsin Department of Transportation
Dennis M. Carr (1,3)	District Accounting Manager, Wisconsin Bell	William F. O'Donnell (1,5)	County Executive, Milwaukee County
Arnold L. Clement (1,2)	Planning and Development Director, Racine County	Daniel J. O'Neil (1,4)	Agricultural Agent, Ozaukee County
Benjamin Coopman (2,7)	Highway Commissioner, Walworth County	Glen A. Orcutt (5,7)	Airport Planner, U. S. Department of Transportation, Federal Aviation Administration, Minneapolis, Minnesota
Lucian M. Darin (2)	Director of Public Works, City of Hartford	Dwayne Partain (1,5)	Librarian, Milwaukee Area Technical College
Russell A. Dimick (2)	City Engineer, City of Cedarburg	Nick T. Paulos (1,2)	Village Engineer, Village of Greendale
William R. Drew (1,2,3,4,5,6,7)	Commissioner, Department of City Development, City of Milwaukee	John B. Prince (1,3,6)	Manager of System Planning, Wisconsin Electric Power Company, Milwaukee
Raymond T. Dwyer (6)	City Engineer, City of Greenfield	Ronald A. Ramlow (3)	Manpower Information Supervisor, Job Service-Milwaukee, Wisconsin Department of Industry, Labor and Human Relations
John A. Erickson	City Engineer, City of Milwaukee	Richard A. Rechlicz (5)	Executive Secretary, Wisconsin School Bus Contractors Association
Joel P. Ettinger (5,7)	Regional Manager, Region V, U. S. Department of Transportation, Urban Mass Transportation Administration	Donald V. Revello (5,7)	Chief of Traffic Planning, Wisconsin Department of Transportation
John M. Fredrickson (1)	Village Manager, Village of River Hills	Donald A. Roensch (1,6)	Administrator, City of Mequon
Lee H. Greenwood (2)	District General Manager, Central Greyhound Lines, Milwaukee	James F. Rooney (2,4,7)	Director of Public Works, Racine County
Gerald G. Griswold (5)	Town Engineer, Town of Caledonia	Gordon Rozmus (1,3)	City Planner, City of Wauwatosa
George Gunderson (1,2,4)	Director, Bureau of Systems Planning, Wisconsin Department of Transportation	Gene A. Scharfenorth (1,2)	Highway Commissioner, Kenosha County
John M. Hartz (5)	Director, Bureau of Transit, Wisconsin Department of Transportation	Franklin B. Scharrer (2,7)	Highway Commissioner, Washington County
Frank M. Hedcock (7)	Director of Community Development, City of Waukesha	Dr. Eric Schenker (3,5,7)	Dean, School of Business Administration, University of Wisconsin-Milwaukee
Donald K. Holland (2,6)	City Administrator, City of Kenosha	Bernard Schultz (2)	City Engineer, City of Oconomowoc
Karl B. Holzwarth (2,4)	Director, Racine County Park Commission	David F. Schulz (2,4)	Director of Parks, Recreation and Culture, Milwaukee County Park Commission
Ronald Hustedde (1,4)	Natural Resources Agent, Walworth County	John E. Schumacher (2,7)	City Engineer, City of West Allis
Robert F. Hutter (2)	Director of Public Works, Village of Sussex	Gerald Schwerm (2,7)	Director of Transportation and Public Works, Milwaukee County
Edward A. Jenkins (5)	Transportation Director, City of Kenosha	Harvey Shebesta (2,3,5,7)	District Director, Wisconsin Department of Transportation
Bal Kale (3)	Demographer, Wisconsin Department of Administration	Leland C. Smith (4)	Horticultural Agent, Kenosha County
Richard A. Keyes (2)	Environmental Engineer, Department of Public Works, Milwaukee County	Walter J. Tarmann (1,4)	Director, Waukesha County Park and Planning Commission
Henry C. Krebs (3)	Chief of Demographic and Special Analysis, Bureau of Health Statistics, Wisconsin Department of Health and Social Services	Jack Taylor (5)	President, Flash City Transit Company, Racine
David A. Kuemmel (2,4,6)	Commissioner of Public Works, City of Milwaukee	Norbert S. Theine (1)	Administrator, City of South Milwaukee
Thomas P. Kujawa (5)	Managing Director, Milwaukee County Transit System	Rodney W. Vanden Noven (6)	Director of Public Works, City of Waukesha
Gerald P. Lee (1)	Building Inspector, City of Muskego	Ernest R. Vogel (2,5,7)	Deputy Director, Milwaukee County Department of Public Works
James J. Lynch (1)	Village Planner, Village of Shorewood	Max A. Vogt (2,6)	Director of Public Works, Village of Menomonee Falls
Clifton Maguire (4)	State Conservationist, U. S. Soil Conservation Service	Donald M. Vold	District Staff Manager—Forecasting, Wisconsin Bell
Patrick Marchese (4,6)	Executive Director, Milwaukee Metropolitan Sewerage District	Lloyd O. Wadleigh (3)	Professor, Department of Economics, Carroll College, Waukesha
Frank M. Mayer (2,5,6,7)	Division Administrator, U. S. Department of Transportation, Federal Highway Administration	Sylvester N. Weyker (2)	Highway Commissioner, Ozaukee County

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE
ON REGIONAL LAND USE-TRANSPORTATION PLANNING
(continued)**

Dan Wilson (4) Resource Development Agent,
University of Wisconsin-Extension,
Washington County
Thomas A. Winkel (2,5,7) District Chief Planning Engineer,
Wisconsin Department of Transportation
Thomas N. Wright (1,3,5) Director of Community
Development, City of Racine

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE
ON REGIONAL AIRPORT SYSTEM PLANNING**

William D. Rogan Commissioner, Southeastern
Chairman Wisconsin Regional Planning Commission
Kurt W. Bauer Executive Director, Southeastern
Secretary Wisconsin Regional Planning Commission
C. Barry Bateman Airport Director, General
Mitchell International Airport
John H. Batten Chairman, Racine Commercial Airport
Corporation, and President, Twin Disc, Inc.
Richard A. Bolte Highway Commissioner, Waukesha County
Roger S. Chapman Manager, Kenosha Municipal Airport
Edwin H. Daniels Citizen Member
George Gundersen Director, Bureau of Systems Planning,
Division of Planning and Budget,
Wisconsin Department of Transportation
Major Reid M. Knutson Base Civil Engineer,
Wisconsin Air National Guard
Jerome F. Mann Director, Central Region, Air
Transport Association of America
Paul E. Milewski Director of Community Development,
City of Oak Creek
Glen A. Orcutt Airport Planner,
U. S. Department of Transportation,
Federal Aviation Administration
Gerald Schwerk Director of Transportation,
Milwaukee County
David L. Strand Director, Bureau of Aeronautics,
Wisconsin Department of Transportation
Sylvester N. Weyker Highway Commissioner, Ozaukee County

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
JURISDICTIONAL HIGHWAY PLANNING FOR KENOSHA COUNTY**

Gene A. Scharfenorth Highway Commissioner, Kenosha County
Chairman
Kurt W. Bauer Executive Director, Southeastern
Secretary Wisconsin Regional Planning Commission
Gary Daniels Chairman, Town of Brighton
Ralph L. Drinkwine, Jr. President, Village of Silver Lake
Noel Effering Chairman, Town of Bristol
Harvey Elmer Director of Public Works, City of Kenosha
Thomas L. Frank Planning and Research Engineer,
U. S. Department of Transportation,
Federal Highway Administration
Russell Hoel Chairman, Town of Salem
Olga B. Hoffman President, Village of Paddock Lake
Earl W. Hollister Supervisor, Kenosha County
David D. Holtze Chairman, Town of Somers
Merlin F. Jahns Trustee, Village of Twin Lakes
Francis H. Kerkman Chairman, Town of Wheatland
Roger E. Prange Clerk, Town of Pleasant Prairie
Harvey Shebesta District Director, Wisconsin
Department of Transportation
Kim W. Singleton Chairman, Town of Randall
Virginia Taylor Citizen Member, City of Kenosha
Thomas W. Terwall Chairman, Town of Pleasant Prairie
August Zirbel, Jr. Chairman, Town of Paris

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
JURISDICTIONAL HIGHWAY PLANNING FOR MILWAUKEE COUNTY**

Gerald Schwerk Director of Transportation,
Chairman and Secretary Milwaukee County
Kurt W. Bauer Executive Director, Southeastern
Wisconsin Regional Planning Commission
John A. Erickson City Engineer, City of Milwaukee
Thomas L. Frank Planning and Research Engineer,
U. S. Department of Transportation,
Federal Highway Administration
Frank M. Mayer Division Administrator,
U. S. Department of Transportation,
Federal Highway Administration
Nick T. Paulos Village Engineer, Village of Greendale
Frank Reichert City Engineer, City of Glendale
Gordon Rozmus City Planner, City of Wauwatosa
John E. Schumacher City Engineer, City of West Allis
Harvey Shebesta District Director, Wisconsin
Department of Transportation

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
JURISDICTIONAL HIGHWAY PLANNING FOR RACINE COUNTY**

James F. Rooney Director of Public Works,
Chairman Racine County
Cecil F. Mehring Highway Engineer,
Secretary Racine County
Kurt W. Bauer Executive Director, Southeastern
Wisconsin Regional Planning Commission
Thomas Cecchini President, Village of Elmwood Park
Arnold L. Clement Planning and Development
Director, Racine County
Thomas L. Frank Planning and Research Engineer,
U. S. Department of Transportation,
Federal Highway Administration
Richard J. Furst Trustee, Village of Wind Point
Herbert W. Gauger President, Village of Waterford
Mark A. Gustafson City Engineer, City of Burlington
Richard L. Hebron Chairman, Town of Raymond
Cyril Ketterhagen Chairman, Town of Burlington
John Korzilius Trustee, Village of Union Grove
Edward Krueger Chairman, Town of Waterford
Fred H. Larson Commissioner of Public Works,
City of Racine
John L. Machine Chairman, Town of Norway
Patrick F. Motley Chairman, Town of Caledonia
Alvin P. Nelson Chairman, Town of Yorkville
Richard G. Rehberg Chairman, Town of Rochester
Richard Reich, Sr. President, Village of North Bay
Antony Rogers Trustee, Village of Rochester
Lucille Sheahan Chairperson, Town of Dover
Lester Wald President, Village of Sturtevant
Michael Weber Development Coordinator
Town of Mr. Pleasant
Thomas A. Winkel Chief District Planning Engineer,
Wisconsin Department of Transportation
Thomas N. Wright Director of Community
Development, City of Racine

