PLANNING REPORT NO. 46

A REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2020

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Prepared by the

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STATEMENT OF THE CHAIRMAN

After careful evaluation and public review of alternatives, the Regional Planning Commission in 1966 adopted a regional transportation plan for the design year 1990 as a guide for growth and development in the seven-county Southeastern Wisconsin Region. Major reevaluations of the plan were completed in 1978 and 1994. These efforts culminated in the preparation and adoption of new transportation system plans, with the plan design period extended, first to the year 2000 and then to the year 2010.

In December 1997, the Commission completed the work necessary to extend the regional transportation plan 10 years further into the future. The new plan accommodates population, household, and employment levels anticipated in the Region through the year 2020. The new plan recommends the transportation systems management, public transit, and arterial street and highway actions and improvements necessary to meet existing and year 2020 transportation needs and objectives within Southeastern Wisconsin.

The year 2020 regional transportation plan incorporates the basic principles and concepts of the previously adopted plans. The plan was explicitly designed to serve a companion year 2020 regional land use plan, which proposes a more compact, centralized regional development pattern than would result from a projection of current trends. The plan was also designed to minimize investment in the provision of additional highway capacity by considering highway capacity improvement and expansion as a measure of last resort in addressing traffic congestion problems. The plan recommends a substantial improvement and expansion of public transit to support the planned land use pattern, provide an alternative choice for travel, and provide access to the metropolitan region for that portion of the population without access to the automobile. Like the previous plans, the new plan is advisory in nature. Plan implementation will depend upon the willingness and ability of the State, county, and local governments to fund and put in place the recommended highway and transit improvements.

With the plan design period extended to the year 2020, the regional transportation plan will continue to provide a sound regional framework for transportation system maintenance and development, guiding and supporting transportation system operation and construction by county and local units of government and the Wisconsin Department of Transportation in the Region.

Very truly yours,

Thomas H. Buestrin
Chairman

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INTRODUCTION

This report documents a new regional transportation system plan for the Southeastern Wisconsin Region, as well as the process used to arrive at that plan. The new plan is for the design year 2020. As such, the plan updates and extends the present design year 2010 plan adopted by the Regional Planning Commission in 1994.

The Commission is charged by State law with the function and duty of "making and adopting a master plan for the physical development of the [R]egion." The permissible scope and content of this plan is outlined in the State enabling legislation and extends to all phases of regional development, implicitly emphasizing, however, the preparation of spatial designs for the use of land and for supporting transportation facilities and other public utilities and facilities. By State law, the regional master plan is entirely advisory.

The scope and complexity of areawide development problems and necessary public facilities and utilities prohibit the making and adopting of an entire comprehensive development plan at one time. Consequently, the Commission has proceeded with the preparation of individual plan elements which together form the comprehensive plan. The individual elements are coordinated by being related to an areawide land use plan. Moreover, the Commission has historically conducted transportation system planning concurrently with land use planning, recognizing that future land use will determine the amount and spatial distribution of travel and needed future transportation facilities and services and, in turn, that the transportation system is a determinant of the land use pattern forming a framework for urban development.

The Commission first adopted regional land use and regional transportation system plans in 1966. These plans had design years of 1990. Following a period of about 10 years, those plans underwent a major review and reevaluation, including analyses of population and employment growth and change, land development trends, trends in travel habits and patterns, trends in transit ridership and highway traffic, and the conformance of those trends to the forecasts used in the preparation of the plans. This plan reappraisal was supported by then-new 1970 and 1975 regional land use inventory data, 1970 U. S. Bureau of the Census population and household data, and 1972 regionwide surveys of travel and traffic. This major plan reappraisal, which included a review of the extent to which the 1990 regional land use and regional transportation system plans had been implemented over the previous 10 years, resulted in a new design year 2000 regional land use plan, which was adopted by the Commission in 1977, and a new design year 2000 regional transportation system plan, which was adopted by the Commission in 1978. Similarly, following a period of about 10 years, another major review and reevaluation was undertaken using 1980, 1985, and 1990 land use inventory data; 1980 and 1990 U. S. Bureau of the Census population and household data; and 1991 regional travel and traffic survey data. This review and reevaluation resulted in a new design year 2010 regional land use plan, adopted by the Commission in 1992, and a new design year 2010 regional transportation system plan, adopted by the Commission in 1994.[1]

In 1995, the Regional Planning Commission undertook a project intended to extend the year 2010 regional land use and transportation plans 10 years further into the future, to a new design year of 2020. Because of the short period of time since adoption of the design year 2010 plans, and because new land use, population, household, and travel habit and pattern data were not available, a major plan reevaluation effort was not possible. This report documents the planning process applied to extend the year 2010 transportation plan to the design year 2020, and presents the resulting regional transportation plan for that design year.

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[1] *The first regional land use and transportation plans are documented in SEWRPC Planning Report No. 7,* Land Use-Transportation Study, *Volume One,* Inventory Findings: 1963, *May 1965; Volume Two,* Forecasts and Alternative Plans: 1990, *June 1966; and Volume Three,* Recommended Regional Land Use and Transportation Plans: 1990, *November 1966. The second regional land use and transportation plans are documented in SEWRPC Planning Report No. 25,* A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000, *Volume One,* Inventory Findings, *April 1975, and Volume Two,* Alternative and Recommended Plans, *May 1978. The third regional land use plan is documented in SEWRPC Planning Report No. 40,* A Regional Land Use Plan for Southeastern Wisconsin—2010, *January 1992, and the third regional transportation plan in SEWRPC Planning Report No. 41,* A Regional Transportation System Plan for Southeastern Wisconsin: 2010, *December 1994.*

NEED FOR REGIONAL PLANNING

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 an awareness that problems of physical and economic development and of environmental deterioration transcend the geographic limits and fiscal capabilities of local units of government. It has also been recognized that sound resolution of areawide problems requires the cooperation of all units and agencies of government concerned and of private interests as well.

Public as well as private interests are vitally affected by areawide developmental and environmental problems and by proposed solutions to these problems. Regional planning is necessary to promote a consensus on proposed solutions and the necessary cooperation among 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.

The Federal government recognizes this need, particularly for regional land use and transportation system planning, and mandates through Federal law and regulations the preparation and maintenance of a regional transportation system plan for the Southeastern Wisconsin Region. The Regional Planning Commission is the official "metropolitan planning organization" designated by the Governor of the State of Wisconsin under Federal law for such regional transportation planning in Southeastern Wisconsin.

The Commission's regional transportation plan provides the essential guidance and coordination to the 154 local units of government within Southeastern Wisconsin, the State government, the Federal government, and private interests with respect to the role of highway, public transit, and systems management improvement actions in addressing existing and future transportation problems; the necessary extension and coordination of street and highway improvements across jurisdictional boundaries; and the necessary extension and coordination of transit routes and improvements across jurisdictional boundaries.

THE REGION

The Southeastern Wisconsin Region consists of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties (see Map 1). Exclusive of Lake Michigan, these seven counties have a total area of 2,689 square miles, or about 5 percent of the total area of Wisconsin. These counties, however, account for about 37 percent of the total population of the State, about 38 percent of all jobs in the State, and about 40 percent of the total tangible wealth of the State as measured by equalized property value. Exclusive of school and other special-purpose districts, the Region contains 154 local units of government, all of which participate in the work of the Commission.

Geographically, the Region is located in a relatively good position with regard to continued growth and development. It is bounded on the east by Lake Michigan, which provides an ample supply of fresh water for both domestic and industrial uses and is an integral part of a major international transportation network. It is bounded on the south by the rapidly expanding metropolitan region of northeastern Illinois, and on the west and north by the fertile agricultural lands and desirable recreation areas of the rest of the State of Wisconsin. Many of the most important industrial areas and heaviest population concentrations in the Midwest lie within 250 miles of the Region; over 32 million people reside within this radius.

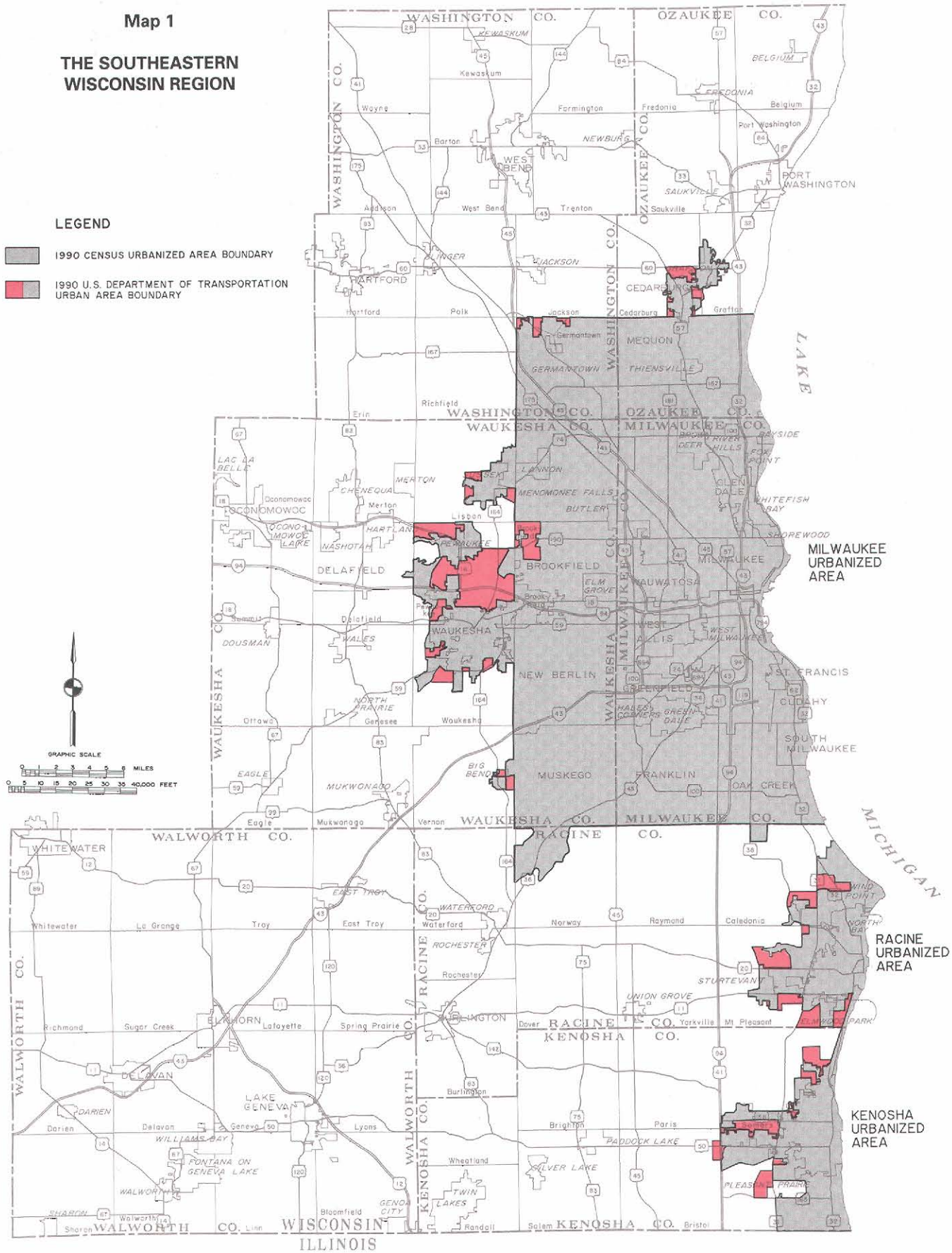
SCOPE OF THE REGIONAL TRANSPORTATION SYSTEM PLAN

The transportation system addressed in the regional transportation plan is the transportation system which serves intraregional travel by people and freight within the seven-county Southeastern Wisconsin Region. Intraregional travel is travel by people and freight where both trip ends lie within the seven-county Region. The transportation system serving intraregional personal and goods movement includes the streets and highways which carry personal vehicles, including automobiles, vans, and trucks, and commercial trucks, as well as urban public transit, which currently in the Region is provided entirely by buses but which could also be provided by modes such as light rail and commuter rail. Commission studies over the past 35 years have established that over 95 percent of the personal travel on an average weekday on the streets and highways of Southeastern Wisconsin is intraregional travel made by residents of the Region, with both ends of the travel located within Southeastern Wisconsin. Moreover, over 95 percent of the commercial truck traffic on the streets and highways of Southeastern Wisconsin on an average weekday is also intraregional travel made by trucks registered within Southeastern Wisconsin, with both ends of the travel located within Southeastern Wisconsin.

The Commission's regional transportation planning is necessarily closely coordinated with statewide transporta-

Map 1

THE SOUTHEASTERN WISCONSIN REGION



The Southeastern Wisconsin Region, consisting of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties, encompasses an area of 2,689 square miles, or about 5 percent of the total area of the State of Wisconsin. These counties, nevertheless, account for about 37 percent of the total population of the State, about 38 percent of all jobs in the State, and about 40 percent of the tangible wealth of the State as measured by equalized property value. There are 154 general-purpose local units of government in the seven-county Region.

Source: U. S. Bureau of the Census and SEWRPC.

tion planning conducted by the Wisconsin Department of Transportation. The State of Wisconsin addresses interregional travel within and through Southeastern Wisconsin—the complement to intraregional travel—and as well within and through the other regions of the State. The Wisconsin Department of Transportation statewide transportation planning addresses travel through the State, between the State of Wisconsin and other states, and between the regions of the State. The Wisconsin Department of Transportation's statewide transportation planning therefore focuses on the highest level of highways, specifically freeways and other State trunk highways which carry personal vehicles and commercial traffic, as well as freight railways, intercity bus service, and intercity Amtrak rail service, which exclusively or predominantly carry interregional travel. Coordination between statewide transportation planning and regional transportation planning permits Commission traffic forecasts of interregional travel by personal vehicles and commercial trucks on State trunk highways to be consistent with statewide transportation plans and forecasts. Again, such interregional travel represents less than 5 percent of all commercial truck travel within Southeastern Wisconsin on an average weekday, and less than 5 percent of all personal travel by personal vehicles on an average weekday.

BASIC PRINCIPLES

The Commission's regional transportation planning is based on eight basic principles:

1. Transportation system planning must be regional in scope. Travel patterns develop over an entire urban region without regard to corporate limits. Thus, transportation planning cannot be accomplished successfully within the confines of a single municipality or even a single county if that municipality or county is a part of a larger urban complex. The regional surface transportation system, which is composed of arterial streets and highways, transit facilities and services, bicycle and pedestrian facilities, and related terminal facilities, as well as transportation system management measures, must form a single integrated system over the entire Region, a system which can adequately serve changing regional travel patterns.

2. Transportation system planning must be conducted concurrently with, and cannot be separated from, land use planning. The land use pattern determines the amount and spatial distribution of travel to be accommodated by the transportation system and the ability of various modes of transportation to serve travel demand cost-effectively. In turn, the transportation system is one of the most important determinants of the land use pattern, forming the basic framework for all urban development today. Although detailed land use patterns are primarily of local concern and properly subject to local planning and control, the aggregate effects of the spatial distribution of land use activities are regional in scope and interact strongly with the need for regional utility, recreation, and transportation facilities.

3. Highway and transit systems must be planned together. Each mode of transportation should be assigned that part of the total travel demand which it is best suited to carry. In order for the system to be most effective, arterial street and highway systems and related terminal facilities should function in a coordinated manner.

4. Transportation facilities and management measures must be planned as an integrated system. The capacities of each link in the system must be carefully fitted to traffic loads, and the effects of each proposed facility and management measure on the remainder of the system must be quantitatively tested. Bicycle and pedestrian facilities should be integrated into the regional transportation system planning process.

5. Transportation system planning must recognize the existence of a limited natural resource base to which urban and rural development must be properly adjusted to ensure a pleasant and habitable environment. Land, water, and air resources are limited and subject to grave misuse through improper land use and transportation system development. Such misuse can lead to serious and costly environmental problems that may be difficult or impossible to correct.

6. Transportation system planning must recognize the role of transportation in the achievement of personal and community goals. Access to good transportation, including a choice of modes, facilitates the freedom to choose between a variety of places to live, work, shop, and recreate. The role of transportation in making accessible environmentally sound economic, cultural, and educational opportunities, thus in promoting sound social and economic development, must be recognized in the transportation system planning process.

7. Transportation systems planning must recognize the importance of properly relating the regional transportation system to the State and national systems. The planning for the interregional movement of people and goods, particularly by railway, pipeline, and waterway, is primarily the responsibility of the State and Federal levels of government. Also, decisions made at the State and Federal levels of government affect the scale and timing of regional transportation system development and the availability of capital funds to implement regional transportation system improvements. Therefore, coordination in the planning process with the State and Federal levels of government becomes essential to the attainment of a balanced, integrated, and workable regional transportation system.

8. The regional transportation planning process is cyclical in nature, alternating between areawide system planning and local project planning. Under this concept, transportation-related 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 cycle of systems planning.

THE PLANNING PROCESS

The new regional transportation system plan was prepared through a seven-step planning process adhered to by the Regional Planning Commission in all of its regional planning studies. This process—study design, formulation of objectives and standards, inventory, analysis and forecast, plan design, plan testing and evaluation, and plan selection and adoption—is described in detail in the aforementioned SEWRPC Planning Reports Nos. 7, 25, and 41.

In the most basic sense, the year 2020 regional transportation system plan was prepared as a revision and extension of the prior year 2010 plan. The underlying principles and transportation system recommendations of the year 2010 plan were brought forward into the new plan, with refinement and minor amendment, in part to accommodate anticipated population, household, and employment growth and change in the Region between the years 2010 and 2020.

ORGANIZATIONAL STRUCTURE FOR THE STUDY

The work leading to the preparation of the year 2020 regional transportation system plan was carried out by the staff of the Commission under the guidance of the Commission's Technical Coordinating and Advisory Committee on Regional Transportation System Planning. Membership on that Committee included representatives from the U. S. Department of Transportation, Federal Transit Administration and Federal Highway Administration; from the Wisconsin Departments of Transportation and Natural Resources; from the university community; from municipal and county planning, transportation, and public works departments; and from public transit providers, business groups, transportation service groups, and environmental groups. A complete membership list of the Technical Coordinating and Advisory Committee is provided on the inside front cover of this report.

The recommended plan adopted by the Advisory Committee was subsequently submitted to the Regional Planning Commission for consideration and adoption. The Commission consists of 21 members, three from each of the seven member counties. One Commissioner from each county is appointed by the county and is usually an elected county board supervisor, or in some cases, the county board chairman or county executive. The remaining two Commissioners from each county are appointed by the Governor, one from a list prepared by the county, and one on the Governor's own motion.

In addition to the Advisory Committee and the Regional Planning Commission, public participation in the planning process was achieved through the publication of informational materials, including an issue of the Commission *Newsletter*, a public informational meeting and a public hearing, and review of the plan by Commission-appointed urbanized area transportation system planning and programming advisory committees which include representation from many of the local units of government within the Region. These public involvement activities were intended to provide an opportunity for local officials and the general public to become familiar with the planning process and to allow individuals and groups to affect that process and the final plan through comments and questions.

SCHEME OF PRESENTATION

The findings and recommendations of the year 2020 regional transportation system plan are documented in this report. Following this introductory chapter, Chapter II presents updated information regarding the existing transportation system and its use, and assesses the extent to which the year 2010 transportation plan is being implemented. Chapter II also includes data attendant to the monitoring of transportation system congestion and performance. Together, these data are part of the federally mandated congestion management system which is an integral part of the Commission's regional transportation system planning. Chapter III presents regional population, household, and employment projections for the year 2020, and summarizes the regional land use plan for the year 2020. Chapter IV presents the regional transportation system planning objectives and standards which guide the evaluation of transportation system performance as well as the design and evaluation of transportation system plans. Chapter V presents an assessment of the ability of the adopted year 2010 regional transportation plan to accommodate forecast year 2020 travel, as well as potential plan amendments, a preliminary year 2020 plan taken to public hearings, and the final recommended year 2020 regional transportation system plan. Chapter VI describes the actions which should be taken by the concerned units and agencies of government to facilitate implementation of the new plan. Chapter VII summarizes the report, restating the major findings, conclusions, and recommendations of the year 2020 plan.

Chapter II

EXISTING TRANSPORTATION FACILITIES AND SERVICES AND PLAN IMPLEMENTATION STATUS

This chapter describes the existing regional transportation system of Southeastern Wisconsin in 1995, including streets and highways and public transit. The existing supply and use of the regional transportation system is presented, and compared to historical supply and use. This chapter also includes information about the current level of service provided by the regional transportation system measured in terms of the level of accessibility to land use provided by the public transit system and by the street and highway system, as well as the level of traffic congestion on the street and highway system. Also described in this chapter is the existing adopted year 2010 regional transportation system plan, and an assessment of its implementation since adoption by the Commission in December 1994. Finally, this chapter describes the monitoring of transportation system performance and of transportation system plan implementation, part of the federally mandated congestion management system which is an integral part of the Commission's regional transportation system planning process.

STREET AND HIGHWAY SYSTEM

There were an estimated 11,268 miles of streets and highways in the seven-county Region in 1995, as shown in Table 1. The street and highway system must serve several important functions, including providing for the movement of through vehicular traffic; providing for access of vehicular traffic to abutting land uses; providing for the movement of pedestrian and bicycle traffic; and serving as the location for utilities and stormwater drainage facilities.

Two of these functions—traffic movement and land access—are basically incompatible. As a result, street and highway system design is based upon a functional grouping or classification of streets and highways, based upon primary function served. Three functional classifications of streets and highways are recognized: 1) arterial streets; 2) collector streets; and 3) land access streets.

Arterial streets are defined as streets and highways which are principally intended to provide a high degree of travel mobility, serving the through movement of traffic and providing transportation service between major subareas of an urban area or through the area. Together, the arterial should form an integrated, areawide system. Access to abutting property may be a secondary function of some types of arterial streets and highways, but it should always be subordinate to the primary function of traffic movement.

Land access streets are defined as streets and highways which are intended to serve primarily as a means of access to abutting properties, principally serving the residential areas of a community.

Collector streets are defined as streets and highways which are intended to serve primarily as connections between the arterial system and the land access street system. In addition to collecting traffic from, and distributing traffic to, the land access streets, the collector streets usually provide the same principal function as land access streets, that of providing access to abutting property. As a result, collector and land access streets are sometimes combined and referred to as nonarterial, or local, streets.

Arterial streets account for about one-third of the mileage of the total street and highway system. Arterial streets are typically spaced at about one-half mile intervals in high-density areas, one-mile intervals in medium-density areas, two-mile intervals in low-density areas, and intervals of more than two miles in rural areas. To serve travel effectively, and to make efficient use of public resources, the arterial street system should be planned as an integrated system, irrespective of jurisdictional boundaries and jurisdictional responsibilities for streets and highways, with consideration of existing and future traffic volumes, and with traffic capacities fitted to serve those traffic volumes.

The Commission's regional transportation planning addresses only the arterial street and highway element of the total street and highway system. Arterial streets and highways are the only element of the total street and highway system for which existing and future traffic volume, and the need for additional traffic lanes or for a new arterial facility to relieve traffic, is a consideration in facility and system design.

Table 1

DISTRIBUTION OF TOTAL STREET AND HIGHWAY MILEAGE WITHIN THE REGION BY COUNTY: 1995

County	1995			
	Arterial	Collector and Local/Land Access	Total[a]	Arterial Mileage as a Percentage of Total Mileage
Kenosha	317.5	661.8	979.3	32.4
Milwaukee	775.4	2,075.0	2,850.4	27.2
Ozaukee	288.5	561.3	849.8	33.9
Racine	349.2	841.1	1,190.3	29.3
Walworth	430.0	1,007.8	1,437.8	29.9
Washington	399.2	949.4	1,348.6	29.6
Waukesha	717.5	1,893.9	2,611.4	27.5
Region	3,277.3	7,990.3	11,267.6	29.1

[a]*Total street and highway mileage does not include private streets and roads or roadways in public parks and on institutional lands.*

Source: SEWRPC.

Working with local governments and the Wisconsin Department of Transportation, the Commission has defined the arterial street system of the Region for over 35 years. The definition of arterials has been determined by an evaluation of four major factors: 1) traffic characteristics—traffic volume and type, operating speeds, and average trip length; 2) physical characteristics—horizontal and vertical alignment, pavement width, and pavement type; 3) system integration—system continuity and facility spacing; and 4) land use service—the areawide significance of the land use activities served.

Collector and land access streets should form a street system within neighborhoods, with the boundaries of those neighborhoods determined by arterial streets, or other built or natural boundaries. Desirably, collector and land access streets should not extend directly through a neighborhood, or from neighborhood to neighborhood. Through traffic may begin to occur on the collector and land access streets, particularly if the arterial street system is experiencing traffic congestion. Neighborhood residents experience traffic concerns at relatively low levels of traffic volume, specifically, 1,500 to 2,500 vehicles per average weekday, or about one-eighth to one-fifth of the potential traffic-carrying design capacity of a two-lane urban arterial street. The collector and land access street system within a neighborhood should be designed to discourage through traffic from traveling within the neighborhood, but should also be designed to permit reasonably direct travel—by personal vehicle, bicycle, and walking—within the neighborhood by its residents to neighborhood parks, neighborhood schools, neighborhood commercial centers, and as well to all parts of the neighborhood, and to each arterial street along the neighborhood boundary. Otherwise, traffic internal to a neighborhood may almost exclusively be made by automobile, and unnecessarily over the arterials which form the boundaries of the neighborhood.

Arterial Street and Highway System

The arterial street and highway system of the Region may be further described and classified in a number of different ways. The arterial street system may be divided into freeway facilities and nonfreeway or standard arterial streets and highways. A freeway is a special type of arterial providing the highest degree of mobility and the most limited degree of access. A freeway is defined as a divided arterial highway with full control of access and grade separations at all interchanges. Standard arterial streets and highways are arterials with at-grade intersections and may as well provide direct access to abutting property through driveways.

The arterial street and highway system can also be further functionally classified according to a national functional highway classification scheme developed by the U. S. Department of Transportation, Federal Highway Administration. As shown in Table 2, the arterial facilities of the Region may be further divided under the Federal classification scheme into principal and minor arterials in the urban areas of the Region, and principal and minor arterials and major collector facilities in rural areas of the Region.

Table 2

DISTRIBUTION OF SEWRPC EXISTING ARTERIAL HIGHWAY MILEAGE BY FEDERAL FUNCTIONAL CLASSIFICATION AND BY COUNTY: 1995

County	Urban		Rural			Total
	Principal Arterials	Minor Arterials	Principal Arterials	Minor Arterials	Major Collector Streets and Highways	
Kenosha	45.5	71.6	35.7	35.5	129.2	317.5
Milwaukee	257.0	518.4	--	--	--	775.4
Ozaukee	38.1	111.4	39.3	9.7	90.0	288.5
Racine	63.4	72.3	61.9	47.8	103.8	349.2
Walworth	25.7	20.5	90.9	85.4	207.5	430.0
Washington	35.8	64.0	53.2	60.3	185.9	399.2
Waukesha	176.4	243.4	35.0	89.6	173.1	717.5
Region	641.9	1,101.6	316.0	328.3	889.5	3,277.3

Source: SEWRPC.

Streets and highways may also be classified according to jurisdiction. Jurisdictional classification establishes which level of government—State, county, or local—has responsibility for the design, construction, maintenance, and operation of each segment of the total street and highway system. The existing jurisdictional highway subsystems are the result of a long evolutionary process influenced by many complex political, administrative, financial, and engineering considerations and constraints. The Commission has attempted over the past 30 years to recommend changes in the jurisdictional classification of the arterial street and highway system so that the arterial street system is indeed grouped into logical subsystems of jurisdictional responsibility with the appropriate streets and highways under the jurisdiction of each level of government—State, county, and local. The county jurisdictional highway system plans prepared by the Commission are based upon criteria established by the Commission in cooperation with Federal, State, and local units of government which include: 1) trip service—the average trip length on each segment during an average weekday; 2) land use service—the areawide significance of land use activities to be connected and served; and 3) facility operational characteristics and system continuity, including facility spacing, traffic volume, traffic mobility, and land access. State trunk highways should be those facilities intended to provide the highest level of mobility, to serve trips with the longest length, to provide minimal land access, to serve land uses of regional and statewide significance, and to have interregional continuity. State trunk highways are those arterial facilities which would principally serve travel through a county, and travel between counties. County trunk highways should be those arterial facilities intended to provide an intermediate level of traffic mobility and land access, to serve land uses of countywide significance, and to have intercommunity continuity. County trunk highways are those arterial facilities which would principally serve travel between the various municipalities of a county. Local or municipal arterial streets are intended to be those facilities that provide the lowest level of arterial traffic mobility and the highest degree of arterial land access, and which have intracommunity continuity and serve principally arterial travel within a municipality. Table 3 presents the distribution of existing arterial highway mileage within the Region in 1995 by State, county, and local jurisdictional classification.

Arterial Street and Highway System Traffic Volume

The average weekday traffic volume on each segment of the arterial street and highway system within the Region in 1995 is graphically displayed on Map 2. The estimate of average weekday traffic volume is based upon traffic-volume counting conducted principally by the Wisconsin Department of Transportation, and, as well, by county and municipal governments, particularly including the City of Milwaukee. The magnitude of arterial street and highway traffic volume can also be measured in terms of total arterial system average weekdayvehicle-miles of travel, which is the average weekday traffic volume on each segment of arterial highway multiplied by the length in miles of each segment of arterial highway. As shown in Table 4, over 35.9 million vehicle-miles of travel occurred on the arterial street and highway system within the Region on an average weekday in 1995. Table 4 also compares the arterial vehicle-miles of travel within each

Table 3

DISTRIBUTION OF EXISTING ARTERIAL STREET AND HIGHWAY MILEAGE WITHIN THE REGION BY COUNTY AND JURISDICTIONAL CLASSIFICATION: 1995

County	State			County		Local		Total	
	Trunk Highways (miles)	Connecting Streets (miles)	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent
Kenosha	105.9	12.7	37.4	139.9	44.1	59.0	18.6	317.5	100.0
Milwaukee	167.9	83.5	32.4	81.6	10.5	442.4	57.1	775.4	100.0
Ozaukee	90.4	10.3	34.9	96.9	33.6	90.9	31.5	288.5	100.0
Racine	139.7	19.2	45.5	124.5	35.7	65.8	18.8	349.2	100.0
Walworth	200.4	13.3	49.7	168.2	39.1	48.1	11.2	430.0	100.0
Washington	179.0	7.1	46.6	148.0	37.1	65.1	16.3	399.2	100.0
Waukesha	218.4	12.9	32.2	321.2	44.8	165.0	23.0	717.5	100.0
Region	1,101.7	159.0	38.4	1,080.3	33.0	936.3	28.6	3,277.3	100.0

Source: Wisconsin Department of Transportation and SEWRPC.

County and the Region for the years 1963, 1972, 1991, and 1995. Between 1991 and 1995, the arterial vehicle-miles of travel within the Region on a average weekday increased from 33.1 million vehicle-miles of travel to 35.9 million vehicle-miles of travel, an increase of 8 percent, or 2.0 percent annually. Between 1972 and 1991, arterial vehicle-miles of travel within the Region on an average weekday increased from 20.1 million vehicle-miles of travel to 33.1 million vehicle-miles of travel, an increase of approximately 64 percent, or an annual increase of 2.6 percent. Between 1963 and 1972, the vehicles-miles of travel in the Region on an average weekday increased from 13.1 million to 20.1 million vehicle-miles of travel, an increase of 53 percent, or an annual increase of 4.8 percent.

Arterial Street System Traffic Congestion

The traffic congestion on the arterial street and highway system can be assessed by comparing the average weekday traffic volume on each segment of arterial street and highway to its design capacity. The level of traffic congestion on each arterial street and highway segment can be described by five volume-to-design-capacity ratio[1] ranges. The five ranges are:

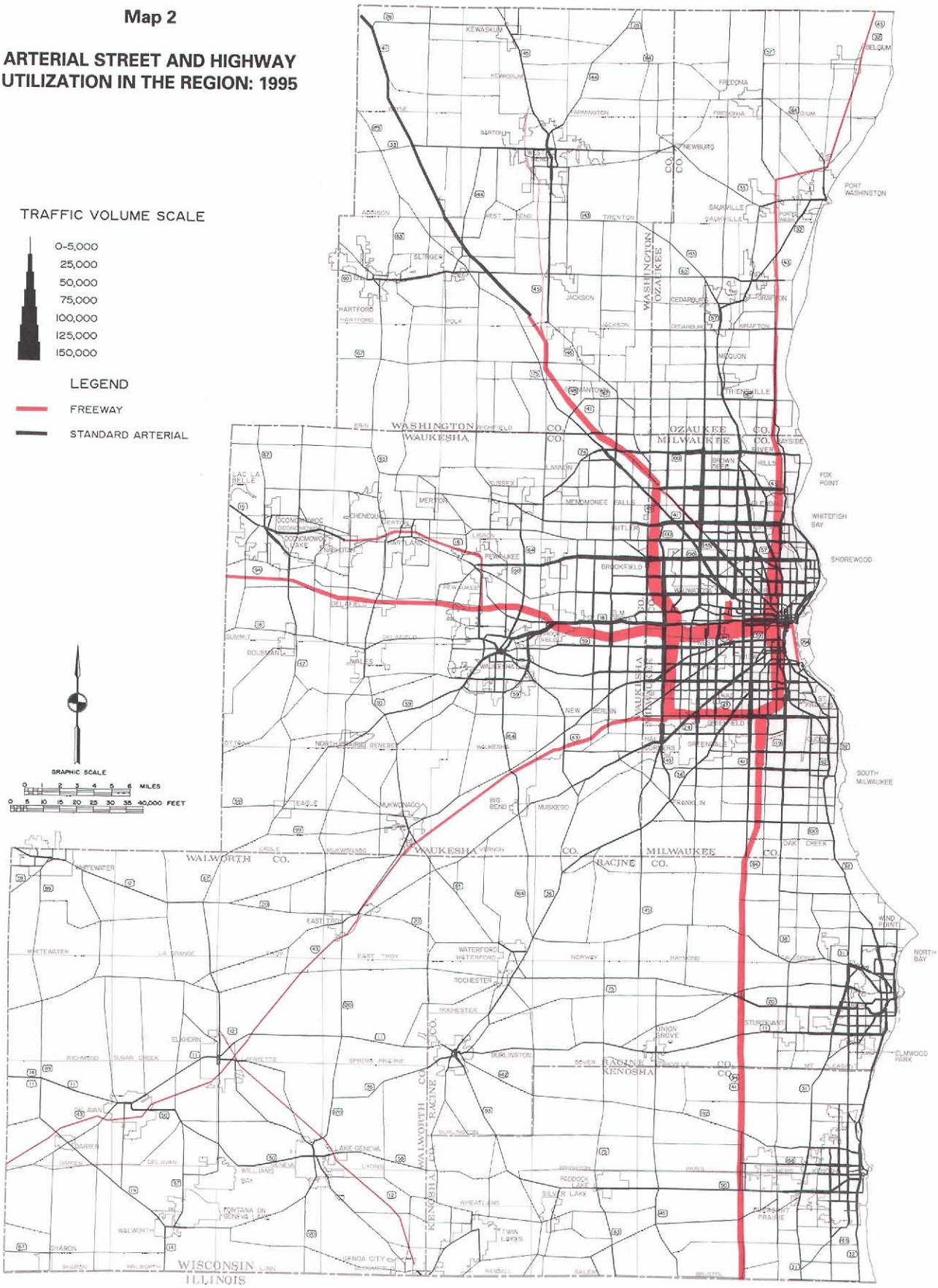
1. "Under design capacity," with a volume-to-design-capacity ratio of 0.00 to 0.90;
2. "At design capacity," with a volume-to-design-capacity ratio of 0.91 to 1.00;
3. "Over design capacity, moderate," with a volume-to-design-capacity ratio of 1.01 to 1.10;
4. "Over design capacity, severe," with a volume-to-design-capacity ratio of 1.11 to 1.30; and
5. "Over design capacity, extreme," with a volume-to-design-capacity ratio of over 1.30.

[1]*The volume-to-design-capacity ratio is defined as the relationship between the average weekday traffic volume on a particular section of the arterial system and the design capacity of that section, with volume and design capacity expressed in terms of number of vehicles per average weekday. The design capacity of arterial facilities is set forth in the following table:*

Facility Type	Design Capacity (vehicles per average weekday)
Freeway	
Four-Lane	60,000
Six-Lane	90,000
Urban Standard Arterial	
Two-Lane	13,000
Four-Lane Undivided	17,000
Four-Lane Divided	25,000
Six-Lane Divided	35,000
Eight-Lane Divided	45,000
Rural Standard Arterial	
Two-Lane	7,000
Four-Lane Divided	25,000

Map 2

ARTERIAL STREET AND HIGHWAY UTILIZATION IN THE REGION: 1995



Average weekday traffic flows on the arterial street and highway system in the Region in 1995 are shown on the above map. This pattern of traffic flow reflects the high utilization of freeways. It is estimated that about 36 million vehicle-miles of travel occurred on the arterial streets and highways in 1995, with about 13 million vehicle-miles of travel, or nearly 36 percent, occurring on freeways, which represented about 8 percent of all street and highway mileage.

Source: SEWRPC.

Table 4

ARTERIAL VEHICLE-MILES OF TRAVEL WITHIN THE REGION ON AN AVERAGE WEEKDAY BY COUNTY: 1963, 1972, 1991, AND 1995

County	1963					
	Freeway		Standard Arterial		Total	
	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total
Kenosha	204	21.7	734	78.3	938	100.0
Milwaukee	531	7.2	6,817	92.8	7,348	100.0
Ozaukee	20	9.1	464	95.9	484	100.0
Racine	203	18.0	922	82.0	1,125	100.0
Walworth	--	0.0	685	100.0	685	100.0
Washington	345	49.6	351	50.4	696	100 0
Waukesha	159	8.7	1,637	91.1	1,796	100.0
Region	1,462	11.2	11,610	88.8	13,072	100.0

County	1972					
	Freeway		Standard Arterial		Total	
	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total
Kenosha	382	26.8	1,046	73.2	1,428	100.0
Milwaukee	3,977	57.2	6,718	62.8	10,695	100.0
Ozaukee	223	26.2	627	73.8	850	100.0
Racine	415	12.9	1,398	77.1	1,813	100.0
Walworth	56	6.4	817	93.6	873	100.0
Washington	190	16.5	961	33.5	1,151	100.0
Waukesha	970	29.3	2,344	70.7	3,314	100.0
Region	6,213	30.9	13,911	69.1	20,124	100.0

County	1991					
	Freeway		Standard Arterial		Total	
	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total
Kenosha	675	27.8	1,825	53.0	2,500	100.0
Milwaukee	5,945	41.3	8,446	58.7	14,391	100.0
Ozaukee	762	39.2	1,180	60.8	1,942	100.0
Racine	708	33.9	2,258	96.1	2,966	100.0
Walworth	540	28.2	1,373	71.8	1,913	100.0
Washington	546	23.0	1,833	77.0	2,379	100.0
Waukesha	2,421	34.7	4,560	65.3	6,981	100.0
Region	11,597	35.1	21,475	64.9	33,072	100.0

County	1995					
	Freeway		Standard Arterial		Total	
	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total	Vehicle-Miles of Travel (thousands)	Percent of Total
Kenosha	783	29.4	1,880	70.6	2,663	100.0
Milwaukee	6,421	42.5	8,682	57.5	15,103	100.0
Ozaukee	960	41.6	1,345	58.4	2,305	100.0
Racine	814	25.6	2,371	74.4	3,185	100.0
Walworth	648	28.4	1,634	71.6	2,282	100.0
Washington	595	21.2	2,218	78.8	2,813	100.0
Waukesha	2,687	35.3	4,925	64.7	7,612	100.0
Region	12,908	35.9	23,055	64.1	35,963	100.0

Source: SEWRPC.

The volume-to-design-capacity ranges may be related to level-of-service designations which are used to qualitatively measure the operational characteristics of the arterial street system. There are six levels of service corresponding to letters "A" through "F"—"A" describing free-flow, unrestricted traffic conditions, and "F" describing a breakdown in traffic flow. Arterial facilities operating under design capacity with volume-to-design-capacity ratios of less than 0.90 exhibit travel conditions representative of levels of service "A" or "B." At this level of service, freeway traffic during peak traffic periods would operate as under free-flow conditions, that is, without any speed reduction or restrictions on maneuverability or lane changing. Urban standard arterials would also operate during peak traffic periods without any speed reduction and with minimal average signalized intersection delays of only five to 15 seconds. There would be no restrictions on lane changing and no difficulty in making left turns across traffic at driveways and unsignalized intersections.

Facilities operating under conditions approaching design capacity with volume-to-design-capacity ratios between 0.90 and 1.00 exhibit travel conditions representative of level of service "C" and would experience no traffic congestion during peak traffic periods. At this level of service, freeway traffic during peak traffic periods would continue to operate at free-flow speeds without any speed reduction, but there may be some restrictions on lane changing and maneuverability. Urban standard arterials would also operate during peak traffic periods with no speed reductions and average signalized intersection delays would be about 15 seconds. There may be some restrictions on lane changing and some difficulty in making left turns across traffic at driveways and unsignalized intersections.

Facilities operating moderately over design capacity would experience moderate traffic congestion during peak traffic periods with volume-to-design-capacity ratios of 1.01 to 1.10, and exhibit traffic conditions representative of level of service "D." At this level of service average freeway speeds during peak traffic periods would experience a 5 to 10 percent reduction and there would be restrictions on maneuverability and lane changing. Urban standard arterials during peak traffic periods would also experience a 5 to 10 percent reduction in travel speed from free-flow speeds, as average signalized intersection delays would increase to about 25 seconds. There would also be restrictions on lane changing and maneuverability and difficulty in making left turns across traffic at unsignalized intersections and driveways.

Facilities operating severely over design capacity, with volume-to-design-capacity ratios of 1.11 to 1.30, would exhibit travel conditions representative of level of service "E" and experience severe traffic congestion during peak traffic periods. At this level of service, freeway traffic during peak traffic periods would experience a 10 to 25 percent reduction in freeway speeds during peak traffic periods and there would be significant restrictions on maneuverability and lane changing. The flow of traffic would increasingly become unstable and would be susceptible to experiencing stop-and-go conditions with the slightest disruption of traffic flow. Urban standard arterials during peak traffic periods would also experience a 10 to 25 percent reduction in travel speed from free-flow speeds and average intersection delays of about 35 seconds. There would also be significant restrictions on lane changing and maneuverability and significant difficulty in making left turns across traffic at unsignalized intersections and driveways.

Facilities operating extremely over design capacity, with volume-to-design-capacity ratios of 1.31 or higher, would exhibit travel conditions representative of level of service "F" and experience extreme traffic congestion during peak traffic periods. Peak traffic periods could include not only the morning and afternoon peak traffic hours, but the hours surrounding those peak traffic hours, and, as well, midday hours. At this level of service, freeway traffic during peak traffic periods would experience a reduction of speed of 25 to 70 percent from free-flow speeds with extreme restrictions on maneuverability in lane changing. Stop-and-go traffic at less than 30 miles per hour may occur. Urban standard arterial streets during peak traffic periods would also experience a 25 to 70 percent reduction in travel speed with substantial delays at signalized intersections. Average delay to each vehicle at controlled intersections may exceed 35 seconds and could approach 120 seconds. Increasingly, vehicles may have to wait through more than one traffic-signal red phase to clear an intersection.

Table 5 and Map 3 presented the miles of arterial facilities in 1995 carrying traffic volumes which exceeded their design capacity and experienced moderate, severe, and extreme traffic congestion. Also presented are the miles of arterial facility in the Region which carried traffic volumes less than their design capacity in 1995. The mileages of arterial facilities experiencing traffic congestion in 1995 are compared in Table 5 to the mileages of such facilities in 1991, 1972, and 1963. The mileage and percentage of facilities experiencing extreme and severe traffic congestion in 1995 are similar to the mileage and percentage of such facilities experiencing such congestion in 1991. Since 1991, the base year of preparation of the year 2010 regional transportation system plan, traffic congestion has moderately increased in the Southeastern Wisconsin Region.

Table 5

TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION BY COUNTY: 1963, 1972, 1991, AND 1995

County	1963						
	Under Design Capacity[a]		At[b] and Moderatelyc Over Design Capacity		Severely[d] and Extremely[e] Over Design Capacity		
	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Total Mileage
Kenosha	260.8	92.6	7.2	2.6	13.5	4.8	281.5
Milwaukee	589.8	74.5	85.4	10.8	116.3	14.7	791.5
Ozaukee	250.3	94.5	6.3	2.4	8.3	3.1	264.9
Racine	327.7	93.3	10.0	2.8	13.6	3.9	351.3
Walworth	390.5	97.7	3.9	1.0	5.3	1.3	399.7
Washington	401.8	99.9	0.5	0.1	0.0	0.0	402.3
Waukesha	635.6	91.2	26.6	3.8	34.8	5.0	697.0
Region	2,856.5	89.6	139.9	4.4	191.8	6.0	3,188.2

County	1972						
	Under Design Capacity[a]		At[b] and Moderately[c] Over Design Capacity		Severely[d] and Extremely[e] Over Design Capacity		
	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Total Mileage
Kenosha	250.4	87.2	14.7	5.1	22.0	7.7	287.1
Milwaukee	662.9	83.3	71.8	9.0	61.0	7.7	795.7
Ozaukee	237.9	93.8	10.1	4.0	5.5	2.2	253.5
Racine	316.0	88.9	19.1	5.4	20.3	5.7	355.4
Walworth	404.5	98.2	2.7	0.7	4.8	1.1	412.0
Washington	326.0	94.6	9.7	2.8	9.1	2.6	344.8
Waukesha	603.5	90.0	23.8	3.6	42.9	6.4	670.2
Region	2,801.2	89.8	151.9	4.9	165.6	5.3	3,118.7

County	1991										
	Under Design Capacity[a]		At Design Capacity[b]		Over Design Capacity						
					Moderately[c]		Severely[d]		Extremely[e]		
	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Total Mileage
Kenosha	286.0	90.9	8.1	2.5	8.5	2.7	10.4	3.3	4.7	1.5	317.7
Milwaukee	543.2	70.1	67.6	8.7	42.7	5.5	101.4	13.1	20.5	2.6	775.4
Ozaukee	254.2	88.1	10.5	3.6	10.5	3.6	7.0	2.4	6.3	2.3	288.5
Racine	288.7	83.0	16.9	4.9	8.0	2.3	28.3	8.1	6.0	1.7	347.9
Walworth	411.1	95.8	8.4	2.0	6.6	1.5	3.1	0.7	--	--	429.2
Washington	356.5	89.5	20.2	5.1	3.0	0.7	12.5	3.1	7.0	1.8	399.2
Waukesha	591.3	82.5	25.9	3.6	27.1	3.8	54.5	7.6	17.5	2.5	716.3
Region	2,731.0	83.4	157.6	4.8	106.4	3.2	217.2	6.6	62.0	2.0	3,274.2

County	1995										
	Under Design Capacity[a]		At Design Capacity[b]		Over Design Capacity						
					Moderately[c]		Severely[d]		Extremely[e]		
	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Total Mileage
Kenosha	282.9	89.1	7.6	2.4	10.3	3.2	10.4	3.3	6.3	2.0	317.5
Milwaukee	539.1	69.5	67.6	8.7	42.4	5.5	90.4	11.7	35.9	4.6	775.4
Ozaukee	254.2	88.1	7.1	2.5	12.8	4.4	8.1	2.8	6.3	2.2	288.5
Racine	289.0	82.8	15.9	4.5	10.0	2.9	28.3	8.1	6.0	1.7	349.2
Walworth	411.9	95.8	2.9	0.7	12.1	2.8	3.1	0.7	--	--	430.0
Washington	356.5	89.3	16.6	4.1	3.6	0.9	15.5	3.9	7.0	1.8	399.2
Waukesha	584.0	81.4	9.6	1.3	56.5	7.9	46.9	6.5	20.5	2.9	717.5
Region	2,717.6	82.9	127.3	3.9	147.7	4.5	202.7	6.2	82.0	2.5	3,277.3

[a] *Volume-to-design-capacity ratio: 0.00-0.90.*

[b] *Volume-to-design-capacity ratio: 0.91-1.00.*

[c] *Volume-to-design-capacity ratio: 1.01-1.10.*

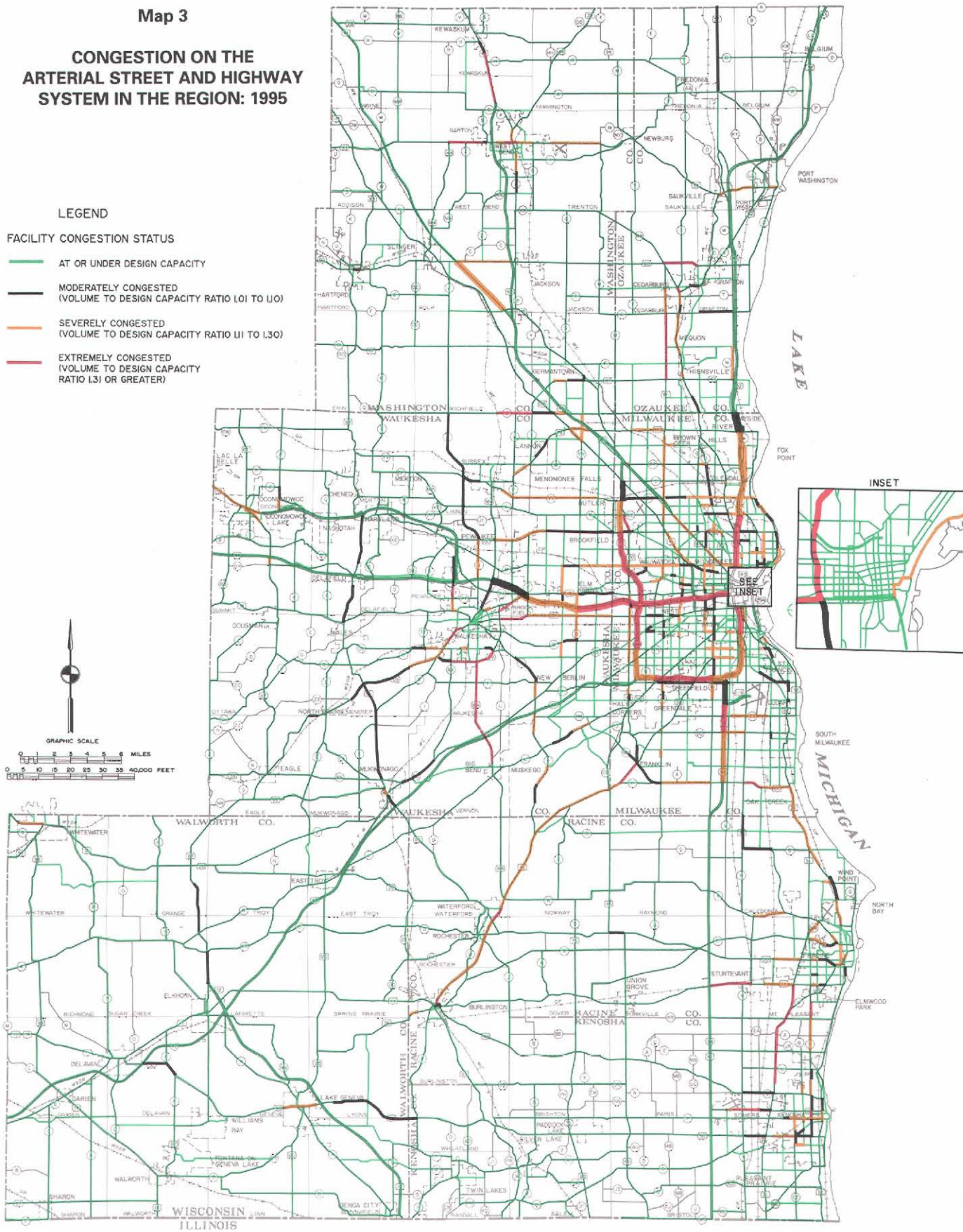
[d] *Volume-to-design-capacity ratio: 1.11-1.30.*

[e] *Volume-to-design-capacity ratio: over 1.30.*

Source: SEWRPC.

Map 3

CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION: 1995



The above map depicts the level of congestion on the arterial street and highway system in 1995. While about 2,718 miles, or 83 percent, of the total 3,277-mile system operates under design capacity, the number of miles of arterial facilities operating over design capacity was 432 miles, or 13 percent of the system, an increase of 47 miles, or 12 percent, since 1991.

Source: SEWRPC.

Table 6

URBANIZED AREA POPULATION MEETING TRAVEL TIME STANDARDS TO EMPLOYMENT AND SELECTED ACTIVITY CENTERS THROUGH TRAVEL ON ARTERIAL STREETS AND HIGHWAYS: 1995

Urbanized Area and Activity Center Type	Urbanized Area Population: 1990	Number	Percent
Kenosha Urbanized Area	94,300	--	--
Employment-Related[a]	--	90,600	96.4
Major Retail-Service[b]	--	0	0.0
Medical Facility[c]	--	94,300	100.0
Major Park[d]	--	94,300	100.0
Higher Education Facility[e]	--	94,300	100.0
Scheduled Air Transport[f]	--	94,300	100.0
Milwaukee Urbanized Area	1,226,300	--	--
Employment-Related[a]	--	1,147,900	93.6
Major Retail-Service[b]	--	1,161,400	94.7
Medical Facility[c]	--	1,226,300	100.0
Major Park[d]	--	1,226,300	100.0
Higher Education Facility[e]	--	1,226,300	100.0
Scheduled Air Transport[f]	--	1,226,300	100.0
Racine Urbanized Area	121,800	--	--
Employment-Related[a]	--	121,800	100.0
Major Retail-Service[b]	--	32,200	26.4
Medical Facility[c]	--	121,800	100.0
Major Park[d]	--	121,800	100.0
Higher Education Facility[e]	--	121,800	100.0
Scheduled Air Transport[f]	--	121,800	100.0

[a] *Standard: 30 minutes' overall travel time of 40 percent of urbanized area employment opportunities.*

[b] *Standard: 35 minutes' overall travel time of three major retail and service centers.*

[c] *Standard: 40 minutes' overall travel time of a major regional medical center and/or 30 minutes' overall travel time of a hospital or medical clinic.*

[d] *Standard: 40 minutes' overall travel time of a major public outdoor recreational center.*

[e] *Standard: 40 minutes' overall travel time of a vocational school, college, or university.*

[f] *Standard: 60 minutes' overall travel time of a scheduled air transport airport.*

Source: SEWRPC.

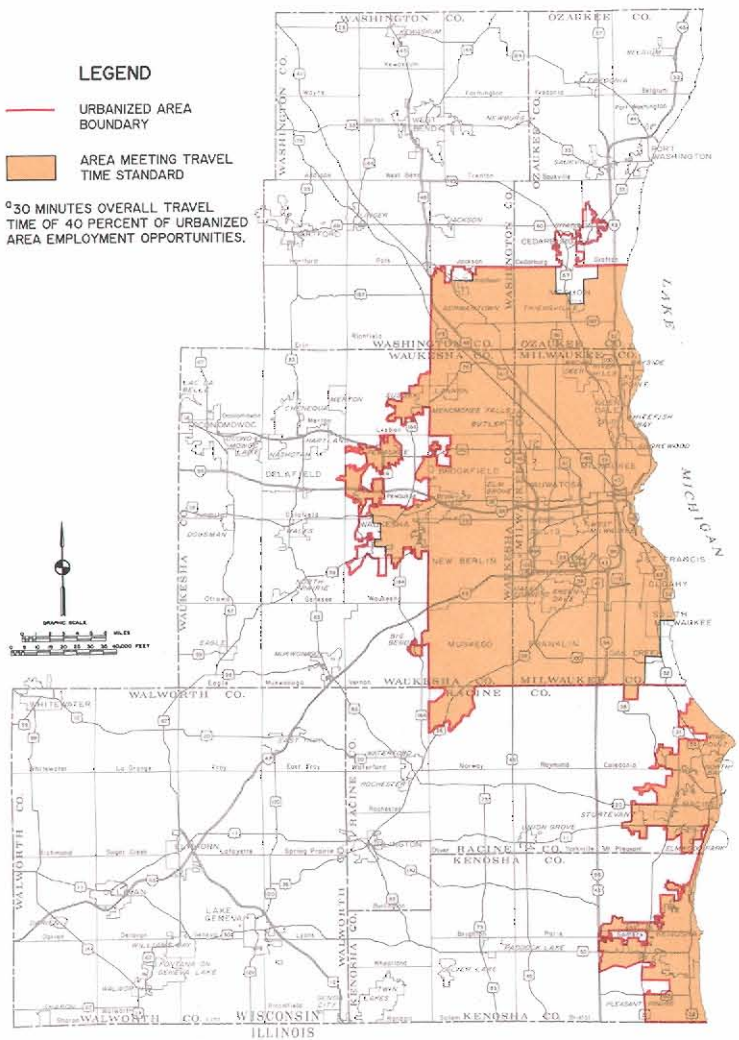
Arterial Highway Accessibility to Land Uses

Another measure of the quality of service provided by the arterial street and highway system is the accessibility that it provides to land uses in the urbanized areas of the Region. The Commission has defined transportation planning standards which prescribe a desirable level of highway accessibility. These standards are documented in Chapter IV, "Objectives, Principles, and Standards," and include accessibility within 30 minutes' overall travel time of 40 percent of urbanized area employment opportunities; accessibility within 35 minutes' overall travel time of three major retail and service centers; accessibility within 40 minutes overall travel time of a major regional medical center; accessibility within 30 minutes' overall travel time of a hospital or medical clinic; accessibility within 40 minutes' overall travel time of a major public outdoor recreational center; accessibility within 40 minutes' overall travel time of a technical school, college, or university; and accessibility within 60 minutes' travel time of scheduled air transport at General Mitchell International Airport. Table 6 and Map 4 demonstrate the ability of the 1995 arterial street and highway system to provide such accessi-

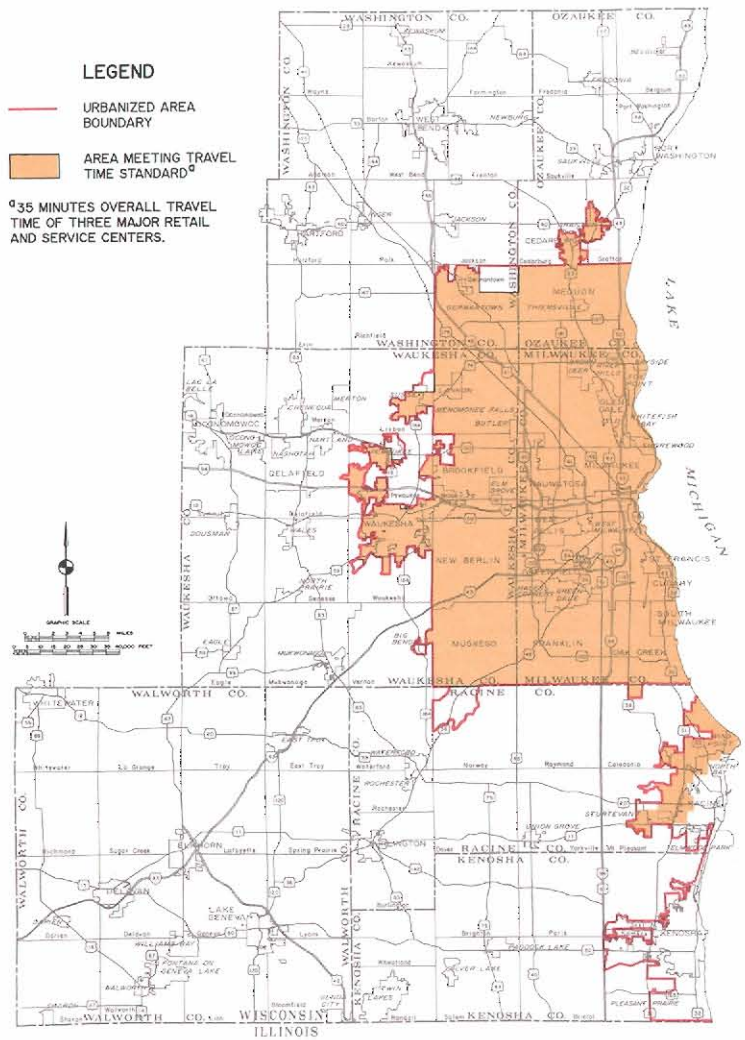
Map 4

AREAS MEETING TRAVEL TIME STANDARDS FOR EMPLOYMENT AND SELECTED ACTIVITY CENTERS THROUGH TRAVEL BY ARTERIAL STREET AND HIGHWAY: 1995

EMPLOYMENT: 1995

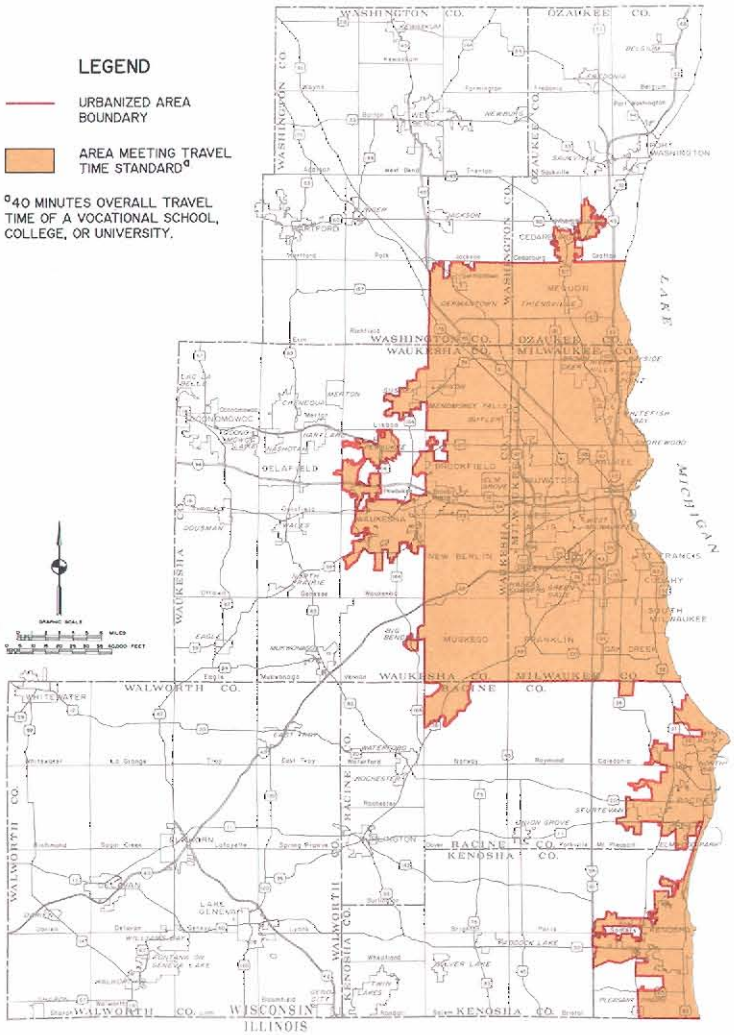


MAJOR RETAIL AND SERVICE CENTERS: 1995

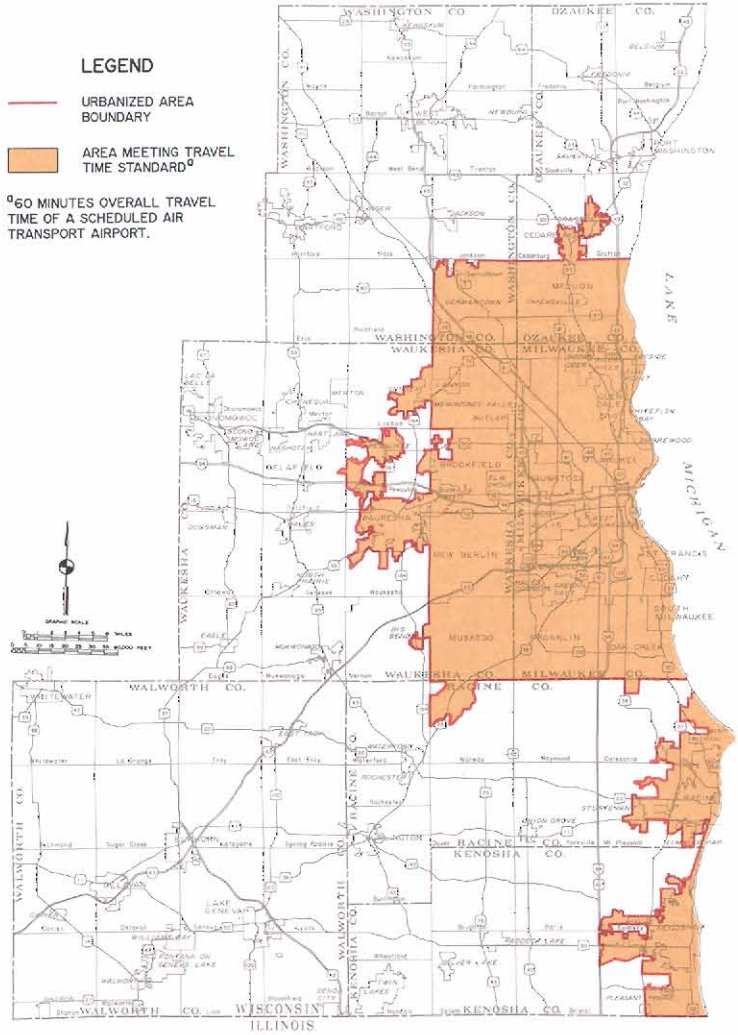


Map 4 (continued)

MAJOR EDUCATIONAL CENTERS: 1995

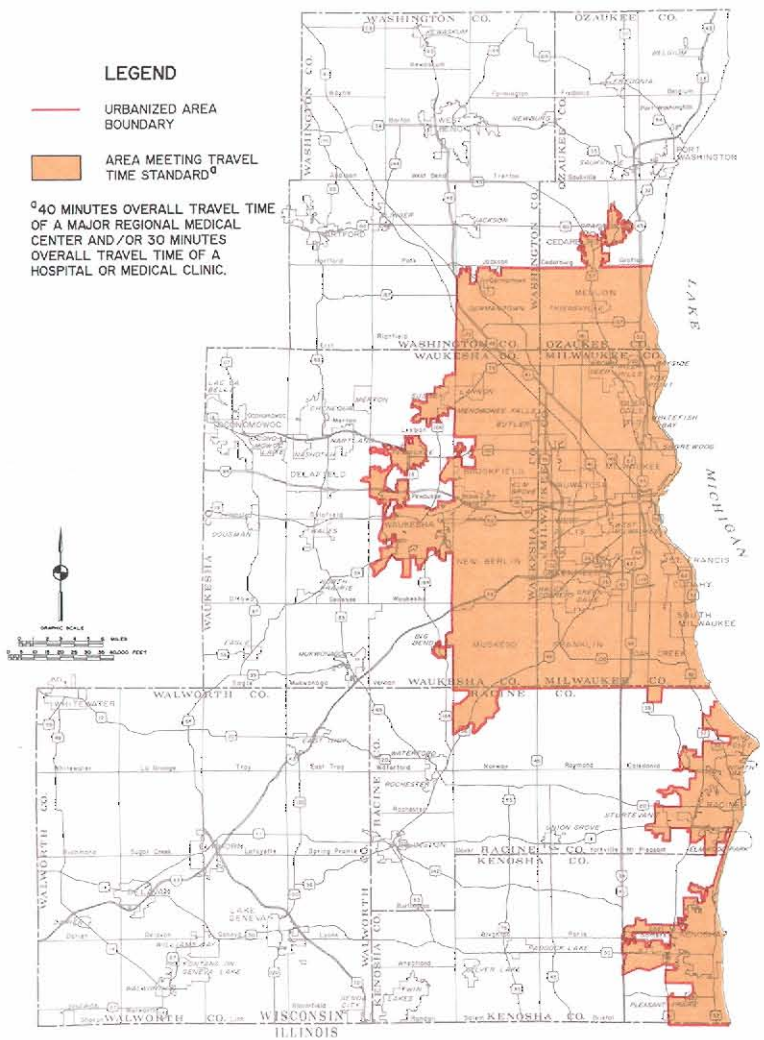


SCHEDULED AIR TRANSPORT TERMINALS: 1995

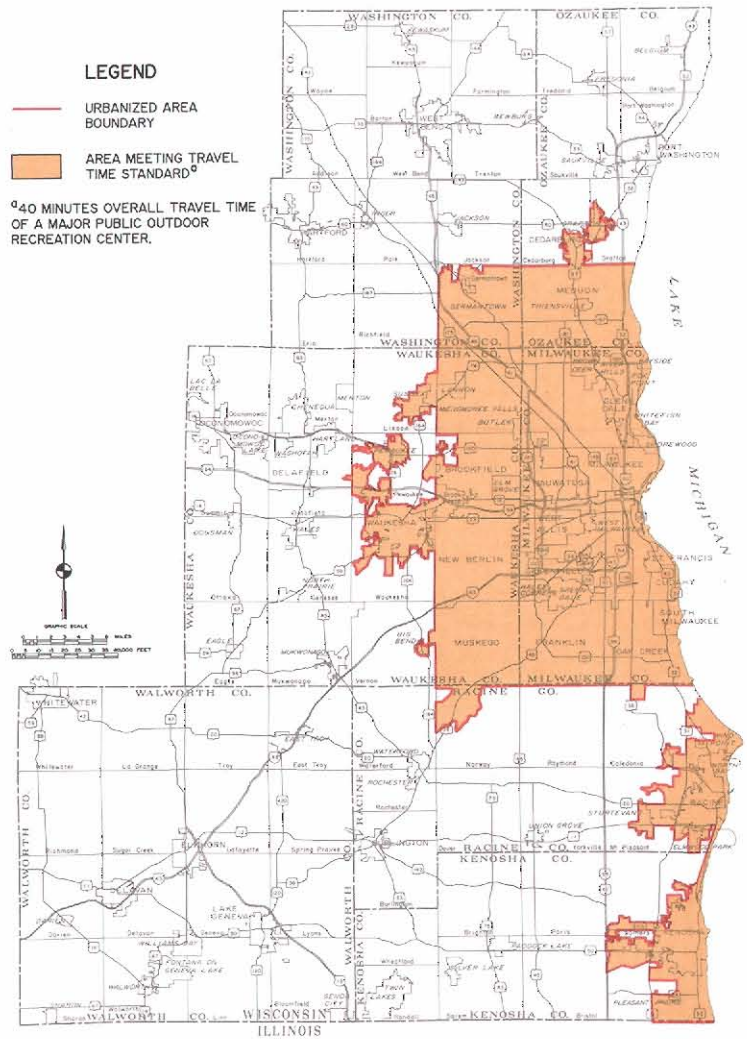


Map 4 (continued)

MAJOR MEDICAL CENTERS: 1995



MAJOR RECREATIONAL CENTERS: 1995



In terms of timely access to employment opportunities, adequate highway service is nearly ubiquitous throughout the urbanized areas of the Region and may be expected to remain so, as indicated on the accompanying maps. Nearly 100 percent of the population of the Racine urbanized area, about 96 percent of the population of the Kenosha urbanized area, and about 94 percent of the population of the Milwaukee urbanized area should have been expected to be able to access 40 percent of the urbanized area jobs within 30 minutes through arterial travel in 1995.

With respect to major medical centers and major recreational centers, the entire population of each of the three urbanized areas was within the travel time specified under the standards. It should be noted that neither the Kenosha urbanized area nor the Racine urbanized area met the transit time standards for access to major retail-service centers, since there was only one such center in each of those urbanized areas.

Source: SEWRPC.

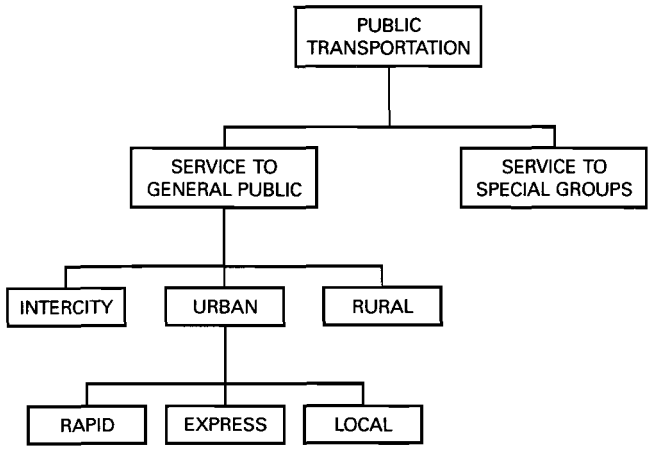
bility to land uses. All the standards are met for each of the Region's urbanized areas—Kenosha, Milwaukee, and Racine—with one principal exception, the accessibility to three major retail and service centers within 30 minutes from the Kenosha urbanized area. Lack of satisfaction of the standard is probably due more to the location of retail and service centers as opposed to any inadequacy of the highway system of the Kenosha urbanized area. The satisfaction levels of the highway accessibility standards by the 1995 arterial street and highway system are the same as such satisfaction levels measured for the arterial street and highway system in 1991.

PUBLIC TRANSIT

This section of this chapter describes the existing provision and utilization of public transit within the Region. Public transit may be defined as the transportation of relatively large groups of people by publicly, quasi-publicly, or privately owned vehicles routed between or along significant concentrations of related trip origins and destinations. The public transit principally addressed in this regional transportation system plan is urban public transit—the public transit which serves intraregional travel demand, which is open to serving the general public, and which operates within and between the Region's urban areas. This includes the urban fixed-route bus transit systems operated by Milwaukee County, Waukesha County, and the Cities of Kenosha, Racine, and Waukesha, and the urban nonfixed-route shared-ride taxi systems operated by the Cities of Hartford, Port Washington, Whitewater, and West Bend.[2]

Figure 1

CLASSIFICATION OF EXISTING PUBLIC TRANSPORTATION



Source: SEWRPC.

A classification of all public transit provided in the Region is provided in Figure 1. Public transportation may be divided into service provided for the general public and service provided to special population groups. Examples of special group public transportation include yellow-school-bus service operated by area school districts, and fixed-route bus and paratransit van service provided by counties or municipalities for the elderly and disabled. Service to special population groups is considered only implicitly in the planning process, with the exception of paratransit operated within urban fixed-route transit service areas to meet the transportation needs of those persons who because of mental or physical disability are unable to avail themselves of conventional transit service. Such service is required to be provided within fixed-route urban transit service areas under the Federal Americans with Disabilities Act, and the costs of such service are explicitly considered by the Commission in regional transportation planning.

As shown in Figure 1, public transit service to the general public may be divided into three categories: intercity, urban, and rural. Intercity or interregional public transportation provides service across regional boundaries and includes commercial air travel, Amtrak railway passenger

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[2]*Fixed-route public transportation operates relatively large vehicles over predetermined routes on regular schedules. Nonfixed-route public transportation provides service on a demand-responsive or as-requested basis, and is characterized by the flexible routing and scheduling of relatively small vehicles to provide shared-occupancy door-to-door transportation. Such nonfixed-route demand-responsive transit service is also referred to as paratransit service.*

Ozaukee County initiated fixed-route urban rapid transit service between Milwaukee and Ozaukee Counties in 1996.

service, and interregional bus service. Rural public transportation provides service in and between rural communities, and between rural and urban communities. Urban public transportation, commonly referred to as public transit, provides service within and between urban areas of the Region. Public transit is essential in any metropolitan area to meet the travel needs of persons unable to use personalized transportation and to provide an alternative mode of travel, particularly in heavily traveled corridors within and between urban areas.

Interregional public transit service is considered in regional transportation planning only to the extent that terminal and intermodal facilities, such as airports and bus and railway stations, comprise major trip generators affecting internal travel demand and patterns. Interregional commercial air travel is explicitly considered by the Commission under a separate comprehensive regional airport system planning program, while interregional passenger railway and motor-bus service is considered by the Wisconsin Department of Transportation under a separate statewide planning program. Interregional public transportation travel has historically represented less than 5 percent of all public transportation travel on an average weekday.

Rural public transportation is addressed by the Commission in special subregional planning efforts, and potentially would represent less than 1 percent of average weekday public transportation travel within the Region. The Commission completed rural public transportation system plans for Ozaukee County in 1995 and for Washington County in 1996.

Urban public transit may be divided into rapid, express, and local levels of service. Rapid transit is intended to facilitate relatively fast and convenient transportation along heavily traveled corridors and between major activity centers and high- and medium-density residential communities within the Region. Rapid transit has relatively high average operating speeds and relatively low accessibility, with station spacings, if any, one to three miles or more apart. Rapid transit service can be provided by commuter rail and heavy rail operating over exclusive, grade-separated rights-of-way or by motor buses operating over exclusive, grade-separated busways. Rapid transit can also be provided by motor buses operating in mixed traffic on freeways and by light rail operating over exclusive, though not fully grade-separated, rights-of-way. All forms of rapid transit service are explicitly considered in the planning process.

Express transit service is provided over arterial streets and highways or on exclusive rights-of-way with stops generally one-quarter to two miles apart at intersecting transit routes, intersecting arterial streets, and major traffic generators. Express transit serves trips of moderate length and can be provided by motor bus or by light rail operating in mixed traffic on shared rights-of-way, in reserved street lanes, or on exclusive rights-of-way. Express transit service provides a greater degree of accessibility at somewhat slower operating speeds than rapid transit and may provide "feeder" service to the rapid transit system. Express transit service is also explicitly considered in the regional transportation system planning process.

Local transit service is characterized by a high degree of accessibility and low operating speeds. Local service is provided over arterial and collector streets with stops generally one-eighth to one-quarter mile apart. Local transit service can also be provided on a demand-responsive basis, such as with a shared-ride taxi. Such service can be provided by motor bus or electric trolleybus, and is explicitly considered in the regional transportation system planning process.

Existing Urban Public Transit System

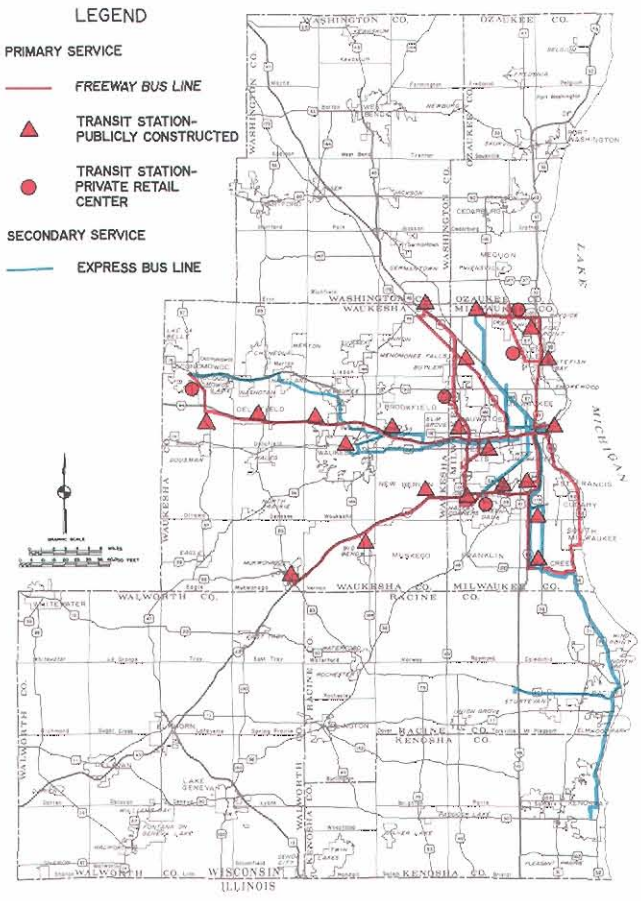
Rapid Transit

Rapid transit service within the Region in 1995 consisted of 16 freeway flyer motor-bus routes. Twelve routes were provided by Milwaukee County and operated by the Milwaukee County Transit System. The remaining four were provided by Waukesha County. One route between the Village of Menomonee Falls and the central business district (CBD) of Milwaukee was operated for Waukesha County by the Milwaukee County Transit System. The other three routes between the City of Waukesha, City of Oconomowoc, and the Village of Mukwonago and the Milwaukee CBD were operated for Waukesha County by Wisconsin Coach Lines, Inc., a private transit operator (see Map 5).

In 1963, the base year of the initial regional transportation system plan, rapid transit within the Region consisted of commuter-rail service operated by the Milwaukee Road between the City of Watertown, located approximately 10 miles west of the City of Oconomowoc but outside the Region, and the Milwaukee CBD. Freeway flyer service was initiated in 1964 by the Milwaukee and Suburban Transport Corporation between the City of Wauwatosa and the Milwaukee central business district. By 1972, seven routes were operated by the Milwaukee and Suburban

Map 5

RAPID AND EXPRESS FIXED-ROUTE PUBLIC TRANSIT IN THE REGION: 1995



This map shows the rapid and express transit systems in the Region as these systems existed in 1995. Rapid transit in 1995 consisted of a fairly dense network of 16 freeway flyer routes within Milwaukee and Waukesha Counties. In 1995, eight express transit routes were operated in the Region, primarily in the Milwaukee urban area. Only two regional Milwaukee-oriented travel corridors were served, however: from Milwaukee west to Oconomowoc and south to Racine and Kenosha.

Source: SEWRPC.

Transport Corporation over freeways in the Milwaukee urban area, and by 1991, the number of rapid transit routes had increased to 13.

Express Transit

Express transit service provided within the Region in 1995 is also shown on Map 5. In 1995, express transit service consisted of a total of eight motor bus routes, including three routes in the Oconomowoc-Waukesha-Milwaukee travel corridor operated for Waukesha County by Wisconsin Coach Lines, Inc.; three routes in Milwaukee County operated by the Milwaukee County Transit System; one route between the City of Racine and an industrial park at IH 94 and STH 20 provided by the City of Racine; and one route between the Milwaukee CBD and the Cities of Racine and Kenosha sponsored since 1984 by the City of Racine and operated by Wisconsin Coach Lines, Inc. The most extensive express service in the Region in 1995 was provided by the Milwaukee County Transit System between the Northridge Shopping Center and the Milwaukee CBD, with service operated daily and at five- to 15-minute headways during weekday peak periods, and at 15- to 20-minute headways during nonpeak periods. Waukesha County also provided regular express service in 1995 in the Waukesha-Milwaukee travel corridor, with 19 eastbound trips and 22 westbound trips per weekday.

Express transit service in 1963 consisted of eight bus routes operated in several travel corridors by Greyhound Lines and Wisconsin Coach Lines, Inc., and two routes operated in the Milwaukee urban area by the Milwaukee and Suburban Transport Corporation. Express transit service remained largely unchanged during the 1963-through-1972 period; however, service between Waukesha and Oconomowoc and between Milwaukee and East Troy was abandoned. In 1972, express service was operated over five routes by Wisconsin Coach Lines, Inc., and over two routes operated by the Milwaukee and Suburban Transport Corporation. By 1991, express service was operated over seven routes, with three routes provided by the Milwaukee County Transit System and four routes by Waukesha County.

Local Transit

Fixed-route local transit service was provided in 1995 within the Kenosha, Milwaukee, and Racine urbanized areas. Local transit in the Kenosha urbanized area was provided by the City of Kenosha Transit Commission, which operated service over eight fixed routes, radial in design and emanating from downtown Kenosha, with direct, nontransfer service from the downtown area to all portions of the City and its immediate environs, including the University of Wisconsin-Parkside (see Map 6). The eight routes included two routes which provided local transit service to major commercial, recreational, and employment centers which have developed outside the regular Kenosha local transit service area. In 1995,

the system provided on most routes service from 6:00 a.m. to 6:00 p.m. every day except Sunday, with 30-minute peak-period headways and 60-minute nonpeak-period headways.

Local transit service was provided in the Milwaukee urbanized area by the City of Waukesha Transit System Utility and the Milwaukee County Transit System. The fixed-route bus system operated by the City of Waukesha Transit System Utility, Waukesha Metro Transit, provided service over nine fixed radial routes. These nine routes began from downtown Waukesha and provided direct, nontransfer service from the downtown to all portions of the City and its immediate environs. As shown on Map 7, two of the routes served important traffic generators outside of the City: the Waukesha County Technical College in the Town of Pewaukee and the Goerke's Corners transit station in the Town of Brookfield. In 1995, the system provided service from 6:00 a.m. to 6:45 p.m. on weekdays and from 8:00 a.m. to 6:00 p.m. on Saturdays, with 30-minute peak-period headways and 60-minute nonpeak-period headways.

As also shown on Map 7, the Milwaukee County Transit System provided local transit service in the Milwaukee urbanized area over 39 regular fixed routes: 15 radial routes emanating from downtown Milwaukee, 16 crosstown routes not serving downtown Milwaukee, and eight feeder routes connecting to the crosstown and radial routes. The transit system also operated 13 school-day routes to serve secondary schools and the University of Wisconsin-Milwaukee. In 1995, the system provided service seven days a week, typically from 5:00 a.m. to 1:00 a.m. On most routes, peak-period headways were between 10 and 20 minutes and nonpeak-period headways were between 15 and 30 minutes. Under contract with Waukesha County, the Milwaukee County Transit System also operated an extension of one local route from Milwaukee County to the Brookfield Square Shopping Center in Waukesha County.

Local public transit was provided in the Racine urbanized area by the City of Racine Belle Urban System, which operated local service over 10 fixed routes. As shown on Map 8, eight of the 10 fixed routes were radial in design, emanating from downtown Racine, and provided service to all portions of the City and to its immediate environs. The ninth route, a crosstown route, was routed to the west of downtown Racine. The 10th, a feeder route, served the Town of Caledonia and connected to two of the eight radial routes. In 1995, the system provided service from 5:30 a.m. to 7:00 p.m. on weekdays and from 7:00 a.m. to 6:00 p.m. on Saturdays. Peak-period headways were between 20 and 45 minutes and nonpeak-period headways were between 30 and 45 minutes.

Extent of Transit Service

The extent of urban public fixed-route transit service provided within the Region may be measured by the vehicle-miles of transit service provided on an average weekday. Vehicle-miles of transit service provide a measure of the extent of transit routes, and the amount or frequency of service provided on those routes. As shown on Table 7, between 1991 and 1995 the vehicle-miles of transit service provided within the Region increased slightly, by 4 percent. The level of vehicle-miles of transit service provided within the Region in 1995 is approximately 3 percent greater than the level provided in 1972. A significantly greater level of transit service was provided in 1963, about 28 percent more than in 1995, measured in terms of vehicle-miles of transit service.

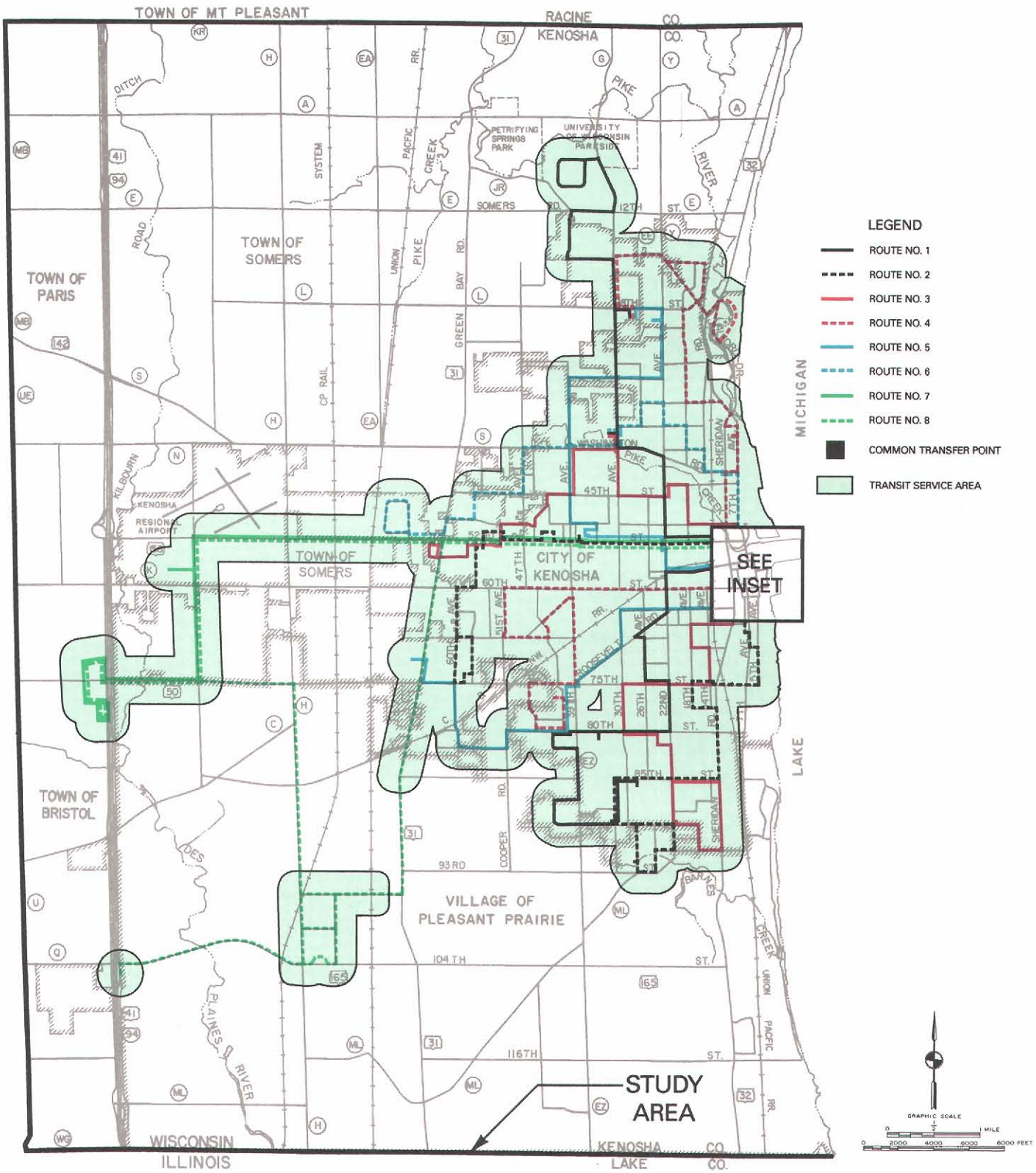
Another measure of transit service provided within the Region is the number of round-trip route-miles of transit service (see Table 8). Between 1991 and 1995, the number of round-trip route-miles of transit service operated within the Region on an average weekday increased by 8 percent. Between 1972 and 1991, and between 1963 and 1972 as well, round-trip route-miles of transit service operated on an average weekday increased, by 91 percent and 42 percent, respectively. The increase in round-trip route-miles of transit service and decrease in vehicle-miles of transit service indicate that over the past 30 years, generally the extension of new transit service has been at relatively low levels of service, and significant reductions in the frequency of service have been made over the years on existing transit service routes.

Public Transit Ridership

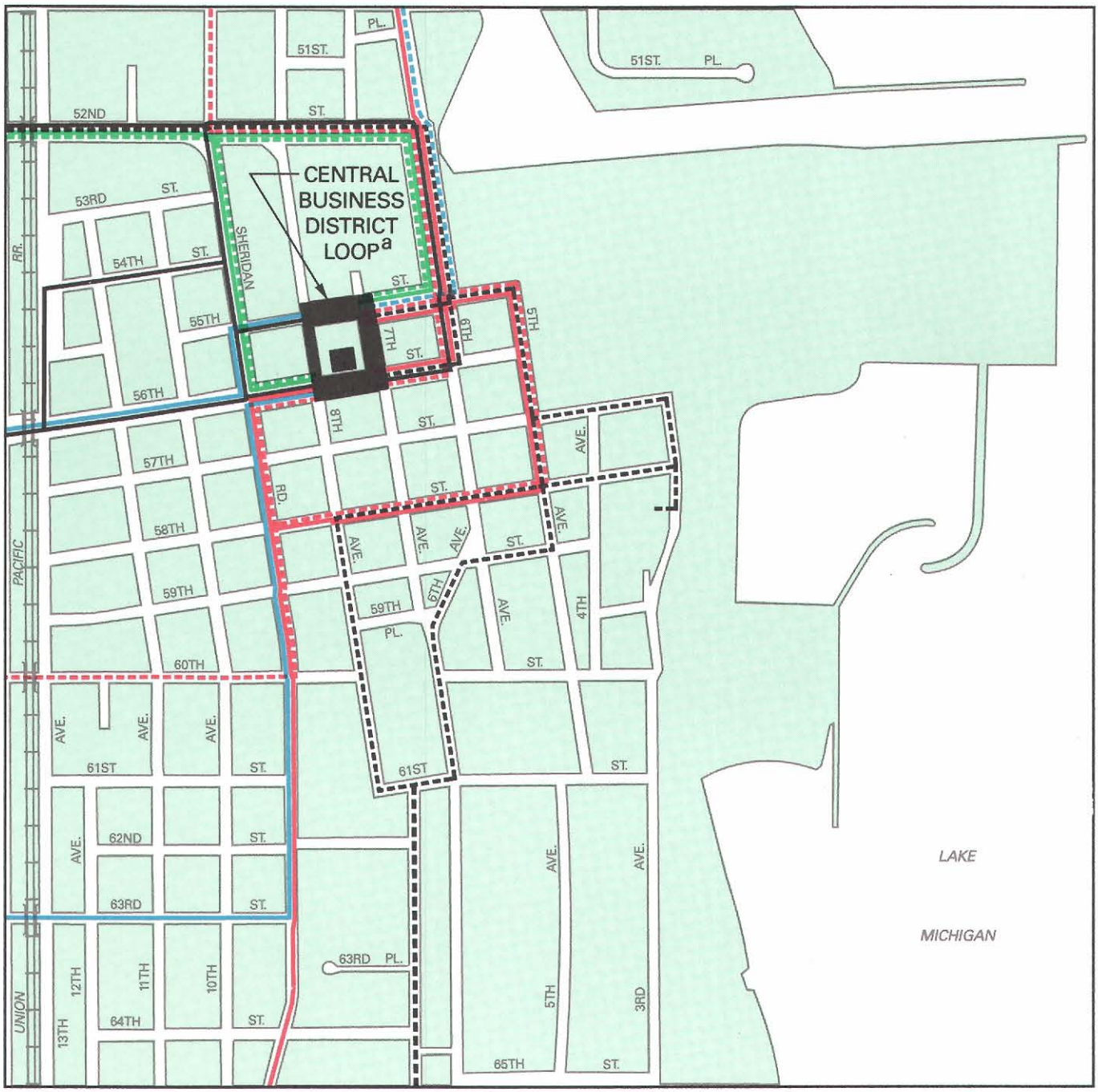
Annual public transit ridership levels recorded in 1963, 1972, 1991, and 1995 within the Region are set forth in Table 9. Public transit ridership within the Region has declined significantly over time. In 1963, over 94.5 million revenue passengers were carried on public transit within the Region. In 1972, about 53.9 million revenue passengers were carried, about 43 percent fewer than in 1963. In 1991, about 50.2 million passengers were carried, 47 percent fewer than in 1963 and about 7 percent fewer than in 1972. In 1995, about 47.2 million passengers were carried, about 6 percent fewer than in 1991.

Map 6

LOCAL FIXED-ROUTE PUBLIC TRANSIT SERVICE IN THE KENOSHA URBANIZED AREA: 1995



Map 6 (Inset)



[a] *All routes use central business district loop with the exception of routes 7 and 8 which do not use 8th Avenue or 55th Street.*

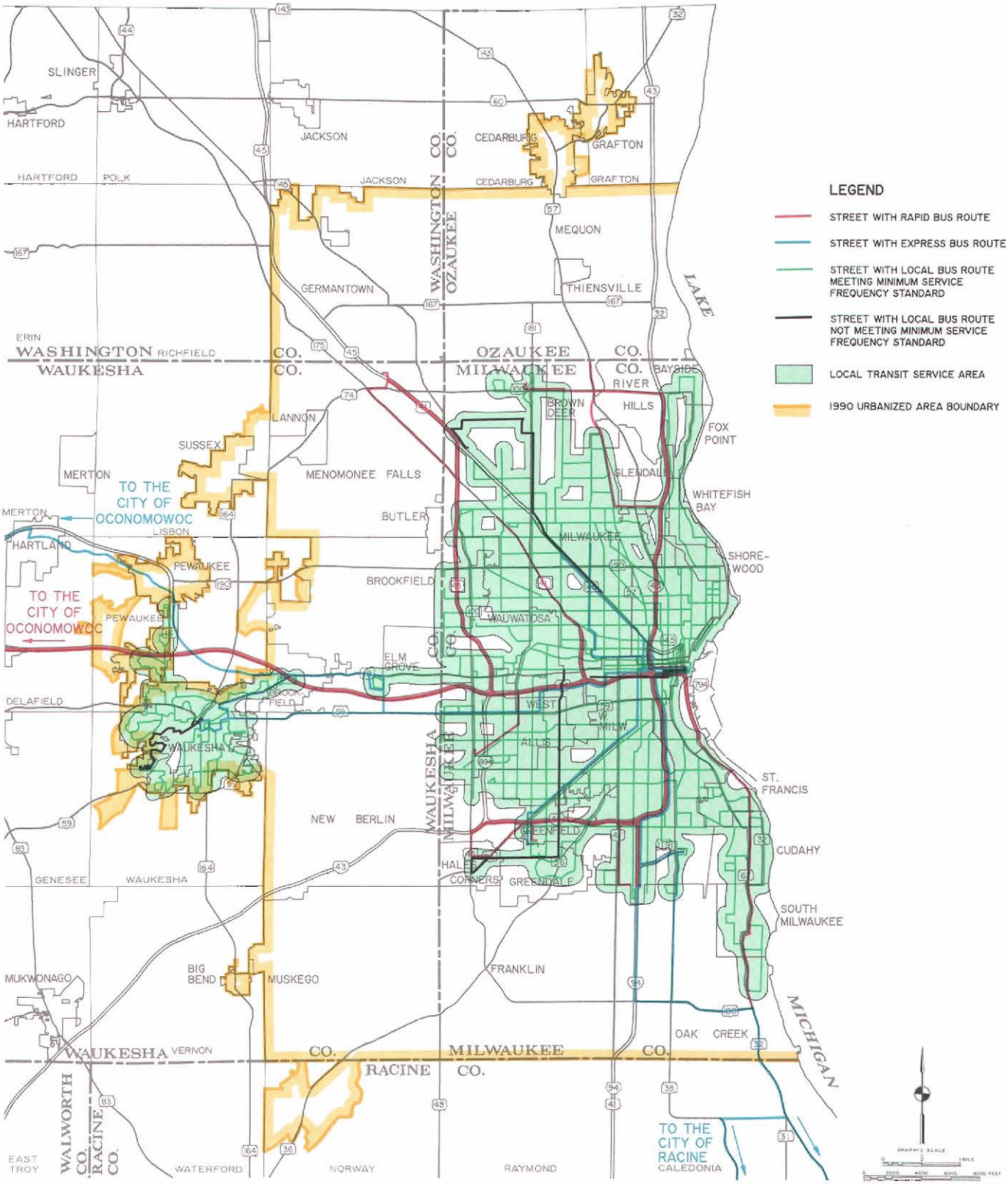
GRAPHIC SCALE 0 200 400 600 FEET

In 1995, local public transit service in the Kenosha urbanized area was provided by the City of Kenosha Transit Commission, which operated eight fixed motor-bus routes from downtown Kenosha to all portions of the City.

Source: SEWRPC.

Map 7

LOCAL FIXED-ROUTE PUBLIC TRANSIT SERVICE IN THE MILWAUKEE URBANIZED AREA: 1995



In 1995, local public transit service in the Milwaukee urbanized area was provided by the Milwaukee County Transit System, which operated 39 fixed routes, and by the City of Waukesha Transit System Utility, which operated nine fixed routes.

Source: SEWRPC.

The annual historical trends in transit ridership in the Kenosha, Milwaukee, and Racine urbanized areas—which represent over 99 percent of the transit service and ridership in the Region—are shown in Figure 2. Ridership within the Kenosha and Racine urbanized areas grew gradually beginning in the early 1970s with the initiation of public operations, and then leveled off in about 1980 and then declined slightly to current levels. Ridership within the Milwaukee urbanized area increased in the late 1970s until 1980 and has generally declined since then. Factors which have contributed to this decline in transit ridership include the location of housing and jobs outside established transit service areas: the continuing decline in population and employment density; the increase in automobile ownership and use, particularly in terms of the number of households with two or more vehicles; increases in transit fares to defer further service reductions; and the inability, owing to lack of funding, to significantly improve and expand transit service to the entire metropolitan area, provide faster express transit and rapid transit service, and reasonably attractive and convenient frequent transit service.

Public Transit Accessibility to Land Uses

A measure of the quality of service provided by the public transit system is the accessibility that it provides to land uses in the urbanized areas of the Region. The Commission has defined transportation planning standards which prescribe a desirable level of public transit highway accessibility. These standards are documented in Chapter IV, "Objectives, Principles, and Standards," and include accessibility within 45 minutes' overall travel time of 40 percent of urbanized area employment opportunities; accessibility within 35 minutes' overall travel time of three major retail and service centers; accessibility within 40 minutes' overall travel time of a major regional medical center; accessibility within 30 minutes' overall travel time of a hospital or medical clinic; accessibility within 40 minutes' overall travel time of a major public outdoor recreation center; accessibility within 40 minutes' overall travel time of a technical school, college, or university; and accessibility within 60 minutes' travel time of scheduled air transport at General Mitchell International Airport. Table 10 and Map 9 demonstrate the ability of the 1995 public transit system to provide such accessibility to land uses. Generally, these standards are not met throughout the urbanized areas, and only the central portions of Milwaukee County and the Cities of Racine and Kenosha have sufficient transit service to meet these standards. The level of attainment of these standards in 1995 is very similar to the level of attainment of these standards measured in 1991, the base year of the adopted 2010 regional transportation plan.

STATUS OF IMPLEMENTATION OF THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN

The regional transportation system plan was adopted by the Commission in December 1994. This section of this chapter briefly summarizes this existing adopted plan, and reviews the status of its implementation to date. The adopted plan has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement. A more complete description of the plan is contained in Chapter V of this report and in SEWRPC Planning Report No. 41, *A Regional Transportation System Plan for Southeastern Wisconsin: 2010*, December 1994.

Transportation Systems Management Element

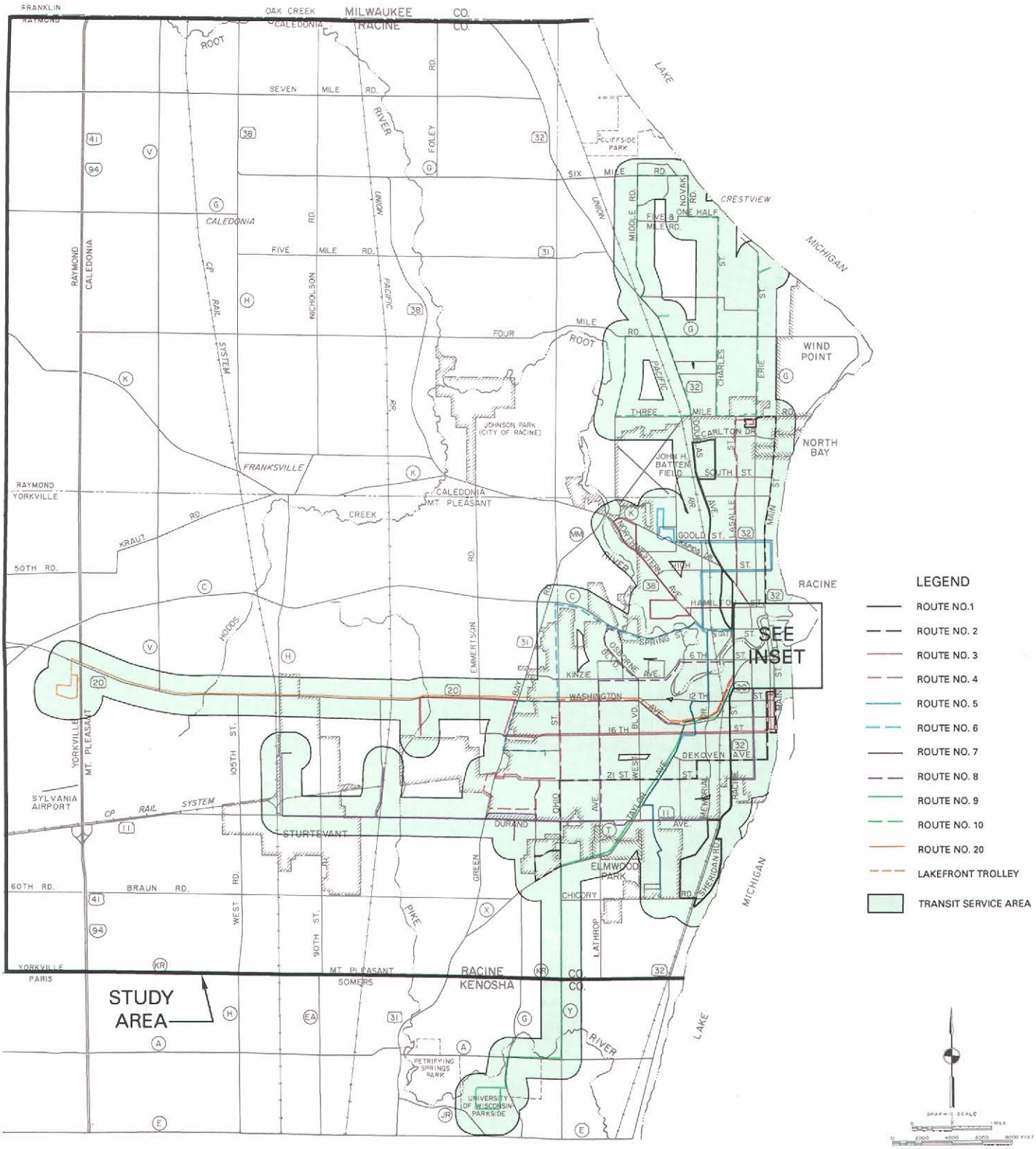
The transportation systems management element of the plan consists of the following seven measures: full implementation of the Milwaukee-area freeway traffic management system; restriction of curb-lane parking during peak periods along about 400 miles, or about 12 percent, of the planned 3,607-mile arterial street and highway system to be implemented as needed to reduce congestion and help provide good transit service; use of state-of-the-art traffic engineering to assist in achieving efficient arterial traffic flow; application of advanced traffic management technology, known as Intelligent Transportation Systems (ITS); a regionwide program to promote travel demand management alternatives to the single-occupant automobile; preparation and implementation by local governmental units of detailed neighborhood land use plans to facilitate travel by transit, bicycle, and pedestrian movement; and the implementation of measures by the Region's transit agencies to enhance the quality of transit services, including marketing, public information, priority lanes and signal preemption, and innovative fare-payment.