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
JURISDICTIONAL HIGHWAY PLANNING FOR OZAUKEE COUNTY**

Sylvester N. Weyker Highway Commissioner,
Chairman Ozaukee County
Kurt W. Bauer Executive Director, Southeastern
Secretary Wisconsin Regional Planning Commission
Kevin M. Brunner Administrator, Village of Saukville
Russell A. Dimick City Engineer, City of Cedarburg
Thomas L. Frank Planning and Research Engineer,
U. S. Department of Transportation,
Federal Highway Administration
Mark E. Grams Administrator, City of Port Washington
Kristine M. Hinrichs Administrator, Village of Thiensville
Kenneth A. Roell Administrator and Engineer,
Town of Cedarburg
Donald A. Roensch Administrator, City of Mequon
Emory R. Sacho Administrator, Village of Grafton
Harvey Shebesta District Director, Wisconsin
Department of Transportation

**TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
JURISDICTIONAL HIGHWAY PLANNING FOR WALWORTH COUNTY**

Benjamin Coopman Highway Commissioner, Chairman
Chairman
Kenneth Andrews President, Village of East Troy
Kurt W. Bauer Executive Director, Southeastern Wisconsin Regional Planning Commission
Gerald E. Byrnes Chairman, Town of Troy; Walworth County Board Supervisor
Schuyler W. Case Citizen Member
Thomas L. Frank Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
Chairman, Town of Whitewater
Robert Magill Citizen Member
Allen L. Morrison Chairman, Town of Sharon; Chairman, Walworth County Park and Planning Commission; Walworth County Board Supervisor
Frank Scott Member, City of Lake Geneva Plan Commission
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Urban Mass Transportation Administration
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John M. Hartz Director, Bureau of Transit,
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John E. Schumacher City Engineer, City of West Allis
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FOX RIVER WATERSHED COMMITTEE
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 Paul E. Mueller Land Use and Park Administrator, Washington County
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 Lloyd L. Turner Director of Public Works, Village of Germantown
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 Rudolfo N. Salcedo Environmental Scientist, Department of City Development, City of Milwaukee
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 Paul E. Mueller Land Use and Park Administrator, Washington County
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 Udo L. Wilharm City Engineer, City of Oak Creek
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**TECHNICAL AND CITIZEN ADVISORY COMMITTEE ON
COASTAL MANAGEMENT IN SOUTHEASTERN WISCONSIN
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Gloria L. McCutcheon District Director, Southeast District, Wisconsin Department of Natural Resources
Dr. William G. Murphy Professor, Soil Mechanics, College of Engineering, Marquette University; Engineers and Scientists of Milwaukee
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James M. Phinney Resident, Village of Fox Point
Phil Sander Executive Secretary, Southeastern Wisconsin Sportsmen's Federation
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Norbert S. Theine Administrator, City of South Milwaukee

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MILWAUKEE HARBOR ESTUARY COMPREHENSIVE
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Kent B. Fuller Rear Commodore, Milwaukee Yacht Club
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Orville L. Kurth District Conservationist, U. S. Soil Conservation Service
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Gerald Schwerm Director of Transportation and Public Works, Milwaukee County
Walter T. Woelfle Attorney, Wisconsin Electric Power Company
Dr. Alphonse E. Zanoni Professor, Department of Civil Engineering, Marquette University

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Paul E. Mueller Land Use and Park Administrator, Washington County
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Phil Sander Executive Secretary, Southeastern Wisconsin Sportsmen's Federation
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Sea Grant Institute,
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Gary L. Nelson Supervisor, Water Regulation
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Department of Natural Resources
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Gerald Schwerm Director of Transportation and Public Works,
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Kenneth J. Szallai Director, Port of Milwaukee
Jean B. Tyler Commissioner, Southeastern
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William P. Wenzler Architect, Wenzler & Associates

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Noreen R. Cook Manager, Village of Fox Point
Leonard C. Engelhardt County Landscape Architect,
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**TECHNICAL ADVISORY COMMITTEE FOR THE
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(continued)

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**INTERGOVERNMENTAL COORDINATING AND TECHNICAL ADVISORY
COMMITTEE FOR THE MILWAUKEE COUNTY LAKE MICHIGAN
SHORELINE EROSION, BLUFF RECESSION, AND
STORM DAMAGE CONTROL PLAN**

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City of St. Francis
Milton Vretenar Mayor, City of St. Francis
T. Anthony Zielinski Supervisor, 12th District,
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Appendix C

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION STAFF: 1987

EXECUTIVE DIVISION

Kurt W. Bauer, PE, RLS, AICP
Executive Director

Philip C. Evenson, AICP Assistant Director	Kenneth R. Yunker, PE Assistant Director
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Margaret M. Shanley Executive Secretary	Elaine I. Andersen Executive Secretary
--	---

Joan M. Starr Secretary

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Information Systems Manager

John C. Stelpflug
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Thomas D. Patterson
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John D. Harasha
Programming Supervisor

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Systems Programmers

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Victor J. Janka, Jr.
Martin E. Staszak
Senior Systems Analysts

Donald S. Johnson
Michael J. Miller
Senior Programmer/Analysts

Robert J. Burnell
Programmer/Analyst

Robert J. Baier
Lawrence D. Langowski
Community Services Representatives

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Lon M. Scott
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Kristine M. Engelhardt
Melody M. Patrie
Communications Specialists

Kenneth B. Long, Jr.
Graphics Operation Supervisor

Karen J. Goralski
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Jon M. Powell
James G. Reichhoff
Mary E. Robertson
Digitizer Operators

Valerie A. Richardson
Cadastral Map Draftsman

INFORMATION SYSTEMS DIVISION (continued)

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Sylvia Carlson
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COMMUNITY ASSISTANCE PLANNING DIVISION

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Patrick J. Meehan, AICP
Principal Planner

Jean M. Plum
Senior Planner

Robert S. McGonigal
Planner

Nancee A. Greer
Senior Planning Draftsman

ECONOMIC DEVELOPMENT PLANNING DIVISION

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Chief Economic Development Planner

John R. Meland
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Margaret A. Vuicich
Senior Planner

ADMINISTRATIVE SERVICES DIVISION

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Administrative Officer

Rita L. Rolfson
Bookkeeper

Luella M. Fredrickson
Secretary

Gretel S. Weltmer
Receptionist

ENVIRONMENTAL PLANNING DIVISION

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Michael G. Hahn, PE
Curtis R. Hulterstrum, PE
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Ronald J. Printz, PE
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David B. Kendziorksi
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David J. Ostrowski
Engineer

Judy K. Musich
Planner

Irene A. Brown
Secretary

TRANSPORTATION PLANNING DIVISION

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Albert A. Beck
Otto P. Dobnick
Principal Planners

Robert B. Humel
Senior Planner

Peter C. Daniels
Engineer

Kathryn E. Sobottke
Research Analyst

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B. Lynn Nowak
Donald P. Simon
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Jacqueline B. Hartig
Jean C. Johnson
Bergetta J. Ruehmer
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Patricia M. Kokan
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Randy T. Dvorak
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INTERAGENCY STAFF ASSIGNMENTS

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Appendix D

PUBLICATIONS OF THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION: 1962-DECEMBER 1987

PROSPECTUSES

Regional Planning Program, April 1962*

Root River Watershed Planning Program, March 1963*

Fox River Watershed Planning Program, October 1964*

Continuing Land Use-Transportation Study, October 1965

Milwaukee River Watershed Planning Program, September 1966*

Comprehensive Library Planning Program, April 1968

Community Shelter Planning Program, August 1968

Racine Urban Planning District Comprehensive Planning Program, November 1968

Regional Sanitary Sewerage System Planning Program, December 1968

Menomonee River Watershed Planning Program, November 1969

Comprehensive Regional Airport Planning Program, December 1969*

Regional Housing Study, December 1969

Deep Sandstone Aquifer Simulation Modeling Program, October 1972

Regional Park, Outdoor Recreation, and Related Open Space Planning Program, March 1973

Preliminary Engineering Study for the Abatement of Pollution from Combined Sewer Overflow in the Milwaukee Metropolitan Area, July 1973*

Kinnickinnic River Watershed Planning Program Prospectus, November 1974*

Regional Air Quality Maintenance Planning Program Prospectus, November 1974

Preliminary Engineering Study for the Abatement of Water Pollution in the Kenosha Urban Area, December 1975

Overall Work Program and Prospectus of the Southeastern Wisconsin Regional Planning Commission: 1976-1980, December 1975

Overall Work Program of the Southeastern Wisconsin Regional Planning Commission: 1977-1981, December 1976

Overall Work Program and Prospectus of the Southeastern Wisconsin Regional Planning Commission: 1978-1982, December 1977

Lake Michigan Estuary and Direct Drainage Area Subwatersheds Planning Program Prospectus, September 1978

Milwaukee Area Primary Transit System Alternatives Analysis Prospectus, October 1978

Milwaukee Northwest Side/Ozaukee County Transportation Improvement Study Prospectus, November 1978

Milwaukee Area Work Time Rescheduling Study Prospectus, December 1978

Pike River Watershed Planning Program Prospectus, April 1979

Milwaukee Area Freeway Traffic Management System Study Prospectus, June 1979

Oak Creek Watershed Planning Program Prospectus, December 1979

Prospectus for an Energy Emergency Contingency Plan for Southeastern Wisconsin, December 1983

Milwaukee River Priority Watersheds Program Prospectus, March 1985

Stormwater Drainage and Flood Control Planning Program Prospectus for the Milwaukee Metropolitan Sewerage District, March 1985

Infrastructure Study for the Southeastern Wisconsin Region, June 1986

Milwaukee High Lake Level Impact Study Prospectus, December 1987

Overall Work Program—1979 Southeastern Wisconsin Regional Planning Commission, October 1978

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Overall Work Program—1982 Southeastern Wisconsin Regional Planning Commission, November 1981

Overall Work Program—1983 Southeastern Wisconsin Regional Planning Commission, October 1982

Overall Work Program—1984 Southeastern Wisconsin Regional Planning Commission, November 1983

Overall Work Program—1985 Southeastern Wisconsin Regional Planning Commission, October 1984

Overall Work Program—1986 Southeastern Wisconsin Regional Planning Commission, October 1985

PROSPECTUSES—continued

Overall Work Program—1987 Southeastern Wisconsin Regional Planning Commission, September 1986
Overall Work Program—1988 Southeastern Wisconsin Regional Planning Commission, November 1987

STUDY DESIGNS

Study Design for the Continuing Regional Land Use-Transportation Study: 1970-1974*

Study Design for the Continuing Land Use-Transportation Study: 1972-1976

Study Design for the Areawide Water Quality Planning and Management Program
for Southeastern Wisconsin: 1975-1977*

Study Design for the Milwaukee Harbor Estuary Comprehensive Water Resources Planning Program,
September 1981

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No. 1 - Regional Planning Systems Study, December 1962*

No. 2 - Regional Base Mapping Program, July 1963*

No. 3 - The Economy of Southeastern Wisconsin, June 1963*

No. 4 - The Population of Southeastern Wisconsin, June 1963*

No. 5 - The Natural Resources of Southeastern Wisconsin, June 1963*

No. 6 - The Public Utilities of Southeastern Wisconsin, July 1963*

No. 7 - The Land Use-Transportation Study

Volume 1 - Inventory Findings: 1963, May 1965

Volume 2 - Forecasts and Alternative Plans: 1990, June 1966

Volume 3 - Recommended Regional Land Use and Transportation Plans: 1990,
November 1966*

No. 8 - Soils of Southeastern Wisconsin, June 1966*

No. 9 - A Comprehensive Plan for the Root River Watershed, July 1966*

No. 10 - A Comprehensive Plan for the Kenosha Planning District*

Volume 1 - Inventory Findings, Forecasts, and Recommended Plans, February 1967*

Volume 2 - Implementation Devices, February 1967*

No. 11 - A Jurisdictional Highway System Plan for Milwaukee County, March 1969*

No. 12 - A Comprehensive Plan for the Fox River Watershed

Volume 1 - Inventory Findings and Forecasts, April 1969*

Volume 2 - Alternative Plans and Recommended Plan, February 1970*

No. 13 - A Comprehensive Plan for the Milwaukee River Watershed

Volume 1 - Inventory Findings and Forecasts, December 1970

Volume 2 - Alternative Plans and Recommended Plan, October 1971

No. 14 - A Comprehensive Plan for the Racine Urban Planning District

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Volume 2 - The Recommended Comprehensive Plan, October 1972

Volume 3 - Model Plan Implementation Ordinances, September 1972

No. 15 - A Jurisdictional Highway System Plan for Walworth County, October 1972

No. 16 - A Regional Sanitary Sewerage System Plan for Southeastern Wisconsin, February 1974

No. 17 - A Jurisdictional Highway System Plan for Ozaukee County, December 1973

No. 18 - A Jurisdictional Highway System Plan for Waukesha County, January 1974

No. 19 - A Library Facilities and Services Plan for Southeastern Wisconsin, July 1974

No. 20 - A Regional Housing Plan for Southeastern Wisconsin, February 1975

No. 21 - A Regional Airport System Plan for Southeastern Wisconsin, December 1975

No. 22 - A Jurisdictional Highway System Plan for Racine County, February 1975

No. 23 - A Jurisdictional Highway System Plan for Washington County, October 1974

No. 24 - A Jurisdictional Highway System Plan for Kenosha County, April 1975

PLANNING REPORTS—continued

- No. 25 - A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000
 - Volume 1 - Inventory Findings, April 1975
 - Volume 2 - Alternative and Recommended Plans, May 1978
- No. 26 - A Comprehensive Plan for the Menomonee River Watershed
 - Volume 1 - Inventory Findings and Forecasts, October 1976
 - Volume 2 - Alternative Plans and Recommended Plan, October 1976
- No. 27 - A Regional Park and Open Space Plan for Southeastern Wisconsin, November 1977
- No. 28 - A Regional Air Quality Attainment and Maintenance Plan for Southeastern Wisconsin: 2000, June 1980
- No. 29 - A Regional Wastewater Sludge Management Plan for Southeastern Wisconsin, July 1978
- No. 30 - A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000
 - Volume 1 - Inventory Findings, September 1978
 - Volume 2 - Alternative Plans, February 1979*
 - Volume 3 - Recommended Plan, June 1979*
- No. 31 - A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982, April 1978
- No. 32 - A Comprehensive Plan for the Kinnickinnic River Watershed, December 1978
- No. 33 - A Primary Transit System Plan for the Milwaukee Area, June 1982
- No. 34 - A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area, August 1983
- No. 35 - A Comprehensive Plan for the Pike River Watershed, June 1983
- No. 36 - A Comprehensive Plan for the Oak Creek Watershed, August 1986
- No. 37 - A Water Resources Management Plan for the Milwaukee Harbor Estuary
 - Volume 1 - Inventory Findings, March 1987
 - Volume 2 - Alternative and Recommended Plans, December 1987
- No. 38 - A Regional Airport System Plan for Southeastern Wisconsin: 2010, May 1987

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- No. 1 - Land Development, November 1963*
- No. 2 - Official Mapping, February 1964
- No. 3 - Zoning, April 1964*
- No. 4 - Organization of Planning Agencies, June 1964*
- No. 5 - Floodland and Shoreland Development, November 1968
- No. 6 - Soils Development, August 1969*

TECHNICAL REPORTS

- No. 1 - Potential Parks and Related Open Spaces, September 1965*
- No. 2 - Water Law in Southeastern Wisconsin, January 1966*
- No. 2 - 2nd Edition, Water Law in Southeastern Wisconsin, December 1977
- No. 3 - A Mathematical Approach to Urban Design, January 1966*
- No. 4 - Water Quality and Flow of Streams in Southeastern Wisconsin, November 1966
- No. 5 - Regional Economic Simulation Model, October 1966*
- No. 6 - Planning Law in Southeastern Wisconsin, October 1966*
- No. 6 - 2nd Edition, Planning Law in Southeastern Wisconsin, April 1977
- No. 7 - Horizontal and Vertical Survey Control in Southeastern Wisconsin, July 1968*
- No. 8 - A Land Use Design Model
 - Volume 1 - Model Development, January 1968
 - Volume 2 - Model Test, October 1969
 - Volume 3 - Final Report, April 1973
- No. 9 - Residential Land Subdivision in Southeastern Wisconsin, September 1971
- No. 10 - The Economy of Southeastern Wisconsin, December 1972

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- No. 10 - 2nd Edition, The Economy of Southeastern Wisconsin, May 1984
- No. 11 - The Population of Southeastern Wisconsin, December 1972
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- No. 12 - A Short-Range Action Housing Program for Southeastern Wisconsin: 1972 and 1973, June 1972
- No. 13 - A Survey of Public Opinion in Southeastern Wisconsin, September 1974
- No. 14 - An Industrial Park Cost-Revenue Analysis in Southeastern Wisconsin: 1975, June 1975
- No. 15 - Household Response to Motor Fuel Shortages and Higher Prices in Southeastern Wisconsin, August 1976
- No. 16 - Digital Computer Model of the Sandstone Aquifer in Southeastern Wisconsin: April 1976
- No. 17 - Water Quality of Lakes and Streams in Southeastern Wisconsin: 1964-1975, June 1978
- No. 18 - State of the Art of Water Pollution Control in Southeastern Wisconsin
 - Volume 1 - Point Sources, July 1977
 - Volume 2 - Sludge Management, August 1977
 - Volume 3 - Urban Storm Water Runoff, July 1977
 - Volume 4 - Rural Storm Water Runoff, December 1976
- No. 19 - A Regional Population Projection Model, October 1980
- No. 20 - Carpooling in the Metropolitan Milwaukee Area, March 1977
- No. 21 - Sources of Water Pollution in Southeastern Wisconsin: 1975, September 1978*
- No. 22 - Recent Population Growth and Change in Southeastern Wisconsin: 1970-1977, September 1979
- No. 23 - Transit-Related Socioeconomic, Land Use, and Transportation Conditions and Trends in the Milwaukee Area, December 1980
- No. 24 - State-of-the-Art of Primary Transit System Technology, February 1981
- No. 25 - Alternative Futures for Southeastern Wisconsin, December 1980
- No. 26 - Milwaukee Area Alternative Primary Transit System Plan Preparation, Test, and Evaluation, March 1982
- No. 27 - Milwaukee Area Work Time Rescheduling Study, August 1981
- No. 28 - Evaluation of the Milwaukee Area Rideshare Program: 1972-1982, May 1983
- No. 29 - Industrial Land Use in Southeastern Wisconsin, November 1984
- No. 30 - The Development of an Automated Mapping and Land Information System: A Demonstration Project for the Town of Randall, Kenosha County, Wisconsin, December 1985

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- No. 1 - Residential, Commercial, and Industrial Neighborhoods, City of Burlington and Environs, February 1973
- No. 2 - Alternative Land Use and Sanitary Sewerage System Plans for the Town of Raymond: 1990, January 1974
- No. 3 - Racine Area Transit Development Program: 1975-1979, June 1974
- No. 4 - Floodland Information Report for the Rubicon River, City of Hartford, Washington County, Wisconsin, December 1974
- No. 5 - Drainage and Water Level Control Plan for the Waterford-Rochester-Wind Lake Area of the Lower Fox River Watershed, May 1975*
- No. 6 - A Uniform Street Naming and Property Numbering System for Racine County, Wisconsin, November 1975*
- No. 7 - Kenosha Area Transit Development Program: 1976-1980, March 1976
- No. 8 - Analysis of the Deployment of Paramedic Emergency Medical Services in Milwaukee County, April 1976
- No. 9 - Floodland Information Report for the Pewaukee River, Village of Pewaukee, Waukesha County, Wisconsin, October 1976
- No. 9 - 2nd Edition, Floodland Information Report for the Pewaukee River, Village of Pewaukee, Waukesha County, Wisconsin, March 1985