Public Transit Maintenance and Improvement Element

The adopted year 2010 plan calls for significant improvements to the public transit system in the Region. The improvements would include expansion of the geographic extent of public transit service, improvement in the frequency of service, and development of rapid and express transit systems. Under the plan, service on the regional transit system would be increased by about

Map 8

LOCAL FIXED-ROUTE PUBLIC TRANSIT SERVICE IN THE RACINE URBANIZED AREA: 1995



Map 8 (Inset)

In 1995, local public transit service in the Racine urbanized area was provided by the City of Racine Belle Urban System, which operated 10 fixed motor-bus routes—eight radial routes, one crosstown route, and one feeder route.

Source: SEWRPC.

Table 7

AVERAGE DAILY FIXED-ROUTE TRANSIT VEHICLE-MILES PROVIDED WITHIN THE REGION BY URBANIZED AREA: 1963, 1972, 1991, AND 1995

Urbanized Area	1963	1972	1991	1995	Change: 1963-1995		Change: 1972-1995		Change: 1991-1995	
					Number	Percent	Number	Percent	Number	Percent
Kenosha	2,500	1,100	2,500	3,100	600	24.0	2,000	181.8	600	24.0
Milwaukee	78,900	61,300	56,400	58,700	-20,200	-25.6	-2,600	-4.2	2,300	4.1
Racine	3,500	1,600	4,400	4,300	800	22.9	2,700	168.8	-100	-2.3
Total	84,900	64,000	63,300	66,100	-18,800	-22.1	2,100	3.3	2,800	4.4

Source: SEWRPC.

Table 8

FIXED-ROUTE TRANSIT ROUND-TRIP ROUTE MILES BY URBANIZED AREA: 1963, 1972, 1991, AND 1995

Urbanized Area	1963	1972	1991	1995	Change: 1963-1995		Change: 1972-1995		Change: 1991-1995	
					Number	Percent	Number	Percent	Number	Percent
Kenosha	55	59	171	192	137	249.1	133	225.4	21	12.3
Milwaukee	716	1,061	1,954	2,095	1,379	192.6	1,034	97.5	141	7.2
Racine	76	81	171	186	110	144.7	105	129.6	15	8.8
Total	847	1,201	2,296	2,473	1,626	192.0	1,272	105.9	177	7.7

Source: SEWRPC.

Table 9

ANNUAL FIXED-ROUTE PUBLIC TRANSIT RIDERSHIP WITHIN THE REGION BY URBANIZED AREA: 1963, 1972, 1991, AND 1995

Urbanized Area	Annual Revenue Passengers				Change: 1963-1995		Change: 1972-1995		Change: 1991-1995	
	1963	1972	1991	1995	Number	Percent	Number	Percent	Number	Percent
Kenosha	1,884,400	503,200	1,128,000	1,278,700	-605,700	-32.1	775,500	154.1	150,700	13.4
Milwaukee	89,761,600	52,875,400	47,267,100	44,046,900	-45,714,700	-50.9	-8,828,500	-16.8	-3,220,200	-6.8
Racine	2,902,000	525,700	1,827,800	1,825,000	-1,077,000	-37.1	1,299,300	247.2	-2,800	-0.2
Total	94,548,000	53,904,300	50,222,900	47,150,600	-47,397,400	-50.1	-6,753,700	-12.5	-3,072,300	-6.1

Source: SEWRPC.

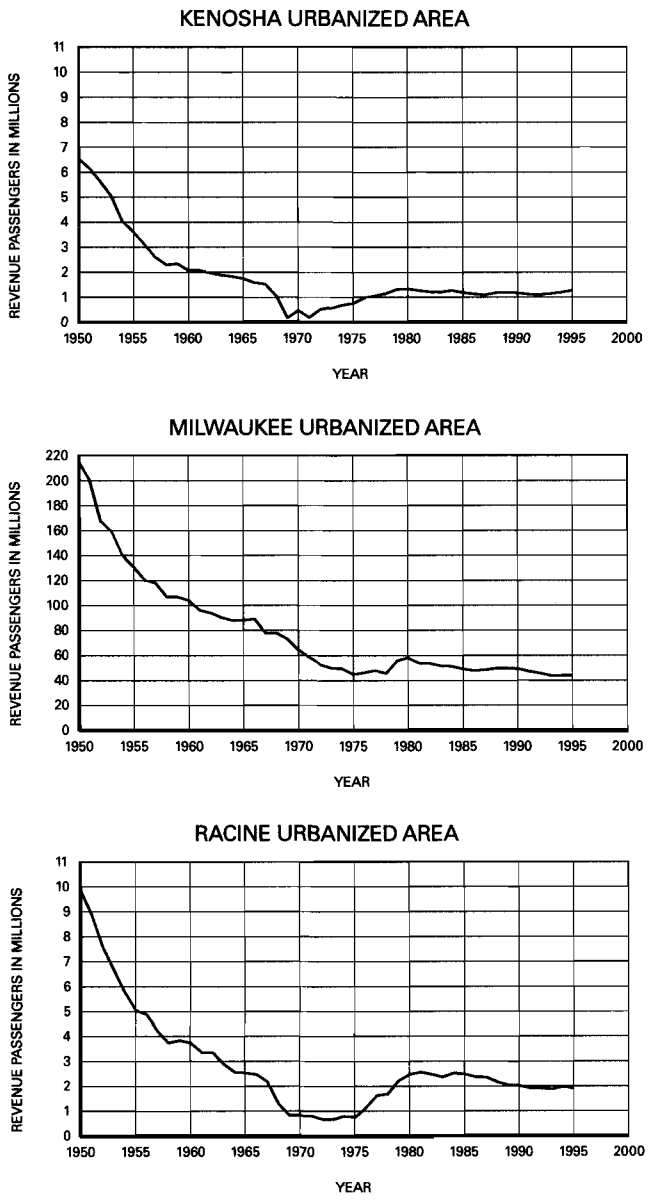
75 percent from the 1991 level, measured in terms of revenue vehicle-miles of service provided.

More specifically, the public transit element of the plan, as shown on Map 10, consists of the following measures:

1. Rapid Transit Service
   A significant expansion of the freeway flyer bus service in the Region to provide a truly areawide rapid transit system is proposed, including extending such service south to Racine and Kenosha, southwest to Mukwonago, west to Waukesha and Oconomowoc, northwest to West Bend, and north to Cedarburg, Grafton, Saukville, and Port Washington. A total of 30 such rapid transit routes are envisioned, 27 of which would be oriented to the Milwaukee central business district and three to the University of Wisconsin-Milwaukee campus. The rapid transit system would be served by 73 transit stations. Service would be provided in both directions during peak periods.

Figure 2

HISTORICAL PUBLIC TRANSIT RIDERSHIP IN URBANIZED AREAS WITHIN THE REGION



Source: SEWRPC

Initially, all service could be provided over the regional freeway system, with service extensions on selected surface arterial streets and highways. Ultimately, depending upon the results of major transportation investment studies, the rapid transit routes could operate over exclusive busway facilities in the most congested freeway travel corridors in the Region.

Also recommended to be considered in these major investment studies is the potential to establish commuter-rail passenger service as a form of rapid transit service alternative to bus-on-freeway or bus-on-busway service in four major travel corridors, from Milwaukee to Kenosha, to Oconomowoc, to West Bend, and to Saukville. Through these corridor studies, then, final decisions would be made as to whether to provide the rapid transit service through bus-on-freeway, bus-on-busway, or commuter-rail passenger service. Pending the conduct of these studies, all rapid transit service would be provided through the bus-on-freeway mode.[3]

2. Express Transit Service

   The plan recommends that a total of 12 express-transit bus routes be provided in a grid pattern largely within Milwaukee County in major travel corridors. The express routes would provide a high-quality transit service, accommodating shorter trips than those made on the rapid transit system. Initially, all service could be provided by buses operating in mixed traffic over surface arterial streets and highways with limited stops. Ultimately, depending upon the results of major transportation investment studies, the express transit service could be provided by buses operating over reserved lanes on arterial streets, as well as in mixed traffic, or could be converted to the light-rail transit mode.

3. Local Transit Service

   The plan recommends the continued operation of local bus transit service over arterial and collector streets with frequent stops throughout the Kenosha, Milwaukee, and Racine urbanized areas. The plan calls for substantial improvements in the frequency of local transit service provided, particularly on the major local routes. In addition, the plan holds open the potential to restructure local transit services to

[3]*The Wisconsin Department of Transportation is conducting a major investment study/preliminary engineering study/final environmental impact statement of special bus and carpool lanes and light rail in the East-West Corridor of the Milwaukee area.*

Table 10

URBANIZED AREA POPULATION MEETING TRAVEL TIME STANDARDS TO EMPLOYMENT AND SELECTED ACTIVITY CENTERS THROUGH TRAVEL BY TRANSIT: 1995

Urbanized Area and Activity Center Type	Urbanized Area Population: 1990	Number	Percent
Kenosha Urbanized Area	94,300	--	--
Employment-Related[a]	--	58,000	61.5
Major Retail-Service[b]	--	0	0.0
Medical Facility[c]	--	60,600	64.3
Major Park[d]	--	12,600	13.4
Higher Education Facility[e]	--	33,200	35.2
Scheduled Air Transport[f]	--	0	0.0
Milwaukee Urbanized Area	1,226,300	--	--
Employment-Related[a]	--	14,200	1.2
Major Retail-Service[b]	--	10,100	0.8
Medical Facility[c]	--	700,400	57.1
Major Park[d]	--	636,300	51.9
Higher Education Facility[e]	--	775,700	63.2
Scheduled Air Transport[f]	--	338,600	27.6
Racine Urbanized Area	121,800	--	--
Employment-Related[a]	--	59,100	48.5
Major Retail-Service[b]	--	21,500	17.7
Medical Facility[c]	--	53,700	44.1
Major Park[d]	--	24,000	19.7
Higher Education Facility[e]	--	79,600	65.4
Scheduled Air Transport[f]	--	18,300	15.0

[a]*Standard: 30 minutes' overall travel time of 40 percent of urbanized area employment opportunities.*

[b]*Standard: 35 minutes' overall travel time of three major retail and service centers.*

[c]*Standard: 40 minutes' overall travel time of a major regional medical center and/or 30 minutes' overall travel time of a hospital or medical clinic.*

[d]*Standard: 40 minutes' overall travel time of a major public outdoor recreational center.*

[e]*Standard: 40 minutes' overall travel time of a vocational school, college, or university.*

[f]*Standard: 60 minutes' overall travel time of a scheduled air transport airport.*

Source: SEWRPC.

provide for transit-center-oriented local systems to replace grid-route systems, depending upon detailed local plan implementation studies. The plan also recommends the continuation of local transit services through shared-ride taxis in the smaller urban areas of the Region. Finally the plan recommends the continuation of appropriate paratransit services to help meet the transportation needs of disabled individuals in the Region.

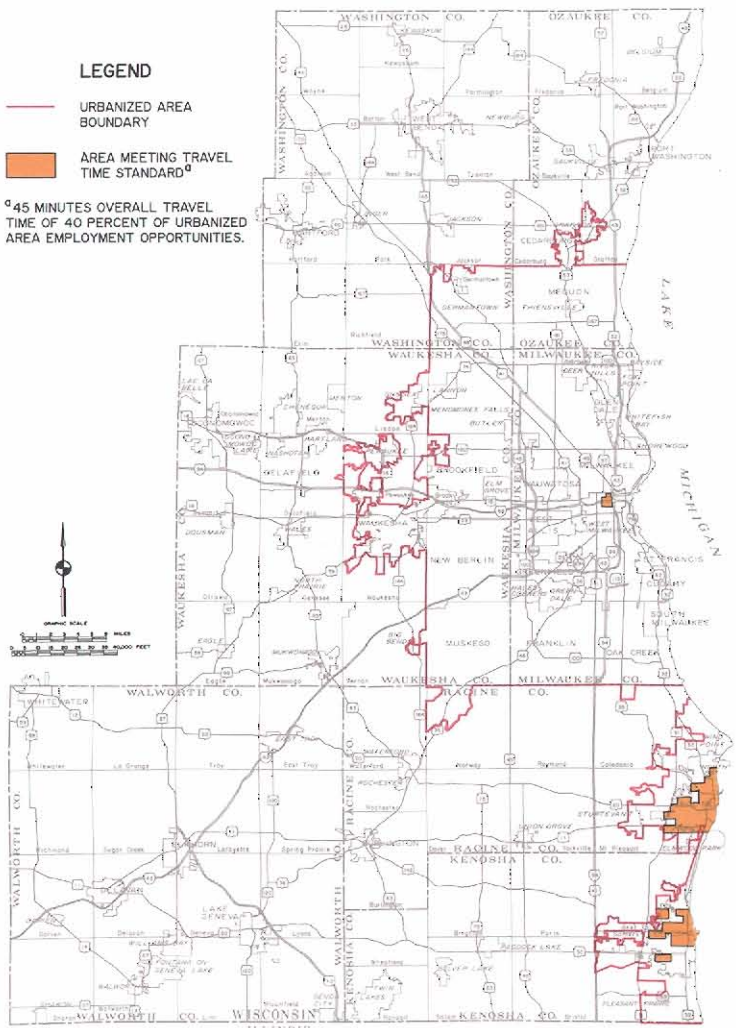
Arterial Street and Highway Maintenance and Improvement Element

The adopted 2010 plan calls for extensions and improvements to the arterial street and highway system in the Region. In 1991, there were 3,274 route-miles and 8,420 lane-miles of arterial streets and highways open to traffic in the Region. Under the plan, that system would, by the year 2010, total 3,607 route-miles and 10,303 lane-miles. Of the total increase of 1,883 arterial lane-miles, 692 lane-

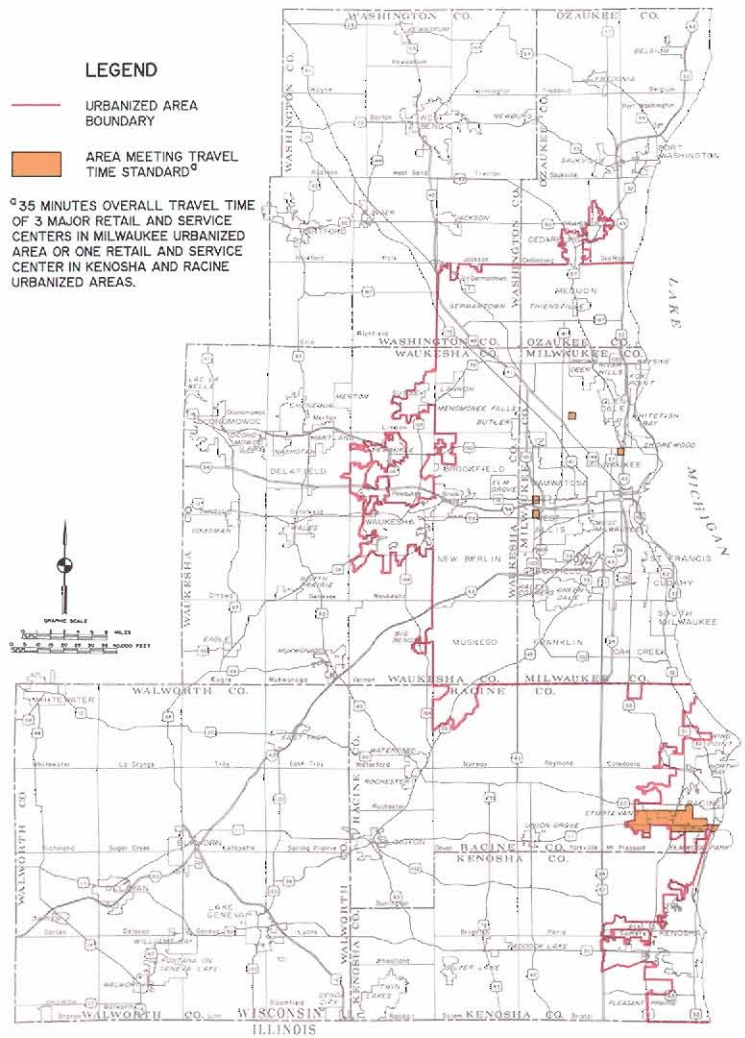
Map 9

AREAS MEETING TRAVEL TIME STANDARDS FOR EMPLOYMENT AND SELECTED ACTIVITY CENTERS THROUGH TRAVEL BY TRANSIT: 1995

EMPLOYMENT: 1995

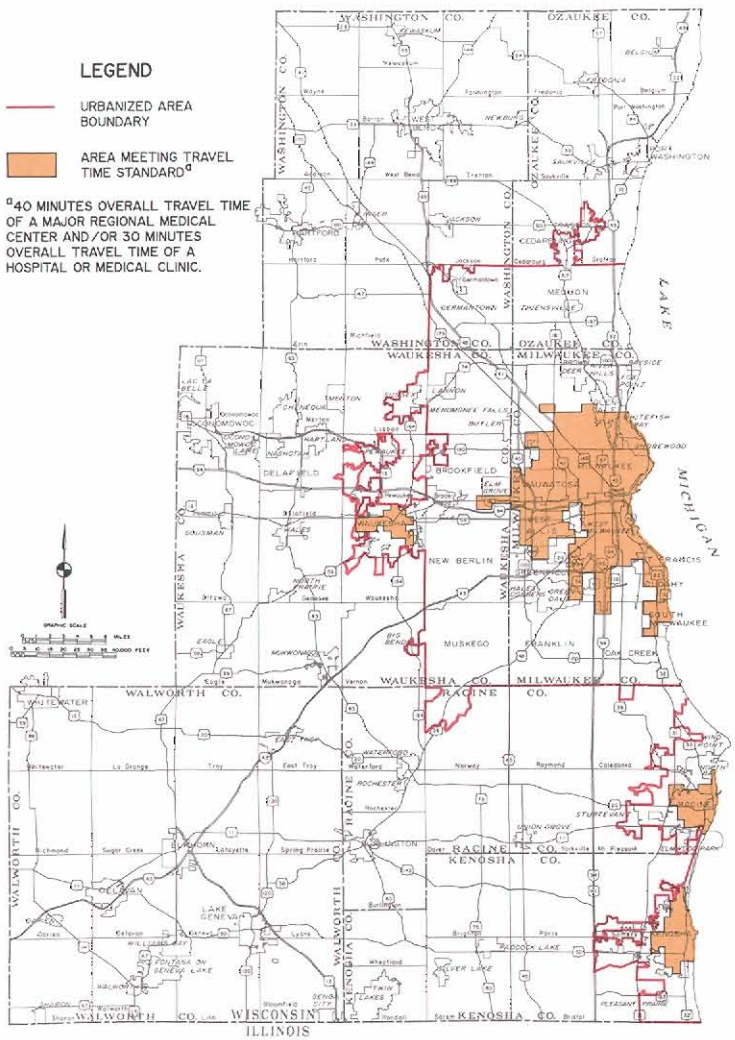


MAJOR RETAIL AND SERVICE CENTERS: 1995

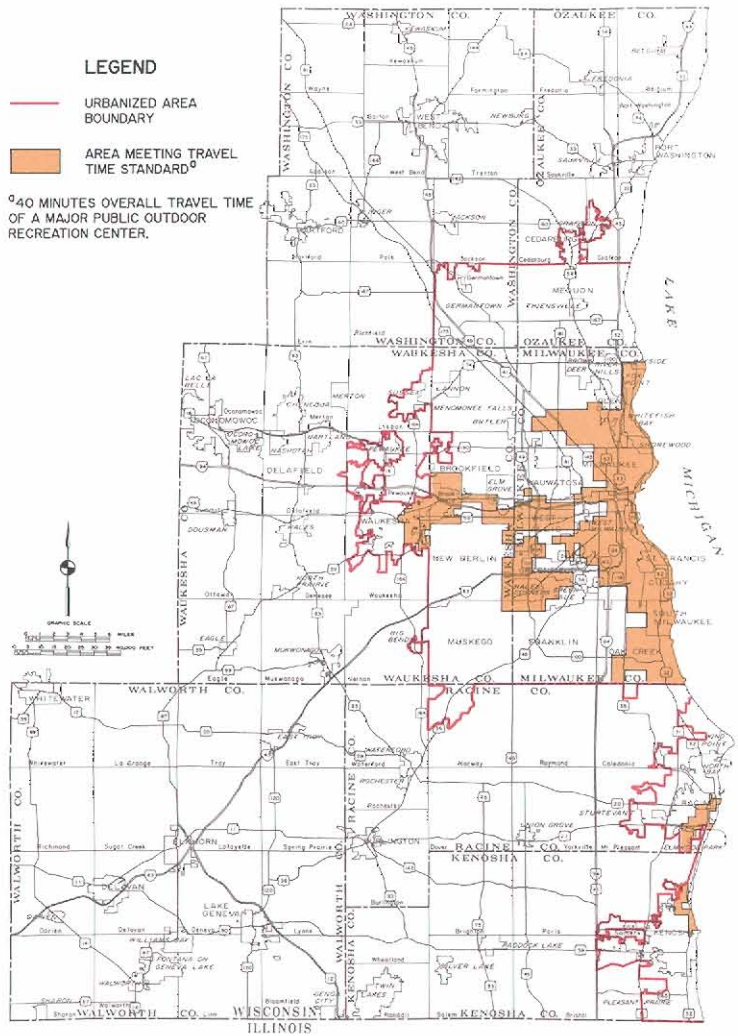


Map 9 (continued)

MAJOR MEDICAL CENTERS: 1995

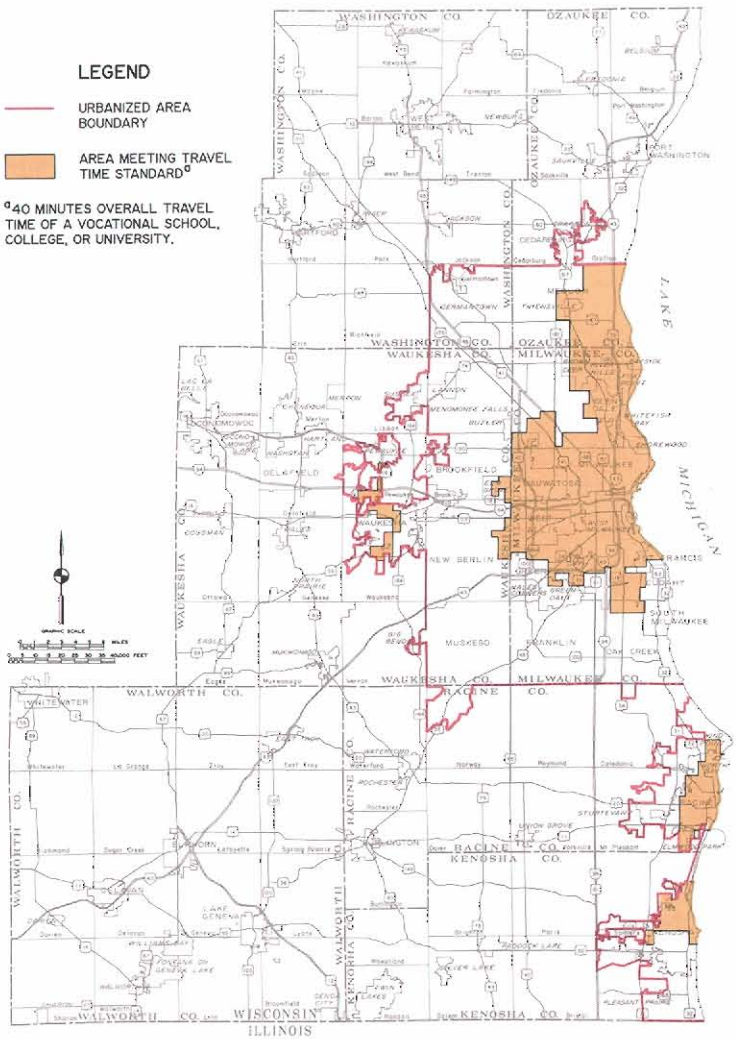


MAJOR RECREATIONAL CENTERS: 1995

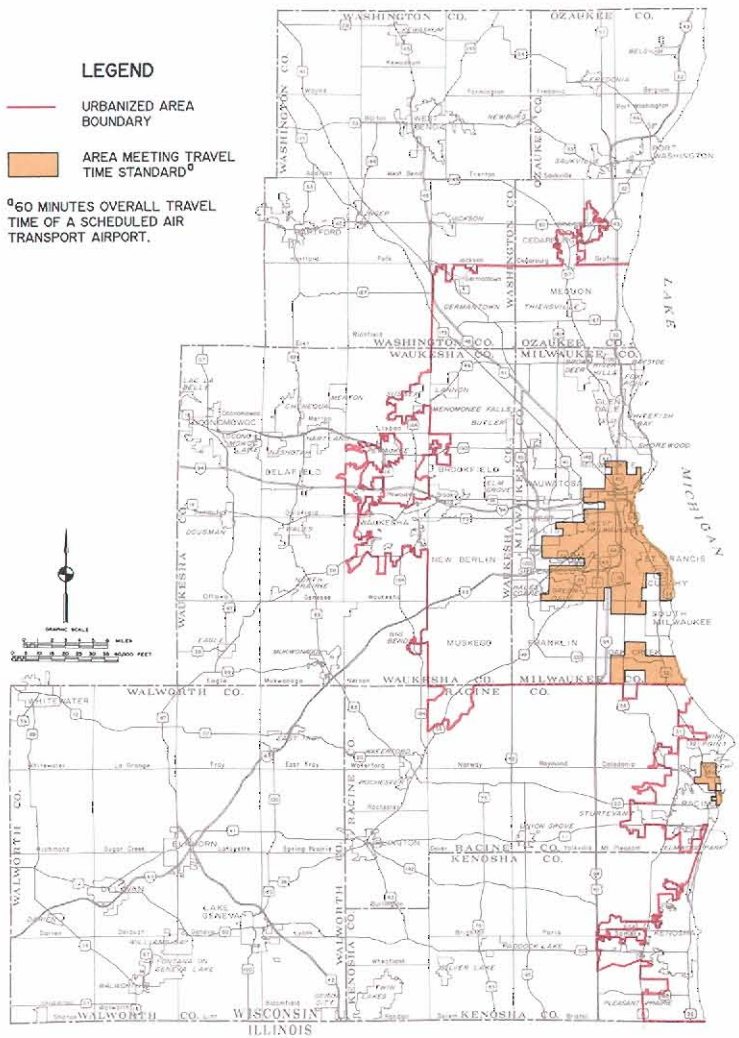


Map 9 (continued)

MAJOR EDUCATIONAL CENTERS: 1995



SCHEDULED AIR TRANSPORT TERMINALS: 1995



In terms of providing timely access to employment opportunities throughout the urbanized areas of the Region, public transit service is not as adequate as highway service. In the Milwaukee urbanized area, the percentage of urbanized area population able to access 40 percent of urbanized area employment opportunities within 30 minutes through travel by transit was in 1995 was about 1 percent, while the corresponding percentages of urbanized area population in the Kenosha and Racine urbanized areas were then about 62 percent and 49 percent, respectively.

Source: SEWRPC.

miles, or 37 percent, represent a reclassification of existing nonarterial facilities to arterial status as urban growth continues. The remaining 1,191 lane-miles, or 63 percent, represent proposals for new capacity in terms of widening of existing arterial facilities and construction of new facilities. The true increment in arterial capacity, measured in lane-miles of new construction, then, is about 1,191 lane-miles, or 14 percent, over 1991 conditions. The plan identifies the number of through travel lanes to be provided on each link in the arterial street and highway system. More detailed studies by the implementing agencies are required to determine the precise cross-section to be selected for a given improvement project, which would in turn define right-of-way requirements.

More specifically, the arterial street and highway element of the plan, as shown on Map 11, consists of the following:

1. New Arterial Streets and Highways
   The plan recommends that 131 route-miles of new arterial streets and highways be constructed. These new facilities would provide an additional 337 arterial lane-miles.

2. Widening and Improving Existing Arterial Streets and Highways
   The plan recommends that widening and other improvements be undertaken along a total of 448 route-miles of existing arterial streets and highways. Such projects would provide an additional 854 arterial lane-miles.

3. Maintaining Existing Arterial Streets and Highways
   The plan recommends that all other arterial streets and highways in the proposed regional system be maintained over the plan implementation period through resurfacing and reconstruction to provide the same essential capacity. This particular proposal applies to 3,028 route-miles of existing arterial facilities. This particular plan recommendation incorporates a proposal to reconstruct and modernize to current freeway design standards the Milwaukee-area freeway system.

Status of Plan Implementation

About three years have passed since the formal adoption of the year 2010 regional transportation system plan by the Regional Planning Commission. Three years is too short a time period to truly assess the degree to which the plan is being implemented, or not being implemented, as significant projects may require five to 10 years for completion of detailed planning, preliminary engineering, final engineering and design, capital programming and funding, and construction prior to being open for travel. Indeed, the adopted plan recognized that significant transit service implementation, as well as arterial highway implementation, will not be initiated for at least the first three years following plan adoption, as such implementation would be dependent on new transportation funding.

Nevertheless, an attempt was made to assess the status of plan implementation, and through such measurement, to assess the continued validity of the adopted plan. One measure of plan implementation, particularly given the short period of time since completion of the plan, is that the plan has been adopted or endorsed by all seven counties in the Region; 24 cities, villages, and towns; and the Wisconsin Departments of Transportation and Natural Resources.

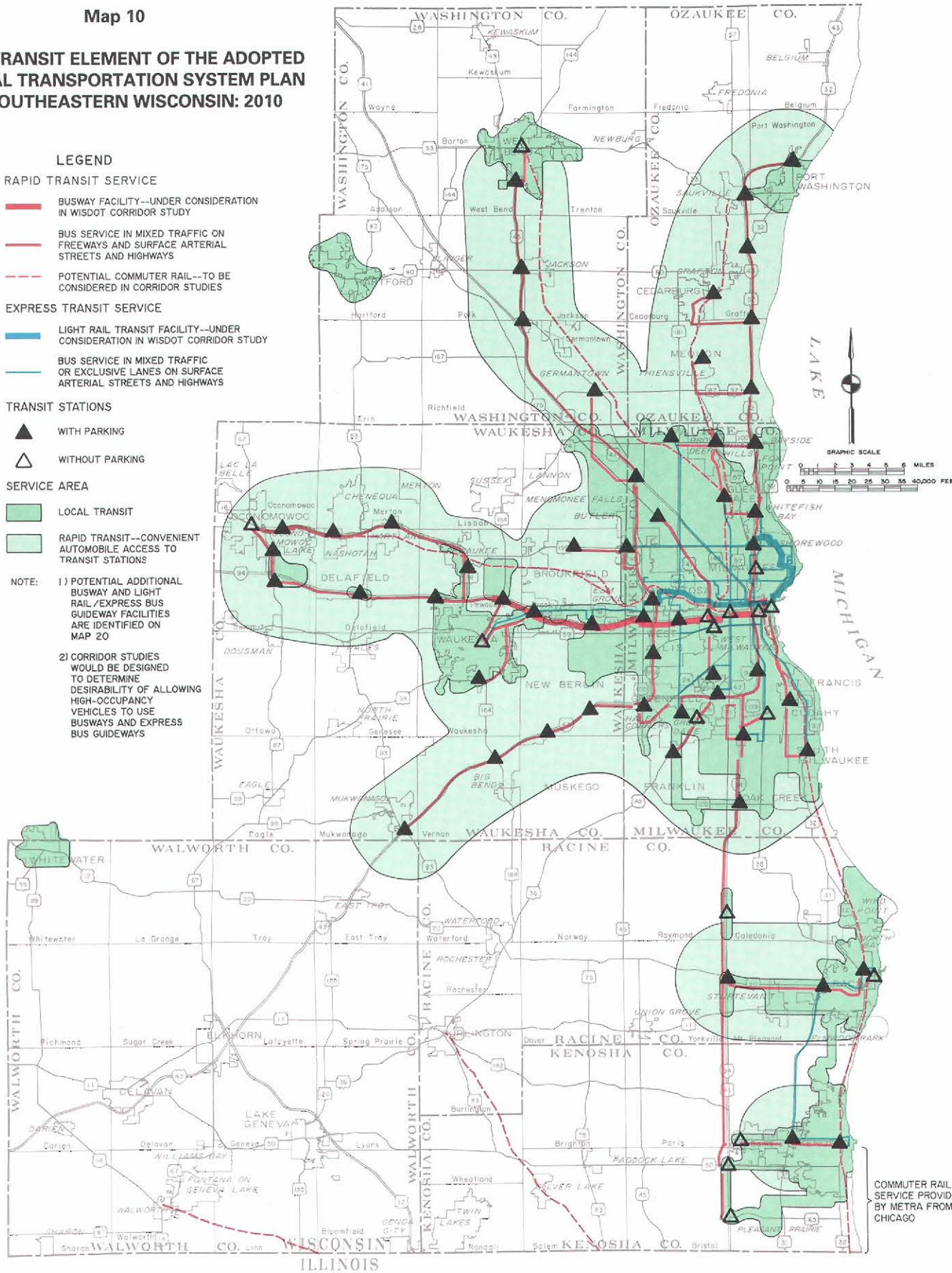
With respect to the arterial street and highway system element of the plan, of the total 579 route-miles of arterial highways proposed under the plan to be newly constructed or widened to carry additional traffic lanes, 61 route-miles are completed and open to traffic, and six route-miles are under construction.

With respect to the public transit system element of the plan, significant implementation was not expected until after 1998, as additional funding was needed for plan implementation. However, implementation to date includes the initiation of rapid transit bus freeway flyer service between Milwaukee and Ozaukee Counties; expansion of City of Waukesha transit service to include Sunday service and evening service; express bus service by Milwaukee County between Brookfield Square Shopping Center, the Milwaukee central business district, and the University of Wisconsin-Milwaukee; new shuttle service by the Waukesha County Transit System to serve the Villages of Butler and Menomonee Falls industrial parks; and the initiation of a Racine transit system express route serving businesses and industries in the far western portion of the Racine urban area.

With respect to the transportation systems management element of the plan, the Wisconsin Department of Transportation has continued to implement the recommended freeway traffic management system and to operate and enhance its areawide program to promote ridesharing and other travel demand management measures. Also, Milwaukee County has developed innovative "free" fare policies for students of the University of Wisconsin-Milwaukee and Marquette University, and is working to expand this program to the Milwaukee Area Technical College.

Map 10

PUBLIC TRANSIT ELEMENT OF THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2010

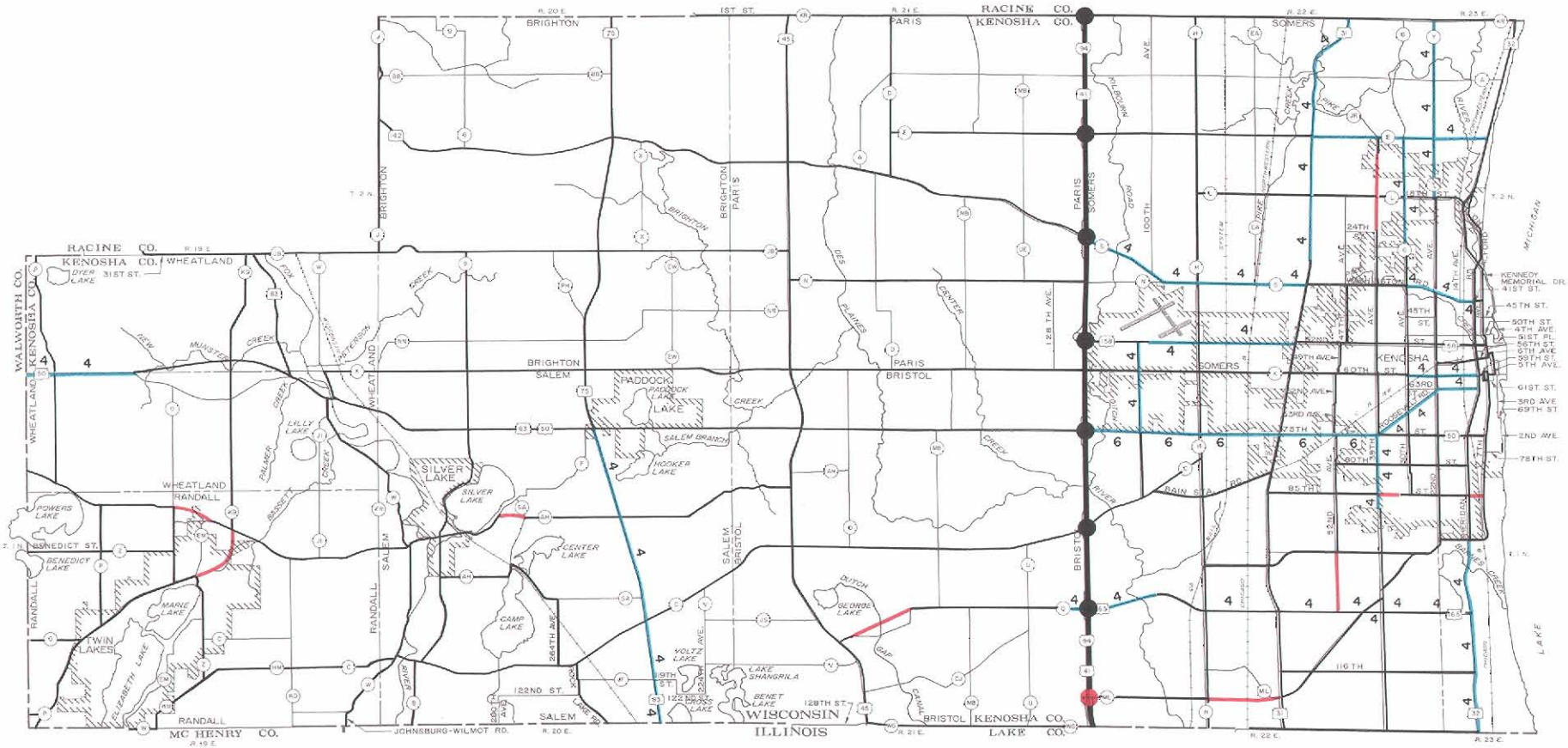


The regional transit system element of the adopted year 2010 regional transportation system plan envisions an extensive rapid transit system serving all major Milwaukee central business district travel corridors, an extensive grid system of express transit routes, particularly in Milwaukee County, and an expansion of local transit service areas with enhancements to accompanying paratransit services. The plan also incorporates the continuation of local shared-ride taxi service currently provided in certain smaller urban areas of the Region. The regional public transit system envisioned under the adopted year 2010 plan would consist of 3,640 round-trip route-miles, which would be about 59 percent greater than the level provided in 1991. The planned transit system would provide 110,600 revenue vehicle-miles of service per average weekday, or 75 percent more than in 1991, and 7,600 revenue vehicle-hours of service per average weekday, or 46 percent more than in 1991.

Source: SEWRPC.

Map 11

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN KENOSHA COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

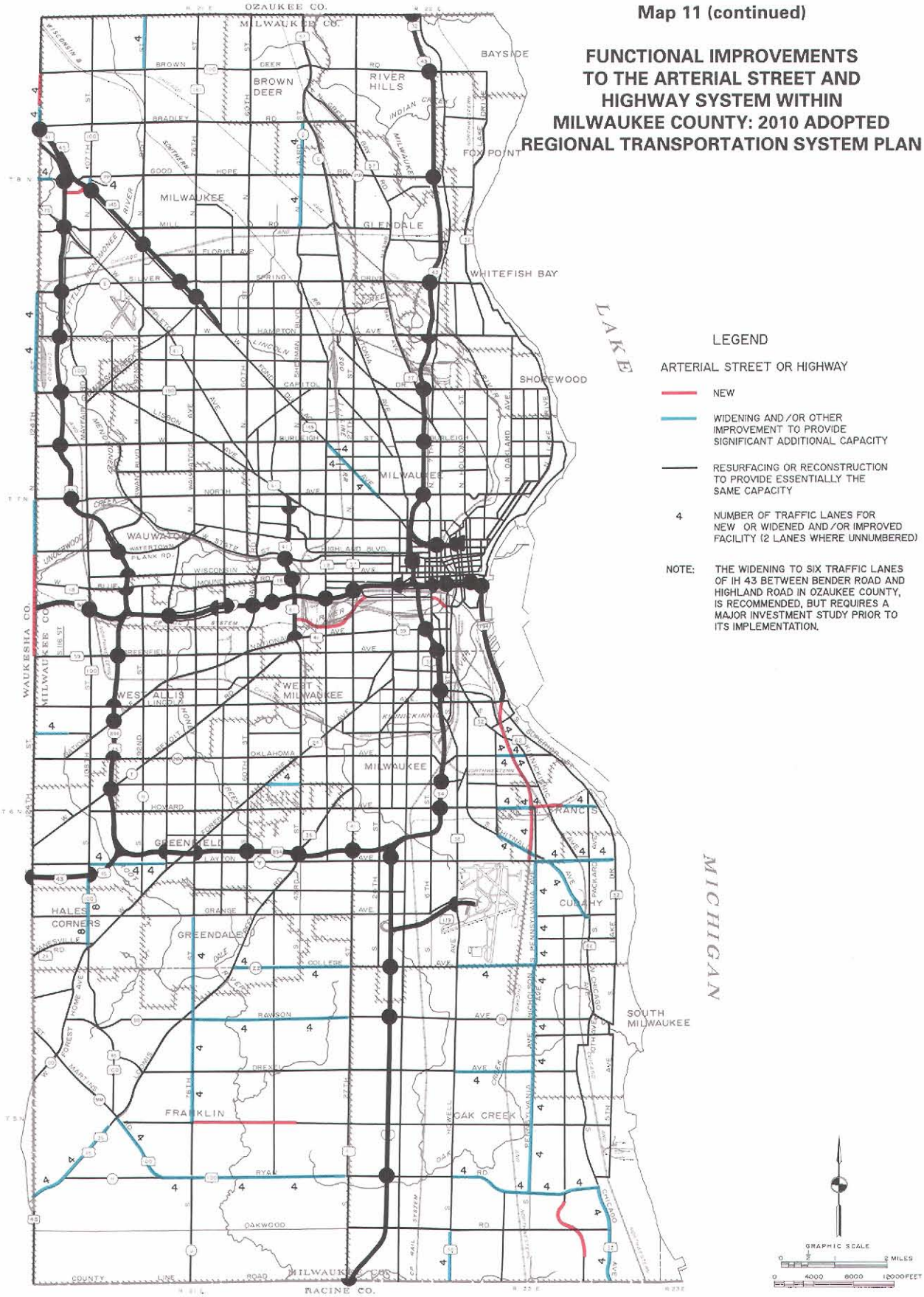
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Kenosha County would be expanded by 37 miles, or 12 percent, from 318 miles in 1991 to 355 miles in the year 2010. The increase in arterial mileage would come about through the construction of nine miles of facilities and through the conversion of 28 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of nine miles of new arterial facilities, for the widening of 45 miles, and for the preservation of 301 miles of facilities within the County.

Map 11 (continued)

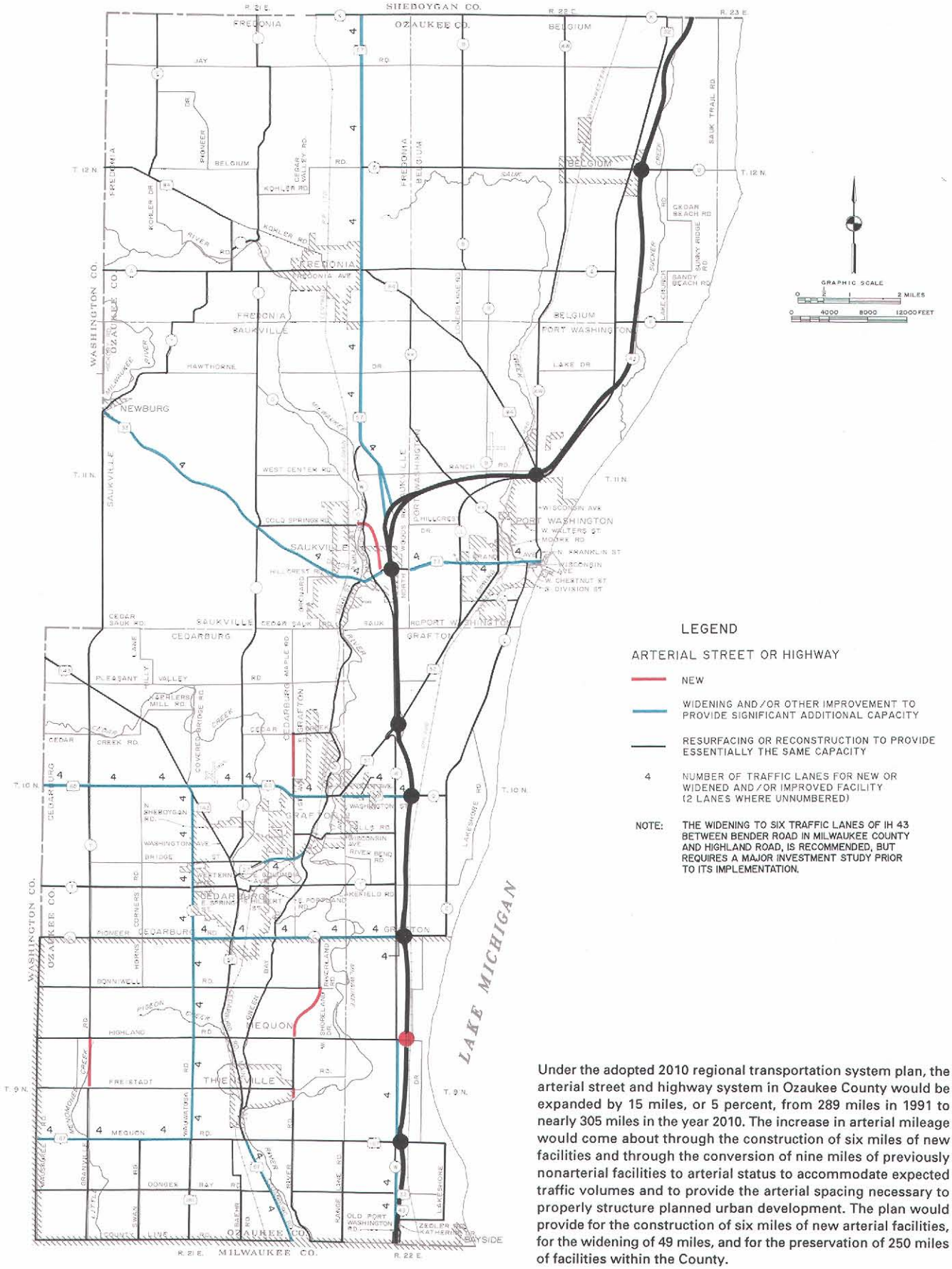
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN MILWAUKEE COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Milwaukee County would be expanded by 22 miles, or 3 percent, from 775 miles in 1991 to 797 miles in the year 2010. The increase in arterial mileage would come about through the construction of 11 miles of new facilities and through the conversion of 11 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 11 miles of new arterial facilities, for the widening of 50 miles, and for the preservation of 736 miles of facilities within the County.

Map 11 (continued)

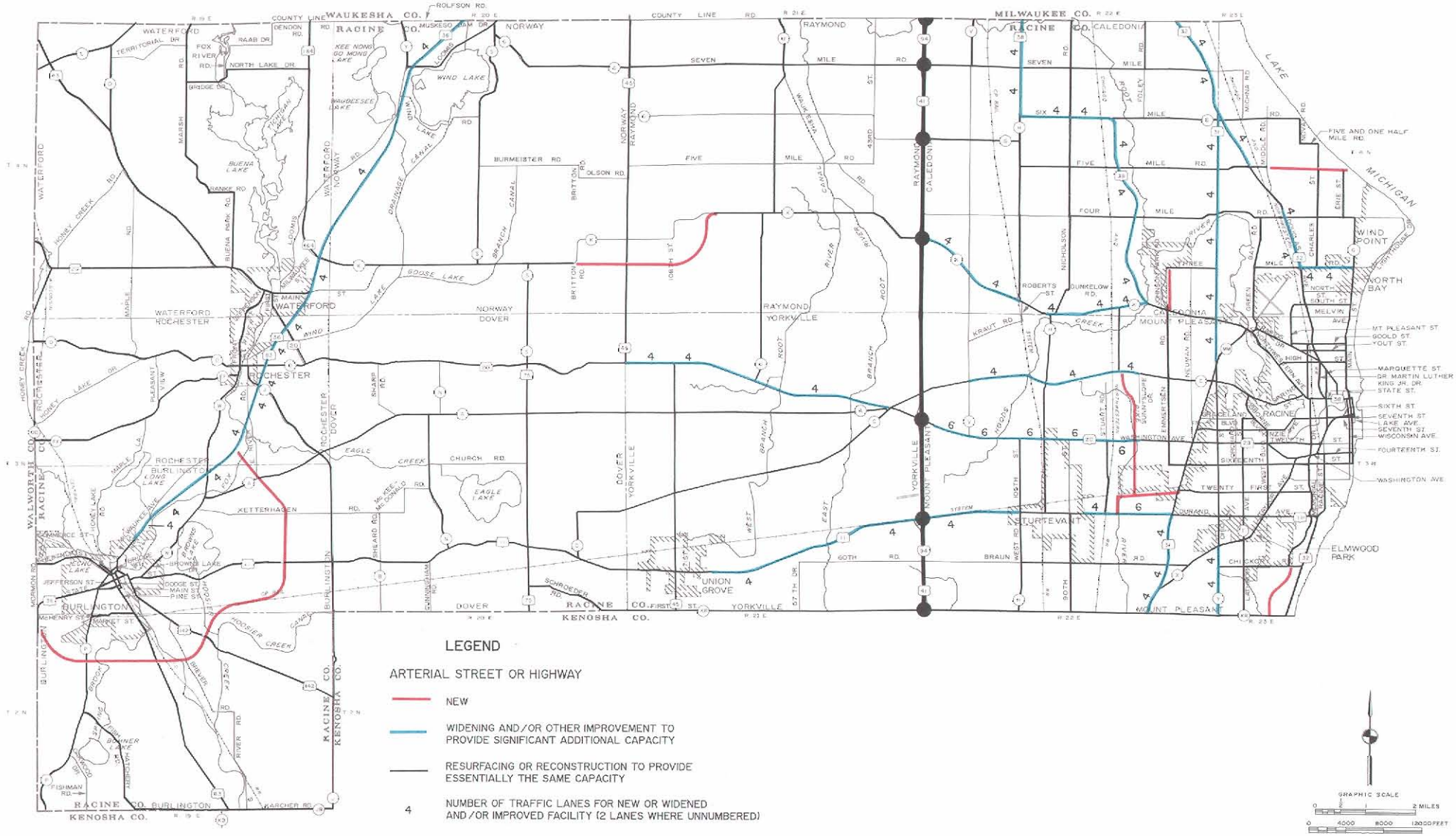
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN OZAUKEE COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Ozaukee County would be expanded by 15 miles, or 5 percent, from 289 miles in 1991 to nearly 305 miles in the year 2010. The increase in arterial mileage would come about through the construction of six miles of new facilities and through the conversion of nine miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of six miles of new arterial facilities, for the widening of 49 miles, and for the preservation of 250 miles of facilities within the County.

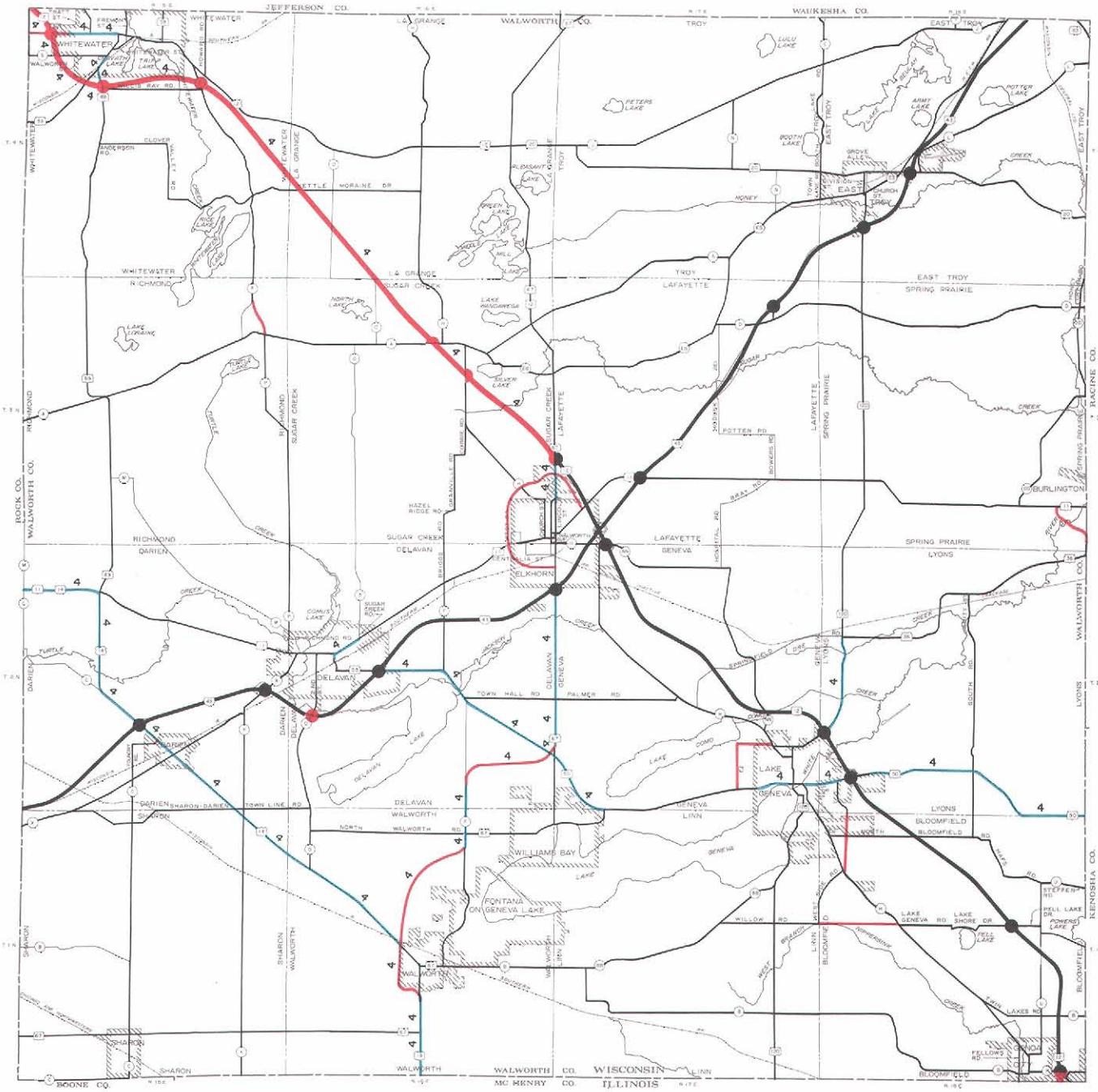
Map 11 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN RACINE COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Racine County would be expanded by 76 miles, or 22 percent, from 348 miles in 1991 to 424 miles in the year 2010. The increase in arterial mileage would come about through the construction of 19 miles of new facilities and through the conversion of 57 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 19 miles of new arterial facilities, for the widening of 62 miles, and for the preservation of 343 miles of facilities within the County.

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN WALWORTH COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

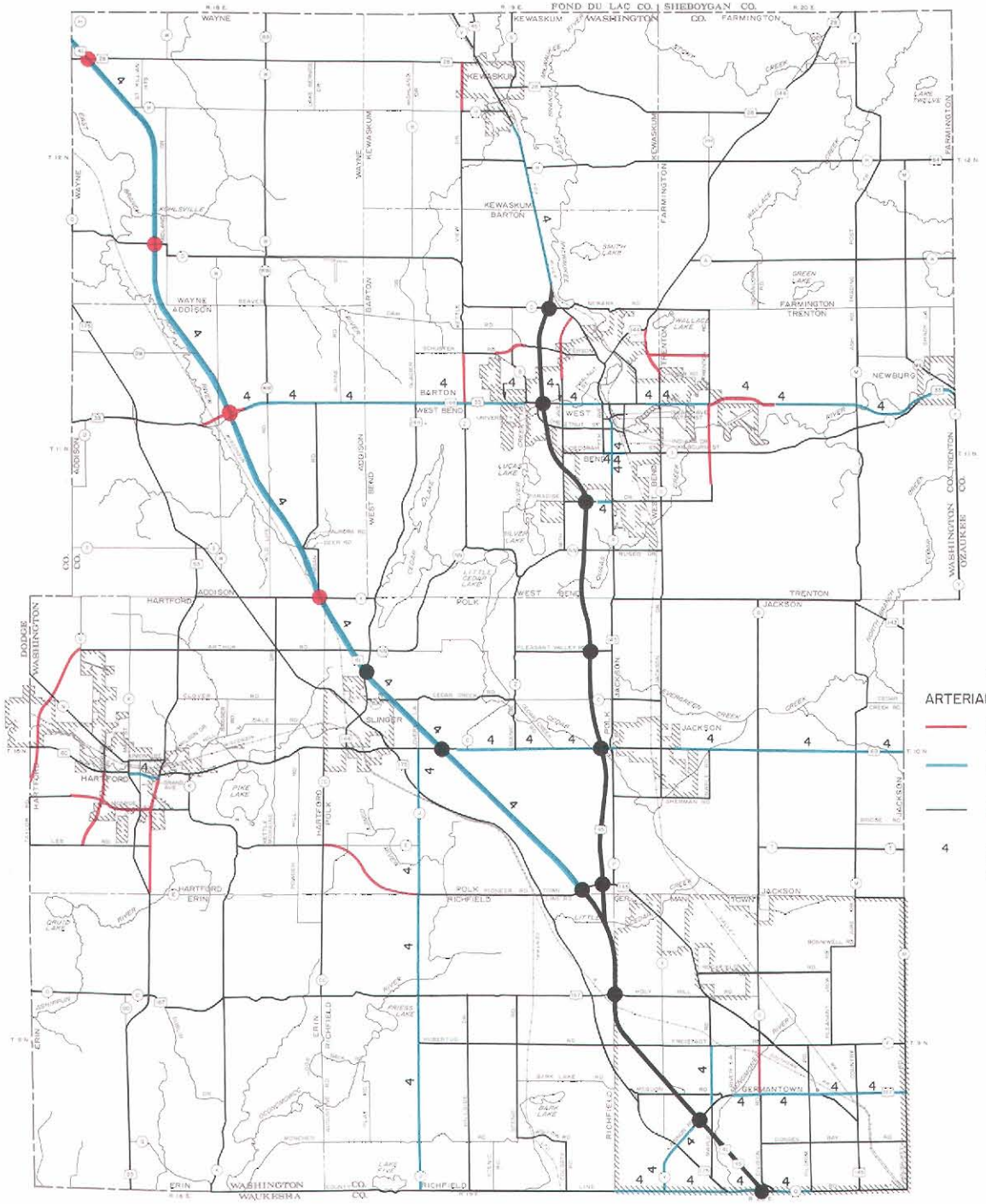
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE
0 2 MILES
0 4000 8000 12000 FEET

Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Walworth County would be expanded by 55 miles, or 13 percent, from 429 miles in 1991 to 484 miles in the year 2010. The increase in arterial mileage would come about through the construction of 36 miles of new facilities and through the conversion of 19 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 36 miles of new arterial facilities, for the widening of 38 miles, and for the preservation of 410 miles of facilities within the County.

Map 11 (continued)

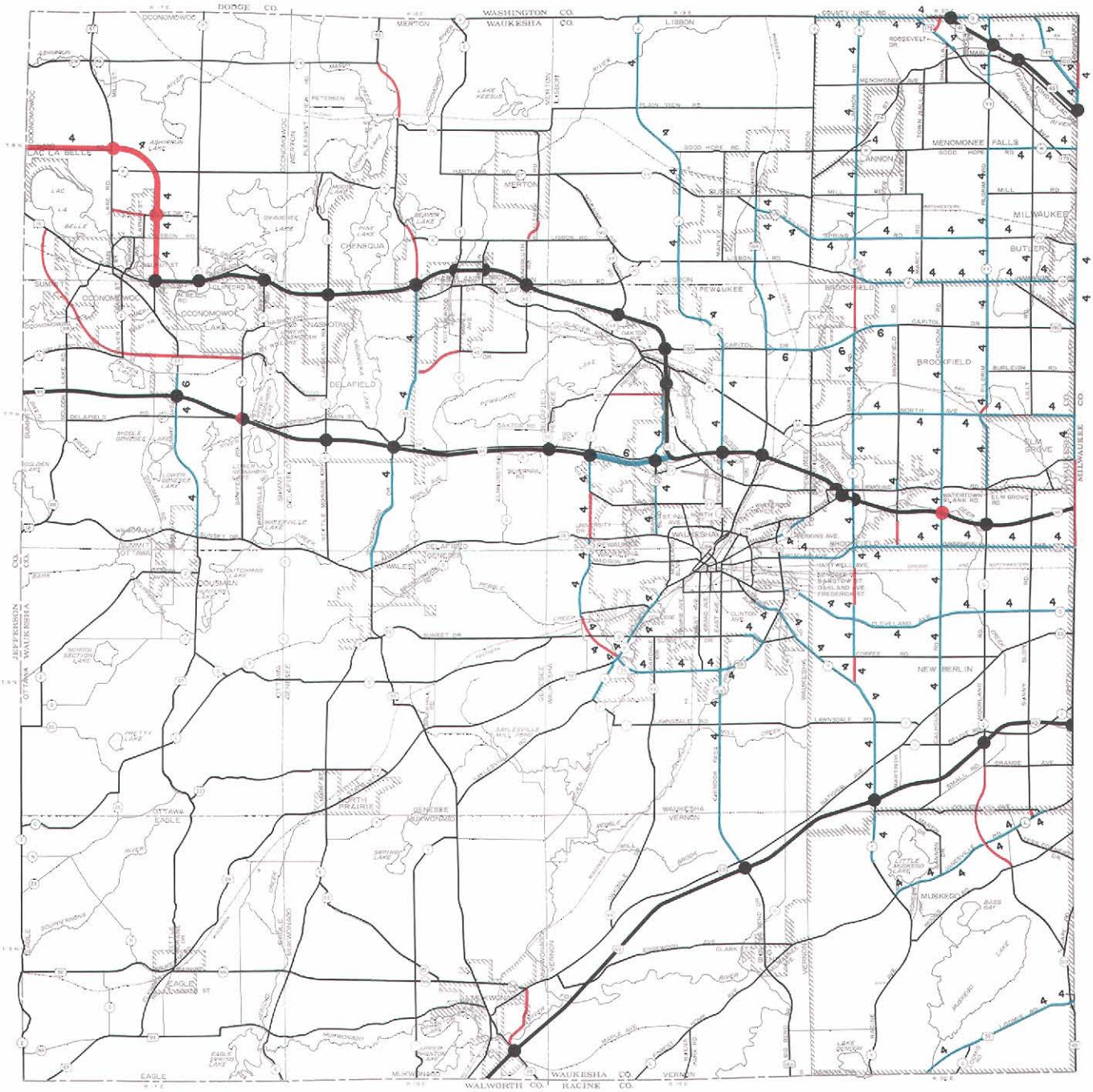
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN WASHINGTON COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Washington County would be expanded by 69 miles, or 17 percent, from 399 miles in 1991 to 468 miles in the year 2010. The increase in arterial mileage would come about through the construction of 23 miles of new facilities and through the conversion of 46 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 23 miles of new arterial facilities, for the widening of 70 miles, and for the preservation of 375 miles of facilities within the County.

Map 11 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM WITHIN WAUKESHA COUNTY: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

Under the adopted 2010 regional transportation system plan, the arterial street and highway system in Waukesha County would be expanded by 58 miles, or 8 percent, from 716 miles in 1991 to 774 miles in the year 2010. The increase in arterial mileage would come about through the construction of 26 miles of new facilities and through the conversion of 32 miles of previously nonarterial facilities to arterial status in order to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 26 new miles of arterial facilities, for the widening of 134 miles, and for the preservation of 614 miles of facilities within the County.

Source: SEWRPC.

In conclusion, in the three-year period since adoption of the year 2010 regional transportation plan, the plan has been endorsed as the official guide to surface transportation in the Region, and is being implemented. Substantial implementation remains to be accomplished, and will require additional funding, as was proposed in the adopted plan.

SUMMARY AND CONCLUSIONS

This chapter describes the existing regional transportation system of Southeastern Wisconsin, including the current level of service provided by the regional transportation system. This chapter also provides a brief assessment of the implementation of the year 2010 regional transportation system plan since its adoption by the Commission in December 1994. This chapter is intended to describe the monitoring of transportation system performance and of transportation system plan implementation, part of the federally mandated congestion management system which is an integral part of the Commission's regional transportation system planning process. A summary of the most important findings of this chapter are as follows:

1. There were an estimated 11,268 miles of streets and highways in the seven-county Region in 1995, of which 3,277 miles, or 29 percent, were arterial streets and highways. Arterial streets are defined as streets and highways which are principally intended to provide a high degree of travel mobility, serving the through movement of traffic and providing transportation service between major subareas of an urban area or through the area. Together, the arterials should form an integrated, areawide sys tem. The remainder of the total street system is nonarterial streets, including land access and collector streets, which have as their principal function the provision of access to abutting property. The Commission's regional transportation planning addresses only the arterial street and highway element of the total street and highway system.

2. The magnitude of arterial street and highway traffic volume on the arterial street and highway system can be measured in terms of the total arterial system average weekday vehicle-miles of travel, which is the average weekday traffic volume on each segment of arterial highway multiplied by the length in miles of each segment of arterial highway. Over 35.9 million vehicle-miles of travel occurred on the arterial street and highway system within the Region on an average weekday in 1995. Between 1991 and 1995, the arterial vehicle-miles of travel within the Region on an average weekday increased from 33.1 million vehicle-miles of travel to 35.9 million vehicle-miles of travel, an increase of 8 percent, or 2.0 percent annually. Between 1972 and 1991, arterial vehicle-miles of travel within the Region on an average weekday increased from 20.1 million vehicle-miles of travel to 33.1 million vehicle-miles of travel, an increase of approximately 64 percent, or an annual increase of 2.6 percent. Between 1963 and 1972, the vehicle-miles of travel in the Region on an average weekday increased from 13.1 million vehicles-miles of travel to 20.1 million vehicle-miles of travel, an increase of 53 percent, or an annual increase of 4.8 percent.

3. The traffic congestion on the arterial street and highway system can be assessed by comparing the average weekday traffic volume on each segment of arterial street and highway to its design capacity. The mileage and percentage of arterial facilities in Southeastern Wisconsin experiencing extreme and severe traffic congestion in 1995—82 miles and 2.5 percent with extreme congestion, and 203 miles and 6.2 percent with severe congestion—are similar to the mileage and percentage of such facilities experiencing such congestion in 1991. Since 1991, the base year of preparation of the year 2010 regional transportation system plan, traffic congestion has modestly increased in the Southeastern Wisconsin Region.

4. Another measure of the quality of service provided by the arterial street and highway system is the accessibility—travel within a specified maximum travel time—that it provides to land uses in the urbanized areas of the Region. All the highway accessibility standards are met for each of the Region's urbanized areas—Kenosha, Milwaukee, and Racine—with one principal exception, the accessibility to three major retail and service centers within 30 minutes from the Kenosha urbanized area. The level of satisfaction of the highway accessibility standards by the 1995 arterial street and highway system is the same as the level of such satisfaction measured for the arterial street and highway system in 1991.

5. The urban public transit system provided within the Region in 1995 included the urban fixed-route bus transit systems operated by Milwaukee County,

Waukesha County, and the Cities of Kenosha, Racine, and Waukesha and the urban nonfixed-route shared-ride taxi systems operated by the Cities of Hartford, Port Washington, Whitewater, and West Bend. The extent of transit service provided within the Region may be measured by the vehicle-miles of transit service provided on an average weekday, which indicates the extent of transit routes and the frequency of service provided on those routes. Between 1991 and 1995, the vehicle-miles of transit service provided within the Region increased slightly, by 4 percent. The level of vehicle-miles of transit service provided within the Region in 1995 is approximately 3 percent higher than the level provided in 1972. A significantly greater level of transit service was provided in 1963.

Public transit ridership within the Region has declined significantly. In 1963, over 94.5 million revenue passengers were carried on public transit within the Region. In 1972, about 53.9 million revenue passengers were carried, about 43 percent fewer than in 1963. In 1991, about 50.2 million passengers were carried, 47 percent fewer than in 1963 and about 7 percent fewer than in 1972. In 1995, about 47.2 million passengers were carried, about 6 percent fewer than in 1991.

6. A measure of the quality of service provided by the public transit system is the accessibility—travel within a specified maximum travel time—that it provides to land uses in the urbanized areas of the Region. Generally, the transit accessibility standards are met only in the central portions of Milwaukee County and the Cities of Racine and Kenosha. The lack of transit service, particularly complete rapid and express systems, and the limited frequency of all transit service, contribute to a failure to meet these standards throughout the Region's urbanized areas. The level of attainment of these standards in 1995 is very similar to the level of attainment of these standards measured in 1991, the base year of the regional transportation plan.

7. The year 2010 regional transportation system plan was adopted by the Commission in December 1994. The adopted plan has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement. The adopted plan calls for significant improvements to the public transit system in the Region. These improvements would entail nearly a 75 percent expansion of the transit system measured in terms of vehicle-miles of transit service. The improvements would also include expansion of the geographic extent of public transit service, improvement in the frequency of service, and development of rapid and express transit systems.

   The adopted year 2010 plan calls for extensions and improvements to the arterial street and highway system in the Region. In 1991, there were 3,274 route-miles of arterial streets and highways open to traffic in the Region. Under the plan, that system would, by the year 2010, total 3,607 route-miles. Of the total increase of 333 arterial route-miles, 202 miles, or 61 percent, represent a reclassification of existing nonarterial facilities to arterial status as urban growth continues. The plan recommends that 131 route-miles of new arterial streets and highways be constructed. The plan further recommends that widening and other improvements be undertaken along a total of 448 route-miles of existing arterial streets and highways. Lastly, the plan recommends that all other arterial streets and highways in the proposed regional arterial system— 3,028 miles— be maintained over the plan implementation period through resurfacing and reconstruction to provide essentially the same capacity.

8. About three years have passed since the formal adoption of the year 2010 regional transportation system plan by the Regional Planning Commission. Three years is too short a time period to truly assess the degree to which the plan is being implemented, or not being implemented, as significant projects may require five to 10 years for completion of detailed planning, preliminary engineering, final engineering and design, capital programming and funding, and construction prior to being open for travel.

   One measure of plan implementation, particularly given the short period of time since completion of the plan, is that the plan has been adopted or endorsed by all seven counties in the Region; 24 cities, villages, and towns; and the Wisconsin Departments of Transportation and Natural Resources.

   Another measure, with respect to the arterial street and highway system element of the plan, is that

of the total 579 route-miles of arterial highways proposed under the plan to be newly constructed or widened to carry additional traffic lanes, 61 route-miles are completed and open to traffic and six route-miles are under construction. With respect to the public transit system element of the plan, implementation to date includes the initiation of rapid transit bus freeway- flyer service between Milwaukee and Ozaukee Counties; expansion of City of Waukesha transit service to include Sunday service and evening service; new shuttle service by the Waukesha County Transit System to serve the Villages of Butler and Menomonee Falls industrial parks; and the initiation of a Racine transit system express route serving businesses and industries in the far western portion of the Racine urban area.

In the three-year period since adoption of the year 2010 regional transportation plan, the plan has been endorsed as the official guide to surface transportation in the Region, and is being implemented. Substantial implementation remains to be accomplished, and will require additional funding, as was proposed in the adopted plan.

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Chapter III

REGIONAL GROWTH AND CHANGE UNDER THE YEAR 2020 REGIONAL LAND USE PLAN

INTRODUCTION

This chapter presents the anticipated regional growth and change in population, household, and employment levels within the Region to the year 2020. This chapter also presents the proposed accommodation and allocation of that growth and change within and throughout the Region as recommended in the companion year 2020 regional land use plan.

This chapter sets forth the projections of population, household, and employment levels under high-growth, low-growth, and intermediate-growth scenarios for Southeastern Wisconsin for the year 2020. The intermediate-growth-scenario projections served as the foundation for the design of the year 2020 regional land use plan.

This chapter also summarizes the year 2020 regional land use plan. That plan is set forth in greater detail and its recommendations are elaborated more fully in SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997. The 2020 regional land use plan incorporates the basic concepts of the year 2010 land use plan, updating and extending that plan to a new design year. Like the year 2010 plan, the new plan recommends a relatively compact and centralized regional settlement pattern, with urban development occurring generally in concentric rings along the full periphery of, and outward from, existing urban centers, accompanied by truly rural-density residential development and agricultural uses outside the urban centers. The year 2020 land use plan may be termed an intermediate-growth-centralized-scenario land use plan.

REGIONAL GROWTH AND CHANGE

The most recent regional demographic study completed by the Commission described and analyzed trends in population and household levels and characteristics through the year 1990, the year of the most recent U. S. Census of Population, and culminated in the preparation of new projections of population and household levels for the Region through the year 2020. A related economic study described and analyzed trends in the level and type of employment opportunities, or jobs, provided within the Region through the year 1990, and culminated in the preparation of a corresponding set of year 2020 employment projections for the Region.

The findings and projections of these Commission demographic and economic studies are presented, respectively, in SEWRPC Technical Report No. 11 (3rd Edition), *The Population of Southeastern Wisconsin*, and SEWRPC Technical Report No. 10 (3rd Edition), *The Economy of Southeastern Wisconsin*, both dated October 1995. Reference should be made to those reports for a detailed description of the characteristics of the regional population and the regional economy; the methodology used in the preparation of population, household, and employment projections; historical trends in population, household, and employment levels in the Region; and projections of population, household, and employment levels in the Region for the year 2020.

Projected Population Levels

Commission population projections for the Region and its constituent counties under the three aforementioned regional growth scenarios are set forth in Table 11 and Figure 3. Under a high-growth scenario, the resident population of the Region would increase by about 556,600 persons, or about 31 percent, from 1,810,400 persons in 1990 to 2,367,000 persons by the year 2020. Under this scenario, the largest absolute population increase, 160,700 persons, would occur in Milwaukee County, while the largest relative increase, about 68 percent, would occur in Washington County. The absolute increases in population outside of Milwaukee County would range from 38,200 persons in Ozaukee County to 155,300 persons in Waukesha County. The relative increases in population outside of Washington County would range from 17 percent in Milwaukee County to 53 percent in Ozaukee and Walworth Counties.

Under an intermediate-growth scenario, the resident population of the Region would increase by about 267,500 persons, or about 15 percent, from 1,810,400 persons in 1990 to 2,077,900 persons by the year 2020. Under this scenario, the largest absolute population increase, 86,800 persons, would occur in Waukesha County, while the largest relative increase, about 38 percent, would occur in

Table 11

EXISTING AND PROJECTED POPULATION IN THE REGION BY COUNTY: 1990-2020

County	Actual 1990 Population Level	Projected Population Levels				Projected Change 1990-2020	
		Scenario	2000	2010	2020	Number	Percent
Kenosha	128,200	Low-Growth	136,900	141,100	143,000	14,800	11.5
		Intermediate-Growth	146,700	155,600	159,600	31,400	24.5
		High-Growth	158,700	173,300	180,000	51,800	40.4
Milwaukee	959,300	Low-Growth	957,300	955,200	953,000	-6,300	-0.7
		Intermediate-Growth	975,600	992,300	1,010,000	50,700	5.3
		High-Growth	1,011,000	1,063,900	1,120,000	160,700	16.8
Ozaukee	72,800	Low-Growth	80,500	82,800	84,000	11,200	15.4
		Intermediate-Growth	85,800	89,700	91,700	18,900	26.0
		High-Growth	99,000	106,900	111,000	38,200	52.5
Racine	175,100	Low-Growth	177,400	178,800	180,000	4,900	2.8
		Intermediate-Growth	184,900	190,800	195,600	20,500	11.7
		High-Growth	197,200	210,400	221,000	45,900	26.2
Walworth	75,000	Low-Growth	80,000	82,800	85,000	10,000	13.3
		Intermediate-Growth	86,500	93,000	98,000	23,000	30.7
		High-Growth	94,900	106,300	115,000	40,000	53.3
Washington	95,300	Low-Growth	111,100	117,300	120,000	24,700	25.9
		Intermediate-Growth	118,500	127,500	131,500	36,200	38.0
		High-Growth	136,700	152,800	160,000	64,700	67.9
Waukesha	304,700	Low-Growth	341,600	353,800	360,000	55,300	18.1
		Intermediate-Growth	362,600	381,700	391,500	86,800	28.5
		High-Growth	408,300	442,500	460,000	155,300	51.0
Region	1,810,400	Low-Growth	1,884,800	1,911,800	1,925,000	114,600	6.3
		Intermediate-Growth	1,960,600	2,030,600	2,077,900	267,500	14.8
		High-Growth	2,105,800	2,256,100	2,367,000	556,600	30.7

NOTE: The 1997 population of the Southeastern Wisconsin Region is estimated by the Wisconsin Department of Administration to be 1,899,200. At the county level, the estimates are: Kenosha, 140,100; Milwaukee, 958,400; Ozaukee, 79,400; Racine, 186,400; Walworth, 82,900; Washington, 110,600; and Waukesha, 341,400. These estimates are based upon tracking by State agencies of symptomatic indicators of changes in population reflected in such items as births, deaths, employment, income-tax filings, and vehicle registrations, using the most recent decennial U. S. Census of Population year as the base year.

Source: U. S. Bureau of the Census and SEWRPC.

Washington County. The absolute increases in population outside of Waukesha County would range from 18,900 persons in Ozaukee County to 50,700 persons in Milwaukee County. The relative increases in population outside of Washington County would range from 5 percent in Milwaukee County to 31 percent in Walworth County.

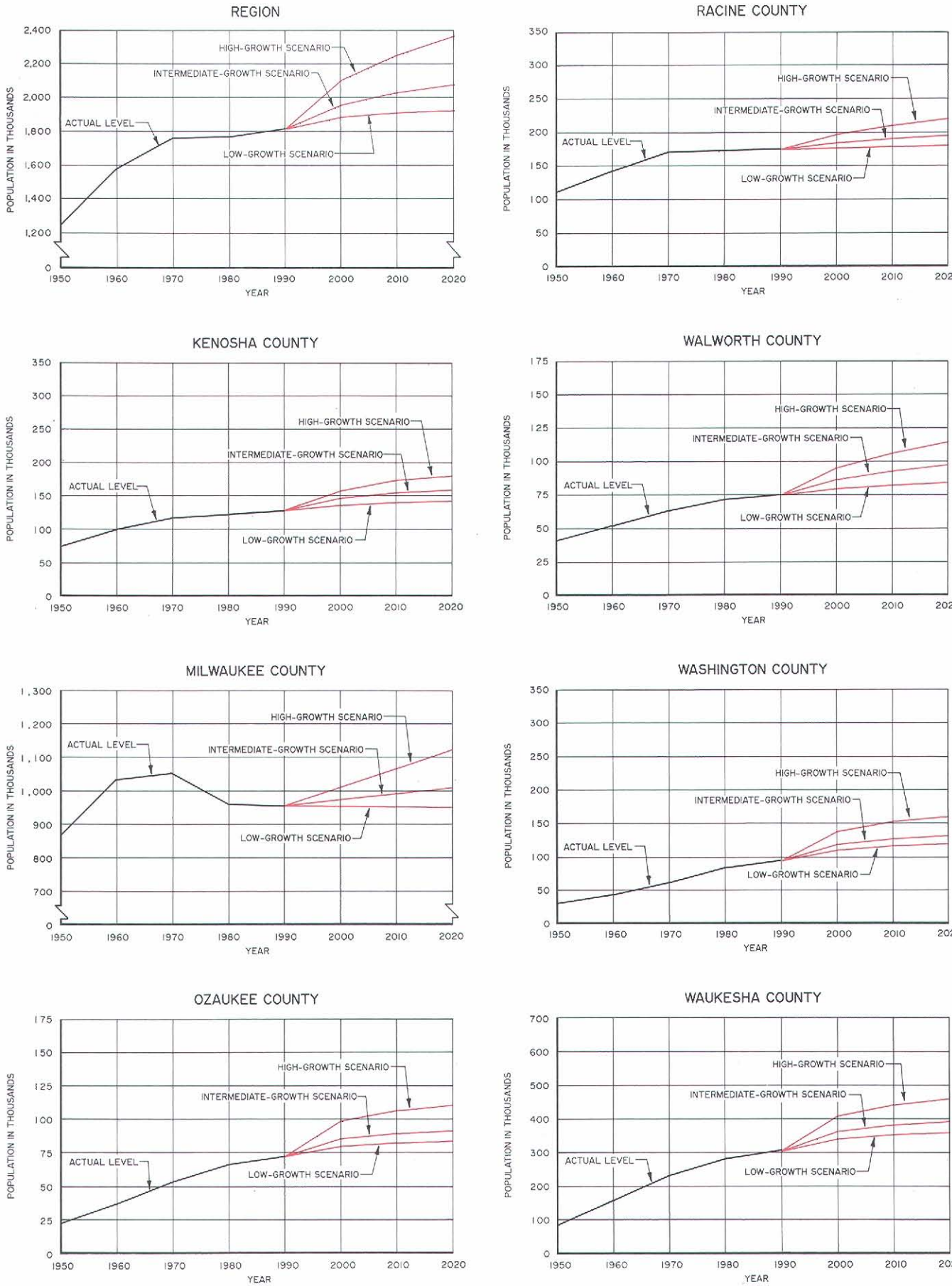
Under a low-growth scenario, the resident population of the Region would increase by about 114,600 persons, or about 6 percent, from 1,810,400 persons in 1990 to 1,925,000 persons by the year 2020. Under this scenario, the largest absolute population increase, 55,300 persons, would occur in Waukesha County, while the population of Milwaukee County would decline by 6,300 persons. The largest relative increase, 26 percent, would occur in Washington County. The absolute increases in population outside of Milwaukee and Waukesha Counties would range from 4,900 persons in Racine County to 24,700 persons in Washington County. The relative changes in population outside of Washington County would range from -0.7 percent in Milwaukee County to 18 percent in Waukesha County.

Projected Household Levels

Commission household projections for the Region and its constituent counties under the three regional growth scenarios are set forth in Table 12 and Figure 4. Under a high-growth scenario, the average household size in the Region would decrease from 2.62 persons in 1990 to 2.55 persons by 2020. Under this scenario, the number of households in the Region would increase by about 229,000, or about 34 percent, from 676,100 households

Figure 3

EXISTING AND PROJECTED POPULATION IN THE REGION BY COUNTY: 1950-2020



Source: U. S. Bureau of the Census and SEWRPC.

Table 12

EXISTING AND PROJECTED HOUSEHOLDS IN THE REGION BY COUNTY: 1990-2020

County	Actual 1990 Household Level	Projected Household Levels				Projected Change 1990-2020	
		Scenario	2000	2010	2020	Number	Percent
Kenosha	47,000	Low-Growth	51,800	55,100	57,700	10,700	22.8
		Intermediate-Growth	54,800	59,200	61,800	14,800	31.5
		High-Growth	58,500	64,200	67,000	20,000	42.6
Milwaukee	373,100	Low-Growth	382,200	391,400	401,200	28,100	7.5
		Intermediate-Growth	384,300	395,700	407,800	34,700	9.3
		High-Growth	393,100	413,200	434,500	61,400	16.5
Ozaukee	25,700	Low-Growth	29,900	32,500	34,900	9,200	35.8
		Intermediate-Growth	31,500	34,300	36,600	10,900	42.4
		High-Growth	35,900	39,800	42,500	16,800	65.4
Racine	63,700	Low-Growth	67,500	71,200	75,100	11,400	17.9
		Intermediate-Growth	69,400	73,900	78,200	14,500	22.8
		High-Growth	73,100	79,400	84,900	21,200	33.3
Walworth	27,600	Low-Growth	30,400	32,500	34,500	6,900	25.0
		Intermediate-Growth	32,400	35,500	38,100	10,500	38.0
		High-Growth	35,100	39,500	43,000	15,400	55.8
Washington	33,000	Low-Growth	41,000	46,500	51,300	18,300	55.5
		Intermediate-Growth	43,200	49,200	54,000	21,000	63.6
		High-Growth	49,300	57,600	63,100	30,100	91.2
Waukesha	106,000	Low-Growth	124,400	135,100	144,400	38,400	36.2
		Intermediate-Growth	130,400	141,900	150,600	44,600	42.1
		High-Growth	144,900	160,300	170,100	64,100	60.5
Region	676,100	Low-Growth	727,200	764,300	799,100	123,000	18.2
		Intermediate-Growth	746,000	789,700	827,100	151,000	22.3
		High-Growth	789,900	854,000	905,100	229,000	33.9

Source: U. S. Bureau of the Census and SEWRPC.

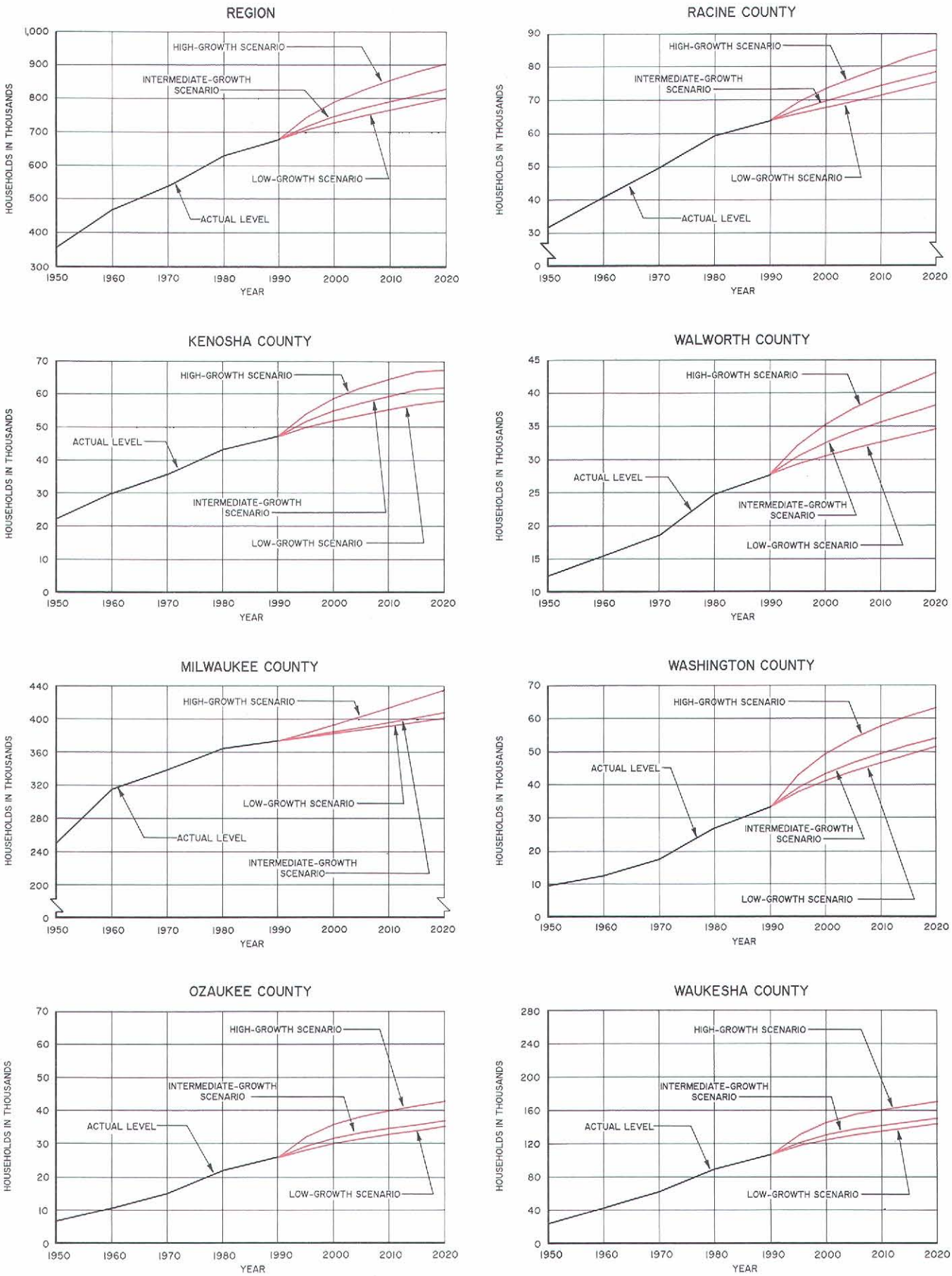
in 1990 to 905,100 households by the year 2020. The largest absolute increase, 64,100 households, would occur in Waukesha County, while the largest relative increase, about 91 percent, would occur in Washington County. The absolute increases in the number of households outside of Waukesha County would range from 15,400 in Walworth County to 61,400 in Milwaukee County. The relative increases in the number of households outside of Washington County would range from 17 percent in Milwaukee County to 65 percent in Ozaukee County.

Under an intermediate-growth scenario, the average household size in the Region would decrease from 2.62 persons in 1990 to 2.45 persons by 2020. Under this scenario, the number of households in the Region would increase by about 151,000, or about 22 percent, from 676,100 in 1990 to 827,100 by the year 2020. The largest absolute increase, 44,600 households, would occur in Waukesha County, while the largest relative increase, 64 percent, would occur in Washington County. The absolute increases in the number of households outside of Waukesha County would range from 10,500 in Walworth County to 34,700 in Milwaukee County. The relative increases in the number of households outside of Washington County would range from 9 percent in Milwaukee County to 42 percent in Ozaukee and Waukesha Counties.

Under a low-growth scenario, the average household size in the Region would decrease from 2.62 persons in 1990 to 2.35 persons by 2020. Under this scenario, the number of households in the Region would increase by about 123,000, or about 18 percent, from 676,100 in 1990 to 799,100 by the year 2020. The largest absolute increase, 38,400 households, would occur in Waukesha County, while the largest relative increase, about 56 percent, would occur in Washington County. The absolute increases in the number of households outside of Waukesha County would range from 6,900 in Walworth County to 28,100 in Milwaukee County. The

Figure 4

EXISTING AND PROJECTED HOUSEHOLDS IN THE REGION BY COUNTY: 1950-2020



Source: U. S. Bureau of the Census and SEWRPC.

relative increases in the number of households outside of Washington County would range from 8 percent in Milwaukee County to 36 percent in Ozaukee and Waukesha Counties.

Projected Employment Levels

Commission employment projections for the Region and its constituent counties under the three regional growth scenarios are set forth in Table 13 and Figure 5. Under a high-growth scenario, the number of available jobs in the Region would increase by about 295,400, or about 28 percent, from 1,067,200 jobs in 1990 to 1,362,600 jobs by the year 2020. Under this scenario, the largest absolute employment increase, 94,700 jobs, would occur in Waukesha County, while the largest relative increase, about 63 percent, would occur in Walworth County. The absolute increases in employment outside of Waukesha County would range from 18,100 jobs in Ozaukee County to 84,400 jobs in Milwaukee County. The relative increases in employment outside of Walworth County would range from 14 percent in Milwaukee County to 50 percent in Ozaukee and Waukesha Counties.

Under an intermediate-growth scenario, the number of available jobs in the Region would increase by about 209,900, or about 20 percent, from 1,067,200 jobs in 1990 to 1,277,100 jobs by the year 2020. Under this scenario, the largest absolute employment increase, 76,700 jobs, would occur in Waukesha County, while the largest relative increase, about 53 percent, would occur in Walworth County. The absolute increases in employment outside of Waukesha County would range from 14,700 jobs in Ozaukee County to 40,600 jobs in Milwaukee County. The relative increases in employment outside of Walworth County would range from 7 percent in Milwaukee County to 40 percent in Ozaukee and Waukesha Counties.

Under a low-growth scenario, the number of available jobs in the Region would increase by about 149,700, or about 14 percent, from 1,067,200 jobs in 1990 to 1,216,900 jobs by the year 2020. Under this scenario, the largest absolute employment increase, 64,100 jobs, would occur in Waukesha County, while the largest relative increase, about 45 percent, would occur in Walworth County. The absolute increases in employment outside of Waukesha County would range from 9,800 jobs in Milwaukee County to 18,200 jobs in Walworth County. The relative increases in employment outside of Walworth County would range from 2 percent in Milwaukee County to 34 percent in Ozaukee and Waukesha Counties.

COMPARISON OF YEAR 2010 LAND USE PLAN DESIGN YEAR POPULATION, HOUSEHOLD, AND EMPLOYMENT LEVELS AND YEAR 2020 PROJECTIONS

A comparison of the year 2010 regional land use plan design year population, household, and employment levels with the new year 2020 projections is provided on Table 14. Both the year 2010 stage and the design year 2020 population, household, and employment levels are provided for under the new year 2020 projections for the intermediate-growth scenario. The year 2010 land use plan design year population, household, and employment levels are very similar to the year 2010 stage of the corresponding new year 2020 projections for the intermediate-growth scenario, being within about 2 to 6 percent of each other. The year 2020 projections for the intermediate-growth scenario for population, households, and employment represent increases of about 7 to 9 percent over the year 2010 land use plan design year population, household, and employment levels.

YEAR 2020 REGIONAL LAND USE PLAN

The design year 2020 regional land use plan was prepared as an extension in time of the year 2010 land use plan, which was adopted in 1992 by the Commission. The new plan reflects new forecasts of population, households, and employment for the Region through the year 2020. As it was extended in time, the land use plan was reviewed and amended to reflect development which has occurred or which has been committed to since completion of the year 2010 plan, and to incorporate recently completed county and municipal land use plans which serve to refine and detail the regional land use plan.

The year 2020 regional land use plan incorporates the basic principles and concepts of the year 2010 land use plan. Like the year 2010 plan, the new plan recommends a relatively compact, centralized regional settlement pattern, with urban development occurring generally in concentric rings along the periphery of, and outward from, existing urban centers in the Region. The year 2020 plan places heavy emphasis on the continued impact of the urban land market in determining the location, intensity, and character of future development. Like the year 2010 plan, the 2020 land use plan seeks to influence the operation of the urban land market in several important ways in order to achieve a more healthful, attractive, and efficient settlement pattern. The proposed plan recommends that

Table 13

EXISTING AND PROJECTED EMPLOYMENT IN THE REGION BY COUNTY: 1990-2020

County	Actual 1990 Employment Level (jobs)	Projected Employment Levels (jobs)				Projected Change 1990-2020	
		Scenario	2000	2010	2020	Number	Percent
Kenosha	50,900	Low-Growth	56,800	62,500	66,900	16,000	31.4
		Intermediate-Growth	58,400	64,900	70,200	19,300	37.9
		High-Growth	60,700	68,000	74,900	24,000	47.2
Milwaukee	613,300	Low-Growth	620,800	629,800	623,100	9,800	1.6
		Intermediate-Growth	639,000	654,000	653,900	40,600	6.6
		High-Growth	663,600	685,600	697,700	84,400	13.8
Ozaukee	36,400	Low-Growth	40,800	45,200	48,700	12,300	33.8
		Intermediate-Growth	42,000	46,900	51,100	14,700	40.4
		High-Growth	43,600	49,200	54,500	18,100	49.7
Racine	88,800	Low-Growth	94,900	100,300	103,400	14,600	16.4
		Intermediate-Growth	97,700	104,100	108,600	19,800	22.3
		High-Growth	101,400	109,200	115,800	27,000	30.4
Walworth	40,200	Low-Growth	52,700	56,200	58,400	18,200	45.3
		Intermediate-Growth	54,200	58,400	61,300	21,100	52.5
		High-Growth	56,300	61,200	65,400	25,200	62.7
Washington	46,100	Low-Growth	51,500	56,700	60,800	14,700	31.9
		Intermediate-Growth	53,000	58,900	63,800	17,700	38.4
		High-Growth	55,000	61,700	68,100	22,000	47.7
Waukesha	191,500	Low-Growth	214,700	237,400	255,600	64,100	33.5
		Intermediate-Growth	221,000	246,500	268,200	76,700	40.1
		High-Growth	229,400	258,400	286,200	94,700	49.5
Region	1,067,200	Low-Growth	1,132,200	1,188,100	1,216,900	149,700	14.0
		Intermediate-Growth	1,165,300	1,233,700	1,277,100	209,900	19.7
		High-Growth	1,210,000	1,293,300	1,362,600	295,400	27.7

Source: U. S. Bureau of Economic Analysis and SEWRPC.

new urban development occur primarily in those areas of the Region which are covered by soils suitable for such development and in those areas which can be readily served by essential municipal facilities and services, including public sanitary sewerage, water supply, and mass transit facilities and services. The plan recommends the preservation in essentially natural, open uses of the identified primary environmental corridors and the preservation in agricultural and related uses of most of the remaining prime agricultural land in the Region.

The new year 2020 land use plan has been prepared to accommodate population, household, and employment levels projected for the Region under the intermediate-growth scenario. Under that scenario, the resident population of the Region would increase by 267,500 persons, or 15 percent, from 1,810,400 persons in 1990 to 2,077,900 persons in 2020. The number of households would increase by 151,000, or 22 percent, from 676,100 households in 1990 to 827,100 households in 2020. Total employment in the Region would increase by 209,900 jobs, or 20 percent, from 1,067,200 jobs in 1990 to 1,277,100 jobs in 2020.

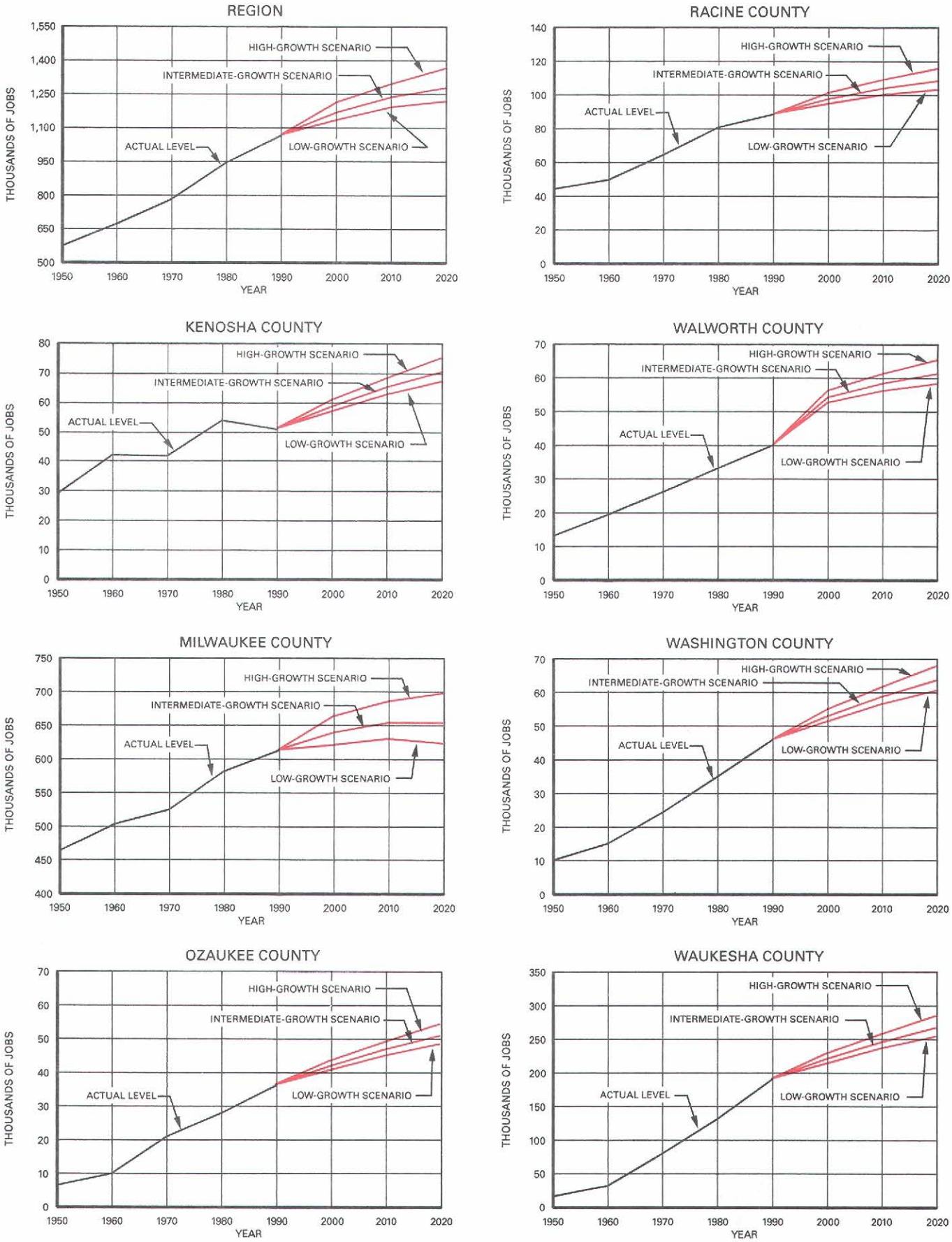
Plan Design Concepts

The following guidelines were used in the design of the year 2020 regional land use plan:

- County-level population, household, and employment projections attendant to the intermediate-growth scenario were adjusted to represent a more centralized urban land use development pattern within the Region. The adjustments to the county-level projections made in this respect included the allocation of higher levels of population, households, and employment to Milwaukee County than initially projected, with corresponding reductions in design year population, household, and employment levels for Ozaukee, Walworth, Washington, and Waukesha Counties. In Kenosha and Racine

Figure 5

EXISTING AND PROJECTED EMPLOYMENT IN THE REGION BY COUNTY: 1950-2020



Source: U. S. Bureau of Economic Analysis and SEWRPC.

Table 14

COMPARISON OF COMMISSION YEAR 2010 LAND USE PLAN DESIGN YEAR REGIONAL POPULATION, HOUSEHOLD, AND EMPLOYMENT LEVELS WITH YEAR 2020 REGIONAL POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS

Southeastern Wisconsin Region	Year 2010 Land Use Plan	Year 2020 Projections for Intermediate-Growth Scenario	
	2010 Design Year	2010 Stage Year	2020 Design Year
Population	1,911,000	2,030,600	2,077,900
Households	774,300	789,700	827,100
Employment	1,180,000	1,233,700	1,277,100

Source: SEWRPC.

Counties, the planned population, household, and employment distributions were centralized around the Kenosha and Racine urbanized areas.

- New urban development would be allocated so as to achieve a centralized settlement pattern with new urban development proposed as infill in existing urban centers and along the periphery of, and outward from, existing urban centers. New urban development would be directed toward areas which can be readily served by public sanitary sewer, water supply, and transit services; which are covered by soils suitable for development; and which are not subject to special hazards such as flooding and erosion. New urban residential development would occur largely at medium densities in planned neighborhood units.

- In order to preserve the best remaining elements of the natural resource base, no new urban development would be allocated to the delineated primary environmental corridors.

- The allocation of new urban development to the identified prime agricultural lands would be minimized insofar as practicable, thereby preserving highly productive farmland for the continued production of food and fiber.

Plan Design Methodology

The specific procedures utilized in preparing the year 2020 land use plan were similar to those used in the preparation of the year 2010 plan:

1. A determination was made of the amount of "developable" land located within each U. S. Public Land Survey quarter section.[1] Developable land was defined as land which, while not presently developed for urban use, was suitable for, and could be considered available for, such use. Operationally, the developable land area was determined for each quarter section by subtracting from the total area of the quarter section the area included in floodlands and environmental corridors and the area covered by existing urban development.

2. An identification was made of those quarter sections served by public sanitary sewerage facilities in 1990 and those planned to be served by such facilities in the adopted regional water quality management plan and in locally prepared refinements of that plan. These quarter sections in combination comprised the planned urban service area within the Region.

3. A determination was made of the location and future areal extent of all proposed major regional land uses by quarter section, including major multipurpose commercial centers, major industrial centers, major parks, major governmental and institutional centers, and major transportation and utility centers. The quarter-section locations and future areal extent of these major land uses were determined considering the existing land use pattern and supporting transportation and utility systems, existing and planned population and employment levels, existing community plans and zoning, and the recommendations of other regional plan elements, including the regional transportation system plan, the regional water quality management plan, and the regional airport system plan.

4. Urban land was then allocated to quarter sections within the proposed urban service areas as follows:

   a. Urban residential development was allocated, first, to vacant lots in existing residential subdivisions. New residential development was then allocated to unplatted, developable land—for the most part at medium densities—in accordance with county and local plans and zoning ordinances. In certain locations, low-

[1] *The U. S. Public Land Survey quarter section is the basic geographic data collection and analysis unit used in the regional planning program. Land survey quarter sections approximate 160 acres in area. There are about 10,000 such quarter sections in the Region.*

density and high-density residential development was allocated as warranted by county and local plans and zoning ordinances.

b. Under the assumption that new low-, medium-, and high-density residential development would occur in planned neighborhood units, an allocation of supporting neighborhood land uses was made to those quarter sections to which such residential development was assigned. This allocation was made in accordance with the neighborhood standards set forth in Chapter IV of SEWRPC Planning Report No. 45—the year 2020 regional land use plan—and included neighborhood commercial, governmental and institutional, recreational, and transportation (primarily neighborhood street) land uses.

c. In addition to supporting neighborhood uses, land for community-level commercial, industrial, and recreational centers was allocated based on the need for additional centers in the urbanizing areas, taking into account sites proposed for such development in community plans and zoning ordinances.

5. Low- and suburban-density residential development was allocated to vacant lots located beyond the planned urban service areas, in areas already committed to such development on approved subdivision plats.

6. Rural-density residential development was allocated to developable lands located beyond the planned urban service areas. Increasingly common in other areas of the country, rural-density residential development, particularly in cluster designs, is a relatively new form of development in Southeastern Wisconsin and other areas of the Midwest. To date, clustered rural-density residential development has occurred only on a very limited basis in the Region, and the future demand for such development is not known. For purposes of developing the plan, it was assumed that rural residential development would occur on a limited basis, accommodating 1 percent of the increase in population anticipated between 1990 and 2020.

Plan Description

Under the year 2020 land use plan, the population of the Southeastern Wisconsin Region may be expected to reach a level of about 2,077,900 persons by the year 2020, an increase of 267,500 persons, or 15 percent, over the 1990 level; the number of households may be expected to reach about 827,100 by the year 2020, an increase of 151,000 households, or 22 percent, over the 1990 level; and total employment may be expected to reach about 1,277,100 jobs, an increase of 209,900 jobs, or 20 percent, over the 1990 level. The plan proposes to accommodate this growth in population, households, and employment through the conversion of about 100 square miles of land from rural to urban use. The future land use pattern proposed by the plan is shown on Map 12 and is summarized for the Region in Table 15.

Urban Land Use

For purposes of the plan, urban lands are defined as lands devoted to urban-density residential, commercial, industrial, intensive recreational, governmental and institutional, and transportation, communication, and utility uses, and also include unused urban lands. Under the plan, the combined area of lands in these urban categories would increase from 637 square miles in 1990 to 737 square miles in the year 2020, an increase of 100 square miles, or 16 percent (see Table 16). Urban lands would account for about 27 percent of the total area of the Region in 2020, compared to 24 percent in 1990.

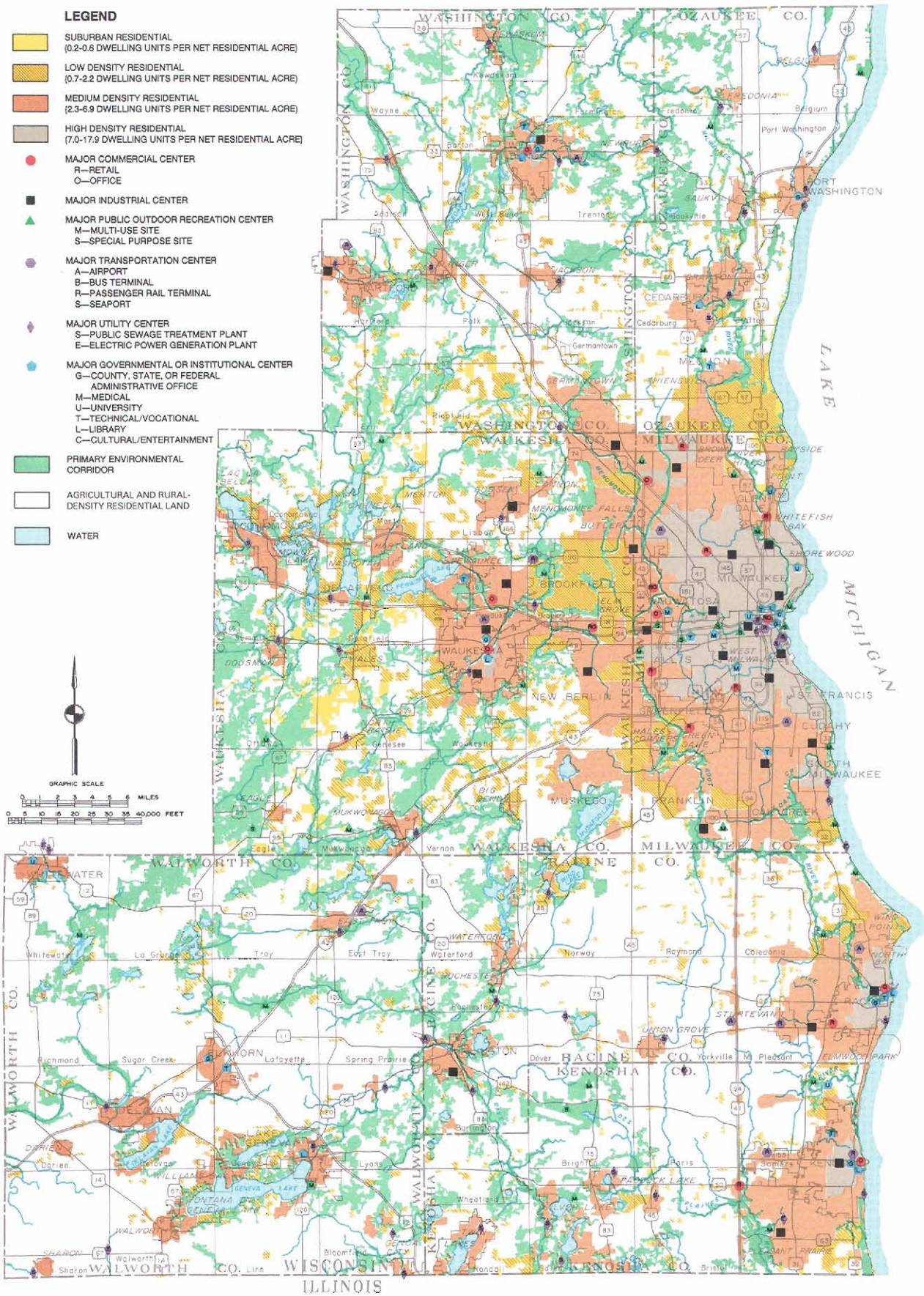
Urban Residential Land Use

Under the land use plan, most of the housing needs of the growing regional population would be accommodated through the maintenance and infill of existing urban residential areas and, as needed, the outward expansion of those areas. Under the plan, most new housing would be developed at urban densities—that is, high, medium, low, or suburban density. The plan envisions that the urban residential land area, excluding related parking, would increase by 66 square miles, or 21 percent, from 308 square miles in 1990 to 374 square miles in 2020 (see Table 17). The bulk of the new urban residential land would consist of medium-density development, with a typical single-family lot size of one-quarter acre and a typical multiple-family development averaging about 10 dwelling units per net acre. Under the plan, medium-density residential land would increase by about 49 square miles, or 53 percent; high-density residential land would increase by six square miles, or 13 percent; low-density residential land would increase by eight square miles, or 5 percent; and suburban-density residential land would increase by three square miles, or 22 percent.

The plan encourages the development of new low-, medium-, and high-density residential land in planned neighborhood units. Insofar as possible, each neighborhood unit should be bounded by arterial streets; major park, parkway, or institutional lands; bodies of water; or other natural or cultural features which serve to physically

Map 12

RECOMMENDED LAND USE PLAN FOR THE SOUTHEASTERN WISCONSIN REGION: 2020



The design year 2020 regional land use plan envisions a need to convert about 100 square miles of land from rural to urban use to accommodate an anticipated population increase of about 267,500 persons and an anticipated employment increase of about 209,900 jobs in the Region between 1990 and 2020. Like the previously adopted plans, the new plan recommends a relatively compact, centralized regional settlement pattern, with urban development generally occurring within, and along the periphery of, existing urban centers in the Region. The plan recommends that new urban development occur primarily in those areas of the Region which are physically well suited for urban use and which can be readily served by basic municipal facilities and services, including public sanitary sewerage, water supply, and mass transit facilities and services. The plan recommends the preservation of environmentally sensitive areas and the preservation of the most productive farmlands in the Region.

Source: SEWRPC.

Table 15

EXISTING AND PROPOSED LAND USE IN THE REGION: 1990 AND 2020 RECOMMENDED REGIONAL LAND USE PLAN

Land Use Category	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Urban						
Residential						
Urban High-Density[a]	43.8	1.6	5.5	12.6	49.3	1.8
Urban Medium-Density[b]	92.0	3.4	49.1	53.4	141.1	5.2
Urban Low-Density[c]	156.0	5.8	7.7	4.9	163.7	6.1
Suburban-Density[d]	15.9	0.6	3.5	22.0	19.4	0.7
Subtotal	307.7	11.4	65.8	21.4	373.5	13.8
Commercial	15.2	0.6	3.2	21.1	18.4	0.7
Industrial	20.5	0.8	12.5	61.0	33.0	1.2
Transportation, Communication, and Utilities[e]	194.9	7.2	25.3	13.0	220.2	8.2
Governmental and Institutional	27.0	1.0	1.9	7.0	28.9	1.1
Recreational[f]	40.9	1.5	6.0[g]	14.7	46.9	1.7
Unused Urban Land	30.5	1.1	-14.5	-47.5	16.0	0.6
Urban Subtotal	636.7	23.6	100.2	15.7	736.9	27.3
Nonurban						
Agricultural and Rural-Density Residential Land	1,395.4	51.9	-63.1	-4.5	1,332.3	49.6
Other Open Land[h]	657.4	24.5	-37.1	-5.6	620.3	23.1
Nonurban Subtotal	2,052.8	76.4	-100.2	-4.9	1,952.6	72.7
Total	2,689.5	100.0	0.0	0.0	2,689.5	100.0

[a] *7.0-17.9 dwelling units per net residential acre.*

[b] *2.3-6.9 dwelling units per net residential acre.*

[c] *0.7-2.2 dwelling units per net residential acre.*

[d] *0.2-0.6 dwelling unit per net residential acre.*

[e] *Includes off-street parking areas.*

[f] *Includes only that land which is intensively used for recreational purposes.*

[g] *Includes only that increment which is for public recreational purposes.*

[h] *Includes woodlands, water, wetlands, landfill sites, quarries, and unused rural lands.*

Source: SEWRPC.

separate each unit from the surrounding units. Each unit should provide, within the overall density limitations, a full range of housing types and lot sizes; those public and semipublic facilities needed by the household in the vicinity of its dwelling, such as a public elementary school, local park, and local shopping facilities; convenient and reasonably direct access to the arterial street and public transit system as a means of access to those activities located outside the neighborhood unit; and convenient and reasonably direct pedestrian, bicycle, and vehicle access within the neighborhood.

Commercial Land Use

The 2020 land use plan proposes the development of about three square miles of new commercial land within the Region, excluding related off-street parking, over the

Table 16

EXISTING AND PROPOSED URBAN LAND USE IN THE REGION
BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Urban Land Use[a]					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	52.3	8.2	11.5	22.0	63.8	8.7
Milwaukee	185.2	29.1	10.2	5.5	195.4	26.5
Ozaukee	45.6	7.2	9.1	20.0	54.7	7.4
Racine	65.0	10.2	10.8	16.6	75.8	10.3
Walworth	61.3	9.6	7.7	12.6	69.0	9.4
Washington	59.5	9.3	15.0	25.2	74.5	10.1
Waukesha	167.8	26.4	35.9	21.4	203.7	27.6
Region	636.7	100.0	100.2	15.7	736.9	100.0

[a]*Includes the following land use categories: urban-density residential; commercial; industrial; intensive recreational; governmental and institutional; transportation, communication, and utility; and unused urban land.*

Source: SEWRPC.

plan design period, increasing the total commercial land area of the Region from 15 square miles in 1990 to 18 square miles by the year 2020, or by 21 percent. The planned distribution of commercial land among the seven counties in the Region is indicated in Table 18.

The proposed increase in commercial land would meet the area requirements of anticipated increases in retail and service employment and the demands associated with the growth and redistribution of the population within the Region. The new commercial lands would be distributed so as to make the operation of business and the provision of goods and services to the people of the Region both efficient and convenient. This is proposed to be accomplished through the development of planned, integrated commercial centers properly located with respect to the existing and proposed transportation system and residential areas; through the discouragement of "strip" commercial development along major streets and highways; through the encouragement of the provision of adequate off-street parking and loading facilities; and through the efficient provision of adequate utility services.

The largest commercial areas, in terms of employment levels, anticipated under the plan are identified as major commercial centers. Two types of major commercial centers—namely, major retail centers and major office centers—have been defined. To qualify as a major retail center, a site must accommodate at least 2,000 retail jobs. To qualify as a major office center, a site must accommodate at least 3,500 office and service-related jobs. The major commercial centers proposed under the year 2020 land use plan are identified on Map 13.

There were 14 major commercial centers in the Region in 1990. Under the plan, all 14 sites would be retained as major commercial centers through the year 2020. Seven of these sites have been identified as major retail centers: the Bayshore, Capitol Court, Northridge, Southridge, and Southgate-Loomis Centre shopping centers and the West Allis shopping area along STH 100, all in Milwaukee County, and the Regency Mall shopping center in Racine County. Three existing sites have been identified as major office centers, including the central business districts of the Cities of Kenosha, Racine, and Waukesha. Four existing sites have been identified as both major office and major retail centers, including the City of Milwaukee central business district; the Mayfair commercial area in the City of Wauwatosa; the West Bend central business district and other retail and office development along Main Street, to the south; and the Blue Mound Road commercial area, consisting of the Brookfield Square shopping center and other retail and office development along Blue Mound Road in eastern Waukesha County.

The plan proposes to add four new major commercial centers by the year 2020, including one retail center and three office centers. The proposed retail center is the shopping area located near the intersection of IH 94 and STH 50 in Kenosha County, which area was already

Table 17

EXISTING AND PROPOSED URBAN RESIDENTIAL LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Urban Residential Land Use											
	High-Density				Medium-Density				Low-Density			
	Existing 1990 (square miles)	Planned Increment 1990-2020		Total 2020 (square miles)	Existing 1990 (square miles)	Planned Increment 1990-2020		Total 2020 (square miles)	Existing 1990 (square miles)	Planned Increment 1990-2020		Total 2020 (square miles)
		Square Miles	Percent			Square Miles	Percent			Square Miles	Percent	
Kenosha	2.5	0.5	20.0	3.0	11.0	6.7	60.9	17.7	10.6	-0.2	-1.9	10.4
Milwaukee	35.9	3.4	9.5	39.3	26.5	5.8	21.9	32.3	12.4	-1.4	-11.3	11.0
Ozaukee	--[a]	0.1	--	0.1	6.4	3.8	59.4	10.2	15.2	2.2	14.5	17.4
Racine	3.8	0.2	5.3	4.0	11.5	5.8	50.4	17.3	15.9	1.3	8.2	17.2
Walworth	0.0	0.2	--	0.2	8.6	3.1	36.0	11.7	17.8	0.8	4.5	18.6
Washington	0.5	0.4	80.0	0.9	6.2	7.5	121.0	13.7	21.2	1.2	5.7	22.4
Waukesha	1.1	0.7	63.6	1.8	21.8	16.4	75.2	38.2	62.9	3.8	6.0	66.7
Region	43.8	5.5	12.6	49.3	92.0	49.1	53.4	141.1	156.0	7.7	4.9	163.7

County	Urban Residential Land Use							
	Suburban-Density				Total			
	Existing 1990 (square miles)	Planned Increment 1990-2020		Total 2020 (square miles)	Existing 1990 (square miles)	Planned Increment 1990-2020		Total 2020 (square miles)
		Square Miles	Percent			Square Miles	Percent	
Kenosha	0.6	-0.1	-16.7	0.5	24.7	6.9	27.9	31.6
Milwaukee	1.5	0.1	6.7	1.6	76.3	7.9	10.4	84.2
Ozaukee	1.7	-0.1	-5.9	1.6	23.3	6.0	25.8	29.3
Racine	0.1	0.0	0.0	0.1	31.3	7.3	23.3	38.6
Walworth	0.8	0.1	12.5	0.9	27.2	4.2	15.4	31.4
Washington	1.7	0.7	41.2	2.4	29.6	9.8	33.1	39.4
Waukesha	9.5	2.8	29.5	12.3	95.3	23.7	24.9	119.0
Region	15.9	3.5	22.0	19.4	307.7	65.8	21.4	373.5

[a] *Less than 0.1 square mile.*

Source: SEWRPC.

Table 18

EXISTING AND PROPOSED COMMERCIAL LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

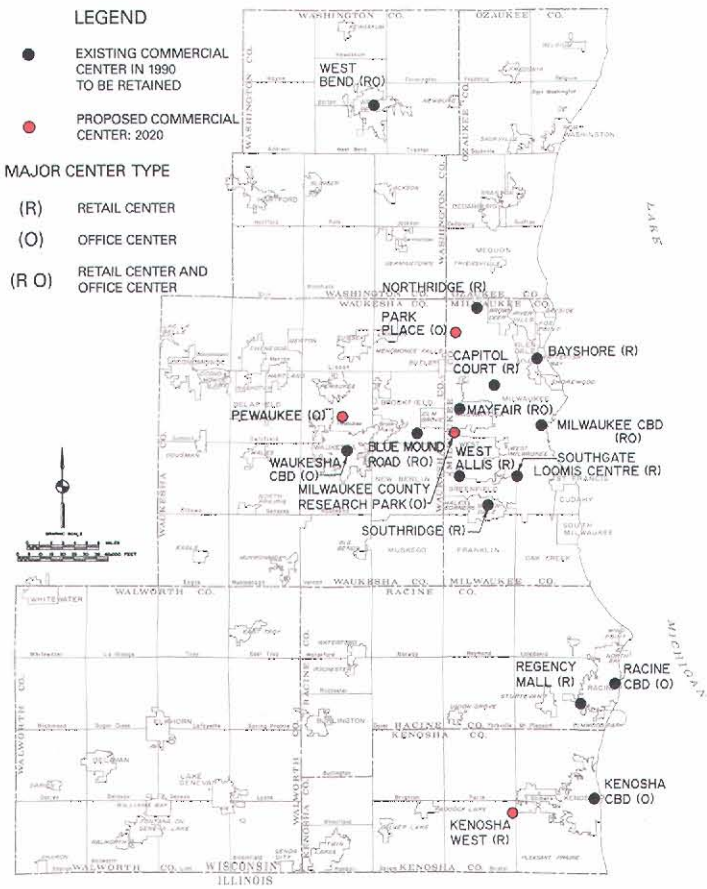
County	Commercial Land Use[a]					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	1.1	7.2	0.5	45.5	1.6	8.7
Milwaukee	5.9	38.8	0.4	6.8	6.3	34.2
Ozaukee	0.8	5.3	0.2	25.0	1.0	5.4
Racine	1.6	10.5	0.3	18.7	1.9	10.3
Walworth	1.3	8.6	0.2	15.4	1.5	8.2
Washington	1.0	6.6	0.1	10.0	1.1	6.0
Waukesha	3.5	23.0	1.5	42.9	5.0	27.2
Region	15.2	100.0	3.2	21.1	18.4	100.0

[a] *Excludes off-street parking areas. The area of off-street parking is included in the transportation, communication, and utility land use category, and is reflected in the data set forth in Table 21.*

Source: SEWRPC.

Map 13

MAJOR COMMERCIAL CENTERS IN THE REGION: 2020 RECOMMENDED LAND USE PLAN



The year 2020 regional land use plan envisions a total of 18 major commercial centers to serve the needs of the Region through the plan design year. Fourteen major commercial centers existed in the Region in 1990, including seven major retail centers, three major office centers, and four major combined retail and office centers. Under the plan, all 14 existing sites would be retained as major commercial centers through the year 2020. The plan proposes to add four new major commercial centers by the year 2020, including one retail center and three office centers. All four of the proposed centers were in various stages of development in 1997.

Source: SEWRPC.

partially developed in 1990. The proposed office centers include Park Place in northwestern Milwaukee County and an office center located near the IH 94-CTH J interchange in Waukesha County, both of which were already partially developed in 1990, and the Milwaukee County Research Park in western Milwaukee County, which was in the initial stages of development in 1997.

The central business districts of the largest freestanding communities in the Region—Kenosha, Racine, and Waukesha—are included in the plan as major commercial centers because of their importance as centers of government as well as private office and service centers. For these centers, the total municipal, county, and State government employment in combination with private service employment warrants designation as major office centers. These older urban areas may be expected to continue to rank as major centers, however, only with continued urban conservation and renewal efforts.

Industrial Land Use

The 2020 land use plan proposes the development of about 13 square miles of new industrial land within the Region, excluding related off-street parking, over the plan design period, increasing the total industrial land area of the Region from 20 square miles in 1990 to 33 square miles by the year 2020, or by 61 percent. The planned distribution of industrial land among the seven counties in the Region is indicated in Table 19.

The proposed increase in industrial land would meet the requirements of the anticipated increases in manufacturing and wholesaling activity within the Region and would be so distributed as to protect and enhance the continued efficient operation of these important components of the economic base of the Region. This is proposed to be accomplished through the development of planned industrial centers properly located with respect to the existing and proposed transportation system, through the protection and enhancement of existing industrial areas, including addressing those environmental contamination problems found at such sites, and through the efficient provision of adequate utility services. The plan provides sites for industrial development which meet the full array of criteria for such development, including ready accessibility to high-speed arterial highway facilities; soils suitable for industrial development; adequate power and water supply; sanitary sewer service and stormwater drainage; reasonable access to airport and railway facilities, as appropriate; and, to the extent practicable, ready access to labor supply.

The largest industrial areas, in terms of employment levels, anticipated in the plan are identified as major industrial centers. Such centers are defined as concentrations of industrial land having manufacturing and wholesaling employment of at least 3,500 jobs. Major industrial centers range in character from older industrial complexes in central-city areas, which have traditionally emphasized heavy manufacturing activity, to planned industrial parks in outlying areas of the Region. It should be noted that both nationally and within the Region, new industrial centers are increasingly characterized by a mix of uses, a mix which may include service operations, research facilities, and office facilities in addition to manufactur-

Table 19

EXISTING AND PROPOSED INDUSTRIAL LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Industrial Land Use[a]					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	1.2	5.9	1.5	125.0	2.7	8.2
Milwaukee	8.7	42.4	1.9	21.8	10.6	32.1
Ozaukee	1.0	4.9	1.1	110.0	2.1	6.4
Racine	2.5	12.2	1.6	64.0	4.1	12.4
Walworth	1.3	6.3	1.3	100.0	2.6	7.9
Washington	1.4	6.8	1.5	107.1	2.9	8.8
Waukesha	4.4	21.5	3.6	81.8	8.0	24.2
Region	20.5	100.0	12.5	61.0	33.0	100.0

[a]*Excludes off-street parking areas. The area of off-street parking is included in the transportation, communication, and utility land use category, and is reflected in the data set forth in Table 21.*

Source: SEWRPC.

ing and wholesaling uses. The developing industrial centers recommended under the year 2020 plan may thus be expected to accommodate an increasing diversity of industrial and industrially related uses. The major industrial centers proposed under the year 2020 regional land use plan are identified on Map 14.

As indicated on Map 14, the plan envisions a total of 27 major industrial centers in the Region in the year 2020. Twenty-two of these sites existed in 1990 and are recommended to be retained through the year 2020. It is anticipated that five other sites, which were in varying stages of development in 1990, would be further developed, achieving major industrial center status by the year 2020. The five proposed sites are located in the City of Burlington, the City of Franklin, the City of Hartford, the Village of Pleasant Prairie, and the Village of Sussex.

The plan recommendations to retain all of the existing major industrial centers has particular significance for those centers located in the central areas of Milwaukee County as well as in the central areas of the Cities of Kenosha and Racine. Employment levels at certain of these older industrial centers have decreased substantially during the past two decades as a result of the general decline in heavy manufacturing activity and the overall decentralization of industrial activity within the Region. In some cases, vacating industries have left behind "brownfields"—sites which have been abandoned or are underutilized as a result of known or suspected environmental contamination. Despite past declines, the plan proposes that these older industrial areas be retained as major industrial centers, and that the environmental contamination problems be addressed. These sites have ready access to the regional transportation system, are well served by existing public utility systems, and, importantly, are accessible to large segments of the regional labor force. Given the current trend of decentralization of industrial activity, however, the maintenance of these central-city industrial areas will require significant industrial retention and expansion efforts, including, in some cases, efforts to remediate contamination problems resulting from previous industrial activity.

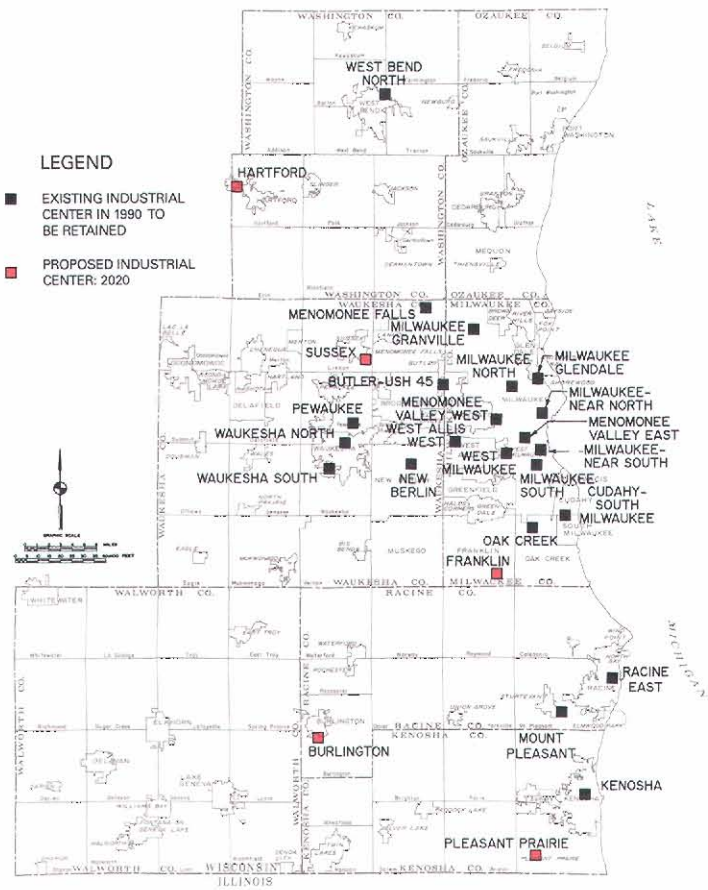
Governmental and Institutional Land Use

The recommended plan proposes the development of about two square miles of new governmental and institutional land within the Region, excluding off-street parking, over the plan design period, increasing the total area of such lands from 27 square miles in 1990 to 29 square miles by the year 2020, or by 7 percent. The planned distribution of governmental and institutional land among the seven counties in the Region is indicated in Table 20.

The additional governmental and institutional lands proposed under the plan would consist of neighborhood and community uses such as new schools, places of worship, hospitals, and nursing homes; and public facilities, including police and fire stations and city, village, and town halls. No new major governmental or institutional centers

Map 14

MAJOR INDUSTRIAL CENTERS IN THE REGION: 2020 RECOMMENDED LAND USE PLAN



The year 2020 regional land use plan envisions a total of 27 major industrial centers to serve the needs of the Region through the plan design year. Twenty-two of these sites existed in 1990 and are recommended to be retained through the year 2020. Under the plan, five other sites, which were in varying states of development in 1997, would be further developed, achieving major industrial center status by the year 2020.

Source: SEWRPC.

are envisioned, and additional development of existing major centers would be limited to that necessary to meet the needs of the growing population. Major existing governmental and institutional centers to be retained under the plan, including county courthouses and State and Federal office buildings, medical complexes, universities, technical schools, major libraries, and major cultural centers, are shown on Map 15.

Transportation, Communication, and Utility Land Use

The 2020 land use plan proposes the development of 25 square miles of new transportation, communication, and utility land within the Region over the plan design period, increasing the total area of such land from 195 square miles in 1990 to 220 square miles in the year 2020, or by 13 percent. The planned distribution of transportation, communication, and utility land among the seven counties in the Region is indicated in Table 21.

Most of the additional land in this category would be required for rights-of-way for new or improved collector and minor streets needed to serve new urban development. Some of the additional land would be required for planned airport expansions, as recommended in the regional airport system plan. Minor amounts of land would also be required for the planned expansion of existing, or construction of new, public sanitary sewage treatment facilities, as recommended in the regional water quality management plan.

Major transportation and utility facilities envisioned under the year 2020 land use plan—including public sewage treatment plants, major electric power generation plants, major airports, major bus and railway passenger stations, and the Milwaukee seaport—are shown on Map 16. The plan recognizes the development of two new electric power generation plants during the planning period—a plant in the Town of Paris, which went into service in 1995, and a plant located on the north side of the City of Whitewater, which was scheduled to begin operation in 1997.

Recreational Land Use

The recommended plan proposes the development of about six square miles of new recreational land within the Region, increasing the total recreational land area of the Region from 41 square miles in 1990 to 47 square miles by the year 2020, or by 15 percent. The planned distribution of recreational land among the seven counties in the Region is indicated in Table 22. The data in Table 22 pertain to "intensive-use" areas—that is, land actually developed, or anticipated to be developed, as outdoor recreational facility areas.

The planned increases in recreational land envisioned under the plan are based in part on neighborhood development standards, which seek to provide adequate neighborhood parkland in developing residential areas. The increases also reflect specific park site acquisition and development proposals set forth in the regional park and open space plan and in county park and open space plans which refine the regional plan.

The land use plan proposes a system of 30 major parks of regional size and significance to serve the needs of the Region through the year 2020. Such parks have an area

Table 20

EXISTING AND PROPOSED GOVERNMENTAL AND INSTITUTIONAL LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Governmental and Institutional Land Use[a]					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	2.1	7.8	0.1	4.8	2.2	7.6
Milwaukee	11.1	41.1	0.3	2.7	11.4	39.5
Ozaukee	1.7	6.3	0.1	5.9	1.8	6.2
Racine	2.9	10.7	0.1	3.4	3.0	10.4
Walworth	1.9	7.0	0.3	15.8	2.2	7.6
Washington	1.7	6.3	0.3	17.6	2.0	6.9
Waukesha	5.6	20.8	0.7	12.5	6.3	21.8
Region	27.0	100.0	1.9	7.0	28.9	100.0

[a]*Excludes off-street parking areas. The area of off-street parking is included in the transportation, communication, and utility land use category, and is reflected in the data set forth in Table 21.*

Source: SEWRPC.

Table 21

EXISTING AND PROPOSED TRANSPORTATION, COMMUNICATION, AND UTILITY LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Transportation, Communication, and Utility Land Use					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	16.5	8.5	3.3	20.0	19.8	9.0
Milwaukee	57.9	29.7	3.7	6.4	61.6	28.0
Ozaukee	14.2	7.3	2.0	14.1	16.2	7.4
Racine	20.7	10.6	2.6	12.6	23.3	10.6
Walworth	23.1	11.9	1.6	6.9	24.7	11.2
Washington	21.1	10.8	3.2	15.2	24.3	11.0
Waukesha	41.4	21.2	8.9	21.5	50.3	22.8
Region	194.9	100.0	25.3	13.0	220.2	100.0

NOTE: About 23 square miles, or about 12 percent of the transportation, communication, and utility land use in the Region in 1990, was encompassed by off-street parking areas associated with various urban land uses. Under the recommended land use plan, about 32.5 square miles, or about 15 percent of the transportation, communication, and utility land use in the Region in 2020, would be encompassed by such off-street parking areas.

Source: SEWRPC.

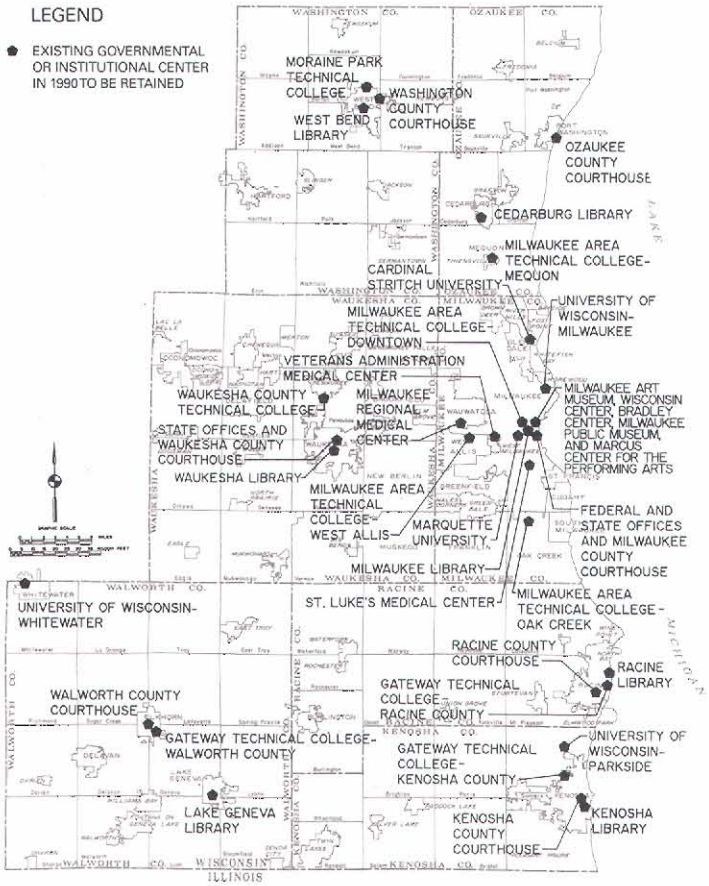
of at least 250 acres and provide opportunities for a variety of resource-oriented outdoor recreational activities. The recommended major park sites, along with existing major special-use outdoor recreation sites in the Region, are shown on Map 17.

Nonurban Land Use

As a result of the continued growth and development envisioned under the land use plan, the nonurban land area of the Region would decrease from 2,053 square miles in 1990 to 1,953 square miles in the year 2020, a

Map 15

MAJOR GOVERNMENTAL AND INSTITUTIONAL CENTERS IN THE REGION 2020 RECOMMENDED LAND USE PLAN

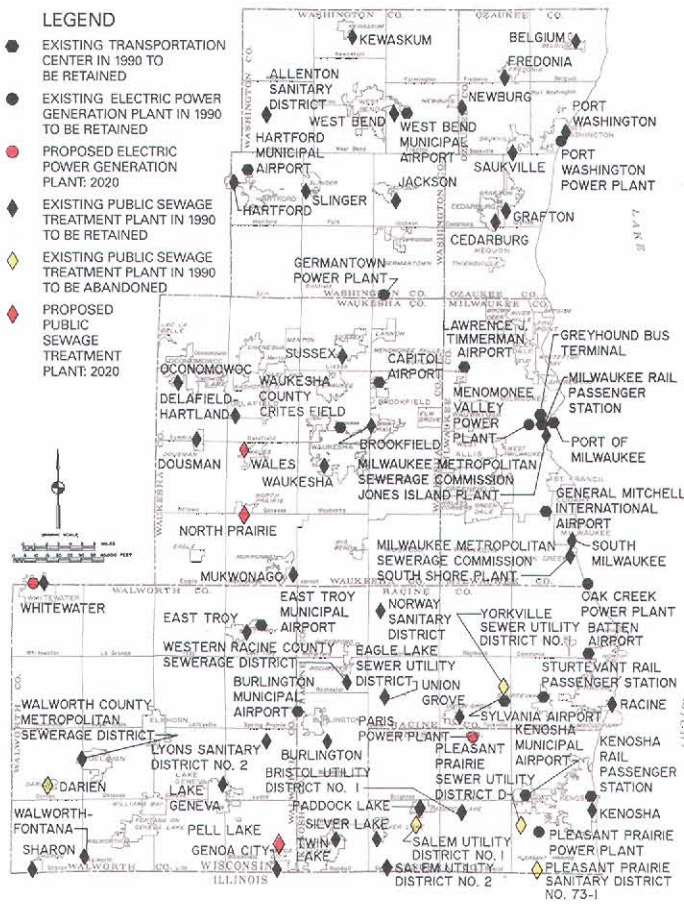


The map above shows the locations of the major governmental and institutional centers—including county courthouses, major State and Federal office buildings, major medical complexes, universities, technical colleges, major public libraries, and major cultural centers—envisioned under the year 2020 regional land use plan. No new major governmental or institutional centers are proposed. Additional development at the existing major centers would be limited to that necessary to meet the needs of the growing population.

Source: SEWRPC.

Map 16

MAJOR TRANSPORTATION AND UTILITY CENTERS IN THE REGION 2020 RECOMMENDED LAND USE PLAN



Major transportation and utility centers envisioned under the year 2020 regional land use plan—including public sewage treatment plants, major electric power generation plants, major airports, major bus and railway passenger stations, and the Milwaukee seaport—are shown on this map. The plan envisions the development of three new public sewage treatment plants as well as the abandonment of five existing public sewage treatment plants and the connection of the associated collection systems to regional sewerage systems. The plan also recognizes the development since 1990 of two new electric power generation plants serving the Region.

Source: SEWRPC.

decrease of 100 square miles, or 5 percent (see Table 23). Nonurban lands would account for about 73 percent of the total area of the Region in 2020, compared to 76 percent in 1990. While a substantial amount of nonurban land would be required to be converted to urban use to accommodate the anticipated growth in population and economic activity, the recommended plan seeks to avoid the loss of environmentally sensitive lands, particularly the primary environmental corridors, and to minimize the loss of prime agricultural lands.

Primary Environmental Corridors

The most important elements of the natural resource base of the Region, including the best remaining woodlands, wetlands, prairies, wildlife habitat, surface water and associated shorelands and floodlands, and related features, including historic, scenic, and scientific sites, have been found to occur in linear patterns in the regional landscape. These linear patterns of prime natural resources concentrations have been termed "primary environmental corridors." By definition, primary environmental corri-

Table 22

EXISTING AND PROPOSED RECREATIONAL LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Recreational Land Use[a]					
	Existing 1990		Planned Increment 1990-2020[b]		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	4.3	10.5	0.4	9.3	4.7	10.0
Milwaukee	11.4	27.9	0.8	7.0	12.2	26.0
Ozaukee	2.8	6.8	0.9	32.1	3.7	7.9
Racine	3.9	9.5	0.1	2.6	4.0	8.5
Walworth	5.4	13.2	0.6	11.1	6.0	12.8
Washington	3.3	8.1	1.0	30.3	4.3	9.2
Waukesha	9.8	24.0	2.2	22.4	12.0	25.6
Region	40.9	100.0	6.0	14.7	46.9	100.0

[a] *Includes only that land which is intensively used for recreational purposes. Excludes off-street parking areas. The area of off-street parking is included in the transportation, communication, and utility land use category, and is reflected in the data set forth in Table 21.*

[b] *Includes only that increment which is for public recreational uses.*

Source: SEWRPC.

Table 23

EXISTING AND PROPOSED NONURBAN LAND USE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Nonurban Land Use[a]					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	226.1	11.0	-11.5	-5.1	214.6	11.0
Milwaukee	57.4	2.8	-10.2	-17.8	47.2	2.4
Ozaukee	189.5	9.2	-9.1	-4.8	180.4	9.2
Racine	275.6	13.4	-10.8	-3.9	264.8	13.6
Walworth	515.2	25.1	-7.7	-1.5	507.5	26.0
Washington	376.2	18.4	-15.0	-4.0	361.2	18.5
Waukesha	412.8	20.1	-35.9	-8.7	376.9	19.3
Region	2,052.8	100.0	-100.2	-4.9	1,952.6	100.0

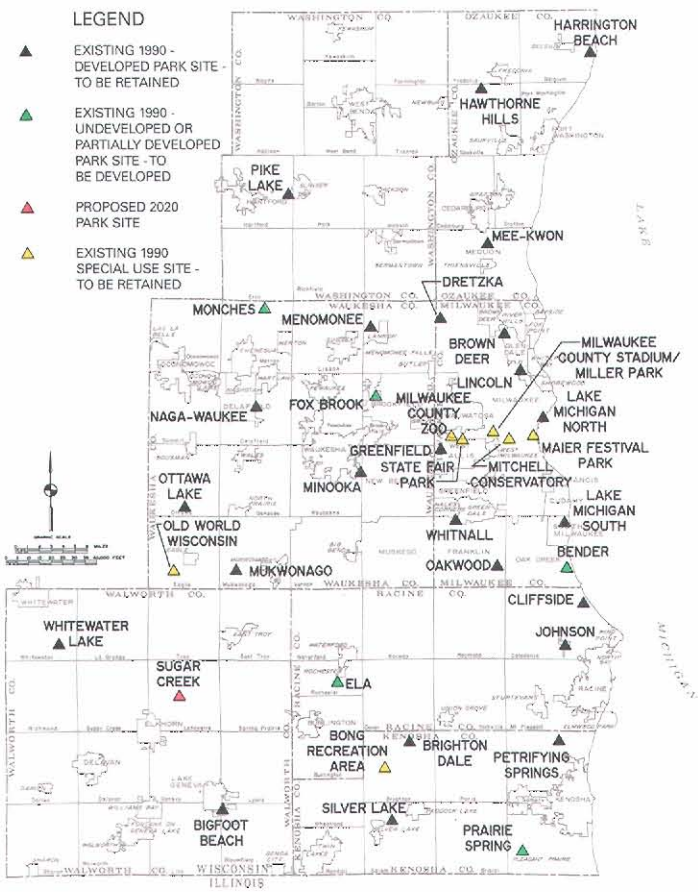
[a] *Includes the following: agricultural and rural-density residential land, woodlands, wetlands, surface water, landfill sites, quarries, and unused rural lands.*

Source: SEWRPC.

dors are at least two miles long, 200 feet wide, and 400 acres in area. These corridors are generally located along major stream valleys, along the Lake Michigan shoreline, around major inland lakes, and in the Kettle Moraine. The preservation of these corridors is considered essential to the maintenance of the overall environmental quality of the Region and the preservation of its unique cultural and natural heritage and natural beauty. Because these corridors are generally poorly suited for urban development owing to soil limitations, steep slopes, or flooding poten-

Map 17

MAJOR PUBLIC OUTDOOR RECREATION CENTERS IN THE REGION: 2020 RECOMMENDED LAND USE PLAN



The year 2020 regional land use plan envisions a total of 30 major parks of regional size and significance to serve the needs of the Region through the year 2020. Such parks each have an area of at least 250 acres and provide opportunities for a variety of resource-oriented outdoor recreational activities. All of the proposed sites were at least partially acquired for park purposes as of 1997. In addition to the 30 major parks, the plan envisions that all seven of the major special-use recreation sites in the Region identified on the above map would be retained through the plan design year.

Source: SEWRPC.

tial, their preservation will also help to avoid the creation of new environmental and development problems.

The year 2020 regional land use plan recommends that primary environmental corridors be preserved in essentially natural, open uses. Under the plan, development within the corridors would be limited to essential transportation and utility facilities, compatible outdoor recreational facilities, and, on a limited basis, rural-density residential use.

Under the plan, the existing configuration of environmental corridors would be modified slightly. Existing upland environmental corridor lands which have been committed to urban use on subdivision plats or in sanitary sewer service area amendments to the regional water quality management plan are proposed to be allowed to be developed in urban use; these lands are not included in the planned environmental corridors shown on Map 12. Certain floodlands presently in agricultural use—those located adjacent to primary environmental corridors in planned urban service areas—are proposed for eventual restoration to a natural condition; these lands are included in the planned environmental corridor network. The net effect of these changes would be an increase in the environmental corridor area, from 464 square miles in 1990 to 474 square miles in 2020 (see Table 24).

In addition to the primary environmental corridors, other concentrations of natural resources have been identified which warrant consideration for preservation in county and local planning efforts. "Secondary environmental corridors" contain a variety of resource features and are by definition at least one mile long and 100 acres in area. "Isolated natural resource areas" are concentrations of natural resources of at least five acres in size that have been separated from the environmental corridors by intensive urban or agricultural uses. Secondary environmental corridors and isolated natural resource areas in the Region are identified on Map 7, page 22, in Chapter II of SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997. These areas should be preserved as urban development proceeds, being retained as part of the natural drainage system or incorporated into local parks or open space reserves, as determined in county and local land use plans.

Agricultural and Rural-Density Residential Land

Under the plan, those areas which are neither designated for future urban use nor recommended for preservation as environmentally sensitive areas[2] are identified as "agricultural and rural-density residential land." There were about 1,395 square miles of such lands, representing about 52 percent of the total area of the Region, in 1990. These areas would encompass about 1,332 square miles, or about 50 percent of the total area of the Region, in the year 2020

[2]*Environmentally sensitive areas include primary environmental corridors recommended for preservation in the regional land use plan along with secondary environmental corridors and isolated natural resource areas which are encouraged to be recommended for preservation in county and local land use plans.*

Table 24

EXISTING AND PROPOSED ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Primary Environmental Corridors					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	44.2	9.5	0.1	0.2	44.3	9.3
Milwaukee	14.5	3.1	2.3	15.9	16.8	3.5
Ozaukee	32.0	6.9	0.9	2.8	32.9	6.9
Racine	36.2	7.8	0.7	1.9	36.9	7.8
Walworth	99.1	21.4	0.4	0.4	99.5	21.0
Washington	93.4	20.1	2.2	2.4	95.6	20.2
Waukesha	144.9	31.2	3.6	2.5	148.5	31.3
Region	464.3	100.0	10.2	2.2	474.5	100.0

County	Secondary Environmental Corridors					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	9.9	13.1	--[a]	0.0	9.9	13.3
Milwaukee	5.3	7.0	-0.4	-7.5	4.9	6.6
Ozaukee	7.6	10.0	0.2	2.6	7.8	10.5
Racine	11.0	14.5	0.2	1.8	11.2	15.0
Walworth	14.6	19.3	-0.3	-2.1	14.3	19.2
Washington	15.4	20.3	--[a]	0.0	15.4	20.7
Waukesha	12.0	15.8	-1.0	-8.3	11.0	14.7
Region	75.8	100.0	-1.3	-1.7	74.5	100.0

County	Isolated Natural Resource Areas					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	5.8	9.2	--[a]	0.0	5.8	9.4
Milwaukee	3.5	5.6	--[a]	0.0	3.5	5.7
Ozaukee	5.4	8.6	-0.3	-5.6	5.1	8.2
Racine	11.7	18.7	--[a]	0.0	11.7	19.0
Walworth	13.0	20.7	0.1	0.7	13.1	21.3
Washington	10.2	16.3	-0.1	-1.0	10.1	16.4
Waukesha	13.1	20.9	-0.8	-6.1	12.3	20.0
Region	62.7	100.0	-1.1	-1.8	61.6	100.0

[a] *Less than 0.05 square mile.*

Source: SEWRPC.

(see Table 25). The plan recommends that these areas be maintained in rural use. The plan encourages the continuation of agricultural uses in these areas. In particular, the plan seeks to preserve, insofar as practicable, the most productive soils within these areas, namely U. S. Natural Resources Conservation Service capability Class I and Class II soils. Under the plan, the conversion of farmlands covered by Class I and Class II soils to urban use would be

Table 25

EXISTING AND PROPOSED AGRICULTURAL AND RURAL-DENSITY RESIDENTIAL LANDS IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Agricultural and Rural-Density Residential Land					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	160.0	11.5	-7.5	-4.7	152.5	11.4
Milwaukee	29.3	2.1	-5.6	-19.1	23.7	1.8
Ozaukee	139.7	10.0	-6.1	-4.4	133.6	10.0
Racine	210.1	15.1	-7.2	-3.4	202.9	15.2
Walworth	386.0	27.7	-4.5	-1.2	381.5	28.6
Washington	247.7	17.7	-10.1	-4.1	237.6	17.8
Waukesha	222.6	15.9	-22.1	-9.9	200.5	15.2
Region	1,395.4	100.0	-63.1	-4.5	1,332.3	100.0

Source: SEWRPC.

Table 26

EXISTING AND PROPOSED AGRICULTURAL LANDS COVERED BY U. S. NATURAL RESOURCES CONSERVATION SERVICE SOIL CAPABILITY CLASS I AND CLASS II SOILS: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Agricultural Land Covered by Class I and Class II Soils					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent of Total
Kenosha	133.3	12.5	-6.3	-4.7	127.0	12.5
Milwaukee	26.5	2.5	-5.1	-19.1	21.4	2.1
Ozaukee	104.8	9.8	-4.6	-4.4	100.2	9.8
Racine	170.8	16.0	-5.8	-3.4	165.0	16.2
Walworth	312.7	29.3	-3.8	-1.2	308.9	30.3
Washington	165.7	15.6	-6.8	-4.1	158.9	15.6
Waukesha	152.5	14.3	-15.1	-9.9	137.4	13.5
Region	1,066.3	100.0	-47.5	-4.5	1,018.8	100.0

Source: U. S. Natural Resources Conservation Service and SEWRPC.

limited to lands located in proximity to existing urban service areas as necessary for the orderly growth and development of those urban areas, as well as to lands located beyond the urban service areas which have been committed to urban development on already approved subdivision plats. As indicated on Table 26, agricultural lands covered by these soils encompassed about 1,066 square miles, or about 76 percent of the agricultural and rural residential lands in the Region, in 1990. Under the year 2020 land use plan, about 1,019 square miles, or about 96 percent of the Class I and Class II soils, would be retained in agricultural use through the year 2020.

The regional plan recognizes that under the provisions of the Wisconsin Statutes creating the Wisconsin Farmland Preservation Program, counties in the State are responsible for the identification of prime agricultural lands. The plan further recognizes that the criteria used to identify prime agricultural lands may differ from county to county. Counties in the Region are encouraged to prepare and adopt updated farmland preservation plans which identify prime agricultural lands. Such plans should seek to preserve Class I and Class II soils insofar as practicable and should establish the presence of Class I and Class II soils as a key determinant in the identification of prime

agricultural land. Counties may choose to include other classes of soils in the definition of prime agricultural land and may incorporate other criteria, such as size of farm units or size of the contiguous farming area, into the definition of prime agricultural land. Prime agricultural lands identified in county farmland preservation plans should be placed in exclusive agricultural zoning districts which specify a minimum parcel size of 35 acres.

In addition to maintaining agricultural resources for future generations, the preservation of agricultural land as recommended under the plan serves a number of other important public purposes. Such preservation helps to prevent scattered, incomplete neighborhoods which are difficult to provide with basic public services and facilities, and can thus help to control local public expenditures. The preservation of farmland would, moreover, help maintain the natural beauty and cultural heritage of the Region.

Other lands in this category—lands which are not identified as prime agricultural lands under county farmland preservation plans—are recommended to be retained in rural use. The regional plan encourages the continuation of agricultural activity in these areas, recognizing that such activity may occur in the form of smaller farms such as horse farms, hobby farms, or community-supported agricultural operations. Under the plan, development in these areas would be limited to rural-density residential development, defined as development at densities of no more than one dwelling unit per five acres. Where rural residential development is accommodated, the plan encourages the use of residential cluster designs, with dwelling units developed in clusters surrounded by agricultural and other open space sufficient to maintain the maximum recommended density of no more than one dwelling unit per five acres. Other than to accommodate clustering—or, alternatively, development involving "lot averaging"[3]—land parcels should be at least five acres in area, and larger parcel sizes are encouraged. The intent of these recommendations is to preserve rural character and the open space environment; to minimize additional scattered urban development, which tends to destroy rural character; to avoid environmental problems attendant to the widespread use of onsite wells and sewage disposal systems; to minimize disturbance of natural drainage systems; to minimize infrastructure installation and maintenance costs; and, at the same time, to accommodate, on a limited basis, the likely continued demand for housing in outlying areas of the Region.

Distribution of Population, Households, and Employment

Under the new year 2020 land use plan, the relative distribution of population, households, and employment among the counties in the Region would change somewhat over the period from 1990 to 2020, as shown, respectively, in Tables 27, 28, and 29. While the regional land use plan seeks to centralize new urban development in the Region to the extent practicable, Milwaukee County's share of population, households, and employment would continue to decline somewhat. Waukesha County would experience the greatest increase in the share of total regional population, households, and employment.

Urban Population Density

The population density of the developed area of the Region has decreased dramatically since 1920 (see Table 30). Under the plan, the urban population density would continue to decline, but at a reduced rate, from 3,510 persons per square mile in 1990 to 2,922 persons per square mile in 2020. The plan seeks to moderate, to the extent practicable, the long-term trend toward lower development densities. The plan emphasizes development at medium densities within planned urban service areas and seeks to minimize new low- and suburban-density residential development beyond the planned urban service areas.

Public Sanitary Sewer and Water Supply Service

Under the year 2020 land use plan, all proposed new urban development within the Region would be served by public sanitary sewer and water supply facilities. In addition, public sanitary sewer and water supply service would be extended to certain existing urban areas lacking these facilities. Areas of the Region which would be served with public sanitary sewer and water supply facilities under the plan are shown on Map 18. In 1990, about 322 square miles, or 63 percent of the total developed urban area of the Region, and about 1.6 million persons, or 88 percent of the resident population of the Region, were served by public sanitary sewer facilities (see Table 31). About 265 square miles, or 52 percent of the developed area of the Region, and about 1.5 million persons, or 82 percent of the resident population, were served by public water supply facilities. Under the recommended plan, about 594 square miles, or 84 percent of the developed urban area, and about 1.9 million persons, or 91 percent of the resident population, would be served by public sanitary sewer and water supply facilities by the plan design year. Public water supply service would be provided in several small com-

[3] *"Lot averaging" refers to designs which involve reductions in the area of a lot below the minimum required under zoning, provided that the area by which it is reduced is added to another lot in the proposed development.*

Table 27

EXISTING AND PROPOSED POPULATION IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Population					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Persons	Percent of Total	Persons	Percent	Persons	Percent of Total
Kenosha	128,200	7.1	31,400	24.5	159,600	7.7
Milwaukee	959,300	53.0	63,200	6.6	1,022,500	49.2
Ozaukee	72,800	4.0	16,100	22.1	88,900	4.3
Racine	175,100	9.7	20,500	11.7	195,600	9.4
Walworth	75,000	4.1	20,000	26.7	95,000	4.6
Washington	95,300	5.3	33,500	35.2	128,800	6.2
Waukesha	304,700	16.8	82,800	27.2	387,500	18.6
Region	1,810,400	100.0	267,500	14.8	2,077,900	100.0

Source: SEWRPC.

Table 28

EXISTING AND PROPOSED HOUSEHOLDS IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Households					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Households	Percent of Total	Households	Percent	Households	Percent of Total
Kenosha	47,000	6.9	14,800	31.5	61,800	7.5
Milwaukee	373,100	55.2	40,200	10.8	413,300	50.0
Ozaukee	25,700	3.8	9,800	38.1	35,500	4.3
Racine	63,700	9.4	14,500	22.8	78,200	9.4
Walworth	27,600	4.1	9,300	33.7	36,900	4.5
Washington	33,000	4.9	19,300	58.5	52,300	6.3
Waukesha	106,000	15.7	43,100	40.7	149,100	18.0
Region	676,100	100.0	151,000	22.3	827,100	100.0

Source: SEWRPC.

munities for which public sanitary sewer service is not envisioned.

The developed urban area and population level which would be served by public sanitary sewer and water supply facilities under the recommended plan is summarized by county in Table 32. The proportion of developed area so served would range from 56 percent in Washington County to nearly 100 percent in Milwaukee County. The proportion of the resident population served would range from a low of 69 percent in Washington County to a high of nearly 100 percent in Milwaukee County.

SUMMARY AND CONCLUSIONS

This chapter has described the recommended land use plan for Southeastern Wisconsin for the year 2020. The plan was prepared as an extension to the year 2020 of the year 2010 regional land use plan adopted by the Commission in 1992. As it was extended in time, the plan was reviewed and amended to reflect development which has occurred or which has been committed to since completion of the year 2010 land use plan. The new plan was designed to accommodate new forecasts of population, households,

Table 29

EXISTING AND PROPOSED EMPLOYMENT IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Employment					
	Existing 1990		Planned Increment 1990-2020		Total 2020	
	Jobs	Percent of Total	Jobs	Percent	Jobs	Percent of Total
Kenosha	50,900	4.8	20,100	39.5	71,000	5.6
Milwaukee	613,300	57.5	46,300	7.5	659,600	51.7
Ozaukee	36,400	3.4	13,600	37.4	50,000	3.9
Racine	88,800	8.3	19,900	22.4	108,700	8.5
Walworth	40,200	3.8	19,800	49.3	60,000	4.7
Washington	46,100	4.3	16,900	36.7	63,000	4.9
Waukesha	191,500	17.9	73,300	38.3	264,800	20.7
Region	1,067,200	100.0	209,900	19.7	1,277,100	100.0

Source: SEWRPC.

Table 30

POPULATION DENSITY IN THE REGION: SELECTED YEARS, 1850-1990, AND 2020 RECOMMENDED LAND USE PLAN

Year	Urban Population		Rural Population		Total Population	Area[a] (square miles)		Persons per Square Mile	
	Number	Percent of Total	Number	Percent of Total		Urban	Total	Urban	Total
1850	28,623	25.2	84,766	74.8	113,389	4	2,689	7,156	42.2
1880	139,509	50.3	137,610	49.7	277,119	18	2,689	7,751	103.1
1900	354,082	70.6	147,726	29.4	501,808	37	2,689	9,570	186.6
1920	635,376	81.1	148,305	18.9	783,681	56	2,689	11,346	291.4
1940	991,535	92.9	76,164	7.1	1,067,699	90	2,689	11,017	397.1
1950	1,179,084	95.0	61,534	5.0	1,240,618	146	2,689	8,076	461.4
1963	1,634,200	97.6	40,100	2.4	1,674,300	282	2,689	5,795	622.6
1970	1,728,946	98.5	27,137	1.5	1,756,083	338	2,689	5,115	653.1
1980	1,749,238	99.1	15,558	0.9	1,764,796	444	2,689	3,940	656.3
1990	1,800,751	99.5	9,613	0.5	1,810,364	513	2,689	3,510	673.2
2020	2,071,667	99.7	6,233	0.3	2,077,900	709	2,689	2,922	772.7

[a]*Based upon urban growth ring analysis.*

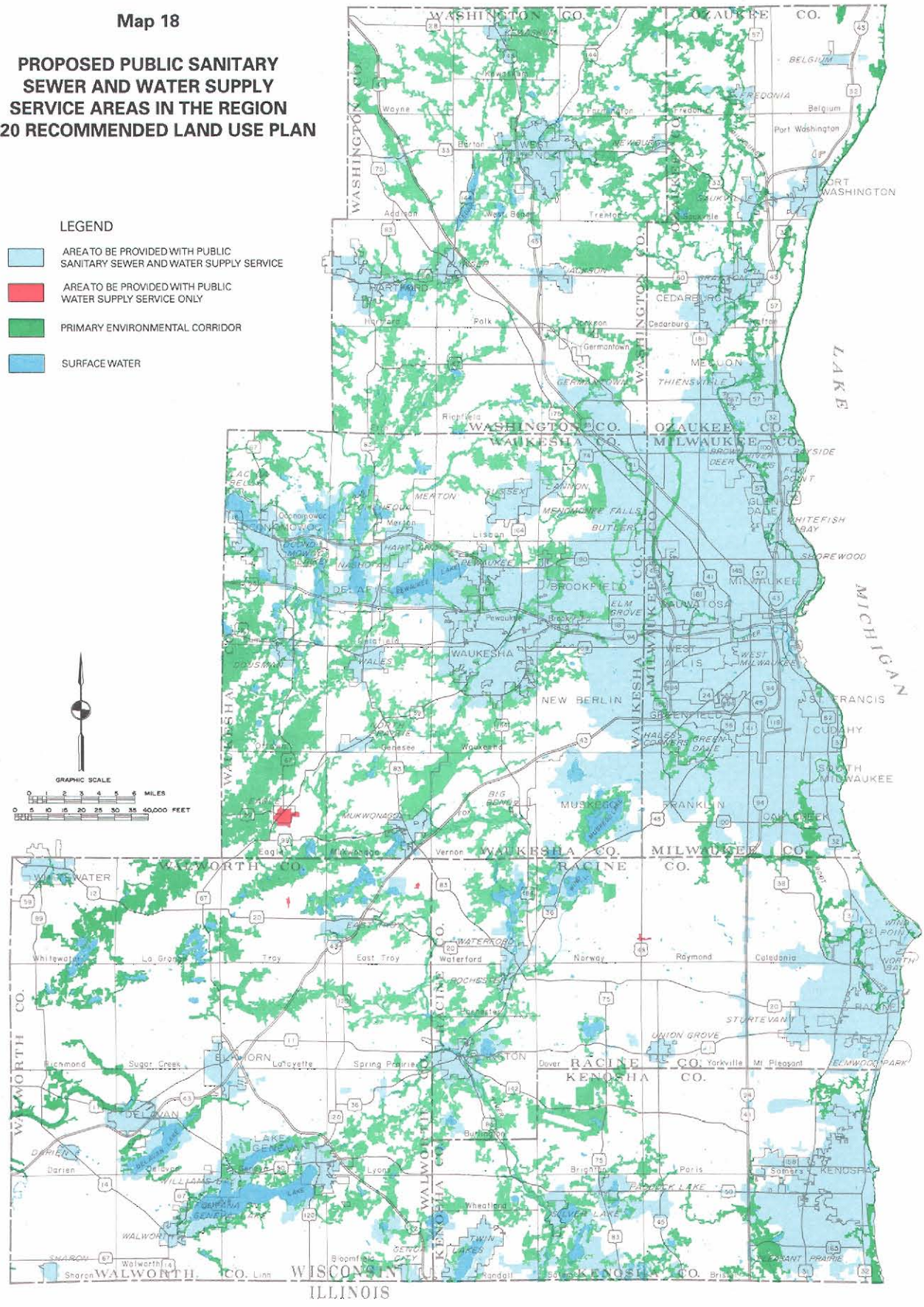
Source: U. S. Bureau of the Census and SEWRPC.

and employment in the Region through the year 2020. This chapter also describes these new forecasts, and the demographic and economic inventories supporting these forecasts.

The year 2020 regional land use plan incorporates the basic principles and concepts of the adopted year 2010 plan. Like the adopted plan, the new plan recommends a relatively compact, centralized regional settlement pattern, with urban development occurring generally in concentric rings along the periphery of, and outward from, existing urban centers in the Region. The proposed year 2020 plan places heavy emphasis on the continued impact of the urban land market in determining the location, intensity, and character of future development. Like the adopted plan, the proposed plan seeks to influence the operation of the urban land market in several important ways in order to achieve a more healthful, attractive, and efficient settlement pattern. In this regard, the proposed plan recommends that new urban development occur primarily in

Map 18

PROPOSED PUBLIC SANITARY SEWER AND WATER SUPPLY SERVICE AREAS IN THE REGION 2020 RECOMMENDED LAND USE PLAN



Under the year 2020 regional land use plan, all proposed new urban development would be served by public sanitary sewer and water supply facilities. In addition, public sanitary sewer and water supply service would be extended to certain existing urban areas currently lacking these facilities. About 594 square miles, or 84 percent of the developed urban area of the Region, and about 1.89 million persons, or about 91 percent of the total regional population, would be served by public sanitary sewer and water supply facilities by the year 2020. As shown above, public water supply service would be provided in several outlying communities for which public sanitary sewer service is not planned.

Source: SEWRPC.

Table 31

EXISTING AND PROPOSED DEVELOPED AREA AND POPULATION SERVED BY PUBLIC SANITARY SEWER AND WATER SUPPLY SERVICE IN THE REGION: 1990 AND 2020 RECOMMENDED LAND USE PLAN

Area and Population	Existing Service: 1990		Planned Service Increment: 1990-2020		Total Service: 2020	
	Public Sanitary Sewer	Public Water Supply	Public Sanitary Sewer	Public Water Supply	Public Sanitary Sewer	Public Water Supply
Developed Area[a]						
Total Square Miles	512.7	512.7	196.0	196.0	708.7	708.7
Square Miles Served	322.1	265.2	271.7	331.0	593.8	596.2
Percent of Total Served	62.8	51.7	--	--	83.8	84.1
Population						
Total Population	1,810,400	1,810,400	267,500	267,500	2,077,900	2,077,900
Population Served	1,594,300	1,484,600	299,400	411,100	1,893,700	1,895,700
Percent of Total Served	88.1	82.0	--	--	91.1	91.2

NOTE: Public sanitary sewer and water supply service areas presented in this table do not include lands that are located adjacent to, but outside, the Region, including 1.2 square miles of land in the Jefferson County portion of the Whitewater urban service area, 0.5 square mile of land in the Jefferson County portion of the Oconomowoc urban service area, and 0.9 square mile of land in the Dodge County portion of the Hartford urban service area.

[a] *Based on urban growth ring analysis.*

Source: SEWRPC.

Table 32

EXISTING AND PROPOSED DEVELOPED AREA AND POPULATION SERVED BY PUBLIC SANITARY SEWER AND WATER SUPPLY SERVICE IN THE REGION BY COUNTY: 1990 AND 2020 RECOMMENDED LAND USE PLAN

County	Existing 1990									Planned 2020				
		Public Sewer Service				Public Water Supply Service					Public Sewer and Water Supply Service			
		Developed Area Served		Population Served		Developed Area Served		Population Served			Developed Area Served		Population Served	
	Developed Area[a] (square miles)	Square Miles	Percent of County or Region	Number	Percent of County or Region	Square Miles	Percent of County or Region	Number	Percent of County or Region	Developed Area (square miles)	Square Miles	Percent of County or Region	Number	Percent of County or Region
Kenosha	37.4	25.1	67.1	111,900	87.3	17.8	47.6	97,000	75.7	70.7	65.7	92.9	146,700	91.9
Milwaukee	170.8	162.6	95.2	954,600	99.5	155.5	91.0	942,500	98.3	204.0	202.5	99.3	1,020,600	99.8
Ozaukee	32.5	17.3	53.3	54,900	75.4	8.4	25.9	35,900	49.3	47.6	41.2	86.6	72,900	82.0
Racine	51.2	34.1	66.7	154,900	88.5	24.6	48.1	142,700	81.5	73.1	64.2	87.8	178,300	91.2
Walworth	35.3	13.9	39.3	45,200	60.3	11.6	32.8	40,900	54.5	49.8	34.5	69.3	67,600	71.2
Washington	41.1	11.3	27.5	53,300	55.9	11.0	26.8	50,900	53.4	61.8	34.8	56.3	89,300	69.3
Waukesha	144.4	57.8	40.0	219,500	72.0	36.3	25.1	174,700	57.3	201.7	150.9	74.8	318,300	82.1
Region	512.7	322.1	62.8	1,594,300	88.1	265.2	51.7	1,484,600	82.0	708.7	593.8	83.8	1,893,700	91.1

NOTE: Public sanitary sewer and water supply service areas presented in this table do not include lands that are located adjacent to, but outside, the Region, including 1.2 square miles of land in the Jefferson County portion of the Whitewater urban service area, 0.5 square mile of land in the Jefferson County portion of the Oconomowoc urban service area, and 0.9 square mile of land in the Dodge County portion of the Hartford urban service area.

[a] *Based on historical urban growth analysis.*

Source: SEWRPC.

those areas of the Region which are covered by soils suitable for such development and in those areas which can be readily served by essential municipal facilities and services, including public sanitary sewerage, water supply, and mass transit facilities and services. The plan recommends the preservation of the identified primary environmental corridors and the preservation in agricultural and related use of most of the remaining prime agricultural land in the Region.

The key features of the year 2020 land use plan are summarized as follows:

1. The land use plan was designed to accommodate an intermediate-growth scenario for Southeastern Wisconsin through the year 2020. Under the plan, the resident population of the Region would increase by 267,500 persons, or 15 percent, from 1,810,400 persons in 1990 to 2,077,900 persons in 2020. The number of households would increase by 151,000, or 22 percent, from 676,100 households in 1990 to 827,100 households in 2020. Total employment in the Region would increase by 209,900 jobs, or 20 percent, from 1,067,200 jobs in 1990 to 1,277,100 jobs in 2020.

2. Under the plan, lands in urban uses—including urban-density residential, commercial, industrial, intensive recreational, governmental and institutional, and transportation, communication, and utility uses—together with unused urban lands would increase from 637 square miles in 1990 to 737 square miles by the year 2020, an increase of 100 square miles, or 16 percent. By the year 2020, urban lands would account for 27 percent of the total area of the Region, compared to 24 percent in 1990.

3. Under the plan, most new residential land would be developed at urban densities—defined as densities of more than one dwelling unit per five acres. The plan envisions that the urban residential land area would increase by 66 square miles, or 21 percent, from 308 square miles in 1990 to 374 square miles in 2020. The bulk of the new urban residential land would consist of medium-density development, with a typical single-family lot size of one-quarter acre and a typical multiple-family development averaging about 10 dwelling units per net acre. The plan recommends that new urban residential development occur in planned neighborhood units served by public sanitary sewer and water supply facilities, public transit service, and other basic services and facilities.

4. The plan envisions a total of 18 major commercial centers and 27 major industrial centers in the Region by the plan design year, including four new commercial centers and five new industrial centers. All of the proposed sites were in various stages of development as of 1997. The plan further envisions a total of 30 major park sites. All of the proposed new park sites were at least partially acquired as of 1997.

5. The population density of the developed area of the Region has decreased dramatically since 1920. Under the plan, the urban population density would continue to decline, but at a reduced rate, from 3,510 persons per square mile in 1990 to 2,922 persons per square mile in 2020. The plan seeks to moderate, to the extent practicable, the long-term trend toward lower development densities. The plan emphasizes development at medium densities within planned urban service areas and seeks to minimize new low- and suburban-density residential development beyond the planned urban service areas.

6. Under the plan, all proposed new urban development would be served by public sanitary sewer and water supply facilities. In addition, public sanitary sewer and water supply service would be extended to certain existing urban areas lacking these facilities. Under the recommended plan, about 594 square miles, or 84 percent of the developed urban area, and about 1.9 million persons, or 91 percent of the resident population, would be served by public sanitary sewer and water supply facilities by the year 2020. Public water supply service would be provided in several small communities for which public sanitary sewer service is not envisioned.

7. The plan recommends the preservation in essentially natural, open uses of the remaining primary environmental corridors in the Region—elongated areas in the landscape encompassing concentrations of the most important remaining natural resource features in the Region. The planned environmental corridors encompass 474 square miles, or 18 percent of the total area of the Region. The preservation of these corridors is considered essential to the maintenance of the overall environmental quality of the Region and the preservation of its unique cultural and natural heritage and natural beauty. Under the plan, development within the corridors would be limited to essential transportation and utility facilities, compatible outdoor recreational facilities, and, on a limited basis, rural-density residential development.

8. Under the plan, those areas which are neither designated for future urban use nor recommended for preservation as environmentally sensitive areas are identified as "agricultural and rural-density residential land." The plan recommends that these areas be maintained in rural use. The plan particularly calls for preservation in agricultural use of those agricultural lands which are covered by the most productive soils, U. S. Natural Resources Conservation Service capability Class I and Class II soils. In 1990, agricultural and rural-density residential lands encompassed 1,395 square miles in the Region, of which 1,066 square miles, or 76 percent,

were covered by Class I and Class II soils. The plan recommends that 1,332 square miles, or 95 percent, of existing agricultural and rural-density residential lands be maintained in agricultural use and that 1,019 square miles, or 96 percent, of existing agricultural lands covered by Class I and Class II soils be retained in agricultural use.

The plan recommends that any new development in those agricultural lands not retained in agricultural use be limited to rural-density residential development, defined as development at densities of no more than one dwelling unit per five acres. Where rural-density residential development is accommodated, the plan encourages the use of cluster designs, with dwelling units developed in clusters surrounded by agricultural and other open space sufficient to maintain the maximum recommended density of no more than one dwelling unit per five acres.

Chapter IV

OBJECTIVES, PRINCIPLES, AND STANDARDS

INTRODUCTION

Planning is a rational process for formulating and meeting objectives. Consequently, the formulation of objectives is an essential task that must be undertaken before plans can be prepared and evaluated. This chapter presents a set of transportation system objectives along with supporting principles and related standards recommended by the Technical Coordinating and Advisory Committee on Regional Transportation System Planning as a basis for the preparation and evaluation of the year 2020 regional transportation system plan.

The objectives, principles, and standards set forth in this chapter reflect the insight of advisory committees operating within the framework of the continuing regional land use-transportation study since the original regional transportation system plan. Such advisory committees have guided all major regional and subregional transportation planning efforts, including the jurisdictional highway system plans prepared for all seven counties in the Region as well as the transit system development plans and programs prepared for the Racine, Kenosha, and Waukesha areas and for Ozaukee, Washington, and Waukesha Counties. The advisory committees involved have had a combined membership of hundreds of elected and appointed officials and concerned citizens.

BASIC CONCEPTS AND DEFINITIONS

The terms "objective," "principle," "standard," "plan," "policy," and "program" are subject to a range of interpretations. Although this chapter deals with only the first three of these terms, an understanding of the interrelationship between the foregoing terms and the basic concepts which they represent is essential to any consideration of objectives, principles, and standards. Under the regional planning program, these terms have been defined as follows:

1. Objective: a goal or end toward the attainment of which plans and policies are directed.

2. Principle: a fundamental, primary, or generally accepted tenet used to support objectives and prepare standards and plans.

3. Standard: a criterion used as a basis of comparison to determine the adequacy of plan proposals to attain objectives.

4. Plan: a design which seeks to achieve agreed-upon objectives.

5. Policy: a rule or course of action used to ensure plan implementation.

6. Program: a coordinated series of policies and actions to carry out a plan.

OBJECTIVES

The objectives adopted for the regional transportation system plan are largely self-descriptive. They are concerned primarily with providing a flexible multi-modal transportation system; alleviating traffic congestion; reducing travel time and accident exposure; and minimizing costs and disruptive effects upon communities and upon the natural resource base. The following specific transportation development objectives have been adopted by the Commission after careful review and recommendation by the Technical Coordinating and Advisory Committee on Regional Transportation System Planning:

1. A multi-modal transportation system which, through its location, capacity, and design, will effectively serve the existing regional land use pattern and promote the implementation of the regional land use plan, meeting and managing the anticipated travel demand generated by the existing and proposed land uses.

2. A transportation system which is economical and efficient and best meets all other objectives while minimizing public and private costs.

3. A multi-modal transportation system which provides appropriate types of transportation needed by all residents of the Region regardless of race, color, national origin, age, physical ability, or income status, at an adequate level of service; choices among transportation modes; and intermodal connectivity. The transportation system shall also permit ready adaptation to changes in travel

demand, transportation technology, modal use, and new transportation management measures.

4. A transportation system which minimizes disruption of existing neighborhood and community development, including adverse effects upon the property-tax base.

5. A transportation system which serves to protect the overall quality of the natural environment, which promotes the public health, and which helps to achieve ambient air quality standards.

6. A transportation system which facilitates the movement of people and goods between component parts of the Region.

7. A transportation system which reduces accident exposure and provides for increased travel safety and personal security.

8. A transportation system which minimizes the amount of energy consumed, especially such non-renewable energy sources as fossil fuels.

9. A transportation system which facilitates linked trip making, providing facilities and services necessary for efficient, fast, safe, and convenient intermodal connections.

These transportation development objectives are identical to those adopted under the year 2010 regional transportation planning effort. The review and evaluation of the objectives by the Commission staff, the Advisory Committee, and the Commission itself indicated that the basic needs which a transportation system should seek to satisfy in the Region have not changed appreciably.

PRINCIPLES AND STANDARDS

A planning principle and one or more accompanying planning standards complement each of the foregoing specific transportation system development objectives, as shown in Table 33. Each standard is directly related to the accompanying planning principle, as well as to the objective, and serves to facilitate quantitative application of the objectives in plan design, testing, and evaluation.

The planning standards herein adopted fall into two groups: comparative and absolute. Comparative standards can be applied only through a comparison of alternative plan proposals, as in the example of the standard calling for minimizing the total vehicle-miles of travel within the Region. No desirable value can be realistically assigned to this standard; therefore, its application must be a comparative one, in which the alternative plan resulting in the fewest vehicle-miles of travel is deemed to best meet this standard. Absolute standards can be applied individually to each alternative plan proposal, since they are expressed in terms of maximum, minimum, or desirable values, as in the case of, for example, the standard calling for a maximum overall travel time of 35 minutes to three major retail and service centers in the Milwaukee urbanized area..

OVERRIDING CONSIDERATIONS

In applying planning standards and in preparing the regional transportation system plan, several overriding considerations must be recognized:

1. Standards cannot be used to determine the effect of individual facilities on each other or on the system as a whole. Traffic simulation models are used in this respect to perform a quantitative test of the ability of a proposed system to accommodate the travel demand derived from the land use plan.

2. An overall evaluation of each transportation plan must be made on the basis of cost. Such an analysis may show that the attainment of one or more of the standards is beyond the economic capability of the Region.

3. It is unlikely that any one plan proposal will meet all the standards completely. The extent to which each standard is met, exceeded, or violated must serve as a measure of the ability of each alternative plan proposal to achieve the specific objectives which the given standard complements.

4. Certain objectives and standards may be complementary; the achievement of one objective or standard may support the achievement of others. Conversely, some objectives and standards may be conflicting, requiring resolution through compromise.

5. Standards must be judiciously applied to areas or facilities which are already partially or fully developed. Application of standards in such cases may require extensive renewal or reconstruction programs.

Table 33

TRANSPORTATION SYSTEM DEVELOPMENT OBJECTIVES, PRINCIPLES, AND STANDARDS

OBJECTIVE NO. 1

A multi-modal transportation system which, through its location, capacity, and design, will effectively serve the existing regional land use pattern and promote the implementation of the regional land use plan, meeting and managing the anticipated travel demand generated by the existing and proposed land uses.

PRINCIPLE

An integrated multi-modal regional transportation system connects major land use activities within the Region, providing the accessibility essential to the support of these activities. Through its effect on accessibility, the regional transportation system can be used to induce development in desirable locations and to discourage development in undesirable locations.

STANDARDS

1. The transportation system should provide service by highway and public transit modes within each urbanized area of the Region so that all residents of an urbanized area, without regard to color, race, or national origin, are

   a. within 30 minutes' overall travel time[a] through travel by personal vehicle on the arterial street and highway system and 45 minutes' overall travel time through travel on the public transit system of 40 percent of that urbanized area's employment opportunities;

   b. within 35 minutes' overall travel time of three major retail and service centers in the Milwaukee urbanized area and one such center in the Kenosha and Racine urbanized areas;

   c. within 40 minutes' overall travel time of a major medical center and/or 30 minutes' overall travel time of a hospital and/or medical clinic;

   d. within 40 minutes' overall travel time of a major park or outdoor recreation area;

   e. within 40 minutes' overall travel time of a vocational school, college, or university; and

   f. within 60 minutes' overall travel time of a scheduled air transport terminal.

2. The regional transportation system should be adjusted to the regional land use plan so that a higher relative accessibility is provided to areas in which higher-density development is planned than to areas in which low-density development is planned or to areas which should be protected from development.

3. Urban rapid and express transit service should connect and serve

   a. major retail and service centers;

   b. major industrial centers;

   c. major medical centers;

   d. major park and outdoor recreation areas;

   e. vocational schools, colleges, and universities;

   f. scheduled air transport terminals; and

   g. high-density residential areas.

OBJECTIVE NO. 2

A transportation system which is economical and efficient and best meets all other objectives while minimizing public and private costs.

PRINCIPLE

The total resources of the Region are limited, and any undue investment in transportation facilities and services must occur at the expense of other public and private investment; therefore, total transportation costs for the desired level of service should be minimized.

STANDARDS

1. The sum of transportation system operating and capital investment costs[b] should be minimized.

2. The direct benefits derived from transportation system improvements should exceed the direct costs of such improvements.

3. Full use of all existing major transportation facilities should be encouraged through low-capital-intensive and noncapital-intensive transportation system management measures[c] cooperatively fostered by government, business, and industry, prior to any capital-intensive or disruptive construction or provision of new facilities and services.

OBJECTIVE NO. 3

A multi-modal transportation system which provides appropriate types of transportation needed by all residents of the Region regardless of race, color, national origin, age, physical ability, or income status, at an adequate level of service; choices among transportation modes; and intermodal connectivity. The transportation system shall also permit ready adaptation to changes in travel demand, transportation technology, modal use, and new transportation management measures.

PRINCIPLE

A flexible, intermodal regional transportation system, functionally integrated into the larger urban complex, is necessary to provide an adequate level of transportation service to all segments of the population and to support essential economic and social activities. A regional transportation system consisting, as may be found appropriate, of arterial street and highway facilities, public transit facilities, bicycle and pedestrian facilities, associated terminal facilities, and transportation system management measures can be located and designed to be readily adaptable to changes in transportation technology and to the major socio-economic changes that affect travel demand. Arterial streets and highways provide for the movement of persons utilizing automobiles, taxicabs, buses, and bicycles and for the major transport of goods utilizing trucks and buses. Public transit provides passenger service utilizing rail vehicles, buses, vans, and taxicabs. Public transit supplies additional passenger transportation system capacity which can alleviate peak loadings on highway facilities and assist in reducing the demand for additional highways and for land necessary for parking facilities at major regional land use activities. Bicycle and pedestrian facilities which may provide for the sole movement of bicyclists and pedestrians may share the rights-of-way of arterial streets and can be designed to promote connectivity between various modes of travel. Transportation system management can facilitate safe and efficient travel on highway and public transit facilities, can influence travel demand, and reduce peak loadings on the transportation system.

STANDARDS

1. ARTERIAL STREET AND HIGHWAY SYSTEM

a. Arterial streets and highways should be provided at intervals of no more than one-half mile in each direction in urban high-density areas, at intervals of no more than one mile in each direction in urban medium-density areas, at intervals of no more than two miles in each direction in urban low-density and suburban-density areas, and at intervals of no less than two miles in each direction in rural areas.

b. Freeways or expressways should be considered for those travel corridors[d] within the Region which meet all of the following criteria:

   1) The corridor provides intercommunity service;

   2) The desired speeds or a volume-to-design-capacity ratio of 1.0 require(s) control of access and an uninterrupted flow; and

   3) Potential average weekday traffic exceeds 45,000 vehicles per day in urban areas and 25,000 vehicles per day in rural areas.

2. PUBLIC TRANSIT

a. Urban public transit facilities should be provided to connect[e] noncontiguous urban development with the urban center[f] of an urbanized area and within urbanized areas local transit should be provided to serve[g] only high- and medium-density residential neighborhoods and to connect such neighborhoods to the following land areas:

   1) Transportation terminal facilities, including interregional and urban rapid and express transit service loading and unloading points and scheduled air transport terminals;

   2) Major and community retail and service centers;

   3) Major and community industrial centers;

   4) Major parks and such special-use areas as zoological and botanical gardens, civic centers, senior-citizen centers, fairgrounds, arenas, and stadiums; and

   5) Such institutions as universities, colleges, vocational schools, secondary schools, community libraries, hospitals, mental-health centers and sanitariums, and seats of State, county, and local governments.

b. Urban rapid transit service should be provided in travel corridors where service will save a minimum of one minute per mile of travel over alternative local transit service and where in-vehicle trip length is four miles or longer.

c. Rapid or express transit service should be provided as necessary to reduce peak loadings on arterial streets and highways so as to maintain a desirable level of transportation service between component parts of the Region.

d. Rapid and express transit service should be extended as warranted to perform a collection-and-distribution function so as to maximize the convenience of transit service.

e. Urban residential land shall be considered served by urban public transit when such land is within the distance or time of the various types of service set forth in the following table:

Type of Urban Public Transit Service	Maximum Distance or Time		
	Walking	Driving	Feeder Bus or Van
Rapid[h]	0.50 mile	3.0 miles	15 minutes
Express[i]	0.50 mile	1.5 miles	--
Local[j]	0.25 mile	1.5 miles	--

f. The number of residents of an urbanized area served by rapid transit should be maximized.

g. The number of jobs in an urbanized area served by rapid transit should be maximized. A job shall be considered served by rapid transit if it is within a one-half-mile walking distance or a 15-minute feeder bus ride of a rapid transit stop.

h. Public transit routes should be direct in alignment, with a minimum number of turning movements, and arranged to minimize duplication of service and minimize transfers which would discourage transit use.

i. Operating headways[k] for local transit service within urban areas shall be designed to provide service at intervals capable of accommodating passenger demand at the recommended load standards, but shall not exceed 30 minutes during weekday peak periods or 60 minutes during weekday off-peak periods and weekends.

j. Operating headways for rapid transit service should be designed to provide service at intervals capable of accommodating demand at the recommended load standards, but shall not exceed 30 minutes. Operating headways shall be less than 30 minutes if necessary to meet transit demand during weekday peak periods.

k. Urban fixed-route public transit stops within urban areas should be located as follows:

Type of Urban Public Transit Service	Location of Stops
Rapid	At terminal areas and one-half mile or more on line-haul sections
Express	At terminal areas, intersecting public transit routes, intersecting arterial streets, and major traffic generators
Local	From 600 to 1,200 feet apart

l. Express and local public transit routes should be located sufficiently near concentrations of demand, including within the central business districts, so that 90 percent of transit users need walk no more than one block,[l] or 600 feet, to a stop.

m. Rapid transit routes should be located sufficiently near concentrations of demand, including the central business districts, so as to maximize the number of users who need walk no more than one-quarter mile to a stop.

n. The proportion of total trips to the Milwaukee central business district by public transit should be increased to at least 30 percent.

o. Public transit stops should be located and designed to minimize walking distance to and from major trip generators; to provide protection from inclement weather; to promote ready access by feeder bus service where appropriate; and to provide, to the greatest extent practicable, modal interface with other forms of personal and public transportation service.

p. Paratransit service should be available within transit service areas to meet the transportation needs of the elderly and of those persons who because of a mental or physical disability are unable to avail themselves of conventional transit service. Specialized transportation service should be available within the rural portions of the Region to provide a level of transit service at least one day per week.

3. BICYCLE AND PEDESTRIAN FACILITIES

Appropriate bicycle and pedestrian facilities should be provided on those arterial streets and highways, on which bicyclists and pedestrians are legally permitted to operate, identified in the regional bicycle and pedestrian facilities plan for Southeastern Wisconsin.

a. Bicycle paths, lanes, or routes should be provided to connect medium- and high-density residential areas with public transit stations, park-and-pool lots, and major activity centers—office and retail, industrial, parks, and governmental and institutional—located within five miles of such residential areas. Pedestrian ways should be provided to connect medium- and high-density residential areas with public transit stations, park-and-pool lots, and major activity centers located within one mile of such residential areas. Major activity centers include

   - Major office and retail centers, including the Kenosha, Milwaukee, and Racine central business districts;
   - Major industrial centers;
   - Major parks and recreational facilities;
   - Major governmental and institutional centers, including libraries, government administrative centers, medical centers, universities, and technical and vocational schools.

b. All arterial streets and highways in areas of existing or planned urban industrial, commercial, and residential development, except freeways and expressways, should provide accommodation for bicyclists whenever a street or highway is constructed or reconstructed, or—for arterial facilities having a rural cross-section—resurfaced. On two-lane streets and highways having a rural cross-section, a paved shoulder with a minimum width of eight feet should be provided. On streets and highways having an urban cross-section, the outside travel lane should have a minimum usable width of 14 feet. On streets and highways without parking lanes, the usable lane width should be measured from the inside edge of the lane to the edge of the gutter section. Consideration should be given to prohibiting on-street parking where bicycle ways are to be provided.

OBJECTIVE NO. 4

A transportation system which minimizes disruption of existing neighborhood and community development, including adverse effects upon the property-tax base.

PRINCIPLE

The social and economic costs attendant to the disruption and dislocation of homes, businesses, industries, and communication and utility facilities, as well as the adverse effects on the natural resource base, can be minimized through the proper location, design, and operation of transportation facilities and terminals.

STANDARDS

1. The penetration of neighborhood units and of neighborhood facility service areas by arterial streets and highways and primary rapid transit routes should be minimized.

2. The dislocation of households, businesses, industries, and public and institutional buildings caused by the reconstruction of existing or the construction of new transportation facilities and terminals should be minimized.

3. The total amount of land used for transportation facilities and terminals should be minimized.

4. The reduction of the property-tax base caused by the reconstruction of existing or the construction of new transportation facilities and terminals should be minimized.

5. The destruction of historic buildings and of historic, scenic, scientific, archaeological, and cultural sites caused by the reconstruction of existing or the construction of planned transportation facilities and terminals should be minimized.

6. The proper use of land for, and adjacent to, transportation facilities should be maximized and the disruption of future development minimized through advance reservation of rights-of-way for transportation facilities.

7. Transportation facility construction plans should be developed which use sound geometric, structural, and landscape design standards which consider the aesthetic quality of the transportation facilities and the areas through which they pass and which consider any environmental enhancement activities likely to be required.

8. Transportation facilities should be so located as to avoid destruction of visually pleasing buildings, structures, and natural features and to enhance vistas to such features.

OBJECTIVE NO. 5

A transportation system which serves to protect the overall quality of the natural environment, which promotes the public health, and which helps to achieve ambient air quality standards.

PRINCIPLE

Adverse effects on the natural environment, air pollution, water pollution, and the loss of natural habitat and biological diversity in particular can be minimized through the proper location, design, and operation of the transportation system. The relationship of the residents of the Southeastern Wisconsin Region to the natural environment should be one of stewardship.

STANDARDS

1. The location of transportation facilities in or through primary environmental corridors, particularly through the woodland and wetland portions of such corridors, should be minimized.

2. Any damaging effects on the natural resource base caused by the construction of transportation facilities should be minimized.

3. The amount of air pollutants emitted through the operation of the transportation system should be minimized.[m]

4. The loss of prime agricultural farmland to transportation facility construction should be minimized.

OBJECTIVE NO. 6

A transportation system which facilitates the movement of people and goods between component parts of the Region.

PRINCIPLE

To support the everyday economic and social activities, a transportation system which provides for reasonably fast, convenient travel is essential. Personal-vehicle travel, while offering a high degree of mobility, comfort, and convenience, can result, particularly in corridors of high travel demand, in traffic congestion, excessive air-pollutant emissions, and unnecessary motor-fuel consumption. Effective and attractive high-quality public transit service and bicycle and pedestrian facilities may have the potential to directly reduce traffic congestion and associated personal delay, energy consumption, and air pollution when used by previous automobile users. Traffic congestion increases the costs of transportation and can adversely affect the attractiveness of an area for residential use and for the location and operation of businesses and industries.

STANDARDS

1. Total passenger-hours of travel, by highway and public transit modes, within the Region should be minimized.

2. Total vehicle-hours of highway travel within the Region should be minimized.

3. Total vehicle-miles of travel within the Region should be minimized.

4. Highway transportation facilities should be located and designed so as to provide adequate capacity, that is, a volume-to-design-capacity ratio[n] equal to, or less than, 1.0 on the basis of 24-hour average weekday traffic volumes, to meet the existing and potential travel demand.

5. Urban public transit facilities should be designed, implemented, and operated so as to attract the maximum number of travelers currently operating single-occupancy vehicles and to provide adequate transit-vehicle capacity to meet existing and potential travel demand. The average maximum load factor[o] shall not exceed 1.00 in rapid, express, and local transit service in off-peak periods or beyond the 10-minute point[p] in peak periods. The load factor should not exceed 1.00 in rapid and express transit service provided by bus in peak periods or 1.25 in rapid and express transit provided by rail in peak periods. The load factor should not exceed 1.25 in local transit service in peak periods.

6. Bicycle and pedestrian facilities should be located and designed to attract the greatest number of travelers currently operating single-occupancy vehicles.

7. The use of transportation system management measures should be maximized in travel corridors to achieve the desired level of service for both arterial street and highway and public transit facilities and services.

OBJECTIVE NO. 7

A transportation system which reduces accident exposure and provides for increased travel safety and personal security.

PRINCIPLE

Accidents take a heavy toll in life, property damage, and human suffering; contribute substantially to overall transportation costs; and increase public costs for police, emergency medical services, and other social services. Therefore, every attempt should be made to reduce both the incidence and severity of accidents. Crime and the perception of crime hamper the mobility of persons who must travel within areas deemed unsafe, especially those persons dependent on public transportation; promotes urban blight and unsafe and difficult living and working conditions for those individuals and businesses which cannot move away from high-crime areas; promotes the costly dispersion of urban development as businesses and residents seek safer commercial and residential arrangements; and increases public costs for police, emergency medical services, and other social services. Therefore, every attempt should be made to reduce the incidence

of crime where it hampers mobility and access to basic opportunities the transportation system would otherwise provide in the absence of crime and to increase personal security in the operation of the transportation system.

STANDARDS

1. Travel on facilities which exhibit the lowest accident exposure should be maximized.

2. Traffic congestion and vehicle conflicts should be reduced by maintaining a volume-to-design-capacity ratio equal to, or less than, 1.0, on the basis of 24-hour average weekday traffic volumes.

3. Railroad grade separations should be provided at all crossings involving the provision of intercity passenger and commuter train service. For all other crossings, the decision whether or not to provide grade separations should be made at the project planning stage.

OBJECTIVE NO. 8

A transportation system which minimizes the amount of energy consumed, especially such nonrenewable energy sources as fossil fuels.

PRINCIPLE

The environmental costs attendant to the widespread consumption, as well as the mining, drilling, and transport, of fossil fuels used in the operation of the transportation system can include air and water pollution and the despoiling of natural land- and water-based wildlife habitats. The long-term efficiency of the transportation system depends on the conservation of existing nonrenewable energy sources and the increased application of renewable energy sources to fuel transportation.

STANDARD

1. The total amount of nonrenewable energy consumed in the operation of the transportation system, particularly petroleum-based fuels, should be minimized.

OBJECTIVE NO. 9

A transportation system which facilitates linked trip making, providing facilities and services necessary for efficient, fast, safe, and convenient intermodal connections.

PRINCIPLE

An intermodal transportation system provides for efficient interaction among appropriate modes of transportation to facilitate effective passenger and freight movement. Where the use of more than one transportation mode is essential for travel between two points or is best able to achieve transportation-related objectives, proper modal access, terminal capacity, and coordination among transportation providers and between route and schedule information and services are necessary to prevent travel delays and unwanted transportation movements. Time spent waiting for transfers between or among modes raises the costs of travel and may discourage the use of certain modes.

STANDARDS

1. The time individuals spend waiting at any modal transfer point for connecting modes of transportation should be minimized.

2. Parking should be provided at park-and-ride transit stations to accommodate the total parking demand generated by trips which change from auto and bicycle to public transit at each station and at carpool lots to accommodate the total parking demand generated by carpool and other ridesharing participants.

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[a] *Overall travel time is defined as the total door-to-door time of travel from origin to destination, including the time required to arrive at the vehicle and leave the vehicle as well as over-the-road travel time.*

[b] *The costs to be considered may be termed "life-cycle costs" and include capital, maintenance, and operational costs for facilities over the projected physical and economic life of the facility.*

[c] *Low-capital-intensive and noncapital-intensive alternatives to the construction and provision of new transportation facilities and services may include, but are not limited to, the following transportation management measures:*

1. *Such traffic engineering improvements as left- and right-turn lanes, channelization, one-way streets, reversible traffic lanes, intersection widening, bus turnout bays, and improved signage and pavement markings.*

2. *Such traffic control improvements as coordination of traffic signals, use of bus-priority signal control systems, and computer-based traffic control and freeway traffic management.*

3. *Such freeway operational control as advisory information, incident management, on-ramp metering and monitoring, and high-occupancy-vehicle (HOV) lanes and preferential access.*

4. *Ridesharing programs.*

5. *Such parking management measures as pricing of off-street parking to encourage ridesharing for short-term parking, preferential carpool/vanpool parking, and increased rates for weekday parking in the central business district.*

6. *Such transit service improvements as special bus lanes, transfer centers, bus turnout bays, shelters, reduced-transit-fare programs, shuttle service between retail and employment sites, and computer-based interactive scheduling and routing systems.*

7. *Employer-designed trip-reduction strategies.*

8. *Staggered work hours.*

9. *Liberal licensing of taxicabs.*

10. *Banning private vehicles from sections of central business districts during weekdays.*

[d]*The term "travel corridor" is defined as a relatively long and narrow geographic area centered on an existing or proposed arterial highway or rapid transit facility along which a substantial volume of persons or goods are, or are expected to be, transported.*

[e]*Urban public transit facilities shall be considered to connect noncontiguous urban development with the urban center of an urbanized area when the transit vehicle provides immediate access to the urban center and to a public transit system serving the urbanized area.*

[f]*The term "urban center" is defined as the largest concentrated complex of commercial activities within a single urbanized area.*

[g]*Urban residential land shall be considered served by public transit when such land is within the distances of a transit route set forth in Standard No. 2(e) of Objective No. 3.*

[h]*Rapid transit is intended to facilitate relatively fast and convenient transportation along heavily traveled corridors and between major activity centers and high-density residential communities. Rapid transit has relatively high average operating speeds and relatively low accessibility, with station spacings located one-half mile or more apart. Rapid transit service can be provided by commuter rail and "heavy" rail operating over exclusive, grade-separated rights-of-way or by buses operating over exclusive, grade-separated busways. Rapid transit can also be provided by buses operating in mixed traffic on freeways and by "light" rail operating over exclusive, though unseparated-grade, rights-of-way.*

[i]*Express transit service is provided over arterial streets and highways with stops generally located less than 1,200 feet apart at intersecting transit routes, intersecting arterial streets, and major traffic generators. Express transit serves trips of moderate length and can be provided by bus or by light rail operating in mixed traffic on shared rights-of-way. Express mass transit service provides a greater degree of accessibility at somewhat slower operating speeds than rapid transit; it may provide "feeder" service to the rapid transit system.*

[j]*Local transit service is characterized by a high degree of accessibility and low operating speeds. Local service is provided over arterial and collector streets, with stops located no more than 1,200 feet apart. Such service can be provided by bus, trolley, or light-rail vehicles. Local transit also provides a passenger-collection-circulation-distribution function within major activity centers. The collection-circulation-distribution function of local transit service may include the use of buses, vans, trolleys, light-rail vehicles, automated-guideway vehicles, and other types of "people movers," such as moving ramps.*

[k]*The term "operating headway" is defined as the time between any two vehicles operating with fixed routes and schedules.*

[l]*The percents of urban public transit users walking less than one block from transit stop to destination within the Kenosha, Milwaukee, and Racine central business districts in 1991 are set forth below.*

Central Business District	*Percent of Transit Users Walking Less than One Block (1991)*
Kenosha	*87*
Milwaukee	*81*
Racine	*90*

[m]*An analysis, based upon guidelines promulgated by the U. S. Environmental Protection Agency, will be undertaken to demonstrate conformity of the final recommended regional transportation system to the objectives of the Federal Clean Air Act as reflected in the State Implementation Plan for Air Quality.*

[n]*Volume-to-design-capacity ratio is defined as the relationship between the average weekday traffic volume on a particular section of the arterial system and the design capacity of that section, with volume and design capacity expressed in terms of number of vehicles per 24 hours. The design capacity of arterial facilities is set forth in the following table.*

Facility Type	*Average Daily Traffic Volumes (vehicles per 24 hours)*
Freeway	
Four-Lane	*60,000*
Six-Lane	*90,000*
Urban Standard Arterial	
Two-Lane	*13,000*
Four-Lane Undivided	*17,000*
Four-Lane Divided	*25,000*
Six-Lane Divided	*35,000*
Eight-Lane Divided	*45,000*
Rural Standard Arterial	
Two-Lane	*7,000*
Four-Lane Divided	*25,000*

Arterial facilities operating at or under design capacity will generally permit the following average speeds to be achieved during peak-traffic periods:

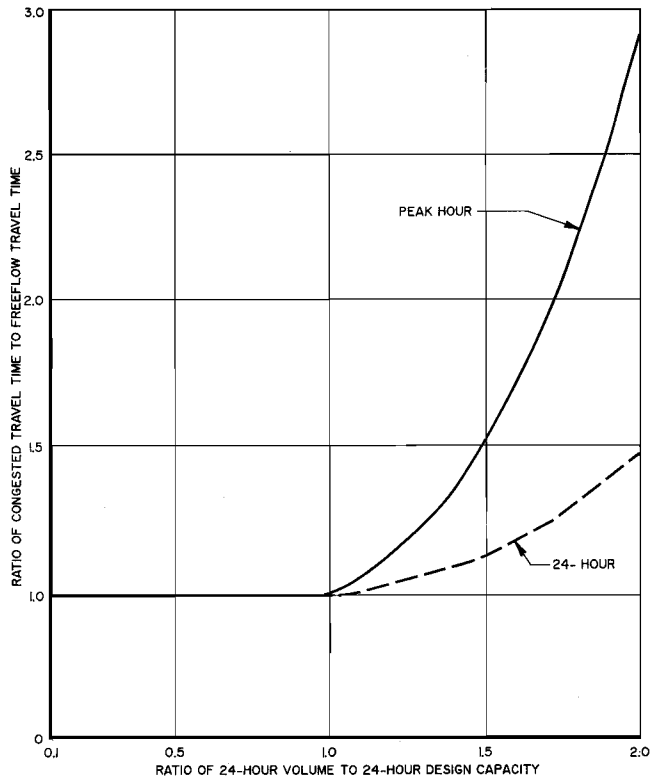
Facility Type	*Average Traffic Speed*	
	Urban	*Rural*
Freeway		
Posted Speed 50 mph	*50*	--
Posted Speed 55 mph	*55*	*55*
Posted Speed 65 mph	--	*65*
Standard Arterial		
Posted Speed 30 mph	*20-25*	--
Posted Speed 40 mph	*30-35*	*30-40*
Posted Speed 55 mph	--	*45-55*

The level of traffic congestion on arterial streets and highways may be stratified into five volume-to-design-capacity ranges:

24-Hour Average Weekday Volume-to-Design-Capacity Ratio	*Peak-Traffic-Period Conditions*					
		Freeway		*Surface Arterial (Urban)*		
	Level of Service	*Average Speed (55 miles per hour speed limit and 55 miles per hour free-flow speed)*	*Operating Conditions*	*Average Speed (30 miles per hour under free-flow condition)*	*Average Signalized Intersection Delay*	*Operating Conditions*
0.00-0.90 Under Design Capacity	*A and B*	*55 mph*	*No restrictions on lane changing*	*30 mph*	*Five to 15 seconds*	*No difficulty in making left turns at unsignalized intersections. No restrictions on lane changing*
0.91-1.00 At Design Capacity	*C*	*55 mph*	*Some restrictions on lane changing*	*30 mph*	*15 seconds*	*Some difficulty in making left turns at unsignalized intersections. Some restrictions on lane changing*
1.01-1.10 Moderately over Design Capacity	*D*	*50 to 55 mph*	*Restrictions on lane changing*	*27 to 30 mph*	*25 seconds*	*Difficulty in making left turns at unsignalized intersections. Restrictions on lane changing*
1.11-1.30 Severely over Design Capacity	*E*	*40 to 50 mph*	*Significant restrictions on lane changing. Traffic flow approaches instability and is susceptible to changing operation conditions*	*24 to 27 mph*	*35 seconds*	*Significant difficulty in making left turns at unsignalized intersections. Significant restrictions on lane changing. Traffic flow approaches instability*

24-Hour Average Weekday Volume-to-Design-Capacity Ratio	Peak-Traffic-Period Conditions					
		Freeway		Surface Arterial (Urban)		
	Level of Service	Average Speed (55 miles per hour speed limit and 55 miles per hour free-flow speed)	Operating Conditions	Average Speed (30 miles per hour under free-flow condition)	Average Signalized Intersection Delay	Operating Conditions
1.31 and Greater Extremely over Design Capacity	F	30 to 40 mph with stop-and-go traffic at less than 30 mph upstream of freeway bottlenecks	Extreme restrictions on lane changing. Unstable flow with speed changes and stop-and-go traffic	15 to 24 mph	35 to 120 seconds	Extreme difficulty in making left turns at unsignalized intersections. Extreme restrictions on lane changing. Unstable flow with speed changes

The peak-hour and average 24-hour travel speed and travel time on an arterial street and highway may be estimated from its 24-hour average weekday traffic volume-to-design-capacity ratio based upon the following figure, which presents a model developed and validated by Commission staff.



[o]*The average maximum load factor is defined as the ratio of the number of passengers carried on public transit vehicles past the maximum load point of any route to the seating capacity of vehicles past that point in the peak-flow direction during the operating period.*

[p]*The 10-minute point is a point located 10 minutes of travel time from the maximum load point on any public transit route. Application of this standard would provide that no passenger would have to stand on board the public transit vehicle for longer than 10 minutes.*

Source: SEWRPC.

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Chapter V

RECOMMENDED TRANSPORTATION PLAN: 2020

INTRODUCTION

This chapter presents the year 2020 regional transportation system plan for Southeastern Wisconsin. The plan was prepared as an extension of the Commission's year 2010 plan, which was adopted by the Commission in December 1994. A major factor driving preparation of the year 2020 plan was a Federal planning requirement that metropolitan transportation plans have a design life of at least 20 years.

The new plan was substantially derived from the year 2010 plan. The process followed did not entail a major review, reappraisal, or reevaluation of the year 2010 plan for a number of reasons. First, the year 2010 plan had been adopted only recently by the Commission, by each of the seven counties in Southeastern Wisconsin, and by many municipalities, and endorsed by the Wisconsin Department of Transportation and the Wisconsin Department of Natural Resources. Second, the year 2010 plan had been well received by all parties concerned. Third, implementation of the year 2010 plan had only just been initiated, and it was too soon to determine whether the year 2010 plan warranted substantial change based upon the extent of plan implementation or transportation system performance. Fourth, new inventories of population, employment, and travel to support a major plan review, reappraisal, and reevaluation were not available, and would not be available until after the year 2000 Census.

The year 2020 regional transportation system plan was explicitly designed to serve the anticipated future travel demands derived from a companion year 2020 regional land use plan, as documented in SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997. Thus, this year 2020 regional transportation system plan, like the previous year 2010 plan, was designed to serve and promote a desirable regional land use pattern, and not a land use pattern simply representing a continuation of existing trends. If transportation facilities and services do indeed influence land development and redevelopment, then the year 2020 regional transportation plan should serve to promote a desirable regional land use pattern.

Being derived from the year 2010 plan, the year 2020 regional transportation plan was designed to minimize investment in the provision of additional highway capacity. The year 2010 plan explicitly considered highway capacity improvement and expansion as a measure of last resort in addressing traffic congestion problems. The potential for land use, public transit, travel demand management, and traffic management measures to alleviate traffic congestion were first considered. Only the residual traffic congestion problems which could not be resolved through these measures were subsequently addressed through the inclusion in the plan of arterial street and highway system capacity improvement and expansion.

The process for preparing the year 2020 regional transportation system plan consisted of six steps. The first step involved assessing the current performance of the regional transportation system and the trends in that performance since the completion of the year 2010 plan. The implementation of the year 2010 plan over the past three years was also reviewed.