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- No. 10 - Land Use and Arterial Street System Plans, Village of Jackson, Washington County, Wisconsin, December 1976
- No. 11 - Floodland Information Report for Sussex Creek and Willow Springs Creek, March 1977
- No. 12 - Waukesha Area Transit Development Program: 1977-1981, January 1977
- No. 13 - Flood Control Plan for Lincoln Creek, Milwaukee County, Wisconsin, September 1977
- No. 13 - 2nd Edition, Flood Control Plan for Lincoln Creek, Milwaukee County, Wisconsin, September 1983
- No. 14 - Floodland Management Plan for the Village of Pewaukee, February 1978
- No. 15 - Off-Airport Land Use Development Plan for General Mitchell Field and Environs: 1977, May 1977
- No. 16 - A Plan for the Whittier Neighborhood, City of Kenosha and Town of Pleasant Prairie, Kenosha County, Wisconsin, June 1977
- No. 17 - A Plan for the Jefferson Park Neighborhood, Village of Germantown, Washington County, Wisconsin, March 1978
- No. 18 - A Land Use Plan for the Town of Erin: 2000, July 1978
- No. 19 - Storm Water Storage Alternatives for the Crossway Bridge and Port Washington-Bayfield Drainage Area in the Village of Fox Point, August 1977
- No. 20 - A Rail Transportation Service Plan for the East Troy Area, September 1977
- No. 21 - A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1978, December 1977
- No. 22 - Alternative and Recommended Land Use Plans for the Town of Genesee: 2000, February 1978
- No. 23 - A Park and Recreation Plan for Ozaukee County, August 1978*
- No. 24 - A Park and Open Space Plan for the Village of Darien, December 1978
- No. 25 - A Plan for the Delrock Neighborhood, City of Delavan, Walworth County, Wisconsin, January 1979
- No. 26 - A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1979, December 1978
- No. 27 - A Park and Open Space Plan for the Town of Eagle, April 1979
- No. 28 - Oconomowoc Area Traffic Management Plan, City of Oconomowoc, Waukesha County, Wisconsin, December 1979
- No. 29 - A Development Plan for the Quarry Ridge Neighborhood, City of Burlington, Racine County, Wisconsin, July 1979
- No. 30 - Whitewater Area Rail Service Plan, August 1979
- No. 31 - Waukesha Area Transit Development Program: 1981-1985, February 1980
- No. 32 - Recommended Electronic Data Processing and Transmittal System for Criminal Justice Agencies in Southeastern Wisconsin, September 1979
- No. 33 - A Land Use Plan for the Town of Fredonia: 2000, September 1979
- No. 34 - A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1980, December 1979
- No. 35 - Sanitary Sewer Service Area for the City of West Bend, Washington County, Wisconsin, December 1982
- No. 36 - A Land Use Plan for the Village of Germantown: 2000, Village of Germantown, Washington County, Wisconsin, July 1980
- No. 37 - A Nonpoint Source Water Pollution Control Plan for the Root River Watershed, March 1980
- No. 38 - A Land Use and Traffic Circulation Plan for the Village of Fredonia: 2000, Ozaukee County, Wisconsin, September 1980*
- No. 39 - A Public Transit System Accessibility Plan
 - Volume 1 - Kenosha Urbanized Area, June 1980
 - Volume 2 - Milwaukee Urbanized Area, Milwaukee County, May 1980
 - Volume 3 - Racine Urbanized Area, June 1980
 - Volume 4 - Milwaukee Urbanized Area, Waukesha County, June 1980

COMMUNITY ASSISTANCE PLANNING REPORTS—continued

- No. 40 - Recommended Locations for Motor Vehicle Inspection and Emissions Test Facilities in the Southeastern Wisconsin Region, October 1980
- No. 41 - A Park and Open Space Plan for the Kenosha Planning District, December 1980
- No. 42 - A Park and Open Space Plan for the Town and Village of Pewaukee, Waukesha County, Wisconsin, October 1980
- No. 43 - A Development Plan for the Woodview Neighborhood, City of Franklin, Milwaukee County, Wisconsin, September 1980
- No. 44 - Proposed Public Transit Service Improvements: 1980, Waukesha County, Wisconsin, July 1980*
- No. 45 - A Farmland Preservation Plan for Kenosha County, Wisconsin, June 1981*
- No. 46 - A Farmland Preservation Plan for Racine County, Wisconsin, August 1981
- No. 47 - A Water Quality Management Plan for Lac La Belle, December 1980*
- No. 48 - A Water Quality Management Plan for Ashippun Lake, Waukesha County, Wisconsin, January 1982
- No. 49 - A Land Use and Traffic Circulation Plan for the Village of Hartland: 2000, Waukesha County, Wisconsin, July 1981
- No. 50 - A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1981, June 1981
- No. 51 - A Land Use Plan for the Village of Sussex: 2000, Waukesha County, Wisconsin, January 1982*
- No. 52 - Housing Opportunities Guide for the Southeastern Wisconsin Region, December 1980
- No. 53 - A Water Quality Management Plan for Okauchee Lake, Waukesha County, Wisconsin, August 1981
- No. 54 - A Water Quality Management Plan for North Lake, Waukesha County, Wisconsin, July 1982
- No. 55 - A Land Use Plan for the Village of Darien: 2000, Walworth County, Wisconsin, December 1981
- No. 56 - Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, August 1981
- No. 57 - A Development Plan for the Forest Hills Neighborhood, City of Franklin, Milwaukee County, Wisconsin, September 1983*
- No. 58 - A Water Quality Management Plan for Pewaukee Lake, Waukesha County, Wisconsin, March 1984
- No. 59 - A Development Plan for the Whitnall Neighborhood, City of Franklin, Milwaukee County, Wisconsin, September 1985*
- No. 60 - A Water Quality Management Plan for Geneva Lake, Walworth County, Wisconsin, October 1985
- No. 61 - A Public Transportation Service Plan for Washington County, October 1981*
- No. 62 - A Traffic Circulation Plan for the West Bend Central Business District, August 1981*
- No. 63 - A Development Plan for the Echo Lake Neighborhood, City of Burlington, Racine County, Wisconsin, August 1982
- No. 63 - 2nd Edition, A Development Plan for the Echo Lake Neighborhood, City of Burlington, Racine County, Wisconsin, August 1984
- No. 64 - Sanitary Sewer Service Area for the City of Muskego, Waukesha County, Wisconsin, February 1982
- No. 64 - 2nd Edition, Sanitary Sewer Service Area for the City of Muskego, Waukesha County, Wisconsin, March 1986
- No. 65 - A Public Transportation Service Plan for Walworth County, January 1982
- No. 66 - A Park and Open Space Plan for the City of New Berlin, Waukesha County, Wisconsin, October 1981
- No. 67 - A Traffic Circulation Plan for Lac La Belle, Waukesha County, Wisconsin, March 1982
- No. 68 - Upland Disposal Area Siting Study for Dredged Materials from the Port of Milwaukee, December 1981*

COMMUNITY ASSISTANCE PLANNING REPORTS—continued

- No. 69 - A Land Use and Urban Design Plan for the City of Elkhorn: 2000, Walworth County, Wisconsin, January 1985
- No. 70 - Sanitary Sewer Service Area for the Village of Germantown, Washington County, Wisconsin, July 1983
- No. 73 - A Shoreland Development Management Study for Racine County, Wisconsin, January 1982
- No. 74 - Kenosha County Overall Economic Development Program (OEDP) Update—1981, April 1982
- No. 74 - 2nd Edition, Kenosha County Overall Economic Development Program (OEDP) Plan—1986 Update, September 1986
- No. 75 - A Solid Waste Management Plan for Walworth County, Wisconsin, September 1982
- No. 76 - A Land Use Plan for the Town and Village of Pewaukee: 2000, December 1982*
- No. 77 - A Wetland Protection and Management Plan for the City of Waukesha and Environs, February 1983*
- No. 78 - Sanitary Sewer Service Area for the City of Burlington, April 1986
- No. 79 - Racine Area Transit System Plan and Program: 1984-1988, May 1984
- No. 80 - A Lake Michigan Public Access Study for Racine County, Wisconsin, September 1982*
- No. 81 - Hartford Area Traffic Management Plan, June 1983
- No. 82 - A Central Transfer Site Location and Design Analysis for the City of Waukesha Transit System, December 1982
- No. 83 - A Transit System Operations Analysis for the City of Waukesha Transit System, February 1983
- No. 84 - Sanitary Sewer Service Area for the Village of Sussex, Waukesha County, Wisconsin, February 1983*
- No. 85 - A Land Use Plan for the Village of Eagle: 2000, Waukesha County, Wisconsin, September 1983
- No. 86 - A Lake Michigan Coastal Erosion Management Study for Racine County, Wisconsin, October 1982
- No. 87 - A Farmland Preservation Plan for Ozaukee County, Wisconsin, May 1983
- No. 88 - A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, Kenosha County, Wisconsin, February 1985
- No. 89 - A Stormwater Management Plan for the Village of Sussex, Waukesha County, Wisconsin, October 1983
- No. 90 - Sanitary Sewer Service Area for the Village of Saukville, Ozaukee County, Wisconsin, September 1983
- No. 91 - Sanitary Sewer Service Area, City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin, May 1987
- No. 92 - Sanitary Sewer Service Area for the City of Hartford, Washington County, Wisconsin, March 1984
- No. 93 - Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin, April 1985
- No. 94 - Sanitary Sewer Service Area for the City of Whitewater, Walworth County, Wisconsin, September 1987
- No. 95 - Sanitary Sewer Service Area for the City of Port Washington, Ozaukee County, Wisconsin, September 1983
- No. 96 - Sanitary Sewer Service Area for the Village of Fredonia, Ozaukee County, Wisconsin, July 1984
- No. 97 - Sanitary Sewer Service Area for the Village of Belgium, Ozaukee County, Wisconsin, November 1984
- No. 97 - 2nd Edition, Sanitary Sewer Service Area, Village of Belgium, Ozaukee County, Wisconsin, June 1987
- No. 98 - A Water Quality Management Plan for Friess Lake, Washington County, Wisconsin, August 1983
- No. 99 - Sanitary Sewer Service Area for the Village of Butler, Waukesha County, Wisconsin, February 1984