The second step involved testing the ability of the adopted year 2010 regional transportation plan to accommodate travel derived from the year 2020 population, household, and employment forecasts as incorporated in the year 2020 regional land use plan. Thus, under this step, the potential for the year 2010 plan to meet the transportation needs of the Region 10 years further into the future was determined. The additional household and employment growth, and attendant travel and traffic growth, for the 10-year period between 2010 and 2020 was relatively modest, being approximately an 8 percent increase regionwide. In this first step, the deficiencies of the year 2010 plan in meeting year 2020 travel needs were ascertained in terms of identifying the following: 1) those additional areas of the Region warranting transit service by the year 2020; and 2) those arterial street and highway facilities expected to experience traffic congestion by the year 2020, even after undertaking the improvement and expansion projects proposed in the year 2010 plan.

The third step in the development of the year 2020 regional transportation system plan was to propose amendments to the adopted year 2010 plan to address the deficiencies and thereby extend and advance the plan to the year 2020. These amendments included the improvement and extension of transit service and the addition of highway capacity improvement and expansion projects.

Other amendments were derived from evaluating proposals for plan modifications advanced by local governments since completion of the year 2010 plan. All of the proposed amendments were reflected in the design of a preliminary recommended year 2020 plan.

The fourth step involved the testing and evaluation of the preliminary recommended year 2020 plan. This consisted of an assessment of the extent to which the plan met the several objectives for transportation system development and performance, and an assessment of the financial feasibility of implementing the plan. The performance of the preliminary plan was compared both to existing levels of transportation system performance and to the performance of the system under a "no-build," or maintenance-of-existing-system, transportation plan alternative.

The fifth step involved obtaining public comment on the preliminary recommended year 2020 regional transportation system plan through the conduct of a public informational meeting and hearing.

The sixth and last step was preparation of a final year 2020 recommended regional transportation system plan. This effort took into consideration the comments made on the preliminary plan, modifying that plan as appropriate.

The remainder of this chapter documents the current adopted year 2010 regional transportation system plan, the results of the steps taken to extend that plan to the year 2020, and the year 2020 regional transportation system plan recommended for adoption.

THE ADOPTED YEAR 2010 REGIONAL TRANSPORTATION SYSTEM PLAN

The year 2010 regional transportation system plan was adopted by the Commission in December 1994. The adopted plan has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement. A more complete description of the plan is contained in SEWRPC Planning Report No. 41, *A Regional Transportation System Plan for Southeastern Wisconsin: 2010*, December 1994.

Transportation Systems Management Element

The transportation systems management element of the plan consists of the following seven measures:

1. Freeway Traffic Management
   Implementation of the Milwaukee-area freeway traffic management system, including an operational control strategy that would seek to provide, through restricted access of single-occupancy vehicles at ramp meters, for average operating speeds of about 30 to 35 miles per hour on all freeway segments during peak periods. Buses and high-occupancy vehicles would receive preferential access at the ramps. The system would also include elements to provide advisory information and incident management.

2. Arterial Curb-Lane Parking Restrictions Potential
   Restrictions of curb-lane parking during peak periods along about 400 miles, or about 12 percent, of the planned 3,607-mile arterial street and highway system in order to reduce congestion and help provide good transit service. Local governmental units would consider the proposed curb-lane parking restrictions as traffic volume and congestion increase.

3. Traffic Engineering
   The use of state-of-the-art traffic engineering practices to assist in achieving efficient traffic flow on arterial facilities and to facilitate pedestrian and bicycle movements as arterial streets and highways are constructed and reconstructed.

4. Traffic Management Technology
   The application of advanced traffic management technology, known as intelligent transportation systems (ITS), as such technology becomes practicable and available over the plan implementation period.

5. Travel Demand Management Promotion
   A regionwide program to promote travel through ridesharing, transit use, bicycle use, and pedestrian movement, together with telecommuting and work-time rescheduling as may be found feasible.

6. Detailed Land Use Planning and Site Design
   The preparation and implementation by local governmental units of detailed, site-specific neighborhood land use plans to facilitate travel by transit, bicycle, and pedestrian movement, as recommended in the adopted regional land use plan.

7. Transit Systems Management and Service Enhancement Measures
   The undertaking by the transit agencies in the Region of a range of activities to enhance the

quality of transit services and to facilitate transit use, including conduct of marketing and public information and education activities, improvement of bus speeds through priority systems and signal preemption, and promotion of innovative fare-payment systems.

Public Transit Maintenance and Improvement Element

The public transit system element of the plan proposes development within the Region of a true rapid transit system; development of a true express transit system; and significant improvement of the existing local bus transit systems. Map 19 displays the transit system recommendations and these three transit system components. Altogether, service on the regional transit system would be increased from service levels in 1991—the base year of the 2010 plan—by about 75 percent measured in terms of revenue transit vehicle-miles of service provided, and 46 percent measured in terms of revenue transit vehicle-hours of service provided.

Rapid Transit System Component

The proposed rapid transit system element would consist of buses operating over freeways between the Milwaukee central business district and outlying portions of Milwaukee County, the Milwaukee urbanized area, and Southeastern Wisconsin, and would have the following characteristics:

- The proposed bus rapid transit service would operate in both directions, providing both traditional commuter and reverse-commute service.

- The proposed rapid transit service would operate with some intermediate stops to increase accessibility to employment centers, and to increase accessibility for reverse-commute travel from residential areas within central Milwaukee County. Certain stops would be provided with shuttle bus or van service to nearby employment centers.

- The proposed service would operate throughout the day. The frequency of service provided would be every five to 30 minutes in peak travel periods, and every 30 to 60 minutes in off-peak periods.

- The proposed service would provide transit service at relatively high overall travel speeds averaging about 25 miles per hour, compared to typical overall local bus transit speeds, which average about 12 miles per hour.

Initially, all service could be provided over the regional freeway system, with service extensions on selected surface arterial streets and highways. Ultimately, depending upon the results of major transportation investment studies, the rapid transit routes could operate over exclusive busway facilities in the most congested freeway travel corridors in the Region (see Map 20). A preliminary engineering study/final environmental impact statement is currently under way in the IH 94 East-West Freeway Corridor considering such an exclusive busway.

Also recommended to be considered in these major investment studies is the potential to establish commuter-rail passenger service as an alternative form of rapid transit service to bus-on-freeway or bus-on-busway service in four major travel corridors, from Milwaukee to Kenosha, to Oconomowoc, to West Bend, and to Saukville.[1] Through these corridor studies, then, final decisions would be made as to whether to provide the rapid transit service through bus-on-freeway, bus-on-busway, or commuter-rail passenger service. Pending the conduct of these studies, all rapid transit service would be provided through the bus-on-freeway mode.

Express Transit System Component

The second component of the public transit element of the plan is an express transit system. The recommended express transit system would consist primarily of buses operating over a grid of 12 limited-stop, higher-speed routes within Milwaukee County. The express transit routes are also shown on Map 19.

The plan envisions that this system of limited-stop routes would initially consist of buses operating over arterial streets in mixed traffic. The service could be upgraded over time to buses operating on reserved street lanes, and could, ultimately, based on federally required corridor major investment studies, be considered for further upgrading to light-rail service.

The ongoing IH 94 East-West Freeway major investment study/preliminary engineering study/final environmental impact statement is considering a light-rail facility between the Milwaukee central business district to the Milwaukee County Institutions Grounds and the Capitol Court shopping center.

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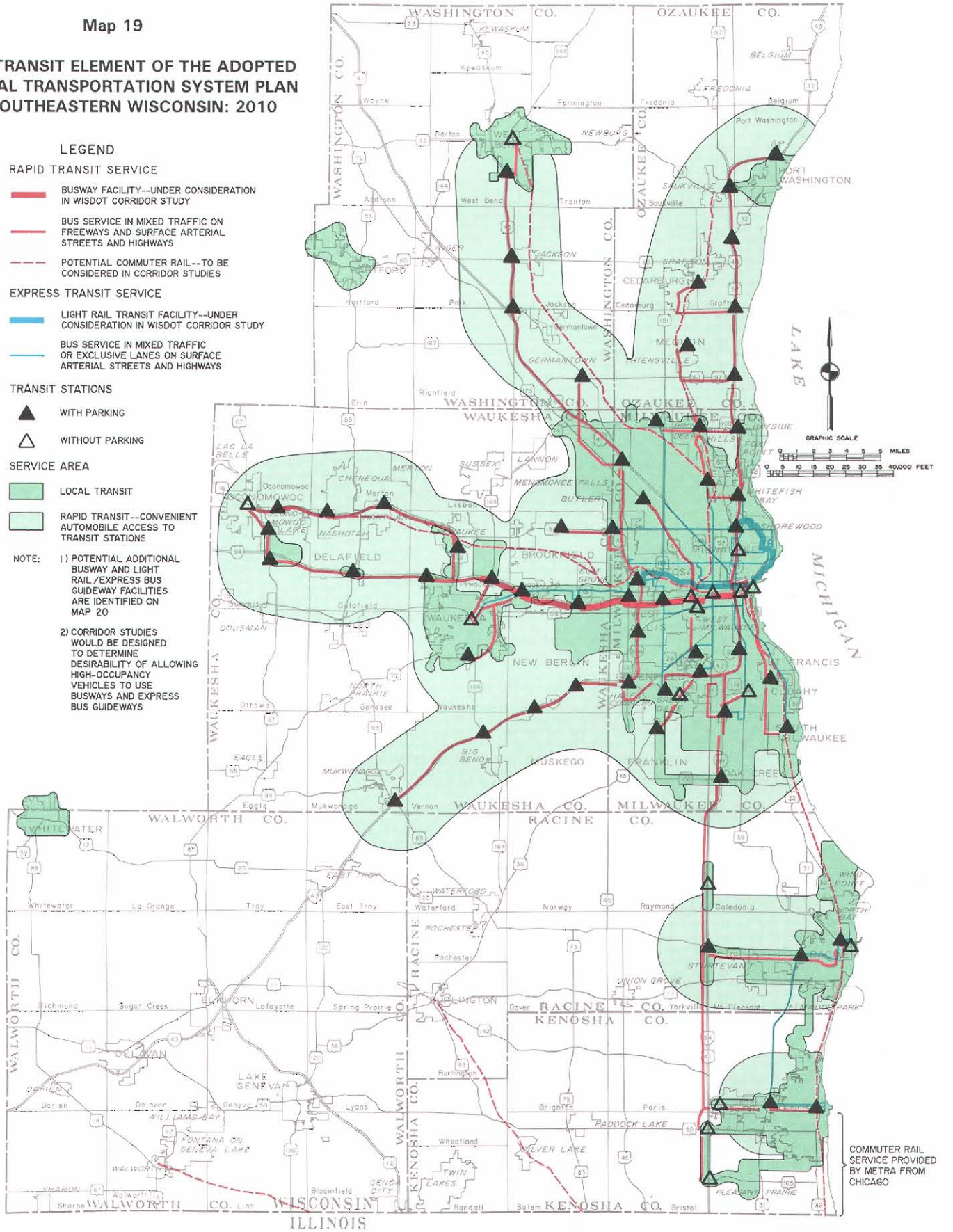
[1] *The precursor study to a potential major investment study—a feasibility study of commuter-rail service—is under way in three corridors: Milwaukee to Kenosha and on to Chicago, Burlington to Chicago, and Walworth to Chicago.*

Map 19

PUBLIC TRANSIT ELEMENT OF THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2010

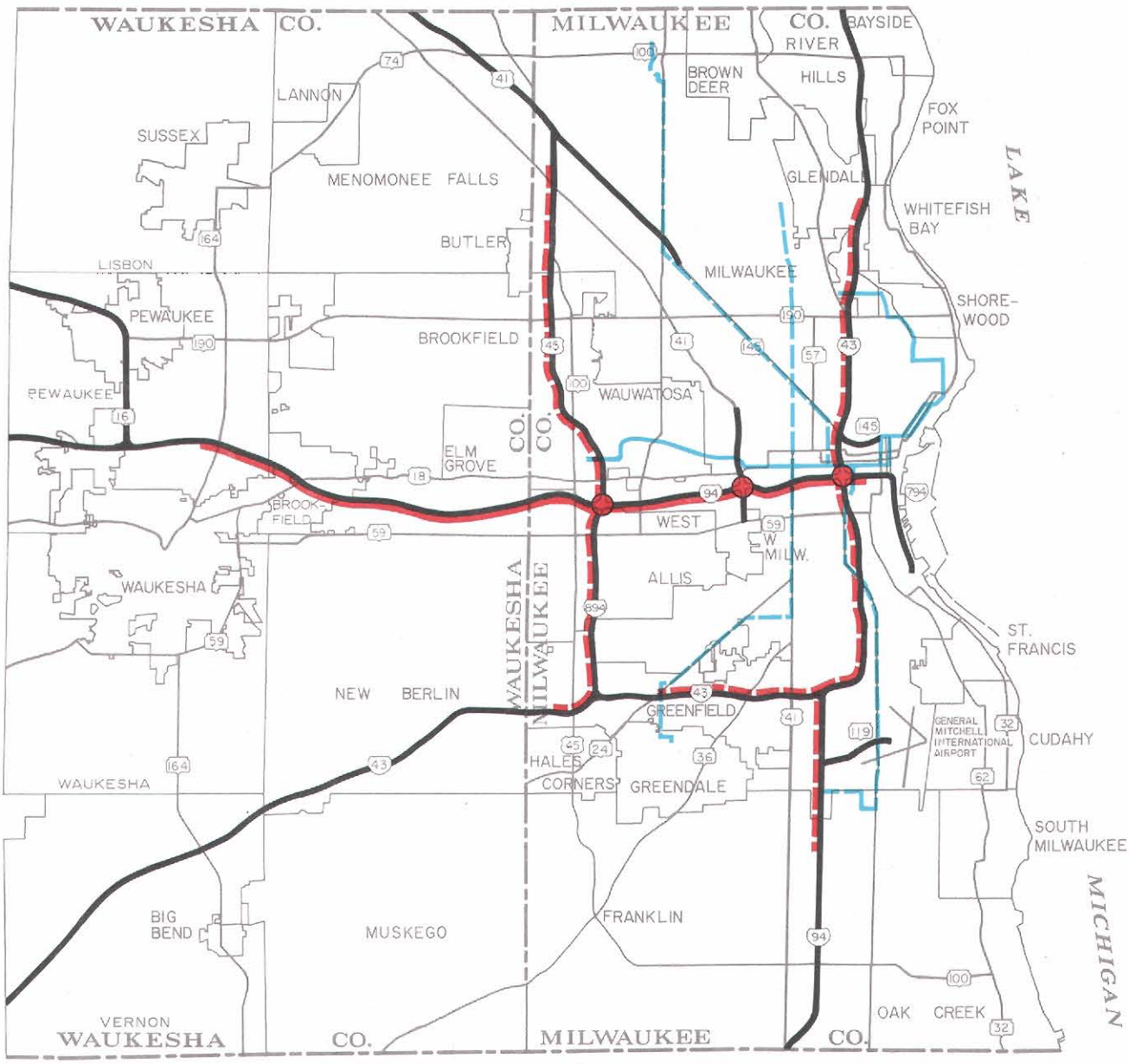


The regional transit system element of the adopted year 2010 regional transportation system plan envisions an extensive rapid transit system serving all major Milwaukee central business district travel corridors, an extensive grid system of express transit routes, particularly in Milwaukee County, and an expansion of local transit service areas with enhancements to accompanying paratransit services. The plan also incorporates the continuation of local shared-ride taxi service currently provided in certain smaller urban areas of the Region. The regional public transit system envisioned under the adopted year 2010 plan would consist of 3,640 round-trip route-miles, which would be about 59 percent greater than the level provided in 1991. The planned transit system would provide 110,600 revenue vehicle-miles of service per average weekday, or 75 percent more than in 1991, and 7,600 revenue vehicle-hours of service per average weekday, or 46 percent more than in 1991.

Source: SEWRPC.

Map 20

POTENTIAL BUSWAY AND LIGHT-RAIL/EXPRESS-BUS-GUIDEWAY FACILITIES IDENTIFIED IN THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2010



LEGEND

- BUSWAY FACILITY--UNDER CONSIDERATION IN WISDOT CORRIDOR STUDY
- BUSWAY FACILITY--TO BE CONSIDERED IN ADDITIONAL CORRIDOR STUDIES
- LIGHT RAIL TRANSIT FACILITY--UNDER CONSIDERATION IN WISDOT CORRIDOR STUDY
- LIGHT RAIL/BUS GUIDEWAY FACILITY--TO BE CONSIDERED IN ADDITIONAL CORRIDOR STUDIES
- MAJOR INTERCHANGE RECONSTRUCTION DESIGNED TO ACCOMMODATE BUSWAY FACILITY
- RESURFACING/RECONSTRUCTION OF FREEWAY TO PROVIDE SAME CAPACITY; INCLUDES STRUCTURE RECONSTRUCTION TO ACCOMODATE BUSWAY ONLY IN THE EAST-WEST CORRIDOR

NOTE:
1) PRELIMINARY RECOMMENDED PLAN INCLUDES ONLY THE BUSWAY AND LIGHT RAIL FACILITIES AND THEIR ATTENDANT COSTS AS DEVELOPED IN THE WISDOT EAST-WEST CORRIDOR STUDY

2) BUSWAY AND LIGHT RAIL/BUS GUIDEWAY FACILITY ALIGNMENTS SHOWN ON MAP ARE CONCEPTUAL; CORRIDOR STUDIES WOULD BE DESIGNED TO SELECT A PREFERRED ALIGNMENT

3) CORRIDOR STUDIES WOULD BE DESIGNED TO DETERMINE DESIRABILITY OF ALLOWING HIGH-OCCUPANCY VEHICLES TO USE BUSWAYS AND EXPRESS BUS GUIDEWAYS

GRAPHIC SCALE
0 1 2 3 MILES
0 5000 10,000 15,000 20,000 FEET

Under the adopted year 2010 regional transportation system plan, rapid transit busway facilities and express transit light-rail facilities would be considered as alternatives to motor-bus transit service over arterial highway lanes. Consideration of such fixed-guideway transit service facilities would be initiated as part of federally required major investment studies for each of the identified corridors. The busway facility, which extends along the IH 94 Corridor from the City of Milwaukee to the STH 164 interchange in Waukesha County, shown on the accompanying map, and the light-rail facility, which extends from the Village of Glendale through the central business district of Milwaukee to the Milwaukee County Institutions Grounds, have been explicitly included in the year 2010 plan. It is recognized that the implementation of these fixed-guideway transit facilities depends upon the ultimate outcome of the corridor study currently being conducted by the Wisconsin Department of Transportation. Upon completion of that study, the local units of government concerned, the Wisconsin Department of Transportation, and the Regional Planning Commission would have to affirm the study findings and, if necessary, amend the regional transportation system plan.

Source: SEWRPC.

The plan envisions the following:

- The express service would operate in both directions during both peak and off-peak travel periods.
- The service would operate with a stop spacing of about one-half mile.
- The frequency of service provided would be about every 10 minutes during peak periods, and about every 20 to 30 minutes during off-peak periods.
- The overall travel speed provided would be about 18 miles per hour, a significant improvement over the average 12-mile-per-hour speed provided by the existing local bus transit service.

Local Transit Service

The plan recommends the continued operation of local bus transit service over arterial and collector streets with frequent stops throughout the Kenosha, Milwaukee, and Racine urbanized areas. The plan calls for substantial improvements, however, in the frequency of local transit service provided, particularly on the major local routes. In addition, the plan holds open the potential to restructure local transit services to provide for transit-center-oriented local systems to replace grid-route systems, depending upon detailed local plan implementation studies. The plan also recommends the provision of local transit services through shared-ride taxis in the smaller urban areas of the Region. Finally, the plan recommends the continuation of appropriate paratransit services to help meet the transportation needs of disabled individuals in the Region.

Arterial Street and Highway Maintenance and Improvement Element

The third element of the regional transportation system plan—and most important element in terms of impact upon daily travel and continued economic development of the Region—is the arterial street and highway system element. In 1991, there were about 3,274 miles of arterial streets and highways in the seven-county Region. The existing arterial street and highway system comprises about 30 percent of the total 11,200 miles of streets and highways existing within Southeastern Wisconsin. The arterial street and highway system is that component of the total street and highway system that has as its principal function the movement of traffic. This contrasts with nonarterial streets—consisting of land access and collector streets—which have as their principal function the provision of access to abutting property and the connection of land access streets to the arterials, respectively.

Currently, in the seven-county Southeastern Wisconsin Region, the arterial street and highway system carries about 97 percent of the total average weekday travel, with the public transit system carrying only about 3 percent of that demand, and with pedestrian and bicycle travel accounting for less than 1 percent. Even with the greatly expanded transit system envisioned in the year 2010 plan, the evolution of a more efficient regional land use pattern, and the travel demand management measures incorporated in the regional transportation system plan, the arterial street and highway system will be required to carry over 96 percent of the total travel demand, and will have to accommodate by the year 2010 a 30 percent increase in highway traffic over present levels.

The year 2010 plan recommended arterial street and highway system consists of 3,607 miles of facilities. This represents an increase of 333 miles, or about 10 percent, over the existing arterial system; it includes 202 miles of existing nonarterial facilities which may be expected to begin to serve an arterial function by the year 2010, and 131 miles of entirely new facilities.

The plan recommendations for the arterial street and highway system can be divided into three categories: system expansion, that is, the proposed construction of new arterial facilities; system improvement, that is, the proposed improvement of existing arterial facilities to carry additional traffic lanes and provide additional traffic capacity; and system preservation, that is, the proposed resurfacing and reconstruction of arterials to the same capacity as exists today. The recommendations by county are shown on Map 11 in Chapter II of this report (see pages 38 through 44).

The arterial street and highway system expansion recommendations of the plan include 131 miles of new arterial facilities. This system expansion component represents about 4 percent of the total planned arterial street and highway system in Southeastern Wisconsin.

The system improvement recommendations of the plan include a recommended 448 miles of existing arterial facilities proposed to be widened to carry additional traffic lanes or otherwise significantly improved. The 448 miles represent 12 percent of the total planned arterial street and highway system. The system improvement component of the arterial street and highway element represents in part a reaffirmation of the need for many long-planned arterial street and highway system improvements.

The third component of the arterial street and highway system recommendations of the plan is system preservation. Approximately 3,028 miles of arterial facilities,

representing 84 percent of the total planned arterial street and highway system, are recommended merely to be preserved at their same capacity to the year 2010 through resurfacing and reconstruction as needed.

The arterial street and highway system plan proposes about a 16 percent expansion in arterial street and highway system capacity. Freeway system improvements are limited to construction of the Oconomowoc bypass; the construction of the USH 12 Freeway extension from Elkhorn to Whitewater; and to two widening projects, including the widening of about one mile of IH 94 from STH 16 to CTH G in Waukesha County, and the widening of about eight miles of IH 43 from Bender Road to Highland Road in Milwaukee and Ozaukee Counties.

The plan thus does not contain or recommend any new freeway initiative, such as a Milwaukee-area circumferential freeway. Importantly, however, the plan recommends the reconstruction and modernization of the Milwaukee-area freeway system—particularly the IH 94 East-West Freeway, including the Zoo, Stadium, and Marquette Interchanges—and the reconstruction of freeway interchanges as needed in Waukesha, Racine, and Kenosha Counties to urban design standards. The plan does include four new interchanges on the freeway system: one at CTH ML on IH 94 in Kenosha County; one at Highland Road on IH 43 in Ozaukee County; one at Calhoun Road on IH 94 in Waukesha County; and one at CTH O on IH 43 in Walworth County. In the design of some segments, the plan recommends that consideration be given in major investment studies to the provision of exclusive high-occupancy vehicle lanes, that is, busway-carpool lanes.

The plan-recommended arterial improvement and expansion projects have been carefully designed to serve travel which may be expected to occur in and between the areas planned for conversion from rural to urban use under the adopted regional land use plan. Many of the proposed arterial street and highway improvements are needed to accommodate such planned development, while some are needed to provide direct and timely alternative routes for traffic which would otherwise use the area freeway system. It is important to note that highway improvements were recommended only as a last resort. The first elements considered were the transit and transportation system management elements. The potential of these elements to eliminate congestion was explicitly identified. Highway improvements were then recommended to resolve the residual existing and probable future residual traffic congestion.

The arterial street and highway element of the plan also recommends transfers of jurisdictional responsibilities with respect to arterial streets and highways. The recommended jurisdictional highway system plans for each county are shown on Map 21.

ASSESSMENT OF PERFORMANCE OF ADOPTED YEAR 2010 REGIONAL TRANSPORTATION PLAN IN MEETING YEAR 2020 TRAVEL DEMAND

The first step in extending the currently adopted year 2010 regional transportation plan by 10 years to provide a new year 2020 regional transportation plan was the determination of the ability of the currently adopted plan to meet the travel demands expected under the new year 2020 regional land use plan. This analysis of the performance of the year 2010 transportation system plan was undertaken with the aid of the Commission's travel simulation models, which are described in Chapter VII of SEWRPC Planning Report No. 41, *A Regional Transportation System Plan for Southeastern Wisconsin: 2010*, December 1994.

As shown in Table 34, the year 2020 regional land use plan incorporates regional population, household, and employment forecasts which anticipate growth of about 8 percent over the population, household, and employment forecasts incorporated in the year 2010 regional land use plan upon which the year 2010 regional transportation plan is based.[2]

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[2]*A person-trip is defined as a one-way journey between a point of origin and a point of destination made by a person five years of age or older traveling as a driver or passenger in or on a private or personal vehicle—automobile, van, truck, or motorcycle—or as a passenger in a taxi, school bus, or urban public transit vehicle. The definition of a person-trip also includes trips made by bicycle and walking, but only for the trip purpose of going to or from work. Of the total 5,639,800 internal person-trips made within the Region in 1991, 5,177,400 trips, or 91.8 percent, were made by personal vehicle; 229,000 trips, or 4.1 percent, by school bus; 178,000 trips, or 3.1 percent, by public transit; and 55,000 trips, or 1.0 percent, by motorcycle, taxi, bicycle, or walking.*

A truck trip is a one-way journey between a point of origin and a point of destination made by a commercial truck.

(Footnote 2 continued on page 98)

Given the forecast year 2020 conditions, and the new year 2020 regional land use plan, it may be expected that the number of personal vehicles available in the Region will increase by nearly 256,700, or 23 percent, from about 1.13 million in 1991 to about 1.39 million in the year 2020. The number of personal vehicles expected to be available in the Region in the year 2020 would represent an increase of about 81,400, or 6 percent, from the level anticipated in the year 2010 under the year 2010 regional transportation plan and regional land use plan.

Similarly, given the year 2010 regional transportation system plan, and the travel demands anticipated under the year 2020 regional land use plan, a total of nearly 6.53 million internal person-trips may be expected to be generated on an average weekday in the year 2020, representing an increase of about 16 percent over the 5.54 million internal person-trips estimated to be generated on an average weekday in 1991, and an increase of 7 percent over the nearly 6.10 million internal person-trips forecast to be generated within the Region on an average weekday in the year 2010 under the year 2010 regional land use and transportation plans. The distribution of the expected future year 2020 trips by trip purpose is shown in Table 35, and the distribution of these internal person-trips by mode of travel is shown in Table 36. The number of expected future year 2020 internal vehicle-trips as well as external vehicle-trips by both private vehicles and commercial trucks is shown in Table 37.

Transit System Element

The anticipated performance of the public transit element of the year 2010 regional transportation plan in the year 2020 is shown in Table 38. Under the year 2010 plan, the number of revenue vehicle-miles of transit service provided on an average weekday was recommended to be increased by about 74 percent, from 63,300 in 1991 to 110,000 in the year 2010. The number of revenue vehicle-hours of service on an average weekday under the plan was proposed to increase by about 65 percent, from 5,200 in 1991 to 8,600 in the year 2010. Based upon these proposed improvements in the level of service, annual transit ridership within Southeastern Wisconsin may be expected to increase by about 21 percent, from about 50.2 million passengers in 1991 to about 60.9 million in the year 2020, and the percentage of internal person-trips made by public transit may be expected to increase from 3.1 percent in 1991 to 3.2 percent in 2020.

Comparison of the areas of planned population, household, and employment growth between the years 2010 and 2020 to the transit service improvement and expansion proposed under the year 2010 regional transportation plan indicates the following potential needs for improvement and extension of transit services beyond those in the 2010 plan to serve the planned development to the year 2020: improved local and/or express transit service to the Park Place major office center, to the Franklin major industrial center, to the Sussex major industrial center, to the Menomonee Falls major industrial center, to the Pleasant Prairie major industrial center, to the Hartford major industrial center, and to employment centers along Brown Deer Road in Milwaukee County.[3]

(Footnote 2 continued from page 97)

Internal person-trips and truck trips are trips with both origin and destination within the Region, that is, trips internal to the Region. External person-trips and truck trips include trips with both origin and destination outside the Region—also known as through trips—and trips with one end of the trip inside the Region and the other end of the trip outside the Region—also known as internal-external trips.

Internal person-trips can be further divided into trips made by resident households of the Region; trips made by resident group-quartered persons of the Region (residents of dormitories, convents, nursing homes, and homes for the aged); and trips made by nonresidents of the Region. (Of the total 5,639,800 internal person-trips made within the Region in 1991, 5,540,900 trips, or 98.2 percent, were made by resident households; 53,400 trips, or 1.0 percent, were made by resident group-quartered persons; and 45,500 trips, or 0.8 percent, were made by nonresidents of the Region.)

Internal person-trips can also be divided according to trip purpose. Home-based trips are trips in which one end of the trip is home, that is, trips leaving from or going to home. Home-based trips are usually divided into home-based work, home-based shopping, and home-based other trips. Home-based other trips include trips between home and place of personal business, social-recreational activity, or medical-dental activity. Nonhome-based trips include all trips in which neither end of the trip is the home, for example, from work to shopping.

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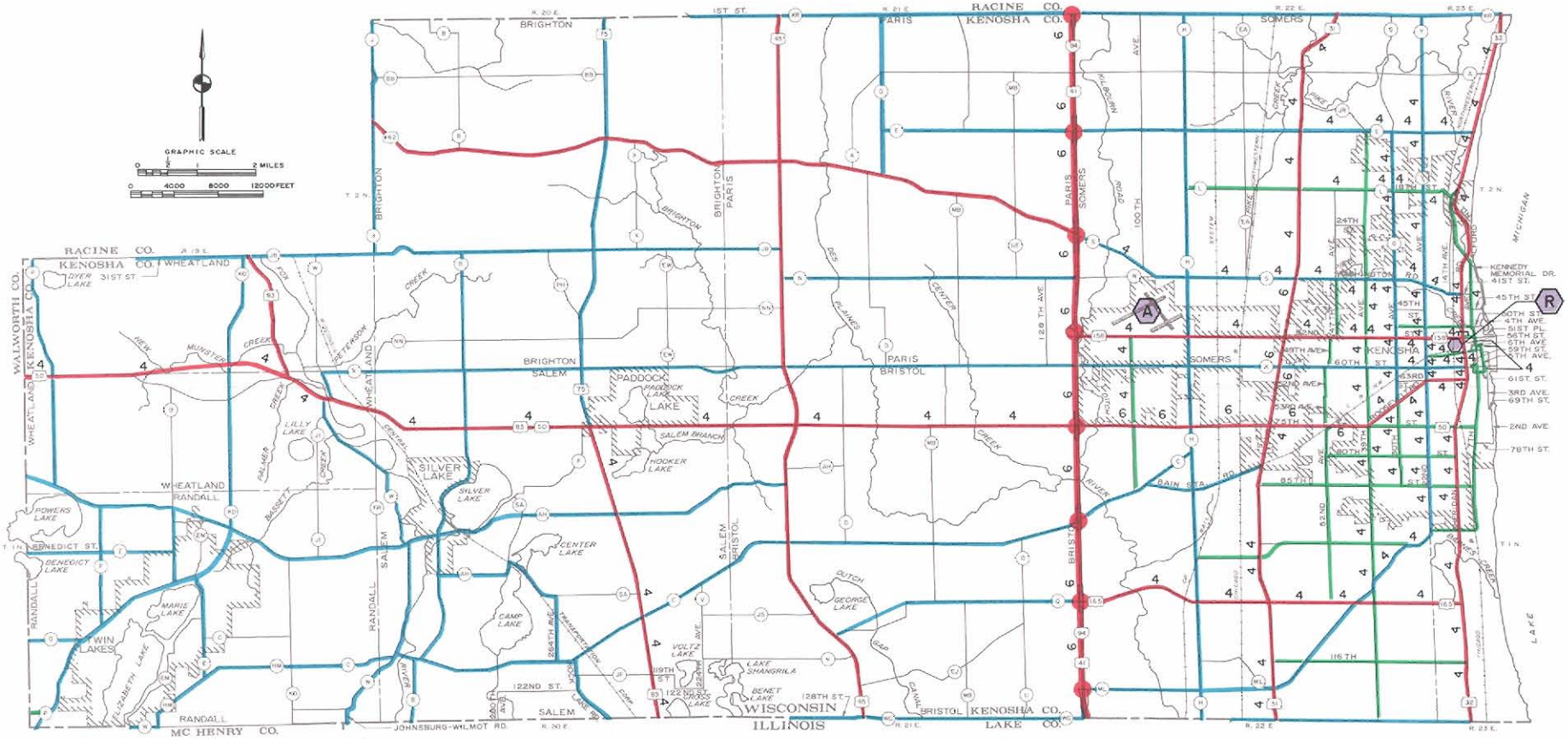
[3] *Envisioned 2020 major commercial centers are shown on Map 13 in Chapter III of this report (see page 63) and envisioned 2020 major industrial centers are shown on Map 14 in Chapter III of this report (see page 65).*

Map 21

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR KENOSHA COUNTY: 2010



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 — NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

- A-AIRPORT
- R-PASSENGER RAIL TERMINAL

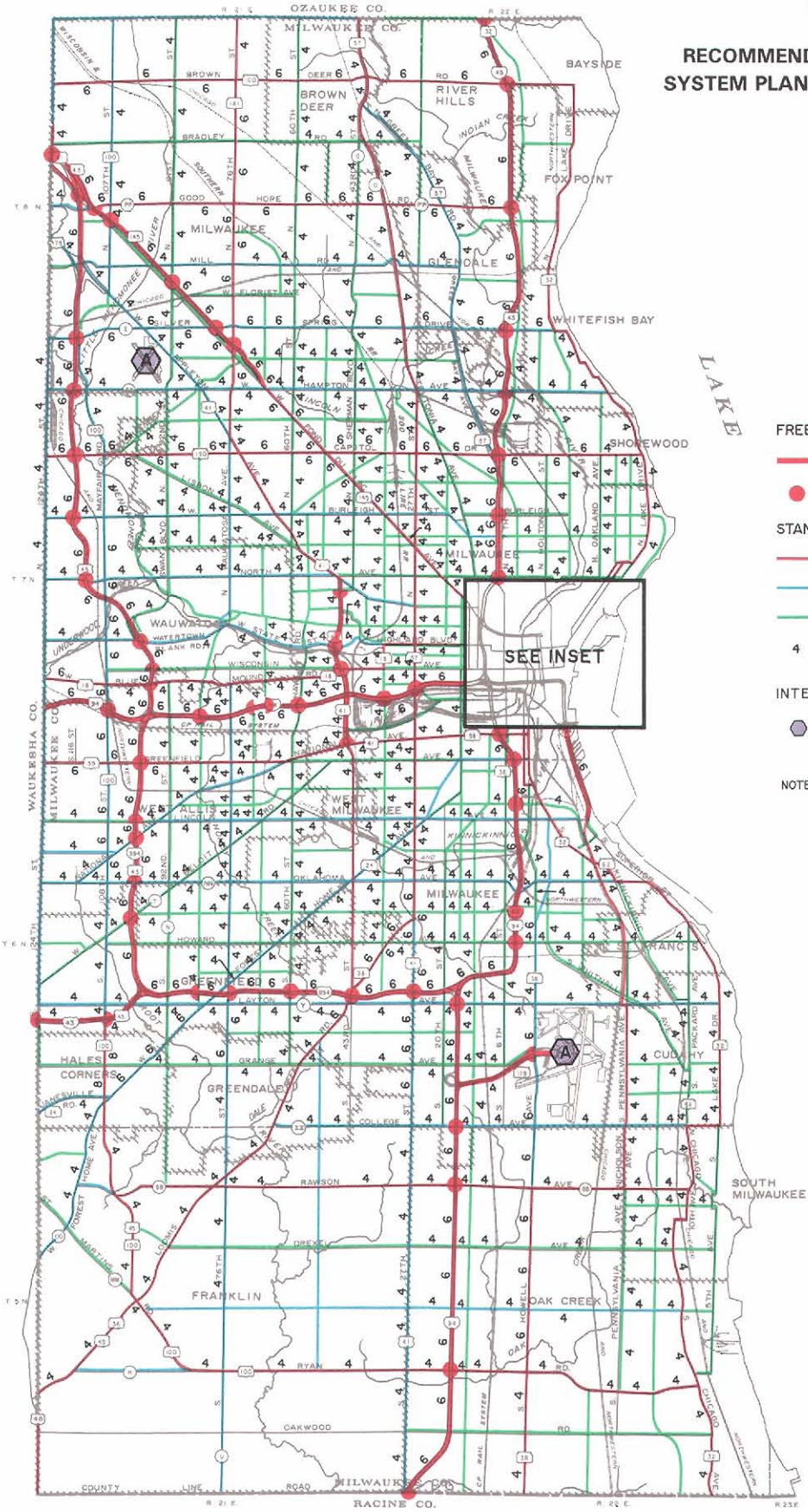
THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP:

1. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG STH 158 FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
2. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG CTH K FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
3. AS IMPROVEMENTS ARE MADE TO IH 94, THE FRONTAGE ROADS ALONG IH 94, AND THE HIGHWAY FACILITIES WHICH INTERCHANGE WITH OR CROSS IH 94, THE ULTIMATE IMPROVEMENT OF IH 94 TO EIGHT TRAVEL LANES SHOULD BE TAKEN INTO CONSIDERATION.
4. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH K, THE ULTIMATE PROVISION OF AN INTERCHANGE WITH CTH K SHOULD BE TAKEN INTO CONSIDERATION.
5. AS URBAN DEVELOPMENT PROCEEDS ON LANDS ABUTTING CTH KR BETWEEN IH 94 AND STH 32, SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED FOR THE ULTIMATE IMPROVEMENT OF CTH KR TO FOUR TRAVEL LANES.

The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Kenosha County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Kenosha County may be expected to total 355 miles. About 103 miles, or nearly 29 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 203 miles, or 57 percent, are recommended to be classified as County trunk highways; and the remaining 49 miles, or about 14 percent, are recommended to be classified as local arterials.

Map 21 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2010



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

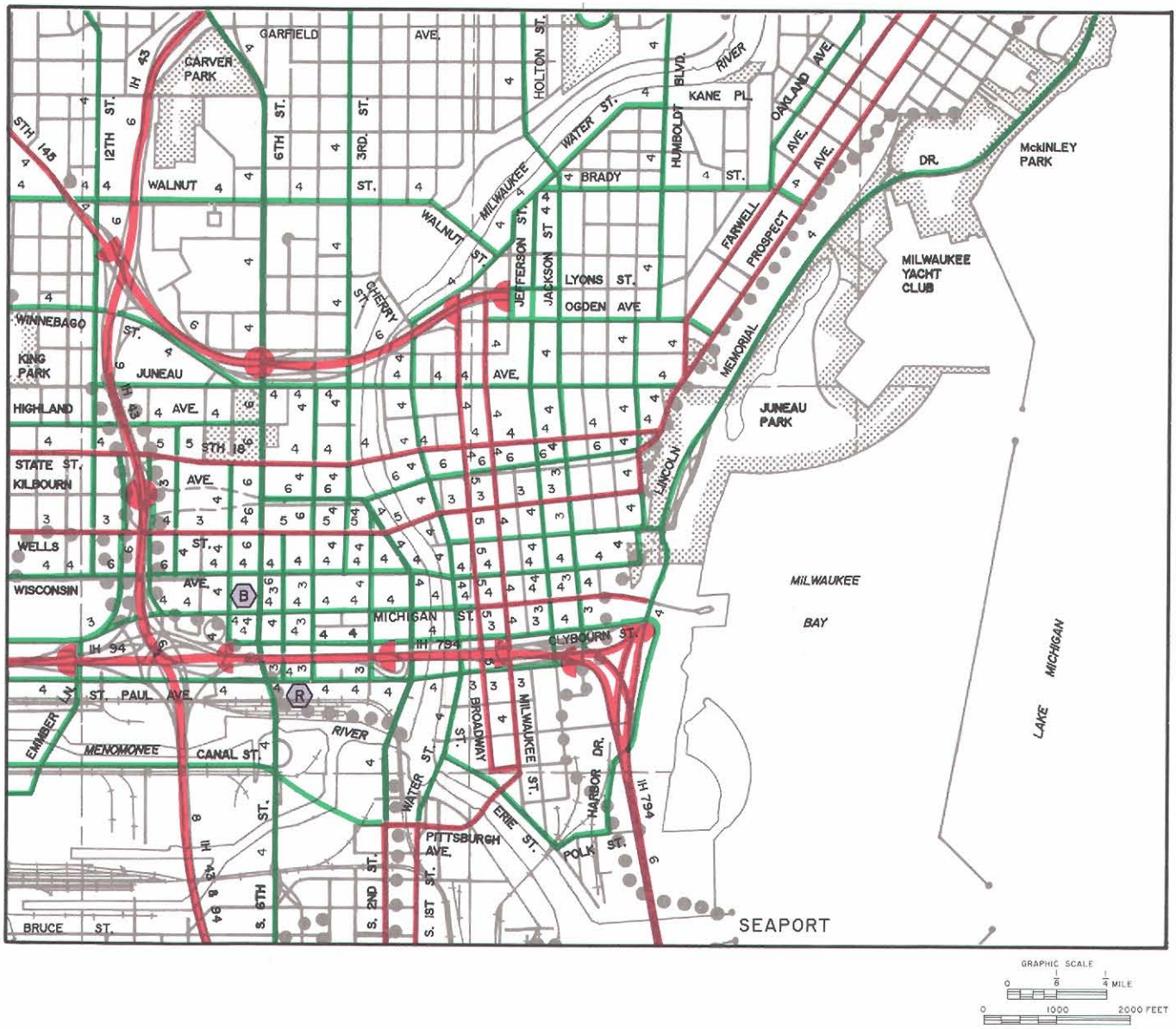
- A-AIRPORT
  B-BUS TERMINAL
  R-PASSENGER RAIL TERMINAL

NOTE: THE WIDENING TO SIX TRAFFIC LANES OF IH 43 BETWEEN BENDER ROAD AND HIGHLAND ROAD IN OZAUKEE COUNTY, IS RECOMMENDED, BUT REQUIRES A MAJOR INVESTMENT STUDY PRIOR TO ITS IMPLEMENTATION.

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

Map 21 Inset

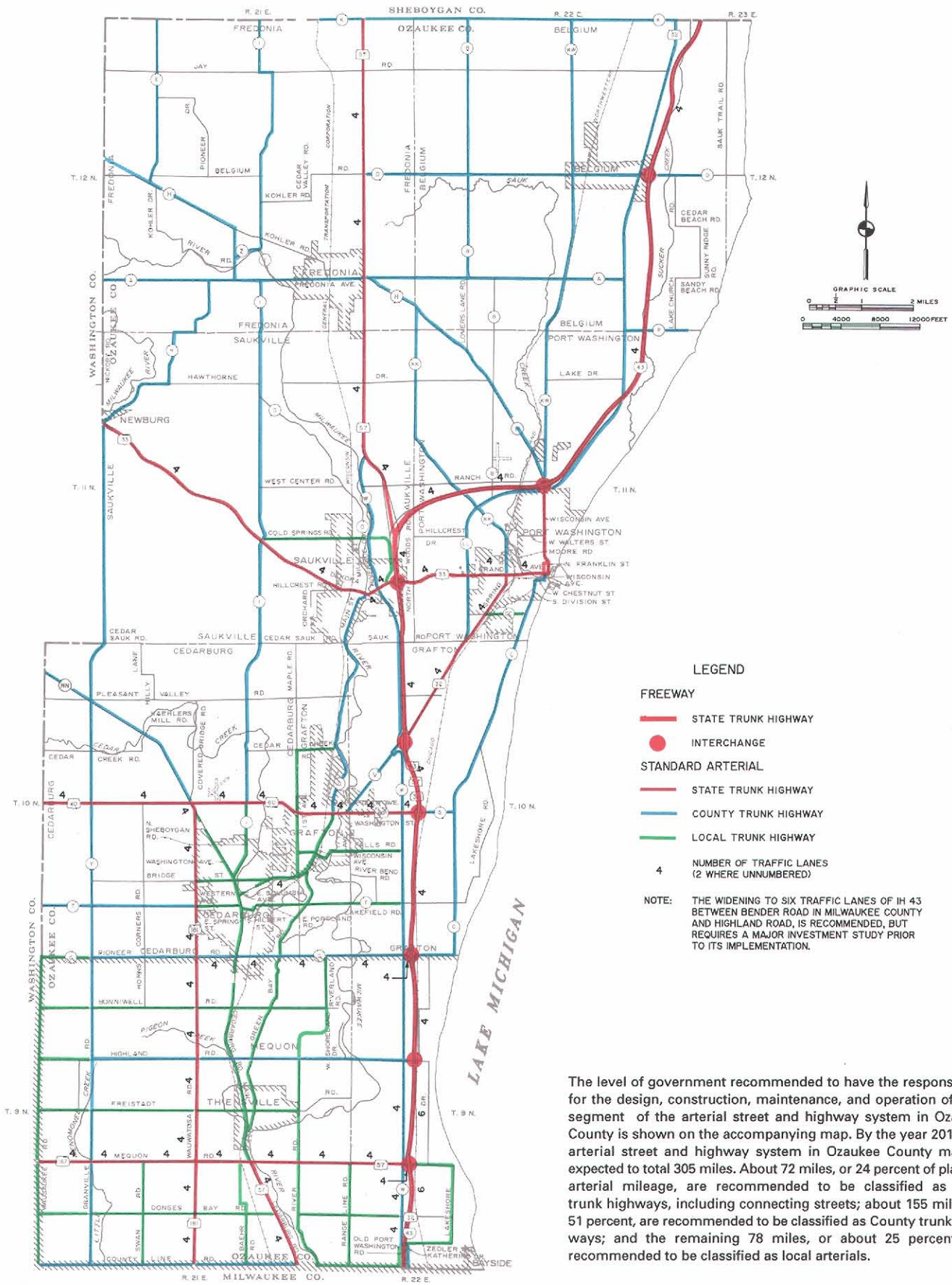
RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2010



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Milwaukee County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Milwaukee County may be expected to total 797 miles. About 220 miles, or 28 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 184 miles, or 23 percent, are recommended to be classified as County trunk highways; and the remaining 393 miles, or about 49 percent, are recommended to be classified as local arterials.

Map 21 (continued)

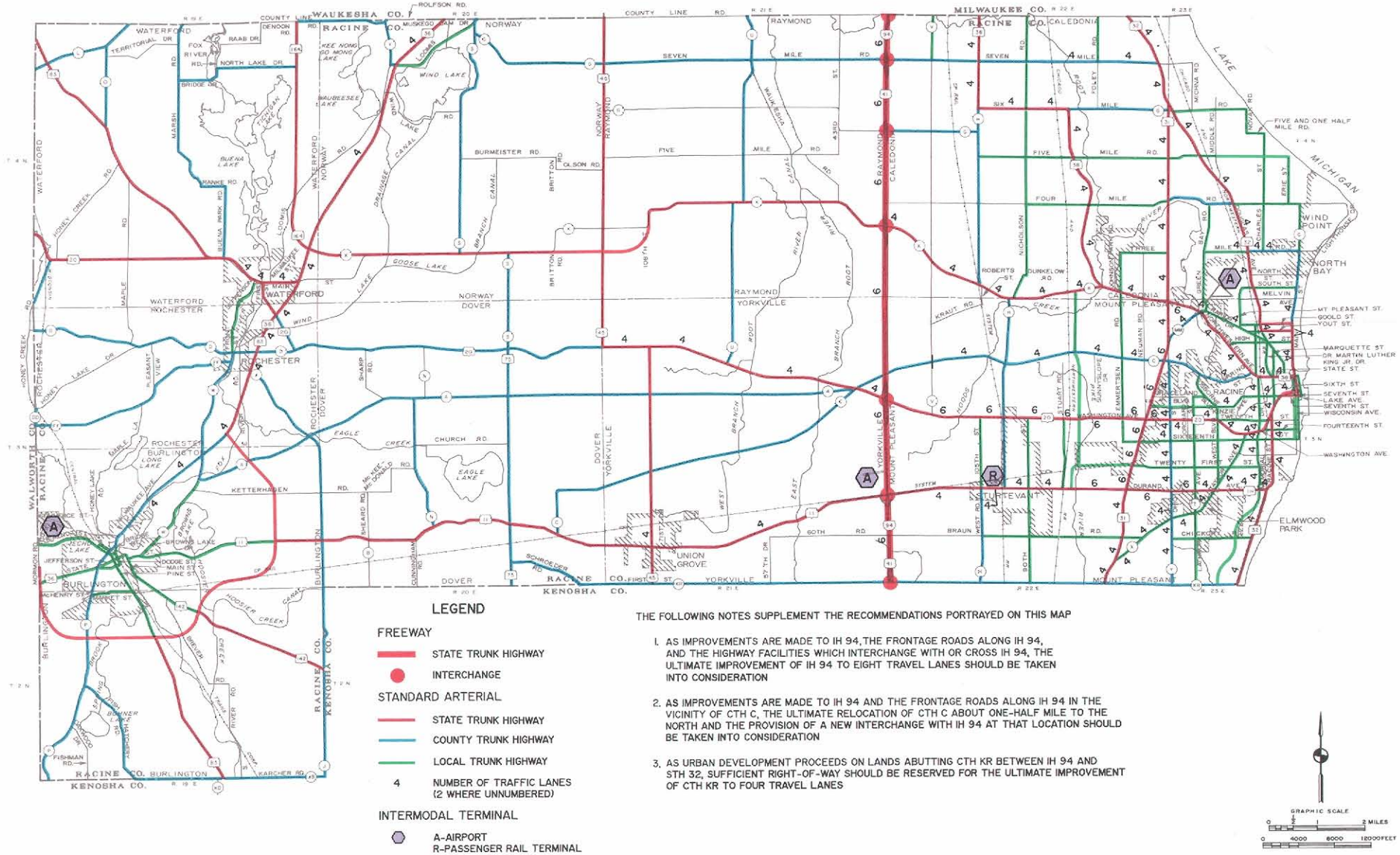
RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR OZAUKEE COUNTY: 2010



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Ozaukee County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Ozaukee County may be expected to total 305 miles. About 72 miles, or 24 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 155 miles, or 51 percent, are recommended to be classified as County trunk highways; and the remaining 78 miles, or about 25 percent, are recommended to be classified as local arterials.

Map 21 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR RACINE COUNTY: 2010



LEGEND

FREEWAY
- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL
- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 — NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL
- A-AIRPORT
- R-PASSENGER RAIL TERMINAL

THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP

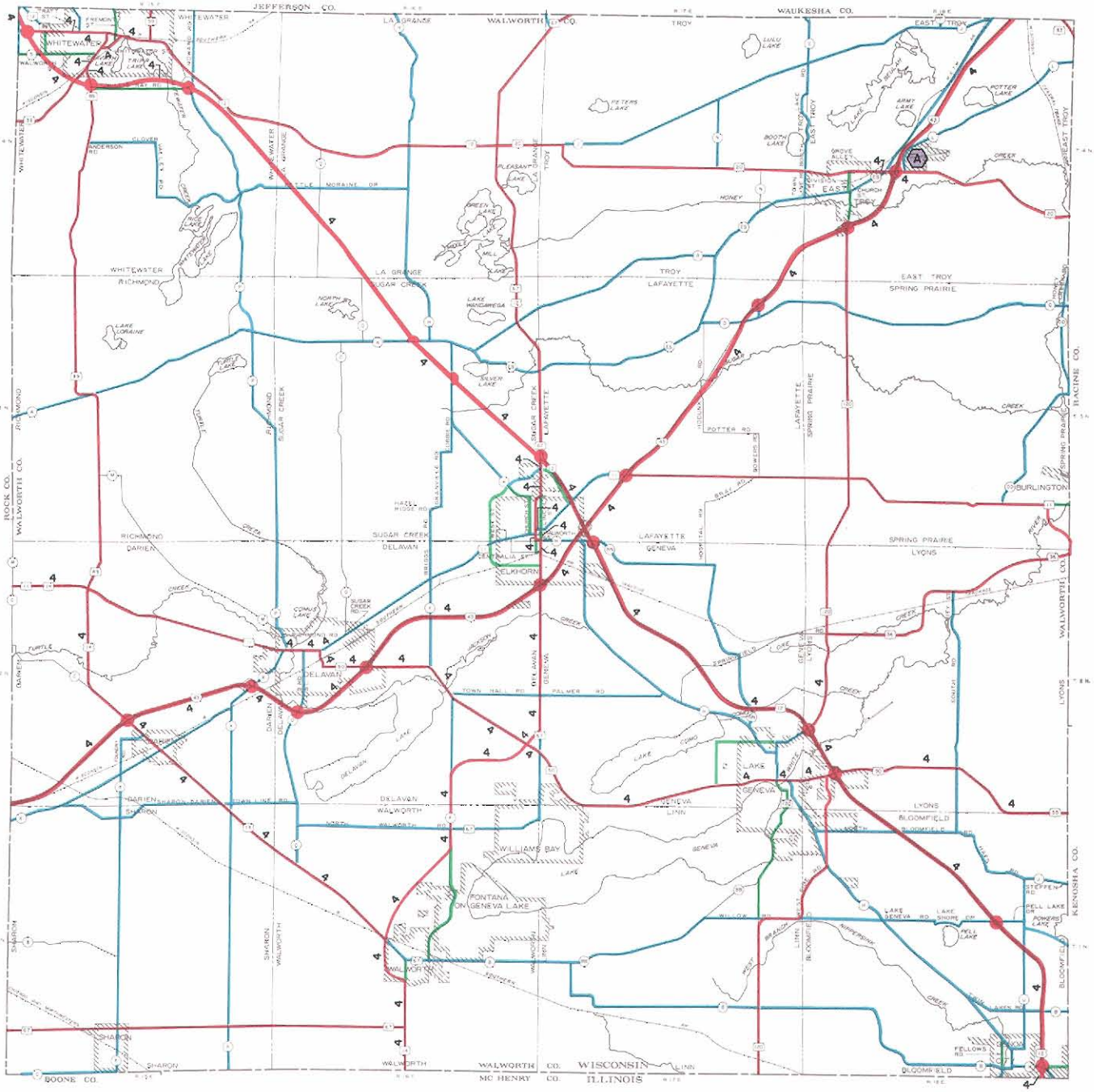
1. AS IMPROVEMENTS ARE MADE TO IH 94, THE FRONTAGE ROADS ALONG IH 94, AND THE HIGHWAY FACILITIES WHICH INTERCHANGE WITH OR CROSS IH 94, THE ULTIMATE IMPROVEMENT OF IH 94 TO EIGHT TRAVEL LANES SHOULD BE TAKEN INTO CONSIDERATION
2. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH C, THE ULTIMATE RELOCATION OF CTH C ABOUT ONE-HALF MILE TO THE NORTH AND THE PROVISION OF A NEW INTERCHANGE WITH IH 94 AT THAT LOCATION SHOULD BE TAKEN INTO CONSIDERATION
3. AS URBAN DEVELOPMENT PROCEEDS ON LANDS ABUTTING CTH KR BETWEEN IH 94 AND STH 32, SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED FOR THE ULTIMATE IMPROVEMENT OF CTH KR TO FOUR TRAVEL LANES

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Racine County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Racine County may be expected to total 424 miles. About 160 miles, or 38 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 156 miles, or 37 percent, are recommended to be classified as County trunk highways; and the remaining 108 miles, or about 25 percent, are recommended to be classified as local arterials.

Map 21 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WALWORTH COUNTY: 2010



LEGEND

FREEWAY

STATE TRUNK HIGHWAY

INTERCHANGE

STANDARD ARTERIAL

STATE TRUNK HIGHWAY

COUNTY TRUNK HIGHWAY

LOCAL TRUNK HIGHWAY

4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

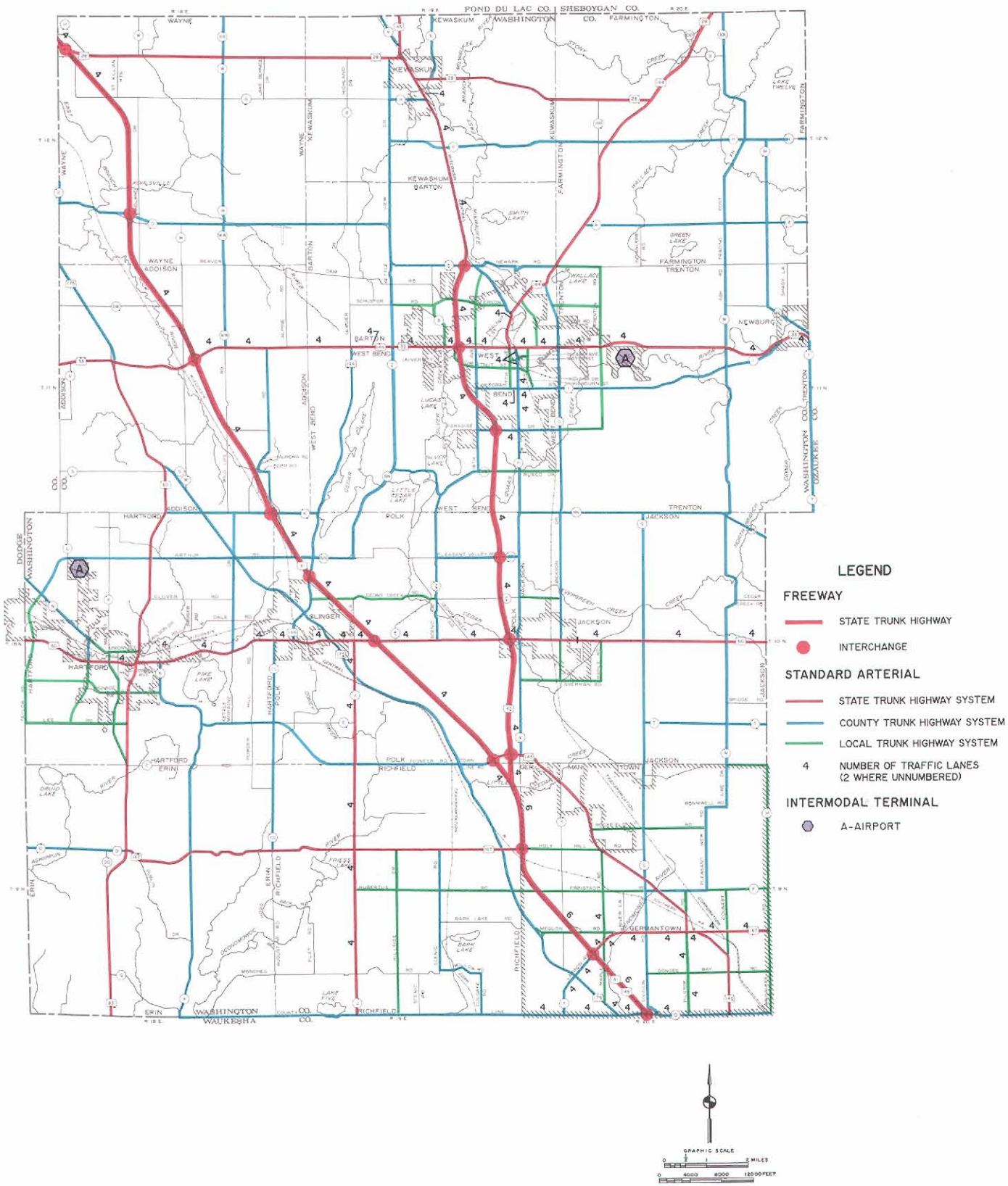
A-AIRPORT

GRAPHIC SCALE

The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Walworth County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Walworth County may be expected to total 484 miles. About 223 miles, or 46 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 239 miles, or 49 percent, are recommended to be classified as County trunk highways; and the remaining 22 miles, or about 5 percent, are recommended to be classified as local arterials.

Map 21 (continued)

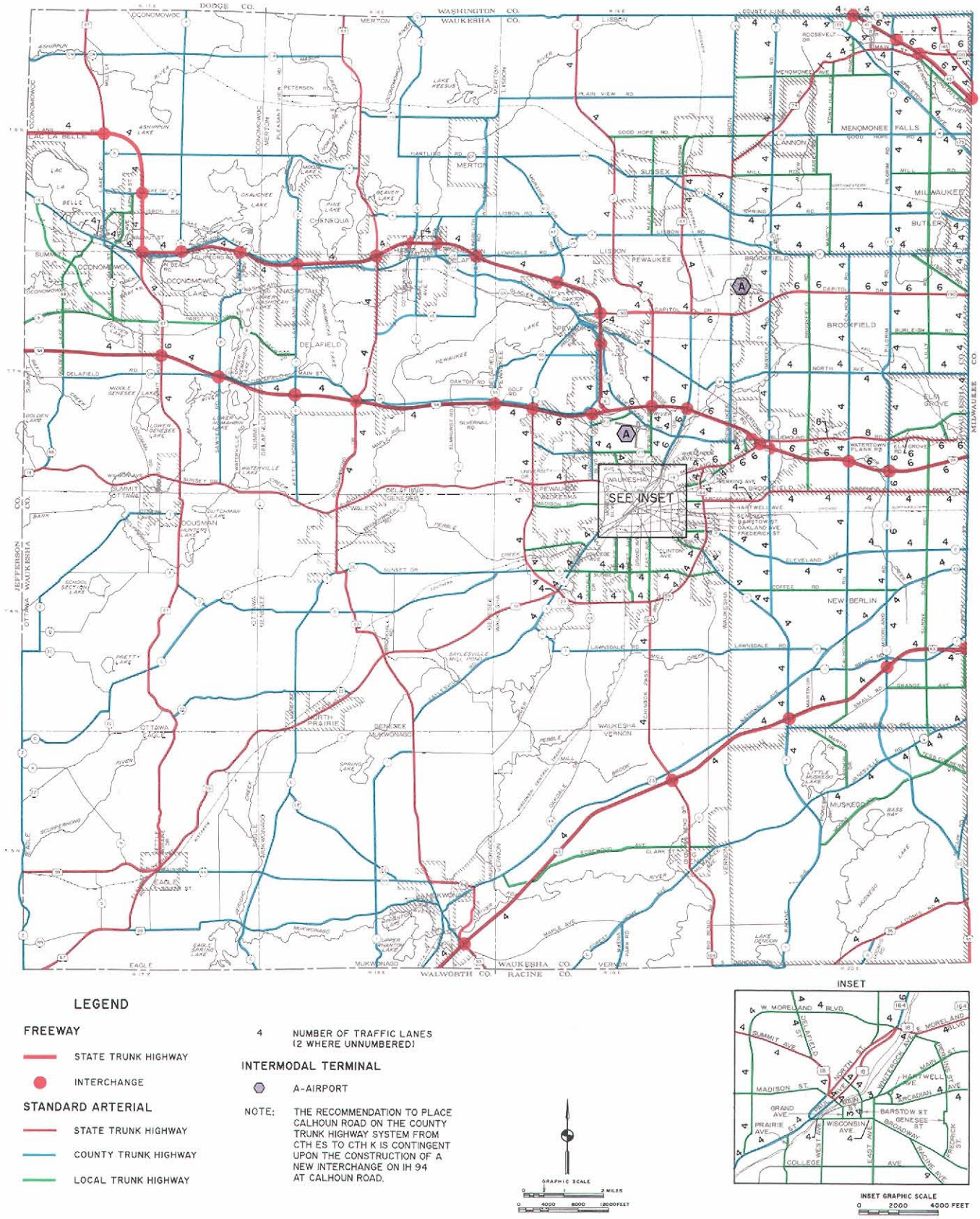
RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WASHINGTON COUNTY: 2010



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Washington County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Washington County may be expected to total 468 miles. About 159 miles, or 34 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 234 miles, or 50 percent, are recommended to be classified as County trunk highways; and the remaining 75 miles, or about 16 percent, are recommended to be classified as local arterials.

Map 21 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WAUKESHA COUNTY: 2010



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Waukesha County is shown on the accompanying map. By the year 2010, the arterial street and highway system in Waukesha County may be expected to total 774 miles. About 230 miles, or 30 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 413 miles, or 53 percent, are recommended to be classified as County trunk highways; and the remaining 131 miles, or about 17 percent, are recommended to be classified as local arterials.

Source: SEWRPC.

Table 34

SELECTED SOCIO-ECONOMIC AND TRANSPORTATION CHARACTERISTICS OF THE REGION: 1991, 2010, AND 2020

Characteristic	Base Year 1991	Year 2010 Land Use and Transportation Plans		Year 2020 Land Use Plan and Year 2010 Transportation Plan		
		Number	Percent Change	Number	Percent Change from 1991	Percent Change from 2010
Population	1,810,400	1,911,000	5.6	2,077,900	14.8	8.7
Households	676,100	774,300	14.5	827,100	22.3	6.8
Employment	1,067,200	1,180,000	10.6	1,277,100	19.7	8.2
Vehicles Available	1,132,000	1,307,300	15.5	1,388,700	22.7	6.2
Internal Person-Trips	5,541,000	6,104,300	10.2	6,531,200	17.9	7.0
Persons per Vehicle	1.6	1.5	-6.3	1.5	-6.3	--
Vehicles per Household	1.7	1.7	--	1.7	--	--
Trips per Capita	3.1	3.2	6.5	3.1	--	-3.1
Trips per Household	8.2	7.9	1.3	7.9	1.3	--

Source: SEWRPC.

Table 35

DISTRIBUTION OF INTERNAL PERSON-TRIPS MADE BY HOUSEHOLD RESIDENTS OF THE REGION ON AN AVERAGE WEEKDAY BY TRIP PURPOSE: 1991, 2010, AND 2020

Trip Purpose Category	Base Year 1991		Year 2010 Land Use and Transportation Plans				Year 2020 Land Use Plan and Year 2010 Transportation Plan					
			Forecast Increment		2010 Total		Forecast Increment from 1991		Forecast Increment from 2010		2020 Total	
	Number	Percent of Total	Number	Percent Change	Number	Percent of Total	Number	Percent Change	Number	Percent Change	Number	Percent of Total
Home-Based Work	1,302,700	23.5	152,100	11.7	1,454,800	23.8	256,600	17.6	104,500	7.2	1,559,300	23.9
Home-Based Shopping	798,000	14.4	84,600	10.6	882,600	14.5	196,400	22.3	111,800	12.7	999,400	15.2
Home-Based Other	1,687,300	30.5	195,300	11.6	1,822,600	29.9	268,700	14.7	133,400	7.3	1,956,000	29.9
Nonhome-Based	1,127,400	20.3	124,600	11.1	1,252,000	20.5	255,700	20.4	131,100	10.5	1,383,100	21.2
School	625,600	11.3	66,700	10.7	692,300	11.3	12,800	1.9	-53,900	-7.8	638,400	9.8
Total	5,541,000	100.0	623,300	11.3	6,104,300	100.0	990,200	16.2	426,900	7.0	6,531,200	100.0

Source: SEWRPC.

Table 36

DISTRIBUTION OF INTERNAL PERSON-TRIPS MADE BY HOUSEHOLD RESIDENTS OF THE REGION ON AN AVERAGE WEEKDAY BY MODE OF TRAVEL: 1991, 2010, AND 2020

Mode of Travel	Base Year 1991		Year 2010 Land Use and Transportation Plans				Year 2020 Land Use Plan and Year 2010 Transportation Plan					
			Forecast Increment		2010 Total		Forecast Increment from 1991		Forecast Increment from 2010		2020 Total	
	Number	Percent of Total	Number	Percent Change	Number	Percent of Total	Number	Percent Change	Number	Percent Change	Number	Percent of Total
Automobile Driver	4,060,900	73.3	629,000	15.5	4,689,900	76.8	972,000	20.7	343,000	7.3	5,032,900	77.1
Automobile Passenger	1,080,300	19.5	-147,400	-13.6	932,900	15.3	-13,100	-1.4	134,300	14.4	1,067,200	16.3
Transit Passenger	172,200	3.1	24,200	14.1	196,400	3.2	36,400	18.5	12,200	6.2	208,600	3.2
School Bus Passenger	227,600	4.1	57,500	25.3	285,100	4.7	-5,100	-1.8	-62,600	-22.0	222,500	3.4
Total	5,541,000	100.0	563,300	10.2	6,104,300	100.0	990,200	16.2	426,900	7.0	6,531,200	100.0

Source: SEWRPC.

Table 37

DISTRIBUTION OF TOTAL VEHICLE-TRIPS IN THE REGION ON AN AVERAGE WEEKDAY BY TRIP AND VEHICLE TYPE: 1991, 2010, AND 2020

Type of Vehicle and Trip	Base Year 1991		Year 2010 Land Use and Transportation Plans				Year 2020 Land Use Plan and Year 2010 Transportation Plan					
			Forecast Increment		2010 Total		Forecast Increment from 1991		Forecast Increment from 2010		2020 Total	
	Number	Percent of Total	Number	Percent Change	Number	Percent of Total	Number	Percent Change	Number	Percent Change	Number	Percent of Total
Automobile												
Internal	4,060,900	83.0	629,000	15.5	4,689,900	82.3	972,000	23.9	343,000	7.3	5,032,900	82.0
External	229,200	4.7	77,100	33.6	306,300	5.4	104,100	45.4	27,000	8.8	333,300	5.4
Other	39,300	0.8	26,200	66.7	65,500	1.1	42,100	107.1	15,900	24.3	81,400	1.3
Subtotal	4,329,400	88.5	723,300	16.9	5,061,700	88.8	1,118,200	25.8	385,900	7.6	5,447,600	88.8
Truck												
Internal	520,100	10.6	58,900	11.3	579,000	10.2	102,800	19.8	43,900	7.6	622,900	10.2
External	44,100	0.9	14,100	32.0	58,200	1.0	20,600	46.7	6,500	11.2	64,700	1.0
Subtotal	564,200	11.5	73,000	12.9	637,200	11.2	123,400	21.9	50,400	7.9	687,600	11.2
Total	4,893,600	100.0	805,300	16.5	5,698,900	100.0	1,241,600	25.4	436,300	7.7	6,135,200	100.0

Source: SEWRPC.

Table 38

TRANSIT SYSTEM PERFORMANCE IN THE REGION: 1991 AND 2020, ASSESSING YEAR 2010 TRANSPORTATION PLAN UNDER YEAR 2020 LAND USE PLAN

Transit System Characteristics	Base Year 1991	2020	Forecast Increment	
			Number	Percent Change
Service Provided, Average Weekday				
Revenue Vehicle-Miles				
Rapid	3,400	15,300	11,900	350.0
Express	3,300	20,500	17,200	521.2
Local	56,600	74,200	17,600	31.1
Total	63,300	110,000	46,700	73.8
Revenue Vehicle-Hours				
Rapid	170	600	430	252.9
Express	170	1,400	1,230	723.5
Local	4,880	6,600	1,720	35.2
Total	5,220	8,600	3,380	64.8
Seat-Miles	2,975,000	5,266,000	2,291,000	77.0
Service Utilization				
Ridership				
Average Weekday Revenue Passengers	172,200	208,600	36,400	21.1
Annual Revenue Passengers	50,222,900	60,911,000	10,688,100	21.3
Revenue Passengers per Revenue Vehicle-Hour	33.0	24.3	-8.7	-26.4
Average Weekday Passenger-Miles	609,100	1,006,500	397,400	65.2

Source: SEWRPC.

Table 39

VEHICLE-MILES OF TRAVEL ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION BY COUNTY: 1991, 2010, AND 2020

County	Arterial Vehicle-Miles of Travel on an Average Weekday (thousands)														
	Base Year 1991		Year 2010 Land Use Plan and Transportation Plan					Year 2020 Land Use Plan and Year 2010 Transportation Plan							
			Forecast Increment		2010 Total		Average Annual Rate of Increase 1991-2010	Forecast Increment 1991-2020		Forecast Increment 2010-2020		2020 Total		Average Annual Rate of Increase 1991-2020	Average Annual Rate of Increase 2010-2020
	Number	Percent of Total	Number	Percent Change	Number	Percent of Total		Number	Percent Change	Number	Percent Change	Number	Percent of Total		
Kenosha															
Freeway	675	27.0	338	50.1	1,013	26.4	2.2	483	71.6	145	14.3	1,158	27.2	1.9	1.3
Standard Arterial	1,825	73.0	997	54.6	2,822	73.6	2.3	1,268	69.5	271	9.6	3,093	72.8	1.8	0.9
Subtotal	2,500	100.0	1,335	53.4	3,835	100.0	2.3	1,751	70.0	416	10.9	4,251	100.0	1.8	1.0
Milwaukee															
Freeway	5,945	41.3	281	4.7	6,226	39.3	0.2	660	11.1	379	6.1	6,605	39.3	0.4	0.6
Standard Arterial	8,446	58.7	1,158	13.7	9,604	60.7	0.7	1,759	20.8	601	6.3	10,205	60.7	0.7	0.6
Subtotal	14,391	100.0	1,439	10.0	15,830	100.0	0.5	2,419	16.8	980	6.2	16,810	100.0	0.5	0.6
Ozaukee															
Freeway	762	39.2	218	28.6	980	41.9	1.3	426	55.9	208	21.2	1,188	41.3	1.5	1.9
Standard Arterial	1,180	60.8	177	15.0	1,357	58.1	0.7	511	43.3	334	24.6	1,691	58.7	1.2	2.2
Subtotal	1,942	100.0	395	20.3	2,337	100.0	1.0	937	48.3	542	23.2	2,879	100.0	1.4	2.1
Racine															
Freeway	708	23.9	329	46.5	1,037	26.2	2.0	519	73.3	190	18.3	1,227	28.4	1.9	1.7
Standard Arterial	2,258	76.1	667	29.5	2,925	73.8	1.4	838	37.1	171	5.9	3,096	71.6	1.1	0.6
Subtotal	2,966	100.0	996	33.5	3,962	100.0	1.5	1,357	45.8	361	9.1	4,323	100.0	1.3	0.9
Walworth															
Freeway	540	28.2	813	150.6	1,353	46.7	4.8	872	161.5	59	4.4	1,412	44.1	3.4	0.4
Standard Arterial	1,373	71.8	173	12.6	1,546	53.3	0.6	416	30.3	243	15.7	1,789	55.9	0.9	1.5
Subtotal	1,913	100.0	986	51.4	2,899	100.0	2.2	1,288	67.3	302	10.4	3,201	100.0	1.8	1.0
Washington															
Freeway	546	23.0	708	129.7	1,254	40.5	4.4	825	151.1	117	9.3	1,371	38.2	3.2	0.9
Standard Arterial	1,833	77.0	8	0.4	1,841	59.5	0.0	381	20.8	373	20.3	2,214	61.8	0.7	1.9
Subtotal	2,379	100.0	716	30.1	3,095	100.0	1.4	1,206	50.7	490	15.8	3,585	100.0	1.4	1.5
Waukesha															
Freeway	2,421	34.7	1,118	46.2	3,539	33.8	2.0	1,244	51.4	126	3.6	3,665	32.8	1.4	0.4
Standard Arterial	4,560	65.3	2,364	51.8	6,924	66.2	2.1	2,946	64.6	582	8.4	7,506	67.2	1.7	0.8
Subtotal	6,981	100.0	3,482	49.9	10,463	100.0	2.1	4,190	60.0	708	6.8	11,171	100.0	1.6	0.7
Southeastern Wisconsin Region															
Freeway	11,597	35.1	3,805	32.8	15,402	36.3	1.5	5,029	43.4	1,224	8.0	16,626	36.0	1.2	0.8
Standard Arterial	21,475	64.9	5,544	25.8	27,019	63.7	1.2	8,119	37.8	2,575	9.5	29,594	64.0	1.1	0.9
Total	33,072	100.0	9,349	28.3	42,421	100.0	1.3	13,148	39.8	3,799	9.0	46,220	100.0	1.2	0.9

Source: SEWRPC.

Arterial Street and Highway System Element

With respect to the arterial street and highway system element of the year 2010 regional transportation system plan, the vehicle-miles of travel on the arterial street and highway system may be expected to increase from about 33.1 million per average weekday in 1991 to nearly 46.0 million by the year 2020 under the new year 2020 regional land use plan, an increase of about 39 percent (see Table 39). The forecast year 2020 regional vehicle-miles of travel represent an increase of 3.5 million vehicle-miles of travel on an average weekday, or 8 percent over the anticipated year 2010 vehicle-miles of travel under the adopted year 2010 regional land use and transportation system plans.

The impact of the anticipated increase in highway traffic beyond the year 2010 to the year 2020 under the adopted year 2010 regional transportation system plan is reflected in the number of arterial miles that may be expected to operate over design capacity and experience traffic congestion, as shown in Table 40 and on Maps 22, 23, and 24. The number of miles anticipated to be moderately congested would decline from 106 miles, or 3 percent of the system in 1991, to 82 miles and 2 percent of the system in the year 2010, and increase again to 149 miles and 4 percent of the system in the year 2020. The number of miles anticipated to experience severe traffic congestion may be expected to decrease from 217 miles and 7 percent of the system in 1991 to 48 miles and 1 percent of the system in the year 2010, and then increase to 60 miles and 2 percent of the system in the year 2020. The number of miles anticipated to experience extreme traffic congestion may be expected to decrease from 62 miles and 2 percent of the system in 1991 to 36 miles and 1 percent of the system in the year 2010, and then increase to 48 miles and 1 percent of the system in the year 2020. A comparison of Maps 23 and 24 indicates that the following arterial facilities may be expected to experience severe or extreme traffic congestion between the year 2010 and the year 2020 if no further improvement is added to the year 2010 regional transportation system plan, as it is proposed to be extended in time to the year 2020:

- Milwaukee County
  - IH 94 between W. Rawson Avenue and the Milwaukee-Racine county line
  - IH 894 between W. 84th Street and the Hale Interchange
  - IH 43 between W. Silver Spring Drive and W. Good Hope Road
  - N. 76th Street between W. Industrial Drive and W. Brown Deer Road
  - W. Brown Deer Road between N. 60th Street and N. 76th Street
  - S. Pennsylvania Avenue between E. College Avenue and E. Rawson Avenue
  - N. Port Washington Road between W. Bender Road and W. Daphne Road
- Racine County
  - IH 94 between CTH K and the Racine-Milwaukee county line
  - STH 11 between 90th Street and Wisconsin Street
- Waukesha County
  - STH 83 between IH 43 and CTH NN
  - St. Paul Avenue between STH 59 and Moreland Boulevard
  - STH 59 between St. Paul Avenue and STH 83
  - USH 18 between CTH TT and STH 83
  - STH 83 between CTH NN and STH 59

DEVELOPMENT OF PRELIMINARY RECOMMENDED YEAR 2020 REGIONAL TRANSPORTATION SYSTEM PLAN

Based upon the preceding assessment of the performance of the adopted year 2010 regional transportation plan in meeting the year 2020 travel demands as defined under the year 2020 regional land use plan, and the identification of specific deficiencies of the year 2010 transportation plan in serving potential year 2020 travel, the following modifications to the year 2010 transportation plan are recommended to be made in the extension of that plan to the year 2020:

- Public Transit Plan Element
  Extensions and/or improvements in express/local transit service to the Park Place major office center, Franklin major industrial center, Sussex major

Table 40

TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM[a]

Base Year 1991									
	At or under Design Capacity		Over Design Capacity						
			Moderate Congestion		Severe Congestion		Extreme Congestion		
County	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Total Mileage
Kenosha	294.1	92.5	8.5	2.7	10.4	3.3	4.7	1.5	317.7
Milwaukee	610.8	78.8	42.7	5.5	101.4	13.1	20.5	2.6	775.4
Ozaukee	264.7	91.7	10.5	3.6	7.0	2.4	6.3	2.3	288.5
Racine	305.6	87.9	8.0	2.3	28.3	8.1	6.0	1.7	347.9
Walworth	419.5	97.8	6.6	1.5	3.1	0.7	--	--	429.2
Washington	376.7	94.4	3.0	0.7	12.5	3.1	7.0	1.8	399.2
Waukesha	617.2	86.1	27.1	3.8	54.5	7.6	17.5	2.5	716.3
Total	2,888.6	88.2	106.4	3.2	217.2	6.6	62.0	2.0	3,274.2

Year 2010 Land Use Plan and Year 2010 Transportation Plan									
	At or under Design Capacity		Over Design Capacity						
			Moderate Congestion		Severe Congestion		Extreme Congestion		
County	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Total Mileage
Kenosha	351.8	97.1	--	--	3.3	0.9	--	--	355.1
Milwaukee	707.3	88.8	42.9	5.4	22.2	3.1	24.6	0.8	797.0
Ozaukee	300.9	98.9	3.5	1.1	--	--	--	--	304.4
Racine	417.6	98.5	5.5	1.3	0.7	0.2	--	--	423.8
Walworth	484.1	100.0	--	--	--	--	--	--	484.1
Washington	468.3	100.0	--	--	--	--	--	--	468.3
Waukesha	711.8	92.0	30.0	3.9	21.3	2.8	11.1	1.5	774.2
Total	3,441.8	95.4	81.9	2.3	47.5	1.3	35.7	1.0	3,606.9

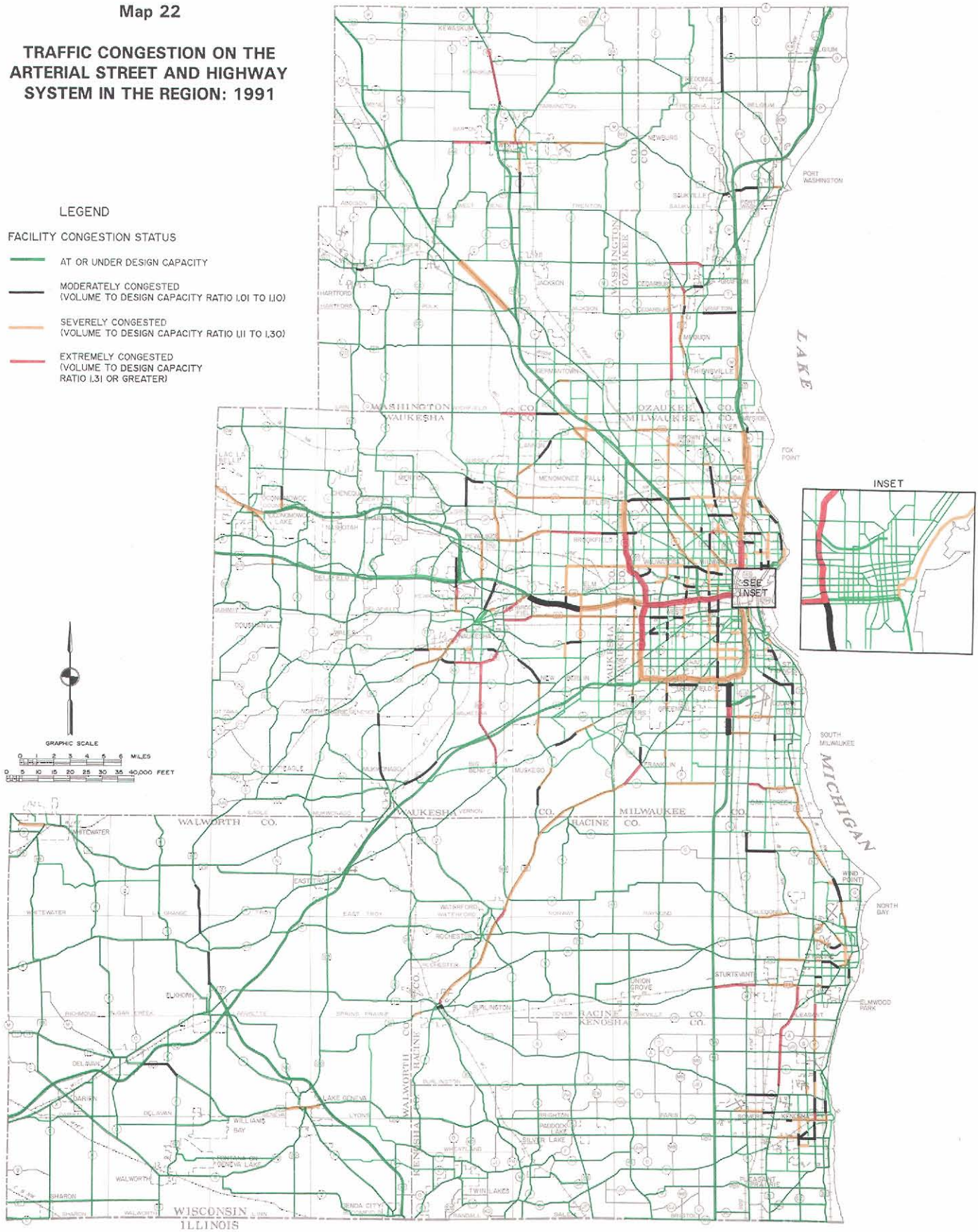
Year 2020 Land Use Plan and Year 2010 Transportation Plan									
	At or under Design Capacity		Over Design Capacity						
			Moderate Congestion		Severe Congestion		Extreme Congestion		
County	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Total Mileage
Kenosha	333.4	93.9	18.4	5.2	3.3	0.9	--	--	355.1
Milwaukee	696.6	87.4	41.2	5.2	29.5	3.7	29.7	3.7	797.0
Ozaukee	298.5	98.1	5.9	1.9	--	--	--	--	304.4
Racine	387.1	91.3	31.2	7.4	5.5	1.3	--	--	423.8
Walworth	481.2	99.4	2.9	0.6	--	--	--	--	484.1
Washington	467.8	99.9	0.5	0.1	--	--	--	--	468.3
Waukesha	684.4	88.4	45.4	5.9	26.0	3.3	18.4	2.4	774.2
Total	3,349.0	92.8	145.5	4.1	64.3	1.8	48.1	1.3	3,606.9

[a] *A definition and explanation of the characteristics of the levels of traffic congestion are provided in Chapter IV of this report, which chapter is entitled "Objectives, Principles, and Standards."*

Source: SEWRPC.

Map 22

TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION: 1991

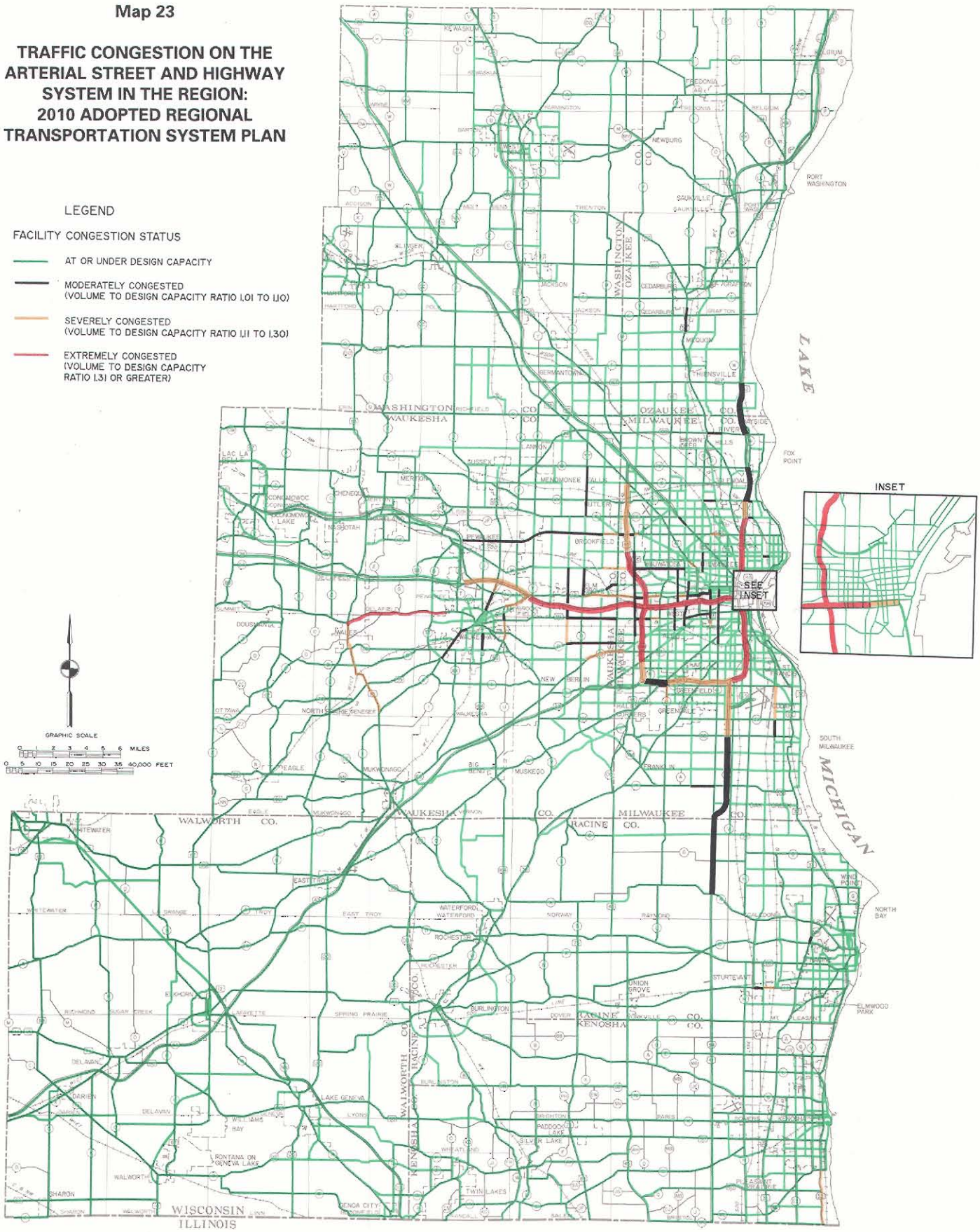


In the base year 1991, 12 percent of the 3,274-mile arterial system, or 385 miles, operated over design capacity, with a volume-to-design-capacity ratio of 1.01 or greater. About 106 miles, or 3 percent of the arterial mileage, were moderately congested; 217 miles, or 7 percent of arterial mileage, were severely congested; and 62 miles, or about 2 percent of the arterial mileage, were extremely congested.

Source: SEWRPC.

Map 23

TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION: 2010 ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN

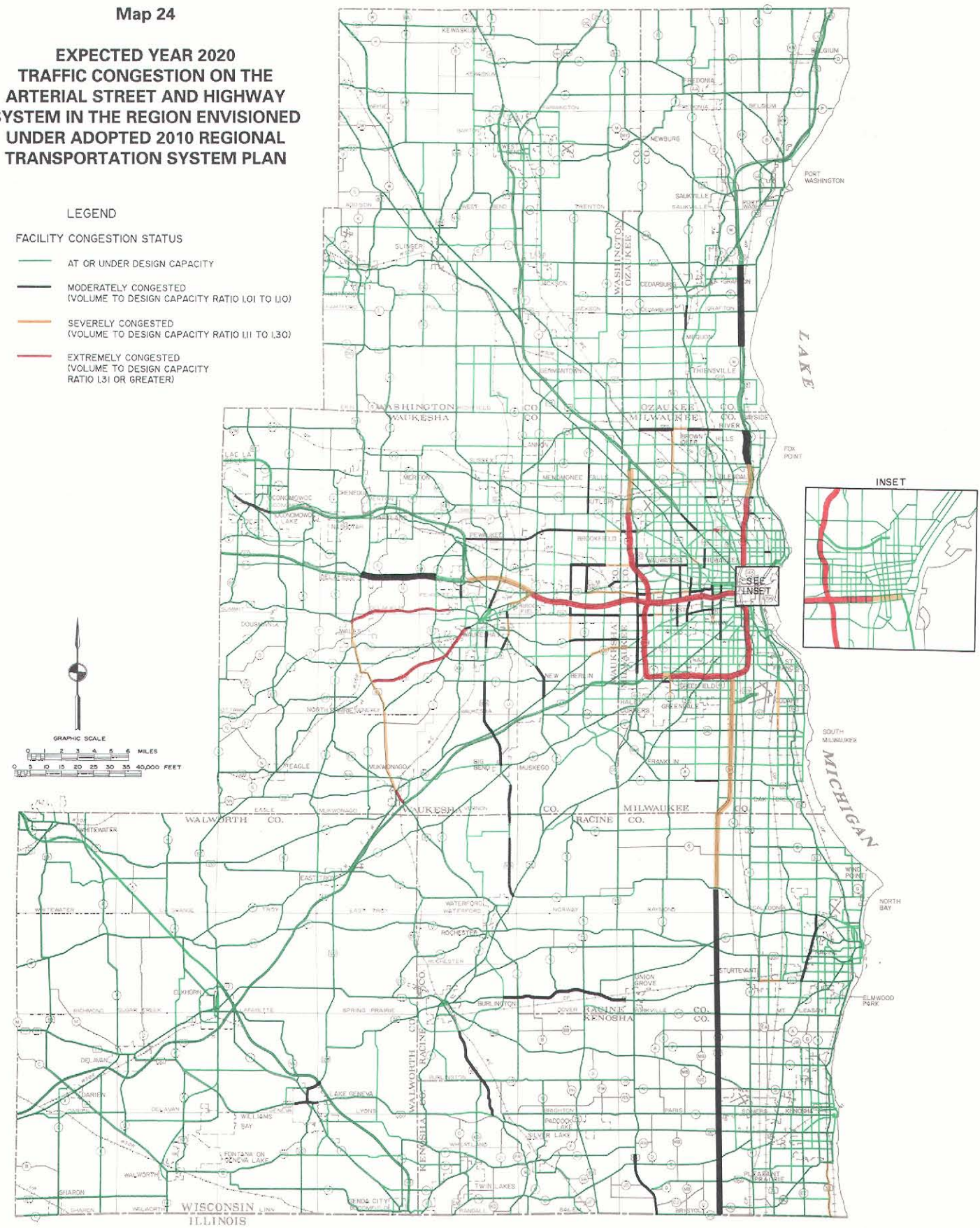


Under the adopted year 2010 plan, the level of traffic congestion may be expected to be substantially below that which would occur under the "no-build" alternative plan. By the year 2010, only about 5 percent of the planned 3,607-mile arterial system, or 165 miles, would operate over design capacity. About 82 miles, or over 2 percent, of planned arterial mileage would be moderately congested; 47 miles, or about 1 percent, would be severely congested; and 36 miles, or 1 percent, would be extremely congested. While the transportation development proposals included in the year 2010 plan serve to reduce traffic congestion throughout the entire Region, the Milwaukee-area freeway system may be expected to carry traffic volumes exceeding its design capacity and to operate with congested conditions through the year 2010.

Source: SEWRPC.

Map 24

EXPECTED YEAR 2020 TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION ENVISIONED UNDER ADOPTED 2010 REGIONAL TRANSPORTATION SYSTEM PLAN



As would be expected, the level of traffic congestion experienced on the planned year 2010 arterial street and highway system would increase from the plan design year 2010 to the year 2020. By 2020, it is anticipated that about 258 miles, or slightly more than 7 percent of the planned 3,607-mile arterial system, would operate over design capacity. Specifically, about 146 miles, or about 4 percent of the total system, would be expected to experience moderate congestion; about 64 miles, or almost 2 percent of the total arterial system, would experience severe congestion; and about 48 miles, or about 1 percent of the total arterial system, would experience extreme congestion.

Source: SEWRPC.

industrial center, Menomonee Falls major industrial center, Pleasant Prairie major industrial center, Hartford major industrial center, and employment centers along Brown Deer Road.

- Arterial Street and Highway Plan Element

- Milwaukee County

  — IH 94 between W. Rawson Avenue and the Milwaukee-Racine County Line
  Addition of this segment of freeway to the transit plan element, which proposes potential future major investment study to consider special bus and carpool lanes.

  — IH 894 between S. 84th Street and the Hale Interchange
  Addition of this segment of freeway to the transit plan element which proposes potential future major investment study to consider special bus and carpool lanes.

  — IH 43 between W. Silver Spring Drive and W. Good Hope Road
  Addition of this segment of freeway to the transit plan element which proposes potential future major investment study to consider special bus and carpool lanes.

  — N. 76th Street between W. Industrial Drive and W. Brown Deer Road
  No change in plan, as N. 68th Street extension which would have addressed this congestion was removed from 2010 plan at request of City of Milwaukee, and facility is fully improved to six-lane divided arterial.

  — S. Pennsylvania Avenue between E. College Avenue and E. Rawson Avenue
  No change, as Lake Parkway extension which would have addressed this congestion was removed from 2010 plan by Wisconsin Department of Transportation. Also, facility is under construction to four-lane undivided arterial.

  — W. Brown Deer Road between N. 60th Street and N. 76th Street
  No change, as this facility is fully improved to six-lane divided arterial.

  — N. Port Washington Road between W. Bender Road and W. Daphne Road
  Recommendation of capacity improvement from two to four lanes as proposed by City of Glendale.

- Racine County

  — IH 94 between CTH K and the Racine-Milwaukee County Line
  Addition of this segment of freeway to the transit plan element which proposes potential future major investment study to consider special bus and carpool lanes.

  — STH 11 between 90th Street and Wisconsin Street
  No addition of traffic lanes is recommended due to right-of-way constraints. Consideration should be given to turn-lane and median provision.

- Waukesha County

  — STH 83 between IH 43 and CTH NN
  Recommendation of capacity improvement from two to four lanes as proposed in preliminary engineering study under way which is concluding that limits on potential bypass location and speed will limit future bypassable traffic.

  — St. Paul Avenue between STH 59 and Moreland Boulevard
  Recommendation of capacity improvement from two to four traffic lanes.

  — STH 59 between St. Paul Avenue and STH 83
  Recommendation of capacity improvement from two to four traffic lanes. Will maintain existing level of accessibility.

  — USH 18 between CTH TT and STH 83
  Recommendation of capacity improvement from two to four traffic lanes. Will maintain existing level of accessibility.

  — STH 83 between CTH NN and STH 59
  Recommendation of capacity improvement from two to four traffic lanes. Will maintain existing level of accessibility.

These proposed modifications to the year 2010 transportation plan were incorporated in the preliminary recom-

mended year 2020 regional transportation plan. The capacity improvements recommended total 21 miles of arterial streets proposed to be widened, representing less than a 1 percent expansion of total arterial system capacity as the plan is extended 10 years from 2010 to 2020.

Also, several modifications to the arterial street and highway capacity improvement and expansion recommendation in the year 2010 regional transportation plan have been proposed by local governments within Southeastern Wisconsin since the completion of the year 2010 transportation plan. The modifications proposed to date, and recommendations with respect to their incorporation in the preliminary year 2020 plan, are as follows:

- Milwaukee County

  — Change in Recommended Number of Traffic Lanes from Four to Two on N. 124th Street between W. Hampton Avenue and W. Silver Spring Drive (Requested by the City of Milwaukee)
  Engineering studies are under way for the reconstruction of this facility, which will convert it from a rural to an urban cross-section. Current traffic volumes are well within the design capacity of two traffic lanes, although future year 2020 traffic volumes approach the design capacity of two traffic lanes assuming implementation of the plan-recommended extension of N. 124th Street from W. Watertown Plank Road to W. Greenfield Avenue. The roadway cross-section proposed in the engineering studies being conducted by the City of Milwaukee would accommodate a two-traffic-lane roadway with auxiliary/parking lanes; however, a four-traffic-lane roadway with auxiliary/parking lanes could also be accommodated. It is recommended that the proposed change in number of traffic lanes from four to two on N. 124th Street between W. Hampton Avenue and W. Silver Spring Drive be made in the preliminary plan.

  — Change in Recommended Number of Traffic Lanes from Two to Four on S. 92nd Street between W. Lincoln Avenue and W. Oklahoma Avenue (Requested by the City of West Allis)
  Engineering studies are under way for the reconstruction of this facility, which will convert it from a rural to an urban cross-section. Current traffic volumes are within the design capacity of two traffic lanes, and future year 2020 traffic volumes may be expected to approach the design capacity of two traffic lanes. The existing right-of-way is more than adequate to provide for four traffic lanes and two auxiliary/parking lanes. Existing sidewalks are generally set back to provide for the City-proposed four traffic lanes and two auxiliary/parking lanes. Accordingly, it is recommended that the proposed change in the number of traffic lanes from two to four on N. 92nd Street between W. Lincoln Avenue and W. Oklahoma Avenue be made in the preliminary plan.

  — Change in Recommended Number of Traffic Lanes from Four to Two on W. North Avenue between N. 60th Street and N. 76th Street (Requested by the City of Wauwatosa)
  The adopted year 2010 regional transportation plan recommends the provision of four traffic lanes on this segment of W. North Avenue by the prohibition of existing on-street parking. The facility currently provides two traffic lanes and two parking lanes. Existing and forecast traffic volumes on this segment of W. North Avenue equal the existing design capacity of two traffic lanes on the eastern portion, and moderately to severely exceed the existing design capacity on the western portion. The City of Wauwatosa has already implemented a reconstruction and streetscape project of the segment of W. North Avenue between N. 60th Street and N. 62nd Street, effectively foreclosing the potential to prohibit parking and thereby provide four traffic lanes, and has engineering studies under way to similarly foreclose that potential between N. 62nd Street and N. 76th Street. Accordingly, it is recommended that the City-proposed change in the number of traffic lanes from four to two on W. North Avenue between N. 60th Street and N. 76th Street be made in the preliminary plan.

- Ozaukee County

  — Addition of Extension of Walters Street from Wisconsin Avenue to Spring Street/CTH KK and CTH LL (Requested by the City of Port Washington)
  This two-traffic-lane facility was recommended in the original Ozaukee County jurisdictional highway system plan, the year 2000 regional transportation system plan, and the preliminary year 2010 regional transportation system plan

taken to public hearing. The then Mayor of the City of Port Washington requested that the facility extension be removed from the final year 2010 regional transportation system plan, and it was deleted from the final plan. The City of Port Washington Common Council, in its adoption of the year 2010 plan, requested that the plan be amended to include the long-planned Walters Street extension. The City of Port Washington Plan Commission recently determined to include the Walters Street extension on a new City master plan, as it may be expected to provide relief to existing and future traffic congestion, provide desirable arterial street spacing, assist in avoiding excessive traffic on local land access streets, and connect existing and developing urban land uses. Accordingly, it is recommended that the City-proposed change to add the two-lane Walters Street extension from Wisconsin Avenue to CTH LL to the regional transportation plan be made in the preliminary plan.

- Racine County

  — Addition to the Plan of the Conversion and Extension of Calumet Street from a Nonarterial Street to a Four-Lane Arterial Street between Bridge Street and Market Street, the Relocation of a Bridge Spanning the Fox River in the City of Burlington, and the Conversion of the One-Way Pair of Chestnut Street and Commerce Street between Milwaukee Street and Oregon Street to a Two-Way Commerce Street (Requested by the City of Burlington)
  These changes in the City of Burlington may be expected to permit the elimination of one-way arterial street pairs, and the elimination of 90-degree turns on major arterial routes. The changes may also be expected to promote a planned riverfront redevelopment. The changes include the addition of Calumet Street as an arterial between Bridge Street and Market Street, the conversion of the Chestnut Street-Commerce Street one-way pair to a two-way Commerce Street with a new transition roadway between Chestnut Street and Commerce Street at Oregon Street, the relocation of the STH 11 Fox River bridge to Adams Street, the conversion of Dodge Street to a nonarterial, and operation of Pine Street as a two-way arterial.

  — Addition to the Plan of 90th Street between STH 20 and CTH C as a Two-Lane Arterial Facility (Requested by the Town of Mt. Pleasant)
  This facility would be a new street extension. The adopted year 2010 plan recommends 90th Street to be a two-lane arterial from the Racine-Kenosha county line to STH 20. The proposed facility extension would provide arterial service to planned land development in the Town of Mt. Pleasant and Village of Sturtevant. It is recommended that the proposed addition of the extension of 90th Street as a two-lane arterial facility between STH 20 and CTH C be made in the preliminary plan.

  — Removal from the Plan of the Proposed Extension of Emmertsen Road between STH 38 and Three Mile Road, and Removal from the Plan as an Arterial Facility of Existing Three Mile Road between STH 31 and the Proposed Extension of Emmertsen Road (Requested for Consideration by Racine County)
  These facilities have long been proposed in the regional transportation system plan and Racine County jurisdictional highway system plan. However, such facilities would have more limited utility given the determination set forth in the year 2010 adopted plan to no longer recommend the extension of Three Mile Road from STH 31 to Green Bay Road. The arterials which these two proposed facilities would relieve include segments of STH 31 between STH 38 and Three Mile Road, and STH 38 between STH 31 and Emmertsen Road. Both of these roadway segments have adequate existing and/or planned traffic carrying capacity as four-lane divided facilities. Moreover, the proposed segments of Three Mile Road and the Emmertsen Road extension would generally operate as collector facilities, rather than arterials, and therefore need not be included in the new regional transportation plan or Racine County jurisdictional highway system plan. It will be important, however, for the urban development intended to occur in the vicinity of these two facilities to provide reasonably direct access to both STH 31 and STH 38 to avoid unnecessary local travel over those arterials which could otherwise occur within the neighborhood and, as well, for the development to be designed to avoid the potential for through traffic to occur on neighborhood streets. Given the fore-

going, it is recommended that the extension of Emmertsen Road between STH 38 to Three Mile Road, and Three Mile Road between Emmertsen Road and STH 31, be removed from the preliminary plan.

— Addition to the Plan of Oakes Road between STH 11 and Braun Road as a Two-Lane Arterial Facility (Requested by Racine County)
This facility would be a new arterial street extension. The adopted year 2010 plan recommends that an existing segment of Oakes Road and its extension to the north and south be a two-lane arterial from CTH K to STH 11 in Racine County. The proposed further extension to Braun Road would serve current and planned development between STH 11 and Braun Road west of STH 31. It is recommended that the proposed addition of the extension of Oakes Road as a two-lane arterial facility between STH 11 and Braun Road be made in the preliminary plan.

- Walworth County

— Removal from the Plan of the Extension of Grant Street as a Proposed Two-Lane Arterial (Requested by the City of Lake Geneva)
This facility would have provided an alternative for movement of east-west traffic within the City of Lake Geneva, and would have provided some relief to the congested segment of STH 50 within the City of Lake Geneva. This facility was requested to be removed from the plan by the City of Lake Geneva, as development has taken place along the path of the proposed extension of Grant Street and the construction of the facility is no longer feasible. Accordingly, it is recommended that the City-proposed change relative to the removal of the extension of Grant Street be made in the preliminary plan.

- Washington County

— Addition to the Plan of an Interchange with USH 41-USH 45 at Freistadt Road within Washington County (Requested by Washington County)
This interchange was initially requested by Washington County in the making of the year 2010 plan. The findings of the evaluation of the addition of the interchange at that time continue to hold for the year 2020 plan. The interchange was requested to provide relief to the existing interchanges 1.0 mile north of Freistadt Road at Holy Hill Road (STH 167 West) and 2.0 miles south at Lannon Road (STH 167 East). The new interchange was also requested to provide access to existing and planned development at the interchange and along Freistadt Road, and to reduce travel indirection. Freistadt Road is an existing and planned arterial, and there would be adequate capacity on USH 41-USH 45 and on Freistadt Road to accommodate an interchange.

The existing interchanges north and south of Freistadt Road, however, have adequate capacity to handle current traffic and, as well, future year 2020 traffic. Some improvements may be expected to be needed at these interchanges, including the addition of turning lanes and widening of approach pavements and, as well, the widening of Lannon Road/Mequon Road. Also, traffic signalization of the major intersections at the interchanges and along Lannon Road and Mequon Road may be necessary to better accommodate existing and future traffic. With these improvements, the existing interchanges may be expected to handle future traffic as well.

The proposed interchange is located at the fringe of the Milwaukee urbanized area, and the provision of a new interchange at Freistadt Road would not be consistent with rural Federal Highway Administration interchange spacing standards of six miles. In addition, the Wisconsin Department of Transportation continues to oppose the construction of the proposed interchange. The Wisconsin Department of Transportation has indicated that it would not construct either a full or half interchange at the Freistadt Road location, and has recommended that it not be included in the regional transportation plan, as it would provide a false signal to local officials and developers that a future interchange may be expected to be implemented at Freistadt Road. Given the foregoing, it is recommended that the proposed interchange at Freistadt Road with USH 41-USH 45 not be added to the preliminary plan.

With these additions and deletions in highway capacity improvement and expansion, the incremental improvement and expansion in highway capacity proposed as the regional transportation plan is extended 10 years from the year 2010 to the year 2020 totals 22 miles of widened and

new arterials, representing less than a 1 percent expansion in capacity of the 3,607-mile planned arterial street and highway system.

THE PROPOSED YEAR 2020 REGIONAL TRANSPORTATION SYSTEM PLAN

The proposed regional transportation system plan for the year 2020 is the regional transportation system plan adopted by the Commission in December 1994 with a design year of 2010, modified by modest amendments. This is proposed for a number of reasons. First, the year 2010 plan has been well received by all parties concerned and has been adopted by the Commission, each of the seven counties in the Region, and many municipalities, and has been endorsed by the Wisconsin Departments of Transportation and Natural Resources. There is no reason to explore a major departure from the framework of transportation development and improvement envisioned in the 2010 plan. Second, forecasts of regional change another 10 years beyond the year 2010 to the year 2020 indicate only modest growth in levels of households, employment, travel, transit ridership, and highway traffic, that is, increases of approximately 8 percent. Analyses of the ability of the year 2010 plan to meet year 2020 travel and traffic demands indicate that minimal change in the year 2010 plan is necessary for that plan to serve year 2020 travel and traffic needs. The third reason that the year 2020 plan is principally derived from the year 2010 plan is that the only concern that has been expressed about the year 2010 plan since its adoption is that it may be too ambitious to be accomplished within the remaining 13-year time frame. Its extension by another 10 years, and modest amendment to include actions to address additional needs over those additional 10 years, responds to that concern. The fourth reason is that substantial changes have not yet occurred, and additional data are not yet available, to warrant the expenditure of the time and resources for a major plan reevaluation at this time.

The proposed year 2020 plan has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement.

Transportation Systems Management Element

The transportation systems management element of the plan is intended to encourage more efficient use of the existing transportation system. It includes travel demand management measures to encourage carpooling and transit travel and thereby reduce vehicular travel. It also includes traffic management measures which seek to obtain the maximum vehicular capacity practicable from existing arterial street and highway facilities. The transportation systems management element of the plan includes the following seven measures:

1. Freeway Traffic Management
   Implementation of an areawide freeway traffic management system, including an operational control strategy that would, through restricted access of single-occupancy vehicles at ramp meters, attempt to eliminate freeway traffic flow breakdown and stop-and-go traffic and provide for average operating speeds of about 30 to 35 miles per hour on all freeway segments during peak traffic periods. Buses and high-occupancy vehicles would receive preferential access at the ramps. The system would also include elements to provide advisory information and to better manage incidents.

2. Arterial Curb-Lane Parking Restrictions
   Restriction of curb-lane parking as needed during peak periods along about 400 miles, or about 11 percent, of the planned 3,612-mile arterial street and highway system in order to reduce traffic congestion and help provide good transit service. Local governmental units would consider the proposed curb-lane parking restrictions as traffic volumes and congestion increase, and implement these restrictions rather than consider expansion of highway capacity through widening and new construction beyond that envisioned in the plan.

3. Traffic Engineering
   The use of state-of-the-art traffic engineering practices to assist in achieving efficient traffic flow on arterial facilities, including intersection treatments with turn lanes as needed, efficient traffic signalization, and the facilitation of pedestrian and bicycle movements on arterial streets and highways.

4. Traffic Management Technology
   The application of advanced traffic management technology, known as intelligent transportation systems (ITS), as such technology becomes practicable and available over the plan implementation period. This may include traveler information for transit and highway travel, as well as advanced traffic management systems for improved transportation facility operation.

5. Travel Demand Management Promotion
   A regionwide program to promote travel through ridesharing, transit use, bicycle use, and pedestrian movement, together with telecommuting and worktime rescheduling as may be found feasible.

6. Detailed Land Use Planning and Site Design
The preparation and implementation by local governmental units of detailed, site-specific neighborhood land use plans to facilitate travel by transit, bicycle, and pedestrian movement, as recommended in the adopted regional land use plan.

7. Transit Systems Management and Service Enhancement Measures
The undertaking by the transit agencies in the Region of a range of activities to enhance the quality of transit services and to facilitate transit use, including conduct of marketing and public information and education activities, improvement of bus speeds through priority systems and signal preemption, and promotion of innovative fare-payment systems.

Public Transit Maintenance and Improvement Element

The recommended public transit system element of the plan proposes development within the Region of a true rapid transit system; development of a true express transit system; and significant improvement of the existing local bus transit systems. Map 25 displays the transit system recommendations by each of the three components. Altogether, service on the regional transit system would be increased from service levels in 1995—the base year of the 2020 plan—by about 69 percent measured in terms of revenue transit vehicle-miles of service provided, and 61 percent measured in terms of revenue transit vehicle-hours of service provided (see Table 41).

Rapid Transit System Component

The proposed rapid transit system element would consist of buses operating over freeways between the Milwaukee central business district and outlying portions of Milwaukee County, the Milwaukee urbanized area, and Southeastern Wisconsin, and would have the following characteristics:

- The bus rapid transit service would operate in both directions, providing both traditional commuter and reverse-commute service.

- The rapid transit service would operate with some intermediate stops to increase accessibility to employment centers, and to increase accessibility for reverse-commute travel from residential areas within central Milwaukee County. Certain stops would be provided with shuttle bus or van service to nearby employment centers.

- The service would operate throughout the day. The frequency of service provided would be every five to 30 minutes in peak travel periods, and every 30 to 60 minutes in off-peak periods.

- Transit service would be provided at relatively high overall travel speeds averaging about 25 miles per hour, compared to typical overall local bus transit speeds, which average about 12 miles per hour.

Initially, all service could be provided over the regional freeway system, with service extensions on selected surface arterial streets and highways. Ultimately, depending upon the results of major transportation investment studies, the rapid transit routes could operate over exclusive busway facilities in the most congested freeway travel corridors in the Region (see Map 26). A major investment study/preliminary engineering study/final environmental impact statement process is currently under way in the IH 94 East-West Freeway Corridor considering such an exclusive busway.

Also recommended to be considered in these major investment studies is the potential to establish commuter-rail passenger service as an alternative form of rapid transit service to bus-on-freeway or bus-on-busway service in four major travel corridors, from Milwaukee to Kenosha, to Oconomowoc, to West Bend, and to Saukville. Through these corridor studies, then, final decisions would be made as to whether to provide the rapid transit service through bus-on-freeway, bus-on-busway, or commuter-rail passenger service. Pending the conduct of these studies, all rapid transit service would be provided through the bus-on-freeway mode.

Express Transit System Component

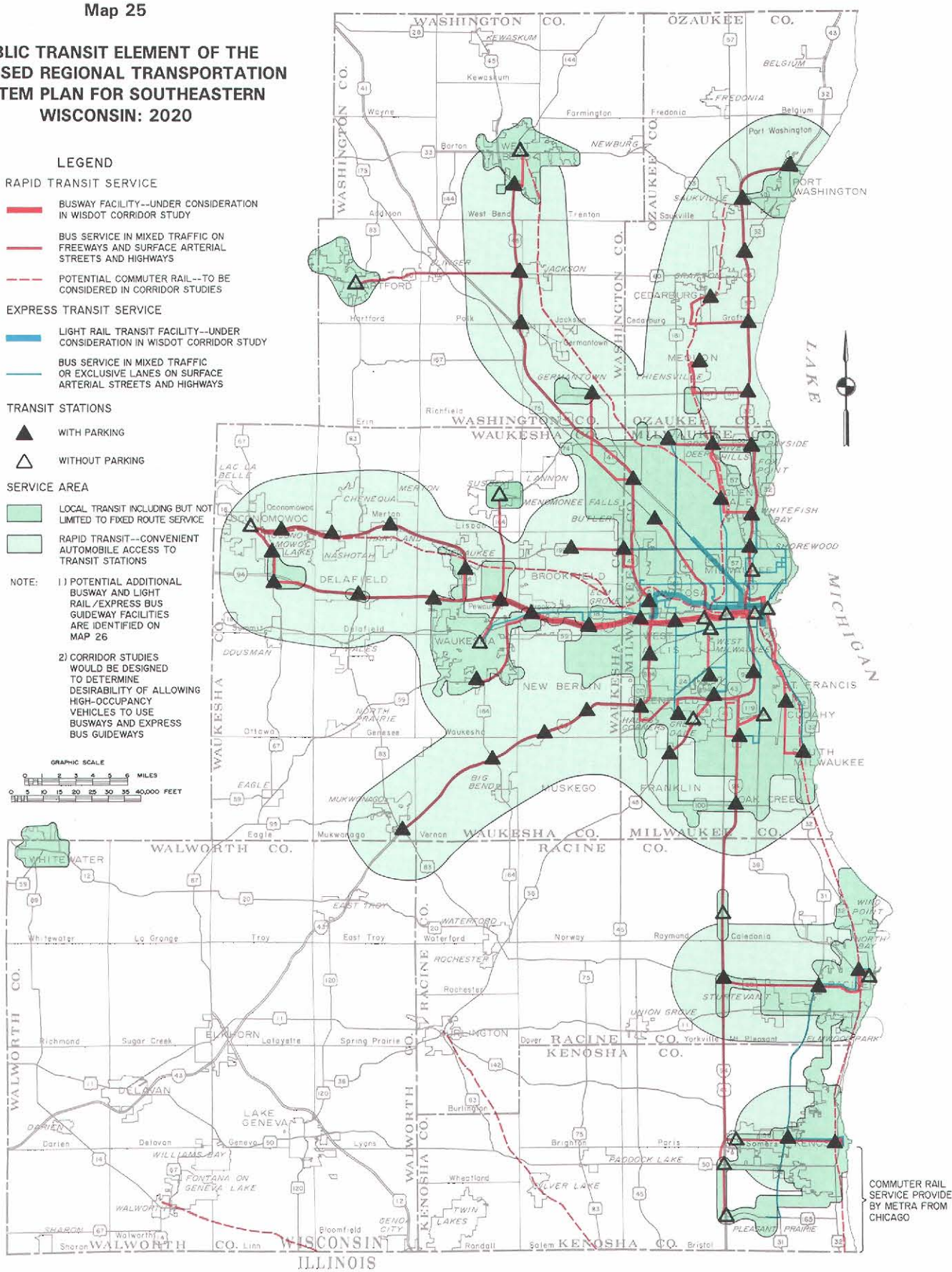
The second component of the public transit element of the plan is an express transit system. The recommended express transit system would consist primarily of buses operating over a grid of 12 limited-stop, higher-speed routes within Milwaukee County. The express transit routes are also shown on Map 25.

The plan envisions that this system of limited-stop routes would initially consist of buses operating over arterial streets in mixed traffic. The service could be upgraded over time to buses operating on reserved street lanes, and could, ultimately, based on federally required corridor major investment studies, be considered for further upgrading to light-rail service.

The ongoing IH 94 East-West Freeway major investment study/preliminary engineering study/final environmental impact statement process is considering a light-rail facility

Map 25

PUBLIC TRANSIT ELEMENT OF THE PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2020



The proposed year 2020 regional transit system consists of an extensive rapid transit system serving all major Milwaukee central business district travel corridors, an extensive grid system of express transit routes, particularly in Milwaukee County, and an expansion of local transit service areas with enhancements to accompanying paratransit services. The plan also incorporates the continuation of local shared-ride taxicab service currently provided in certain smaller urban areas of the Region. The regional public transit system envisioned under the proposed plan would provide 111,500 revenue vehicle-miles of service per average weekday, or 69 percent more than in 1991, and 8,600 revenue vehicle-hours of service per average weekday, or 61 percent more than in 1991.

Source: SEWRPC.

Table 41

TRANSIT SYSTEM ELEMENT OF PROPOSED YEAR 2020 REGIONAL TRANSPORTATION PLAN

Transit System Characteristics	Existing System: Base Year 1991	Proposed 2020 Plan	Forecast Increment	
			Number	Percent Change
Service Provided, Average Weekday				
Revenue Vehicle-Miles				
Rapid	3,800	14,700	11,900	313.2
Express	5,500	21,500	16,000	343.8
Local	56,800	75,300	18,500	32.6
Total	66,100	111,500	45,400	68.7
Revenue Vehicle-Hours				
Rapid	200	600	400	200.0
Express	320	1,400	1,080	337.5
Local	4,810	6,600	1,790	37.2
Total	5,330	8,600	3,270	61.4
Service Utilization				
Ridership				
Average Weekday Revenue Passengers	163,100	208,600	45,500	27.9
Annual Revenue Passengers	47,150,600	60,911,000	13,760,400	27.9
Revenue Passengers per Revenue Vehicle-Hour	30.6	24.3	-6.3	-20.6
Average Weekday Passenger Miles	582,300	1,006,500	424,200	72.3

Source: SEWRPC.

connecting the Milwaukee central business district, the Milwaukee County Institutions Grounds, and the Capitol Court shopping center.

As envisioned under the plan:

- The express service would operate in both directions during both peak and off-peak travel periods.
- The service would operate with a stop spacing of about one-half mile.
- The frequency of service provided would be about every 10 minutes during peak periods, and about every 20 to 30 minutes during off-peak periods.
- The overall travel speed provided would be about 18 miles per hour, a significant improvement over the average 12-miles-per-hour speed provided by the existing local bus transit service.

Local Transit Service

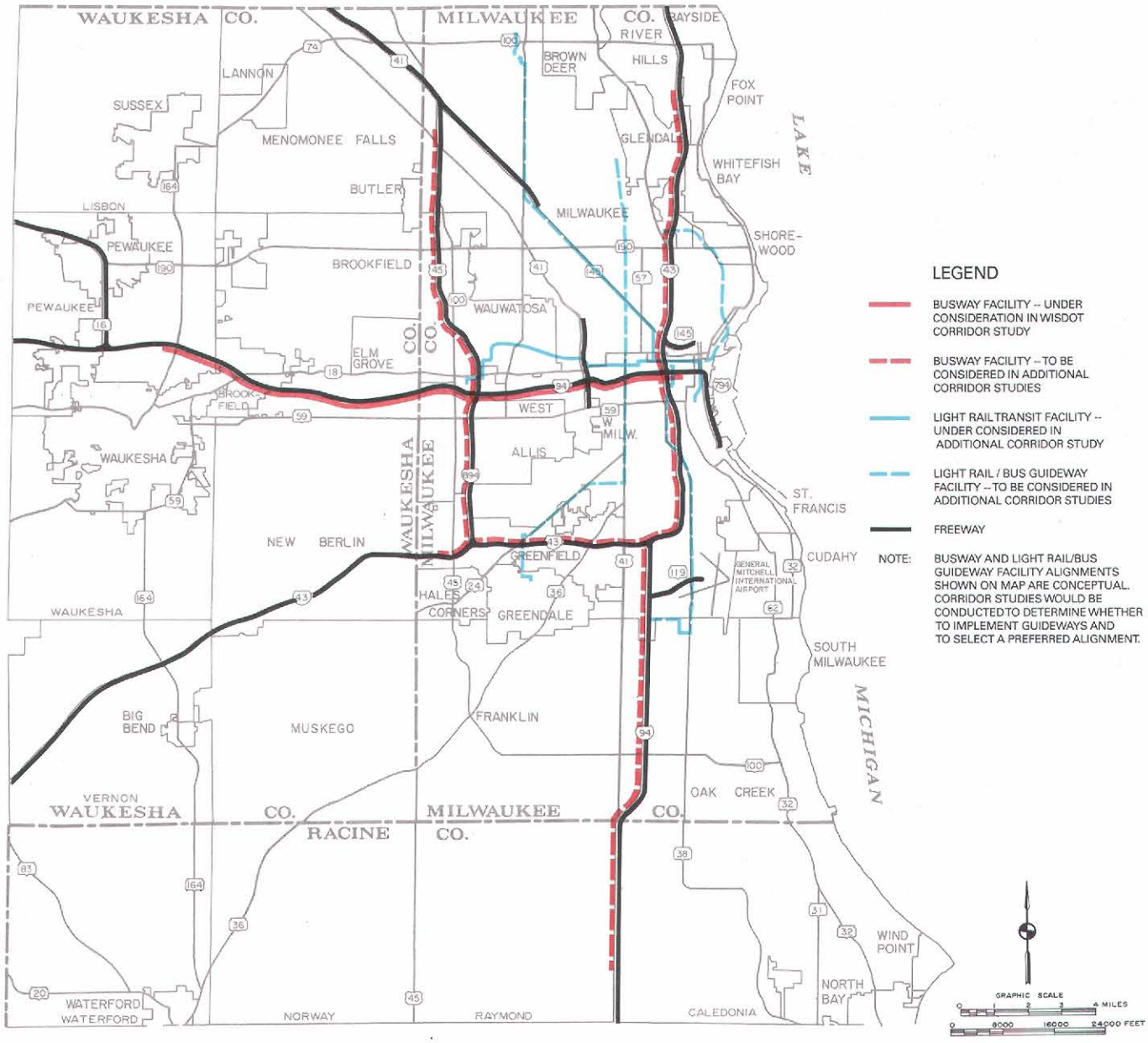
The plan recommends the continued operation of local bus transit service over arterial and collector streets with frequent stops throughout the Kenosha, Milwaukee, and Racine urbanized areas. The plan calls for substantial improvements, however, in the frequency of local transit service provided, particularly on the major local routes. In addition, the plan holds open the potential to restructure local transit services to provide for transit-center-oriented local systems to replace grid-route systems, depending upon detailed local plan implementation studies. The plan also recommends the provision of local transit services through shared-ride taxis in the smaller urban areas of the Region. Finally, the plan recommends the continuation of appropriate paratransit services to help meet the transportation needs of disabled individuals in the Region. In special subregional planning efforts, the Commission has further recommended rural public transportation systems for Ozaukee and Washington Counties.

Arterial Street and Highway Maintenance and Improvement Element

The third element of the regional transportation system plan is the arterial street and highway system element. In 1995, there were about 3,277 miles of arterial streets and highways in the seven-county Region. The existing arterial street and highway system comprises about 29 percent of the total 11,268 miles of streets and highways existing within Southeastern Wisconsin. The arterial street and

Map 26

POTENTIAL BUSWAY AND LIGHT-RAIL/EXPRESS-BUS-GUIDEWAY FACILITIES IDENTIFIED IN THE PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2020



Under the proposed regional transportation system plan, rapid transit busway facilities and express transit light-rail facilities would be considered as alternatives to motor-bus transit service over arterial highway lanes. Consideration of such fixed-guideway transit service facilities would be initiated as part of federally required major investment studies for each of the identified corridors. The busway facility, which extends along the IH 94 Corridor from the City of Milwaukee to the STH 164 interchange in Waukesha County, shown on the accompanying map, and the light-rail facility, which extends from Walker's Point through the central business district of Milwaukee to the Milwaukee County Institutions Grounds with a branch extending along Fond du Lac Avenue to the Capitol Court shopping center, have been acknowledged in the plan as a basis for providing a higher level of service than express bus. It is recognized that the implementation of these fixed-guideway transit facilities depends upon the ultimate outcome of the corridor study currently being conducted by the Wisconsin Department of Transportation. Upon completion of that study, the local units of government concerned, the Wisconsin Department of Transportation, and the Regional Planning Commission would have to affirm the study findings and, if necessary, amend the regional transportation system plan.

Source: SEWRPC.

highway system is that component of the total street and highway system that has as its principal function the movement of traffic. This contrasts with nonarterial streets—consisting of land access and collector streets—which have as their principal function the provision of access to abutting property and the connection of land access streets to the arterials, respectively.

Currently, in the seven-county Southeastern Wisconsin Region, the arterial street and highway system carries about 97 percent of the total average weekday travel, with the public transit system carrying about 3 percent of that demand, and with pedestrian and bicycle travel accounting for less than 1 percent. Even with the greatly expanded transit system envisioned in the year 2010 plan, the evolution of a more efficient regional land use pattern, and the travel demand management measures incorporated in the regional transportation system plan, the arterial street and highway system will be required to carry over 96 percent of the total travel demand, and will have to accommodate by the year 2020 a 30 percent increase in highway traffic over present levels.

The year 2020 plan recommended arterial street and highway system consists of 3,612 miles of facilities. This represents an increase of 335 miles, or about 10 percent, over the existing 1995 arterial system, including 210 miles of existing nonarterial facilities which may be expected to begin to serve an arterial function by the year 2020 and 125 miles of entirely new facilities.

The plan recommendations for the arterial street and highway system can be divided into three categories: system expansion, that is, the proposed construction of new arterial facilities; system improvement, that is, the proposed improvement of existing arterial facilities to carry additional traffic lanes and provide additional traffic capacity; and system preservation, that is, the proposed resurfacing and reconstruction of arterials to the same capacity as exists today. The recommendations by county are shown on Map 27 and summarized in Table 42.

The arterial street and highway system expansion recommendations of the plan include 125 miles of new arterial facilities. This system expansion component represents about 3 percent of the total planned arterial street and highway system in Southeastern Wisconsin.

The system improvement recommendations of the plan include a recommended 405 miles of existing arterial facilities proposed to be widened to carry additional traffic lanes or otherwise significantly improved. The 405 miles represent about 11 percent of the total planned arterial street and highway system. The system improvement component of the arterial street and highway element represents in part a reaffirmation of the need for many long-planned arterial street and highway system improvements.

The third component of the arterial street and highway system recommendations of the plan is system preservation. Approximately 3,082 miles of arterial facilities, representing about 86 percent of the total planned arterial street and highway system, are recommended to be preserved at their same capacity to the year 2020 through resurfacing and reconstruction as needed.

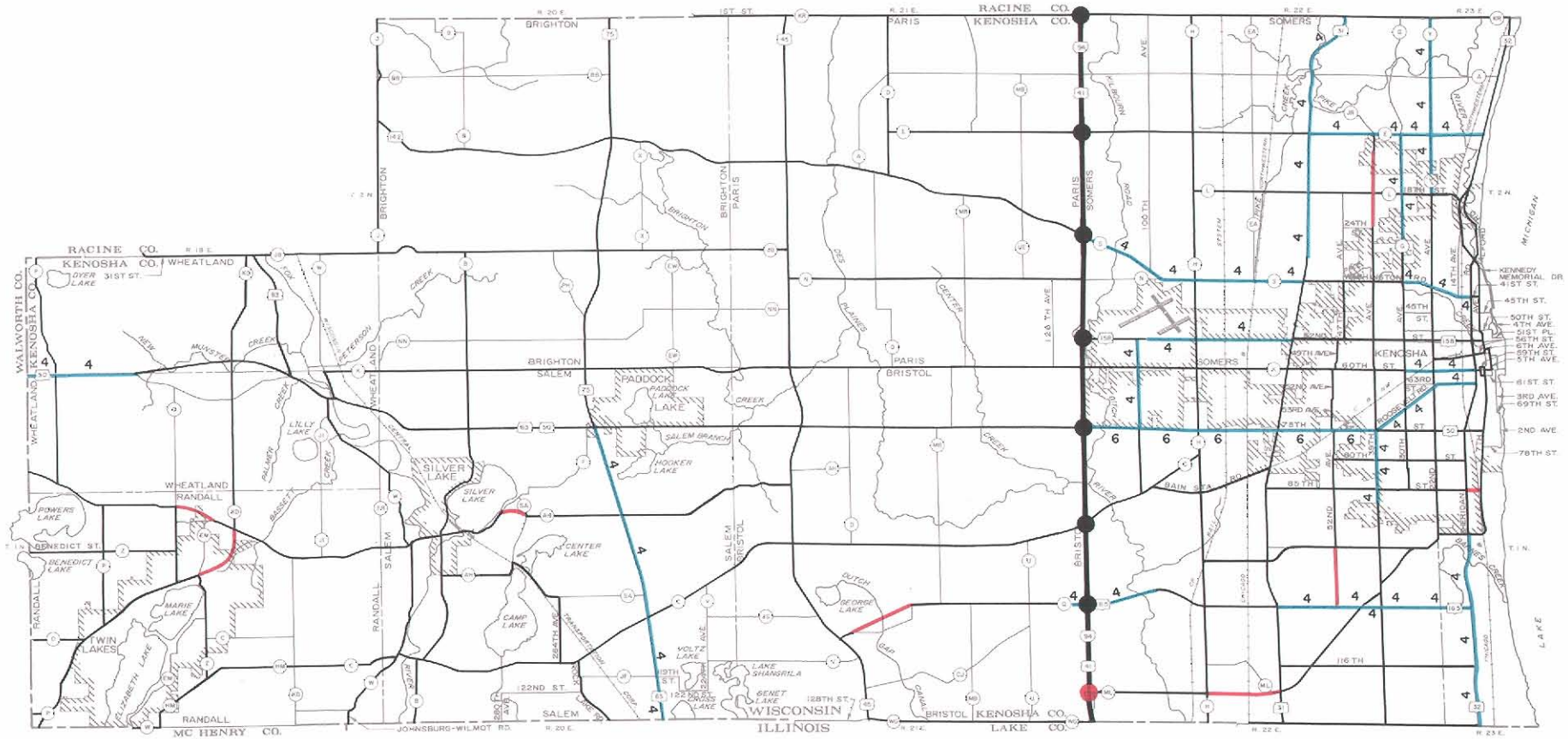
The arterial street and highway system plan element proposes about a 14 percent expansion in arterial street and highway system capacity. Freeway system improvements are limited to construction of the Oconomowoc bypass; the construction of the USH 12 Freeway extension from Elkhorn to Whitewater; and to two widening projects, including the widening of about one mile of IH 94 from CTH T to CTH G in Waukesha County, and the widening of about eight miles of IH 43 from Bender Road to Highland Road in Milwaukee and Ozaukee Counties.

The plan thus does not contain or recommend any new freeway initiative, such as a Milwaukee-area circumferential freeway. Importantly, however, the plan recommends the reconstruction and modernization of the Milwaukee-area freeway system—particularly the IH 94 East-West Freeway, including the Zoo, Stadium, and Marquette Interchanges—and the reconstruction of freeway interchanges as needed in Waukesha, Racine, and Kenosha Counties to urban design standards. The plan does envision some new interchanges on the freeway system, including a new interchange at Highland Road on IH 43 in Ozaukee County and a new interchange on IH 94 at Calhoun Road in Waukesha County. In the design of some segments of freeway reconstruction, the plan recommends that consideration be given in major investment studies to the provision of exclusive high-occupancy-vehicle lanes, that is, busway-carpool lanes (see Map 25).

The plan-recommended arterial improvement and expansion projects have been carefully designed to serve travel which may be expected to occur in and between the areas planned for conversion from rural to urban use under the year 2020 regional land use plan. Many of the proposed arterial street and highway improvements are needed to accommodate such planned development, while some are needed to provide direct and timely alternative routes for traffic which would otherwise use the area freeway system. Highway improvements were recommended only as a last resort. The first elements considered were the

Map 27

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN KENOSHA COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

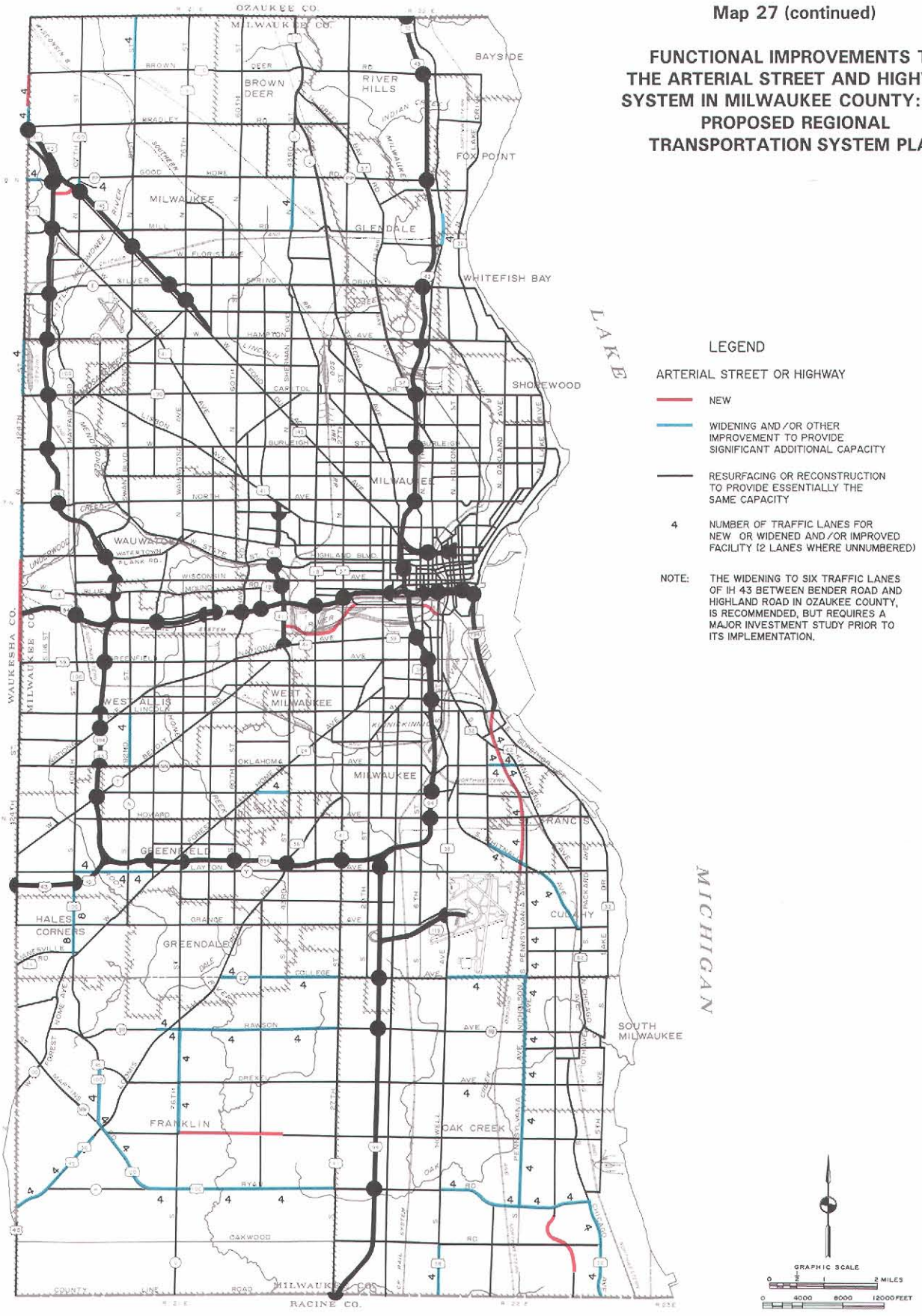
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE
0 2 MILES
0 4000 8000 12000 FEET

Under the proposed regional transportation system plan, the arterial street and highway system in Kenosha County would be expanded by 37 miles, or 12 percent, from 318 miles in 1995 to 355 miles in the year 2020. The increase in arterial mileage would come about through the construction of nine miles of facilities and through the conversion of 28 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of nine miles of new arterial facilities, for the widening of 45 miles, and for the preservation of 301 miles of facilities within the County.

Map 27 (continued)

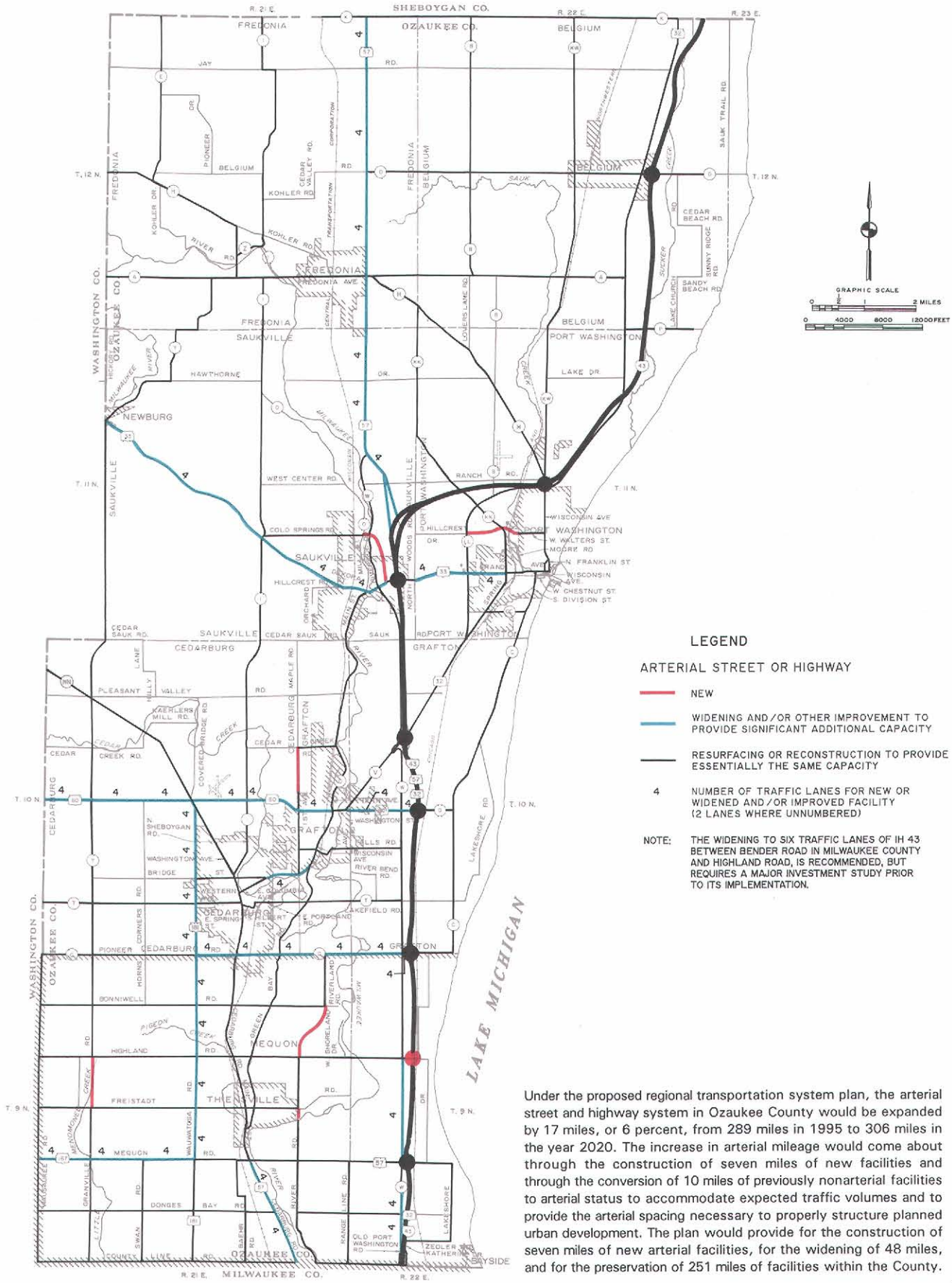
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN MILWAUKEE COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the proposed regional transportation system plan, the arterial street and highway system in Milwaukee County would be expanded by 22 miles, or 3 percent, from 775 miles in 1995 to 797 miles in the year 2020. The increase in arterial mileage would come about through the construction of 10 miles of new facilities and through the conversion of 12 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 10 miles of new arterial facilities, for the widening of 40 miles, and for the preservation of 747 miles of facilities within the County.

Map 27 (continued)

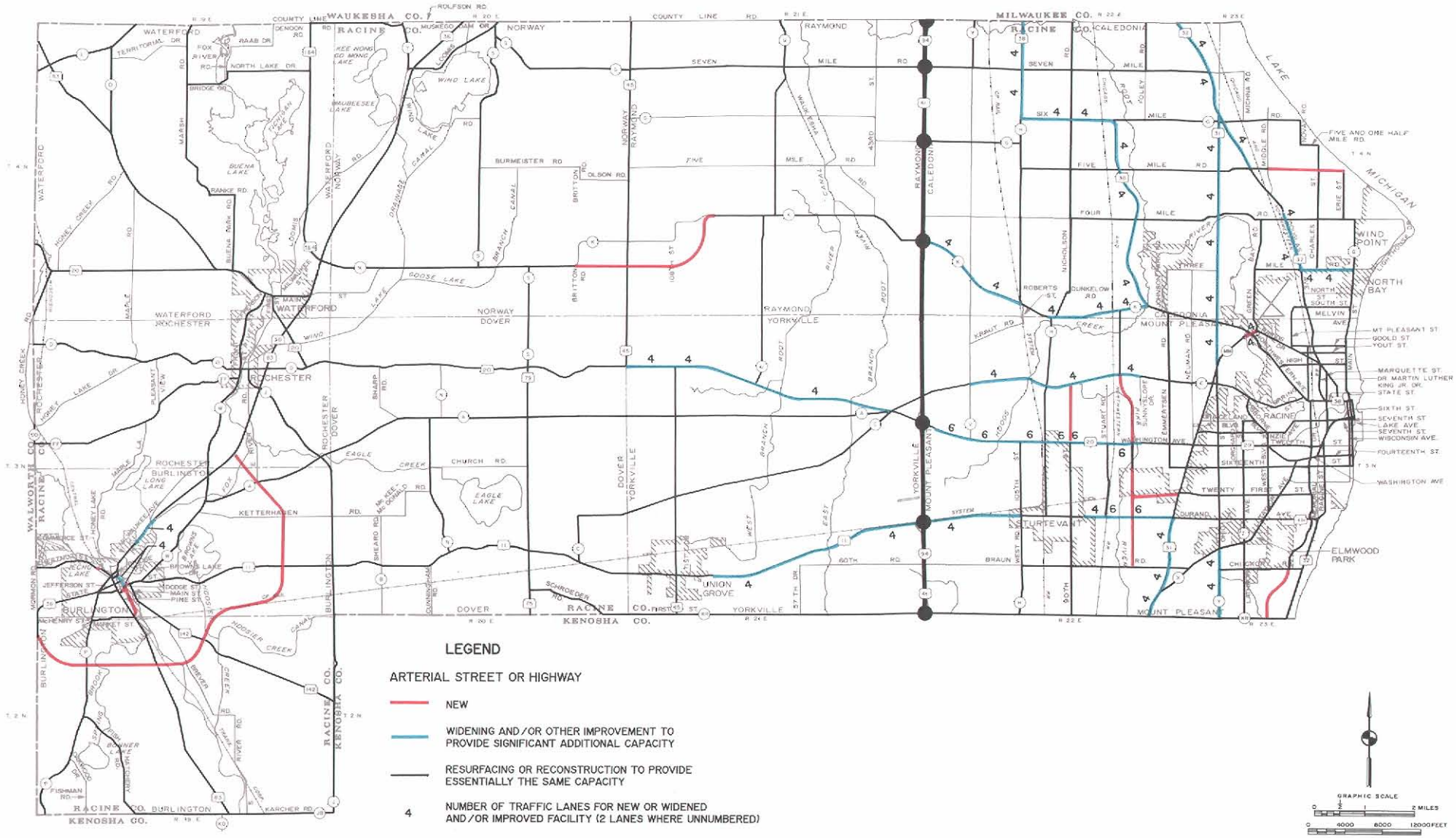
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN OZAUKEE COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the proposed regional transportation system plan, the arterial street and highway system in Ozaukee County would be expanded by 17 miles, or 6 percent, from 289 miles in 1995 to 306 miles in the year 2020. The increase in arterial mileage would come about through the construction of seven miles of new facilities and through the conversion of 10 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of seven miles of new arterial facilities, for the widening of 48 miles, and for the preservation of 251 miles of facilities within the County.

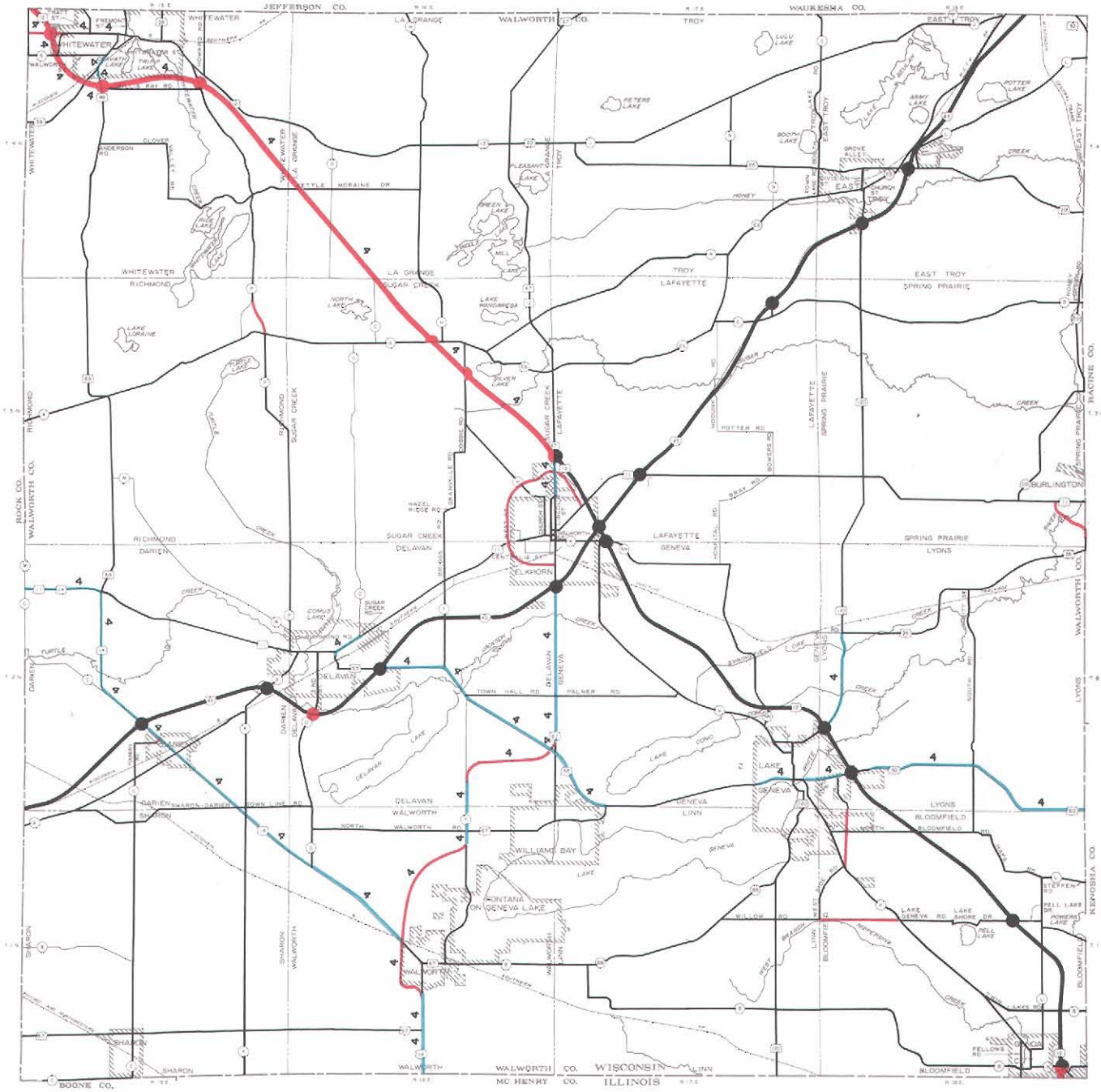
Map 27 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN RACINE COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the proposed regional transportation system plan, the arterial street and highway system in Racine County would be expanded by 77 miles, or 22 percent, from 349 miles in 1995 to 426 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 56 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes, and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 51 miles, and for the preservation of 354 miles of facilities within the County.

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WALWORTH COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

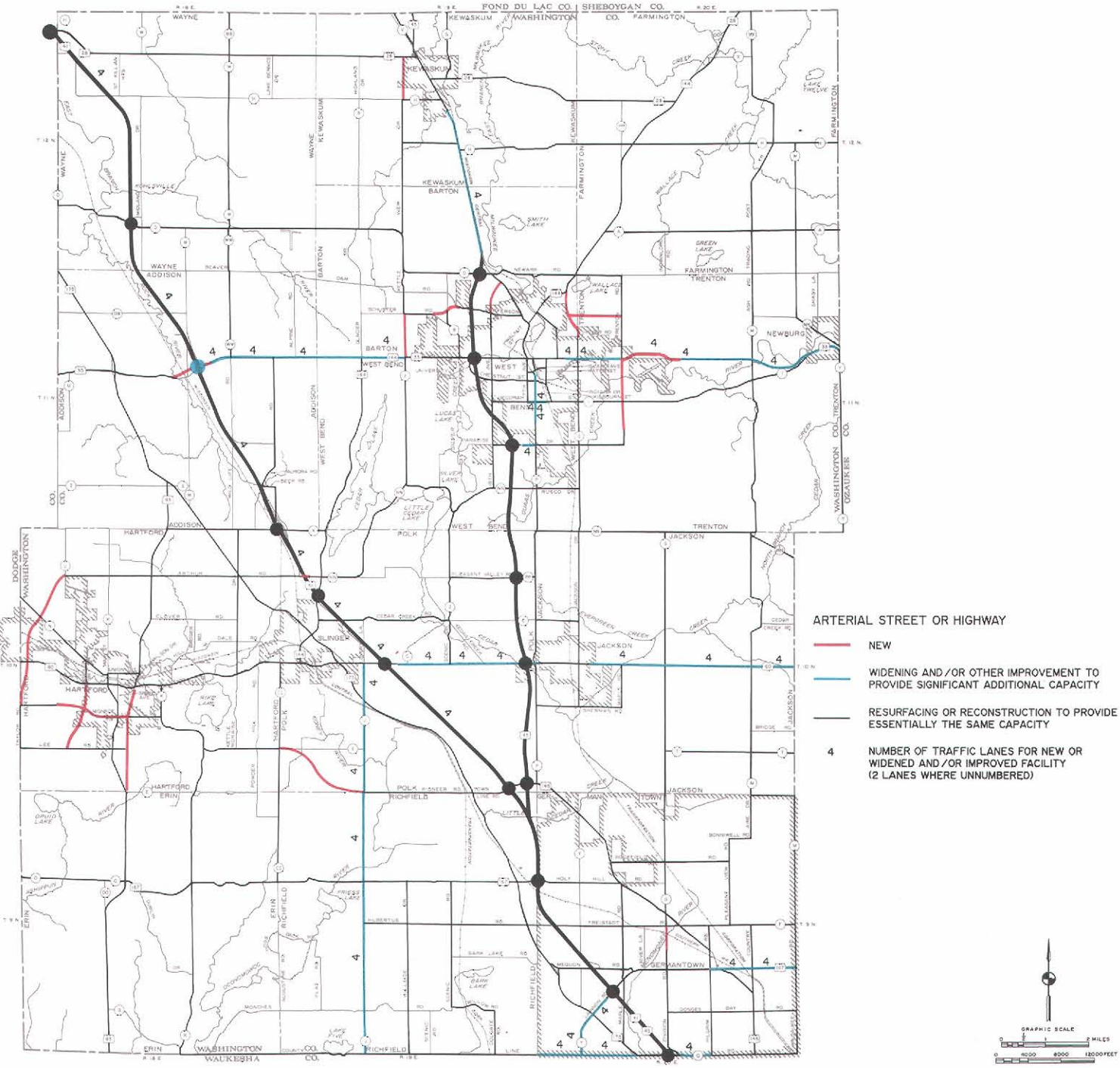
GRAPHIC SCALE

0 1 2 MILES

0 4000 8000 12000 FEET

Under the proposed regional transportation system plan, the arterial street and highway system in Walworth County would be expanded by 52 miles, or 12 percent, from 430 miles in 1995 to 482 miles in the year 2020. The increase in arterial mileage would come about through the construction of 34 miles of new facilities and through the conversion of 18 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 34 miles of new arterial facilities, for the widening of 37 miles, and for the preservation of 411 miles of facilities within the County.

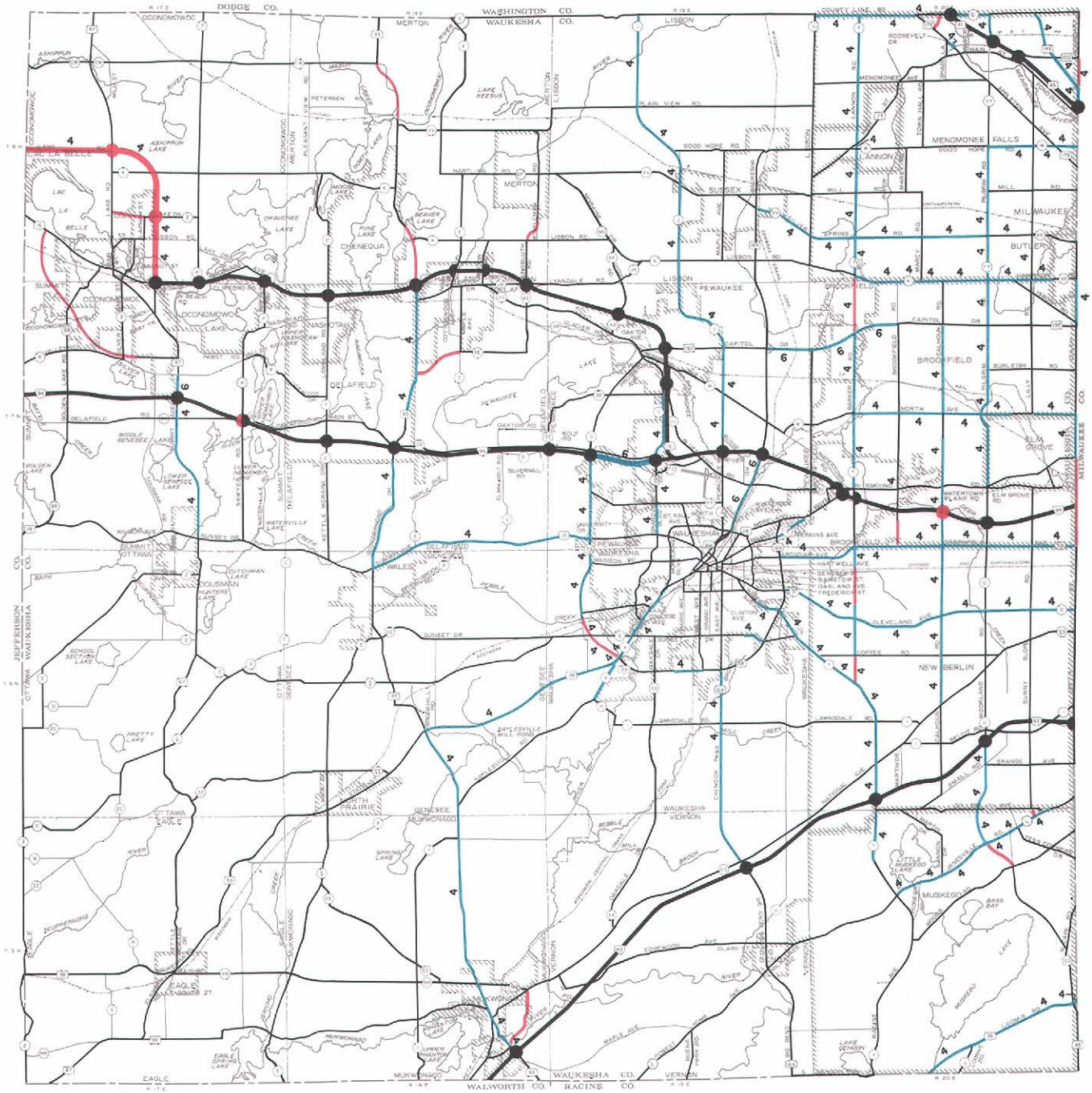
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WASHINGTON COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the proposed regional transportation system plan, the arterial street and highway system in Washington County would be expanded by 69 miles, or 17 percent, from 399 miles in 1995 to 468 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 48 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 43 miles, and for the preservation of 404 miles of facilities within the County.

Map 27 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WAUKESHA COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE

0 1 2 MILES

0 4000 8000 12000 FEET

Under the proposed regional transportation system plan, the arterial street and highway system in Waukesha County would be expanded by 59 miles, or 8 percent, from 718 miles in 1995 to 777 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 38 miles of previously nonarterial facilities to arterial status in order to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 new miles of arterial facilities, for the widening of 142 miles, and for the preservation of 614 miles of facilities within the County.

Source: SEWRPC.

Table 42

ARTERIAL STREET AND HIGHWAY SYSTEM PRESERVATION, IMPROVEMENT, AND EXPANSION BY ARTERIAL FACILITY TYPE AND COUNTY: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN

County	System Preservation (miles)	System Improvement (miles)	System Expansion (miles)	Total Miles
Kenosha				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	289.3	44.8	9.0	343.1
Subtotal	301.3	44.8	9.0	355.1
Milwaukee				
Freeway	69.2	0.0	0.0	69.2
Standard Arterial	677.2	40.3	10.3	727.8
Subtotal	746.4	40.3	10.3	797.0
Ozaukee				
Freeway	27.4	0.0	0.0	27.4
Standard Arterial	223.9	47.7	7.0	278.6
Subtotal	251.3	47.7	7.0	306.0
Racine				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	342.0	50.6	21.5	414.1
Subtotal	354.0	50.6	21.5	426.1
Walworth				
Freeway	50.0	0.0	16.7	66.7
Standard Arterial	361.0	36.7	17.8	415.5
Subtotal	411.0	36.7	34.5	482.2
Washington				
Freeway	42.7	0.0	0.0	42.7
Standard Arterial	361.0	43.1	21.5	425.6
Subtotal	403.7	43.1	21.5	468.3
Waukesha				
Freeway	58.6	1.0	5.7	65.3
Standard Arterial	555.7	141.1	15.0	711.8
Subtotal	614.3	142.1	20.7	777.1
Region				
Freeway	271.9	1.0	22.4	295.3
Standard Arterial	2,810.1	404.3	102.1	3,316.5
Total	3,082.0	405.3	124.5	3,611.8

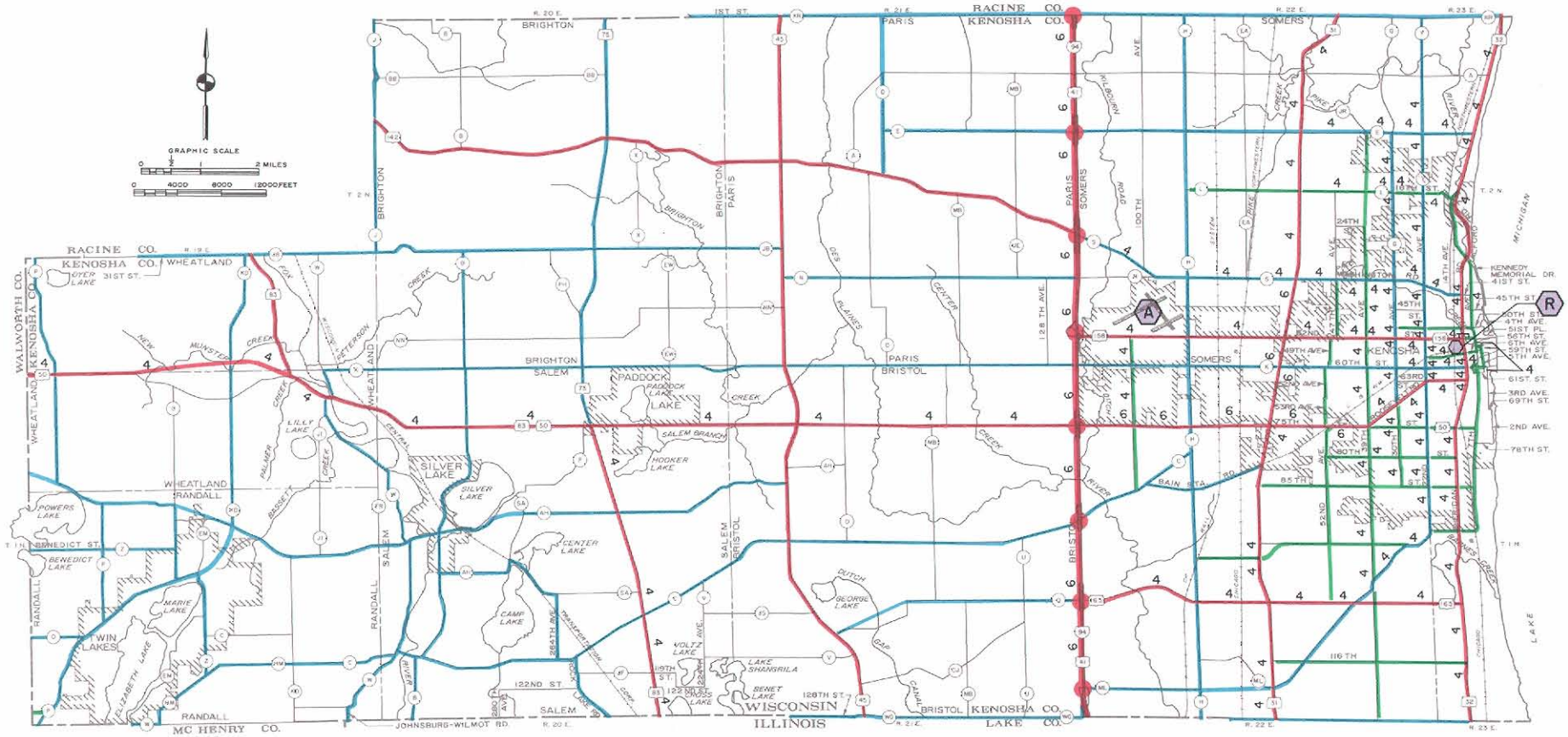
Source: SEWRPC.

transit and transportation system management elements. The potential of these elements to eliminate congestion was explicitly identified. Highway improvements were then recommended to resolve the residual existing and probable future residual traffic congestion.

The arterial street and highway element of the plan also recommends transfers of jurisdictional responsibilities with respect to arterial streets and highways. The recommended jurisdictional highway system plans for each county are shown on Map 28. These plans may be expected to be

Map 28

PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR KENOSHA COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

- A-AIRPORT
- R-PASSENGER RAIL TERMINAL

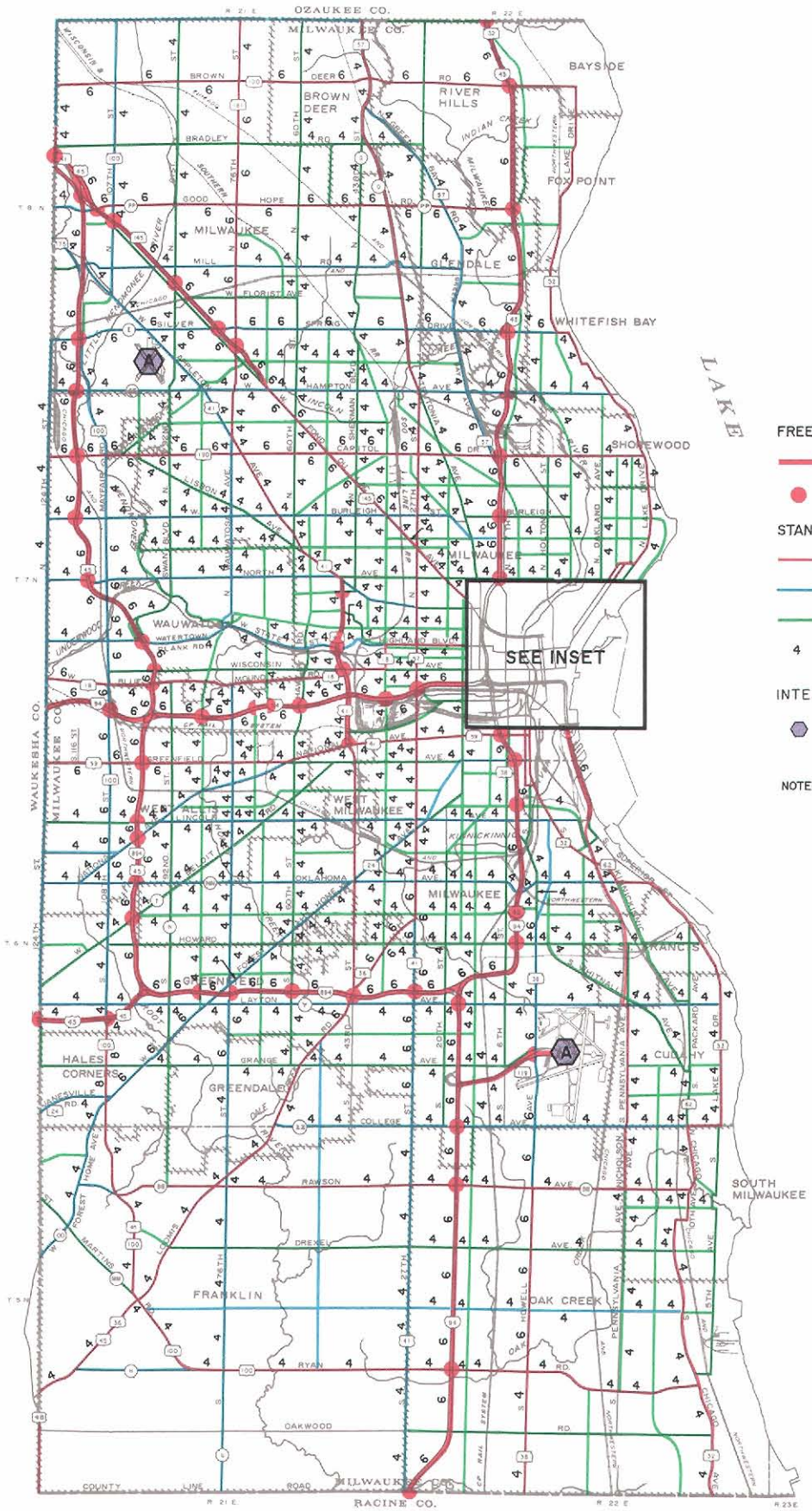
THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP:

1. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG STH 158 FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
2. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG CTH K FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
3. AS IMPROVEMENTS ARE MADE TO IH 94, THE FRONTAGE ROADS ALONG IH 94, AND THE HIGHWAY FACILITIES WHICH INTERCHANGE WITH OR CROSS IH 94, THE ULTIMATE IMPROVEMENT OF IH 94 TO EIGHT TRAVEL LANES SHOULD BE TAKEN INTO CONSIDERATION.
4. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH K, THE ULTIMATE PROVISION OF AN INTERCHANGE WITH CTH K SHOULD BE TAKEN INTO CONSIDERATION.
5. AS URBAN DEVELOPMENT PROCEEDS ON LANDS ABUTTING CTH KR BETWEEN IH 94 AND STH 32, SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED FOR THE ULTIMATE IMPROVEMENT OF CTH KR TO FOUR TRAVEL LANES.

The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Kenosha County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Kenosha County may be expected to total 355 miles. About 103 miles, or nearly 29 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 203 miles, or 57 percent, are proposed to be classified as County trunk highways; and the remaining 49 miles, or about 14 percent, are proposed to be classified as local arterials.

Map 28 (continued)

PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 — NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

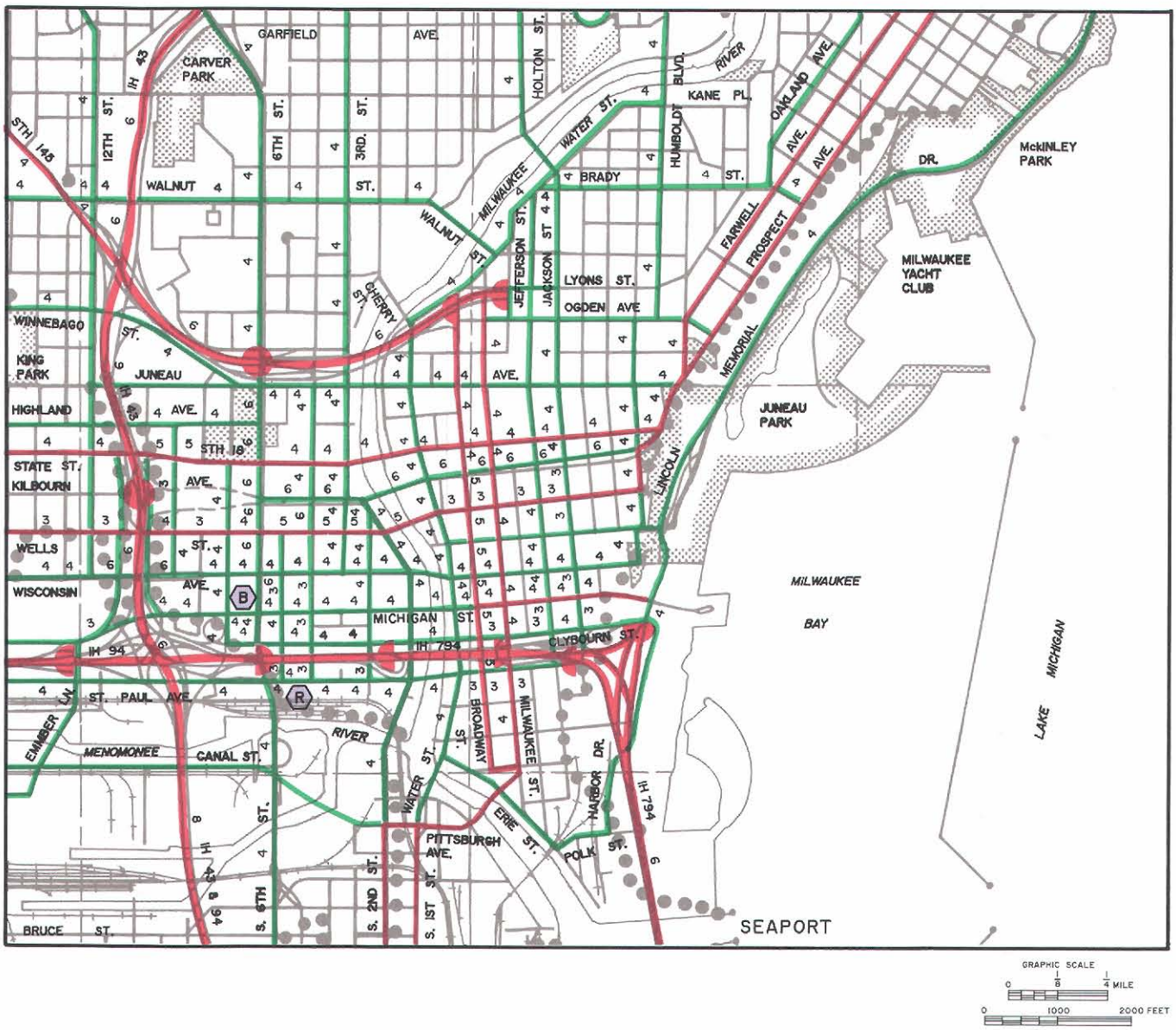
- A-AIRPORT
  B-BUS TERMINAL
  R-PASSENGER RAIL TERMINAL

NOTE: THE WIDENING TO SIX TRAFFIC LANES OF IH 43 BETWEEN BENDER ROAD AND HIGHLAND ROAD IN OZAUKEE COUNTY, IS RECOMMENDED, BUT REQUIRES A MAJOR INVESTMENT STUDY PRIOR TO ITS IMPLEMENTATION.

GRAPHIC SCALE
0 2 1 2 MILES
0 4000 8000 12000 FEET

Map 28 Inset

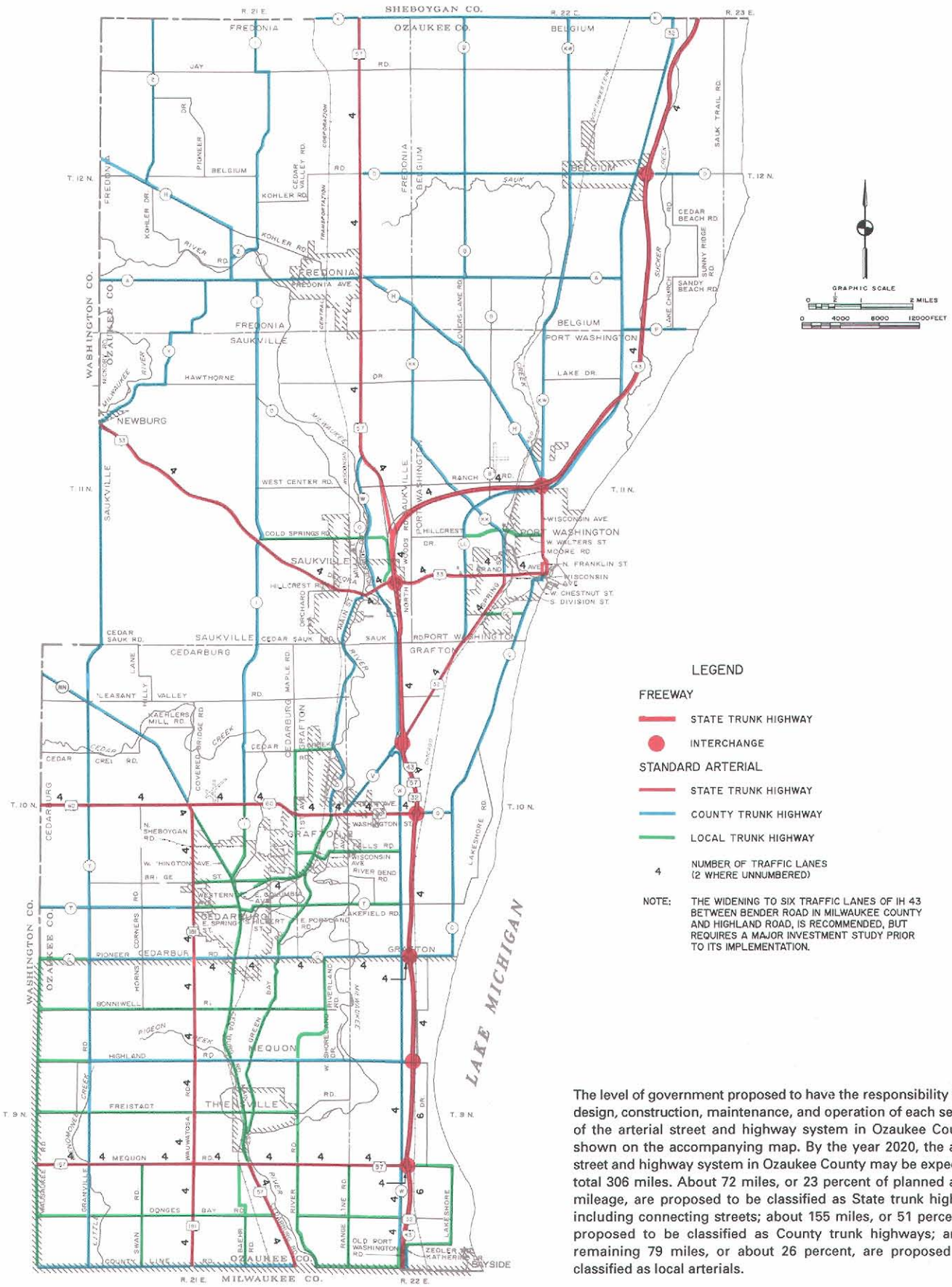
PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2020



The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Milwaukee County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Milwaukee County may be expected to total 797 miles. About 220 miles, or 28 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 184 miles, or 23 percent, are proposed to be classified as County trunk highways; and the remaining 393 miles, or about 49 percent, are proposed to be classified as local arterials.

Map 28 (continued)

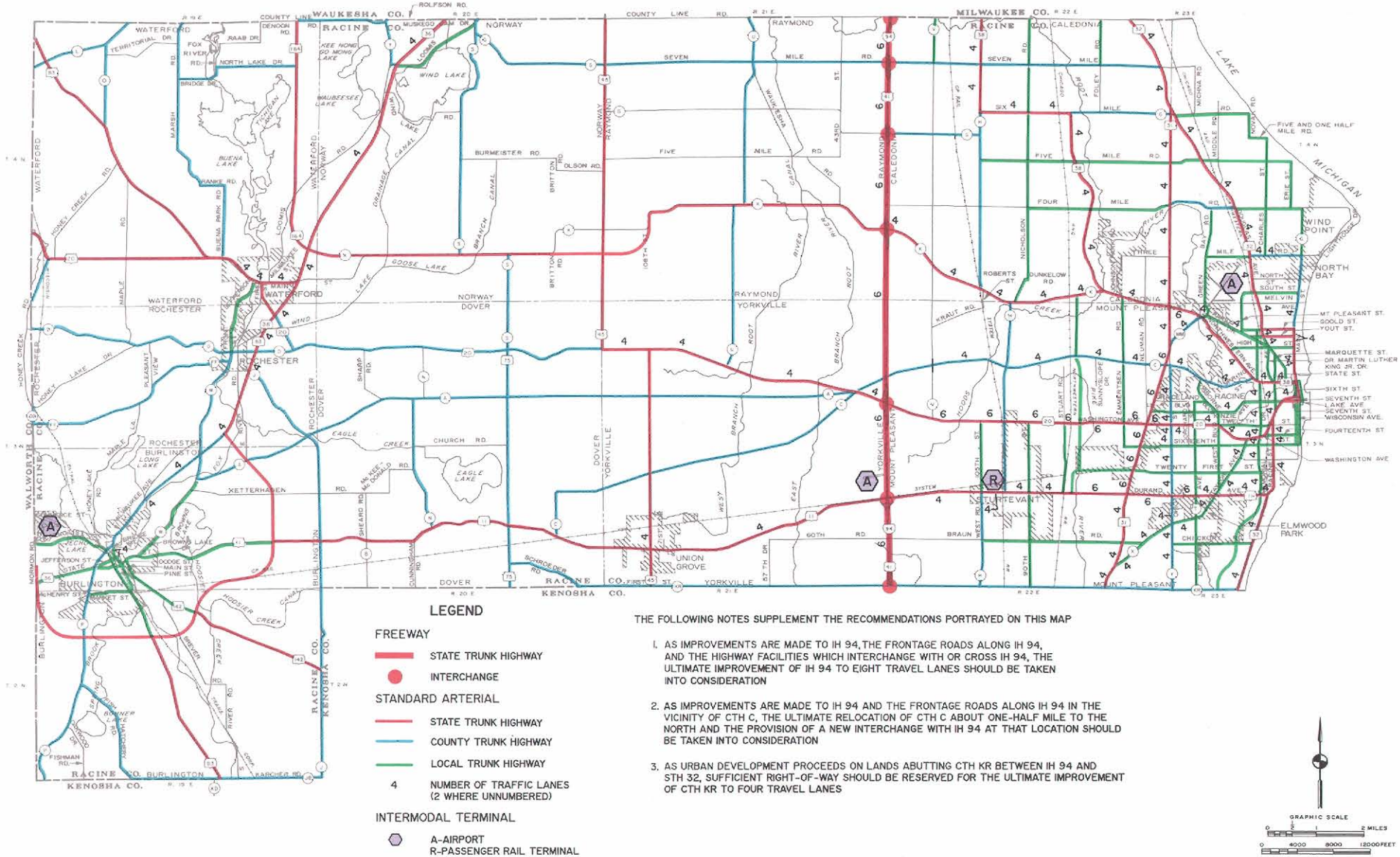
PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR OZAUKEE COUNTY: 2020



The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Ozaukee County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Ozaukee County may be expected to total 306 miles. About 72 miles, or 23 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 155 miles, or 51 percent, are proposed to be classified as County trunk highways; and the remaining 79 miles, or about 26 percent, are proposed to be classified as local arterials.

Map 28 (continued)

PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR RACINE COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 — NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

- A-AIRPORT
- R-PASSENGER RAIL TERMINAL

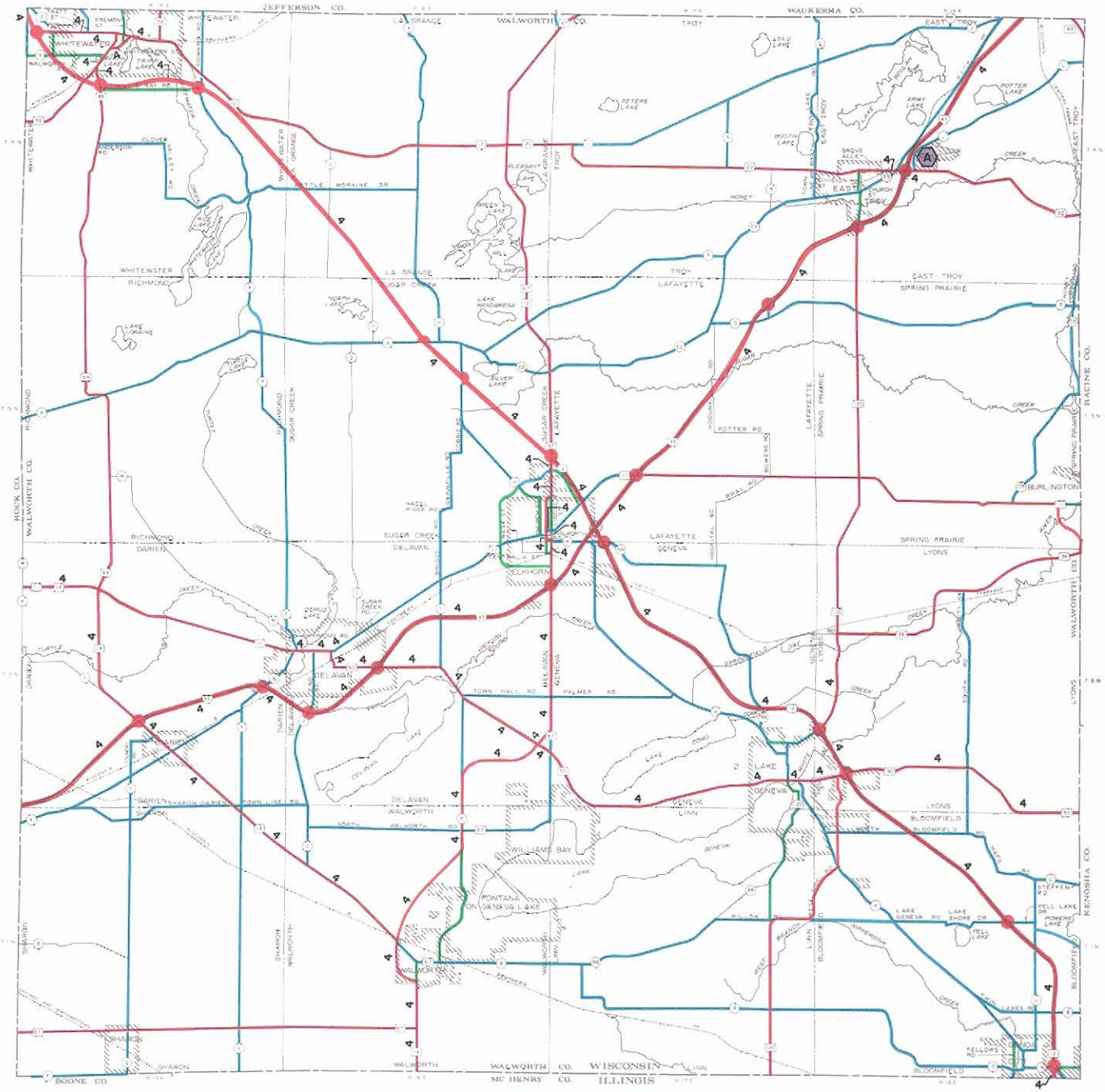
THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP

1. AS IMPROVEMENTS ARE MADE TO IH 94, THE FRONTAGE ROADS ALONG IH 94, AND THE HIGHWAY FACILITIES WHICH INTERCHANGE WITH OR CROSS IH 94, THE ULTIMATE IMPROVEMENT OF IH 94 TO EIGHT TRAVEL LANES SHOULD BE TAKEN INTO CONSIDERATION
2. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH C, THE ULTIMATE RELOCATION OF CTH C ABOUT ONE-HALF MILE TO THE NORTH AND THE PROVISION OF A NEW INTERCHANGE WITH IH 94 AT THAT LOCATION SHOULD BE TAKEN INTO CONSIDERATION
3. AS URBAN DEVELOPMENT PROCEEDS ON LANDS ABUTTING CTH KR BETWEEN IH 94 AND STH 32, SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED FOR THE ULTIMATE IMPROVEMENT OF CTH KR TO FOUR TRAVEL LANES

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Racine County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Racine County may be expected to total 426 miles. About 160 miles, or 37 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 156 miles, or 37 percent, are proposed to be classified as County trunk highways; and the remaining 110 miles, or about 26 percent, are proposed to be classified as local arterials.

PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WALWORTH COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY

4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

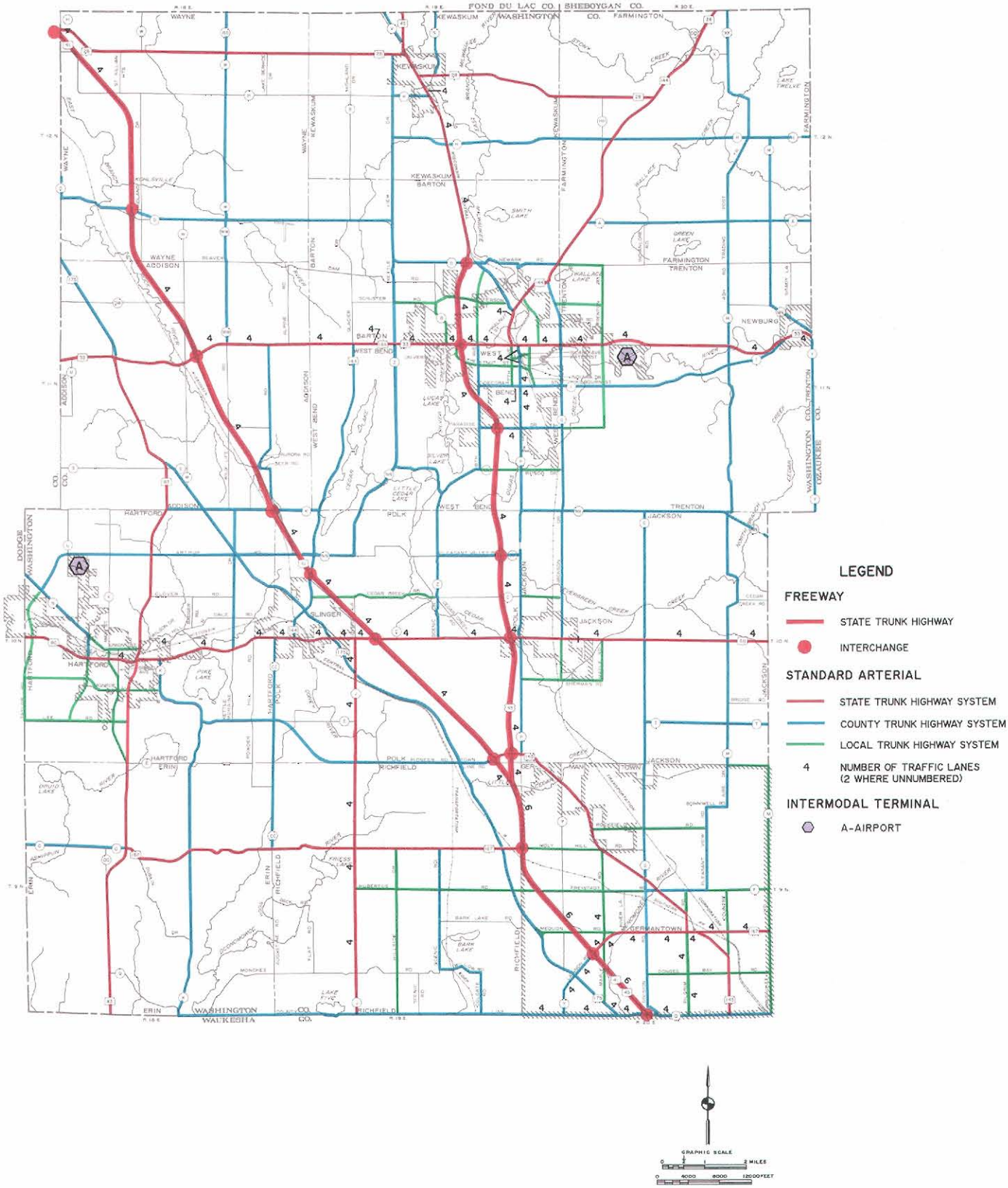
- A-AIRPORT

GRAPHIC SCALE

The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Walworth County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Walworth County may be expected to total 482 miles. About 223 miles, or 46 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 239 miles, or 50 percent, are proposed to be classified as County trunk highways; and the remaining 20 miles, or about 4 percent, are proposed to be classified as local arterials.

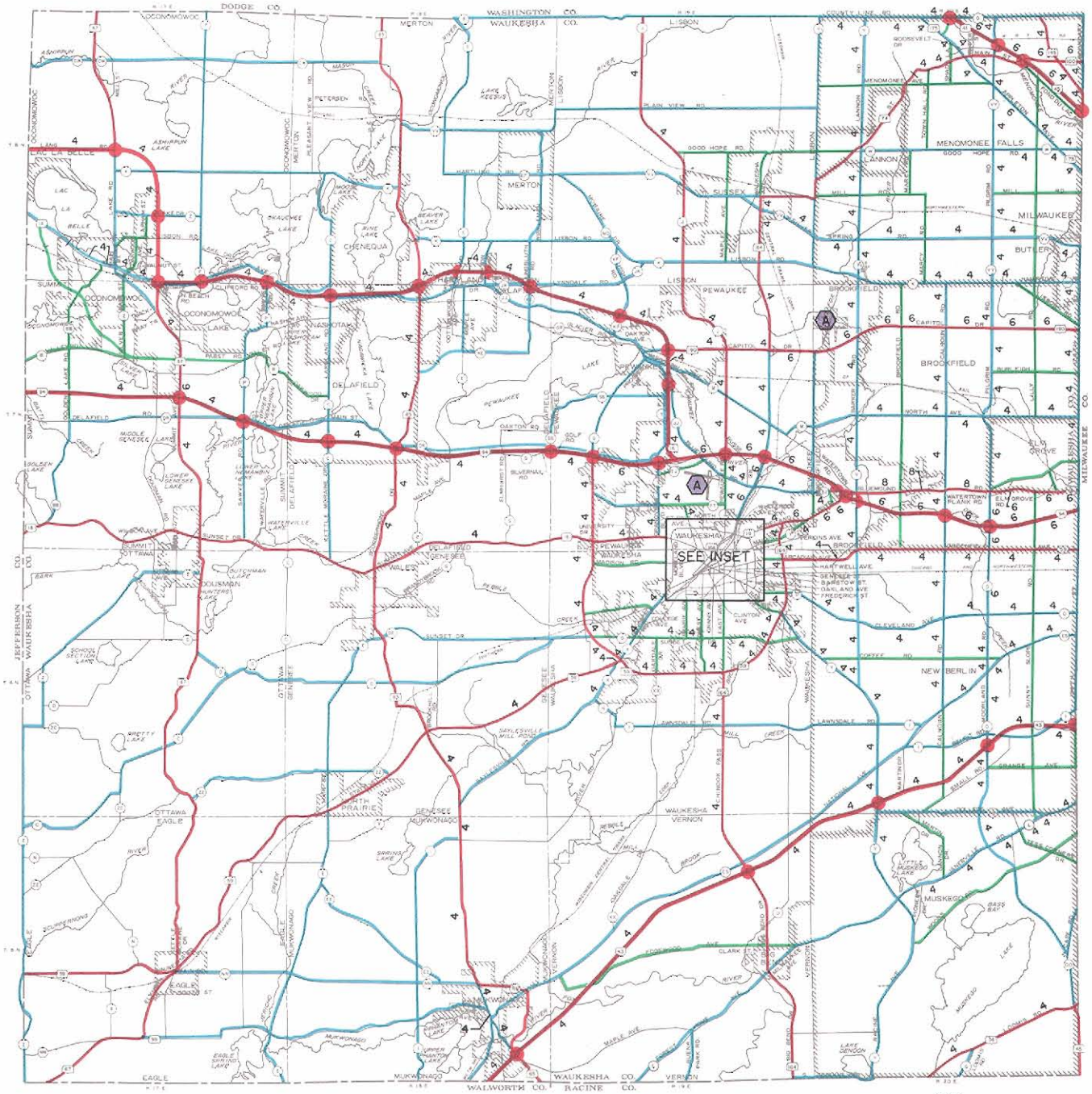
Map 28 (continued)

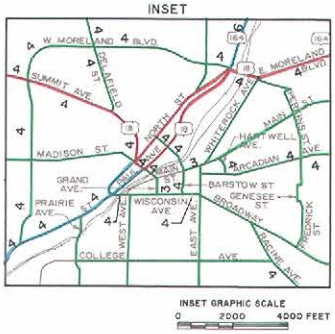
PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WASHINGTON COUNTY: 2020



The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Washington County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Washington County may be expected to total 468 miles. About 159 miles, or 34 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 234 miles, or 50 percent, are proposed to be classified as County trunk highways; and the remaining 75 miles, or about 16 percent, are proposed to be classified as local arterials.

PROPOSED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WAUKESHA COUNTY: 2020





LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

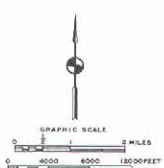
- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY

4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

A-AIRPORT

NOTE: THE RECOMMENDATION TO PLACE CALHOUN ROAD ON THE COUNTY TRUNK HIGHWAY SYSTEM FROM CTH ES TO CTH K IS CONTINGENT UPON THE CONSTRUCTION OF A NEW INTERCHANGE ON IH 94 AT CALHOUN ROAD.



The level of government proposed to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Waukesha County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Waukesha County may be expected to total 777 miles. About 230 miles, or 30 percent of planned arterial mileage, are proposed to be classified as State trunk highways, including connecting streets; about 413 miles, or 53 percent, are proposed to be classified as County trunk highways; and the remaining 134 miles, or about 17 percent, are proposed to be classified as local arterials.

Source: SEWRPC.

Table 43

SUMMARY OF TRANSPORTATION PERFORMANCE CHARACTERISTICS: 1995 AND 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN

Performance Characteristic		Base Year 1995	Proposed Plan: 2020	Percent Change
Category	Specific Measure			
Travel	Internal person-trips (average weekday)	5.8 million	6.5 million	12.1
	Internal vehicle-trips (average weekday)	4.8 million	5.7 million	18.8
	Vehicle-miles of travel[a] (average weekday)	35.9 million	47.0 million	30.9
	Transit ridership (average weekday)	163,100	207,300	27.1
	Relative distribution of trips by mode of travel (average weekday)			
	Auto driver	74.1 percent	77.1 percent	--
	Auto passenger	19.0 percent	16.3 percent	--
	Transit passenger	2.8 percent	3.2 percent	--
	School bus passenger	4.1 percent	3.4 percent	--
	Proportion of trips made by transit within Milwaukee County	3.8 percent	3.8 percent	--
	Proportion of trips made by transit to Milwaukee central business district	13.0 percent	12.0 percent	--
	Proportion of passenger-miles travel made on transit average weekday)	1.1 percent	1.5 percent	--
Traffic Congestion	Amount and proportion of arterial street and highway system over design capacity			
	Moderately congested (V/C ratio 1.31 or greater	148 miles	146 miles	-1.4
		4.5 percent	4.0 percent	--
	Severely congested (V/C ratio 1.11 to 1.30)	203 miles	57 miles	-71.9
		6.2 percent	1.6 percent	--
	Extremely congested (V/C ratio 1.31 or greater	82 miles	38 miles	-53.7
		2.5 percent	1.1 percent	--

[a]*Within Walworth County, vehicle-miles of travel may be expected to increase from 1.91 million in 1991 to 3.2 million in 2020, a 68 percent increase.*

Source: SEWRPC.

amended from time to time as individual counties update and extend these plans.

Plan Performance and Costs

Selected characteristics of the proposed regional transportation system plan for the year 2020 are identified in Tables 43 and 44. The number of internal person-trips generated within the Region on an average weekday is expected to increase under the plan from 5.8 million in 1995 to about 6.5 million in the year 2020, or by about 12 percent. The number of transit trips made on an average weekday is expected to increase from about 163,100 in 1995 to about 207,300 in the year 2020, or by about 27 percent, assuming the transit plan recommendations are imple-

Table 44

AVERAGE ANNUAL COSTS AND REVENUES ASSOCIATED WITH THE PROPOSED YEAR 2020 REGIONAL TRANSPORTATION SYSTEM PLAN: 1998 THROUGH 2020[a]

Cost or Revenue Item	Proposed Plan 2020
Transportation System Cost (average annual 1998-2020 expressed as millions of dollars)	
Arterial Street and Highway System	
Capital	$224
Operating	63
Subtotal	$287
Transit System	
Capital	$ 26
Operating[b]	104
Subtotal	$130
Total	$417
Transportation System Revenues (average annual 1998-2020 expressed as millions of dollars)	
Highway Capital	
Federal	$ 90
State	70
Local	15
Subtotal	$175
Highway Operating	
State	$ 30
Local	30
Subtotal	$ 60
Transit Capital	
Federal	$ 17
Local	3
Subtotal	$ 20
Transit Operating	
Federal	$ 4
State	53
Local	18
Subtotal	$ 75
Total	$330
Cost-Revenue Comparison	
Average Annual Difference between Cost and Revenue (millions of dollars)	$ 87
Motor-Fuel Tax Required to Fund Shortfall (cents per gallon)	10

[a] *All cost and revenue figures in this table are expressed in constant 1997 dollars.*

[b] *Net operating cost (total operating costs less fare-box revenue).*

Source: SEWRPC.

mented. Despite this increase in daily transit trip making, the proportion of total internal person-trips made by transit would remain at about 3 percent over the plan design period.

The number of vehicle-miles of travel within the Region on an average weekday is expected to increase by about 31 percent, from about 35.9 million in 1995 to about 47.0 million in 2020. Of the latter total, about 17.5 million

vehicle-miles of travel, or about 37 percent, are expected to be made on freeways, which would comprise about 8 percent of the total arterial system.

Arterial street and highway congestion is expected to decrease, with the number of miles of facilities operating extremely over design capacity decreasing from about 82 miles, or about 2.5 percent of the total system, in 1995 to about 38 miles, or about 1.1 percent of the total system, in 2020, and the number of miles operating severely over design capacity decreasing from 203 miles, or 6.2 percent of the system in 1995, to 57 miles, or 1.6 percent, of the system in 2020. The number of arterial miles operating moderately over design capacity is also expected to decrease, from about 148 miles, or about 4.5 percent of the total system in 1995, to about 146 miles, or about 4.0 percent of the total system, in 2020. The location of the facilities expected to operate under congested conditions are shown on Map 29.

The average annual public cost of carrying out the recommended plan, including the construction of new facilities and the operation and maintenance of the arterial street and highway and transit systems, are estimated at nearly $417 million. All cost and revenue figures are expressed in constant 1997 dollars. The anticipated average annual public revenues, excluding transit fare-box revenues, are estimated at $330 million. Thus, the difference between anticipated costs and expected revenues is $87 million per year over the plan design period. The equivalent of a 10 cents-per-gallon increase in the motor-fuel tax within the Region would be necessary to eliminate the estimated $87 million annual shortfall.

PUBLIC REACTION TO THE PRELIMINARY RECOMMENDED PLAN

The public comment offered on the proposed year 2020 plan was very limited. In large part, this may be attributed to the preliminary year 2020 regional transportation plan being largely based upon the year 2010 plan, with modest amendments. The year 2010 plan was completed less than three years before the proposed 2020 plan was. The preparation of the year 2010 plan had been shaped, and the final year 2010 plan was modified, to reflect extensive public comment obtained through a series of public informational meetings and hearings held in each of the seven counties, an all-day regional planning conference, a series of four Commission newsletters widely distributed throughout the Region, extensive media coverage, and involvement of Commission Advisory Committees reviewing the plan. The Advisory Committees included representation from each of the 154 local units of government within Southeastern Wisconsin.

A public informational meeting and hearing on the proposed year 2020 plan was held on November 6, 1997. The proposed year 2020 plan was reviewed by Commission Advisory Committees which included representation from each of the seven counties within the Region, and representation from each of the units of government within the urbanized areas of the Region. The full record of comment on the year 2020 plan is documented in a SEWRPC document entitled *Record of Public Informational Meeting and Public Hearing, Preliminary Regional Land Use and Transportation System Plans for Southeastern Wisconsin: 2020, and Transportation Improvement Program for Southeastern Wisconsin: 1998-2000*, November 1997, which is on file at the Commission offices.

The comments received at the public hearing and in correspondence during the public comment period were related to two potential changes to the plan. Comments were received expressing support for the addition to the plan of a new interchange with USH 41-USH 45 at Freistadt Road. A number of letters were received from businesses and from the Washington County Economic Development Corporation citing traffic congestion and safety concerns and a desire for improved access. Many of these businesses are located in the Village of Germantown Industrial Park, located to the east of the potential interchange. Comments were made at the hearing in support of the interchange by the Village of Germantown Chamber of Commerce.

The other comment received on the plan was in opposition to a proposed highway improvement in the year 2020 plan, which improvement was first proposed in the Kenosha County jurisdictional highway system plan prepared and adopted by the Kenosha County Board of Supervisors and the Commission in 1975. This proposed highway improvement envisioned the extension of CTH AH for approximately one-half mile from CTH SA to CTH F in the Town of Salem in Kenosha County to eliminate indirection in the County trunk highway system. The comment made in opposition to the proposed arterial highway improvement cited the attendant disruption of existing residences and of a primary environmental corridor.

ADVISORY COMMITTEE RESPONSE TO PUBLIC COMMENT ON PRELIMINARY PLAN

In response to the public comment concerning the addition of the Freistadt Road interchange to the regional transportation system plan, the Technical Coordinating and Advisory Committee on Regional Transportation System Planning noted that it had previously considered this matter and rejected inclusion of the interchange in the plan. Accordingly, the Committee reaffirmed its position not to include the Freistadt Road interchange on the plan. In so doing, the Committee noted that existing interchanges are located approximately 1.0 mile north of Freistadt Road at Holy Hill Road—STH 167 West—and 2.0 miles south at Mequon Road/Lannon Road—STH 167 East. These existing interchanges north and south of Freistadt Road were determined to have adequate traffic-carrying capacity to accommodate current traffic as well as future year 2020 traffic. Improvements would be needed, however, under both current and future conditions at these interchanges, including the addition of turning lanes and widening of approach pavements, as well as the planned widening to four traffic lanes of Lannon Road and Mequon Road. Also, traffic signalization of the major intersections at the interchanges and along Lannon Road and Mequon Road may also be necessary to better accommodate existing and future traffic. With these modest improvements, the existing interchanges may be expected to adequately accommodate current and future traffic.

In response to the comment concerning the deletion from the plan of the proposed extension of CTH AH from CTH SA to CTH F in Kenosha County, the Advisory Committee determined to delete this proposed roadway extension from the regional transportation system plan and incorporate in its place the existing segments of CTH SA and CTH F to provide a connection between CTH AH and F. The proposed facility extension would have been expected to carry a limited amount of current and future traffic volume, estimated at under 2,000 vehicles per average weekday, and its construction would have had disruptive impacts on existing residences and a segment of primary environmental corridor. While the area served by the facility extension would include the Village of Silver Lake, the area served by the facility extension is currently, and is planned to remain, largely rural.

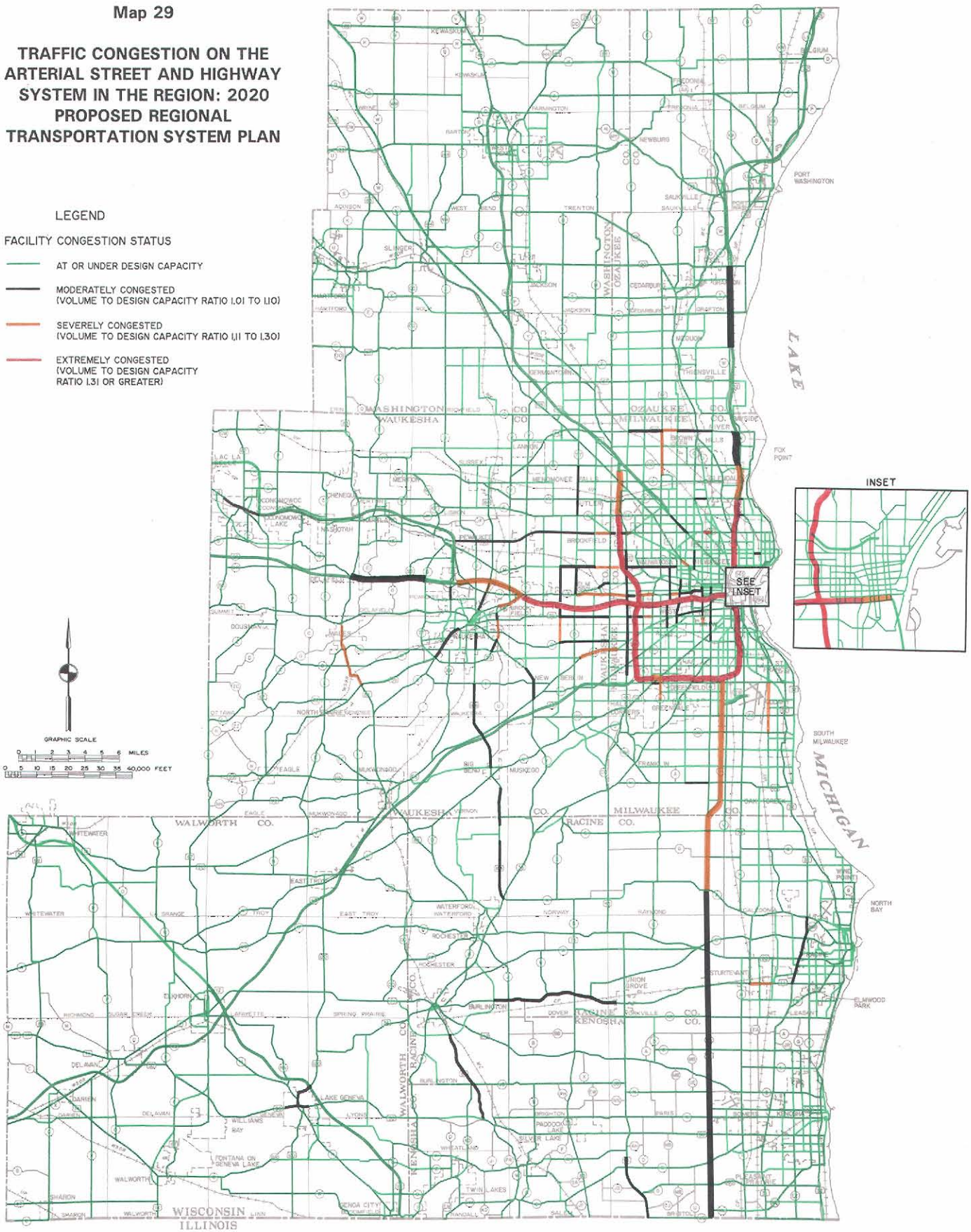
FINAL RECOMMENDED YEAR 2020 REGIONAL TRANSPORTATION SYSTEM PLAN

The final recommended regional transportation system plan for the year 2020 is identical to the preliminary plan, with the exception of the deletion of the one-half mile extension of CTH AH in Kenosha County. The final recommended year 2020 regional transportation system plan is also largely identical to the regional transportation plan adopted by the Commission in December 1994 with a design year of 2010, being modified only by modest amendments. The development of the year 2020 plan largely upon the year 2010 plan was done for a number of reasons. First, the year 2010 plan has been well received by all parties concerned and adopted by the Commission, each of the seven counties of the Region, and many municipalities, and endorsed by the Wisconsin Departments of Transportation and Natural Resources. There was no reason to explore a major departure from the framework of transportation development and improvement envisioned in the 2010 plan. Second, forecasts of regional change another 10 years beyond the year 2010 to the year 2020 indicated that only modest growth may be expected in levels of households, employment, travel, transit ridership, and highway traffic, that is, increases of approximately 8 percent. Analyses of the ability of the year 2010 plan to meet year 2020 travel and traffic demands indicated that minimal change in the year 2010 plan was necessary for that plan to serve year 2020 travel and traffic needs. The third reason that the year 2020 plan was principally derived from the year 2010 plan was that the only concern that had been expressed about the year 2010 plan since its adoption is that it may be too ambitious to be accomplished within the remaining 13-year time frame. Its extension by another 10 years, and modest amendment to include actions to address additional needs over those additional 10 years, responds to that concern. A fourth reason was that substantial changes have not yet occurred in the Region, and additional data were not yet available, to warrant the expenditure of the time and resources for a major plan reevaluation at this time. A fifth and last reason was that the year 2010 plan had been shaped and modified to reflect the substantial public comment received during its development, and that public comment, received less than three years ago, remained sufficiently valid to be directly incorporated within the year 2020 plan.