COMMUNITY ASSISTANCE PLANNING REPORTS—continued

- No. 100 - Sanitary Sewer Service Area for the City of Waukesha and Environs, Waukesha County, Wisconsin, June 1985
- No. 101 - Kenosha Area Transit System Plan and Program: 1984-1988, June 1984
- No. 102 - City of Whitewater Overall Economic Development Program Plan, January 1985
- No. 103 - Sanitary Sewer Service Area for the Allenton Area, Washington County, Wisconsin, September 1984
- No. 104 - A Park and Open Space Plan for the City of West Bend, Washington County, Wisconsin, June 1985*
- No. 106 - Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin, November 1985
- No. 107 - East Moreland Boulevard Short-Range and Long-Range Highway Improvement Plan, April 1984
- No. 110 - A Lake Michigan Coastal Erosion and Related Land Use Management Study for the City of St. Francis, Wisconsin, August 1984
- No. 111 - Land Use and Urban Design Plan for the City of New Berlin: 2010, April 1987
- No. 112 - Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin, August 1984
- No. 113 - Sanitary Sewer Service Area for the Town of Pewaukee Sanitary District No. 3, Lake Pewaukee Sanitary District, and Village of Pewaukee, Waukesha County, Wisconsin, June 1985
- No. 114 - Village of Shorewood Comprehensive Traffic Plan, Milwaukee County, Wisconsin, September 1984
- No. 115 - A Fire Station Building Program and Site Analysis, Village of Sturtevant, Racine County, Wisconsin, September 1984
- No. 116 - Milwaukee County Overall Economic Development Program Plan, October 1985
- No. 117 - Washington County Overall Economic Development Program Plan, December 1985
- No. 118 - Waukesha County Overall Economic Development Program Plan, December 1985
- No. 119 - Sanitary Sewer Service Area, Village of Silver Lake, Kenosha County, Wisconsin, May 1987
- No. 120 - A Solid Waste Management Plan for Milwaukee County, Wisconsin, July 1987
- No. 121 - A Stormwater Management Plan for the Village of Hales Corners, Milwaukee County, Wisconsin, March 1986
- No. 122 - A Park and Open Space Plan for the Town of Vernon, Waukesha County, Wisconsin, March 1985
- No. 124 - Sanitary Sewer Service Area for the Village of Jackson, Washington County, Wisconsin, May 1985
- No. 125 - A Transportation Plan for the Village of Germantown: 2000, Washington County, Wisconsin, October 1985
- No. 126 - A Development Plan for Kenosha County, Wisconsin, Volume One, Inventory Findings, May 1987
- No. 127 - Sanitary Sewer Service Area for the City of Delafield and the Village of Nashotah and Environs, Waukesha County, Wisconsin, October 1985
- No. 128 - Sanitary Sewer Service Area for the Village of Slinger, Washington County, Wisconsin, November 1985
- No. 130 - A Stormwater Drainage and Flood Control Policy Plan for the Milwaukee Metropolitan Sewerage District, March 1986*
- No. 131 - A Park and Open Space Plan for Kenosha County, November 1987
- No. 140 - A Park and Open Space Plan for the Town of Jackson, Washington County, Wisconsin, September 1986
- No. 141 - Sanitary Sewer Service Area for the Waterford/Rochester Area, Racine County, Wisconsin, May 1986
- No. 143 - Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin, February 1986

COMMUNITY ASSISTANCE PLANNING REPORTS—continued

- No. 145 - Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin, October 1986
- No. 146 - A Wildlife Habitat Management Plan for the Nicholson Wildlife Center, Town of Caledonia, Racine County, Wisconsin, May 1986
- No. 147 - Sanitary Sewer Service Area for the City of Racine and Environs, Racine County, Wisconsin, November 1986
- No. 148 - A Park and Open Space Plan, Village of Walworth, Walworth County, Wisconsin, November 1986
- No. 149 - Sanitary Sewer Service Area, Village of Twin Lakes, Kenosha County, Wisconsin, May 1987
- No. 151 - A Transportation System Plan for the Blue Mound Road (USH 18) Corridor, December 1987
- No. 156 - Waukesha County Animal Waste Management Plan, August 1987
- No. 157 - Sanitary Sewer Service Area, City of New Berlin, Waukesha County, Wisconsin, November 1987
- No. 158 - Sanitary Sewer Service Area for the Town of Lyons Sanitary District No. 2, Walworth County, Wisconsin, November 1987

MEMORANDUM REPORTS

- No. 1 - Cedarburg Central Business District Parking Study, City of Cedarburg, Ozaukee County, Wisconsin, December 1986
- No. 2 - Courthouse Parking Study, Ozaukee County, Wisconsin, December 1986
- No. 3 - Alternative Industrial Park Site Location and Cost Estimate Analysis, City of Oconomowoc, Waukesha County, Wisconsin, December 1986
- No. 4 - Pilgrim Parkway Traffic Study, Village of Elm Grove, Waukesha County, Wisconsin, December 1986
- No. 5 - Capital Improvements Program: 1987-1991, Village of East Troy, Walworth County, Wisconsin, December 1986*
- No. 6 - Report of the Hoan Bridge South Task Force, Milwaukee County, Wisconsin, December 1986
- No. 7 - Public Transit Ridership Trends in Southeastern Wisconsin: 1975-1986, May 1987
- No. 8 - Assessment of Transportation Needs of Elderly and Handicapped Residents of Ozaukee County, June 1987
- No. 9 - An Arterial Highway System Plan for Eastern Racine County, April 1987
- No. 10 - City of Elkhorn Fact Book, Walworth County, Wisconsin, November 1986
- No. 11 - City of Elkhorn Overall Economic Development Program Plan, Walworth County, Wisconsin, December 1986
- No. 12 - Economic Development Fact Book, City of Oconomowoc, Waukesha County, Wisconsin, March 1987
- No. 13 - Overall Economic Development Program Plan, City of Oconomowoc, Waukesha County, Wisconsin, March 1987
- No. 15 - Overall Economic Development Program Plan, Village of Menomonee Falls, Waukesha County, Wisconsin, September 1987
- No. 16 - Unpolluted Dredge Materials Disposal Plan for the Port Washington Harbor, City of Port Washington, Ozaukee County, Wisconsin, May 1987
- No. 17 - A Public Transit Program for Handicapped Persons—City of Waukesha Transit System Utility, May 1987
- No. 18 - A Central Public Works Facility Building Program, Site Location Analysis, and Site Development Plan for the City of New Berlin, May 1987
- No. 20 - CTH N Traffic Study, City of Cedarburg, Ozaukee County, Wisconsin, February 1987
- No. 21 - A Public Transit Program for Handicapped Persons—Milwaukee County Transit System, June 1987
- No. 22 - A Public Transit Program for Handicapped Persons—Waukesha County Transit System, June 1987

MEMORANDUM REPORTS—continued

- No. 23 - A Public Transit Program for Handicapped Persons—City of Kenosha Transit System, June 1987
- No. 24 - A Public Transit Program for Handicapped Persons—City of Racine Transit System, June 1987
- No. 25 - Traffic Impact Study of Proposed Development Along Paradise Drive Between the USH 45 Bypass and S. Main Street, City of West Bend, Washington County, Wisconsin, September 1987
- No. 26 - Official Map, City of Burlington, Racine County, Wisconsin, December 1987
- No. 28 - Streams and Watercourses for Which the Milwaukee Metropolitan Sewerage District Has Assumed Jurisdiction for Drainage and Flood Control Purposes, August 1987

ECONOMIC DEVELOPMENT PROFILES

Economic Development Profiles have been prepared for the Southeastern Wisconsin Region, for each of the seven counties in the Region, and for the following communities within each of the seven counties:

Kenosha County
City of Kenosha
Town of Bristol
Town of Pleasant Prairie

Milwaukee County
City of Cudahy
City of Franklin
City of Milwaukee
City of Oak Creek
City of South Milwaukee
City of Wauwatosa
City of West Allis
Village of West Milwaukee

Ozaukee County
City of Cedarburg
City of Mequon
City of Port Washington
Village of Belgium
Village of Grafton
Village of Saukville

Racine County
City of Burlington
City of Racine
Village of Rochester
Village of Sturtevant
Village of Union Grove
Village of Waterford
Town of Burlington
Town of Caledonia
Town of Dover
Town of Mt. Pleasant
Town of Norway
Town of Raymond
Town of Rochester
Town of Waterford
Town of Yorkville

Walworth County
City of Elkhorn
City of Lake Geneva
City of Whitewater

Washington County
City of Hartford
City of West Bend
Village of Germantown
Village of Slinger

Waukesha County
City of Brookfield
City of Delafield
City of Muskego
City of New Berlin
City of Oconomowoc
City of Waukesha
Village of Butler
Village of Elm Grove
Village of Hartland
Village of Menomonee Falls
Village of Mukwonago
Village of Pewaukee
Village of Sussex

LAKE USE REPORTS—FOX RIVER WATERSHED

Kenosha County
No. FX-40, Benedict Lake
No. FX-12, Camp Lake
No. FX-27, Center Lake
No. FX-35, Cross Lake
No. FX-45, Dyer Lake
No. FX-7, Elizabeth Lake

No. FX-34, Lilly Lake
No. FX-17, Marie Lake
No. FX-13, Powers Lake
No. FX-11, Silver Lake*
No. FX-45, Voltz Lake

Racine County
No. FX-25, Bohner Lake
No. FX-15, Browns Lake
No. FX-9, Eagle Lake
No. FX-42, Echo Lake
No. FX-32, Kee Nong Go-Mong Lake

No. FX-29, Long Lake
No. FX-6, Waterford-Tichigan Lakes
No. FX-26, Waubeesee Lake
No. FX-5, Wind Lake

LAKE USE REPORTS—FOX RIVER WATERSHED—continued

Walworth County

No. FX-41, Army Lake
No. FX-40, Benedict Lake
No. FX-7, Beulah Lake
No. FX-31, Booth Lake
No. FX-4, Como Lake
No. FX-1, Geneva Lake
No. FX- Lauderdale Lakes
(17, Green Lake,
20, Middle Lake,
18, Mill Lake)

No. FX-39, Lulu Lake
No. FX-21, North Lake
No. FX-37, Pell Lake
No. FX-43, Peters Lake
No. FX-25, Pleasant Lake
No. FX-24, Potters Lake
No. FX-38, Silver Lake
No. FX-30, Wandawega Lake

Waukesha County

No. FX-3, Big Muskego Lake
No. FX-23, Denoon Lake*
No. FX-19, Eagle Spring Lake
No. FX-10, Little Muskego Lake

No. FX-14, Lower Phantom Lake
No. FX-2, Pewaukee Lake
No. FX-34, Spring Lake
No. FX-33, Upper Phantom Lake

LAKE USE REPORTS—MILWAUKEE RIVER WATERSHED

Fond du Lac County

No. ML-2, Long Lake
No. ML-9, Auburn Lake
No. ML-21, Forest Lake
No. ML-12, Mauthe Lake
No. ML-18, Mud Lake
No. ML-5, Kettle Moraine Lake

Washington County

No. ML-3, Little Cedar Lake
No. ML-14, Green Lake
No. ML-19, Lake Twelve
No. ML-13, Lucas Lake
No. ML-11, Smith Lake
No. ML-20, Wallace Lake*
No. ML-15, Barton Pond
No. ML-1, Big Cedar Lake*
No. ML-8, Silver Lake
No. ML-16, West Bend Pond

Ozaukee County

No. ML-4, Mud Lake
No. ML-17, Spring Lake

Sheboygan County

No. ML-6, Random Lake
No. ML-10, Crooked Lake
No. ML-7, Lake Ellen

TECHNICAL RECORDS

Volume 1 - No. 1, October-November 1963*

Regional Planning in Southeastern Wisconsin
by Kurt W. Bauer, Executive Director
The SEWRPC Land Use-Transportation Study
by J. Robert Doughty, Study Director
Home Interview Sample Selection - Part I
by Kenneth J. Schlager, Chief Systems Engineer
Truck and Taxi Sample Selection
by Thomas A. Winkel, Urban Planning Supervisor
A Backward Glance: Early Toll Roads in Southeastern Wisconsin
by Richard E. Rehberg, Editor

TECHNICAL RECORDS—continued

Volume 1 - No. 2, December 1963-January 1964

Arterial Network and Traffic Analysis Zones
by Richard B. Sheridan, Chief Transportation Planner
Conducting the Household Postal Questionnaire Survey
by Wade G. Fox, Cartography and Design Supervisor
Conducting the Home Interview Survey
by Sheldon W. Sullivan, Administrative Officer
Aerial Photographs and Their Use in the Land Use Inventory
by Harlen E. Clinkenbeard, Land Use Planning Chief
A Backward Glance: The U. S. Public Land Survey in Southeastern Wisconsin
by Richard E. Rehberg, Editor

Volume 1 - No. 3, February-March 1964

Conducting the Truck and Taxi Survey
by Sheldon W. Sullivan, Administrative Officer
Conducting the Truck and Taxi Postal Questionnaire Survey
by Wade G. Fox, Cartography and Design Supervisor
Conducting the External Survey
by William E. Creger, P.E., Traffic Operations Engineer
Rail and Transit Inventory and Design of the Transit Network
by David A. Kuemmel, P.E., Transportation Planning Engineer
A Backward Glance: The Man-Made Ice Age
by Richard E. Rehberg, Editor

Volume 1 - No. 4, April-May 1964*

The Application of Soil Studies to Regional Planning
by Kurt W. Bauer, Executive Director
Coding
by Wade G. Fox, Cartography and Design Supervisor, and
Robert L. Fisher, Coding Supervisor
Inventory of Existing Outdoor Recreation Facilities
and Historic Sites in Southeastern Wisconsin
by Theodore F. Lauf, Research Analyst
Inventory of Potential Park and Related Open Space Sites
by Karl W. Holzwarth, Landscape Architect
A Backward Glance: The Electric Interurban Railway
by Richard E. Rehberg, Editor

Volume 1 - No. 5, June-July 1964

Reconciliation of Sample Coverage in the Internal O & D Surveys
by Eugene G. Muhich, P.E., Transportation Planning Engineer
The Contingency Check Program
by Wade G. Fox, Cartography and Design Supervisor
Inventory of the Arterial Street Network
by William T. Wambach, Jr., P.E.
A Backward Glance: The Milwaukee and Rock River Canal
by James E. Seybold, Editor

TECHNICAL RECORDS—continued

Volume 1 - No. 6, August-September 1964

Checking the Network Description for Arterial Highway and Transit Networks
by Richard B. Sheridan, Chief Transportation Planner

A Study of the Water Quality and Flow of Streams in Southeastern Wisconsin
by Roy W. Ryling, Hydrologist

Expanding the Origin-Destination Sample
by Richard B. Sheridan, Chief Transportation Planner, and
Wade G. Fox, Cartography and Design Supervisor

A Backward Glance: Greendale—Garden City in Wisconsin
by Kurt W. Bauer, Executive Director

Volume 2 - No. 1, October-November 1964

Simulation Models in Urban and Regional Planning
by Kenneth J. Schlager, Chief Systems Engineer

Volume 2 - No. 2, December 1964-January 1965

Capacity of Arterial Network Links
by Richard B. Sheridan, Chief Transportation Planner

The ABC Method of Current Population Estimating
by Donald L. Gehrke, Economics and Population Analyst, and
Orlando E. Delogu, Financial Resources and Legal Analyst

O & D Surveys Accuracy Checks
by Eugene G. Muhich, P.E., Transportation Planning Engineer

A Backward Glance: Railroad Transportation in Southeastern Wisconsin
by Patricia J. Tegge, Editor

Volume 2 - No. 3, February-March 1965

Determination of Historical Flood Frequency for the Root River of Wisconsin
by James C. Ringenoldus, P.E., Harza Engineering Company

The Regional Multiplier
by Kenneth J. Schlager, Chief Systems Engineer

A Backward Glance: The Street Railway in Milwaukee
by Henry M. Mayer, Administrative Assistant,
Milwaukee & Suburban Transport Corporation

Volume 2 - No. 4, April-May 1965

Determination of Runoff for Urban Storm Water Drainage System Design
by Kurt W. Bauer, Executive Director

Volume 2 - No. 5, June-July 1965

Screen Line Adjustment of Trip Data
by Richard B. Sheridan, P.E., Chief Transportation Planner

Inventory of Land Development Regulations in Southeastern Wisconsin
by William J. Kockelman, Chief Community Assistance Planner

A Backward Glance: Highway Development in Southeastern Wisconsin - Part I
by Jean C. Meier, Librarian and Research Assistant

TECHNICAL RECORDS—continued

Volume 2 - No. 6, August-September 1965

A Modal Split Model for Southeastern Wisconsin
by Edward Weiner, Highway Engineer

Volume 3 - No. 1, 1968

Transit System Development Standards

by Edward Weiner, Transportation Planning Engineer

Modified Rapid Transit Service in the Southeastern Wisconsin Region
by Sheldon W. Sullivan, Administrative Officer

A Backward Glance: Highway Development in Southeastern Wisconsin - Part II

by Jean C. Meier, Research Assistant, and
Sheldon W. Sullivan, Administrative Officer

Volume 3 - No. 2, 1969

Characteristics of Travel in the Milwaukee Central Business District
by Sheldon W. Sullivan, Administrative Officer

Computing the Center of Population and the Geographic Center
by Wayne H. Faust, Associate Planner

A Backward Glance: Downtown Yesterdays
by Gerald P. Caffrey, Milwaukee Municipal Reference Librarian

Volume 3 - No. 3, September 1971*

Hydrogeologic Considerations in Liquid Waste Disposal,
with a Case Study in Southeastern Wisconsin
by Martha J. Ketelle, Department of Geology and Geophysics,
University of Wisconsin-Madison, Wisconsin

Volume 3 - No. 4, September 1971

Characteristics of Air and Ground Travel Generated by
General Mitchell Field Airport Terminal: May 1968
by Sheldon W. Sullivan, Chief of Data Collection

Shifts in Centers of Population within the Region: 1960-1970
by Wayne H. Faust, Associate Planner

A Backward Glance: The Development of General Mitchell Field
by Sheldon W. Sullivan, Chief of Data Collection

Volume 3 - No. 5, March 1973*

Freeway Flyer Service in Southeastern Wisconsin-A Progress Report: 1964-1971
by Sheldon W. Sullivan, Chief of Data Collection

Development of Equations for Rainfall Intensity-Duration-Frequency Relationship
by Stuart G. Welsh, Water Resources Engineer

A Backward Glance: The American Automobile—A Brief History of the Development
of the American Automobile and the Growth of Automobile Registrations in the
United States, Wisconsin, and the Southeastern Wisconsin Region: 1896-1970
by Sheldon W. Sullivan, Chief of Data Collection

TECHNICAL RECORDS—continued

Volume 3 - No. 6, April 1976*

Floodland Management: The Environmental Corridor Concept

by Stuart G. Walesh, SEWRPC Water Resources Engineer

Characteristics of Travel in the Milwaukee Central Business District: 1963 and 1972

by Sheldon W. Sullivan, SEWRPC Chief of Data Collection, and

Jean Lusk, SEWRPC Research Analyst

The Changing Factorial Ecology of Milwaukee's Black Ghetto

by Harold McConnell, Richard A. Karsten, and Marilyn Ragusa

A Backward Glance: Environmental Corridors of Yesterday and Today

by Dr. Jeremy M. Katz, Research Psychologist, and

Jeanne Sollen, Editor

Volume 4 - No. 1, March 1978*

A Backward Glance: Milwaukee's Water Story

by Milwaukee Water Works

Is There a Groundwater Shortage in Southeastern Wisconsin?

by Douglas A. Cherkaver and Vinton W. Bacon,

University of Wisconsin-Milwaukee

An Overview of the Sources of Water Pollution in Southeastern Wisconsin

by Kurt W. Bauer, Executive Director, SEWRPC

The Effect of Sample Rate on Socioeconomic and Travel Data

Obtained through Standard Home Interview

by Jean Lusk, SEWRPC Planner

Volume 4 - No. 2, March 1981

Refining the Delineation of the Environmental Corridors in Southeastern Wisconsin

by Bruce P. Rubin, Chief Land Use Planner, SEWRPC, and

Gerald H. Emmerich, Jr., Senior Planner, SEWRPC

Water Quality and Quantity Simulation Modeling for the Areawide

Water Quality Management Planning Program for Southeastern Wisconsin

by Thomas R. Sear, P.E., Senior Water Resources Engineer, SEWRPC

Evaluation of a Water Quality Standard for Total Phosphorus in

Flowing Streams in Southeastern Wisconsin

by David B. Kendzierski, Senior Planner, SEWRPC

Bibliography of Lake Michigan Shore Erosion and Nearshore Process Studies

by Norman P. Lasca, Professor, Department of Geological Sciences and Center for Great Lakes Studies, University of Wisconsin-Milwaukee, and

David Baier, Warren Baumann, Patrick Curth, and Jan H. Smith, Geologists, Department of Geological Sciences and Center for Great Lakes Studies, University of Wisconsin-Milwaukee

A Backward Glance: Historic Evolution of the Local Governmental

Structure in Southeastern Wisconsin

by Eileen Hammer

Volume 4 - No. 3, February 1982

Preservation of Scientifically and Historically Important Geologic Sites
in Milwaukee County, Wisconsin

by Donald G. Mikulic, Staff Geologist, Illinois State Geological Survey; and

Joanne Kluessendorf, Geologic Research Assistant, Illinois State Geological Survey, Champaign, Illinois

TECHNICAL RECORDS—continued

Inventory of Solid Waste Management Facilities in Southeastern Wisconsin: 1980
by Robert P. Biebel, Principal Engineer, SEWRPC, and
Joseph E. Stuber, Senior Engineer, SEWRPC