The final recommended year 2020 plan has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement.

Map 29

TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION: 2020 PROPOSED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the proposed plan, the level of traffic congestion may be expected to be substantially below that which was experienced in 1995. By the year 2020, only about 7 percent of the planned 3,612-mile arterial system, or 241 miles, would operate over design capacity. About 146 miles, or about 4 percent, of planned arterial mileage would be moderately congested; 57 miles, or about 2 percent, would be severely congested; and 38 miles, or about 1 percent, would be extremely congested. While the transportation development proposals included in the proposed plan are intended to serve to reduce traffic congestion throughout the entire Region, the Milwaukee-area freeway system may be expected to carry traffic volumes exceeding its design capacity and to operate with congested conditions through the year 2020.

Source: SEWRPC.

Transportation Systems Management Element

The transportation systems management element of the plan is intended to encourage more efficient use of the existing transportation system. It includes travel demand management measures to encourage carpooling and transit travel and thereby reduce vehicular travel. It also includes traffic management measures which seek to obtain the maximum vehicular capacity practicable from existing arterial street and highway facilities. The transportation systems management element of the plan includes the following seven measures:

1. Freeway Traffic Management
   Implementation of an areawide freeway traffic management system, including an operational control strategy that would, through restricted access of single-occupancy vehicles at ramp meters, attempt to eliminate freeway traffic flow breakdown and stop-and-go traffic and provide for minimum average operating speeds of about 30 to 35 miles per hour on all freeway segments during peak traffic periods. Buses and high-occupancy vehicles would receive preferential access at the ramps. The system would also include elements to provide advisory information and to better manage incidents.

2. Arterial Curb-Lane Parking Restrictions
   Restriction of curb-lane parking as needed during peak periods along about 400 miles, or about 11 percent, of the planned 3,612-mile arterial street and highway system in order to reduce traffic congestion and help provide good transit service. Local governmental units would consider the proposed curb-lane parking restrictions as traffic volumes and congestion increase, and implement these restrictions rather than consider expansion of highway capacity through widening and new construction beyond that envisioned in the plan.

3. Traffic Engineering
   The use of state-of-the-art traffic engineering practices to assist in achieving efficient traffic flow on arterial facilities, including intersection treatments with turning lanes as needed, efficient traffic signalization, including interconnection of traffic signal systems, and the facilitation of pedestrian and bicycle movements on arterial streets and highways.

4. Traffic Management Technology
   The application of advanced traffic management technology, known as intelligent transportation systems (ITS), as such technology becomes practicable and available over the plan implementation period. This may include traveler information for transit and highway travel and advanced traffic management systems for improved transportation facility operation.

5. Travel Demand Management Promotion
   A regionwide program to promote travel through ridesharing, transit use, bicycle use, and pedestrian movement, together with telecommuting and work-time rescheduling as may be found feasible.

6. Detailed Land Use Planning and Site Design
   The preparation and implementation by local governmental units of detailed, site-specific neighborhood land use plans and the use of zoning, subdivision ordinances, and official mapping to facilitate travel by transit, bicycle, and pedestrian movement, as recommended in the year 2020 regional land use plan, and to promote implementation of the regional land use plan.

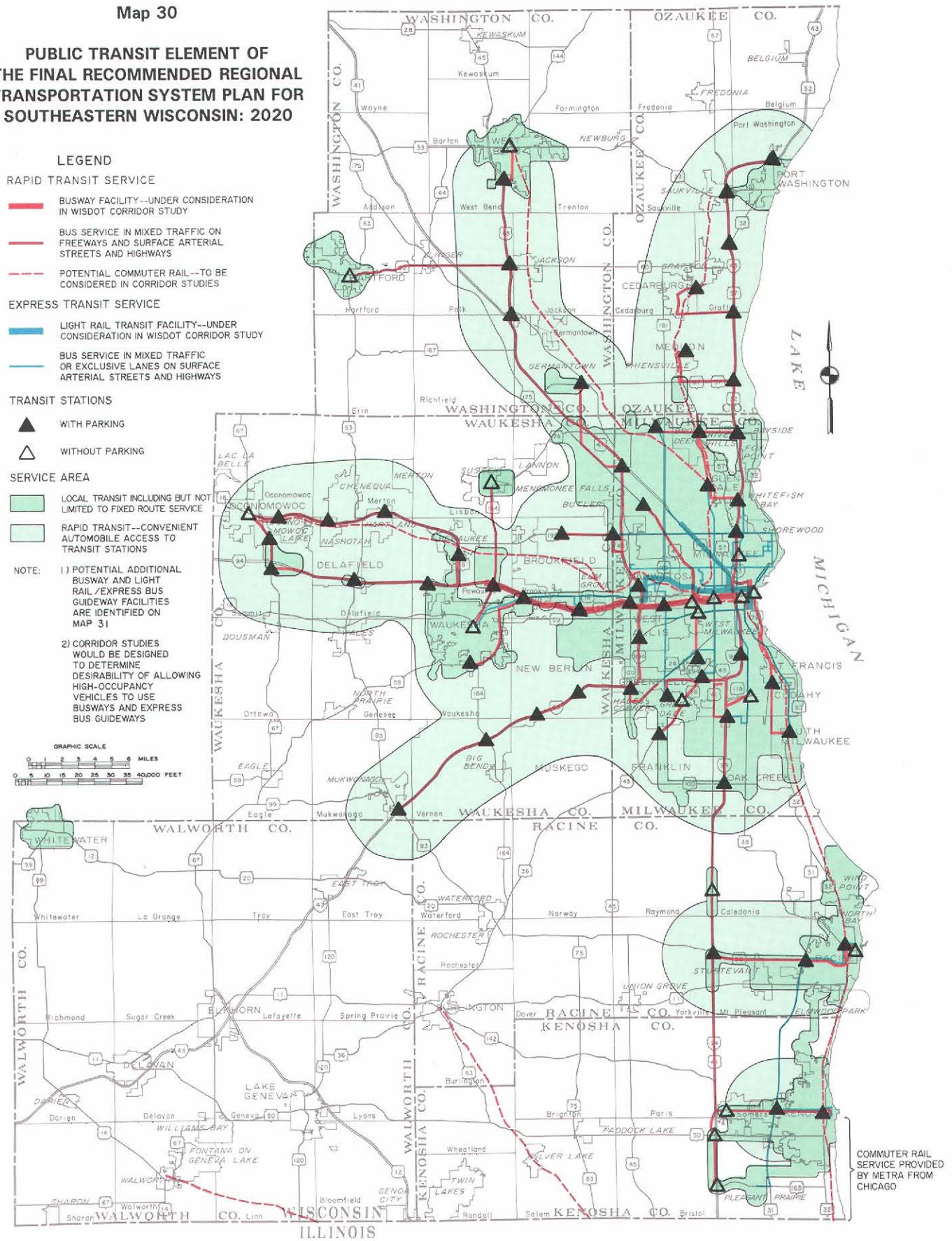
7. Transit Systems Management and Service Enhancement Measures
   The undertaking by the transit agencies in the Region of a range of activities to enhance the quality of transit services and to facilitate transit use, including the improvement of transit vehicle speeds through priority systems and signal preemption, the promotion of innovative fare-payment systems, the use of improved vehicles and facilities to provide for more comfortable travel and waiting for travel vehicles, and the conduct of marketing efforts.

Public Transit Maintenance and Improvement Element

The recommended public transit system element of the plan proposes development within the Region of a true rapid transit system; development of a true express transit system; and significant improvement of the existing local bus transit systems. The rapid transit system would connect the outlying counties and urban centers of the Region to each other and to the Milwaukee central business district and the greater Milwaukee area through its interconnection with a grid of express transit routes within Milwaukee County. The grid of express transit routes would interconnect largely with Milwaukee County major employment and shopping centers, tourist attractions and entertainment centers, and residential areas. Map 30 displays the transit system recommendations by each of the three transit system components. Altogether, service on the regional transit system would be increased from service levels in 1995—the base year of the 2020 plan—by about 69 percent measured in terms of revenue transit vehicle-miles of service provided, and 61 percent measured in

Map 30

PUBLIC TRANSIT ELEMENT OF THE FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2020



The final recommended year 2020 regional transit system consists of an extensive rapid transit system serving all major Milwaukee central business district travel corridors, an extensive grid system of express transit routes particularly in Milwaukee County, and an expansion of local transit service areas with enhancements to accompanying paratransit services. The plan also incorporates the continuation of local shared-ride taxicab service currently provided in certain smaller urban areas of the Region. The regional public transit system envisioned under the proposed plan would provide 111,500 revenue vehicle-miles of service per average weekday, or 69 percent more than in 1995, and 8,600 revenue vehicle-hours of service per average weekday, or 61 percent more than in 1995.

Source: SEWRPC.

Table 45

TRANSIT SYSTEM ELEMENT OF FINAL RECOMMENDED YEAR 2020 REGIONAL TRANSPORTATION PLAN

Transit System Characteristics	Existing System 1995	Final Recommended 2020 Plan	Forecast Increment	
			Number	Percent Change
Service Provided, Average Weekday				
Revenue Vehicle-Miles				
Rapid	3,800	14,700	10,900	286.8
Express	5,500	21,500	16,000	290.9
Local	56,800	75,300	18,500	32.6
Total	66,100	111,500	45,400	68.7
Revenue Vehicle-Hours				
Rapid	200	600	400	200.0
Express	320	1,400	1,080	337.5
Local	4,810	6,600	1,790	37.2
Total	5,330	8,600	3,270	61.4
Service Utilization				
Ridership				
Average Weekday Revenue Passengers	163,100	208,600	45,500	27.9
Annual Revenue Passengers	47,150,600	60,911,000	13,760,400	27.9
Revenue Passengers per Revenue Vehicle-Hour	30.6	24.3	-6.3	-20.6
Average Weekday Passenger-Miles	582,300	1,006,500	424,200	72.3

Source: SEWRPC.

terms of revenue transit vehicle-hours of service provided (see Table 45).

Rapid Transit System Component

The proposed rapid transit system would consist of buses operating over freeways between the Milwaukee central business district and outlying portions of Milwaukee County, the Milwaukee urbanized area, and Southeastern Wisconsin, and would have the following characteristics:

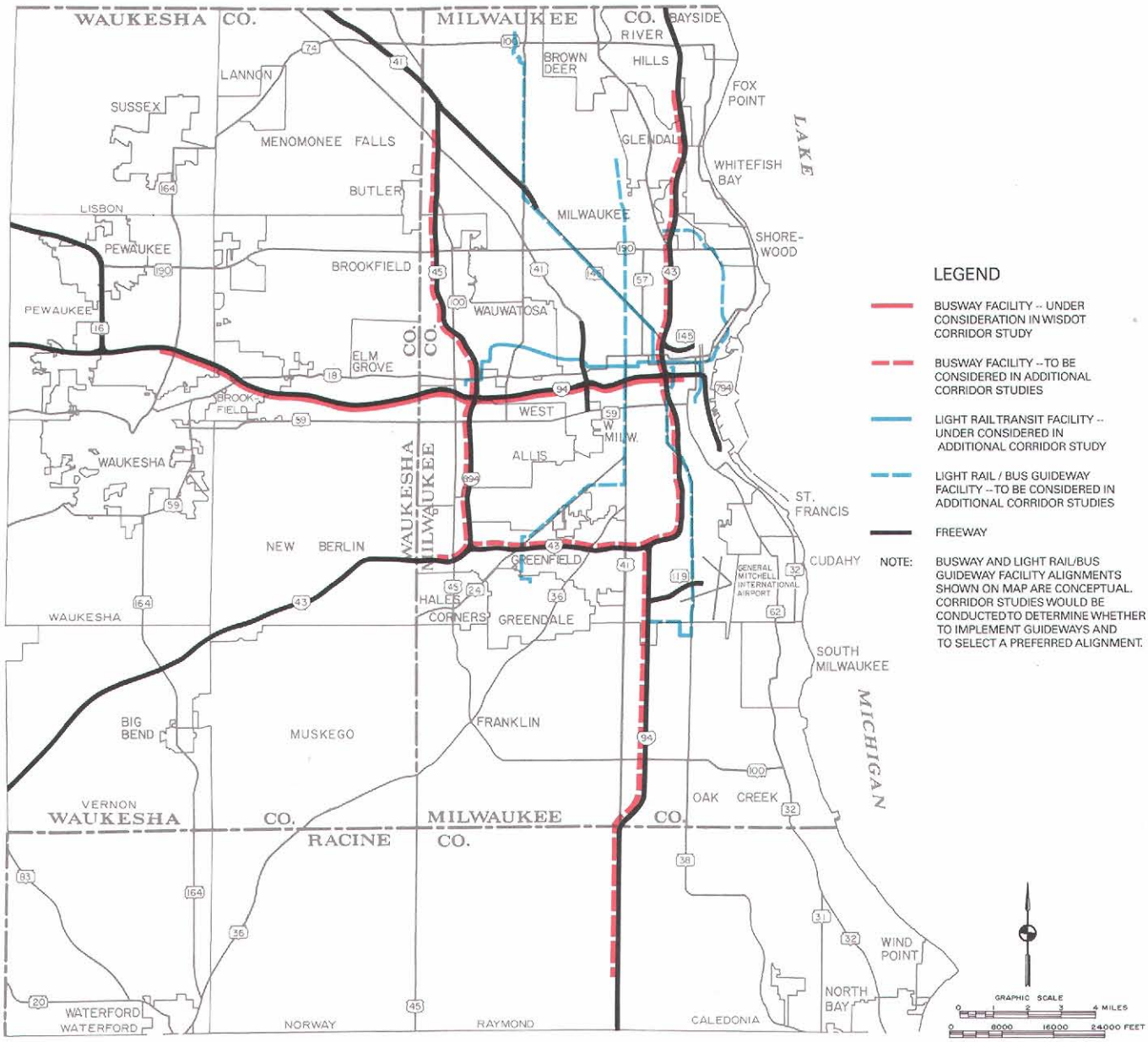
- The bus rapid transit service would operate in both directions, providing both traditional commuter and reverse-commute service.
- The rapid transit service would operate with some intermediate stops to increase accessibility to employment centers and to increase accessibility for reverse-commute travel from residential areas within central Milwaukee County. Certain stops would be provided with shuttle bus or van service to nearby employment centers.
- The service would operate throughout the day. The frequency of service provided would be every five to 30 minutes in peak travel periods, and every 30 to 60 minutes in off-peak periods.
- Transit service would be provided at relatively high overall travel speeds averaging about 25 miles per hour, compared to typical overall local bus transit speeds, which average about 12 miles per hour.

Initially, all service could be provided over the regional freeway system, with service extensions on selected surface arterial streets and highways. Ultimately, depending upon the results of major transportation investment studies, the rapid transit routes could operate over exclusive busway facilities in the most congested freeway travel corridors in the Region (see Map 31). A major investment study/preliminary engineering study/final environmental impact statement process remains under way in the IH 94 East-West Freeway Corridor considering such an exclusive busway for buses and carpools.

Also recommended to be considered in these major investment studies is the potential to establish commuter-rail passenger service as a form of rapid transit service alternative to bus-on-freeway or bus-on-busway service in four major travel corridors, from Milwaukee to Kenosha, to Oconomowoc, to West Bend, and to Saukville. Through these corridor studies, then, final decisions would be made as to whether to provide the rapid transit service through bus-on-freeway, bus-on-busway, or commuter-

Map 31

POTENTIAL BUSWAY AND LIGHT-RAIL/EXPRESS-BUS-GUIDEWAY FACILITIES IDENTIFIED IN THE FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN: 2020



Under the final recommended regional transportation system plan, rapid transit busway facilities and express transit light-rail facilities would be considered as alternatives to motor-bus transit service over arterial highway lanes. Consideration of such fixed-guideway transit service facilities would be initiated as part of federally required major investment studies for each of the identified corridors. The busway facility, which extends along the IH 94 Corridor from the City of Milwaukee to the STH 164 interchange in Waukesha County, shown on the accompanying map, and the light-rail facility, which extends from Walker's Point through the central business district of Milwaukee to the Milwaukee County Institutions Grounds, with a branch extending along Fond du Lac Avenue to the Capitol Court shopping center, have been acknowledged in the plan as a basis for providing a higher level of service than express bus. It is recognized that the implementation of these fixed-guideway transit facilities depends upon the ultimate outcome of the corridor study currently being conducted by the Wisconsin Department of Transportation. Upon completion of that study, the local units of government concerned, the Wisconsin Department of Transportation, and the Regional Planning Commission would have to affirm the study findings and, if necessary, amend the regional transportation system plan.

Source: SEWRPC.

rail passenger service. Pending the conduct of these studies, all rapid transit service would be provided through the bus-on-freeway mode.

Express Transit System Component

The second component of the public transit element of the plan is an express transit system. The recommended express transit system would consist primarily of buses operating over a grid of 12 limited-stop, higher-speed routes within Milwaukee County. The express transit routes are also shown on Map 30.

The plan envisions that this system of limited-stop routes would initially consist of buses operating over arterial streets in mixed traffic. The service could be upgraded over time to buses operating on reserved street lanes and could, ultimately, based on federally required corridor major investment studies, be considered for further upgrading to light-rail service.

The ongoing IH 94 East-West Freeway major investment study/preliminary engineering study/final environmental impact statement process has been considering a light-rail facility connecting the Milwaukee central business district, the Milwaukee County Institutions Grounds, and the Capitol Court shopping center.

As envisioned under the plan:

- The express service would operate in both directions during both peak and off-peak travel periods.
- The service would operate with a stop spacing of about one-half mile.
- The frequency of service provided would be about every 10 minutes during peak periods, and about every 20 to 30 minutes during off-peak periods.
- The overall travel speed provided would be about 18 miles per hour, a significant improvement over the average 12-miles-per-hour speed provided by the existing local bus transit service.

Local Transit Service

The plan recommends the continued operation of local bus transit service over arterial and collector streets, with frequent stops throughout the Kenosha, Milwaukee, and Racine urbanized areas. The plan calls for substantial improvements, however, in the frequency of local transit service provided, particularly on the major local routes. In addition, the plan holds open the potential to restructure local transit services to provide for transit-center-oriented local systems to replace grid-route systems, depending upon detailed local plan implementation studies. The plan also recommends the provision of local transit services through shared-ride taxis in the smaller urban areas of the Region. In special subregional planning efforts, the Commission has further recommended rural public transportation systems for Ozaukee and Washington Counties.

The recommended plan also includes a paratransit service component which is consistent with the Federal Americans with Disabilities Act (ADA) of 1990. The plan assumes that all transit vehicles that provide conventional fixed-route transit service would be accessible to persons with disabilities, including those persons using wheelchairs. This assumption is reflected in the capital cost estimate for transit-vehicle-fleet replacement and expansion under the recommended plan. The plan also assumes that all public entities operating fixed-route transit systems will continue to provide comparable paratransit service to those disabled persons within local transit service areas who are unable to use fixed-route transit services. Accordingly, the complementary paratransit services currently provided within the Region would continue to be operated and expanded consistent with the planned expansion of local transit service areas within the Kenosha, Milwaukee, and Racine urbanized areas.

Like existing complementary paratransit services provided within the Region, the planned paratransit services would meet federally specified ADA eligibility and service requirements. The complementary paratransit services would serve any person with a permanent or temporary disability who is unable independently to board, ride, or disembark from an accessible vehicle used to provide fixed-route transit service; who is capable of using an accessible vehicle, but one is not available for the desired trip; or who is unable to travel to or from the boarding or disembarking location of the fixed-route transit service. Within a given area, the planned paratransit service would be available during the same hours and on the same days as the fixed-route transit service, would be provided to eligible persons on a "next-day" trip-reservation basis, would not limit service to eligible persons based on restrictions or priorities relative to trip purpose, and would not be operated under capacity constraints which might limit the ability of eligible persons to receive service for a particular trip. The paratransit service fares assumed under the recommended plan would in each case be twice the applicable public transit fare per one-way trip.

Arterial Street and Highway Maintenance and Improvement Element

The third element of the regional transportation system plan is the arterial street and highway system element. In 1995, there were about 3,277 miles of arterial streets and

highways in the seven-county Region. The existing arterial street and highway system comprises about 29 percent of the total 11,268 miles of streets and highways existing within Southeastern Wisconsin. The arterial street and highway system is that component of the total street and highway system that has as its principal function the movement of traffic. This contrasts with nonarterial streets—consisting of land access and collector streets—which have as their principal function the provision of access to abutting property and the connection of land access streets to the arterials, respectively.

Currently, in the seven-county Southeastern Wisconsin Region, the arterial street and highway system carries about 97 percent of the total average weekday travel, with the public transit system carrying about 3 percent of that demand, and with pedestrian and bicycle travel accounting for less than 1 percent. Even with the greatly expanded transit system envisioned in the year 2020 plan, the evolution of a more efficient regional land use pattern, and the travel demand management measures incorporated in the regional transportation system plan, the arterial street and highway system will be required to carry over 97 percent of the total travel demand in the year 2020, and will have to accommodate by the year 2020 a 30 percent increase in highway traffic over present levels.

The year 2020 plan recommended arterial street and highway system consists of 3,612 miles of facilities. This represents an increase of 335 miles, or about 10 percent, over the existing 1995 arterial system, including 211 miles of existing nonarterial facilities which may be expected to begin to serve an arterial function by the year 2020 and 124 miles of entirely new facilities.

The plan recommendations for the arterial street and highway system can be divided into three categories: system expansion, that is, the proposed construction of new arterial facilities; system improvement, that is, the proposed improvement of existing arterial facilities to carry additional traffic lanes and provide substantial additional traffic capacity; and system preservation, that is, the proposed resurfacing, reconstruction, and modernization as needed of arterials to largely the same capacity as exists today. The recommendations by county are shown on Map 32 and summarized in Table 46.

There are no typical cross-sections identified on the planned arterial system. Rather, only the number of lanes recommended to be provided on each segment of the arterial system is indicated. The number of lanes identified in each case refers to through travel lanes, that is, those lanes that would carry traffic directly through intersections. Thus, the number does not include any auxiliary traffic lanes to be provided for left- and right-turning movements, for vehicle parking, or for use by distressed vehicles.

It is recommended that implementing agencies, as they construct new facilities, widen existing facilities, and resurface and reconstruct existing facilities, consider and provide as needed surface arterial right- and left-turn lanes where the volumes of turning vehicles would adversely affect the movement of vehicles through an intersection. In addition to determining whether or not right- and/or left-turn lanes should be provided at intersections, implementing agencies should determine whether or not a given surface arterial street improvement should be made using a divided or an undivided roadway cross-section. Thus, the precise cross-section to be selected for a given improvement project would be determined by the State, county, and local implementing agencies following appropriate design study.

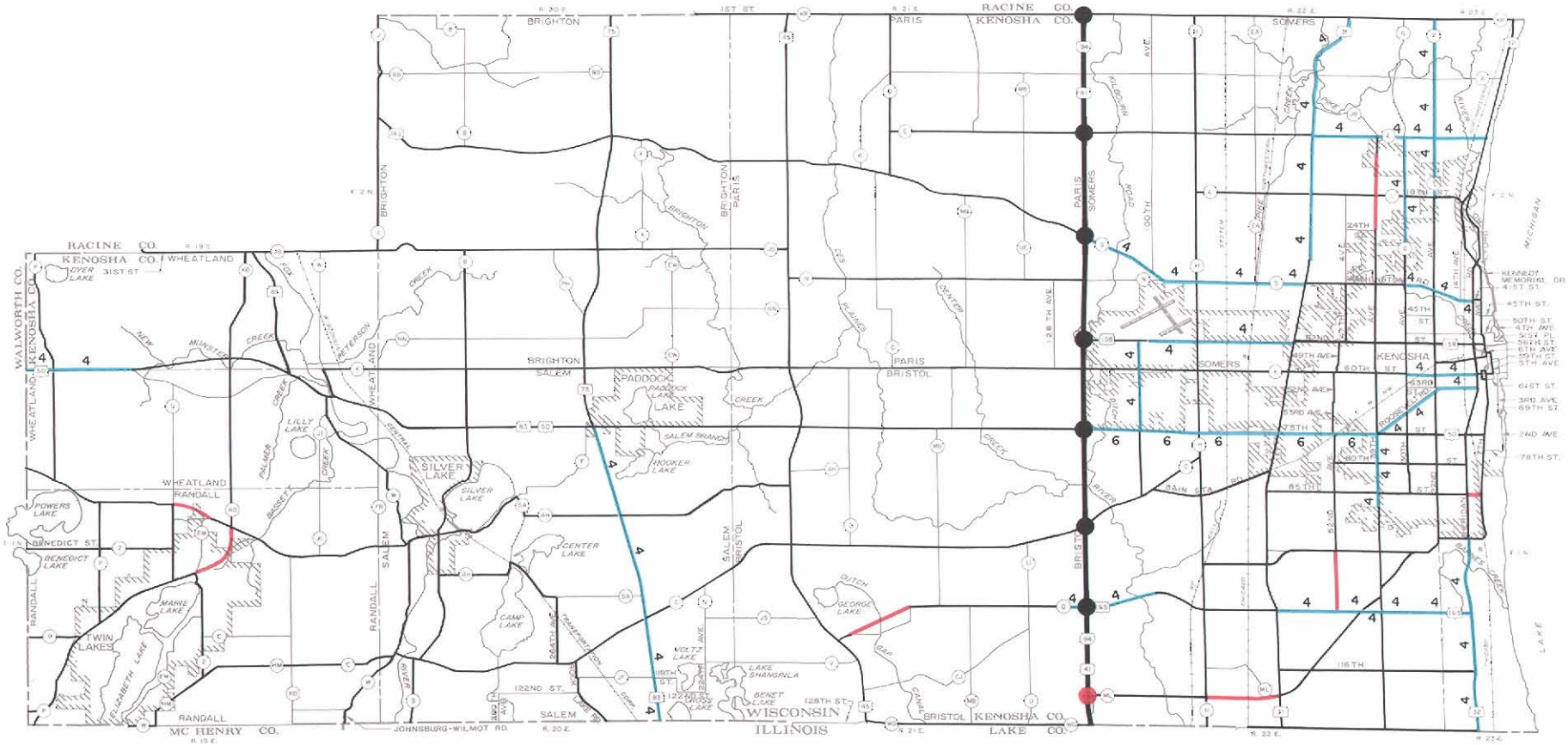
It is further recommended that as freeways and surface arterials in the Region are reconstructed, and, in appropriate cases, as they are resurfaced, that consideration be given to the modernization of these facilities. With respect to surface arterials, consideration should be given to the provision of turning lanes, desirable lane widths, bicycle accommodation, auxiliary lanes, and shoulders, as appropriate; improvements in horizontal and vertical curvature, intersection configuration, and access control; and improvement of traffic signalization, including signal interconnection. With respect to freeways, consideration should be given to elimination of lane drops at interchanges, provision of adequate merging and diverging lane lengths, provision of auxiliary lanes, provision of adequate shoulders and lateral clearance, improvements in horizontal and vertical curvature, and conversion of left-hand off- and on-ramps to the right-hand side of the freeway.

The arterial street and highway system expansion recommendations of the plan include 124 miles of new arterial facilities. This system expansion component represents about 3 percent of the total planned arterial street and highway system in Southeastern Wisconsin.

The system improvement recommendations of the plan include a recommended 405 miles of existing arterial facilities proposed to be widened to carry additional traffic lanes. The 405 miles represent 11 percent of the total planned arterial street and highway system. The system improvement component of the arterial street and highway element represents in part a reaffirmation of the need for many long-planned arterial street and highway system improvements.

Map 32

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN KENOSHA COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

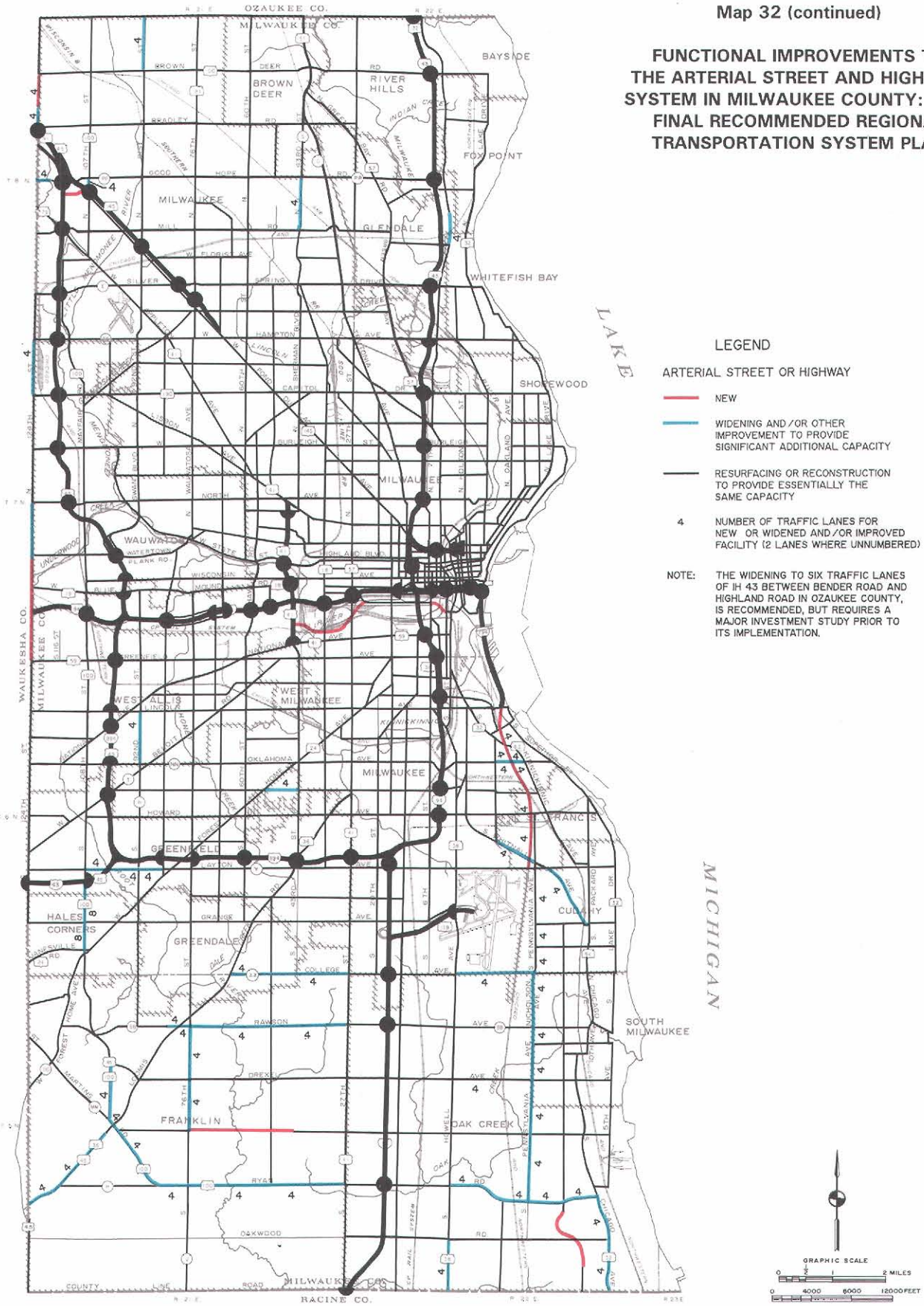
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

Under the final recommended regional transportation system plan, the arterial street and highway system in Kenosha County would be expanded by 38 miles, or 12 percent, from 318 miles in 1995 to 356 miles in the year 2020. The increase in arterial mileage would come about through the construction of nine miles of facilities and through the conversion of 29 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of nearly nine miles of new arterial facilities, for the widening of 45 miles, and for the preservation of 302 miles of facilities within the County.

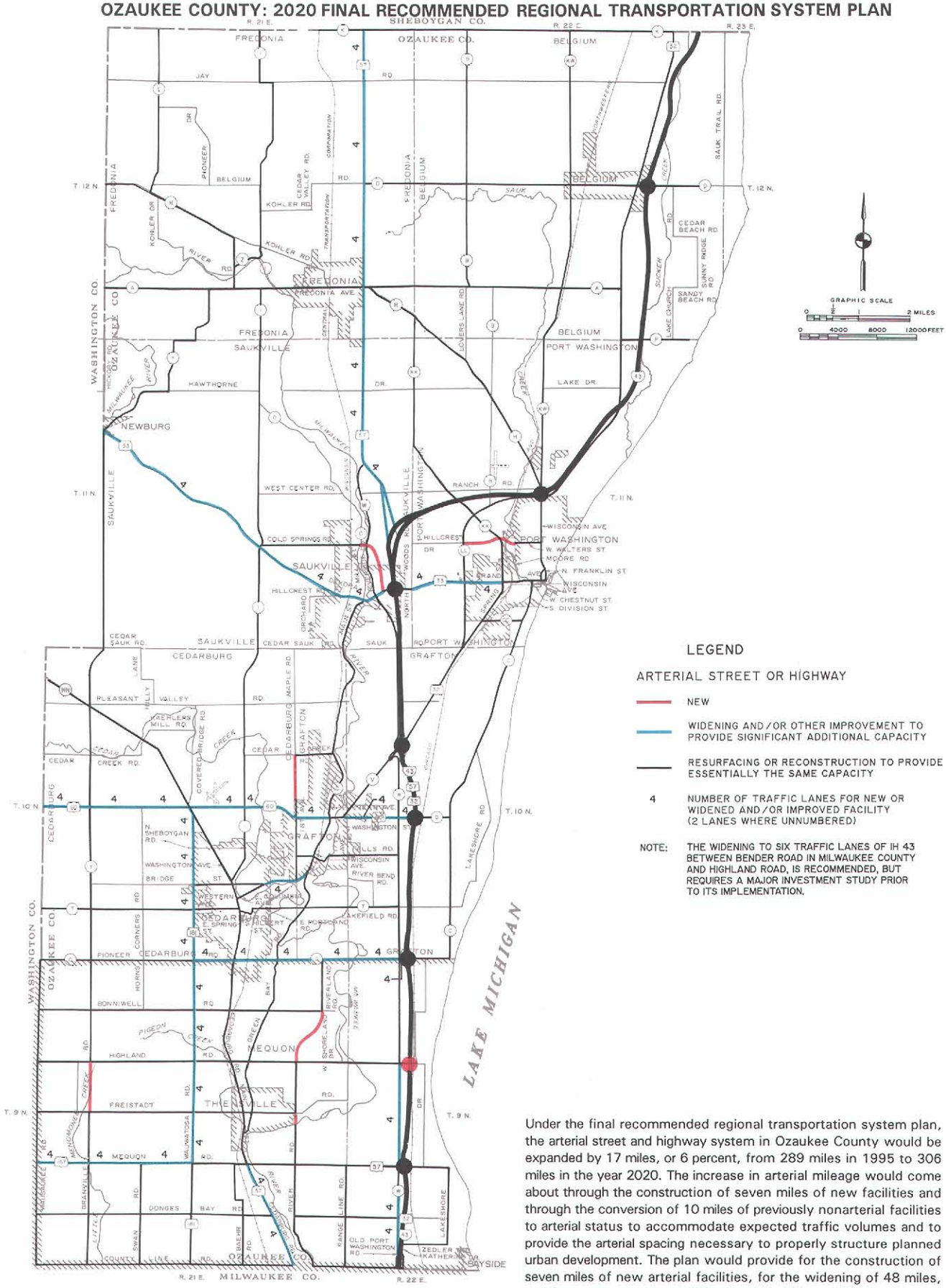
Map 32 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN MILWAUKEE COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Milwaukee County would be expanded by 22 miles, or 3 percent, from 775 miles in 1995 to 797 miles in the year 2020. The increase in arterial mileage would come about through the construction of 10 miles of new facilities and through the conversion of 12 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 10 miles of new arterial facilities, for the widening of 40 miles, and for the preservation of 747 miles of facilities within the County.

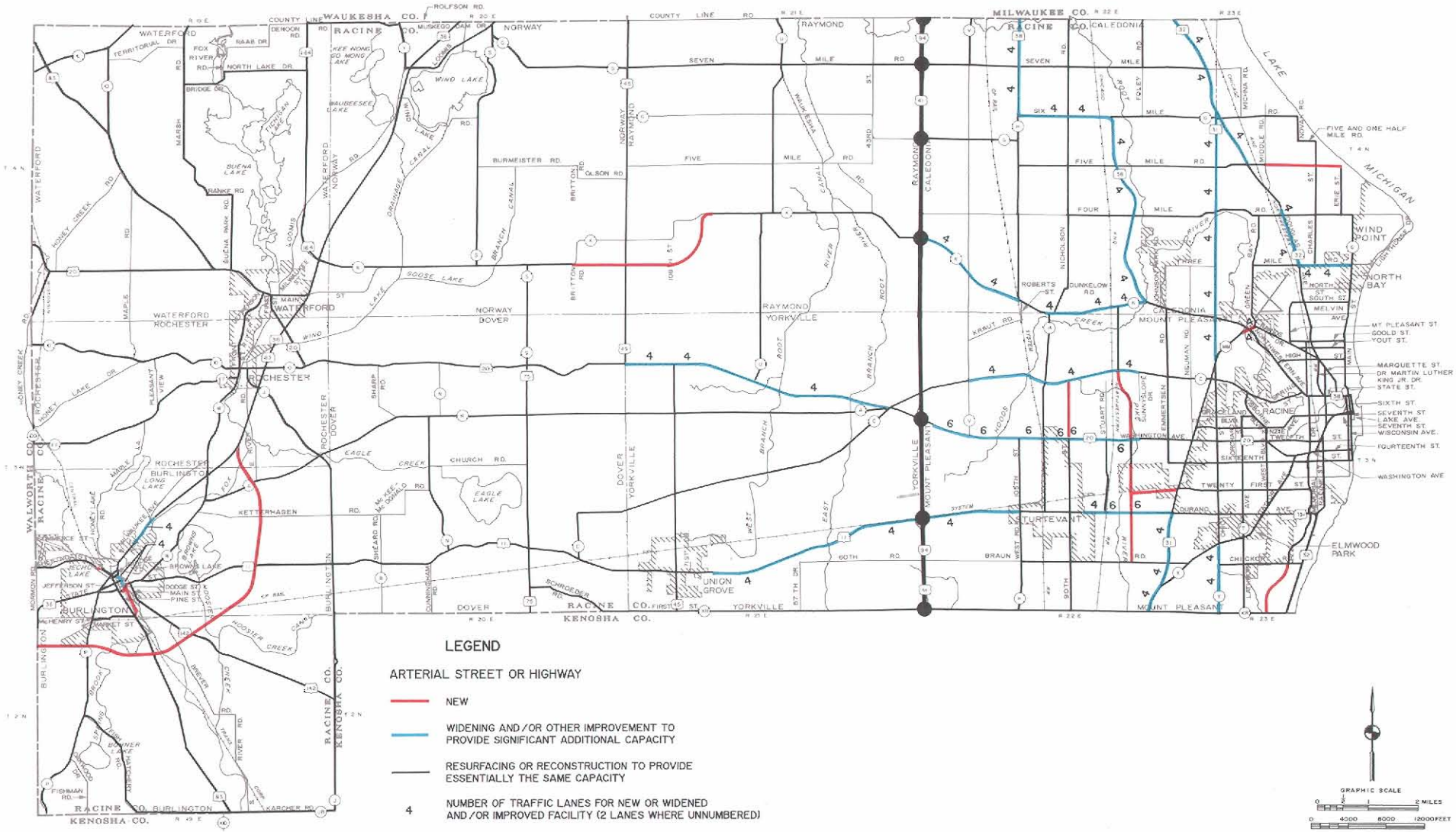
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN OZAUKEE COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Ozaukee County would be expanded by 17 miles, or 6 percent, from 289 miles in 1995 to 306 miles in the year 2020. The increase in arterial mileage would come about through the construction of seven miles of new facilities and through the conversion of 10 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of seven miles of new arterial facilities, for the widening of 48 miles, and for the preservation of 251 miles of facilities within the County.

Map 32 (continued)

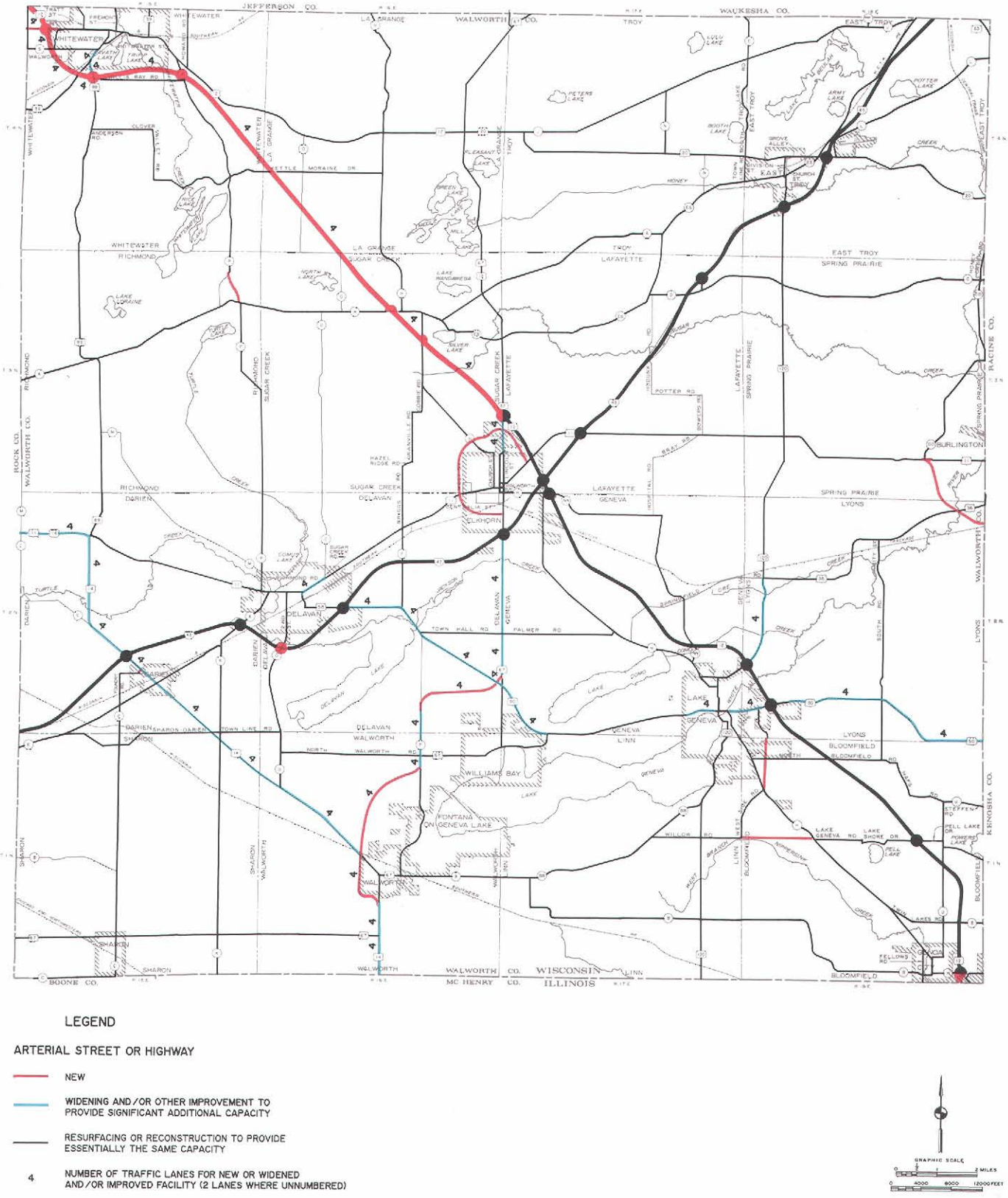
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN RACINE COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Racine County would be expanded by 77 miles, or 22 percent, from 349 miles in 1995 to 426 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 56 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 51 miles, and for the preservation of 354 miles of facilities within the County.

Map 32 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WALWORTH COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

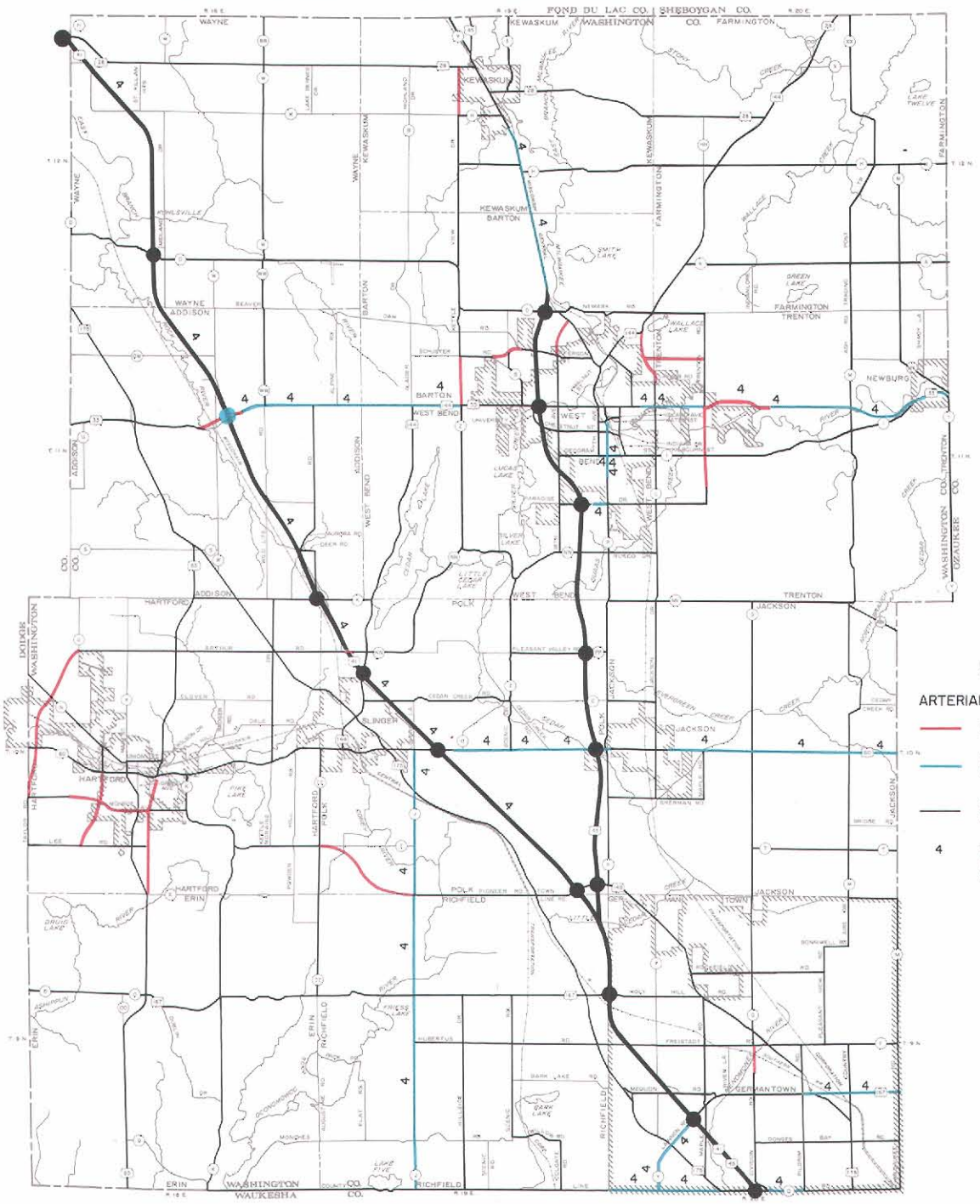
GRAPHIC SCALE

0 1 2 MILES

0 4000 8000 12000 FEET

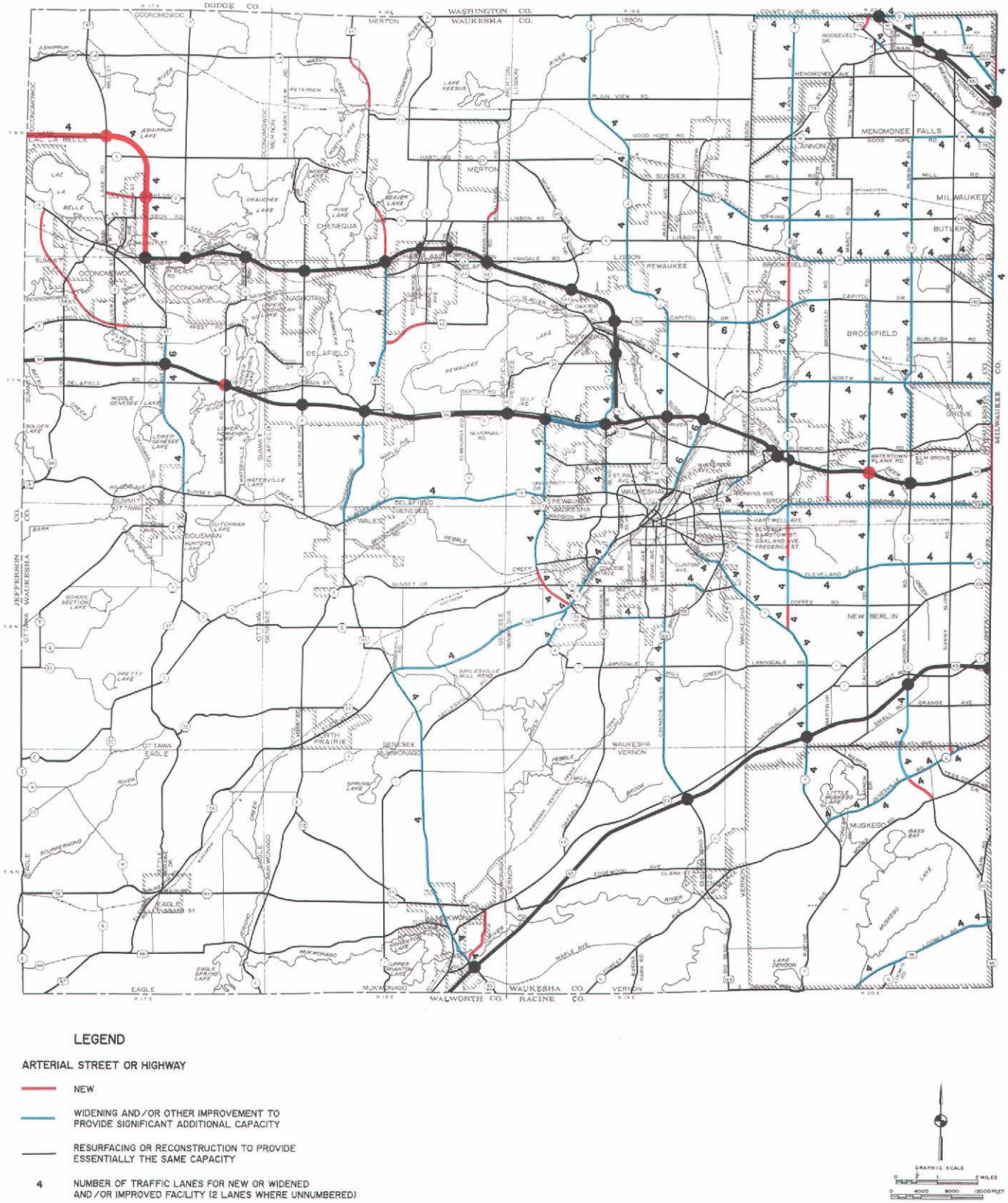
Under the final recommended regional transportation system plan, the arterial street and highway system in Walworth County would be expanded by 52 miles, or 12 percent, from 430 miles in 1995 to 482 miles in the year 2020. The increase in arterial mileage would come about through the construction of 34 miles of new facilities and through the conversion of 18 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 34 miles of new arterial facilities, for the widening of 37 miles, and for the preservation of 411 miles of facilities within the County.

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WASHINGTON COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Washington County would be expanded by 69 miles, or 17 percent, from 399 miles in 1995 to 468 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 48 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 43 miles, and for the preservation of 404 miles of facilities within the County.

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WAUKESHA COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Waukesha County would be expanded by 59 miles, or 8 percent, from 718 miles in 1995 to 777 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 38 miles of previously nonarterial facilities to arterial status in order to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 142 miles, and for the preservation of 614 miles of facilities within the County.

Source: SEWRPC.

Table 46

ARTERIAL STREET AND HIGHWAY SYSTEM PRESERVATION, IMPROVEMENT, AND EXPANSION BY ARTERIAL FACILITY TYPE AND COUNTY: 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN

County	System Preservation (miles)	System Improvement (miles)	System Expansion (miles)	Total Miles
Kenosha				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	290.3	44.8	8.5	343.6
Subtotal	302.3	44.8	8.5	355.6
Milwaukee				
Freeway	69.2	0.0	0.0	69.2
Standard Arterial	677.2	40.3	10.3	727.8
Subtotal	746.4	40.3	10.3	797.0
Ozaukee				
Freeway	27.4	0.0	0.0	27.4
Standard Arterial	223.9	47.7	7.0	278.6
Subtotal	251.3	47.7	7.0	306.0
Racine				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	342.0	50.6	21.5	414.1
Subtotal	354.0	50.6	21.5	426.1
Walworth				
Freeway	50.0	0.0	16.7	66.7
Standard Arterial	361.0	36.7	17.8	415.5
Subtotal	411.0	36.7	34.5	482.2
Washington				
Freeway	42.7	0.0	0.0	42.7
Standard Arterial	361.0	43.1	21.5	425.6
Subtotal	403.7	43.1	21.5	468.3
Waukesha				
Freeway	58.6	1.0	5.7	65.3
Standard Arterial	555.7	141.1	15.0	711.8
Subtotal	614.3	142.1	20.7	777.1
Region				
Freeway	271.9	1.0	22.4	295.3
Standard Arterial	2,811.1	404.3	101.6	3,317.0
Total	3,083.0	405.3	124.0	3,612.3

Source: SEWRPC.

The third component of the arterial street and highway system recommendations of the plan is system preservation. Approximately 3,083 miles of arterial facilities, representing 86 percent of the total planned arterial street and highway system, are recommended to be preserved to the year 2020 through resurfacing, reconstruction, and modernization as needed.

The arterial street and highway system plan proposes about a 14 percent expansion in arterial street and highway system capacity. Freeway system improvements are limited to construction of the Oconomowoc bypass; the initiation of the construction of the USH 12 Freeway extension from Elkhorn to Whitewater; and to two widening projects, including the widening of about one

mile of IH 94 from CTH T to CTH G in Waukesha County, and the widening of about eight miles of IH 43 from Bender Road to Highland Road in Milwaukee and Ozaukee Counties.

The plan thus does not contain or recommend any new freeway initiative, such as a Milwaukee-area circumferential freeway. Importantly, however, the plan recommends the reconstruction and modernization of the Milwaukee-area freeway system—particularly the IH 94 East-West Freeway, including the Zoo, Stadium, and Marquette Interchanges—and the reconstruction of freeway interchanges as needed in Waukesha, Racine, and Kenosha Counties to urban design standards. The plan includes three new interchanges on the freeway system: one at Highland Road on IH 43 in Ozaukee County; one at Calhoun Road on IH 94 in Waukesha County; and one at CTH O on IH 43 in Walworth County. In the design of some segments of freeway reconstruction, the plan recommends that consideration be given in major investment studies to the provision of exclusive high-occupancy-vehicle lanes, that is, busway-carpool lanes (see Map 31). The plan-recommended arterial improvement and expansion projects have been carefully designed to serve travel which may be expected to occur in and between the areas planned for conversion from rural to urban use under the year 2020 regional land use plan. Many of the proposed arterial street and highway improvements are needed to accommodate such planned development, while some are needed to provide direct and timely alternative routes for traffic which would otherwise use the area freeway system.

Highway improvements were recommended only as a last resort, that is, to address congestion which may not be expected to be alleviated by land use, systems management, or public transit measures. The first elements considered for inclusion in the regional plan were the transit and transportation system management elements. The potential of these elements to eliminate congestion was explicitly identified. Highway improvements were then recommended to be added to the regional transportation plan to resolve, to the extent practicable, the residual existing and probable future traffic congestion.

Proposed Amendments to Year 2010 Adopted Plan

The changes and modifications to the year 2010 plan that are recommended as part of the extension of the plan to the year 2020 in the proposed year 2020 plan are listed in Table 47.

Plan Performance and Costs

Selected characteristics of the regional transportation system plan for the year 2020 are identified in Table 48. The number of internal person-trips generated within the Region on an average weekday is expected to increase under the plan from about 5.8 million in 1995 to about 6.5 million in the year 2020, or by about 12 percent. The number of transit trips made on an average weekday is expected to increase from about 163,100 in 1995 to about 207,300 in the year 2020, or by about 27 percent, assuming the transit plan recommendations are implemented. Despite this increase in daily transit trip making, the proportion of total internal person-trips made by transit would remain at about 3 percent over the plan design period.

The number of vehicle-miles of travel within the Region on an average weekday is expected to increase by about 31 percent, from about 35.9 million in 1995 to about 47.0 million in 2020. Of the latter total, about 17.0 million vehicle-miles of travel, or about 36 percent, are expected to be made on freeways, which would comprise about 8 percent of the total arterial system.

Arterial street and highway severe and extreme congestion is expected to decrease, with the number of miles of facilities operating severely and extremely over design capacity decreasing from about 285 miles, or about 9 percent of the total system, in 1995 to about 95 miles, or about 3 percent of the total arterial system, in 2020. The number of arterial system miles operating moderately over design capacity, however, is expected to decrease only slightly, from about 148 miles, or about 4.5 percent of the total arterial system, in 1995 to about 146 miles, or about 4.0 percent of the total arterial system, in 2020.

The average annual public cost of carrying out the recommended plan, including the construction of new facilities and the operation and maintenance of the arterial street and highway and transit systems, is estimated at nearly $417 million. All cost and revenue figures are expressed in constant 1997 dollars. The anticipated average annual public revenues, excluding transit fare-box revenues, are estimated at $330 million. Thus, the difference between anticipated costs and expected revenues is $87 million per year over the plan design period. The equivalent of a $0.10-per-gallon increase in the motor-fuel tax within the Region would be necessary to eliminate the estimated $87 million annual shortfall.

Table 47

CHANGES FROM THE YEAR 2010 REGIONAL TRANSPORTATION SYSTEM PLAN INCORPORATED IN THE FINAL RECOMMENDED YEAR 2020 REGIONAL TRANSPORTATION SYSTEM PLAN

Plan Element	Changes from Year 2010 Plan
Public Transit System Element	Additions to Plan Kenosha County • Express transit service to the Pleasant Prairie major industrial center Milwaukee County • Express transit service to the Park Place major office center • Express transit service to the Franklin major industrial center • Local transit service to employment centers along W. Brown Deer Road Washington County • Rapid transit service to Hartford major industrial center Waukesha County • Rapid transit service to the Menomonee Falls major industrial center • Rapid transit service to the Sussex major industrial center Deletions from Plan • None
Arterial Street and Highway Element	Additions to Plan Milwaukee County • Widening from two to four traffic lanes on N. Port Washington Road between W. Bender Road and W. Daphne Road • Widening from two to four traffic lanes on S. 92nd Street between W. Lincoln Avenue and W. Oklahoma Avenue Ozaukee County • Extension of Walters Street from Grant Street to CTH LL as two-lane arterial Racine County • Extension of 90th Street from STH 20 to CTH C as two-traffic-lane arterial • Extension of Oakes Street from STH 11 to Braun Road as two-traffic-lane arterial • Addition of Calumet Street and its extension as four-traffic-lane arterial between Bridge Street and Pine Street at Market Street • Addition of the relocation of the STH 11 bridge over the Fox River to Adams Street Waukesha County • Widening from two to four traffic lanes on STH 83 between IH 43 and CTH NN • Widening from two to four traffic lanes on St. Paul Avenue between STH 59 and Moreland Boulevard • Widening from two to four traffic lanes on STH 59 between St. Paul Avenue and STH 83 • Widening from two to four traffic lanes on USH 18 between CTH TT and STH 83 • Widening from two to four traffic lanes on STH 83 between CTH NN and STH 59 Deletions from Plan Kenosha County • Delete extension of CTH AH as two-lane arterial from CTH SA to CTH F Milwaukee County • Reduce recommended number of traffic lanes from four to two on N. 124th Street between W. Hampton Avenue and W. Silver Spring Drive • Reduce recommended number of traffic lanes from four to two on W. North Avenue between N. 60th Street and N. 76th Street Racine County • Delete extension of Emmertsen Road as two-lane arterial between STH 38 and Three Mile Road • Delete conversion of Three Mile Road to two-lane arterial between extended Emmertsen Road and STH 31 • Delete Dodge Street as two-lane arterial between Chestnut Street and Adams Street • Delete Chestnut Street as two-lane arterial between Origen Street and Pine Street • Delete Jefferson Street and Main Street as two-lane arterials between Calumet Street and State Street Walworth County • Delete extension of Grant Street as two-lane arterial between CTH H and STH 50

Source: SEWRPC.

Table 48

SUMMARY OF TRANSPORTATION PERFORMANCE CHARACTERISTICS: 1995 AND 2020 FINAL RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN

Performance Characteristic		Base Year 1995	Recommended Plan: 2020	Percent Change
Category	Specific Measure			
Travel	Internal person-trips (average weekday)	5.8 million	6.5 million	12.1
	Internal vehicle-trips (average weekday)	4.8 million	5.7 million	18.8
	Vehicle-miles of travel (average weekday)	35.9 million	47.0 million	30.9
	Transit ridership (average weekday)	163,100	207,300	27.1
	Relative distribution of trips by mode of travel (average weekday)			
	Auto driver	74.1 percent	77.1 percent	--
	Auto passenger	19.0 percent	16.3 percent	--
	Transit passenger	2.8 percent	3.2 percent	--
	School bus passenger	4.1 percent	3.4 percent	--
	Proportion of trips made by transit within Milwaukee County	3.8 percent	3.8 percent	--
	Proportion of trips made by transit to Milwaukee central business district	13.0 percent	12.0 percent	--
	Proportion of passenger-miles of travel made on transit (average weekday)	1.1 percent	1.5 percent	--
Traffic Congestion	Amount and proportion of arterial street and highway system over design capacity			
	Moderately congested (V/C ratio 1.01 to 1.10)	148 miles	146 miles	-1.4
		4.5 percent	4.0 percent	--
	Severely congested (V/C ratio 1.11 to 1.30)	203 miles	57 miles	-71.9
		6.2 percent	1.6 percent	--
	Extremely congested (V/C ratio 1.31 or greater)	82 miles	38 miles	-53.7
		2.5 percent	1.1 percent	--

Source: SEWRPC.

SUMMARY AND CONCLUSIONS

This chapter has described the final recommended year 2020 regional transportation plan. The final plan was developed largely upon the regional transportation system plan adopted by the Commission in December 1994 with a design year of 2010, modified by modest amendments. This was done for a number of reasons. First, the year 2010 plan had been well received by all parties concerned and adopted by the Commission, each of the seven counties of the Region, and many municipalities, and endorsed by the Wisconsin Departments of Transportation and Natural Resources. There was no reason to explore a major departure from the framework of transportation development and improvement envisioned in the 2010 plan. Second, forecasts of regional change another 10 years beyond the year 2010 to the year 2020 indicated that only modest growth may be expected in levels of households, employment, travel, transit ridership, and highway traffic, that is, increases of approximately 8 percent. As documented in this chapter, analyses of the ability of the year 2010 plan to meet year 2020 travel and traffic demands indicated that minimal change in the year 2010 plan was necessary for that plan to serve year 2020 travel and traffic needs. The third reason that the year 2020 plan

was principally derived from the year 2010 plan was that the only concern that had been expressed about the year 2010 plan since its adoption was that it may be too ambitious to be accomplished within the remaining 13-year time frame. Its extension by another 10 years, and modest amendment to include actions to address additional needs over those additional 10 years, responds to that concern. The fourth reason was that substantial changes have not yet occurred in the Region, and additional data were not yet available, to warrant the expenditure of the time and resources for a major plan reevaluation at this time. The fifth reason was that the year 2010 plan had been shaped and modified on the basis of public review and comment received less than three years ago, and that public comment continued to remain sufficiently valid to be directly incorporated within the year 2020 plan.

The final recommended regional transportation system plan for the year 2020 has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement.

The recommended plan proposes the use of transportation system management measures to ensure that maximum use is made of existing transportation facilities before commitments are made to new capital investment. The plan envisions the completion of the comprehensive freeway traffic management system within the Milwaukee area; the imposition of peak-hour curb-lane parking restrictions on approximately 400 miles of urban arterial streets; the use of appropriate traffic management and engineering techniques to assist in achieving efficient traffic flow on urban arterial streets; the application of intelligent transportation systems technology; areawide promotional measures to encourage carpooling, vanpooling, telecommuting, and rescheduling of work time; and transit management and operational measures that have the potential to make transit use more convenient.

The plan also recommends the preparation of community- and neighborhood-level land use plans to guide the development of new urban neighborhoods and the redevelopment of older neighborhoods to promote a mix of land use activities, higher-density development near transit lines and stations, the orientation of buildings on sites in a manner facilitating transit use, and the use of bicycle and pedestrian as well as transit facilities.

The plan also proposes that an integrated system of rapid, express, and local transit facilities be developed within the Region, representing a proposed 69 percent expansion of service measured in terms of transit vehicle-miles of service. The plan seeks to provide bus rapid transit service within the major travel corridors emanating from the Milwaukee central business district (CBD). The plan calls for the provision of such service south to the Cities of Racine and Kenosha, southwest to the Village of Mukwonago, and west to the Cities of Waukesha and Oconomowoc. The plan would also provide such service in the Northwest Corridor to the City of West Bend and in the IH 43 North Corridor to the Village of Saukville and the City of Port Washington.

Upon the conduct of corridor major investment studies, and concurrence in the recommendations for implementation by the implementing units of government, the plan envisions that the bus rapid transit service could be upgraded to bus service over special bus and carpool lanes, or to commuter-rail service. A major investment study is under way in the East-West Corridor considering special lanes on the IH 94 East-West Freeway, and feasibility studies—precursor studies to major investment studies—are under way considering commuter-rail service in three corridors: Kenosha to Milwaukee; Antioch, Illinois, to Burlington; and Fox Lake, Illinois, to Walworth.

The plan also proposes that an express transit system consisting of 12 regular express transit bus routes be provided within the Region. Within the Milwaukee urbanized area, the express transit routes would be provided in major travel corridors connecting major activity centers to the Milwaukee CBD, as well as in a grid pattern of crosstown routes. An express transit route would also connect the Cities of Racine and Kenosha. Upon the conduct of corridor major investment studies, and concurrence in the recommendations for implementation by the implementing units of government, the plan envisions that the bus service in mixed traffic or reserved arterial-street lanes could be upgraded to light-rail transit or bus service on exclusive busways. A major investment study under way in the East-West Corridor is considering a light-rail transit line.

The plan also proposes the expansion and improvement of local public transit service within Milwaukee County and the Cities of Waukesha, Racine, and Kenosha and their immediate environs. The plan also recognizes the need to provide local transit service in the smaller outlying urban and rural communities of the Region, particularly through shared-ride taxi service.

The recommended plan envisions that the arterial street and highway system would, by the plan design year 2020, consist of about 3,612 route-miles of facilities. In 1995, the arterial system consisted of about 3,277 route-miles of facilities. The plan recommends the construction of 124 route-miles of new arterial facilities, the widening to carry

additional traffic lanes of 405 miles of existing arterial facilities, and the preservation of the remaining 3,083 route-miles of existing arterial facilities. The recommended plan envisions that as part of resurfacing and particularly reconstruction to preserve existing arterials, actions will be taken to modernize the area surface arterial and freeway system to current design standards.

The number of internal person-trips generated within the Region on an average weekday may be expected to increase from 5.8 million in 1995 to about 6.5 million in the year 2020, or by 12 percent. The number of transit trips made on an average weekday may be expected to increase from about 163,100 in 1995 to about 207,300 by the year 2020, or by 27 percent. The proportion of total internal person-trips made by transit may be expected to remain, however, at about 3 percent.

Vehicle-miles of travel within the Region on an average weekday may be expected to increase from about 35.9 million in 1995 to about 47.0 million by the year 2020, or by about 31 percent. Severe arterial street and highway congestion, as indicated by the number of arterial miles expected to operate severely or extremely over design capacity, may be expected to decrease from about 285 miles, or 9 percent of the total arterial mileage, in 1995, to about 95 miles, or 3 percent of the total arterial mileage, by 2020. The arterial mileage operating moderately over design capacity and experiencing some congestion, however, may be expected to remain about the same between 1995 and 2020.

The public cost of carrying out the recommended plan, including the construction of new facilities and the operation and maintenance of the arterial street and highway and transit systems, is estimated at an average of about $417 million per year over the 23-year plan implementation period. All cost and revenue figures are expressed in constant 1997 dollars. The public revenues anticipated to be available, based on existing trends, are estimated at an average $330 million per year. The difference between anticipated costs and revenues is approximately $87 million per year. An equivalent of a $0.10-per-gallon motor-fuel tax would be necessary to cover this $87 million annual shortfall in order to fully implement the recommended regional transportation system plan for the year 2020.

Chapter VI

PLAN IMPLEMENTATION

INTRODUCTION

This chapter specifies the steps required to implement the recommended regional transportation system plan as described in the previous chapter. It identifies the various units and agencies of government which have plan adoption and implementation responsibilities germane to the recommended plan and specifies necessary plan adoption and implementation actions. It provides an anticipated schedule for the transit and highway improvements included in the plan, providing the basis for the preparation of future regional transportation improvement programs. It describes the detailed implementation planning that will need to be conducted during the plan implementation period, identifying in particular transportation improvements that warrant federally required major investment studies.

PLAN IMPLEMENTATION ORGANIZATIONS

Because the Regional Planning Commission is an advisory agency, implementation of the recommended plans will be entirely dependent upon the actions taken by certain local, county, areawide, State, and Federal agencies of government. Examination of the various agencies that are available to implement the recommend plan under existing enabling legislation reveals an array of departments, commissions, councils, boards, districts, and authorities at all levels of government. These agencies range from general-purpose units of local government, such as common councils and village boards, to such agencies as the Federal Highway and Transit Administrations.

The agencies whose actions will significantly affect, either directly or indirectly, the successful implementation of the recommended regional transportation system plan and whose full cooperation in plan implementation will be essential are listed and discussed below.

Local-Level Agencies

Local Plan Commissions

Sections 62.23, 61.35, and 60.10(2)(c) of the Wisconsin Statutes permit municipalities to create plan commissions. Plan commissions, among other functions, are charged with the responsibility of making and adopting a master plan for the physical development of the community, including recommendations relating to streets and highways, routes for railways and buses, and terminals. Moreover, the location, extension, alteration, and acquisition of land for any street or other public way must be referred to the plan commission for recommendation prior to any action by the municipal governing body.

Boards of Public Works

Sections 62.14, 61.35, and 60.10(2)(c) of the Wisconsin Statutes permit municipalities, under the direction of the common council, village board, or town board, to form boards of public works to superintend the construction and maintenance of all public works. Such boards have primary responsibility for local arterial streets and highways and are able to take on public transit responsibilities as well.

Committees of the County Boards: Highway, Transit, and Public Works

Certain county board committees are responsible for the administration and expenditure of county funds for highway construction and maintenance. They are empowered to establish and change the county trunk highway systems, subject to the approval of the Wisconsin Department of Transportation; to acquire land for county highway purposes by purchase or condemnation; and to give direction to the operation and maintenance of public transit systems. All seven counties within the Southeastern Wisconsin Region have established such committees: in Kenosha County, a Highway and Parks Committee; in Milwaukee County, a Transportation and Public Works Committee; in Ozaukee County, a Transit Committee and a Highway Committee; in Racine County, a Public Works Committee; in Walworth County, a Highway Committee; in Washington County, a Highway Committee; and in Waukesha County, a Public Works Committee.

Transit Commissions and Boards

Transit commissions can be established by cities and are empowered to establish, maintain, and operate a public transportation system, the major portions of which are located within the city. The Cities of Kenosha, Racine, and Waukesha have created such governmental bodies to provide urban public transit services. Transit boards may be established by counties and are empowered to create, maintain, and operate a public transportation system within

the county involved and any contiguous or cornering counties. There currently are no county transit boards in the Region.

Areawide Agencies

Cooperative Contract Commissions

Section 66.30 of the Wisconsin Statutes provides that municipalities[1] may contract with each other to provide jointly any services or exercise jointly any powers that such municipalities may be authorized to provide or exercise separately. While no transportation-related cooperative contract commissions currently exist within the Region, there is potential to achieve significant economies through providing transportation services and facilities on a cooperative, areawide basis. Moreover, the nature of certain transportation problems often requires that solutions be approached on an areawide basis.

Metropolitan Transit Authority

A metropolitan transit authority, if created pursuant to Section 66.94 of the Wisconsin Statutes, would have the power to acquire, construct, and operate a public transportation system and would have the power of eminent domain within a district which would include all of Milwaukee County and those units of government located in adjacent counties through, and into, which the transit system would extend. Such an authority does not have any powers of taxation. It can, however, issue revenue bonds. No such authority has been activated within the Region at present.

Regional Transportation Authority

The Regional Planning Commission studied the feasibility of creating a regional transportation authority (RTA) within Southeastern Wisconsin.[2] Following that study, State legislation was enacted to create an RTA encompassing all seven counties in the Region and directing that the RTA conduct its own study and recommend whether or not it should continue in existence after September 30, 1993.[3] Over an approximately 15-month period during 1992 and 1993, the RTA Board carried out its own study. The results of that study were set forth in a report to the Governor and the Legislature.[4] In that report, the RTA Board developed a proposal for a permanent authority, the essence of which consisted of the following:

1. Geographic Scope
   The study proposed a seven-county RTA, providing, however, that during the first six months of existence, a county could exercise a withdrawal option. Absent such a withdrawal, the county would be a permanent member of the RTA. Any county which withdrew in the initial six months could petition later to rejoin. The RTA Board would be permitted to impose conditions for rejoining.

2. Board Structure
   The study proposed that the RTA be governed by an 11-member board, assuming all seven counties participated, including, on a ex officio basis, the State Secretary of Transportation. Each participating county would have one representative residing in that county. There would be three at-large members residing in the Region, with one of those appointed residing within the City of Milwaukee. All members would be appointed by the Governor and confirmed by the State Senate. The Governor would designate the Board chair.

3. Functions and Responsibilities
   The study proposed that the RTA be empowered as a funding and plan implementation agency. All transportation projects supported with RTA funds would have to be drawn from the adopted regional transportation system plan. The RTA would not be enabled to construct and maintain arterial highway systems; however, the RTA would be enabled to provide funds to county and local governments for arterial highway construction, operation, and maintenance. The RTA would also be enabled to fund county and local governments that deliver transit services as well as to directly sponsor and provide transit services on a contractual basis, either with public transit agencies or with private providers. The RTA would also be empowered to assume responsibilities to provide county and local transit services where county and local governments want to transfer that function to the RTA. Finally, the RTA would be given responsibility to carry out areawide transportation

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[1] *Under this section of the Statutes, the term "municipality" is defined to include the State and any agency thereof, cities, villages, towns, counties, school districts, and regional planning commissions.*

[2] *See SEWRPC Memorandum Report No. 38,* A Regional Transportation Authority Feasibility Study for Southeastern Wisconsin, *November 1990.*

[3] *See Section 59.966, Wisconsin Statutes.*

[4] *See* Southeastern Wisconsin Regional Transportation Authority Report to Governor Thompson and the Wisconsin Legislature, *May 1993.*

demand management programs, such as carpooling and vanpooling promotional efforts.

4. Revenues
   The study proposed that the RTA be funded through two additional taxes levied in the Region by the RTA: a 0.4 percent general sales tax and a $0.05-per-gallon motor-fuel tax. The motor-fuel tax would not be levied on diesel fuel. These two taxes could be expected to raise a minimum of $90 million annually in the Region.

5. Revenue Allocation
   The study proposed that the legislation guarantee that over a six-year period every county would receive a minimum of 98 percent of the revenue raised in the county. In addition, every county would be guaranteed to receive annually at least 80 percent of the revenue raised in the county.

The RTA Board delivered its study recommendations to the seven counties in the Region early in 1993. Resolutions supporting the study recommendations were defeated by the County Boards of Kenosha, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties. The Milwaukee County Board approved the supporting resolution on the condition that the regional taxes envisioned instead be levied statewide and be confined to motor-fuel taxes. On the strength of these county board actions, the RTA Board recommended to the Governor and the Legislature that the Board be disbanded and that a permanent authority not be created at that time.

Regional Planning Commission

Although not a direct plan implementation agency, one other areawide agency warrants description herein: the Regional Planning Commission. The Commission, created under Section 66.945 of the Wisconsin Statutes, is empowered to prepare and adopt a master plan, of which the transportation system plan is a part, for the physical development of the Region. It has no statutory plan implementation powers. A special designation assigned to the Regional Planning Commission under Federal law is that of "metropolitan planning organization." This designation means that the Commission provides a forum for cooperative decision making concerning the preparation and adoption of transportation system plans and improvement programs. Under Federal law, the Commission, as the metropolitan planning organization, is given the responsibility to program certain Surface Transportation Program monies allocated for use in the Milwaukee urbanized area. The Commission has chosen to exercise this responsibility through its Intergovernmental Coordinating and Advisory Committee on Transportation System Planning and Programming for the Milwaukee Urbanized Area.

State-Level Agencies

Wisconsin Department of Transportation

The Wisconsin Department of Transportation is responsible for the planning of all transportation modes within the Region. The Department is authorized to provide the State with an integrated and intermodal transportation system and to administer State and Federal aids for highway and transit improvements. The Department is also responsible for planning, designing, constructing, and maintaining all State trunk highways and for planning, laying out, revising, constructing, reconstructing, and maintaining the Interstate highway system, subject to Federal review and regulation.[5]

Wisconsin Department of Natural Resources

Pursuant to the provisions of the Federal Clean Air Act, the Wisconsin Department of Natural Resources must prepare a State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. Under the Clean Air Act Amendments of 1990, the seven-county Southeastern Wisconsin Region has been designated a "nonattainment area" with respect to ozone. Therefore, the recommended regional transportation system plan, together with subsequently prepared transportation improvement programs, must be found to conform to the State Implementation Plan for Air Quality. If a conformity finding cannot be made, then the plan must be revised until a conformity finding can be made. These requirements have made close cooperation between the Regional Planning Commission and the Wisconsin Department of Natural Resources essential both in the preparation and implementation of the plan.

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[5]*The Wisconsin Department of Transportation's recommendations for major highway projects, defined in Section 13.489 of the Wisconsin Statutes as highway reconstruction or reconditioning costing $5 million or more and involving either relocation of 2.5 miles or more, or construction of five or more miles of additional lanes to an existing highway, are reviewed by the Wisconsin Transportation Projects Commission. This Commission, which consists of the Governor, five State Senators, five Assembly Representatives, three citizen members, and the Secretary of the Wisconsin Department of Transportation (a nonvoting member), reviews Department recommendations and, in turn, recommends to the Legislature highway projects proposed to be enumerated in the Statutes. The enumeration of major highway projects in the Statutes signifies a firm State commitment to funding such projects in future years.*

Wisconsin Department of Administration

The Wisconsin Department of Administration provides the Governor with the information and policy alternatives necessary for the preparation of the State biennial budget. In addition, the Department acts as the State clearinghouse for intergovernmental review of federally aided programs and projects. Through this review process, the Department may comment on all federally aided transportation projects.

Wisconsin Department of Commerce

The Wisconsin Department of Commerce administers the State's economic development programs and policies. Though the Department has no direct role in the implementation of the regional transportation system plan, its activities, especially those related to the retention or expansion of existing business and the attraction of new business, may significantly affect the use of the regional transportation system, particularly if such activities should run counter to the adopted land use plan for the Region.

University of Wisconsin-Extension

As a part of the University of Wisconsin System, the University of Wisconsin-Extension is the institution principally charged with implementing the "Wisconsin Idea" of extending the knowledge and resources of the University of Wisconsin System to the citizens of the State, thereby helping them to make more informed decisions. The Regional Planning Commission and the University of Wisconsin-Extension have entered into a contractual agreement for the provision of educational services, focused upon transportation, land use, and environmental protection planning and plan implementation issues. Each county in the Region has a University of Wisconsin-Extension office that can be used to expand the network of education related to plan implementation. It is recognized that educating public officials and the citizens at large in the Region about the plan findings and recommendations will contribute significantly to, and indeed is a necessary element of, plan implementation.

Federal-Level Agencies

U. S. Department of Transportation

The U. S. Department of Transportation, in cooperation with the Regional Planning Commission as the metropolitan planning organization for the Southeastern Wisconsin Region, must make the necessary determinations to ensure that the recommended regional transportation system plan and subsequently prepared improvement programs conform with the State Implementation Plan for Air Quality. When making the conformity determinations, he Federal Highway and Federal Transit Administrations will require certain federally specified technical work to be completed by the Commission in order to demonstrate that the conformity criteria are met. Importantly, the plan implementation responsibilities of the two Federal agencies also extend to the funding of transportation improvement projects.

U. S. Department of Transportation, Federal Highway Administration

The Federal Highway Administration administers all Federal highway aid programs, working through the Wisconsin Department of Transportation. The Federal Highway Administration must approve all changes in the National Highway System and Interstate highway system and will, in this respect, have an important role in implementation of the highway element of the recommended transportation system plan for the Region.

U. S. Department of Transportation, Federal Transit Administration

The Federal Transit Administration administers a comprehensive set of programs offering Federal funds to eligible local recipients in partial support of the preservation, improvement, and expansion of public transit service. Federal Transit Administration programs germane to the recommended plan include Section 5307, Section 5309, and Section 5311 programs. Federal funds made available for transit projects under the Surface Transportation Program and the Congestion Mitigation and Air Quality Improvement Program are transferred from the Federal Highway Administration to the Federal Transit Administration Section 5307 and Section 5311 programs and thus become subject to the administrative requirements of the Federal Transit Administration.

U. S. Environmental Protection Agency

The U. S. Environmental Protection Agency (EPA) is responsible for approving the State Implementation Plan for Air Quality and for imposing sanctions on a state for failing to meet certain requirements of the Clean Air Act Amendments of 1990. If the EPA finds a failure on the part of the state to submit a State Implementation Plan for Air Quality or a portion thereof, to implement the provisions of such an approved plan, or to conform to any other provision required by the Federal Clean Air Act, it must, after a period of grace during which the deficiency can be corrected, impose mandated sanctions. The EPA may cause Federal highway funds to be withheld and/or may require a two-to-one offset for major stationary air-pollutant sources.[6]

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[6] *In an area under such a sanction, each ton of air-pollutant emissions created by a new stationary source must be offset by a two-ton reduction through additional control measures on existing stationary sources.*

PLAN ADOPTION AND INTEGRATION

Upon adoption of the new regional transportation system plan by formal resolution of the Southeastern Wisconsin Regional Planning Commission, in accordance with Section 66.945(10) of the Wisconsin Statutes, the Commission will transmit a certified copy of the resolution and adopted plan to all local legislative bodies within the Region and to all of the aforementioned existing local, county, areawide, State, and Federal agencies. Endorsement, adoption, or formal acknowledgment and integration of these plans by the local legislative bodies and the existing local, county, areawide, State, and Federal agencies involved is highly desirable, and in some cases necessary, to assure a common understanding among the several governmental levels and to enable their staffs to program the necessary implementation work. Adoption of the new year 2020 regional transportation system plan by units and agencies of government that have previously adopted the design year 2010 regional transportation plan will serve to substitute the new plan for the old.

Adoption of the recommended plan by any unit or agency of government pertains only to the statutory duties and functions of the adopting unit or agency. Such adoption does not and cannot in any way preempt action by another unit or agency of government within its jurisdiction. Thus, adoption of the regional transportation system plan by a county would make the plan applicable as a guide, for example, to county highway development but not to municipal street development. The plan would have to be adopted by the municipality concerned to make it applicable as a guide to municipal street development.

While the adoption and endorsement of the recommended regional transportation system plan is important, the need to also to adopt or endorse the companion year 2020 regional land use plan cannot be overlooked. The successful implementation of the regional transportation system plan is closely related to the successful implementation of the regional land use plan. The development of the transportation system in accord with the recommended regional transportation plan may not be sufficient to provide a high level of transportation service throughout the Region should urban development occur in a manner significantly contrary to the recommendations of the regional land use plan. Plan adoption, endorsement, and integration recommendations are listed below.

Local Agencies

- It is recommended that the cities, villages, and towns in the Region, upon recommendation of their plan commissions and boards of public works, adopt the recommended regional transportation system plan as authorized by Section 66.945(12) of the Wisconsin Statutes and integrate the plan into their comprehensive plans and capital improvement programs.

- It is recommended that the seven county boards in the Region, upon recommendation of their highway, transit, and/or public works committees, formally adopt the recommended regional transportation system plan as authorized by Section 66.945(12) of the Wisconsin Statutes and integrate the plan into their comprehensive plans and capital improvement programs.

- It is recommended that the Cities of Kenosha, Hartford, Port Washington, Racine, Waukesha, West Bend, and Whitewater, as well as any local unit of government that may in the future begin to operate public transit service, adopt the recommended transportation system plan as a guide to future transit system development and integrate the plan into their transit development programs.

Areawide Agencies

- It is recommended that any transportation-related cooperative contract commission subsequently created formally acknowledge the recommended transportation system plan in regard to the exercise of its specific powers and duties.

- It is recommended that, should a regional or metropolitan transportation authority be established, it, as one of its initial actions, adopt the recommended regional transportation system plan.

State Agencies

- It is recommended that the Wisconsin Department of Transportation endorse the recommended regional transportation system plan. It is further recommended that the Department integrate the plan recommendations into the State long-range transportation plan, as authorized by Sections 84.01, 84.02, and 84.025 of the Wisconsin Statutes, as a functional guide to highway and transit system development within the Region.

- It is recommended that the Wisconsin Natural Resources Board endorse the recommended regional transportation system plan and that the Wisconsin Department of Natural Resources continue to cooperate with the Regional Planning Commission to ensure its conformance with the State Implementation Plan for Air Quality.

- It is recommended that the Wisconsin Department of Administration endorse the recommended regional transportation system plan and use the plan in discharging its responsibilities in reviewing and commenting on federally funded transportation programs and projects.

- It is recommended that the Wisconsin Department of Commerce endorse the recommended regional transportation system plan and support implementation of the plan through its economic development activities, considering the long-term transportation-related and environmental impacts of its decisions.

- It is recommended that the University of Wisconsin-Extension acknowledge the recommended regional transportation system plan and promote implementation of the plan through its educational programming.

Federal Agencies

- It is recommended that the U. S. Department of Transportation, Federal Highway Administration and Federal Transit Administration, endorse the recommended regional transportation system plan and find it to conform with the State Implementation Plan for Air Quality and to have been prepared in a manner consistent with the Intermodal Surface Transportation Efficiency Act of 1991.

- It is recommended that the U. S. Environmental Protection Agency endorse the recommended regional transportation system plan.

Subsequent Adjustment of the Plan

No plan can be permanent in all its aspects or precise in all its elements. The very definition and characteristics of "regional planning" suggest that a regional plan, to be viable and useful to local, State, and Federal units and agencies of government, be continually adjusted through formal amendments, extensions, additions, and refinements to reflect changing conditions. The Wisconsin Legislature foresaw this when it gave to regional planning commissions the power to "amend, extend or add to the master plan or carry any part or subject matter into greater detail" under Section 66.945(9) of the Wisconsin Statutes.

Amendments, extensions, and additions to the regional transportation system plan will be forthcoming, not only from the work of the Commission under the continuing regional planning program, but also from statewide plans and from Federal agencies as national policies are established or modified, new programs created, or existing programs expanded or curtailed. Adjustments may come from State, subregional, district, and county and local planning programs which, of necessity, must be prepared in greater detail and may result in refinement and adjustment of the regional plan. All refinements and adjustments will require cooperation between local, areawide, State, and Federal agencies, as well as coordination by the Southeastern Wisconsin Regional Planning Commission, which is empowered under Section 66.945(8) of the Wisconsin Statutes to act as a coordinating agency for programs and activities of the county and local units of government concerned. To achieve this coordination among local, areawide, State, and Federal programs most effectively and efficiently and, therefore, assure the timely adjustment of the regional transportation system plan, it is recommended that all the aforementioned agencies having various plan and plan implementation powers transmit all subsequently prepared planning studies, plan proposals and amendments, and plan implementation devices to the Southeastern Wisconsin Regional Planning Commission for consideration regarding integration into the adopted regional plan.

PLAN IMPLEMENTATION RECOMMENDATIONS

The recommended year 2020 regional transportation system plan has three major elements: transportation system management, public transit system maintenance and improvement, and arterial street and highway system maintenance and improvement. The specific actions and the agencies responsible for those actions required to implement each of these elements are described in the following sections of this chapter.

Transportation System Management

The planned transportation system management element includes the Milwaukee-area freeway traffic management system; consideration of peak-period curb-lane parking restrictions on over 400 route-miles of arterial facilities in the Region; areawide promotion of measures to encourage travel through ridesharing, transit use, and bicycle use, as well as to encourage telecommuting and work-time rescheduling; and the use of site-specific land use planning to facilitate travel by transit, bicycle, and pedestrian modes. The following are specific implementation responsibilities with respect to these matters:

1. It is recommended that the Wisconsin Department of Transportation continue to develop and operate the Milwaukee-area freeway traffic management system. The completed system should include a coordinated areawide system of ramp controls that will achieve the highest possible level of service on the freeways and that will encourage travel by

transit and by carpools and vanpools. The system should also include incident management and advisory information elements.

2. It is recommended that the Wisconsin Department of Transportation develop an expanded ride-sharing promotional campaign in the greater Milwaukee area; promote employer-based transportation demand management strategies, including addressing employer-subsidized parking and employer-provided transit subsidies; promote travel by bicycle and walking as well as telecommuting; and construct carpool lots as more detailed planning efforts and demand may indicate and warrant.

3. It is recommended that local plan commissions and their local traffic engineering staffs consider appropriately restricting, as needed to the year 2020, curb-lane parking during peak travel periods on the approximately 400 miles of arterial streets and highways designated as candidates for such restriction in the recommended plan.

4. It is recommended that upon referral to, and recommendation of, the local plan commission concerned, each common council, village board, and town board within the Region evaluate zoning, subdivision, and other site planning and development ordinances and practices; identify the manner in which such ordinances and practices may discourage the development of integrated neighborhoods, transit use, bicycling, and walking; and institute measures to correct land development practices that promote dependence on the automobile.

   In this respect, it is recommended that within the urban-density framework provided by the year 2020 regional land use plan, higher-density, transit- and pedestrian-friendly urban development be promoted along transit lines and around transit stops and stations through neighborhood development and redevelopment plans. Further, it is recommended that appropriate land development incentives be used to promote high-density, mixed-use development around fixed-guideway transit stations, as such fixed-guideway transit facilities are developed within the plan implementation period. It is recommended that local units of government strive to implement the regional bicycle and pedestrian facilities system plan by providing both the on-street and off-street bicycle ways recommended in that plan. The former should be provided as the arterial streets and highways concerned are constructed and reconstructed.

   Finally, in this respect, it is recommended that the Southeastern Wisconsin Regional Planning Commission, early in the plan implementation period with funding provided by the Wisconsin Department of Transportation, prepare a local planning guide designed to illustrate transit- and pedestrian-friendly land use development practices. It is further recommended that the University of Wisconsin-Extension use that guide in its educational programming.

Public Transit System Maintenance and Improvement

Under the plan, rapid transit service by buses would operate over freeway lanes providing relatively fast and convenient commuter transit service in the major travel corridors of the Region. A grid pattern of express transit routes by buses operating in mixed traffic over arterial streets would be provided, primarily within Milwaukee County. The plan recognizes that both rapid and express transit services could be provided in the future over fixed-guideway facilities pending the outcome of major investment studies. The recommended plan also proposes to expand and improve local public transit service within the Kenosha, Milwaukee, and Racine urbanized areas, including eastern Waukesha County. A suggested schedule of the transit improvement and expansion recommendations is set forth in Tables 49 and 50.

The transit plan element implementation schedule anticipates that the planned 69 percent increase in vehicle-miles of transit service over 1995 levels may largely not be expected to be initiated until the year 2002—after the second State biennial budget prepared following the completion of the year 2020 regional plan, with approximately equal annual increments of just under 3 percent annually of the planned increase of 45,400 vehicle-miles of transit service. Implementation of the transit plan element is dependent upon additional funding and, in particular, upon future dedicated local funding for public transit and/or transportation.

To the extent that the recommended transit services are to be provided within the geographic limits of a single county, the county itself provides an adequate institutional structure for the provision of such services. Counties, working cooperatively with local units of government in the county, have all the authority needed to assume plan implementation responsibilities with respect to transit. A significant number of the rapid transit facilities and services recommended in the plan, however, extend

Table 49

POTENTIAL STAGES OF TRANSIT PLAN ELEMENT: 2000, 2007, 2010, AND 2020

Transit Service Element	Year			
	2000	2007	2010	2020
Rapid Transit[a]	Continue existing service within Milwaukee County and between Milwaukee and Waukesha Counties	Expand service to the City of Milwaukee central business district by adding new routes, including the following: • From STH 36 and CTH BB in the City of Franklin via STH 36, IH 43, and IH 94 • From 13th Avenue and 54th Street in the City of Kenosha via STH 158 and IH 94 • From 5th Street and Main Street in the City of Racine via STH 20 and IH 94 • From STH 59 and S. West Avenue in the City of Waukesha via STH 59, Moreland Boulevard, and IH 94 Extend existing rapid transit route operated between W. Capitol Drive and N. 124th Street and the City of Milwaukee central business district to Capitol Drive and Calhoun Road in the City of Brookfield Extend existing rapid transit route operated between the Village of Menomonee Falls and the City of Milwaukee central business district to STH 167 and Pilgrim Road in the Village of Germantown Restructure existing rapid and express transit routes between the Waukesha and Brookfield areas and the City of Milwaukee central business district to create two routes; • From Clinton Street and Broadway in the City of Waukesha via IH 94 • From Moorland Road and IH 94 in the City of Brookfield via IH 94 Restructure existing express transit route from Main Street and Wisconsin Avenue in the City of Oconomowoc to the City of Milwaukee central business district to provide rapid transit service via STH 16 and IH 94 Restructure existing rapid transit route between the Cities of Cudahy and South Milwaukee to the City of Milwaukee central business district to operate via E. Rawson Avenue, S. Pennsylvania Avenue, Lake Arterial, and IH 794 Restructure existing rapid transit route between IH 43 and STH 32 in the Town of Port Washington to the City of Milwaukee central business district and central Milwaukee County to create three routes: • From S. 1st Avenue and Wisconsin Avenue in the Village of Grafton via Columbia Road, Washington Avenue, CTH C, and IH 43 • From Cedarburg Road and Highland Road in the City of Mequon via Cedarburg Road, STH 167, and IH 43 • From IH 43 and STH 32 in the Town of Port Washington via IH 43	Reduce headways on rapid transit service to provide 10-to-20-minute service during peak periods on routes serving Milwaukee County, and 20-to-30-minute service during peak periods on all other routes Operate all rapid transit services in both directions of travel	Reduce headways on rapid transit service to provide five-to-20-minute service during peak periods on routes serving Milwaukee County Expand service to the City of Milwaukee central business district by adding new routes, including the following: • From N. Main Street and W. Washington Street in the City of West Bend via Main Street, Paradise Drive, USH 45, and IH 94 busway • From IH 94 and STH 100 in the City of Oak Creek via IH 94 • From the LakeView Corporate Park in the Village of Pleasant Prairie via STH 165 and IH 94 • From S. 43rd Street and W. Morgan Avenue in the City of Milwaukee via S. 43rd Street and IH 94 • From Green Bay Avenue and Congress Street (extended) in the City of Glendale via Green Bay Road and IH 43 • From IH 94 and STH 164 in the Town of Pewaukee via IH 94 Modify routes between the City of Milwaukee central business district and the Cities of Racine and Kenosha to include stop at IH 94 and CTH K in Racine County to serve industrial development along IH 94 Modify route between the City of Milwaukee central business district and the City of Oconomowoc via IH 94 to serve Pabst Farms development north of IH 94 and east of STH 67 in Waukesha County

Table 49 (continued)

Transit Service Element	Year			
	2000	2007	2010	2020
Express Transit[b]	Continue existing service within Milwaukee County, between Milwaukee and Waukesha Counties, and between Milwaukee, Racine, and Kenosha Counties	Expand Milwaukee urbanized area service by adding new routes, including the following: • From Clinton Street and Broadway in the City of Waukesha to the University of Wisconsin-Milwaukee via Moreland Boulevard, Blue Mound Road, Wisconsin Avenue, N. Prospect Avenue/N. Farwell Avenue, and N. Downer Avenue • From the transit station at N. Teutonia Avenue and W. Florist Avenue in the City of Glendale to the transit station at W. Loomis Road and IH 43 in the City of Greenfield via S. 27th Street • From the transit station at S. 13th Avenue and E. Rawson Avenue in the City of South Milwaukee to the City of Milwaukee central business district via E. Rawson Avenue, S. Chicago Avenue/S. Packard Avenue, S. Kinnickinnic Avenue, and S. 1st Street Restructure existing service between the City of Milwaukee central business district and the Cities of Racine and Kenosha to eliminate service north of the City of Racine central business district, and to provide service between the Racine and Kenosha central business districts via STH 20, STH 31, and STH 158	Reduce headways on existing express transit routes in Milwaukee County, and expand service periods on selected routes in all areas to include weekday middays and evening periods	Expand Milwaukee urbanized area service by adding new routes, including the following: • From the Mayfair shopping center at W. North Avenue and N. Mayfair Road in the City of Wauwatosa to the University of Wisconsin-Milwaukee via North Avenue and N. Downer Avenue • From the Northridge shopping center at W. Brown Deer Road and N. 76th Street in the City of Milwaukee to the Southridge shopping center at W. Edgerton Avenue and S. 76th Street in the Village of Greendale via 76th Street and the Milwaukee Regional Medical Center • From the transit station at S. 76th Street and IH 94 in the City of West Allis to the City of Milwaukee central business district via S. 76th Street, W. National Avenue, and S. 2nd Street • From the Bayshore shopping center at E. Silver Spring Drive and N. Port Washington Road in the City of Glendale to the transit station at IH 94 and W. College Avenue in the City of Milwaukee via N. Port Washington Road, 6th and 7th Streets, S. Howell Avenue, and W. College Avenue • From the transit station at N. 124th Street and W. Capitol Drive in the City of Brookfield to the University of Wisconsin-Milwaukee via Capitol Drive and N. Downer Avenue Extend service between the Cities of Racine and Kenosha to the LakeView Corporate Park in the Village of Pleasant Prairie via Green Bay Road, 95th Street, CTH H, and STH 165
Local Transit[c]	Continue existing fixed-route service within Milwaukee and Waukesha Counties and within the Cities of Kenosha, Racine, and Waukesha Continue existing shared-ride taxi services in the Cities of Hartford, Port Washington, West Bend, and Whitewater	Extend fixed-route service to medium-density development and industrial areas in the following areas: • Northern and southern Milwaukee County • The west side of the City of Racine • The west side of the City of Kenosha • The northwest side of the City of Waukesha Make modest route realignments and reduce peak and off-peak headways on selected routes in Milwaukee County Add weekday and Saturday evening service until 10:00 p.m. in the Cities of Kenosha and Racine	Continue extending fixed-route service to medium-density development and industrial areas in the following areas: • Northern and southern Milwaukee County • The City of New Berlin area in Waukesha County • The eastern portion of the Town of Caledonia and developing areas along IH 94 in eastern Racine County • The Village of Pleasant Prairie and developing areas along IH 94 in eastern Kenosha County Make modest route realignments and reduce peak and off-peak headways on selected routes in Milwaukee County	Continue extending fixed-route service to medium-density development and industrial areas in the following areas: • Northern and southern Milwaukee County • The Villages of Butler, Menomonee Falls, and Sussex and City of Waukesha areas in Waukesha County • The area of IH 94 and CTH K in Racine County • The Pabst Farms development north of IH 94 and east of STH 67 in Waukesha County • The area of IH 94 and STH 83 in Waukesha County • The Germantown, Jackson, Slinger, and Hartford areas in Washington County

Table 49 (continued)

Transit Service Element	Year			
	2000	2007	2010	2020
Local Transit (continued)		Continue existing shared-ride taxi services and expand to new areas as warranted	Continue existing shared-ride taxi services and expand to new areas as warranted	Reduce headways on major routes in Milwaukee County outside express corridors to provide 10-minute peak and 20-minute midday off-peak service Reduce headways on major routes in the Cities of Racine and Kenosha to provide 15-minute peak service Continue existing shared-ride taxi services and expand to new areas as warranted

[a]*All rapid transit routes would provide service on weekdays from 6:00 a.m. until 8:30 a.m. and from 3:30 p.m. until 6:00 p.m. Service would also be provided over selected routes during weekday midday periods. No service would be provided over rapid transit routes on weekday evenings or weekends. Operating headways on rapid routes would be reduced over the planning period and by 2020 range from five to 30 minutes during morning and afternoon peak periods, and from 30 to 60 minutes during the midday period.*

[b]*New express transit services would initially be implemented as peak-period services. By 2020, all express transit routes would provide service on weekdays from 6:00 a.m. until 6:00 p.m. Service would also be provided over selected routes during weekday evenings and on weekends. Operating headways on express routes would range from five to 15 minutes during morning and afternoon peak periods, from 10 to 30 minutes during the weekday midday period, and from 20 to 30 minutes during weekday evenings and on weekends.*

[c]*Headways on new local transit routes would be similar to existing local service headways. Operating headways on existing local transit services would be reduced over the planning period. By 2020, local headways during the morning and afternoon peak periods would range from 10 to 30 minutes in Milwaukee County, 15 to 30 minutes in Kenosha and Racine, and 30 minutes in Waukesha. During off-peak periods, local headways would range from 20 to 60 minutes in Milwaukee County, 30 to 60 minutes in Kenosha and Racine, and 60 minutes in Waukesha.*

Source: SEWRPC.

Table 50

NUMBER AND PERCENT OF ADDITIONAL REVENUE VEHICLE-MILES OF TRANSIT SERVICE IN THE REGION BY SERVICE TYPE AND IMPLEMENTATION SCHEDULE: 2000, 2007, 2010, AND 2020

Transit Service Type	Existing Transit Vehicle-Miles of Revenue Service: 1995	Proposed Incremental Transit Vehicle-Miles of Revenue Service									
		2000		2007		2010		2020		Total	
		Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Rapid	3,800	500	4.6	3,900	35.8	1,600	14.7	4,900	44.9	10,900	100.0
Express ...	5,500	--	--	4,000	25.0	1,000	6.2	11,000	68.8	16,000	100.0
Local	66,100	1,700	9.2	4,300	23.2	2,700	14.6	9,800	53.0	18,500	100.0
Total	63,300	2,200	4.8	12,200	26.9	5,300	11.7	25,700	56.6	45,400	100.0

Source: SEWRPC.

geographically over two or more counties. This is true in that bus rapid transit facilities and services and potential commuter-rail passenger service are proposed in the plan to extend from Milwaukee County into Ozaukee, Washington, and Waukesha Counties and also south along the Lake Michigan shoreline from Milwaukee County through Racine and Kenosha Counties to potential connections with Chicago-oriented commuter-rail passenger service. The potential commuter-rail passenger service extension between Burlington and Antioch, Illinois, would also involve two counties within the Region, Racine and Kenosha.

The proposed Southeastern Wisconsin Regional Transportation Authority, as described earlier in this chapter, would have provided an ideal institutional structure for providing these multi-county rapid transit services. There was, however, little political support evidenced in 1993 among the seven county boards in the Region for the creation of such a regional transportation authority. Consequently, absent a change in that political position among at least several of the county boards concerned and absent a position by the Wisconsin Department of Transportation that it would assume responsibility for the engineering, management, and operation of multi-

county rapid transit services, the only alternative for implementation of the rapid transit elements of the regional transportation plan appears to be through intergovernmental agreements on the part of the counties concerned. Some relatively modest examples of this type of approach to providing transit services that extend across county boundaries include agreements between Milwaukee and Waukesha Counties to extend local Milwaukee County bus routes into eastern Waukesha County and to provide freeway flyer bus services between communities in Waukesha County and the Milwaukee central business district (CBD). Similarly, in the Lake Michigan Shoreline South Corridor, the City of Racine has worked cooperatively with the City of Kenosha and Milwaukee County in providing express bus transit service between Kenosha, Racine, and Milwaukee. Also, Ozaukee County provides bus service between Milwaukee and Ozaukee Counties.

Recent State legislation has made it more difficult for individual communities, as opposed to counties, to provide transit services on an areawide basis.[7] That legislation prohibits a local public transit operator, such as a city, from providing transit services outside its corporate limits without formal agreements between the city and the neighboring local units of government. Any such services provided as of the effective date of that legislation, April 28, 1994, are exempted from this new law.

The issue of the lack of an appropriate institutional structure to provide the engineering, management, and operational capabilities necessary to provide a true rapid transit system in Southeastern Wisconsin must be addressed as the conduct of the several major investment studies attendant to the development of the rapid transit system envisioned in the plan is undertaken. For example, one of the major investment studies pertains to the provision of rapid transit services in the south travel corridor extending from Milwaukee to Racine and Kenosha with a potential interchange with the Chicago-oriented commuter-rail service that currently terminates in Kenosha. This major investment study will have to examine in detail how best to provide rapid transit services in this rapidly urbanizing corridor and, in particular, whether such services should be provided by bus-on-freeway, bus-on-busway, or commuter-rail service. Should that major investment study conclude that bus-on-freeway or bus-on-busway is the appropriate rapid transit alternative for the travel corridor, then the lack of an areawide institutional structure to implement the services is less problematic than if commuter-rail service were to be found to be the preferred alternative. This is because the rapid transit bus service would be provided over either the freeways or over busways attendant to the freeways and because there is an appropriate institutional structure, the Wisconsin Department of Transportation, in place to engineer, manage, and operate all of the fixed-way facilities. The rolling stock and services could be provided through an intergovernmental contract between the three counties concerned. Should that major investment study, however, identify commuter-rail service as the alternative for implementation, then it will be necessary to either assign the responsibilities for engineering, managing, and operating the commuter-rail system to the Wisconsin Department of Transportation or to create a new areawide institutional structure in the form of a regional transit or transportation authority to assume those important functions.

It should be noted that the plan implementation problems relating to institutional structure pertain exclusively to the areawide rapid transit services which are proposed to extend into all seven counties of the Region. These services are identified on the recommended plan maps in Chapter V by red lines, akin to the red lines on the maps which depict the recommended State trunk highway system. The express transit services recommended in the plan are located largely, although not entirely, within the limits of a single county and, accordingly, can be implemented by using the county level of government as the transit institutional structure. The few exceptions to this rule consist of express bus service proposed between Milwaukee and Waukesha Counties and between Racine and Kenosha Counties. Those services could be provided by intergovernmental contracts between the counties concerned. All the recommended potential light-rail express transit services are located within Milwaukee County. Consequently, Milwaukee County is the logical provider of those services.

Given the foregoing, and recognizing that there will be uncertainty at least over the near-term future as to the institutional structure which State and local elected officials determine should be used for providing needed public transit services in Southeastern Wisconsin, it is recommended that the existing counties and municipalities that are public transit operators coordinate the provision of their service utilizing the transit element of the regional transportation plan as the framework for planned future transit service in the Region. It is also recommended that the transit operators, and concerned and affected counties and municipalities, participate in the conduct of the potential transit major investment studies identified later in this chapter.

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[7] *See 1993 Wisconsin Act 279.*

Arterial Streets and Highway System Maintenance and Improvement

The arterial street and highway system envisioned in the recommended plan would consist of 3,612 route-miles of facilities. The plan recommends the construction of 124 route-miles of new facilities within the Region. The plan also recommends the widening or other improvement of 405 route-miles. The plan also calls for pavement resurfacing and bridge and interchange restoration and reconfiguration work necessary to maintain and appropriately modernize the remaining 3,083 route-miles of planned arterial facilities, including, importantly, the Milwaukee-area freeway system.

Jurisdictional Recommendations

Jurisdictional classification is important to arterial street and highway plan implementation. It establishes which level of government, be it State, county, or local, has, or should have, responsibility for the design, construction, maintenance, and operation of each segment of the total street and highway system. Jurisdictional classification is intended to group all streets and highways logically into subsystems under the jurisdiction of a given level of government.

Jurisdictional classification is the first step in implementing arterial street and highway recommendations. Upon completion of the initial regional transportation system plan in 1966, detailed county jurisdictional highway system plans were prepared. These plans were updated as part of the year 2000 regional transportation system plan, completed in 1978, and the year 2010 plan, completed in 1994. The recommended jurisdictional arterial street and highway systems for the seven counties for the year 2020, based upon the extension of the year 2010 plan to the year 2020, are shown on Map 33.

Table 51 sets forth the distribution of planned arterial street and highway mileage among each jurisdictional subsystem within the Region and within each county of the Region. By the year 2020, about 1,167 miles, or about 32 percent of the planned arterial system, are recommended to be classified as State trunk highways, including connecting streets; about 1,585 miles, or 44 percent, are recommended to be classified as county trunk highways; and the remaining 860 miles, or about 24 percent, are recommended to be classified as local arterials. The jurisdictional transfers proposed under the recommended plan in each county are summarized in Tables 52 through 58 and are displayed on Map 34.

It is recommended that the county boards of the seven constituent counties in the Region, upon recommendation of the county highway and transportation committees and in cooperation with the Wisconsin Department of Transportation, seek realignment of the State trunk, county trunk, and local trunk systems to the recommended regional transportation system plan. It is further recommended that the Wisconsin Department of Transportation seek, in cooperation with the seven county boards and appropriate local officials, realignment of the State trunk, county trunk, and local trunk systems consistent with the recommended regional transportation system plan.

It is also recommended that the Commission work with the county jurisdictional highway system planning committees in each county to review and refine the jurisdictional transfer recommendations in the year 2020 regional transportation system plan, following Commission adoption of the year 2020 regional plan.

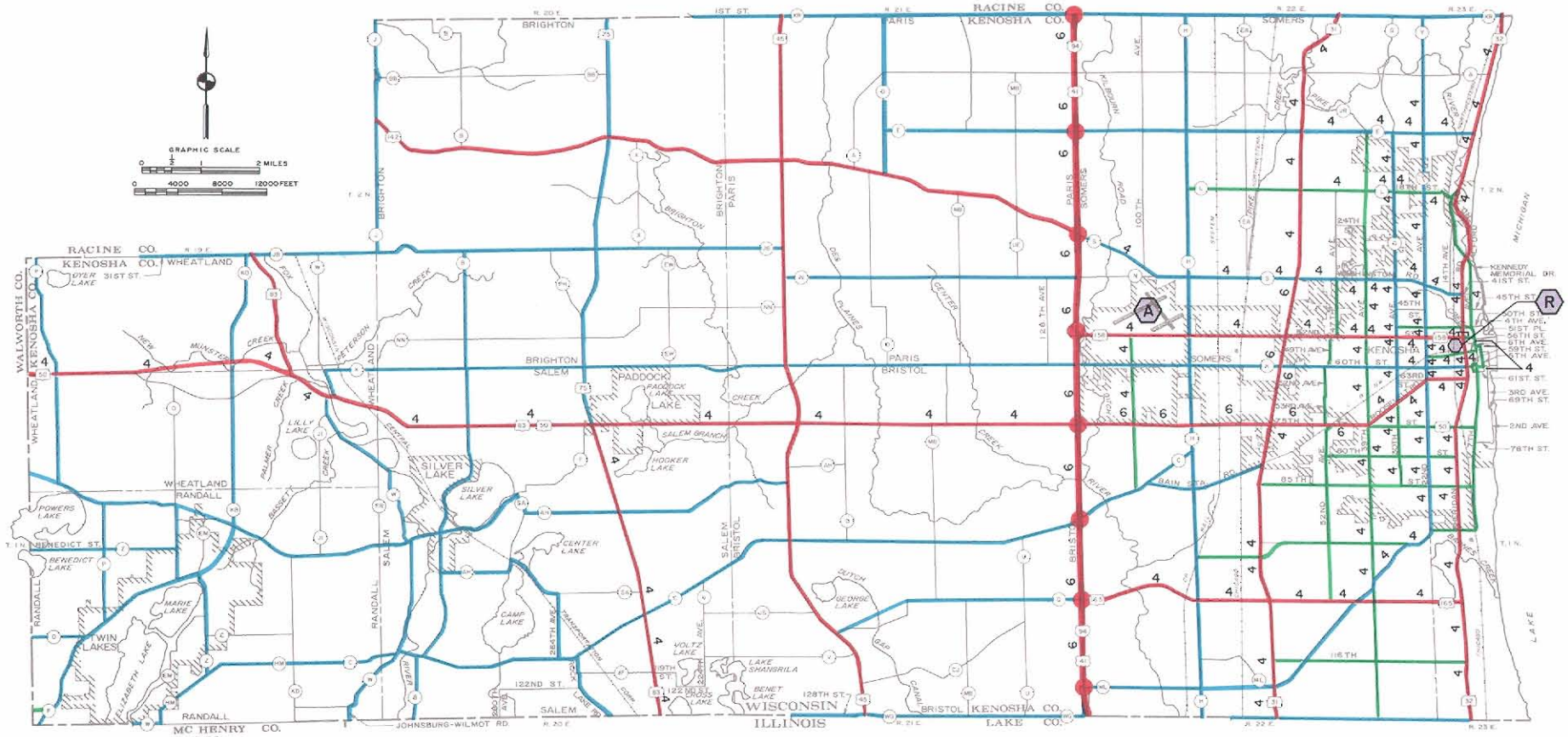
Functional Improvement Recommendations

The plan provides for three types of functional improvement: system expansion, or the construction of new arterial facilities; system improvement, or the widening of facilities to provide significant additional capacity; and system preservation, or the resurfacing and reconstruction necessary to properly maintain and modernize existing arterial facilities. As previously indicated, the plan would provide for the construction of 124 route-miles of new facilities within the Region and the widening or other improvement of 405 route-miles of existing arterial facilities. The plan also calls for pavement resurfacing and bridge and interchange restoration and reconfiguration work necessary to maintain and appropriately modernize the remaining 3,083 route-miles of planned arterial facilities. The planned functional improvements to the regional arterial street and highway system are shown on a county-by-county basis on Map 35 and are summarized in Table 59.

It is recommended that the Wisconsin Department of Transportation act to expand, improve, and maintain, in accordance with the plan recommendations, the arterial street and highway facilities under State jurisdiction. It is also recommended that the county boards of the seven constituent counties in the Region, upon recommendation of their respective county public works, highway, and transportation committees, act to expand, improve, and maintain, in accordance with the plan recommendations, the arterial street and highway facilities under county jurisdiction. It is further recommended that the common councils, village boards, and town boards within the Region, upon recommendation of their respective plan commissions and boards of public works, act to expand, improve, and maintain, in accordance with the plan recommendations, the arterial street and highway facilities under local jurisdiction.

Map 33

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR KENOSHA COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

- A-AIRPORT
- R-PASSENGER RAIL TERMINAL

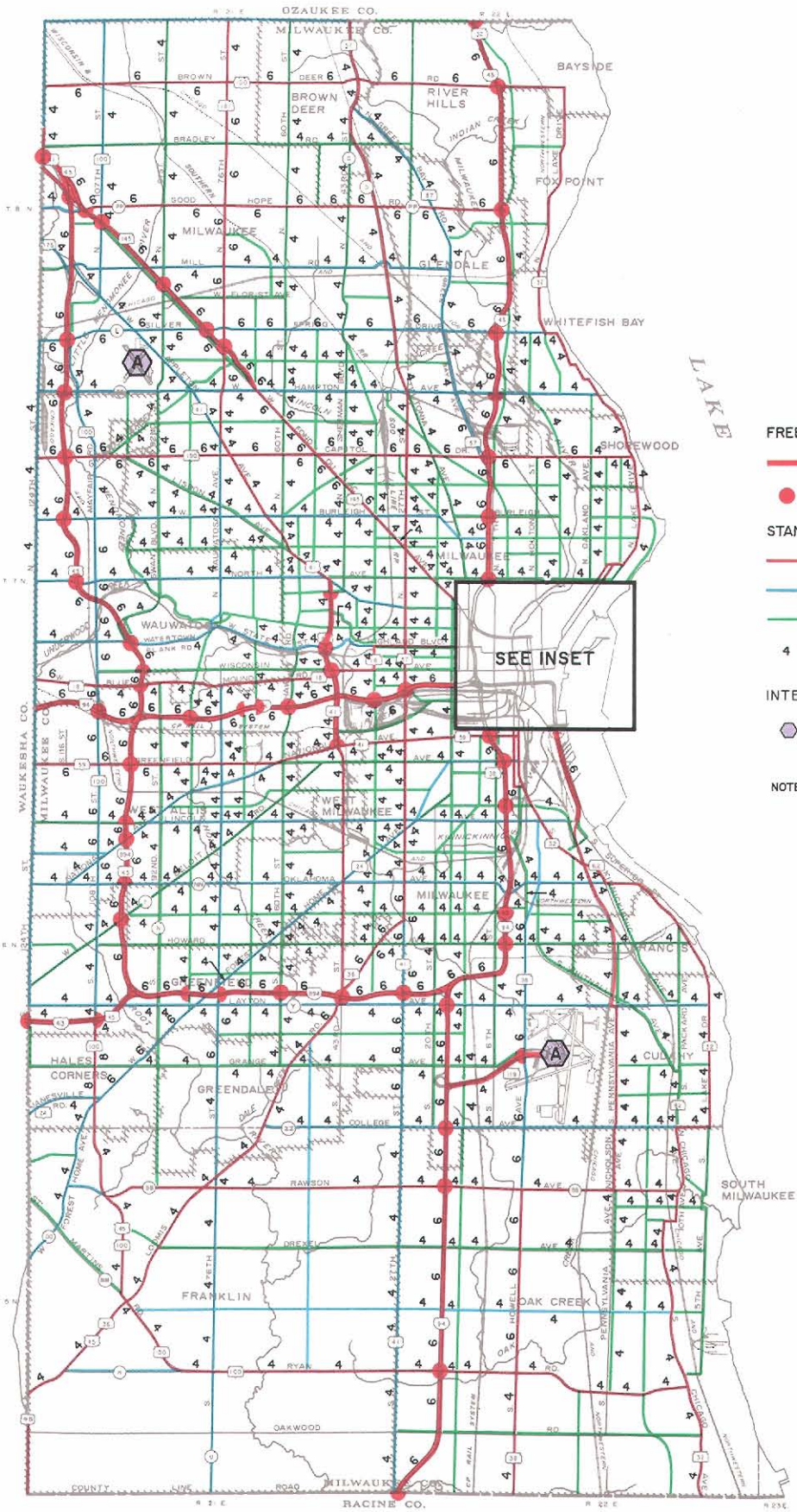
THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP:

1. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG STH 158 FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
2. SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED ALONG CTH K FROM IH 94 TO STH 31 TO ACCOMMODATE ITS ULTIMATE IMPROVEMENT TO SIX TRAVEL LANES.
3. AS IMPROVEMENTS ARE MADE TO IH 94, THE FRONTAGE ROADS ALONG IH 94, AND THE HIGHWAY FACILITIES WHICH INTERCHANGE WITH OR CROSS IH 94, THE ULTIMATE IMPROVEMENT OF IH 94 TO EIGHT TRAVEL LANES SHOULD BE TAKEN INTO CONSIDERATION.
4. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH K, THE ULTIMATE PROVISION OF AN INTERCHANGE WITH CTH K SHOULD BE TAKEN INTO CONSIDERATION.
5. AS URBAN DEVELOPMENT PROCEEDS ON LANDS ABUTTING CTH KR BETWEEN IH 94 AND STH 32, SUFFICIENT RIGHT-OF-WAY SHOULD BE RESERVED FOR THE ULTIMATE IMPROVEMENT OF CTH KR TO FOUR TRAVEL LANES.

The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Kenosha County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Kenosha County may be expected to total 356 miles. About 103 miles, or nearly 29 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 204 miles, or 57 percent, are recommended to be classified as County trunk highways; and the remaining 49 miles, or about 14 percent, are recommended to be classified as local arterials.

Map 33 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- 4 — NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

INTERMODAL TERMINAL

- A-AIRPORT
  B-BUS TERMINAL
  R-PASSENGER RAIL TERMINAL

NOTE: THE WIDENING TO SIX TRAFFIC LANES OF IH 43 BETWEEN BENDER ROAD AND HIGHLAND ROAD IN OZAUKEE COUNTY, IS RECOMMENDED, BUT REQUIRES A MAJOR INVESTMENT STUDY PRIOR TO ITS IMPLEMENTATION.

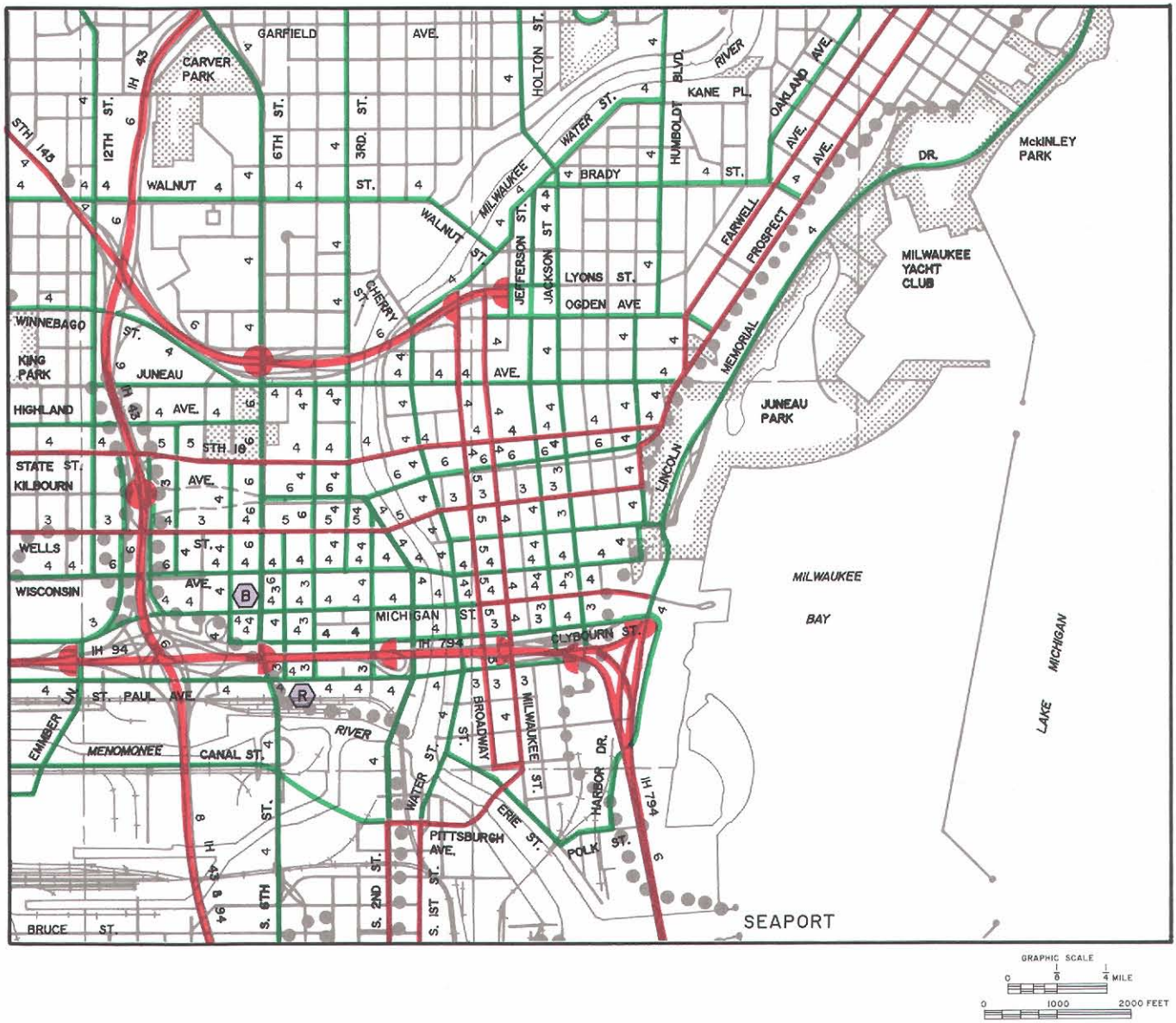
GRAPHIC SCALE

0 1 2 MILES

0 4000 8000 12000 FEET

Map 33 Inset

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR MILWAUKEE COUNTY: 2020



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Milwaukee County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Milwaukee County may be expected to total 797 miles. About 220 miles, or 28 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 184 miles, or 23 percent, are recommended to be classified as County trunk highways; and the remaining 393 miles, or about 49 percent, are recommended to be classified as local arterials.

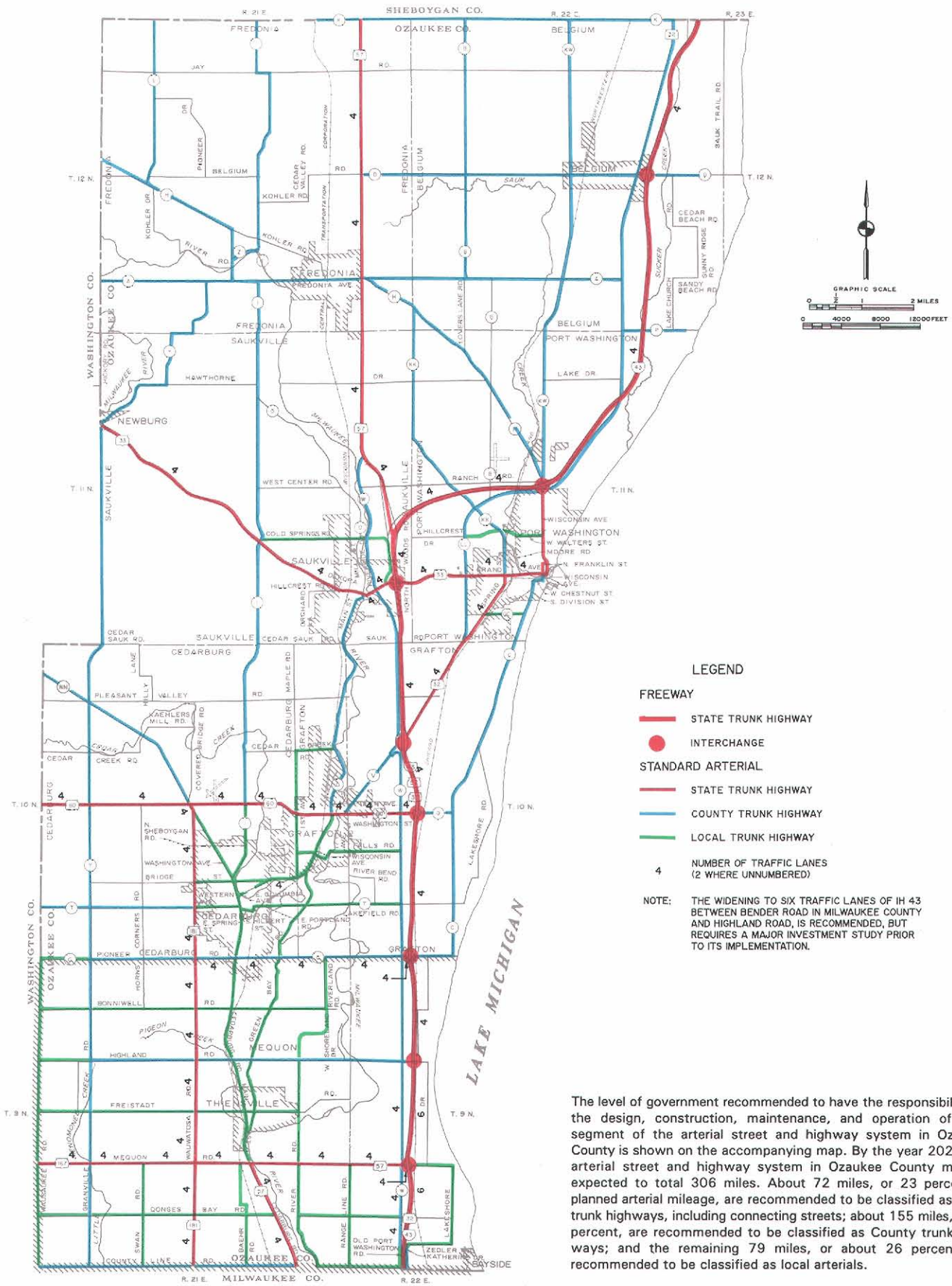
Tables 60 and 61 provide a listing of each functional highway improvement in the year 2020 plan and an anticipated schedule for completion of these improvements.

FUNDING PLAN IMPLEMENTATION

As noted in Chapter V, an analysis of plan implementation costs and of potential revenues for such implementation, the latter based upon current revenue levels and patterns, indicates that an average annual shortfall in revenues over the 23-year period from 1998 through 2020 of about $87 million, expressed in constant 1997 dollars, may be expected. It is recommended that the Commission conduct a study to examine this shortfall and alternative measures Federal and State transportation funds. The study to address this funding deficit. The study should consider as

Map 33 (continued)

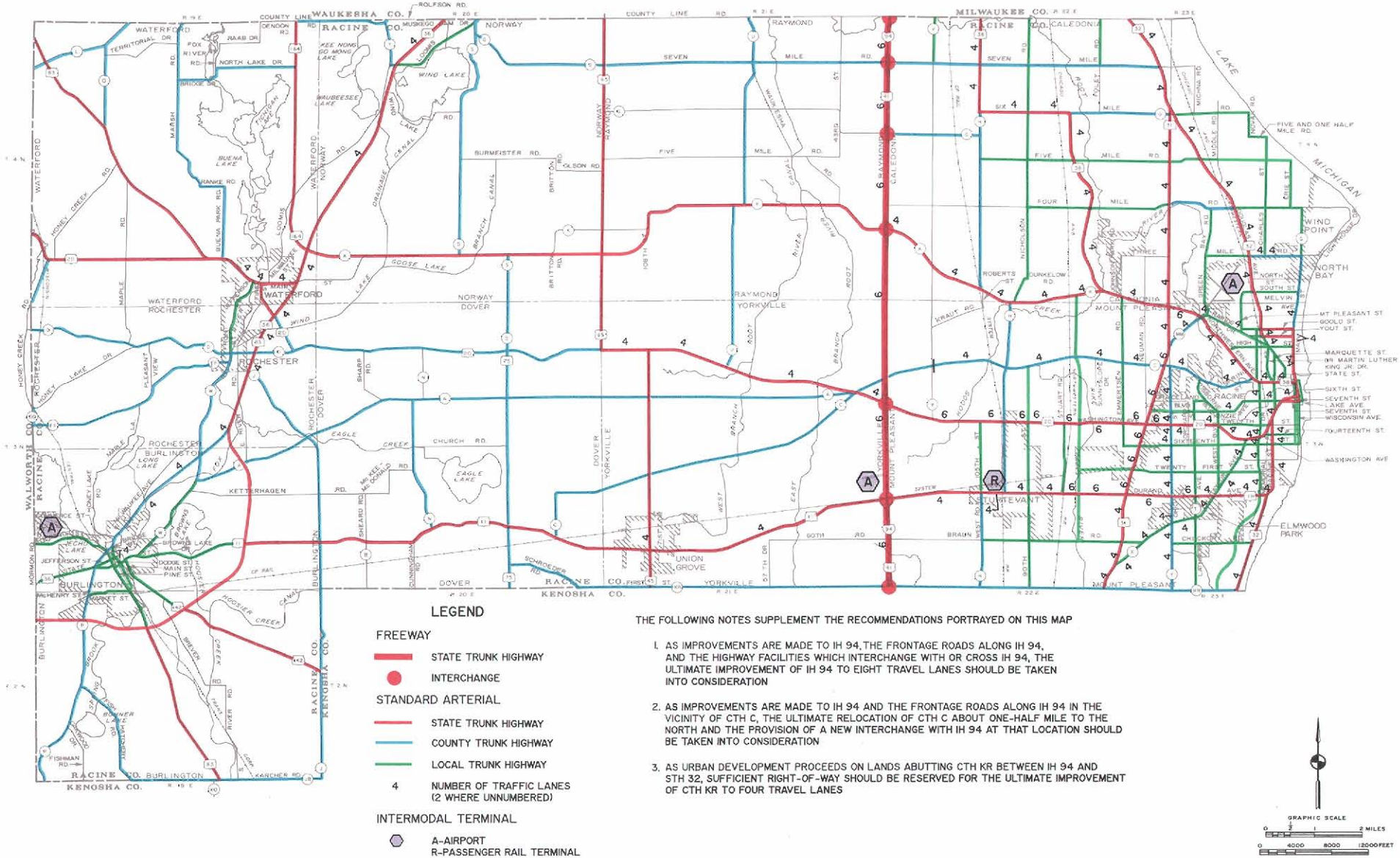
RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR OZAUKEE COUNTY: 2020



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Ozaukee County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Ozaukee County may be expected to total 306 miles. About 72 miles, or 23 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 155 miles, or 51 percent, are recommended to be classified as County trunk highways; and the remaining 79 miles, or about 26 percent, are recommended to be classified as local arterials.

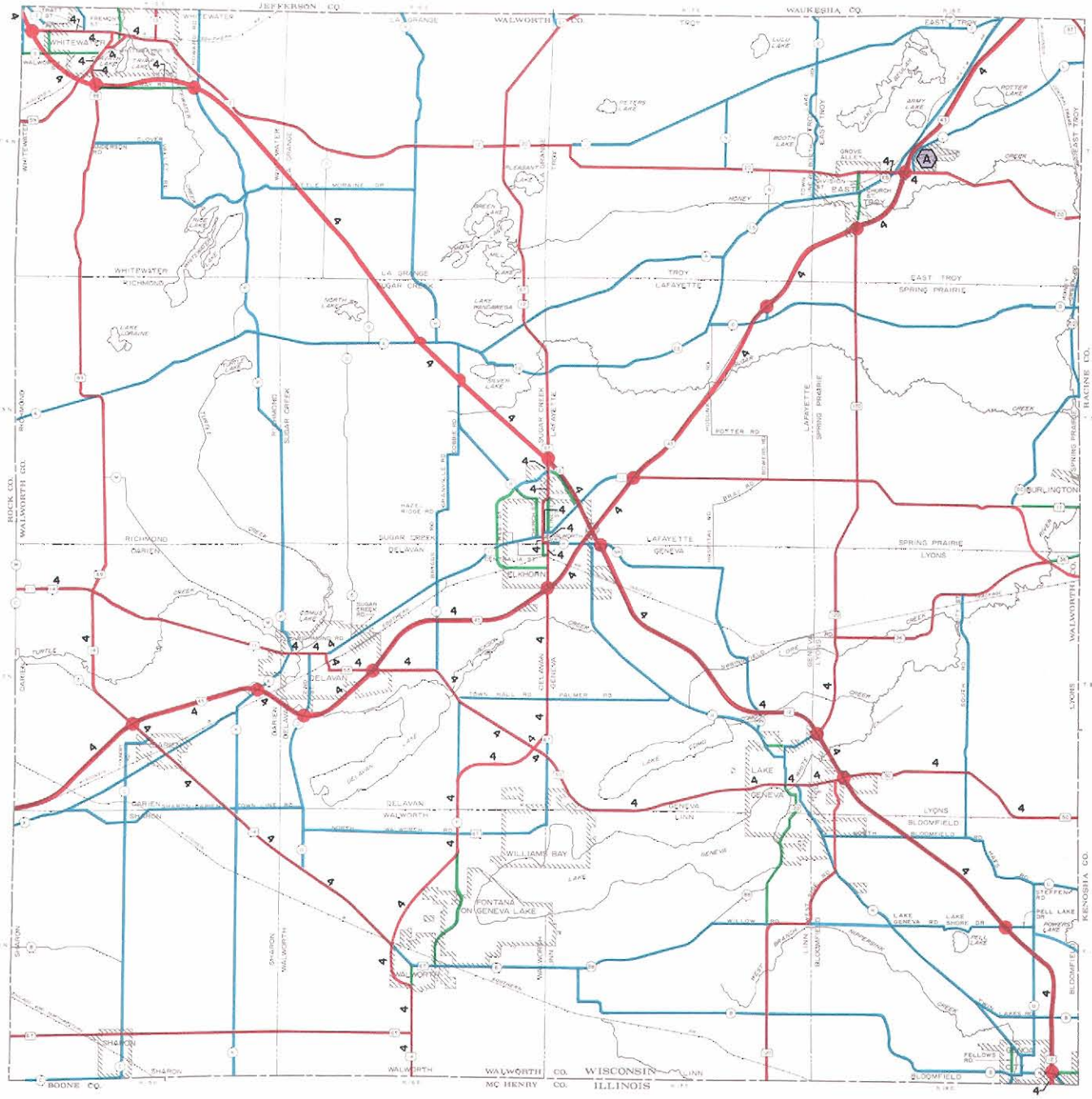
Map 33 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR RACINE COUNTY: 2020



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Racine County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Racine County may be expected to total 426 miles. About 160 miles, or 37 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 156 miles, or 37 percent, are recommended to be classified as County trunk highways; and the remaining 110 miles, or about 26 percent, are recommended to be classified as local arterials.

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WALWORTH COUNTY: 2020



LEGEND

FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY

4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

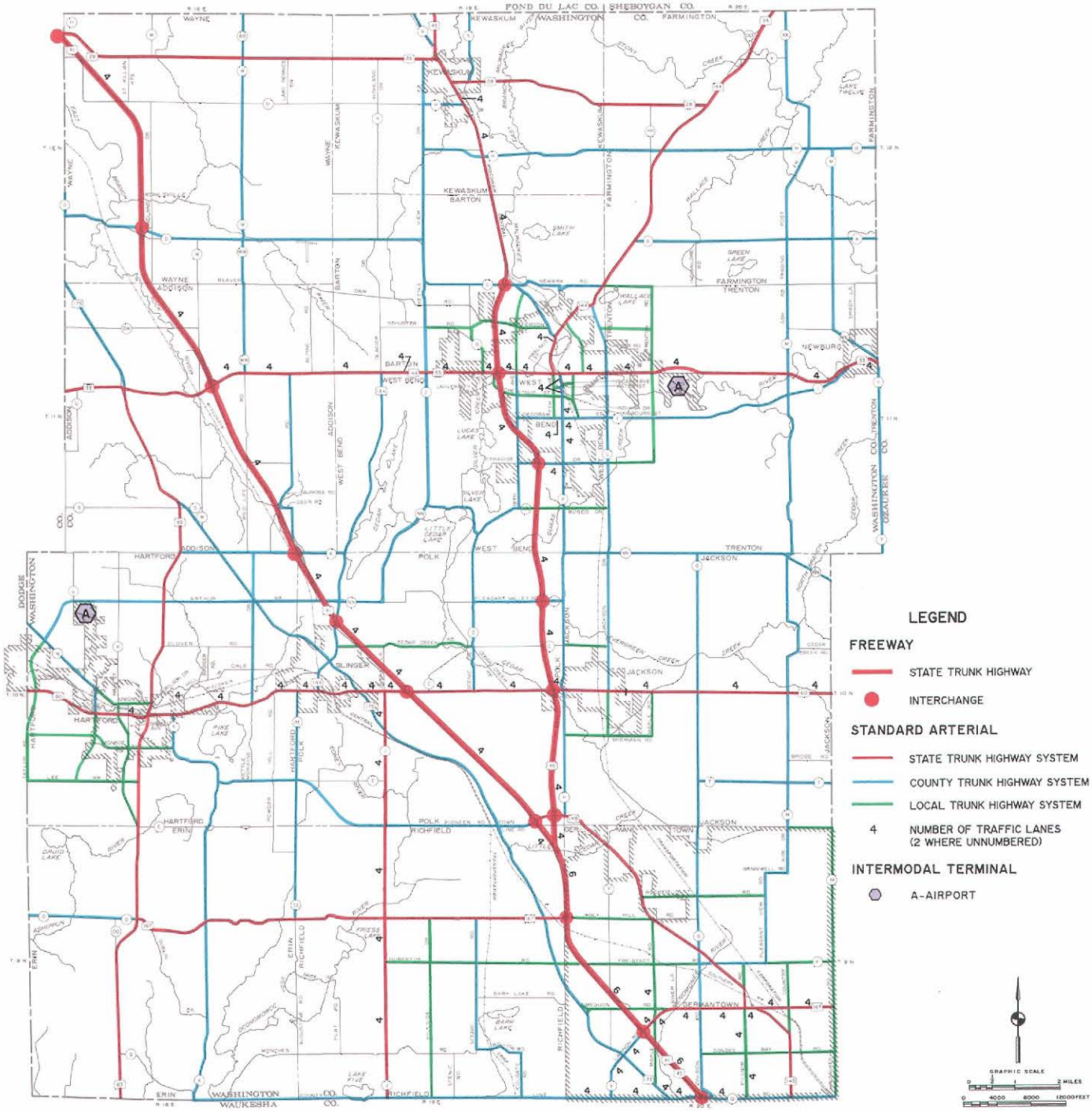
INTERMODAL TERMINAL

- A-AIRPORT

The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Walworth County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Walworth County may be expected to total 482 miles. About 223 miles, or 46 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 239 miles, or 50 percent, are recommended to be classified as County trunk highways; and the remaining 20 miles, or about 4 percent, are recommended to be classified as local arterials.

Map 33 (continued)

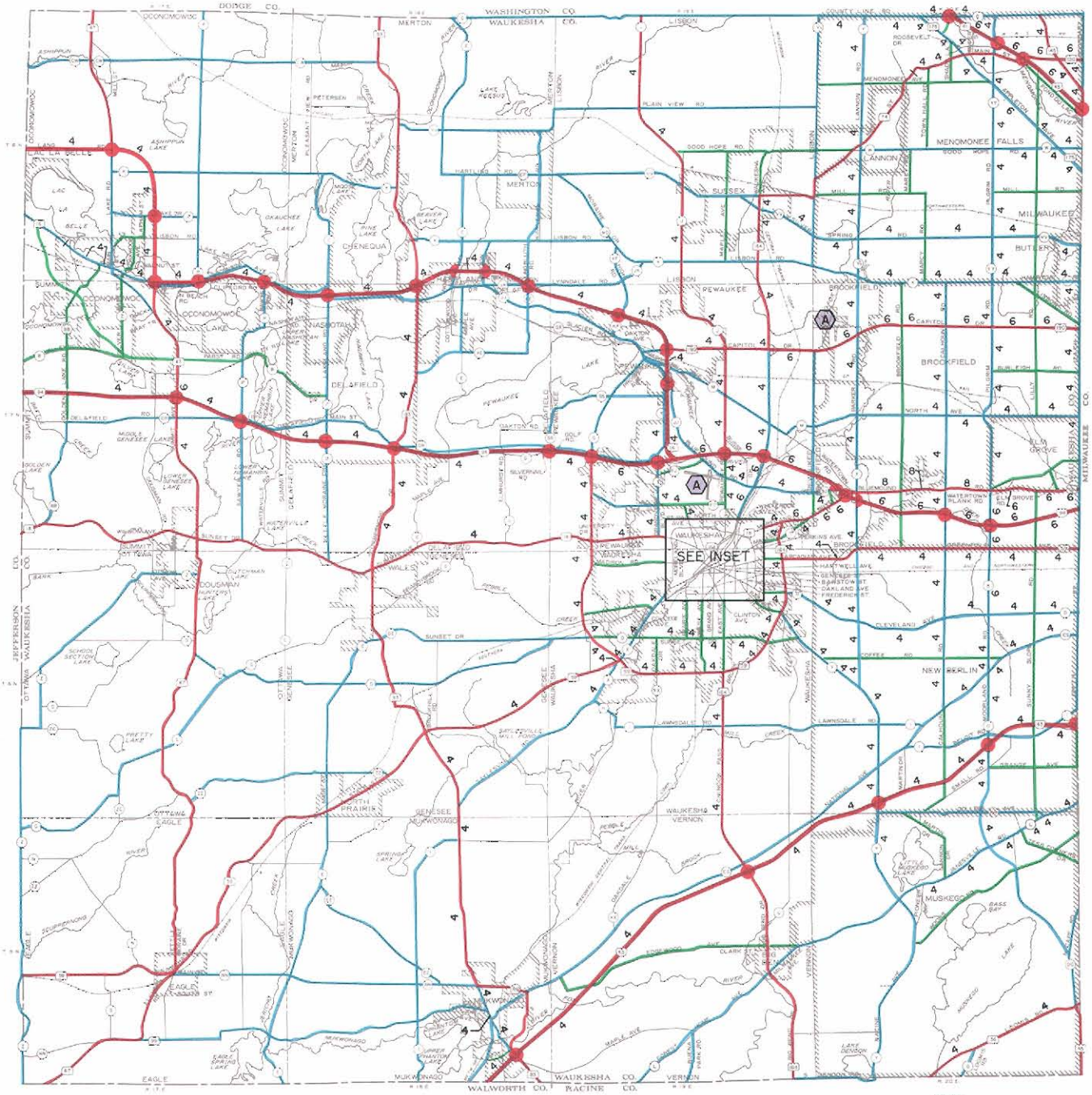
RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WASHINGTON COUNTY: 2020



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Washington County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Washington County may be expected to total 468 miles. About 159 miles, or 34 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 234 miles, or 50 percent, are recommended to be classified as County trunk highways; and the remaining 75 miles, or about 16 percent, are recommended to be classified as local arterials.

Map 33 (continued)

RECOMMENDED JURISDICTIONAL HIGHWAY SYSTEM PLAN FOR WAUKESHA COUNTY: 2020



The level of government recommended to have the responsibility for the design, construction, maintenance, and operation of each segment of the arterial street and highway system in Waukesha County is shown on the accompanying map. By the year 2020, the arterial street and highway system in Waukesha County may be expected to total 777 miles. About 230 miles, or 30 percent of planned arterial mileage, are recommended to be classified as State trunk highways, including connecting streets; about 413 miles, or 53 percent, are recommended to be classified as County trunk highways; and the remaining 134 miles, or about 17 percent, are recommended to be classified as local arterials.

Source: SEWRPC.

Table 51

DISTRIBUTION OF ARTERIAL STREET AND HIGHWAY MILEAGE WITHIN THE REGION BY COUNTY AND JURISDICTIONAL CLASSIFICATION: 2020 RECOMMENDED PLAN

County	State		County		Local		Total	
	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total	Miles	Percent of Total
Kenosha	103	8.8	204	12.8	49	5.7	356	9.8
Milwaukee	220	18.9	184	11.6	393	45.7	797	22.1
Ozaukee	72	6.2	155	9.8	79	9.2	306	8.5
Racine	160	13.7	156	9.8	110	12.8	426	11.8
Walworth	223	19.1	239	15.1	20	2.3	482	13.3
Washington	159	13.6	234	14.8	75	8.7	468	13.0
Waukesha	230	19.7	413	26.1	134	15.6	777	21.5
Total	1,167	100.0	1,585	100.0	860	100.0	3,612	100.0

Source: SEWRPC.

well whether the Region is receiving a fair share of should address funding for public transit, as well as arterial highways and for county and municipal arterial streets and highways, as well as State trunk highways. If the study determines not to recommend means to secure the needed funding, it should propose a restructuring of the plan to reduce costs to approximate the projected available revenues.

DETAILED IMPLEMENTATION PLANNING

More detailed planning will be required prior to the programming of certain elements of the recommended regional transportation system plan. This includes the conduct of work identified under the Federal Intermodal Surface Transportation Efficiency Act as "major investment studies," as well as of the more detailed State, county, or local planning efforts required to refine the basic transit and highway improvement recommendations contained in the plan.

Major Investment Studies

Under Federal law, a major investment study (MIS) is required as an integral part of the implementation of major highway and transit improvement projects recommended in the system plan. While the regional transportation system plan may identify a need for such a project in a travel corridor, a major investment study is required to confirm that need and to provide the basis for more detailed consideration of alternatives before a final decision on the major transportation investment concerned is made. The Federal Highway and Transit Administrations have promulgated rules and guidance under which major investment studies are to be conducted. These studies are intended to focus on travel corridors.

Under the Federal rules, the following types of transportation facility improvements may be included on a provisional basis in a regional transportation system plan, but are subject to further study and confirmation in a major investment study:

1. New freeways.[8]
2. The addition of through travel lanes to existing freeways for a distance of one mile or more.
3. New expressways.[9]
4. The addition of through travel lanes to existing expressways for a distance of one mile or more.
5. Any type of fixed-guideway transit facility, including busways, light-rail lines, heavy-rail lines, and commuter-rail lines.

[8] *A freeway is defined as a fully grade-separated, divided highway with access permitted only at interchanges with other arterial facilities.*

[9] *An expressway is defined as a partially grade-separated, partially divided highway with access permitted only at interchanges and intersections with other arterial facilities.*

Table 52

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN KENOSHA COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Brighton	State trunk highway	County trunk highway	STH 75	North Town line	South Town line
	Local nonarterial	County trunk highway	1st Street	224th Avenue	East Town line
	County trunk highway	Local nonarterial	CTH B	North Town line	STH 142
	County trunk highway	Local nonarterial	CTH X	STH 142	CTH JB
	County trunk highway	Local nonarterial	CTH BB	CTH J	STH 75
	County trunk highway	Local nonarterial	CTH EW	CTH JB	CTH K
	County trunk highway	Local nonarterial	CTH NN	CTH K	East Town line
	County trunk highway	Local nonarterial	CTH PH	CTH JB	STH 75
Town of Bristol	Local trunk arterial	County trunk highway	128th Street	A point about 1.0 mile west of USH 45	USH 45
	New facility	County trunk highway	CTH Q extension	184th Avenue extended	104th Street
	County trunk highway	Local nonarterial	CTH D	CTH K	CTH C
	County trunk highway	Local nonarterial	CTH U	CTH C	South Town line
	County trunk highway	Local nonarterial	CTH V	West Town line	USH 45
	County trunk highway	Local nonarterial	CTH AH	USH 45	CTH D
	County trunk highway	Local nonarterial	CTH CJ	USH 45	CTH U
	County trunk highway	Local nonarterial	CTH JS	West Town line	USH 45
	County trunk highway	Local nonarterial	CTH MB	North Town line	South Town line
Town of Paris	Local nonarterial	County trunk arterial	1st Street	West Town line	USH 45
	County trunk highway	Local nonarterial	CTH A	STH 142	IH 94
	County trunk highway	Local nonarterial	CTH D	STH 142	CTH K
	County trunk highway	Local nonarterial	CTH MB	CTH A	CTH K
	County trunk highway	Local nonarterial	CTH NN	West Town line	USH 45
	County trunk highway	Local nonarterial	CTH UE	STH 142	CTH N
Town of Randall	Local trunk highway	County trunk highway	Benedict Street	West Town line	CTH P
	New facility	County trunk highway	CTH KD extension	CTH EM	CTH F
	New facility	County trunk highway	CTH F extension	CTH O	CTH F
	County trunk highway	Local nonarterial	CTH F	CTH O	CTH F extension
	County trunk highway	Local nonarterial	CTH O	CTH F extension	North Town line
	County trunk highway	Local nonarterial	CTH W	CTH HM	322nd Avenue
	County trunk highway	Local nonarterial	CTH EM	CTH W	CTH Z
	County trunk highway	Local nonarterial	CTH EM	CTH F	CTH KD extension
	County trunk highway	Local nonarterial	CTH FR	CTH F	North Town line
	County trunk highway	Local nonarterial	CTH JI	CTH F	North Town line
	County trunk highway	Local nonarterial	CTH KD	CTH W	CTH F
Town of Salem	State trunk highway	County trunk highway	STH 75	North Town line	STH 50-STH 83
	Local trunk highway	County trunk arterial	Rock Lake Road	South Town line	CTH JF
	Local nonarterial	County trunk arterial	264th Avenue	CTH C	CTH SA
	County trunk arterial	Local nonarterial	CTH F	CTH SA	STH 50
	County trunk arterial	Local nonarterial	CTH F	CTH AH extension	CTH SA
	County trunk arterial	Local nonarterial	CTH V	CTH C	East Town line
	County trunk arterial	Local nonarterial	CTH AH	97th Street	89th Street
	County trunk arterial	Local nonarterial	CTH FR	CTH F	CTH W
	County trunk arterial	Local nonarterial	CTH JF	Rock Lake Road	STH 83
	County trunk arterial	Local nonarterial	CTH JS	CTH V	East Town line
	County trunk arterial	Local nonarterial	CTH SA	264th Avenue	STH 83
	County trunk arterial	Local nonarterial	CTH SA	CTH F	CTH AH
Town of Somers	County trunk highway	Local trunk highway	CTH L	CTH H	CTH G
	County trunk arterial	Local nonarterial	CTH A	IH 94	STH 32
	County trunk highway	Local nonarterial	CTH EA	CTH KR	STH 142
	County trunk highway	Local nonarterial	CTH G	CTH E	CTH KR
	County trunk highway	Local nonarterial	CTH N	IH 94	CTH S
	County trunk highway	Local nonarterial	CTH JR	STH 31	CTH E
Town of Wheatland	Local nonarterial	County trunk highway	Karcher Road	Fish Hatchery Road	CTH KD
	County trunk highway	Local nonarterial	CTH O	South Town line	STH 50
	County trunk highway	Local nonarterial	CTH W	CTH K	CTH JB
	County trunk highway	Local nonarterial	CTH FR	South Town line	CTH W
	County trunk highway	Local nonarterial	CTH JI	South Town line	CTH W

Table 52 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Village of Pleasant Prairie	Local trunk highway	County trunk highway	Bain Station Road	CTH C	STH 31
	Local trunk highway	County trunk highway	128th Street	A point about 0.4 mile west of STH 31	STH 32
	New facility	County trunk highway	122nd Street extension	CTH H	CTH ML
	County trunk highway	Local trunk highway	CTH EZ	128th Street	CTH ML
	County trunk highway	Local trunk highway	CTH EZ	CTH ML	North corporate limits
	New facility	Local trunk highway	51st Avenue extension	STH 165	93rd Street
	County trunk highway	Local nonarterial	CTH ML	CTH H	122nd Street extension
City of Kenosha	Local trunk highway	County trunk highway	Washington Road	39th Avenue	STH 32
	Local trunk highway	County trunk highway	22nd Avenue	South corporate limits	North corporate limits
	Local trunk highway	County trunk highway	30th Avenue	Roosevelt Road	Washington Road
	Local trunk highway	County trunk highway	60th Street	West corporate limits	STH 32
	New facility	Local trunk highway	85th Street extension	39th Avenue	30th Avenue

Source: SEWRPC.

Within Southeastern Wisconsin, the Federal rules governing the conduct of major investment studies apply only to the six-county Milwaukee Transportation Management Area (TMA) defined by the U. S. Department of Transportation. That area, which excludes Walworth County, is coterminous with the six-county "severe" ozone nonattainment area for air quality management designated by the U. S. Environmental Protection Agency.

The recommended regional transportation system plan recognizes the potential for 11 major highway or transit facilities that are provisionally included in the plan. For some facilities, initial feasibility studies may first be undertaken to evaluate the project potential further before proceeding to the more expensive and time-consuming major investment study. Where the project potential is confirmed, a major investment study will be conducted by the Wisconsin Department of Transportation or the Regional Planning Commission, in cooperation with all interested parties, and will evaluate all feasible technologies. Thereafter, the regional plan will be amended to specifically include the project proposed by the major investment study, as well as the financial provisions necessary for its development and operation.

As each major investment study is completed, it is recommended that appropriate consideration be given to establishing a transit corridor overlay zoning district and attendant regulations. Such an ordinance would be intended to be adopted cooperatively by the affected municipalities along whatever rapid transit lines ultimately may be constructed and would be designed to help ensure the proper development and redevelopment of areas near transit stops and stations.

The studies regarding the potential 11 major highway or transit facilities provisionally included in the plan include the following:

1. Current IH 94 WisDOT East-West Travel Corridor Study

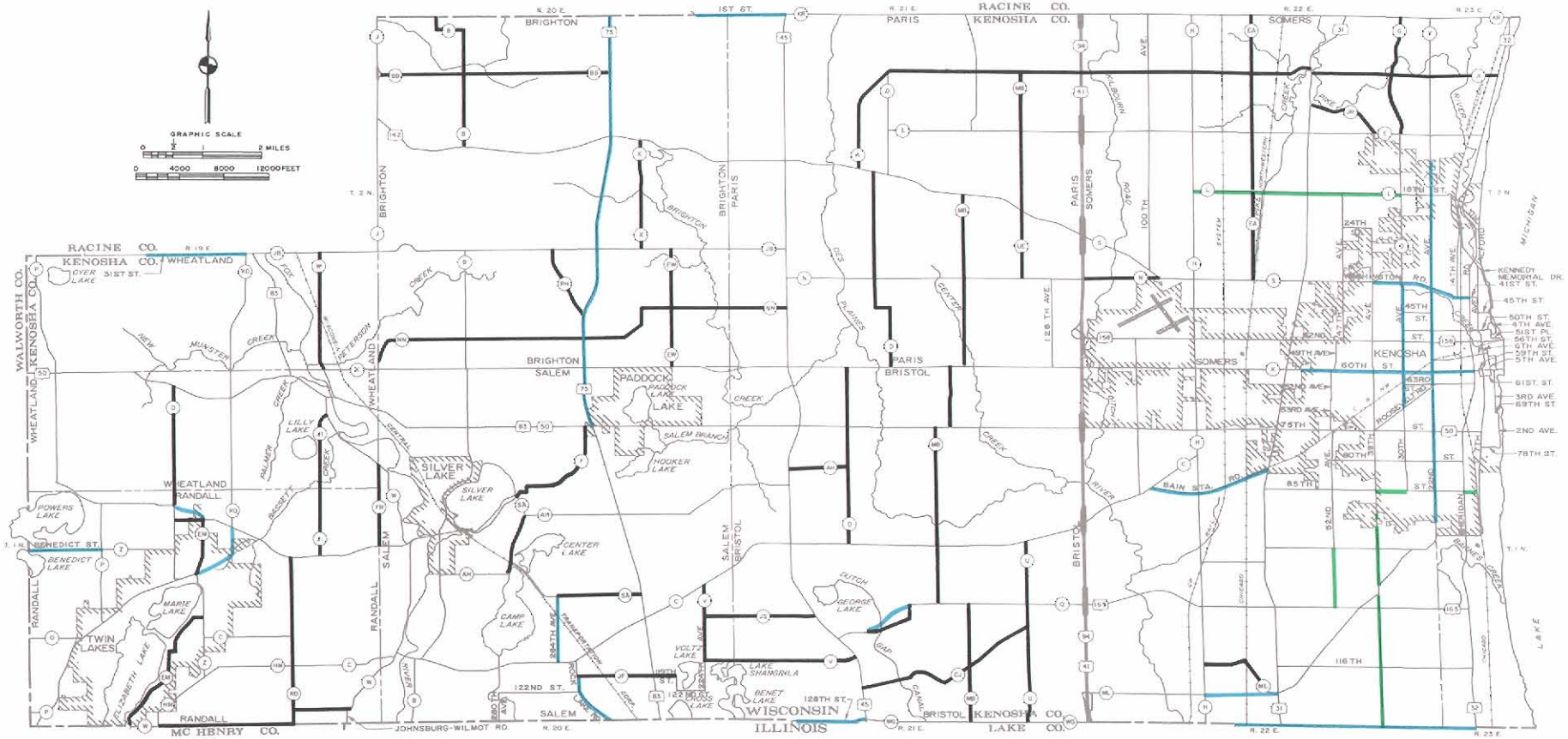
   A corridor study sponsored by the Wisconsin Department of Transportation was initiated in 1992, and was under way at the time of the completion of the year 2010 regional transportation system plan in 1994. The study remains under way in 1997 upon extension of the regional transportation plan to 2020. In May 1997, the Wisconsin Department of Transportation recommended a "locally preferred alternative" which was endorsed by the Milwaukee and Waukesha County Boards and Executives as a basis for the preliminary engineering necessary to complete an environmental impact statement. The locally preferred alternative included the following (see Map 36):

   a. Reconstruction of the Marquette Interchange with operational and safety improvements. The reconstruction is to occur substantially within the existing interchange footprint to limit right-of-way acquisition.

   b. Reconstruction and modernization of the East-West Freeway between STH 164 and the Marquette Interchange, including consideration of elimination of land drops at interchanges, provision of adequate merging and diverging lane lengths, provision of auxiliary lanes, provision of adequate shoulders and lateral clear-

Map 34

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO KENOSHA COUNTY



LEGEND

TRANSFERS TO:

NONE	STATE TRUNK HIGHWAY SYSTEM
	COUNTY TRUNK HIGHWAY SYSTEM
	LOCAL TRUNK HIGHWAY SYSTEM
	LOCAL (NONARTERIAL) SYSTEM

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

The recommended changes in jurisdictional responsibility for arterial streets and highways in Kenosha County are shown on the accompanying map. In 1995, the State trunk highway system in Kenosha County totaled 119 miles, the County trunk highway system totaled 140 miles, and the local arterial system totaled 59 miles. By the year 2020, through the jurisdictional transfers of those facilities shown on the accompanying map and listed in Table 52, the State trunk highway system would total 103 miles, the County trunk highway system would total 204 miles, and the local arterial system would total 49 miles.

Table 53

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN MILWAUKEE COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Village of Bayside	County trunk highway	Local trunk highway	Port Washington Road	Ozaukee County line	South corporate limits
Village of Brown Deer	County trunk highway	State trunk highway	CTH D (Teutonia Avenue)	STH 57	South corporate limits
	State trunk highway	County trunk highway	STH 57 (Green Bay Road)	STH 57	South corporate limits
	County trunk highway	Local trunk highway	CTH G (Sherman Boulevard)	Green Bay Road	South corporate limits
Village of Fox Point	County trunk highway	Local trunk highway	Port Washington Road	North corporate limits	South corporate limits
Village of Greendale	Local trunk highway	County trunk highway	51st Street	North corporate limits	South corporate limits
Village of Hales Corners	State trunk highway	County trunk highway	STH 24 (Janesville Road)	Waukesha County line	Forest Home Avenue
	State trunk highway	County trunk highway	STH 24 (Forest Home Avenue)	STH 100	East corporate limits
Village of River Hills	State trunk highway	County trunk highway	STH 57 (Green Bay Road)	Bradley Road	South corporate limits
Village of West Milwaukee	Local trunk highway	County trunk highway	Lincoln Avenue	West corporate limits	East corporate limits
Village of Whitefish Bay	Local trunk highway	County trunk highway	Silver Spring Drive	West corporate limits	STH 32
	Local trunk highway	County trunk highway	Hampton Avenue	West corporate limits	STH 32
City of Cudahy	Local trunk highway	County trunk highway	Layton Avenue	STH 62	STH 32 (Lake Drive)
City of Franklin	State trunk highway	County trunk highway	27th Street	North corporate limits	Racine County line
	County trunk highway	State trunk highway	Rawson Avenue	STH 100	East corporate limits
	County trunk highway	Local nonarterial	CTH J (North Cape Road)	Waukesha County line	Forest Home Avenue
	County trunk highway	Local nonarterial	CTH K (Crystal Ridge Lane)	Rawson Avenue	76th Street
	County trunk highway	Local trunk highway	CTH MM (St. Martins Road)	CTH J	STH 100
	Local trunk highway	County trunk highway	Puetz Road	STH 100	76th Street
	New facility	County trunk highway	Puetz Road extension	CTH U	Hunting Park Drive
	Local trunk highway	County trunk highway	Puetz Road	Hunting Park Drive	East corporate limits
	Local trunk highway	Local nonarterial	Hunting Park Drive	51st Street	Puetz Road
	Local trunk highway	County trunk highway	51st Street	North corporate limits	STH 100 (Ryan Road)
	County trunk highway	Local nonarterial	CTH A	Milwaukee County House of Correction	STH 100 (Ryan Road)
City of Glendale	State trunk highway	County trunk highway	STH 57 (Green Bay Road)	Range Line Road	South corporate limits
	County trunk highway	Local trunk highway	Port Washington Road	North corporate limits	Daphne Road
	State trunk highway	Local trunk highway	Port Washington Road	Daphne Road	Hampton Avenue
	Local trunk highway	County trunk highway	Mill Road	West corporate limits	STH 57
	Local trunk highway	County trunk highway	Silver Spring Drive	West corporate limits	East corporate limits
	Local trunk highway	County trunk highway	Hampton Avenue	West corporate limits	East corporate limits
City of Greenfield	Local trunk highway	County trunk highway	124th Street	North corporate limits	Layton Avenue
	State trunk highway	County trunk highway	STH 100	North corporate limits	IH 43
	State trunk highway	County trunk highway	27th Street	Layton Avenue	South corporate limits
	State trunk highway	County trunk highway	Layton Avenue	Waukesha County line	STH 100
	County trunk highway	Local trunk highway	92nd Street	North corporate limits	Forest Home Avenue
	State trunk highway	County trunk highway	STH 24 (Forest Home Avenue)	South corporate limits	North corporate limits
	Local trunk highway	County trunk highway	51st Street	STH 36 (Loomis Road)	South corporate limits
	County trunk highway	Local trunk highway	CTH T (Beloit Road)	Waukesha County line	East corporate limits
City of Milwaukee	Local trunk highway	County trunk highway	Boundary Road	County Line Road	STH 100
	New facility	County trunk highway	Boundary Road extension	STH 100	STH 145
	Local trunk highway	County trunk highway	107th Street	STH 100	USH 41
	State trunk highway	County trunk highway	76th Street	USH 41	South corporate limits
	County trunk highway	State trunk highway	CTH D (Teutonia Avenue)	North corporate limits	Good Hope Road
	Local trunk highway	State trunk highway	CTH D (Teutonia Avenue)	Good Hope Road	Hampton Avenue
	State trunk highway	County trunk highway	STH 57 (Green Bay Road)	Silver Spring Drive	Capitol Drive
	State trunk highway	County trunk highway	STH 175 (Appleton Avenue)	Waukesha County line	USH 45
	State trunk highway	County trunk highway	USH 41 (Appleton Avenue)	USH 45	76th Street
	Local trunk highway	County trunk highway	Lisbon Avenue	North Avenue	27th Street
	Local trunk highway	County trunk highway	Silver Spring Drive	68th Street	East corporate limits
	Local trunk highway	County trunk highway	Hampton Avenue	60th Street	East corporate limits
	Local trunk highway	County trunk highway	Burleigh Street	West corporate limits	Hopkins Street
	Local trunk highway	County trunk highway	Hopkins Street	Burleigh Street	Locust Street
	Local trunk highway	County trunk highway	Locust Street	Hopkins Street	IH 43
	Local trunk highway	County trunk highway	North Avenue	West corporate limits	USH 41
	Local trunk highway	County trunk highway	State Street	West corporate limits	35th Street
	State trunk highway	County trunk highway	Lovers Lane	Silver Spring Drive	South corporate limits
	Local trunk highway	State trunk highway	27th Street	Teutonia Avenue	Highland Boulevard
	Local trunk highway	County trunk highway	Lincoln Avenue	West corporate limits	Bay Street
	Local trunk highway	County trunk highway	Forest Home Avenue	27th Street	Lincoln Avenue
	Local trunk highway	County trunk highway	Muskego Avenue	Lincoln Avenue	Greenfield Avenue
	New facility	Local trunk highway	Canal Street extension	6th Street	Water Street
	New facility	Local trunk highway	Canal Street extension	USH 41	27th Street
	Local trunk highway	County trunk highway	Greenfield Avenue	16th Street	1st Street
	Local trunk highway	County trunk highway	Howell Avenue	Lincoln Avenue	STH 38
	State trunk highway	County trunk highway	STH 38 (Howell Avenue)	Howell Avenue	South corporate limits

Table 53 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
City of Milwaukee (continued)	Local trunk highway	County trunk highway	Oklahoma Avenue	West corporate limits	Kinnickinnic Avenue
	State trunk highway	Local trunk highway	STH 38 (Chase Avenue)	6th Street	Howell Avenue
	State trunk highway	Local trunk highway	6th Street	National Avenue	Chase Avenue
	State trunk highway	County trunk highway	27th Street	Layton Avenue	South corporate limits
	Local trunk highway	County trunk highway	Layton Avenue	West corporate limits	East corporate limits
	County trunk highway	Local trunk highway	92nd Street	Oklahoma Avenue	Howard Avenue
	Local nonarterial	County trunk highway	76th Street	Blue Mound Road	South corporate limits
	State trunk highway	Local trunk highway	84th Street	Glenview Avenue	Schlinger Avenue
	Local trunk highway	Local nonarterial	Becher Street	Muskego Avenue	Forest Home Avenue
	State trunk highway	County trunk highway	STH 24 (Forest Home Avenue)	South corporate limits	Lincoln Avenue
	County trunk highway	Local trunk highway	CTH T (Beloit Road)	West corporate limits	North corporate limits
	County trunk highway	Local trunk highway	CTH G (Sherman Boulevard)	North corporate limits	Mill Road
	State trunk highway	Local trunk highway	STH 57 (20th Street)	Capitol Drive	North Avenue
	State trunk highway	Local nonarterial	STH 57 (20th Street)	North Avenue	Highland Boulevard
	Local trunk highway	County trunk highway	Good Hope Road	Waukesha County line	107th Street
	Local trunk highway	County trunk highway	County Line Road	Waukesha County line	East corporate limits
	Local trunk highway	County trunk highway	124th Street	Silver Spring Drive	South corporate limits
City of Oak Creek	State trunk highway	County trunk highway	STH 38 (Howell Avenue)	North corporate limits	Rawson Avenue
	State trunk highway	County trunk highway	27th Street	North corporate limits	Racine County line
	State trunk highway	Local trunk highway	13th Street	North corporate limits	Racine County line
	County trunk highway	State trunk highway	CTH BB (Rawson Avenue)	West corporate limits	East corporate limits
	Local trunk highway	County trunk highway	Puetz Road	West corporate limits	STH 32
	New facility	Local trunk highway	10th Avenue/15th Avenue extension	STH 100	Racine County line
City of St. Francis	--	--	--	--	--
City of South Milwaukee	Local trunk highway	State trunk highway	Rawson Avenue	West corporate limits	STH 32
	Local trunk highway	State trunk highway	Nicholson Avenue	North corporate limits	Rawson Avenue
City of Wauwatosa	State trunk highway	County trunk highway	76th Street (Wauwatosa Avenue)	North corporate limits	Menomonee River Parkway
	Local trunk highway	County trunk highway	Burleigh Street	Waukesha County line	East corporate limits
	Local trunk highway	County trunk highway	North Avenue	Waukesha County line	East corporate limits
	Local trunk highway	County trunk highway	Watertown Plank Road	Waukesha County line	Glenview Avenue
	State trunk highway	County trunk highway	Glenview Avenue/Harwood Avenue/Harmonee Avenue	Watertown Plank Road	Menomonee River Parkway
	Local trunk highway	County trunk highway	State Street	Harmonee Avenue	East corporate limits
	Local trunk highway	County trunk highway	124th Street	North corporate limits	Knoll Road
	New facility	County trunk highway	124th Street extension	Knoll Road	Blue Mound Road
	Local trunk highway	County trunk highway	124th Street	Blue Mound Road	South corporate limits
	State trunk highway	County trunk highway	STH 100	North corporate limits	South corporate limits
	State trunk highway	Local trunk highway	Glenview Avenue	Blue Mound Road	South corporate limits
	State trunk highway	Local trunk highway	Glenview Avenue	Harwood Avenue	84th Street
City of West Allis	New facility	County trunk highway	124th Street	North corporate limits	Greenfield Avenue
	Local trunk highway	County trunk highway	124th Street	Greenfield Avenue	South corporate limits
	State trunk highway	County trunk highway	STH 100	North corporate limits	South corporate limits
	Local trunk highway	County trunk highway	National Avenue	Waukesha County line	Greenfield Avenue
	Local nonarterial	County trunk highway	Cleveland Avenue	Waukesha County line	National Avenue
	Local trunk highway	County trunk highway	Lincoln Avenue	National Avenue	East corporate limits
	Local trunk highway	County trunk highway	76th Street	Greenfield Avenue	South corporate limits
	Local nonarterial	County trunk highway	76th Street	North corporate limits	Greenfield Avenue
	County trunk highway	Local trunk highway	CTH T (Beloit Road)	South corporate limits	Oklahoma Avenue

Source: SEWRPC.

ance, improvement of horizontal and vertical curvature, and conversion of left-hand on- and off-ramps to the right-hand side of the freeway.

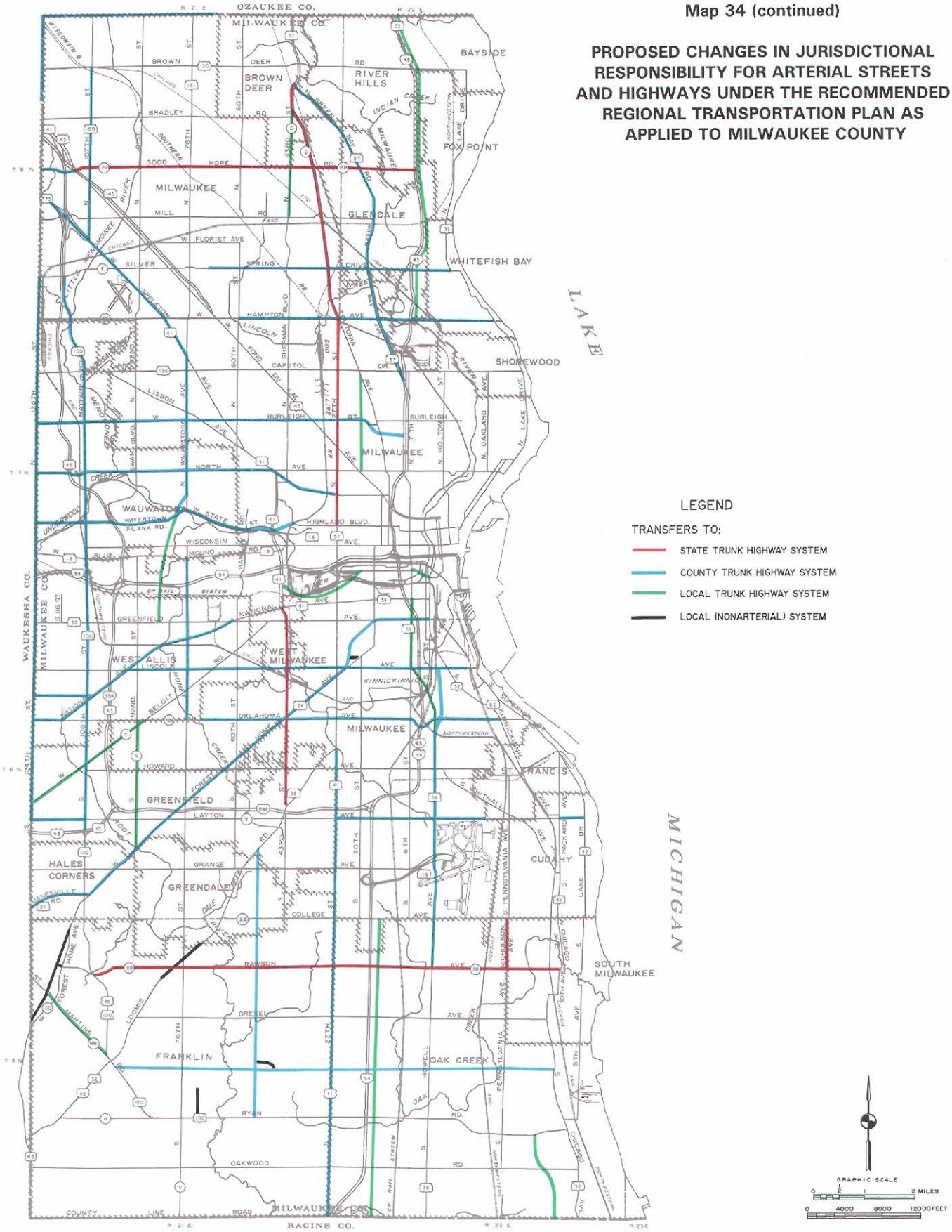
c. Special lanes for buses and carpools on IH 94 between STH 164 and crossing IH 43 south of the Marquette Interchange.

d. Light rail between the Milwaukee County Institutions Grounds and the Milwaukee central business district, with an extension to the northwest to N. 60th Street and W. Capitol Drive.

e. Expansion of bus service throughout Milwaukee and Waukesha Counties by about 20 percent.

Map 34 (continued)

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO MILWAUKEE COUNTY



The recommended changes in jurisdictional responsibility for arterial streets and highways in Milwaukee County are shown on the accompanying map. In 1995, the State trunk highway system in Milwaukee County totaled 251 miles, the County trunk highway system totaled 82 miles, and the local arterial system totaled 442 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 53, the State trunk highway system would total 220 miles, the County trunk highway system would total 184 miles, and the local arterial system would total 393 miles.

Table 54

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN OZAUKEE COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Belgium	County trunk highway	Local nonarterial	CTH B	South Town line	CTH A
Town of Cedarburg	New facility	Local trunk highway	Maple Road extension	Cedar Creek Road	Village of Grafton
	County trunk highway	Local trunk highway	CTH C	Granville Road	CTH M
	County trunk highway	Local trunk highway	CTH I	City of Cedarburg	STH 60
	County trunk highway	Local trunk highway	CTH T	East Town line	City of Cedarburg
	County trunk highway	Local trunk highway	CTH T	CTH N	City of Cedarburg
Town of Fredonia	County trunk highway	Local nonarterial	CTH I	CTH Z	CTH H
Town of Grafton	New facility	Local trunk highway	Maple Road extension	Cedar Creek Road	Village of Grafton
	County trunk highway	Local trunk highway	CTH T	West Town line	CTH W
Town of Port Washington	Local trunk highway	County trunk highway	Spring Street	City of Port Washington	CTH KK
	New facility	Local trunk highway	Walters Street extension	City of Port Washington	CTH LL
	County trunk highway	Local trunk highway	CTH CC	CTH C	STH 32
	County trunk highway	Local nonarterial	CTH B	CTH LL	North Town line
	County trunk highway	Local nonarterial	CTH KK	Spring Street	City of Port Washington
Town of Saukville	New facility	Local trunk highway	Cold Springs Road extension	CTH O	Village of Saukville
	County trunk highway	Local nonarterial	CTH O	CTH I	Village of Saukville
Village of Saukville	New facility	Local trunk highway	Cold Springs Road	STH 33	North corporate limits
	County trunk highway	Local nonarterial	CTH O	STH 33	North corporate limits
City of Cedarburg	Local trunk highway	County trunk highway	Pioneer Road	STH 57	East corporate limits
	County trunk highway	Local trunk highway	CTH I	STH 143	North corporate limits
	County trunk highway	Local trunk highway	CTH T	Webster Avenue	Evergreen Boulevard
City of Mequon	Local trunk highway	County trunk highway	County Line Road	Wasaukee Road	STH 57
	Local trunk highway	County trunk highway	Granville Road	County Line Road	Freistadt Road
	New facility	County trunk highway	Granville Road extension	Freistadt Road	Highland Road
	Local trunk highway	County trunk highway	Granville Road	Highland Road	Pioneer Road
	Local trunk highway	County trunk highway	Highland Road	Granville Road	IH 43
	Local trunk highway	County trunk highway	Pioneer Road	Granville Road	Davis Road
	Local trunk highway	County trunk highway	Pioneer Road	Klugs Road	IH 43
	County trunk highway	Local trunk highway	Pioneer Road	Wasaukee Road	Granville Road
	New facility	Local trunk highway	River Road	Highland Road	Bonniwell Road
	New facility	Local trunk highway	River Road	Grace Avenue	Freistadt Road
City of Port Washington	Local trunk highway	State trunk highway	Wisconsin Street	Jackson Street	Grand Avenue
	Local trunk highway	State trunk highway	Swing Street	Franklin Street	Jackson Street
	Local trunk highway	State trunk highway	Jackson Street	Swing Street	Franklin Street
	Local trunk highway	County trunk highway	Chestnut Street	Division Street	Wisconsin Street
	Local trunk highway	County trunk highway	Division Street	South corporate limits	Chestnut Street
	Local trunk highway	County trunk highway	Spring Street	STH 33	CTH KK
	Local trunk highway	County trunk highway	Wisconsin Street	Chestnut Street	Grand Avenue
	New facility	Local trunk highway	Walters Street extension	Grant Street	Town of Port Washington
	County trunk highway	Local trunk highway	CTH CC	STH 32	CTH C
	County trunk highway	Local nonarterial	CTH KK	Spring Street	North corporate limits

Source: SEWRPC.

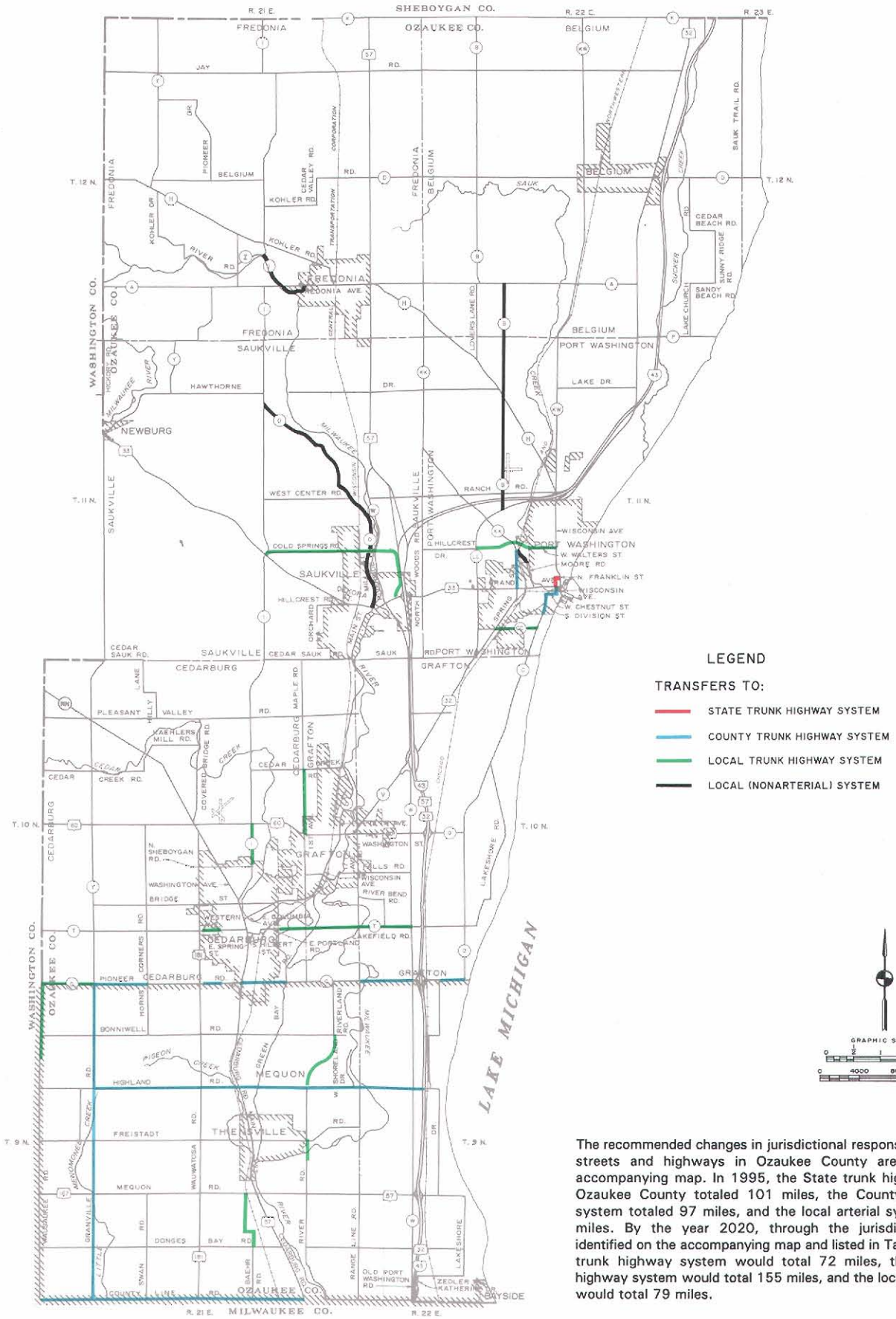
In September 1997, the Wisconsin Department of Transportation indicated in a letter to Governor Tommy G. Thompson that no State or Federal funds would be spent on preliminary engineering of light rail or special lanes through June 1999. As of December 3, 1997, the Department had not presented a strategy and attendant schedule for the completion of the preliminary engineering and environmental documentation for any of the elements of the "locally preferred alternative."

Like the year 2010 plan, the year 2020 plan recommends the following with respect to the several elements examined in the East-West Corridor Study:

- Reconstruction of the Marquette Interchange with Operational and Safety Improvements
  The Marquette Interchange is part of the recommended regional freeway and arterial street system. The regional plan recommends preservation of

Map 34 (continued)

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO OZAUKEE COUNTY



The recommended changes in jurisdictional responsibility for arterial streets and highways in Ozaukee County are shown on the accompanying map. In 1995, the State trunk highway system in Ozaukee County totaled 101 miles, the County trunk highway system totaled 97 miles, and the local arterial system totaled 91 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 54, the State trunk highway system would total 72 miles, the County trunk highway system would total 155 miles, and the local arterial system would total 79 miles.

Table 55

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN RACINE COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Burlington	New facility	State trunk highway	Burlington bypass	Town of Rochester	STH 36
	Local nonarterial	County trunk highway	Fish Hatchery Road	CTH P	Karcher Road
	Local nonarterial	County trunk highway	Karcher Road	Fish Hatchery Road	CTH KD
	State trunk highway	County trunk highway	STH 36/STH 83	North Town line	City of Burlington
	County trunk highway	Local trunk highway	CTH W	City of Burlington	CTH A
	State trunk highway	Local trunk highway	STH 11	City of Burlington	Burlington bypass
	State trunk highway	Local trunk highway	STH 11	Spring Valley Road	City of Burlington
	State trunk highway	Local trunk highway	STH 142	City of Burlington	Bypass route
	State trunk highway	Local trunk highway	STH 36	West Town line	City of Burlington
	State trunk highway	Local trunk highway	STH 83	City of Burlington	Bypass route
Town of Caledonia	County trunk highway	State trunk highway	CTH K	IH 94	STH 38
	Local trunk highway	County trunk highway	Seven Mile Road	West Town line	STH 32
	Local trunk highway	County trunk highway	Four Mile Road	STH 32	STH 31
	Local trunk highway	County trunk highway	Three Mile Road	STH 32	CTH G
	New facility	Local trunk highway	Five Mile Road extension	Middle Road	Five Mile Road
	New facility	Local trunk highway	Five Mile Road extension	Charles Street	Erie Street
	County trunk highway	Local trunk highway	CTH G	STH 32	Three Mile Road
	County trunk highway	Local trunk highway	CTH V	North Town line	Seven Mile Road
	County trunk highway	Local nonarterial	CTH V	Seven Mile Road	Town of Mt. Pleasant
Town of Dover	State trunk highway	County trunk highway	STH 75	STH 20	South Town line
	Local trunk highway	County trunk highway	Schroeder Road	STH 75	East Town line
	State trunk highway	County trunk highway	STH 20	West Town line	East Town line
	County trunk highway	Local nonarterial	CTH B	STH 11	South Town line
	County trunk highway	Local nonarterial	CTH N	STH 20	CTH A
Town of Mt. Pleasant	County trunk highway	State trunk highway	CTH K	Kraut Road	North Town line
	New facility	County trunk highway	CTH MM realignment	West of STH 38	STH 38
	County trunk highway	Local nonarterial	CTH V	Town of Caledonia	STH 20
	Local trunk highway	County trunk highway	Ohio Street	CTH C	City of Racine
	New facility	Local trunk highway	21st Street	Oakes Road extension	City of Racine
	County trunk highway	Local trunk highway	CTH X	STH 31	CTH T
	New facility	Local trunk highway	S. Memorial Drive	CTH KR	Chicory Road
	New facility	Local trunk highway	Oakes Road extension	Oakes Road	Braun Road
	New facility	Local trunk highway	Oakes Road extension	Spring Street	STH 20
	New facility	Local trunk highway	Rapids Court extension	Rapids Drive	STH 38
Town of Norway	County trunk highway	State trunk highway	CTH K	West Town line	Britton Road
	New facility	State trunk highway	CTH K extension	Britton Road	USH 45
	Local nonarterial	County trunk highway	Denoon Road	West Town line	CTH Y
	County trunk highway	Local nonarterial	CTH K	Apple Road	East Town line
Town of Raymond	County trunk highway	State trunk highway	CTH K	108th Street	IH 94
	New facility	State trunk highway	CTH K extension	108th Street	USH 45
	Local trunk highway	County trunk highway	Seven Mile Road	East Town line	West Town line
	County trunk highway	Local nonarterial	CTH G	USH 45	IH 94
	County trunk highway	Local nonarterial	CTH K	108th Street	West Town line
Town of Rochester	New facility	State trunk highway	Burlington bypass	STH 36/STH 83	Town of Burlington
	State trunk highway	County trunk highway	STH 20	STH 36/STH 83	East Town line
	State trunk highway	County trunk highway	STH 36/STH 83	Burlington bypass	South Town line
Town of Waterford	County trunk highway	State trunk highway	CTH K	STH 36	East Town line
	Local nonarterial	County trunk highway	Bridge Drive	Marsh Road	Fox River Road
	Local nonarterial	County trunk highway	Buena Park Road	Ranke Road	STH 20
	Local nonarterial	County trunk highway	Denoon Road	STH 164	Town of Norway
	Local nonarterial	County trunk highway	Fox River Road	Bridge Drive	North Lake Drive
	Local trunk highway	County trunk highway	Honey Creek Road	West Town line	STH 20
	Local nonarterial	County trunk highway	Marsh Road	North Town line	Ranke Road
	Local nonarterial	County trunk highway	North Lake Drive	Fox River Road	STH 164
	Local nonarterial	County trunk highway	Ranke Road	Marsh Road	Buena Park Road
Town of Yorkville	Local trunk highway	County trunk highway	1st Street	West Town line	USH 45
Village of Elmwood Park	County trunk highway	Local trunk highway	CTH T	North corporate limits	South corporate limits
Village of Rochester	County trunk highway	Local trunk highway	CTH W (Front Street)	Main Street-CTH D	North corporate limits
	County trunk highway	Local nonarterial	CTH J	STH 36/STH 83	CTH D
Village of Waterford	Local trunk highway	State trunk highway	Main Street	First Street	East corporate limits
	County trunk highway	Local trunk highway	CTH W	Main Street	South corporate limits
Village of Wind Point	County trunk highway	Local trunk highway	CTH G	Four Mile Road	Three Mile Road

Table 55 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
City of Burlington	Local trunk highway	County trunk highway	McHenry Street	STH 36	South corporate limits
	State trunk highway	County trunk highway	STH 36/STH 83	North corporate limits	McHenry Street
	State trunk highway	Local trunk highway	STH 11	East corporate limits	West corporate limits
	State trunk highway	Local trunk highway	STH 142	STH 11	South corporate limits
	State trunk highway	Local trunk highway	STH 36	West corporate limits	McHenry Street
	State trunk highway	Local trunk highway	STH 83	Milwaukee Avenue	South corporate limits
City of Racine	Local trunk highway	State trunk highway	Douglas Avenue	Yout Street	Gould Street
	Local trunk highway	State trunk highway	Yout Street	Douglas Avenue	Main Street
	Local trunk highway	County trunk highway	Main Street	Gould Street	North corporate limits
	Local trunk highway	County trunk highway	Spring Street	CTH C	STH 38
	Local trunk highway	County trunk highway	Three Mile Road	STH 32	CTH G
	New facility	Local trunk highway	21st Street	West corporate limits	STH 31
	County trunk highway	Local trunk highway	CTH T	STH 11	South corporate limits
	County trunk highway	Local trunk highway	CTH X	STH 11	South corporate limits
	New facility	Local trunk highway	Rapids Court extension	Rapids Drive	STH 38

Source: SEWRPC.

this interchange, with construction as needed and modernization to current design standards. The degree of modernization to be accomplished is to be established in preliminary engineering. No further amendment of the regional plan is required prior to implementation of this interchange reconstruction project.

- Reconstruction of the IH 94 Freeway with Modernization to Current Design Standards
  The IH 94 Freeway is part of the recommended regional freeway and arterial street system. The regional plan recommends preservation of this segment of freeway, with reconstruction as needed and modernization to current design standards. The degree of modernization to be accomplished is to be established in preliminary engineering. No further amendment of the regional plan is required prior to implementation of this freeway reconstruction project unless the preliminary engineering work effort results in a recommendation either to provide special lanes at the time of the freeway reconstruction project or to reserve right-of-way for the potential future construction of such lanes.

- Light Rail and Special Bus and Carpool Lanes
  The regional plan acknowledges consideration of light-rail and special bus and carpool lane facilities in the East-West Corridor Study as a basis for providing a higher level of service than express bus service on surface arterial streets and rapid bus service on freeways in mixed traffic. Inclusion of either or both of these facilities in the regional plan, together with a recommendation for implementation, would require formal amendment of the regional plan by the Commission, upon a recommendation by the Wisconsin Department of Transportation and the concurrence of the appropriate public transit implementing units of government.

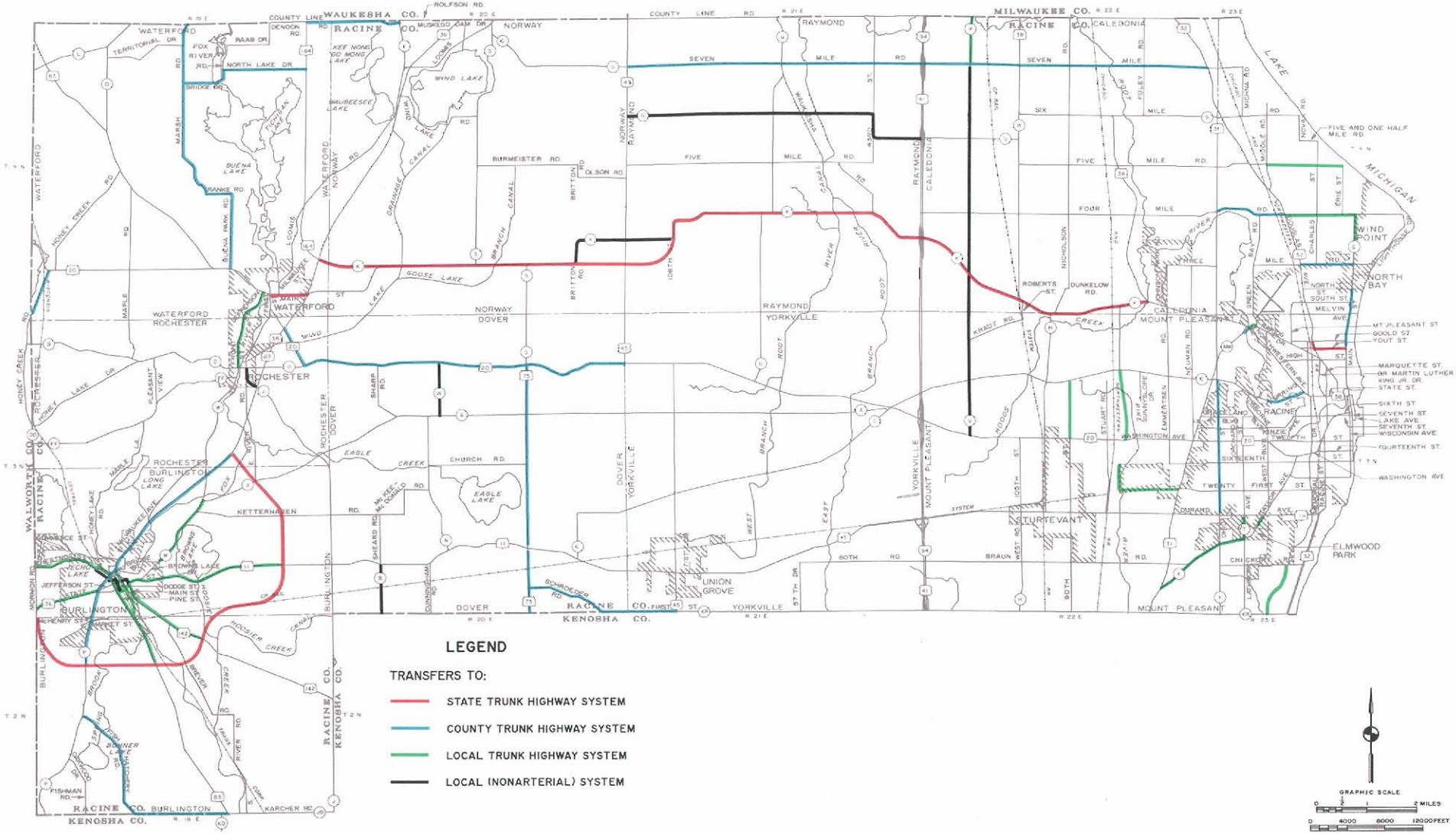
- Expanded Bus Service within the East-West Corridor and throughout Milwaukee and Waukesha Counties
  The regional plan explicitly recommends this expansion of bus service. The bus service expansion proposed in the East-West Corridor Study is consistent with, and is based upon, the recommended bus service expansion set forth in the regional plan. No further amendment of the regional plan is required prior to implementation of these services.

2. North Travel Corridor Major Investment Study
   A major investment study will be required for proposed facilities in the north travel corridor extending from the Milwaukee CBD to the Saukville-Port Washington area of Ozaukee County. The following major transportation facilities have been identified in the recommended regional transportation system plan as potential facilities for further evaluation in the proposed north travel corridor study (see Map 37):

   a. The widening of the IH 43 Freeway from four to six lanes from W. Bender Road in the City of Glendale to Highland Road in the City of Mequon, a distance of about eight miles (recommended in the regional plan but requiring a major investment study prior to implementation).

Map 34 (continued)

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO RACINE COUNTY



The recommended changes in jurisdictional responsibility for arterial streets and highways in Racine County are shown on the accompanying map. In 1995, the State trunk highway system in Racine County totaled 159 miles, the County trunk highway system totaled about 125 miles, and the local arterial system totaled 66 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 55, the State trunk highway system would total 160 miles, the County trunk highway system would total 156 miles, and the local arterial system would total 110 miles.

Table 56

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN WALWORTH COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Bloomfield	New facility	State trunk highway	New facility	Town Line Road	West Town line
	Local trunk highway	County trunk highway	N. Bloomfield Road	CTH H	Hafs Road
	Local nonarterial	County trunk highway	Clover Road	Lake Geneva Road	Lake Shore Drive
	Local trunk highway	County trunk highway	Darling Road	CTH H	Twin Lakes Road
	Local trunk highway	County trunk highway	Hafs Road	N. Bloomfield Road	CTH U
	Local trunk highway	County trunk highway	Lake Geneva Road	CTH H	Clover Road
	Local trunk highway	County trunk highway	Lake Shore Drive	Clover Road	Orchid Drive
	Local trunk highway	County trunk highway	Orchid Drive	Lake Shore Drive	Pell Lake Drive
	Local trunk highway	County trunk highway	Pell Lake Drive	Orchid Drive	CTH U
	Local trunk highway	County trunk highway	Powers Lake Road	CTH U	East Town line
	Local trunk highway	County trunk highway	South Road	N. Bloomfield Road	North Town line
	Local nonarterial	County trunk highway	Twin Lakes Road	Darling Road	CTH U
	New facility	County trunk highway	New facility	West Side Road	CTH H
Town of Darien	Local trunk highway	County trunk highway	Darien-Sharon Town Line Road	CTH X	East Town line
	Local nonarterial	County trunk highway	Foundry Road	CTH X	New facility
	New facility	County trunk highway	Foundry Road extension	Foundry Road	Village of Darien
	County trunk highway	Local nonarterial	CTH C	USH 14	North Town line
	County trunk highway	Local nonarterial	CTH M	City of Delavan	North Town line
Town of Delavan	County trunk highway	State trunk highway	CTH F	Bailey's Road	South Town line
	Local nonarterial	State trunk highway	Bailey's Road	CTH F	New facility
	New facility	State trunk highway	Bailey's Road extension	Bailey's Road	STH 67
	State trunk highway	County trunk highway	STH 11	City of Delavan	City of Elkhorn
	State trunk highway	County trunk highway	STH 67	New facility	Village of Williams Bay
	Local nonarterial	County trunk highway	Briggs Road	North Town line	STH 11
	Local trunk highway	County trunk highway	Darien-Sharon Town Line Road	West Town line	CTH O
	Local nonarterial	County trunk highway	Town Hall Road	STH 50	East Town line
	New facility	Local trunk highway	New facility	North Town line	City of Elkhorn
	County trunk highway	Local nonarterial	CTH O	North Town line	City of Delavan
Town of East Troy	Local trunk highway	County trunk highway	Booth Lake Road	STH 20	New facility
	New facility	County trunk highway	Booth Lake Road extension	Booth Lake Road	St. Peter's Road
	Local trunk highway	County trunk highway	Booth Lake Road	CTH J	St. Peter's Road
	Local trunk highway	County trunk highway	Honey Creek Road	Racine County	South Town line
	County trunk highway	Local trunk highway	CTH G	Village of East Troy	IH 43
Town of Geneva	State trunk highway	County trunk highway	STH 67	New facility	Village of Williams Bay
	State trunk highway	County trunk highway	STH 120	Sheridan Street	City of Lake Geneva
	Local nonarterial	County trunk highway	Palmer Road	STH 67	CTH H
Town of LaFayette	State trunk highway	County trunk highway	STH 11	IH 43	City of Elkhorn
	Local trunk highway	County trunk highway	Bowers Road	IH 43	CTH D
Town of LaGrange	New facility	State trunk highway	USH 12 Freeway	West Town line	South Town line
	Local trunk highway	County trunk highway	Kettle Moraine Drive	West Town line	CTH H
	Local nonarterial	County trunk highway	Palmyra Road	North Town line	STH 67
	County trunk highway	Local nonarterial	CTH O	USH 12	Jackson Road
Town of Linn	New facility	State trunk highway	STH 120 bypass	East Town line	STH 120
	Local nonarterial	County trunk highway	Willow Road	CTH BB	STH 120
	State trunk arterial	Local trunk highway	STH 120	City of Lake Geneva	STH 120 bypass
	County trunk highway	Local nonarterial	CTH BB	Willow Road	STH 120
Town of Lyons	New facility	State trunk highway	STH 120 bypass	City of Lake Geneva	South Town line
	Local trunk highway	County trunk highway	Amity Street	STH 36	Spring Valley Road
	Local trunk highway	County trunk highway	South Road	Spring Valley Road	South Town line
Town of Richmond	New facility	County trunk highway	CTH P extension	Territorial Road	CTH A
	County trunk highway	Local nonarterial	CTH M	STH 89	South Town line
	County trunk highway	Local nonarterial	CTH M	West Town line	South Town line
	County trunk highway	Local nonarterial	CTH P	Territorial Road	CTH A
Town of Sharon	Local trunk highway	County trunk highway	Darien-Sharon Town Line Road	CTH X	East Town line
	County trunk highway	Local nonarterial	CTH B	West Town line	CTH C
Town of Spring Prairie	New facility	State trunk highway	Burlington bypass	STH 11	STH 36
	Local trunk highway	County trunk highway	Honey Creek Road	North Town line	CTH D
	State trunk highway	Local trunk highway	STH 11	Burlington bypass	East Town line
Town of Sugar Creek	New facility	State trunk highway	USH 12 Freeway	North Town line	STH 67
	Local nonarterial	County trunk highway	Briggs Road	Hazel Ridge Road	South Town line
	Local nonarterial	County trunk highway	Cobbie Road	CTH H	Sugar Creek Road
	Local nonarterial	County trunk highway	Granville Road	Sugar Creek Road	Hazel Ridge Road
	Local nonarterial	County trunk highway	Hazel Ridge Road	Briggs Road	Granville Road
	Local nonarterial	County trunk highway	Sugar Creek Road	Granville Road	Cobbie Road
	New facility	Local trunk highway	New facility	CTH H	Town of Delavan
	New facility	County trunk highway	CTH H extension	CTH H	STH 67
	County trunk arterial	Local nonarterial	CTH O	North Town line	South Town line

Table 56 (continued)

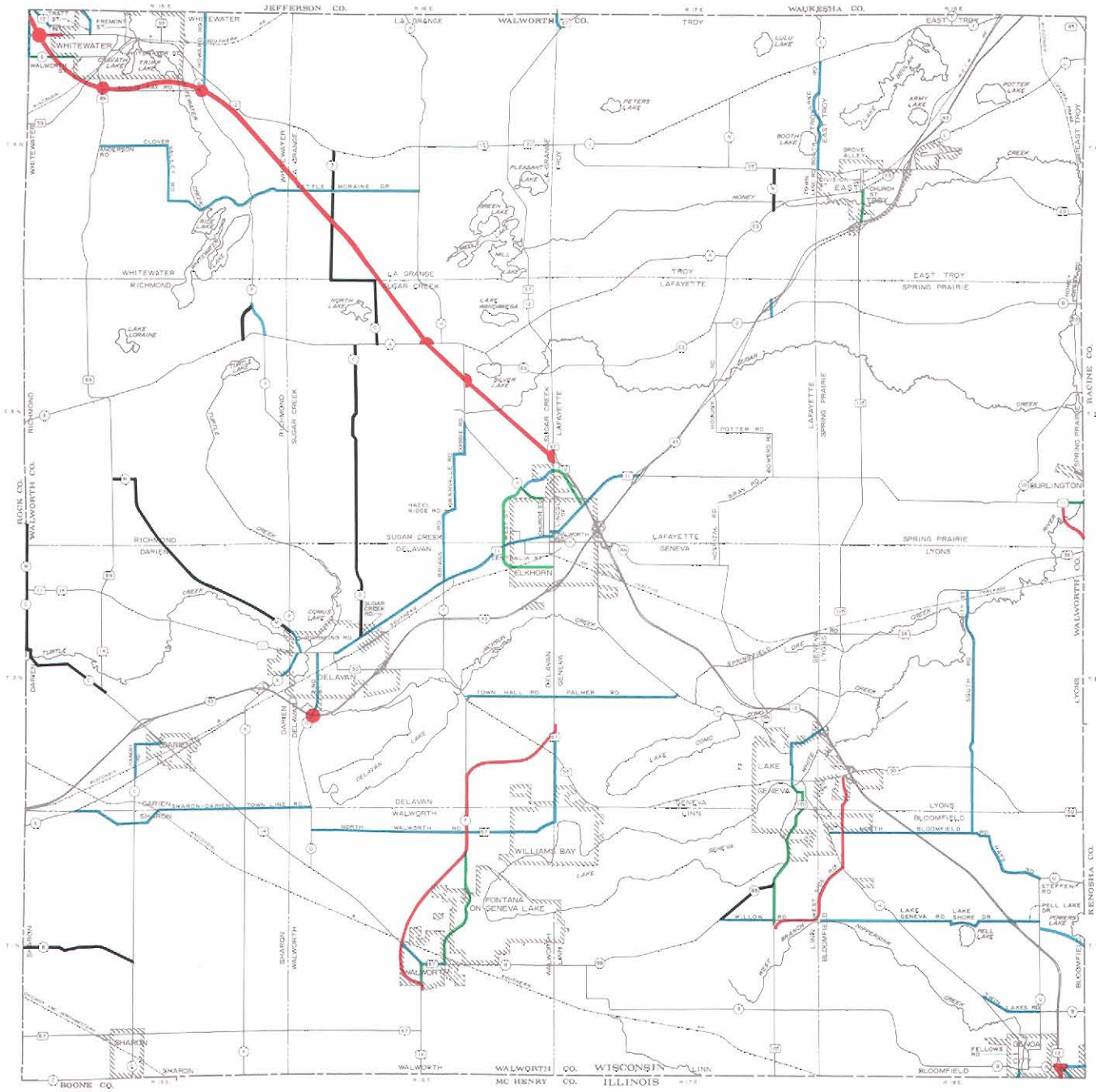
Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Troy	Local trunk highway	County trunk highway	Booth Lake Road	CTH J	St. Peter's Road
	Local trunk highway	County trunk highway	Booth Lake Road	St. Peter's Road	STH 20
	Local nonarterial	County trunk highway	Palmyra Road	North Town line	STH 67
	Local trunk highway	County trunk highway	Town Line Road	STH 20	CTH ES
	County trunk highway	Local nonarterial	CTH N	CTH ES	STH 20
Town of Walworth	New facility	State trunk highway	STH 67 bypass	STH 67	USH 14
	County trunk highway	State trunk highway	CTH F	North Town line	STH 67 bypass
	State trunk highway	County trunk highway	STH 67	CTH F	Theatre Road
	Local trunk highway	County trunk highway	N. Walworth Road	CTH O	STH 67
	State trunk highway	Local trunk highway	STH 67	Village of Walworth	Village of Fontana-on-Geneva Lake
	State trunk highway	Local trunk highway	STH 67	STH 67 bypass	Village of Fontana-on-Geneva Lake
Town of Whitewater	New facility	State trunk highway	USH 12 Freeway	West Town line	East Town line
	State trunk highway	County trunk highway	USH 12	North Town line	CTH S
	Local trunk highway	County trunk highway	Anderson Road	STH 89	Clover Valley Road
	Local trunk highway	County trunk highway	Clover Valley Road	Anderson Road	Kettle Moraine Drive
	Local trunk highway	County trunk highway	Howard Road	North Town line	USH 12
	Local trunk highway	County trunk highway	Kettle Moraine Drive	Clover Valley Road	East Town line
	New facility	County trunk highway	Howard Road extension	USH 12	CTH P
	New facility	County trunk highway	Main Street extension	West Town line	USH 12 Freeway
	Local trunk highway	County trunk highway	Warner Road	North Town line	CTH S
	County trunk highway	Local trunk highway	CTH S	West Town line	City of Whitewater
Village of Darien	Local nonarterial	County trunk highway	Madison Street	West corporate limits	USH 14
Village of East Troy	Local trunk highway	County trunk highway	Town Line Road	STH 20	CTH ES
	County trunk arterial	Local trunk arterial	CTH G	CTH ES	South corporate limits
Village of Fontana-on-Geneva Lake	State trunk highway	Local trunk highway	STH 67	North corporate limits	Village of Walworth
Village of Genoa City	Local nonarterial	County trunk highway	Fellows Road	CTH B	South corporate limits
	State trunk highway	County trunk highway	USH 12	Freeway terminus	South corporate limits
	New facility	State trunk highway	USH 12 Freeway extension	CTH H	South corporate limits
Village of Walworth	New facility	State trunk highway	STH 67 bypass	USH 14	West corporate limits
	State trunk highway	County trunk highway	USH 14	West corporate limits	STH 67
	State trunk highway	County trunk highway	STH 67	USH 14	CTH B
	State trunk highway	Local trunk highway	USH 14	STH 67	South corporate limits
	State trunk highway	Local trunk highway	STH 67	Village of Fontana-on-Geneva Lake	CTH B
Village of Williams Bay	State trunk highway	County trunk highway	STH 67	West corporate limits	North corporate limits
City of Delavan	State trunk highway	County trunk highway	STH 11	STH 50	East corporate limits
	Local trunk highway	County trunk highway	Beloit Street	STH 11	Creek Road
	Local trunk highway	County trunk highway	Richmond Road	North corporate limits	STH 11
	Local trunk highway	County trunk highway	2nd Street	STH 11	South corporate limits
	County trunk highway	Local nonarterial	CTH M	West corporate limits	CTH P
	County trunk highway	Local nonarterial	CTH O	North corporate limits	A point 0.01 mile north
City of Elkhorn	State trunk highway	County trunk highway	STH 11	Town of Delavan	STH 67
	State trunk highway	County trunk highway	STH 11	Lincoln Street	East corporate limits
	State trunk highway	Local trunk highway	STH 11	STH 67	CTH H
	New facility	Local trunk highway	New facility	STH 67	STH 11
	New facility	Local trunk highway	New facility	Town of Delavan	STH 67
City of Lake Geneva	Local nonarterial	State trunk highway	Edwards Boulevard	STH 50	End of Edwards Boulevard
	New facility	State trunk highway	STH 120 bypass	End of Edwards Boulevard	South corporate limits
	New facility	State trunk highway	STH 120 bypass	North corporate limits	N. Bloomfield Road
	State trunk highway	County trunk highway	STH 120	USH 12	STH 50
	State trunk highway	Local trunk highway	STH 120	STH 50	South corporate limits
City of Whitewater	New facility	State trunk highway	Main Street extension	USH 12 Freeway	Frontage Road
	Local trunk highway	County trunk highway	Tratt Street	Jefferson County	USH 12
	County trunk highway	Local trunk highway	CTH S	West corporate limits	Pleasant Street
	New facility	Local trunk highway	New facility	USH 12	CTH S

Source: SEWRPC.

b. A busway/high-occupancy-vehicle (HOV) facility along IH 43 extending for about nine miles from the Milwaukee CBD north to W. Good Hope Road.

c. A commuter-rail passenger line extending from the Milwaukee Amtrak station north for about 28 miles to the Village of Saukville.