Inventory Findings of Cannonball Passenger Surveys: 1980 and 1971
by Jean M. Lusk, SEWRPC Planner

A Backward Glance: Historic Evolution of the Local Governmental Structure
in Southeastern Wisconsin
by Eileen Hammer

Volume 4 - No. 4, February 1984

Characteristics of Travel in Six Major Attractors in the Southeastern Wisconsin Region
by Jean M. Lusk, SEWRPC Planner, and
John L. Zastrow, SEWRPC Senior Specialist

Shopping Centers: Characteristics of Travel—1963-1972
by Jean M. Lusk, SEWRPC Planner, and
John L. Zastrow, SEWRPC Senior Specialist

A Backward Glance: Historic Evolution of the Local Governmental
Structure in Southeastern Wisconsin
by Eileen Hammer

ANNUAL REPORTS

1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969*, 1970, 1971, 1972*, 1973
1974, 1975, 1976, 1977, 1978*, 1979*, 1980, 1981, 1982, 1983, 1984, 1985, and 1986

CONFERENCE PROCEEDINGS

1st Regional Planning Conference, December 6, 1961*
2nd Regional Planning Conference, November 4, 1962
3rd Regional Planning Conference, November 20, 1963
4th Regional Planning Conference, May 12, 1965
5th Regional Planning Conference, October 26, 1965
6th Regional Planning Conference, May 6, 1969
7th Regional Planning Conference, January 19, 1972
8th Regional Planning Conference, October 16, 1974
Regional Conference on Sanitary Sewerage System User and
Industrial Waste Treatment Recovery Charges, July 18, 1974
9th Regional Planning Conference, April 14, 1976
10th Regional Planning Conference, March 15, 1978
11th Regional Planning Conference, April 19, 1979
12th Regional Planning Conference, January 31, 1980
13th Regional Planning Conference, November 9, 1983
14th Regional Planning Conference, May 13, 1985

NEWSLETTERS

Volume 27, Nos. 1-6

TRANSPORTATION IMPROVEMENT PROGRAMS

A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine
Urbanized Areas in Southeastern Wisconsin: 1978-1982, December 1977*

A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine
Urbanized Areas in Southeastern Wisconsin: 1979-1983, December 1978*

TRANSPORTATION IMPROVEMENT PROGRAMS—continued

- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1980-1984, December 1979*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1981-1985, December 1980*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1982-1986, December 1981*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1983-1987, December 1982*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1984-1988, December 1983*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1985-1989, December 1984*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1986-1990, December 1985*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1987-1991, December 1986*
- A Transportation Improvement Program for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1988-1992, December 1987

OTHER

- Twenty-Five Years of Regional Planning, December 1985

*Out of print.

Appendix E

VICTOR L. YOUNG, S.C.
CERTIFIED PUBLIC ACCOUNTANT
328 WEST SUNSET DRIVE
WAUKESHA, WISCONSIN 53186

TELEPHONE
(414) 542-6334

MEMBER
WISCONSIN INSTITUTE CPA'S
AMERICAN INSTITUTE OF
CERTIFIED PUBLIC ACCOUNTANTS

August 15, 1988

The Commissioners of
Southeastern Wisconsin
Regional Planning Commission
Waukesha, Wisconsin

We have examined the general purpose financial statements of the Southeastern Wisconsin Regional Planning Commission as of December 31, 1987 and for the year then ended, as listed in the table of contents. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the general purpose financial statements referred to above present fairly the financial position of Southeastern Wisconsin Regional Planning Commission at December 31, 1987, and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.



VICTOR L. YOUNG, S.C.

Southeastern Wisconsin Regional Planning Commission

Combined Balance Sheet - All Fund Types and Account Groups

December 31, 1987

	Governmental Fund Types		Account Groups		Totals	
	General	Special Revenue	General Fixed Assets	1987	(Memorandum Only)	1986
Assets						
Treasurer's cash	\$ 507,819.57	\$	\$	\$ 507,819.57	\$ 288,059.31	
Due from service agreements	298,650.69			298,650.69	349,983.83	
Grants receivable		182,109.15		182,109.15	113,945.27	
Contracts receivable	86,592.45	160,500.63		247,093.08	258,762.47	
Service agreements receivable	272,992.25			272,992.25	214,528.72	
Fixed assets			1,558,437.47	1,558,437.47	2,106,831.13	
Due from/(to) other funds	85,296.30	(85,296.30)				
Total Assets	\$1,251,351.26	\$ 257,313.48	\$1,558,437.47	\$3,067,102.21	\$3,332,110.73	
Liabilities						
State sales tax	\$ 220.67	\$	\$	\$ 220.67	\$ 211.06	
Accounts payable	109,155.12	257,313.48		366,468.60	388,768.64	
Annuity charge reserve					4,856.66	
Vacation accrual	107,930.23			107,930.23	100,150.23	
Notes payable			859,411.82	859,411.82	473,528.82	
Total Liabilities	217,306.02	257,313.48	859,411.82	1,334,031.32	967,515.41	
Fund Equity						
Investment in fixed assets			699,025.65	699,025.65	1,633,302.31	
Fund balances - designated	429,899.00			429,899.00	245,074.00	
- undesignated	604,146.24			604,146.24	486,219.01	
Total Fund Equity	1,034,045.24	-	699,025.65	1,733,070.89	2,364,595.32	
Total Liabilities and Fund Equity	\$1,251,351.26	\$ 257,313.48	\$1,558,437.47	\$3,067,102.21	\$3,332,110.73	

The accompanying accountant's audit report and notes to financial statements are an integral part of these statements.

Southeastern Wisconsin Regional Planning Commission

Combined Statement of Revenues, Expenditures and Changes in Fund Balances - All Governmental Fund Types

For the Year Ended December 31, 1987

	Governmental Fund Types			
	General	Special Revenue	1987	Total (Memorandum Only) 1986
Revenues				
Contributions from counties	\$ 875,910.00	\$ 1,022,241.88	\$ 875,910.00	\$ 875,910.00
Grant revenues		746,031.24	1,022,241.88	1,155,148.69
Contract revenues	456,142.19		1,202,173.43	1,544,531.69
Service grants	2,913,683.05		2,913,683.05	2,898,868.01
Interest on invested funds	56,923.87		56,923.87	50,818.50
Other income	36,380.86		36,380.86	66,437.66
Total Revenues	4,339,039.97	1,768,273.12	6,107,313.09	6,591,714.55
Expenditures				
Salaries and fringe benefits	1,939,391.66	954,206.10	2,893,597.76	2,910,546.86
Office and other expenses				
Technical consultants	191,100.45	501,835.98	692,936.43	1,066,132.38
Office supplies	17,440.13	26,351.20	43,791.33	81,198.68
Insurance, audit, legal fees	24,187.02	9,530.39	33,717.41	27,292.00
Library acquisition and dues	6,754.26	7,948.17	14,702.43	10,915.68
Reprographics and publication	66,538.94	60,763.52	127,302.46	114,441.13
Newsletter	2,919.43	1,230.65	4,150.08	8,429.07
Postage expense	6,296.14	6,373.26	12,669.40	13,233.75
Travel expense	23,232.80	11,780.13	35,012.93	36,095.12
Telephone expense	31,043.71	13,086.03	44,129.74	44,153.92
Rent	104,685.91	44,515.09	149,201.00	149,242.97
D.P. computer graphics/equipment supplies	1,461,437.20	190,776.34	1,652,213.54	1,794,124.24
Annual report	5,210.10	2,196.25	7,406.35	2,440.88
Other operating expenses	6,562.39	6,050.72	12,613.11	30,163.39
Unemployment compensation expense	1,527.23	1,028.31	2,555.54	1,786.25
Auto/office equipment maintenance	24,182.89	24,494.38	48,677.27	43,284.33
Capital outlay	34,740.74		34,740.74	57,931.10
Total Expenditures	3,947,251.00	1,862,166.52	5,809,417.52	6,391,411.75
Excess Revenues Over (Under) Expenditures	391,788.97	(93,893.40)	297,895.57	200,302.80
Operating Transfers in (out)	(93,893.40)	93,893.40	-	-
Fund Balance - beginning of year	731,293.01		731,293.01	530,990.21
Add: Annuity Reserve	4,856.66		4,856.66	
Fund Balance - End of Year	\$1,034,045.24	\$ -	\$1,034,045.24	\$ 731,293.01

The accompanying accountant's audit report and notes to financial statements are an integral part of these statements.

Southeastern Wisconsin Regional Planning Commission

Combined Statement of Revenues, Expenditures and Changes
in Fund Balances - Budget and Actual - All Governmental Fund Types

For the Year Ended December 31, 1987

	<u>Budget</u>	<u>Actual</u>	<u>Variance Favorable (Unfavorable)</u>
Revenues			
Contributions from counties	\$ 875,910.00	\$ 875,910.00	\$ -
Grant revenues	1,276,680.00	1,022,241.88	(254,438.12)
Contract revenues	86,000.00	1,202,173.43	1,116,173.43
Service grants	2,321,170.00	2,913,683.05	592,513.05
Interest on invested funds		56,923.87	56,923.87
Other income		36,380.86	36,380.86
Total Revenues	<u>4,559,760.00</u>	<u>6,107,313.09</u>	<u>1,547,553.09</u>
Expenditures			
Salaries and fringe benefits	2,911,950.00	2,893,597.76	18,352.24
Office and other expenses			
Technical consultants	5,000.00	692,936.43	(687,936.43)
Office supplies	77,870.00	43,791.33	34,078.67
Insurance, audit, legal fees	16,210.00	33,717.41	(17,507.41)
Library acquisition and dues	16,950.00	14,702.43	2,247.57
Reprographics and publication	113,960.00	127,302.46	(13,342.46)
Newsletter	4,400.00	4,150.08	249.92
Postage expense	16,000.00	12,669.40	3,330.60
Travel expense	38,020.00	35,012.93	3,007.07
Telephone expense	46,650.00	44,129.74	2,520.26
Rent	149,160.00	149,201.00	(41.00)
D.P. computer graphics/equipment and supplies	1,058,090.00	1,652,213.54	(594,123.54)
Annual report	5,500.00	7,406.35	(1,906.35)
Other operating expenses	7,000.00	12,613.11	(5,613.11)
Unemployment compensation expense	4,500.00	2,555.54	1,944.46
Auto/office equipment/maintenance	88,500.00	48,677.27	39,822.73
Capital outlay		34,740.74	(34,740.74)
Total Expenditures	<u>4,559,760.00</u>	<u>5,809,417.52</u>	<u>(1,249,657.52)</u>
Excess Revenues Over Expenditures	-	297,895.57	297,895.57
Fund Balance - beginning of year		731,293.01	
Add: Annuity Reserve	-	4,856.66	-
Fund Balance - end of year	<u>\$ -</u>	<u>\$ 1,034,045.24</u>	<u>\$ -</u>

The accompanying accountant's audit report and notes to financial statements are an integral part of these statements.

Southeastern Wisconsin Regional Planning Commission

Combined Notes to Financial Statements

For the Year Ended December 31, 1987

Note 1 - Summary of Significant Accounting Policies (Cont'd)

Account Group

General Fixed Asset Group - Used to account for fixed assets not accounted for in any other fund.

Total (Memorandum Only) - The column captioned Total (Memorandum Only) in the combined financial statements is a total of the columnar statements by fund type and account groups. The total column is not comparable to a consolidation and does not present financial position and results of operations in conformity with generally accepted accounting principles because the same basis of accounting is not used by all funds and interfund transactions and balances and account group balancing accounts have not been eliminated.

Budget

The Commission's annual budget is prepared principally on the cash basis and represents departmental appropriations as authorized and any authorized revisions during the year to reflect changes in programs and activities. Since the budget basis differs from generally accepted accounting principles (GAAP), actual amounts in the accompanying budgetary comparison statement are presented on the budgetary basis.

Cash and Cash Equivalents

In addition to bank accounts and petty cash, this classification includes all short-term investments.

Basis of Accounting

The modified accrual basis of accounting is followed by the governmental funds. Under the modified accrual basis those items of revenue for which a valid receivable can be recorded in advance of their due date, should be recognized on the accrual basis. All other items are recognized on the cash basis because the time of collection generally coincides with the determination of the amount. Expenditures are recognized when a liability to be met from fund assets is incurred.

Fixed Assets

Governmental general fixed assets acquired during the year ended December 31, 1987 are recorded as expenditures in the governmental funds. Generally accepted accounting principles require that these fixed assets be capitalized at cost in the general fixed assets account group.

Southeastern Wisconsin Regional Planning Commission

Combined Notes to Financial Statements

For the Year Ended December 31, 1987

The accompanying summary of Southeastern Wisconsin Regional Planning Commission more significant accounting policies is presented to assist the reader in interpreting the financial statements and other data in this report. These policies, as presented, should be reviewed as an integral part of the accompanying financial statements. The accounting policies of the Southeastern Wisconsin Regional Planning Commission conform to generally accepted accounting principles as applicable to governmental units.

Note 1 - Summary of Significant Accounting Policies

Reporting Entity

The Commission uses the criteria set forth in National Council on Governmental Accounting Statement 3 and Interpretation 7 to determine the scope of the Commission's reporting entity. The accompanying financial statements reflect all significant operations of the Commission which are under control of the Commissioners of Southeastern Wisconsin Regional Planning Commission.

Basis of Presentation

Southeastern Wisconsin Regional Planning Commission is a public agency serving the local communities within the counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha.

The accounts of the Commission are organized on the basis of funds and account groups, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenues, and expenditures. Government resources are allocated to and accounted for in individual funds based upon the purposes for which they are to be spent and the means by which spending activities are controlled. The following funds and account group are used by the Commission:

Governmental Funds

General Fund - The General Fund is the general operating fund of the Commission. It is used to account for all financial resources except those required to be accounted for in another fund.

Special Revenue Funds - Special Revenue Funds are used to account for the specific revenue sources (other than major capital projects) that are legally restricted to expenditures for specified purposes.

Southeastern Wisconsin Regional Planning Commission

Combined Notes to the Financial Statements

For the Year Ended December 31, 1987

Note 1 - Summary of Significant Accounting Policies (Cont'd)

Accrued Vacation

The Commission accrues unused vacation time, since the unused vacation time is cumulative from year to year. The maximum accrual per individual is 20 days.

Fund Balances

The Commission classifies its fund equity as follows:

Designated Fund Balances - indicates that portion of fund equity, which has been segregated for specific purposes.

Undesignated Fund Balances - indicates that portion of fund equity, which is available for budgeting or other uses in future periods.

Note 2 - General Fixed Asset Group

Fixed Assets of December 31, 1987 are as follows:

	<u>1987</u>	<u>1986</u>
Desks	\$ 14,205.60	\$ 14,205.60
Chairs	14,797.70	11,696.91
Calculators and adding machines	13,064.67	12,969.86
Filing cabinets	39,538.79	37,270.66
Typewriters	18,989.12	18,702.12
Book cases	17,062.52	16,563.77
Tables	11,612.32	7,758.84
Data processing equipment	1,276,266.00	1,850,750.00
Major equipment	61,083.88	59,016.40
Automobiles	62,836.08	55,955.58
Miscellaneous	28,980.79	21,941.39
	<u>\$1,558,437.47</u>	<u>\$2,106,831.13</u>

Note 3 - Employee Retirement Plan

The Commission is a participant in the State of Wisconsin Retirement System covering substantially all full-time employees on a non-contributory basis. The annual employer's contribution rate, which is actuarially determined by the State of Wisconsin, provides for funding of prior service costs. Information concerning the amount, if any, of the excess of the actuarially computed value of vested benefits over the total assets available in the pension fund is not maintained by individual participant units. Retirement plan expenses, which include amortization of prior service costs, for the year 1987 were \$232,792.24.

Southeastern Wisconsin Regional Planning Commission

Combined Notes to the Financial Statements

For the Year Ended December 31, 1987

Note 4 - Cash and Temporary Investments

Cash and temporary investment balance as disclosed on the accompanying financial statements are comprised of the following:

Cash on hand and on deposit	\$ 1,632.98
Temporary cash investments	<u>506,186.59</u>
Total	<u>\$ 507,819.57</u>

Note 5 - Cognizant Agency

The cognizant agency for the Single Audit report is the Wisconsin Department of Transportation.

Note 6 - Commitments

Rent

The Commission leases space from Waukesha County under a lease agreement that runs through December 31, 1988. The Commission has the option of extending the lease for an additional three years. The minimum lease payments are as follows:

1988 \$ 147,851.00

Equipment

The Commission purchased various pieces of equipment on monthly payments. The remaining minimum payments are as follows:

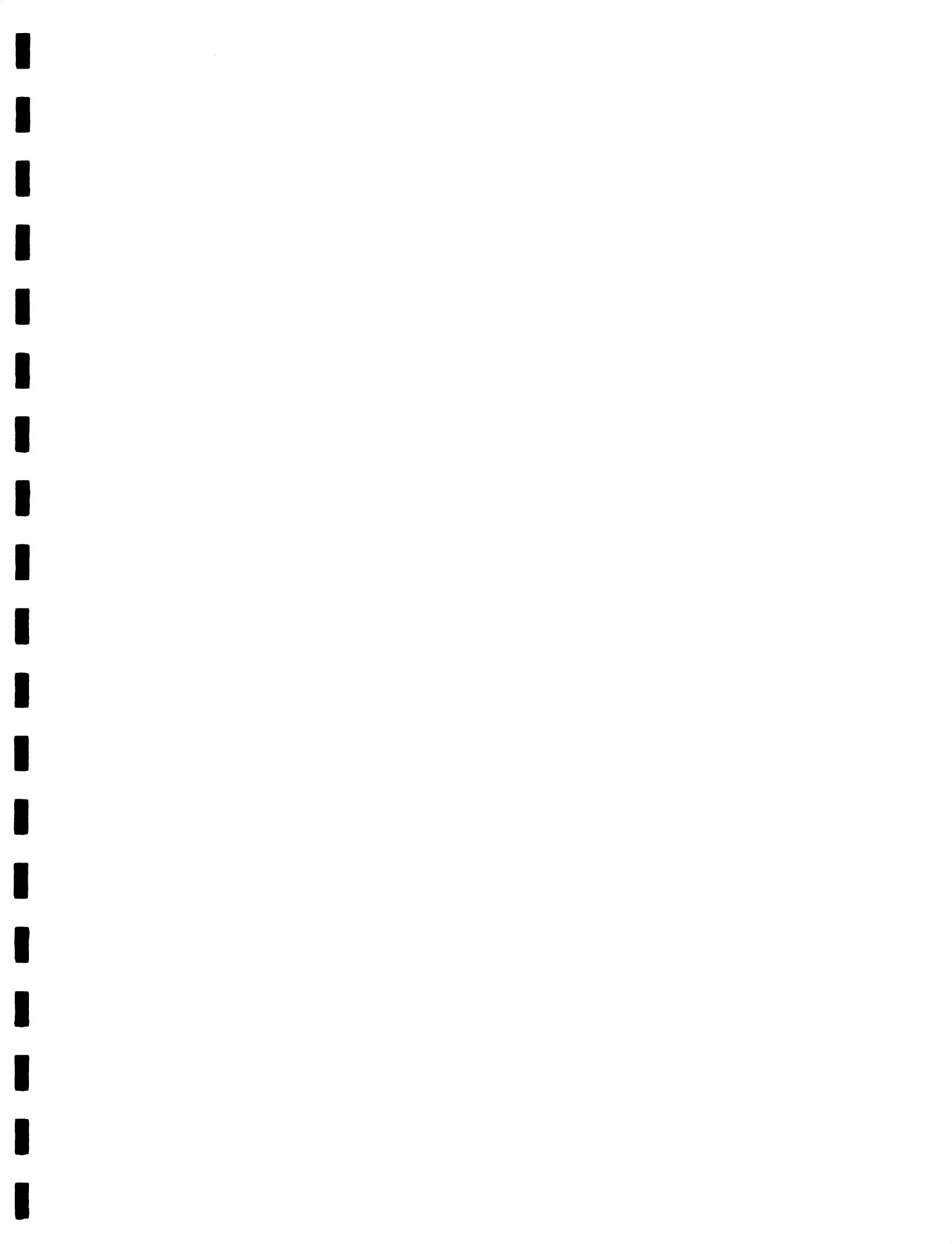
1988	\$ 327,409.73
1989	308,061.50
1990	101,182.68
1991	78,291.68
1992	44,466.23

Note 7 - Designated Funds

The Commission has designated the following funds for future purposes:

Equipment replacement	\$ 50,000.00
Unemployment Compensation Trust	50,000.00
LGFS Trust Account	74,638.00
Errors and Omissions Insurance	60,000.00
Computer Equipment Trust	195,261.00
	<u>\$ 429,899.00</u>

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