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO WALWORTH COUNTY



The recommended changes in jurisdictional responsibility for arterial streets and highways in Walworth County are shown on the accompanying map. In 1995, the State trunk highway system in Walworth County totaled 214 miles, the County trunk highway system totaled about 168 miles, and the local arterial system totaled 48 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 56, the State trunk highway system would total 223 miles, the County trunk highway system would total 239 miles, and the local arterial system would total 20 miles.

Table 57

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN WASHINGTON COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

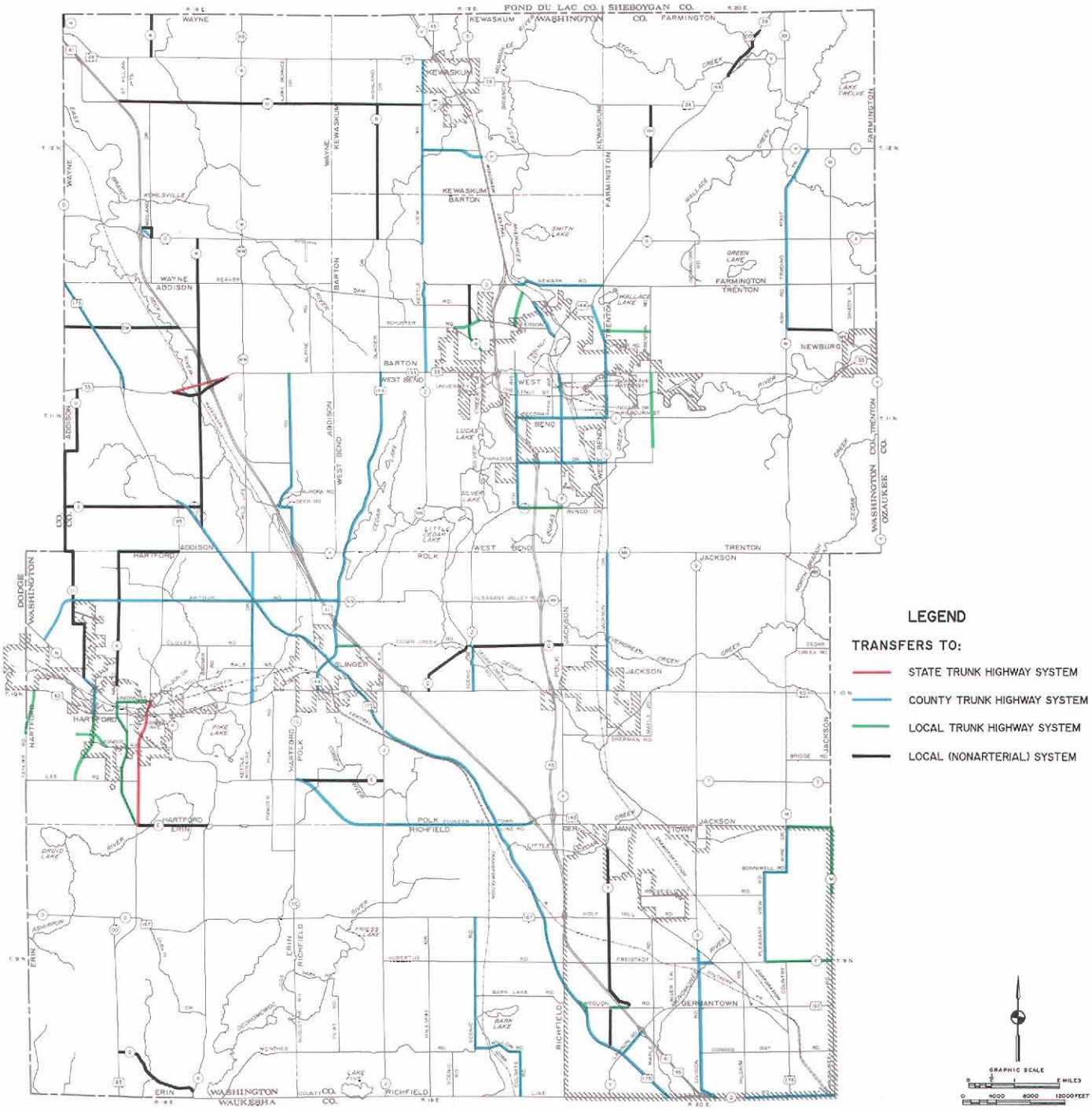
Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Addison	New facility	State trunk highway	STH 33	Rock River	USH 41
	State trunk highway	County trunk highway	STH 175	STH 83	CTH K
	State trunk highway	County trunk highway	STH 175	West Town line	STH 33
	Local trunk highway	County trunk highway	Aurora Road, Deer Road, Indian Drive	STH 33	CTH K
	State trunk highway	Local nonarterial	STH 33	Rock River	USH 41
	County trunk highway	Local nonarterial	CTH U	STH 33	South Town line
	County trunk highway	Local nonarterial	CTH S	CTH U	CTH W
	County trunk highway	Local nonarterial	CTH K	STH 83	Turtle Road
	County trunk highway	Local nonarterial	CTH DW	USH 41	West Town line
	County trunk highway	Local nonarterial	CTH W	STH 175	North Town line
Town of Barton	New facility	County trunk highway	Kettle View Drive extension	Schuster Drive	STH 33
	New facility	County trunk highway	N. River Road extension	City of West Bend	STH 144
	Local trunk highway	County trunk highway	Kettle View Drive	North Town line	CTH D
	Local trunk highway	County trunk highway	Kettle View Drive	CTH D	Schuster Drive
	Local trunk highway	County trunk highway	Newark Road/Lighthouse Drive	CTH D	STH 144
	County trunk highway	Local trunk highway	CTH B	Schuster Drive extension	City of West Bend
	New facility	Local trunk highway	Schuster Drive extension	Schuster Drive	Beaver Dam Road
	New facility	Local trunk highway	18th Avenue	City of West Bend	CTH D
	County trunk highway	Local nonarterial	CTH B	CTH D	North Town line
	County trunk highway	Local nonarterial	CTH B	CTH D	Schuster Drive extension
Town of Erin	County trunk highway	Local nonarterial	CTH Q	STH 83	CTH K
	County trunk highway	Local nonarterial	CTH E	STH 83	CTH K
Town of Farmington	Local trunk highway	County trunk highway	Trading Post Trail	CTH H	South Town line
	County trunk highway	Local nonarterial	CTH HH	STH 28	STH 144
	County trunk highway	Local nonarterial	CTH DD	Along STH 144	--
Town of Germantown	County trunk highway	Local nonarterial	CTH Y	STH 145	North Town line
Town of Hartford	New facility	State trunk highway	New STH 83	City of Hartford	CTH E
	State trunk highway	County trunk highway	STH 175	CTH K	Village of Slinger
	Local trunk highway	County trunk highway	Kettle Moraine Drive	CTH K	STH 60
	Local trunk highway	County trunk highway	Arthur Road	CTH U	East Town line
	New facility	County trunk highway	Arthur Road extension	Independence Avenue	Arthur Road
	New facility	Local trunk highway	Monroe Avenue extension	Pond Road	Monroe Avenue
	New facility	Local trunk highway	Taylor Road extension	STH 60	Pond Road
	New facility	Local trunk highway	Wacker Drive extension	STH 60	Lee Road
	State trunk highway	Local trunk highway	STH 83	City of Hartford	CTH E
	County trunk highway	Local nonarterial	CTH U	CTH N	North Town line
	County trunk highway	Local nonarterial	CTH K	STH 83	City of Hartford
	County trunk highway	Local nonarterial	CTH E	STH 83	CTH K
Town of Jackson	Local trunk highway	County trunk highway	Jackson Road	STH 143	Village of Jackson
	County trunk highway	Local trunk highway	CTH M	Country Aire Drive	East Town line
Town of Kewaskum	New facility	County trunk highway	CTH H extension	USH 45	Badger Road
	New facility	County trunk highway	Kettle View Drive	STH 28	CTH H
	Local trunk highway	County trunk highway	Kettle View Drive	CTH H	South Town line
	Local trunk highway	County trunk highway	Badger Road	Kettle View Drive	Prospect Drive
	County trunk highway	Local nonarterial	CTH B	CTH H	South Town line
	County trunk highway	Local nonarterial	CTH H	Town of Wayne	Kettle View Road
Town of Polk	New facility	County trunk highway	Pioneer Road extension	Pioneer Road	CTH CC
	State trunk highway	County trunk highway	STH 144	CTH K	Village of Slinger
	State trunk highway	County trunk highway	STH 175	Village of Slinger	West Town line
	State trunk highway	County trunk highway	STH 175	STH 60	South Town line
	Local trunk highway	County trunk highway	Arthur Road	STH 144	West Town line
	Local trunk highway	County trunk highway	Pioneer Road	USH 41	Pioneer Road extension
	Local trunk highway	County trunk highway	Scenic Drive	CTH C	STH 60
	Local trunk highway	County trunk highway	Pleasant Valley Road	CTH Z	USH 45
	County trunk highway	Local trunk highway	CTH C	Lilly Road	CTH Z
	County trunk highway	Local trunk highway	CTH AA	STH 144	USH 41
	County trunk highway	Local nonarterial	CTH E	CTH CC	CTH J
	County trunk highway	Local nonarterial	CTH C	STH 60	CTH P
Town of Richfield	State trunk highway	County trunk highway	STH 175	Village of Germantown	STH 167
	State trunk highway	County trunk highway	STH 175	STH 167	North Town line
	Local trunk highway	County trunk highway	Pioneer Road	Pioneer Road extension	USH 41
	Local trunk highway	County trunk highway	Scenic Drive	STH 167	Willow Creek Road
	Local trunk highway	County trunk highway	Willow Creek Road	Scenic Drive	Colgate Road
	Local trunk highway	County trunk highway	Colgate Road	Willow Creek Road	CTH Q

Table 57 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Trenton	Local trunk highway	County trunk highway	Trading Post Trail	North Town line	CTH M
	Local trunk highway	County trunk highway	S. River Road	STH 33	CTH I
	New facility	Local trunk highway	Jefferson Street extension	West Town line	Trenton Road
	New facility	Local trunk highway	Trenton Road/Maple Road	STH 33	Maple Road end
	County trunk highway	Local nonarterial	CTH M	CTH M	CTH MY
Town of Wayne	New facility	County trunk highway	CTH D realignment	USH 41	W. Beechnut Drive
	State trunk highway	Local nonarterial	STH 28	USH 41	Mullen Lane
	County trunk highway	Local nonarterial	CTH W	CTH D	South Town line
	County trunk highway	Local nonarterial	CTH H	USH 41	East Town line
	County trunk highway	Local nonarterial	CTH H	North Town line	West Town line
	County trunk highway	Local nonarterial	CTH D	USH 41	CTH D
Town of West Bend	State trunk highway	County trunk highway	STH 144	STH 33	CTH K
	Local trunk highway	County trunk highway	18th Avenue	CTH NN	City of West Bend
	Local trunk highway	County trunk highway	Decorah Road	18th Avenue	City of West Bend
	Local trunk highway	County trunk highway	S. River Road	STH 33	City of West Bend
	Local trunk highway	County trunk highway	Paradise Drive	18th Avenue	City of West Bend
	Local trunk highway	County trunk highway	Paradise Drive	City of West Bend	CTH G
	County trunk highway	Local trunk highway	CTH NN	18th Avenue	CTH P
Village of Germantown	New facility	County trunk highway	Division Road extension	Mequon Road	Freistadt Road
	State trunk highway	County trunk highway	STH 175	Maple Road	South corporate limits
	State trunk highway	County trunk highway	STH 175	North corporate limits	Maple Road
	Local trunk highway	County trunk highway	Pleasant View Drive	CTH F	Bonniwell Road
	Local trunk highway	County trunk highway	County Line Road	Pilgrim Road	STH 145
	Local trunk highway	County trunk highway	County Line Road	STH 145	East corporate limits
	Local trunk highway	County trunk highway	Bonniwell Road	Pleasant View Drive	Country Aire Drive
	Local trunk highway	County trunk highway	Freistadt Road	Division Road	STH 145
	Local trunk highway	County trunk highway	Division Road	STH 167	CTH Q
	Local trunk highway	County trunk highway	Country Aire Drive	Bonniwell Road	CTH C
	Local trunk highway	County trunk highway	Division Road	Freistadt Road	STH 145
	Local trunk highway	County trunk highway	Lannon Road	STH 175	USH 41-USH 45
	County trunk highway	Local trunk highway	CTH F	Pleasant View Road	East corporate limits
	County trunk highway	Local trunk highway	CTH M	Country Aire Drive	East corporate limits
	County trunk highway	Local trunk highway	CTH M	CTH C	End
	County trunk highway	Local trunk highway	CTH Y	Hill Top Drive	Goldendale Road
	County trunk highway	Local nonarterial	CTH Y	STH 145	Mequon Road
	County trunk highway	Local nonarterial	CTH Y	Mequon Road	STH 175
	County trunk highway	Local nonarterial	CTH F	Mequon Road	STH 175
Village of Jackson	Local trunk highway	County trunk highway	Jackson Road	STH 60	North corporate limits
Village of Kewaskum	New facility	County trunk highway	Kettle View Drive extension	STH 28	South corporate limits
Village of Slinger	State trunk highway	County trunk highway	STH 175	North corporate limits	South corporate limits
	State trunk highway	County trunk highway	STH 144	North corporate limits	STH 60
	County trunk highway	Local trunk highway	CTH AA	STH 144	USH 41
City of Hartford	New facility	State trunk highway	New STH 83	Monroe Avenue	North corporate limits
	Local trunk highway	State trunk highway	N. Wilson Avenue	STH 83	Sumner Street
	Local trunk highway	State trunk highway	S. Wilson Avenue	Monroe Avenue	South corporate limits
	Local trunk highway	County trunk highway	Arthur Road	CTH U	East corporate limits
	Local trunk highway	County trunk highway	State Street	CTH U	Wacker Drive
	Local trunk highway	County trunk highway	Wacker Drive	State Street	Sumner Street
	New facility	Local trunk highway	Monroe Avenue extension	West corporate limits	Willow Lane
	New facility	Local trunk highway	Taylor Road extension	STH 60	CTH N
	State trunk highway	Local trunk highway	Grand Avenue, Main Street, Union Street	North corporate limits	South corporate limits
	State trunk highway	Local trunk highway	Branch Street	Main Street	Lincoln Avenue
	County trunk highway	Local nonarterial	CTH U	Arthur Road	CTH N
	County trunk highway	Local nonarterial	CTH K	North corporate limits	South corporate limits
City of Milwaukee	Local trunk highway	County trunk highway	County Line Road	West corporate limits	Wausaukee Road
City of West Bend	Local trunk highway	County trunk highway	S. River Road	STH 33	South corporate limits
	New facility	County trunk highway	N. River Road extension	Creek Road	North corporate limits
	Local trunk highway	County trunk highway	Island Avenue	STH 33	Main Street
	Local trunk highway	County trunk highway	S. River Road	CTH I	North corporate limits
	Local trunk highway	County trunk highway	N. River Road	STH 33	Creek Road
	Local trunk highway	County trunk highway	N. Main Street	Green Tree Road	Barton Avenue
	Local trunk highway	County trunk highway	Paradise Drive	18th Avenue	East corporate limits
	Local trunk highway	County trunk highway	18th Avenue	South corporate limits	STH 33
	Local trunk highway	County trunk highway	Main Street	Island Avenue	Paradise Drive
	Local trunk highway	County trunk highway	Decorah Road	18th Avenue	CTH I

Source: SEWRPC.

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO WASHINGTON COUNTY



The recommended changes in jurisdictional responsibility for arterial streets and highways in Washington County are shown on the accompanying map. In 1995, the State trunk highway system in Washington County totaled 186 miles, the County trunk highway system totaled about 148 miles, and the local arterial system totaled 65 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 57, the State trunk highway system would total 159 miles, the County trunk highway system would total 234 miles, and the local arterial system would total 75 miles.

Table 58

CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS IN WAUKESHA COUNTY UNDER THE RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: 2020

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Brookfield	Local trunk highway	County trunk highway	Springdale Road	CTH JJ	STH 190
	New facility	County trunk highway	Extension of Barker Road	STH 190	Village of Menomonee Falls
	Local nonarterial	Local trunk highway	Brookfield Road	North Town line	South Town line
Town of Delafield	State trunk highway	County trunk highway	Frontage Road (Golf Road)	Town of Pewaukee	CTH E
	New facility	County trunk highway	Extension of CTH KE	STH 83	CTH E
	County trunk highway	Local nonarterial	CTH E	CTH KE	USH 18
	County trunk highway	Local nonarterial	CTH G (Silvernail Road)	CTH G (Elmhurst Road)	CTH SS
	County trunk highway	Local nonarterial	CTH G (Elmhurst Road)	CTH G (Silvernail Road)	USH 18
	County trunk highway	Local nonarterial	CTH G (Brandy Brook Road)	USH 18	Town of Genesee
	County trunk highway	Local nonarterial	CTH GR	CTH KE	Town of Pewaukee
Town of Eagle	State trunk highway	County trunk highway	STH 99	STH 67	Town of Mukwonago
	Local nonarterial	County trunk highway	Little Prairie Road	CTH NN	Walworth County line
	County trunk highway	Local nonarterial	CTH N	Jefferson County line	STH 59
	County trunk highway	Local nonarterial	CTH S	STH 59	STH 67
	County trunk highway	Local nonarterial	CTH NN	Jefferson County line	STH 67
	County trunk highway	Local nonarterial	CTH ZC	Town of Ottawa	CTH ZZ
	County trunk highway	Local nonarterial	CTH ZZ	Jefferson County line	Town of Ottawa
Town of Genesee	County trunk highway	Local nonarterial	CTH C	USH 18	CTH G
	County trunk highway	Local nonarterial	CTH G (Brandy Brook Road)	Town of Delafield	Town of Ottawa
Town of Lisbon	County trunk highway	State trunk highway	CTH J	Washington County line	Town of Pewaukee
	Local trunk highway	County trunk highway	Plain View Road	Oak Road	Town Line Road
Town of Merton	New facility	State trunk highway	STH 83	Oconomowoc River	Little Oconomowoc River
	New facility	State trunk highway	STH 83	A point 950 feet north of Little Oconomowoc River	CTH CW
	New facility	State trunk highway	STH 83	STH 16	Village of Chenequa
	Local trunk highway	County trunk highway	Oak Road	Plain View Road	Village of Merton
	New facility	County trunk highway	Extension of CTH KE	CTH K	CTH KE
	State trunk highway	Local nonarterial	STH 83	Village of Chenequa	STH 16
	County trunk highway	Local nonarterial	CTH KE	A point 0.5 mile north of CTH K	CTH K
Town of Mukwonago	New facility	State trunk highway	STH 83 (Mukwonago bypass)	IH 43	CTH NN
	State trunk highway	County trunk highway	STH 99	Village of Mukwonago	Town of Eagle
	County trunk highway	Local nonarterial	CTH I	Town of Vernon	STH 83
Town of Oconomowoc	New facility	State trunk highway	STH 16-STH 67 (Oconomowoc bypass)	STH 67 at STH 16	Jefferson County line
	State trunk highway	County trunk highway	STH 16	City of Oconomowoc	Jefferson County line
	State trunk highway	County trunk highway	STH 67	STH 16 Oconomowoc bypass	City of Oconomowoc
	Local trunk highway	County trunk highway	Wisconsin Avenue	CTH R	CTH P
	New facility	Local trunk highway	Oconomowoc Parkway	STH 16	Town of Summit
Town of Ottawa	County trunk highway	Local nonarterial	CTH C	USH 18	CTH G
	County trunk highway	Local nonarterial	CTH D	CTH Z	STH 67
	County trunk highway	Local nonarterial	CTH C (Brandy Brook Road)	East Town line	CTH D
	County trunk highway	Local nonarterial	CTH ZC	CTH Z	CTH C
	County trunk highway	Local nonarterial	CTH ZC	CTH C	Town of Eagle
	County trunk highway	Local nonarterial	CTH ZZ	Town of Eagle	STH 67
Town of Pewaukee	County trunk highway	State trunk highway	CTH TT	USH 18	Town of Waukesha
	County trunk highway	State trunk highway	CTH J	Town of Lisbon	IH 94
	Local trunk highway	State trunk highway	Meadowbrook Road	IH 94	City of Waukesha
	Local trunk highway	State trunk highway	Meadowbrook Road	City of Waukesha	Northview Road
	County trunk highway	State trunk highway	Waukesha western bypass	Northview Road	USH 18
	State trunk highway	County trunk highway	STH 164	STH 190	City of Waukesha
	State trunk highway	County trunk highway	Frontage Road (Golf Road)	City of Waukesha	Town of Delafield
	Local trunk highway	County trunk highway	Northview Road	Meadowbrook Road	City of Waukesha
	Local trunk highway	County trunk highway	Springdale Road	CTH JJ	STH 190
	County trunk highway	Local trunk highway	CTH J	City of Waukesha	IH 94
	County trunk highway	Local trunk highway	CTH FT	A point about 0.7 mile west of CTH J	CTH J
	County trunk highway	Local trunk highway	CTH TJ	City of Waukesha	CTH JJ
	County trunk highway	Local nonarterial	CTH GR	Town of Delafield	Village of Pewaukee
Town of Summit	State trunk highway	County trunk highway	STH 16	CTH P	City of Oconomowoc
	New facility	Local trunk highway	Valley Road	STH 67	CTH P
	County trunk highway	Local trunk highway	CTH B	Jefferson County line	CTH Z
	County trunk highway	Local trunk highway	CTH B	CTH P	City of Delafield
	County trunk highway	Local trunk highway	CTH BB	CTH DR	City of Oconomowoc
	County trunk highway	Local trunk highway	CTH Z	CTH B	City of Oconomowoc
	New facility	Local trunk highway	Oconomowoc Parkway	Town of Oconomowoc	STH 67
	County trunk highway	Local nonarterial	CTH B	CTH Z	City of Oconomowoc
	County trunk highway	Local nonarterial	CTH B	STH 67	CTH P

Table 58 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
Town of Vernon	Local trunk highway	County trunk highway	Center Drive	CTH L	Racine County line
	County trunk highway	Local nonarterial	CTH U (Guthrie Road)	Town of Waukesha	STH 164
	County trunk highway	Local nonarterial	CTH I	Town of Waukesha	Town of Mukwonago
Town of Waukesha	County trunk highway	State trunk highway	CTH TT	Town of Pewaukee	MacArthur Road
	New facility	State trunk highway	Waukesha western bypass	MacArthur Road	STH 59
	County trunk highway	Local trunk highway	CTH D (Broadway)	City of Waukesha	STH 59
	County trunk highway	Local trunk highway	CTH D (Sunset Drive)	CTH TT	CTH X
	County trunk highway	Local trunk highway	CTH Y (Racine Avenue)	City of Waukesha	City of Waukesha
	County trunk highway	Local nonarterial	CTH I	Lawnsdale Road	Town of Vernon
	County trunk highway	Local nonarterial	CTH U (Guthrie Road)	CTH Y	City of Waukesha
	County trunk highway	Local nonarterial	CTH U (Guthrie Road)	City of Waukesha	Town of Vernon
Village of Butler	Local trunk highway	County trunk highway	124th Street	North corporate limits	South corporate limits
Village of Chenequa	New facility	State trunk highway	STH 83	CTH K	Thompson Lane
	Local trunk highway	County trunk highway	Vettelson Drive	CP Rail System	City of Delafield
	State trunk highway	Local nonarterial	STH 83	Thompson Lane	Town of Merton
Village of Elm Grove	Local trunk highway	County trunk highway	North Avenue	City of Brookfield	Milwaukee County line
	Local trunk highway	County trunk highway	Pilgrim Parkway	North Avenue	USH 18
	Local trunk highway	County trunk highway	124th Street	City of Brookfield	Knoll Road
	New facility	County trunk highway	Extension of 124th Street	City of Brookfield	Knoll Road
Village of Hartland	Local trunk highway	County trunk highway	Vettelson Drive	City of Delafield	Capitol Drive
	Local trunk highway	County trunk highway	Capitol Drive	Vettelson Drive	CTH KC
	New facility	County trunk highway	Extension of CTH KE	STH 83	Town of Delafield
Village of Menomonee Falls	State trunk highway	County trunk highway	STH 175	Milwaukee County line	Washington County line
	Local trunk highway	County trunk highway	Boundary Road	County Line Road	STH 100
	Local trunk highway	County trunk highway	County Line Road	Pilgrim Road	Boundary Road
	Local trunk highway	County trunk highway	Good Hope Road	STH 175	Milwaukee County line
	Local trunk highway	County trunk highway	Lisbon Road	Calhoun Road	Hampton Avenue
	Local trunk highway	County trunk highway	Hampton Avenue	Lisbon Road	Village of Butler
	Local trunk highway	County trunk highway	Pilgrim Road	County Line Road	STH 175
	New facility	County trunk highway	Extension of Boundary Road	STH 100	STH 145
	Local nonarterial	County trunk highway	Lannon Road	CTH K	City of Brookfield
	Local nonarterial	Local trunk highway	River Crest Drive	STH 175	Shady Lane
	New facility	Local trunk highway	Extension of River Crest Drive	Shady Lane	Village of Germantown
	Local trunk highway	Local nonarterial	Roosevelt Drive	Shady Lane	Pilgrim Road
	Local trunk highway	Local nonarterial	Water Street	STH 74	Richfield Way
	Local trunk highway	Local nonarterial	Richfield Way	Water Street	Village of Germantown
Village of Merton	Local trunk highway	County trunk highway	Oak Road	CTH VV	Town of Merton
Village of Mukwonago	County trunk highway	State trunk highway	CTH NN	Mukwonago bypass	STH 83
	New facility	State trunk highway	STH 83 (Mukwonago bypass)	North corporate limits	South corporate limits
	State trunk highway	County trunk highway	STH 83 (Rochester Street)	CTH NN	Mukwonago bypass
	State trunk highway	County trunk highway	STH 99	Town of Mukwonago	STH 83 (Rochester Street)
Village of Nashotah	Local trunk highway	County trunk highway	Rasmus Drive	CTH C	City of Delafield
Village of Pewaukee	Local trunk highway	County trunk highway	Capitol Drive	Oakton Avenue	STH 16
	Local trunk highway	County trunk highway	Oakton Avenue	Capitol Drive	Wisconsin Avenue
	Local trunk highway	County trunk highway	Prospect Avenue	Wisconsin Avenue	Town of Pewaukee
	Local trunk highway	County trunk highway	Wisconsin Avenue	East corporate limits	West corporate limits
Village of Sussex	County trunk highway	State trunk highway	CTH J	North corporate limits	South corporate limits
	Local trunk highway	County trunk highway	Main Street	Locust Street	STH 164
Village of Wales	County trunk highway	Local nonarterial	CTH G (Brandy Brook Road)	East corporate limits	West corporate limits
City of Brookfield	Local trunk highway	County trunk highway	Barker Road	North corporate limits	South corporate limits
	Local trunk highway	County trunk highway	Calhoun Road	STH 59	CTH K
	Local trunk highway	County trunk highway	Lisbon Road	Calhoun Road	Hampton Avenue
	Local trunk highway	County trunk highway	Hampton Avenue	Lisbon Road	Village of Butler
	Local trunk highway	County trunk highway	Moorland Road	USH 18	STH 59
	Local trunk highway	County trunk highway	North Avenue	Town of Pewaukee	Milwaukee County line
	Local trunk highway	County trunk highway	Pilgrim Parkway	North Avenue	USH 18
	Local trunk highway	County trunk highway	Pilgrim Road	Lisbon Road	North Avenue
	Local trunk highway	County trunk highway	124th Street	Village of Elm Grove	Village of Butler
	Local trunk highway	County trunk highway	124th Street	Robinwood Street	Village of Elm Grove
	Local trunk highway	County trunk highway	Springdale Road	STH 190	South corporate limits
	New facility	County trunk highway	Extension of Barker Road	STH 190	North corporate limits
	New facility	County trunk highway	Extension of 124th Street	North corporate limits	Robinwood Street
City of Delafield	Local trunk highway	County trunk highway	Main Street	Town of Summit	Milwaukee Street
	Local trunk highway	County trunk highway	Milwaukee Street	Main Street	STH 83
	Local trunk highway	County trunk highway	Vettelson Drive	Village of Nashotah	CP Rail System
	Local trunk highway	County trunk highway	Vettelson Drive	Village of Chenequa	Village of Hartland

Table 58 (continued)

Civil Division	Jurisdictional Responsibility		Facility	From	To
	Existing	Planned			
City of Muskego	Local trunk highway	County trunk highway	S. Denoon Road	Crowbar Drive	CTH Y
	New facility	County trunk highway	Extension of Moorland Road	CTH L	Durham Road
	Local nonarterial	County trunk highway	Durham Road	Woods Road	CTH OO
	Local nonarterial	Local trunk highway	Martin Drive	CTH HH	Lannon Drive
	Local nonarterial	Local trunk highway	Lannon Drive	Martin Drive	CTH L
	New facility	Local trunk highway	Extension of Sunnyslope Road	CTH HH	CTH L
City of New Berlin	Local trunk highway	County trunk highway	Calhoun Road	CTH ES	STH 59
	Local trunk highway	County trunk highway	Johnson Road	STH 59	A point 0.4 mile south of STH 59
	Local trunk highway	County trunk highway	Johnson Road	Lincoln Avenue	Coffee Road
	Local trunk highway	County trunk highway	Moorland Road	IH 43	Grange Avenue
	New facility	County trunk highway	Extension of Johnson Road	A point 0.4 mile south of STH 59	Lincoln Avenue
	New facility	County trunk highway	Extension of Johnson Road	Coffee Road	CTH Y
City of Oconomowoc	New facility	State trunk highway	STH 16-STH 67 (Oconomowoc bypass)	South corporate limits	North corporate limits
	State trunk highway	County trunk highway	STH 16	East corporate limits	West corporate limits
	State trunk highway	County trunk highway	STH 67	North corporate limits	STH 16
	Local trunk highway	County trunk highway	Summit Avenue	Thackeray Trail	STH 16
	Local nonarterial/--	County trunk highway	Lake Drive/Fairview Road	STH 67	*Lapham Street*
	County trunk highway	Local trunk highway	CTH Z	Marigold Street	Lake Drive
	New facility	Local trunk highway	Oconomowoc Parkway	North corporate limits	East corporate limits
	County trunk highway	Local nonarterial	CTH B	East corporate limits	West corporate limits
City of Waukesha	County trunk highway	State trunk highway	CTH TT	North corporate limits	South corporate limits
	Local trunk highway	State trunk highway	Meadowbrook Road	North corporate limits	South corporate limits
	State trunk highway	County trunk highway	STH 164	USH 18	Town of Pewaukee
	State trunk highway	County trunk highway	Frontage Road (Golf Road)	CTH T	Town of Pewaukee
	Local trunk highway	County trunk highway	Grandview Boulevard	USH 18	Northview Road
	Local trunk highway	County trunk highway	North Street	USH 18	St. Paul Avenue
	Local trunk highway	County trunk highway	Northview Road	Town of Pewaukee	CTH T
	Local trunk highway	County trunk highway	St. Paul Avenue	Harris Highland Drive	USH 18
	County trunk highway	Local trunk highway	CTH D (Sunset Drive)	CTH X	West corporate limits
	County trunk highway	Local trunk highway	CTH J	Gascoigne Drive	Town of Pewaukee
	County trunk highway	Local trunk highway	CTH FT	A point about 0.7 mile west of CTH J	CTH J
	Local nonarterial	Local trunk highway	Main Street	Hartwell Avenue	Moreland Boulevard
	County trunk highway	Local nonarterial	CTH U (Guthrie Road)	North corporate limits	South corporate limits
	County trunk highway	Local trunk highway	CTH TJ	CTH T	Town of Pewaukee
	County trunk highway	Local nonarterial	CTH TJ	Meadow Lane	CTH T

Source: SEWRPC.

3. Northwest Travel Corridor Major Investment Study

A major investment study will be required for proposed facilities in the northwest travel corridor extending from the Milwaukee CBD to the City of West Bend in Washington County. The following major transportation facilities have been identified in the recommended regional transportation system plan as potential facilities for further evaluation in the proposed northwest travel corridor study (see Map 38):

a. A busway/HOV facility along the Zoo Freeway extending for about eight miles from the Zoo Interchange north to W. Mill Road.

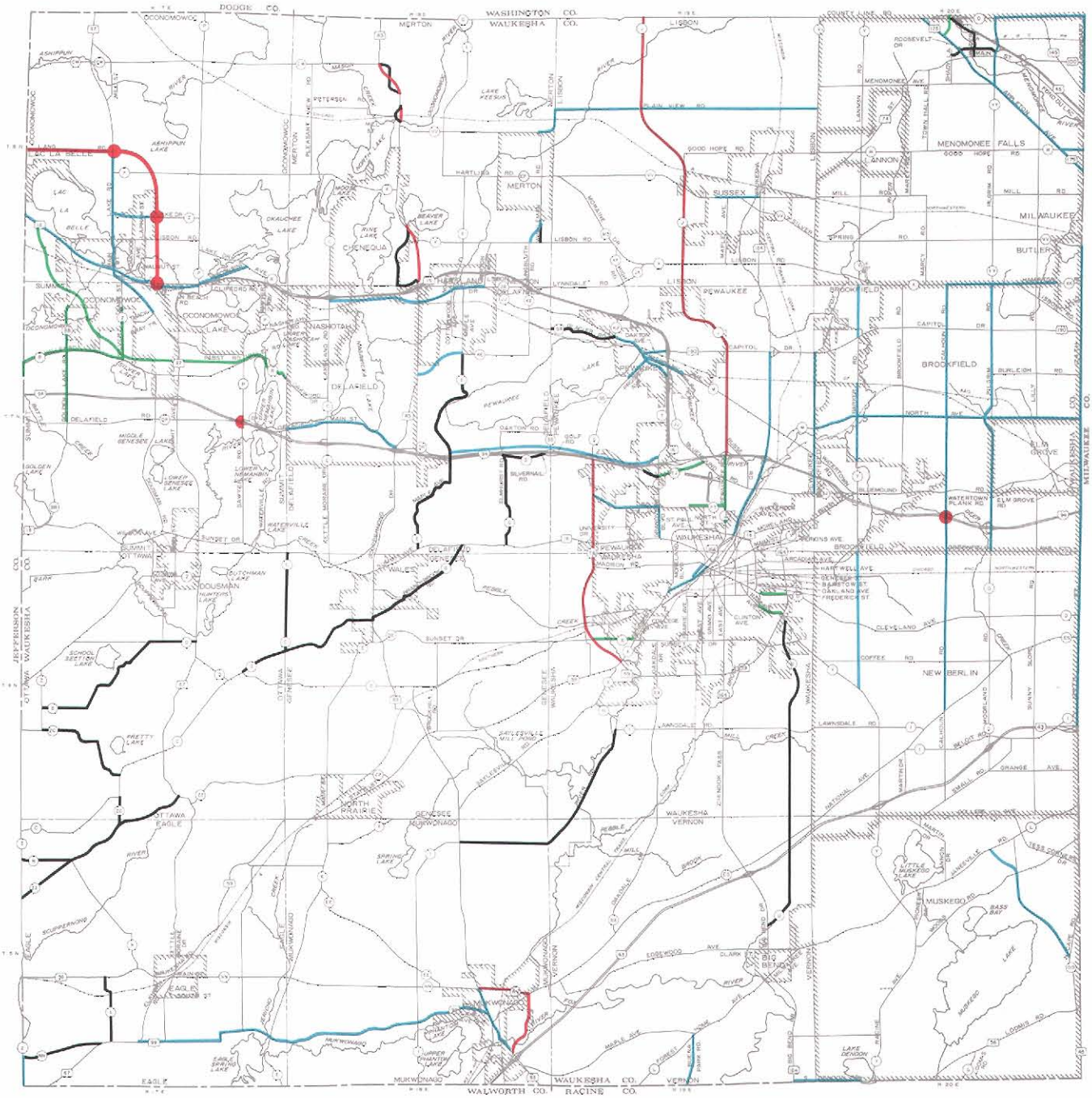
b. A commuter-rail passenger line extending from the Milwaukee Amtrak station for about 35 miles to a terminal in the City of West Bend.

4. South Travel Corridor Major Investment Study

A major investment study will be required for proposed facilities in the south travel corridor extending from the Milwaukee CBD to Racine and Kenosha. The following major transportation facilities have been identified in the recommended regional transportation system plan as potential facilities for further evaluation in the proposed south travel corridor study (see Map 39):

a. A busway/HOV lane extending along IH 43/IH 94 for about six miles from the Milwaukee CBD south to the Mitchell Interchange, along IH 43/IH 894 for about four miles from the Mitchell Interchange to W. Forest Home Avenue, and another along IH 94 south for 12 miles from the Mitchell Interchange to CTH K. These busways would total about 22 miles in length.

PROPOSED CHANGES IN JURISDICTIONAL RESPONSIBILITY FOR ARTERIAL STREETS AND HIGHWAYS UNDER THE RECOMMENDED REGIONAL TRANSPORTATION PLAN AS APPLIED TO WAUKESHA COUNTY

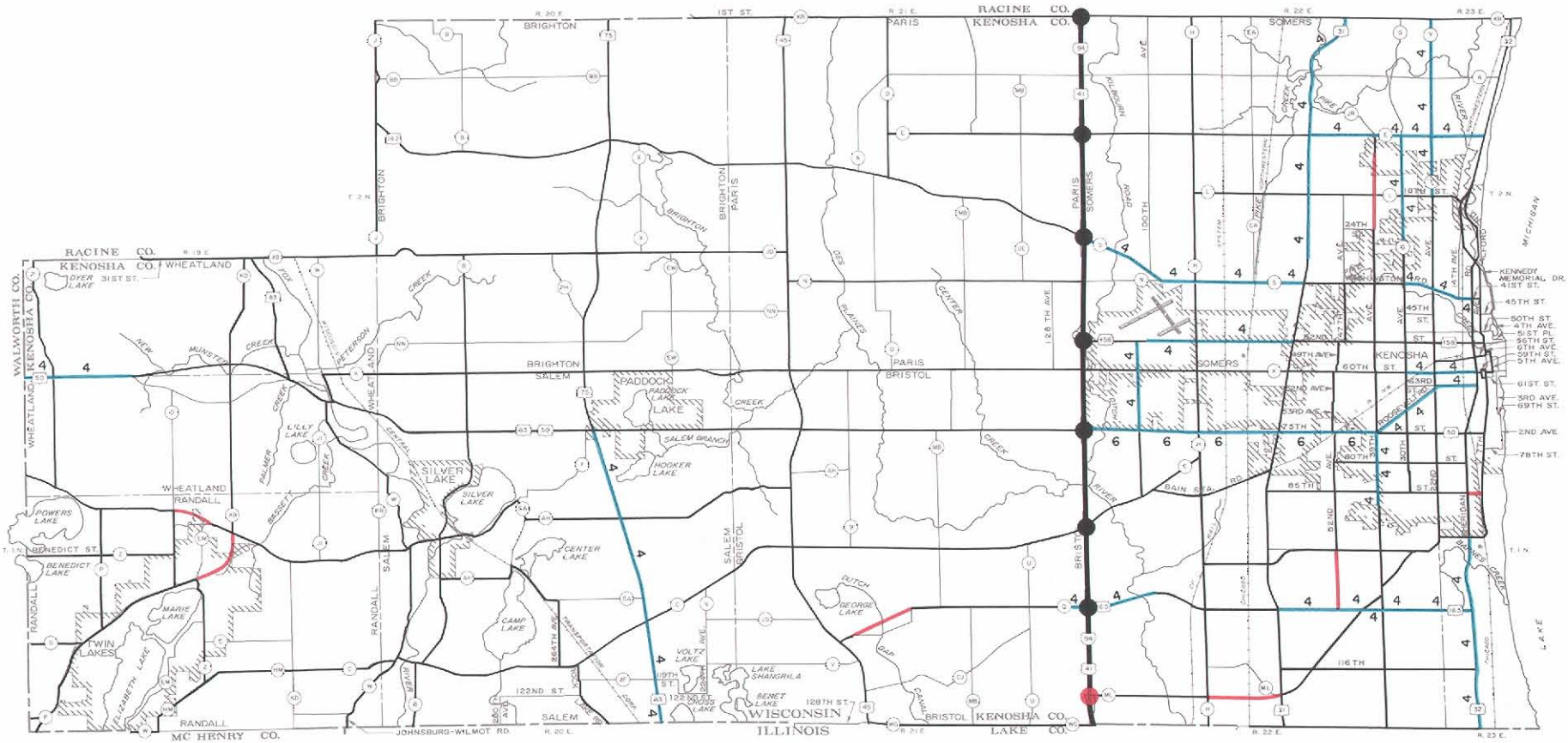


The recommended changes in jurisdictional responsibility for arterial streets and highways in Waukesha County are shown on the accompanying map. In 1995, the State trunk highway system in Waukesha County totaled 231 miles, the County trunk highway system totaled about 321 miles, and the local arterial system totaled 165 miles. By the year 2020, through the jurisdictional transfers identified on the accompanying map and listed in Table 58, the State trunk highway system would total 230 miles, the County trunk highway system would total 413 miles, and the local arterial system would total 134 miles.

Source: SEWRPC.

Map 35

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN KENOSHA COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

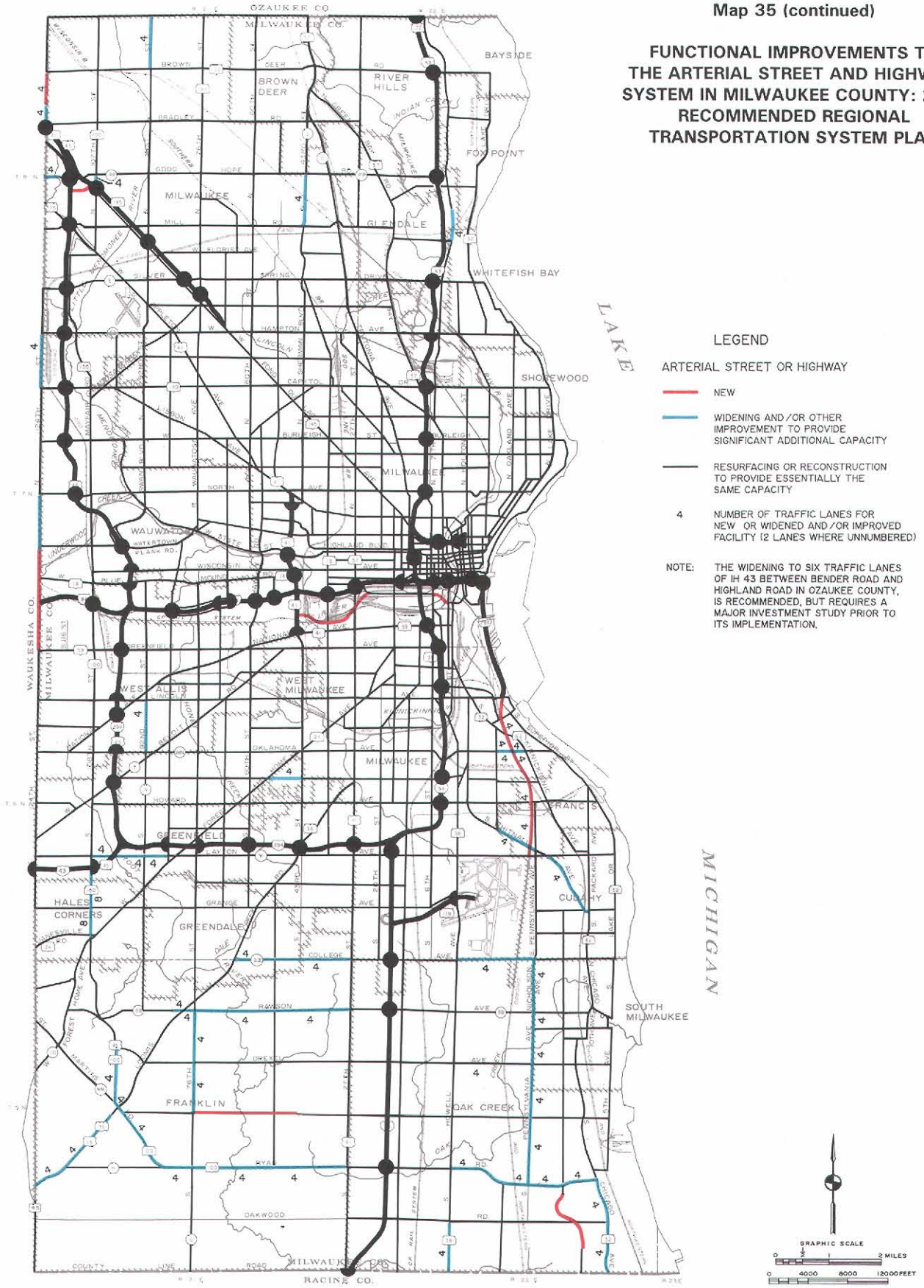
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 FEET

Under the final recommended regional transportation system plan, the arterial street and highway system in Kenosha County would be expanded by 38 miles, or 12 percent, from 318 miles in 1995 to 356 miles in the year 2020. The increase in arterial mileage would come about through the construction of nine miles of facilities and through the conversion of 29 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of nearly nine miles of new arterial facilities, for the widening of 45 miles, and for the preservation of 302 miles of facilities within the County.

Map 35 (continued)

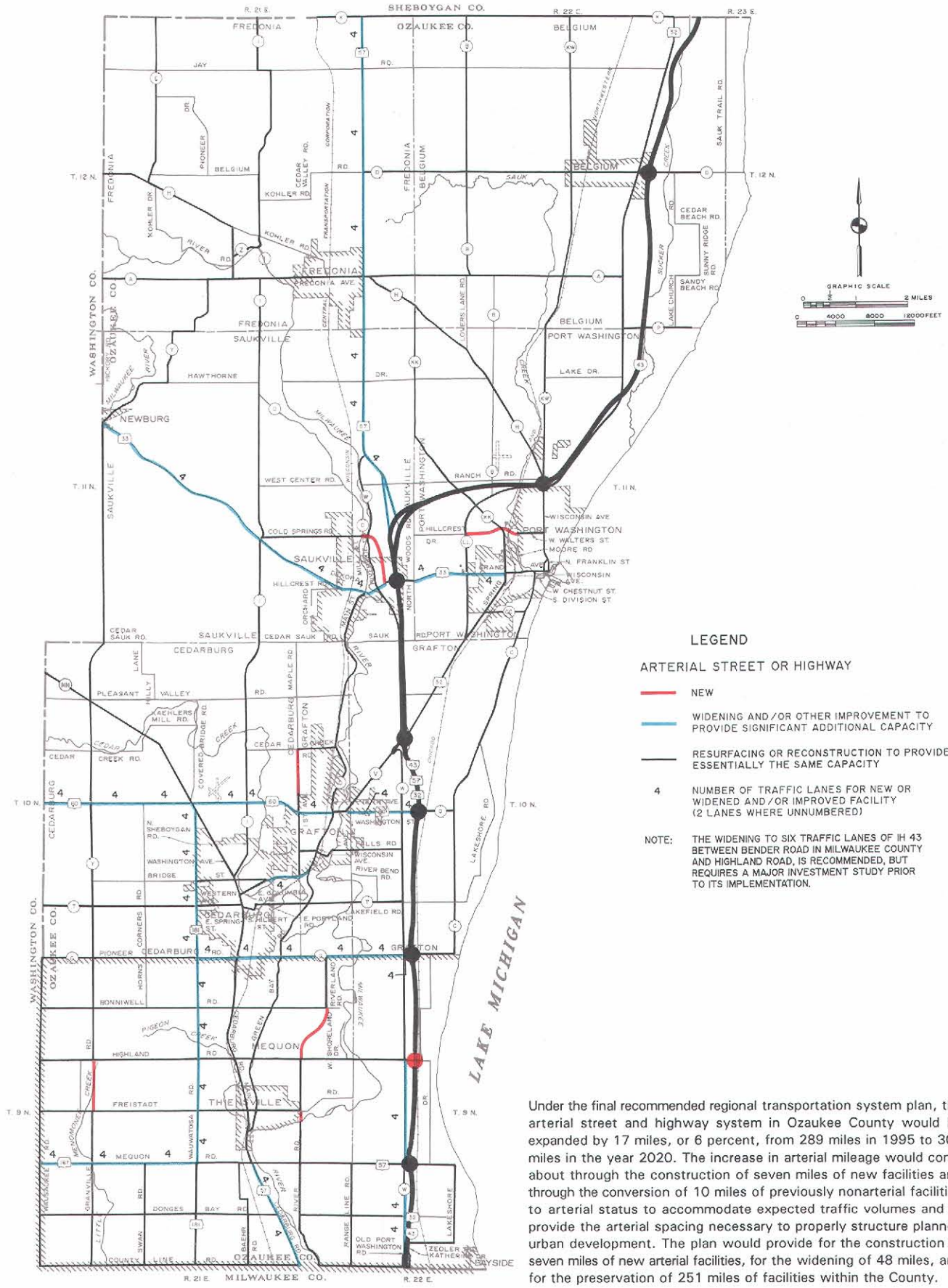
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN MILWAUKEE COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Milwaukee County would be expanded by 22 miles, or 3 percent, from 775 miles in 1995 to 797 miles in the year 2020. The increase in arterial mileage would come about through the construction of 10 miles of new facilities and through the conversion of 12 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 10 miles of new arterial facilities, for the widening of 40 miles, and for the preservation of 747 miles of facilities within the County.

Map 35 (continued)

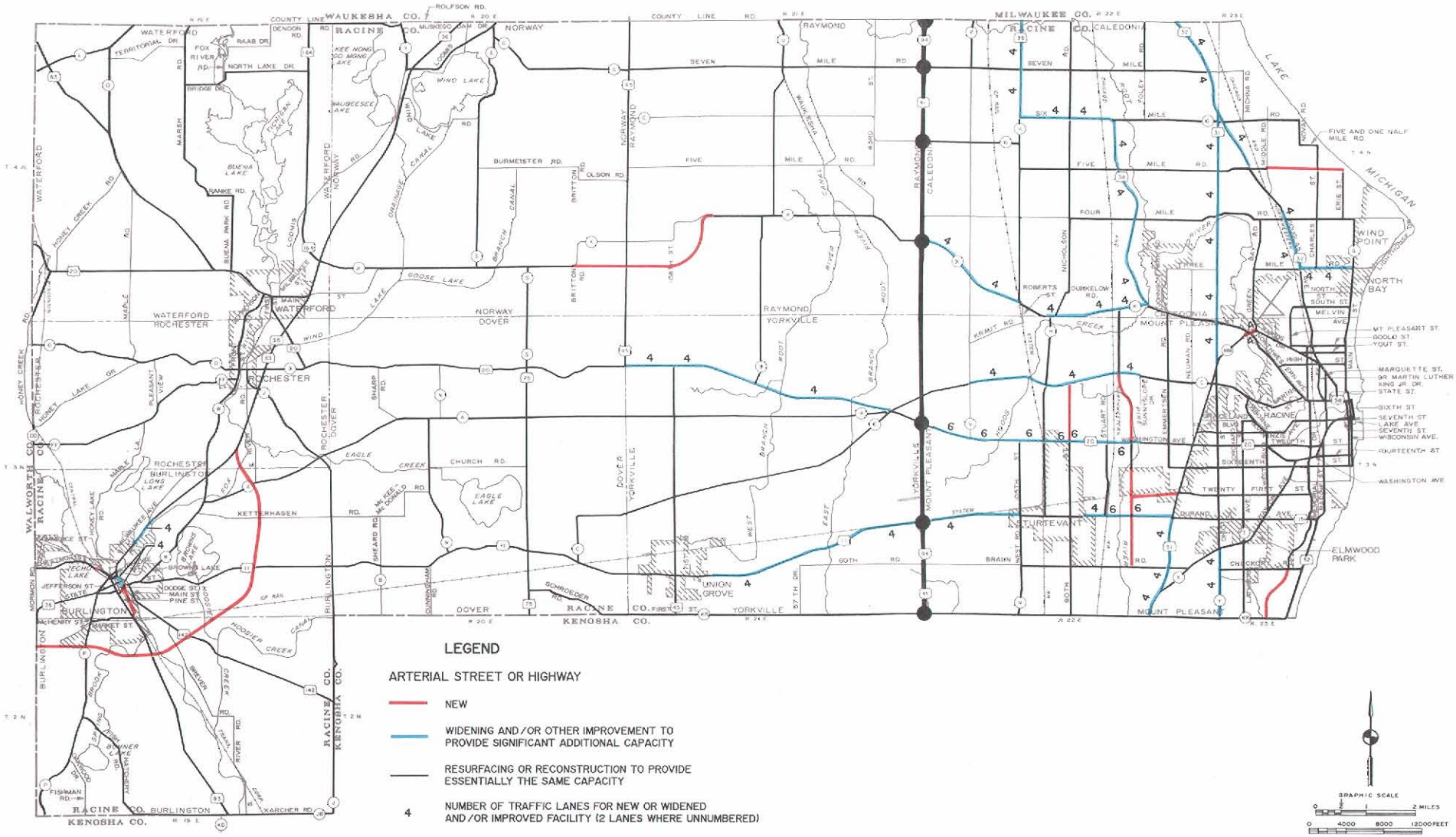
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN OZAUKEE COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Ozaukee County would be expanded by 17 miles, or 6 percent, from 289 miles in 1995 to 306 miles in the year 2020. The increase in arterial mileage would come about through the construction of seven miles of new facilities and through the conversion of 10 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of seven miles of new arterial facilities, for the widening of 48 miles, and for the preservation of 251 miles of facilities within the County.

Map 35 (continued)

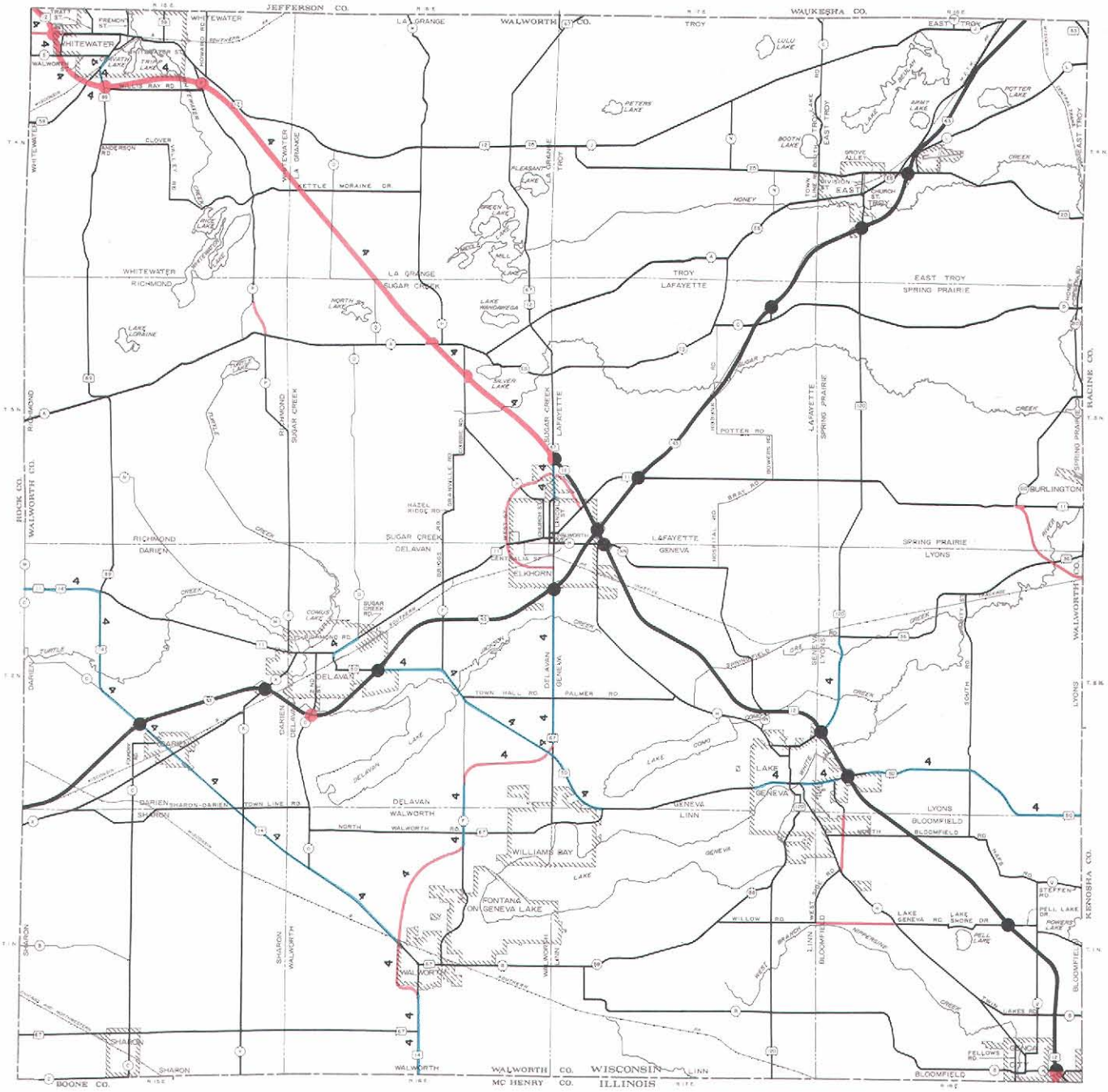
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN RACINE COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Racine County would be expanded by 77 miles, or 22 percent, from 349 miles in 1995 to 426 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 56 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes, and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 51 miles, and for the preservation of 354 miles of facilities within the County.

Map 35 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WALWORTH COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

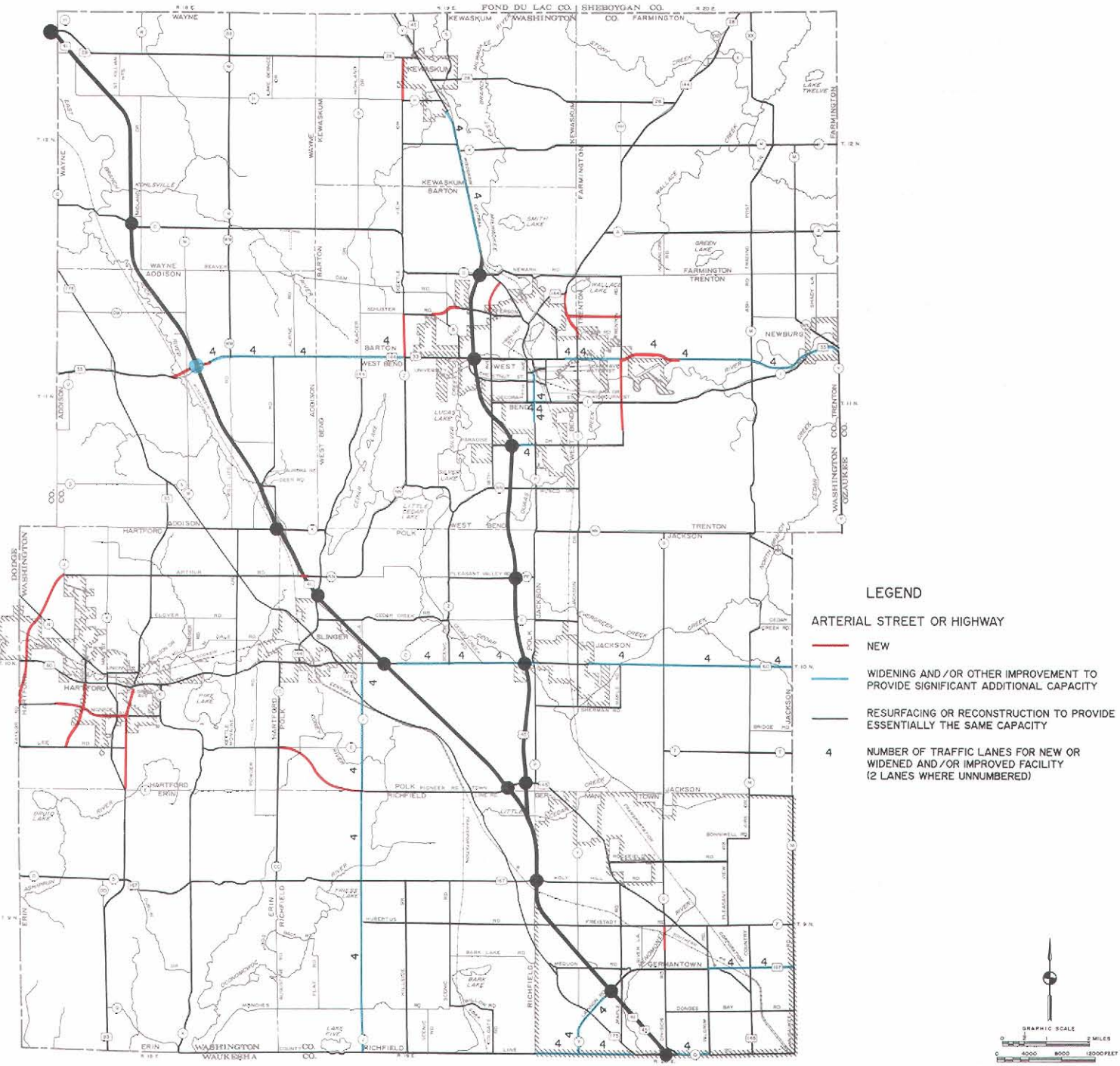
- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE

Under the final recommended regional transportation system plan, the arterial street and highway system in Walworth County would be expanded by 52 miles, or 12 percent, from 430 miles in 1995 to 482 miles in the year 2020. The increase in arterial mileage would come about through the construction of 34 miles of new facilities and through the conversion of 18 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 34 miles of new arterial facilities, for the widening of 37 miles, and for the preservation of 411 miles of facilities within the County.

Map 35 (continued)

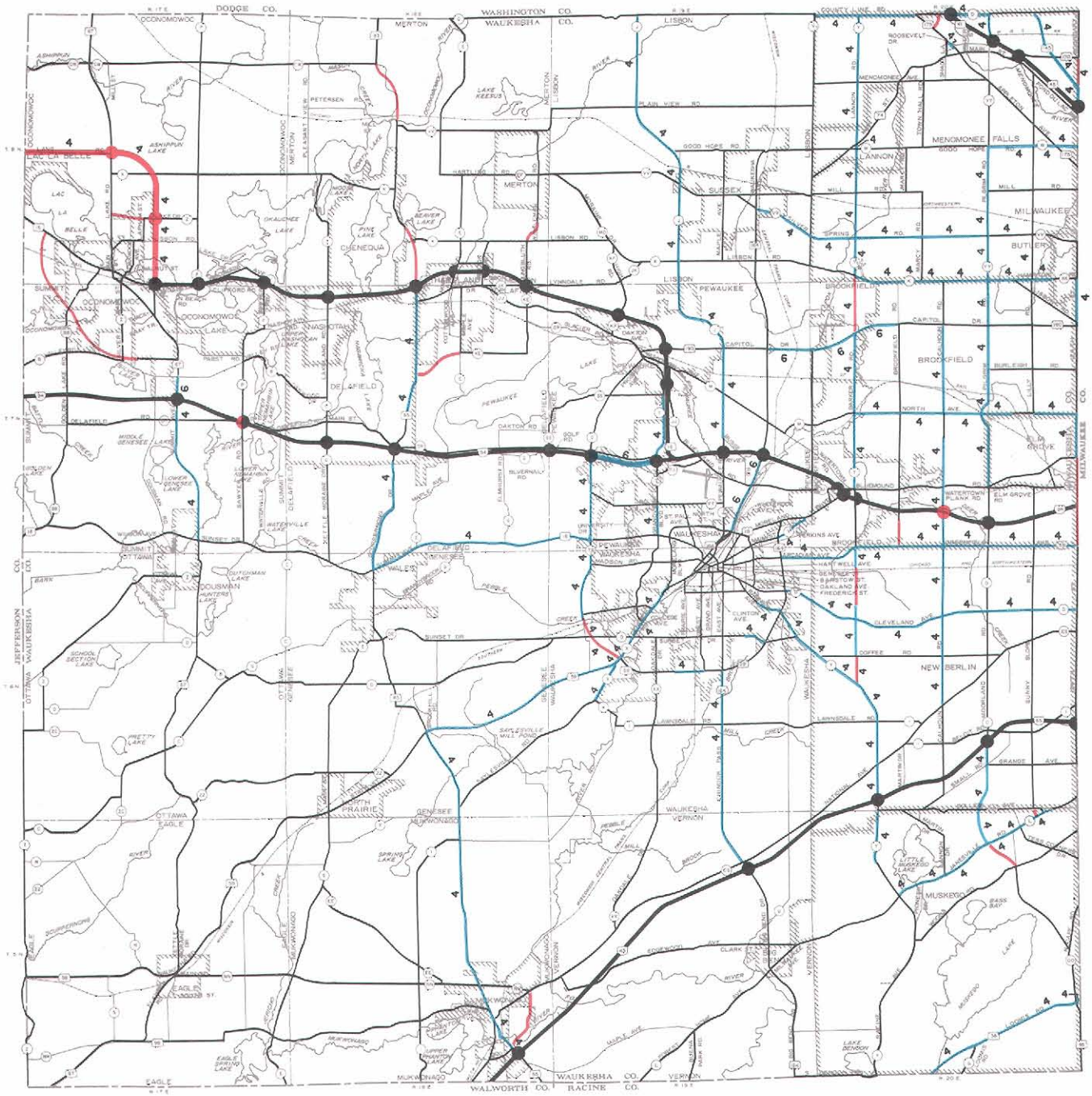
FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WASHINGTON COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



Under the final recommended regional transportation system plan, the arterial street and highway system in Washington County would be expanded by 69 miles, or 17 percent, from 399 miles in 1995 to 468 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 48 miles of previously nonarterial facilities to arterial status to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 miles of new arterial facilities, for the widening of 43 miles, and for the preservation of 404 miles of facilities within the County.

Map 35 (continued)

FUNCTIONAL IMPROVEMENTS TO THE ARTERIAL STREET AND HIGHWAY SYSTEM IN WAUKESHA COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN



LEGEND

ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR WIDENED AND/OR IMPROVED FACILITY (2 LANES WHERE UNNUMBERED)

GRAPHIC SCALE

Under the final recommended regional transportation system plan, the arterial street and highway system in Waukesha County would be expanded by 59 miles, or 8 percent, from 718 miles in 1995 to 777 miles in the year 2020. The increase in arterial mileage would come about through the construction of 21 miles of new facilities and through the conversion of 38 miles of previously nonarterial facilities to arterial status in order to accommodate expected traffic volumes and to provide the arterial spacing necessary to properly structure planned urban development. The plan would provide for the construction of 21 new miles of arterial facilities, for the widening of 142 miles, and for the preservation of 614 miles of facilities within the County.

Source: SEWRPC.

Table 59

ARTERIAL STREET AND HIGHWAY SYSTEM PRESERVATION, IMPROVEMENT, AND EXPANSION BY ARTERIAL FACILITY TYPE BY COUNTY: 2020 RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN

County	System Preservation (miles)	System Improvement (miles)	System Expansion (miles)	Total Miles
Kenosha				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	290.3	44.8	8.5	343.6
Subtotal	302.3	44.8	8.5	355.6
Milwaukee				
Freeway	69.2	0.0	0.0	69.2
Standard Arterial	677.2	40.3	10.3	727.8
Subtotal	746.4	40.3	10.3	797.0
Ozaukee				
Freeway	27.4	0.0	0.0	27.4
Standard Arterial	223.9	47.7	7.0	278.6
Subtotal	251.3	47.7	7.0	306.0
Racine				
Freeway	12.0	0.0	0.0	12.0
Standard Arterial	342.0	50.6	21.5	414.1
Subtotal	354.0	50.6	21.5	426.1
Walworth				
Freeway	50.0	0.0	16.7	66.7
Standard Arterial	361.0	36.7	17.8	415.5
Subtotal	411.0	36.7	34.5	482.2
Washington				
Freeway	42.7	0.0	0.0	42.7
Standard Arterial	361.0	43.1	21.5	425.6
Subtotal	403.7	43.1	21.5	468.3
Waukesha				
Freeway	58.6	1.0	5.7	65.3
Standard Arterial	555.7	141.1	15.0	711.8
Subtotal	614.3	142.1	20.7	777.1
Region				
Freeway	271.9	1.0	22.4	295.3
Standard Arterial	2,811.1	404.3	101.6	3,316.5
Total	3,083.0	405.3	124.0	3,612.3

Source: SEWRPC.

b. A commuter-rail passenger line extending from the Milwaukee Amtrak station south through St. Francis, Cudahy, South Milwaukee, and Racine to the Kenosha Metra station in the Kenosha CBD, a distance of about 33 miles. In 1994, Chicago-oriented commuter-rail service was provided by Metra, the Chicago-based public agency created to deliver commuter-rail services, from the Kenosha station. Accordingly, this particular major investment study will need to examine potential relationships between the proposed commuter-rail passenger service

Table 60

PROJECTS WITH AIR QUALITY IMPACTS IN THE RECOMMENDED 2020 REGIONAL TRANSPORTATION SYSTEM PLAN AND THEIR RELATIONSHIP TO PROJECTS IN THE 1998-2000 TRANSPORTATION IMPROVEMENT PROGRAM

Year Open to Traffic	County	Improvement Type	Facility	Termini	Description
2000[a]	Kenosha	Widening	STH 31	CTH S to CTH KR	Widen from two to four traffic lanes
2000[a]		Expansion	39th Avenue extension	18th Street to 15th Street	Construct two lanes on new alignment
2000[a]	Milwaukee	Widening	USH 45/STH 36	Waukesha County line to STH 100	Widen from two to four traffic lanes
2000[a]			CTH G	Mill Road to Good Hope Road	Widen from two to four traffic lanes
2000[a]			CTH BB	Hawthorne Lane to USH 41	Widen from two to four traffic lanes
2000[a]			Good Hope Road	Waukesha County line to USH 41/USH 45	Widen from two to four traffic lanes
2000[a]			Layton Avenue	108th Street to 84th Street	Widen from two to four traffic lanes
2000[a]			Whitnall Avenue	Lake Parkway to Old Brust Avenue	Widen from two to four traffic lanes
2000[a]			92nd Street	W. Lincoln Avenue to W. Oklahoma Avenue	Widen from two to four traffic lanes
2000[a]		Expansion	Lake Arterial	Lincoln Avenue to CTH Y	Construct four lanes on new alignment
2000[a]			Puetz Road extension	CTH U to Hunting Park Drive	Construct two lanes on new alignment
2000[a]			124th Street extension	STH 100 to STH 145	Construct four lanes on new alignment
2000[a]	Racine	Widening	STH 20	Oakes Road to Sunnyslope Road	Widen from four to six traffic lanes
2000[a]			STH 31	CTH KR to STH 11	Widen from two to four traffic lanes
2000[a]			STH 36/STH 83	Wegge Road to Tuet Road	Widen from two to four traffic lanes
2000[a]			Three Mile Road	STH 32 to CTH G	Widen from two to four traffic lanes
2000[a]	Walworth	Widening	STH 67	USH 12 to Lincoln Avenue	Widen from two to four traffic lanes
2000[a]	Washington	Widening	USH 41	STH 33	Reconstruct interchange
2000[a]			STH 33	Schmidt Road to Trenton Road	Widen from two to four traffic lanes
2000[a]			Main Street	Vine Street to Decorah Street	Widen from two to four traffic lanes
2000[a]		Expansion	STH 83	Monroe Avenue to STH 60	Construct two lanes on new alignment
2000[a]			River Crest Drive extension	CTH Q to Waukesha County line	Construct two lanes on new alignment
2000[a]	Waukesha	Widening	IH 94	CTH G to CTH T	Widen from four to six traffic lanes
2000[a]			STH 36	Racine County line to Milwaukee County line	Widen from two to four traffic lanes
2000[a]			STH 59	Calhoun Road to Milwaukee County line	Widen from two to four traffic lanes
2000[a]			STH 59	Center Road to Grand Avenue	Widen from two to four traffic lanes
2000[a]			STH 59	Poplar Creek to Johnson Road	Widen from two to four traffic lanes
2000[a]			STH 164	STH 59 to CTH ES	Widen from two to four traffic lanes
2000[a]			STH 175	Roosevelt Drive to Shady Lane	Widen from two to four traffic lanes
2000[a]			CTH W	Pilgrim Road to STH 175	Widen from two to four traffic lanes
2000[a]			CTH W	STH 175 to Milwaukee County line	Widen from two to four traffic lanes
2000[a]			Calhoun Road	IH 94 to USH 18	Widen from two to four traffic lanes
2000[a]			Main Street	STH 164 to USH 18	Widen from two to four traffic lanes
2000[a]			Sunset Drive	Tenny Avenue to Grambling Lane	Widen from two to four traffic lanes
2000[a]		Expansion	CTH KE extension	CTH E to STH 83	Construct two lanes on new alignment
2000[a]			Brookfield Road extension	Davidson Road to STH 59	Construct two lanes on new alignment
2000[a]			River Crest Drive extension	Shady Lane to Washington County line	Construct two lanes on new alignment
2007[a]	Kenosha	Widening	STH 32	128th Street to CTH T	Widen from two to four traffic lanes
2007[a]			STH 50	Walworth County line to 381st Avenue	Widen from two to four traffic lanes
2007			STH 50	IH 94/USH 41 to 39th Avenue	Widen from four to six traffic lanes
2007			STH 165	IH 94/USH 41 to a point approximately one mile west of CTH H	Widen from two to four traffic lanes
2007			Roosevelt Road	39th Avenue to 63rd Street	Widen from two to four traffic lanes
2007			Washington Road	39th Avenue to STH 32	Widen from two to four traffic lanes
2007			22nd Avenue	CTH L to CTH E	Widen from two to four traffic lanes
2007[a]			30th Avenue	27th Street to CTH E	Widen from two to four traffic lanes
2007			39th Avenue	Van Buren Road to STH 50	Widen from two to four traffic lanes
2007			60th Street	39th Avenue to STH 32	Widen from two to four traffic lanes
2007			63rd Street	22nd Avenue to STH 32	Widen from two to four traffic lanes
2007			104th Avenue	STH 50 to STH 158	Widen from two to four traffic lanes
2007		Expansion	IH 94/USH 41	CTH ML	Construct new interchange
2007[a]			CTH ML extension	CTH H to STH 31	Construct two lanes on new alignment
2007[a]			CTH KD extension	CTH EM to CTH F	Construct two lanes on new alignment
2007			51st Avenue extension	93rd Street to STH 165	Construct two lanes on new alignment
2007			85th Street extension	Sheridan Road to 7th Avenue	Construct two lanes on new alignment
2007[a]	Milwaukee	Widening	STH 32	County Line Road to STH 100	Widen from two to four traffic lanes
2007[a]			STH 100	STH 38 to STH 32	Widen from two to four traffic lanes
2007[a]			STH 100	STH 36 to 81st Street	Widen from two to four traffic lanes
2007[a]			STH 100	81st Street to 60th Street	Widen from two to four traffic lanes
2007[a]			STH 100	60th Street to USH 41	Widen from two to four traffic lanes
2007[a]			CTH U	Rawson Avenue to Puetz Road	Widen from two to four traffic lanes
2007[a]			CTH ZZ	STH 38 to Pennsylvania Avenue	Widen from two to four traffic lanes
2007			Oklahoma Avenue	Clement Avenue to Kinnickinnic Avenue	Widen from two to four traffic lanes
2007			Port Washington Road	Bender Road to W. Daphne Road	Widen from two to four traffic lanes
2007			Puetz Road	Shepard Avenue to Pennsylvania Avenue	Widen from two to four traffic lanes
2007			Teutonia Avenue	Ruby Avenue to Villard Avenue	Widen from two to four traffic lanes
2007[a]			Whitnall Avenue	CTH Y to Nicholson Avenue	Widen from two to four traffic lanes

Table 60 (continued)

Year Open to Traffic	County	Improvement Type	Facility	Termini	Description
2007[a]	Milwaukee (continued)	Widening (continued)	Whitnall Avenue	Clement Avenue to Brust Avenue	Widen from two to four traffic lanes
2007			91st Street	STH 100 to Ozaukee County line	Widen from two to four traffic lanes
2007			107th Street	Good Hope Road to STH 145	Widen from two to four traffic lanes
2007[a]			124th Street	STH 145 to USH 41/USH 45	Widen from two to four traffic lanes
2007[a]			124th Street	STH 190 to Hampton Avenue	Widen from two to four traffic lanes
2007		Expansion	Canal Street extension	USH 41 to 21st Street	Construct two lanes on new alignment
2007			Canal Street extension	6th Street to 2nd Street	Construct two lanes on new alignment
2007			Metro Boulevard	115th Street to 107th Street	Construct two lanes on new alignment
2007	Ozaukee	Widening	STH 33	Progress Drive to Foster Street	Widen from two to four traffic lanes
2007			STH 57	Bridge Street to Chateau Drive	Widen from two to four traffic lanes
2007[a]			STH 57	IH 43 to Sheboygan County line	Widen from two to four traffic lanes
2007[a]			STH 60	STH 57 to IH 43	Widen from two to four traffic lanes
2007			STH 143	CTH N to STH 60	Widen from two to four traffic lanes
2007[a]			CTH W	Port Washington Lane to a point about 0.5 mile north of Donges Bay Road	Widen from two to four traffic lanes
2007[a]			CTH W	STH 167 to Highland Road	Widen from two to four traffic lanes
2007			CTH C (Pioneer Road)	CTH N to McKinley Boulevard	Widen from two to four traffic lanes
2007			CTH C (Pioneer Road)	McKinley Boulevard to IH 43	Widen from two to four traffic lanes
2007[a]			CTH N (Wauwatosa Road)	STH 167 to CTH C	Widen from two to four traffic lanes
2007		Expansion	River Road extension	Freistadt Road to Grace Avenue	Construct two lanes on new alignment
2007[a]	Racine	Widening	STH 11	IH 94 to CTH H	Widen from two to four traffic lanes
2007			STH 11	86th Street in the Village of Sturtevant to Willow Road	Widen from two to four traffic lanes
2007			STH 11	Willow Road to STH 31	Widen from four to six traffic lanes
2007			STH 20	IH 94/USH 41 to Oakes Road	Widen from four to six traffic lanes
2007[a]			STH 31	CTH MM to STH 32	Widen from two to four traffic lanes
2007[a]			STH 32	A point about 0.3 mile north of CTH G to Three Mile Road	Widen from two to four traffic lanes
2007			CTH Y	CTH KR to CTH X	Widen from two to four traffic lanes
2007			Calumet Street	Robert Street to Bridge Street	Widen from two to four traffic lanes
2007		Expansion	Calumet Street extension	Market Street to Robert Street	Construct two lanes on new alignment
2007			Commerce Street/Pine Street connection	Herman Street to Origen Street	Construct two lanes on new alignment
2007			Memorial Drive extension	Chicory Road to CTH KR	Construct two lanes on new alignment
2007			Oakes Road extension	STH 20 to Airline Road	Construct two lanes on new alignment
2007			Oakes Road extension	Braun Road to STH 11	Construct two lanes on new alignment
2007			State Street/Adams Street connection	Calumet Street to STH 11	Construct two lanes on new alignment
2007	Walworth	Widening	USH 14	Proposed STH 67 bypass to McHenry County (Illinois) line	Widen from two to four traffic lanes
2007[a]			STH 50	STH 67 to Geneva Street	Widen from two to four traffic lanes
2007[a]			STH 50	CTH H to Edwards Boulevard	Widen from two to four traffic lanes
2007[a]			STH 50	USH 12 to Kenosha County line	Widen from two to four traffic lanes
2007[a]		Expansion	USH 12 Freeway	Cold Spring Road to Howard Road[b]	Construct four lanes on new alignment
2007[a]			STH 120 bypass	Townline Road to existing STH 120 at Willow Road	Construct two lanes on existing and new alignment
2007[a]	Washington	Widening	USH 45	CTH D to Prospect Drive	Widen from two to four traffic lanes
2007			STH 60	USH 41 to CTH P	Widen from two to four traffic lanes
2007			CTH Q	CTH V to STH 175	Widen from two to four traffic lanes
2007[a]			CTH Q	Division Road to Pilgrim Road	Widen from two to four traffic lanes
2007			Decorah Road	7th Avenue to Indiana Avenue	Widen from two to four traffic lanes
2007[a]			STH 164 (Lovers Lane Road)	STH 175 to STH 60	Widen from two to four traffic lanes
2007			Main Street	Decorah Street to Walnut Street	Widen from two to four traffic lanes
2007			Paradise Drive	A point 1,250 feet east of USH 45 to Main Street	Widen from two to four traffic lanes
2007		Expansion	STH 33	Rock River to USH 41	Construct two lanes on new alignment
2007			STH 83	CTH E to Monroe Avenue	Construct two lanes on new alignment
2007			Monroe Avenue extension	Monroe Avenue to Pond Road	Construct two lanes on new alignment
2007			N. River Road extension	N. River Road to STH 144	Construct two lanes on new alignment
2007			18th Avenue extension	Jefferson Street to CTH D	Construct two lanes on new alignment
2007	Waukesha	Widening	STH 59	STH 164 to Poplar Creek	Widen from two to four traffic lanes
2007			STH 83	IH 94 to USH 18	Widen from two to four traffic lanes
2007			STH 83	Mariner Drive to CTH KE extension	Widen from two to four traffic lanes
2007			STH 83	IH 43 to CTH NN	Widen from two to four traffic lanes
2007[a]			STH 164	City of Waukesha north corporate limit to IH 94	Widen from four to six traffic lanes
2007			STH 190	CTH Y to Brookfield Road	Widen from four to six traffic lanes
2007			CTH D	Moorland Road to Milwaukee County line	Widen from two to four traffic lanes
2007			CTH L	CTH Y to CTH HH	Widen from two to four traffic lanes
2007[a]			CTH J	Rockwood Drive to CTH M	Widen from two to four traffic lanes
2007[a]			CTH J	CTH M to Washington County line	Widen from two to four traffic lanes
2007			CTH Q	CTH V to STH 175	Widen from two to four traffic lanes
2007			CTH X	CTH H to STH 59	Widen from two to four traffic lanes
2007			CTH X	STH 59 to Moreland Boulevard	Widen from two to four traffic lanes
2007			CTH Y	Hillendale Drive to CTH HH	Widen from two to four traffic lanes
2007[a]			CTH Y	USH 18 to North Avenue	Widen from two to four traffic lanes

Table 60 (continued)

Year Open to Traffic	County	Improvement Type	Facility	Termini	Description
2007	Waukesha (continued)	Widening (continued)	CTH TT	MacArthur Road to USH 18	Widen from two to four traffic lanes
2007[a]			CTH YY	CTH VV to CTH W	Widen from two to four traffic lanes
2007			CTH YY	Lisbon Road to CTH VV	Widen from two to four traffic lanes
2007			Calhoun Road	CTH D to STH 59	Widen from two to four traffic lanes
2007			North Avenue	Barker Road to 147th Street	Widen from two to four traffic lanes
2007[a]			Pilgrim Road	USH 41/USH 45 to Washington County line	Widen from two to four traffic lanes
2007			Sunset Drive	Grambling Lane to STH 59/STH 164	Widen from two to four traffic lanes
2007			124th Street	STH 145 to USH 41/USH 45	Widen from two to four traffic lanes
2007			124th Street	STH 190 to Hampton Avenue	Widen from two to four traffic lanes
2007		Expansion	IH 94	CTH P	Construct new interchange
2007			Lake Drive extension	Lapham Street to STH 67	Construct two lanes on new alignment
2007			Valley Road	STH 67 to CTH P	Construct two lanes on new alignment
2007			124th Street	STH 100 to STH 145	Construct two lanes on new alignment
2010	Kenosha	Widening	STH 83	128th Street to STH 50	Widen from two to four traffic lanes
2010			STH 158	104th Avenue to STH 31	Widen from two to four traffic lanes
2010			STH 165	STH 31 to STH 32	Widen from two to four traffic lanes
2010			CTH E	STH 31 to STH 32	Widen from two to four traffic lanes
2010			CTH S	IH 94/USH 41 to STH 31	Widen from two to four traffic lanes
2010		Expansion	CTH F extension	CTH O to 89th Street	Construct two lanes on new alignment
2010			39th Avenue extension	24th Street to 18th Street	Construct two lanes on new alignment
2010	Milwaukee	Widening	STH 38	County Line Road to Oakwood Road	Widen from two to four traffic lanes
2010			Morgan Avenue	Forest Home Avenue to 43rd Street	Widen from two to four traffic lanes
2010			Whitnall Avenue	Nicholson Avenue to Packard Avenue	Widen from two to four traffic lanes
2010			Pennsylvania Avenue	Drexel Avenue to College Avenue	Widen from two to four traffic lanes
2010			124th Street	North Avenue to Watertown Plank Road	Widen from two to four traffic lanes
2010	Ozaukee	Widening	STH 33	Washington County line to Progress Drive	Widen from two to four traffic lanes
2010			STH 33	IH 43 to Spring Street	Widen from two to four traffic lanes
2010			STH 57	Milwaukee County line to STH 167	Widen from two to four traffic lanes
2010			STH 60	Washington County line to STH 143	Widen from two to four traffic lanes
2010			STH 60	STH 143 to STH 57	Widen from two to four traffic lanes
2010			STH 167	Washington County line to Wauwatosa Road	Widen from two to four traffic lanes
2010			CTH N (Wauwatosa Road)	CTH C to STH 60	Widen from two to four traffic lanes
2010		Expansion	IH 43	Highland Road	Construct new interchange
2010			Cold Springs Road	CTH O to STH 33	Construct two lanes on new alignment
2010			Maple Road extension	Cedar Creek Road to Rose Street at Village of Grafton north corporate limits	Construct two lanes on new alignment
2010[a]	Racine	Widening	STH 32	Milwaukee County line to Five Mile Road	Widen from two to four traffic lanes
2010			STH 38	Milwaukee County line to CTH K	Widen from two to four traffic lanes
2010			CTH C	CTH V to Airline Road	Widen from two to four traffic lanes
2010			CTH C	Airline Road to Sunnyslope Road	Widen from two to four traffic lanes
2010			CTH K	IH 94 to CTH H	Widen from two to four traffic lanes
2010			CTH K	Kraut Road to STH 38	Widen from two to four traffic lanes
2010		Expansion	Burlington bypass	STH 36 (Milwaukee Avenue) to STH 11	Construct two lanes on new alignment
2010			Five Mile Road extension	STH 32 to Erie Street	Construct two lanes on new alignment
2010			Oakes Road extension	21st Street to 16th Street	Construct two lanes on new alignment
2010			Oakes Road extension	STH 11 to 21st Street	Construct two lanes on new alignment
2010			21st Street extension	STH 31 to Oakes Road	Construct two lanes on new alignment
2010			90th Street extension	STH 20 to CTH C	Construct two lanes on new alignment
2010	Walworth	Widening	STH 11	CTH O to 7th Street	Widen from two to four traffic lanes
2010			USH 14	CTH O to proposed STH 67 bypass	Widen from two to four traffic lanes
2010			USH 14	Rock County line to CTH O	Widen from two to four traffic lanes
2010			STH 50	STH 11 to Wisconsin Street	Widen from two to four traffic lanes
2010			STH 50	IH 43 to STH 67	Widen from two to four traffic lanes
2010			STH 67	IH 43 to the proposed STH 67 bypass at STH 50	Widen from two to four traffic lanes
2010			STH 89	Willis Ray Road to Whitewater Street	Widen from two to four traffic lanes
2010		Expansion	Main Street extension	Frontage Road to Rock County line	Construct two lanes on new alignment
2010			New facility	CTH H east to STH 11	Construct two lanes on new alignment
2010[a]	Washington	Widening	STH 33	Oak Road to Ozaukee County line	Widen from two to four traffic lanes
2010			CTH Y	CTH Q to USH 41/USH 45	Widen from two to four traffic lanes
2010		Expansion	STH 33	Trenton Road to Oak Road	Construct four lanes on new alignment
2010			Division Road extension	STH 167 to Freistadt Road	Construct two lanes on new alignment
2010			Jefferson Street extension	Trenton Road to N. River Road	Construct two lanes on new alignment
2010			Pioneer Road extension	CTH J to CTH CC	Construct two lanes on new alignment
2010			Taylor Road extension	Pond Road to STH 60	Construct two lanes on new alignment
2010			Trenton Road extension	STH 33 to Maple Road	Construct two lanes on new alignment
2010	Waukesha	Widening	STH 59	STH 83 to St. Paul Avenue	Widen from two to four traffic lanes
2010			STH 59	Johnson Road to Calhoun Road	Widen from two to four traffic lanes
2010			STH 67	CTH B to IH 94	Widen from four to six traffic lanes
2010			STH 83	CTH KE extension to STH 16	Widen from two to four traffic lanes
2010			STH 83	CTH NN to STH 59	Widen from two to four traffic lanes

Table 60 (continued)

Year Open to Traffic	County	Improvement Type	Facility	Termini	Description
2010	Waukesha (continued)	Widening (continued)	STH 145	Milwaukee County line to Washington County line	Widen from two to four traffic lanes
2010			STH 190	STH 164 to CTH Y	Widen from four to six traffic lanes
2010			CTH D	STH 59/STH 164 to Moorland Road	Widen from two to four traffic lanes
2010			CTH K	CTH Y to Calhoun Road	Widen from two to four traffic lanes
2010			CTH T	Golf Road to proposed CTH SS extension	Widen from two to four traffic lanes
2010			CTH Q	Division Road to Pilgrim Road	Widen from two to four traffic lanes
2010			CTH Y	IH 43 to Coffee Road	Widen from two to four traffic lanes
2010			CTH Y	STH 59/STH 164 to Coffee Road	Widen from two to four traffic lanes
2010			CTH VV	STH 164 to CTH Y	Widen from two to four traffic lanes
2010			CTH VV	CTH Y to Betty Drive	Widen from two to four traffic lanes
2010			Calhoun Road	STH 59 to IH 94	Widen from two to four traffic lanes
2010			Calhoun Road	USH 18 to Gebhardt Road	Widen from two to four traffic lanes
2010			*Grandview Boulevard*	*USH 18 to Northview Road*	Widen from two to four traffic lanes
2010			Hampton Road	Lisbon Road to 132nd Street	Widen from two to four traffic lanes
2010			Lisbon Road	Calhoun Road to Hampton Road	Widen from two to four traffic lanes
2010			Meadowbrook Road	Northview Road to IH 94	Widen from two to four traffic lanes
2010			Moorland Road	CTH L to IH 43	Widen from two to four traffic lanes
2010			North Avenue	Lilly Road to 124th Street	Widen from two to four traffic lanes
2010			Pilgrim Road	A point about 700 feet north of North Avenue to Lisbon Road	Widen from two to four traffic lanes
2010			Pilgrim Road	North Avenue to a point about 700 feet north	Widen from two to four traffic lanes
2010			*Pilgrim Road*	*USH 18 to North Avenue*	Widen from two to four traffic lanes
2010			Racine Avenue	Downing Drive to STH 59/STH 164	Widen from two to four traffic lanes
2010			Waukesha west bypass	Northview Road to USH 18	Widen from two to four traffic lanes
2010[a]		Expansion	IH 94	Calhoun Road	Construct new interchange
2010[a]			STH 16/STH 67 bypass	Wisconsin Avenue to Jefferson County line	Construct four lanes on new alignment
2010			STH 83	STH 16 to Thompson Lane	Construct two lanes on new alignment
2010			STH 83	Kilbourne Road to CTH CW	Construct two lanes on new alignment
2010			CTH Y extension	STH 190 to CTH K	Construct four lanes on new alignment
2010			CTH KE realignment	CTH K to a point about 800 feet north	Construct two lanes on new alignment
2010			Moorland Road extension	Woods Road to CTH L	Construct two lanes on new alignment
2010			Oconomowoc Parkway	CTH Z to STH 67	Construct two lanes on new alignment
2020	Kenosha	Widening	22nd Avenue	CTH E to CTH KR	Widen from two to four traffic lanes
2020		Expansion	CTH Q	184th Street extended to 168th Street	Construct two lanes on new alignment
2020			CTH AH	CTH F to CTH SA	Construct two lanes on new alignment
2020	Milwaukee	Widening	STH 100	IH 43 to STH 24	Widen from six to eight traffic lanes
2020			CTH ZZ	STH 36 to USH 41	Widen from two to four traffic lanes
2020			Pennsylvania Avenue	STH 100 to Drexel Avenue	Widen from two to four traffic lanes
2020		Expansion	15th Avenue extension	STH 100 to Elm Road	Construct two lanes on new alignment
2020			124th Street extension	Watertown Plank Road to STH 59	Construct two lanes on new alignment
2020	Ozaukee	Expansion	Granville Road	Highland Road to Freistadt Road	Construct two lanes on new alignment
2020			River Road extension	Bonniwell Road to Highland Road	Construct two lanes on new alignment
2020			Walters Street extension	CTH LL to Grant Street	Construct two lanes on new alignment
2020	Racine	Widening	STH 11	71st Street in the Village of Union Grove to IH 94	Widen from two to four traffic lanes
2020			*STH 20*	*USH 45 to a point 0.73 mile west of CTH C*	Widen from two to four traffic lanes
2020[a]		Expansion	Burlington bypass	STH 11 to STH 36 (State Street)	Construct two lanes on new alignment
2020			CTH K extension	Britton Road to 108th Street	Construct two lanes on new alignment
2020	Walworth	Widening	STH 50	Pearson Drive to Madison Street	Widen from two to four traffic lanes
2020			STH 120	STH 36 to USH 12	Widen from two to four traffic lanes
2020		Expansion	IH 43	CTH O	Construct new interchange
2020			USH 12 Freeway[c]	Howard Road to Elkhorn	Construct four lanes on new alignment
2020			USH 12 Freeway	CTH H to McHenry County (Illinois) line	Construct four lanes on new alignment
2020			STH 67 bypass (Walworth, Fontana-on-Geneva Lake, and Williams Bay)	Existing STH 67 at Village of Walworth south corporate limits to existing STH 67 at STH 50	Construct four lanes on generally new alignment
2020			Burlington bypass	STH 11 to Spring Valley Road	Construct two lanes on generally new alignment
2020			CTH P realignment	Territorial Road to CTH A	Construct two lanes on new alignment
2020			Willow Road extension	West Side Road to CTH H	Construct two lanes on new alignment
2020			New facility	STH 67 west to STH 11	Construct two lanes on new alignment
2020			New facility	STH 11 north to CTH H	Construct two lanes on new alignment
2020	Washington	Widening	STH 33	USH 41 to CTH Z	Widen from two to four traffic lanes
2020			STH 60	Wilshire Drive to Ozaukee County line	Widen from two to four traffic lanes
2020			STH 167	Pilgrim Road to Ozaukee County line	Widen from two to four traffic lanes
2020[a]			CTH J	CTH Q to STH 175	Widen from two to four traffic lanes
2020		Expansion	Arthur Road extension	CTH N to Arthur Road	Construct two lanes on new alignment
2020			Kettleview Road extension	CTH H to STH 28	Construct two lanes on new alignment
2020			Kettleview Road extension	STH 33 to Schuster Drive	Construct two lanes on new alignment
2020			Schuster Drive extension	Schuster Drive to Beaver Dam Road	Construct two lanes on new alignment
2020			Wacker Drive extension	STH 60 to Lee Road	Construct two lanes on new alignment

Table 60 (continued)

Year Open to Traffic	County	Improvement Type	Facility	Termini	Description
2020	Waukesha	Widening	USH 18	STH 83 to CTH TT	Widen from two to four traffic lanes
2020			STH 67	IH 94 to USH 18	Widen from two to four traffic lanes
2020			CTH Y	STH 74 to CTH Q	Widen from two to four traffic lanes
2020			CTH Y	CTH K to STH 74	Widen from two to four traffic lanes
2020			CTH Y	North Avenue to STH 190	Widen from two to four traffic lanes
2020			Calhoun Road	CTH ES to CTH D	Widen from two to four traffic lanes
2020			Calhoun Road	North Avenue to STH 190	Widen from two to four traffic lanes
2020			Johnson Road	Coffee Road to Lincoln Avenue	Widen from two to four traffic lanes
2020			Johnson Road	A point about 2,000 feet south of STH 59 to STH 59	Widen from two to four traffic lanes
2020			124th Street	North Avenue to Watertown Plank Road	Widen from two to four traffic lanes
2020		Expansion	Johnson Road extension	A point about 2,000 feet south of STH 59 to Lincoln Avenue	Construct four lanes on new alignment
2020			Johnson Road extension	Coffee Road to CTH Y	Construct four lanes on new alignment
2020[a]			Mukwonago bypass	IH 43 to CTH ES	Construct two lanes on new alignment
2020			Oconomowoc Parkway	STH 16 to CTH Z	Construct two lanes on new alignment
2020			Sunnyslope Road extension	CTH HH to CTH L	Construct two lanes on new alignment
2020			Waukesha west bypass	CTH X to MacArthur Road	Construct four lanes on new alignment
2020			124th Street extension	Watertown Plank Road to STH 59	Construct two lanes on new alignment

[a]*Transportation improvement project is included in the 1998-2000 transportation improvement program.*

[b]*The initial segment of the USH 12 Freeway between the City of Whitewater and the City of Elkhorn is anticipated to be the segment bypassing the City of Whitewater from existing USH 12 at approximately Howard Road southeast of the City to existing USH 12 at approximately Cold Spring Road northwest of the City. Initially, only two travel lanes are anticipated to be constructed and are anticipated to be open to traffic by the year 2007.*

[c]*Initial two lanes of four-lane freeway proposed to be constructed and open to traffic by the year 2020.*

Source: SEWRPC.

Table 61

IMPLEMENTATION SCHEDULE FOR ARTERIAL STREET SYSTEM CAPACITY IMPROVEMENT AND EXPANSION ENVISIONED UNDER RECOMMENDED 2020 TRANSPORTATION PLAN: 2000, 2007, 2010, AND 2020

Southeastern Wisconsin Region	Proposed Incremental Arterial System Improvement and Expansion Route-Miles				
	Year				
	2000	2007	2010	2020	Total
State Trunk Highways	41	111	108	69	329
County and Local Trunk Highways	15	69	66	51	201
Total Regional Arterial System	56	180	174	120	530

Source: SEWRPC.

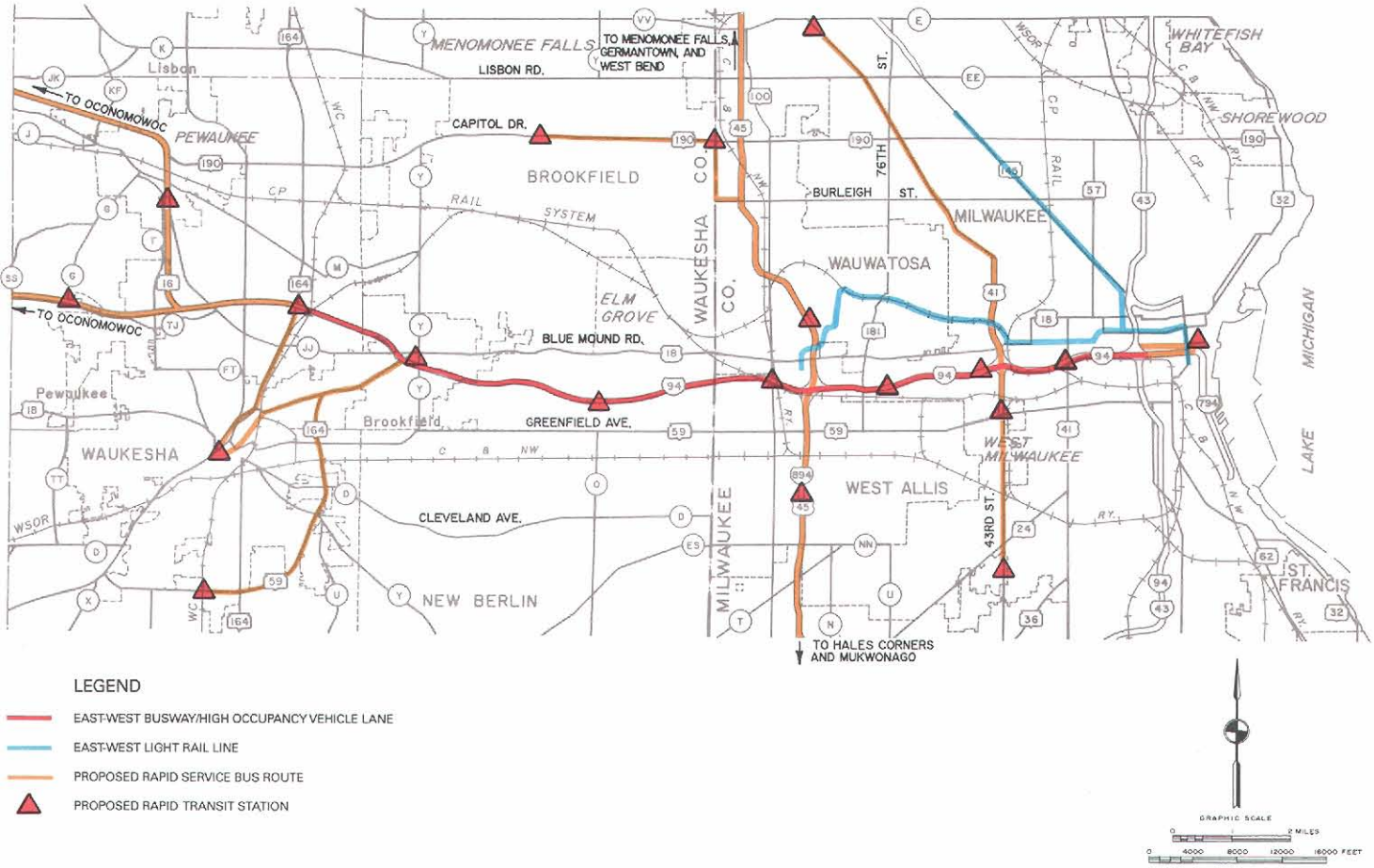
in Southeastern Wisconsin and the existing Chicago-oriented commuter-rail service. A feasibility study of commuter-rail service in this corridor was initiated in 1997 and is anticipated to be completed in 1998.

5. Southwest Corridor
Major Investment Study
A major investment study will be required in the southwest travel corridor for a potential facility identified in the recommended regional transportation system plan for further evaluation: a busway/HOV lane along the Zoo Freeway, extending for about six miles from the Zoo Interchange south through the Hale Interchange to S. 116th Street (see Map 40).

6. Milwaukee Crosstown Corridor
Major Investment Study
A major investment study will be required in the Milwaukee crosstown travel corridor for a potential facility identified in the recommended regional transportation system plan for further evaluation: a

Map 36

TRANSPORTATION FACILITIES UNDER CONSIDERATION IN THE CURRENT WISCONSIN DEPARTMENT OF TRANSPORTATION EAST-WEST TRAVEL CORRIDOR STUDY (MAJOR INVESTMENT STUDY)



LEGEND

- EAST-WEST BUSWAY/HIGH OCCUPANCY VEHICLE LANE
- EAST-WEST LIGHT RAIL LINE
- PROPOSED RAPID SERVICE BUS ROUTE
- PROPOSED RAPID TRANSIT STATION

The fixed-guideway transit facilities shown on the accompanying map are acknowledged in the recommended regional transportation system plan as a basis for providing a higher level of service than express bus surface on surface arterials. A corridor study sponsored by the Wisconsin Department of Transportation is currently under way to determine the feasibility of these proposed facilities. Upon completion of that study, the local units of government concerned, the Regional Planning Commission, and the Wisconsin Department of Transportation will affirm the study findings and amend the regional transportation plan if necessary.

Source: SEWRPC.

light-rail transit facility extending from a terminal near the Southridge shopping center in the Village of Greendale and City of Greenfield to and along S. 27th Street and N. 27th Street to a terminus near the intersection of N. Teutonia Avenue and W. Florist Avenue in the City of Milwaukee, a distance of about 14 miles (see Map 41). In addition to potential crosstown light-rail transit service, this facility would serve potential light-rail routes to and from the Milwaukee CBD.

7. Mitchell Field Corridor Major Investment Study
   A major investment study will be required in the Mitchell Field travel corridor for a single proposed facility identified in the recommended regional transportation system plan for further evaluation: a light-rail transit facility extending from the Milwaukee CBD south to General Mitchell International Airport and to a terminal near the interchange of IH 94 and W. College Avenue, a distance of about 10 miles (see Map 42).

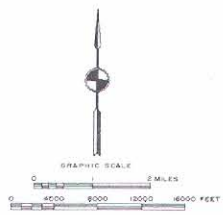
Map 37

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A NORTH TRAVEL CORRIDOR MAJOR INVESTMENT STUDY

LEGEND

- WIDENING OF IH-43 TO SIX LANES
- NORTH SHORE BUSWAY/HIGH OCCUPANCY VEHICLE LANE
- COMMUTER RAIL LINE TO SAUKVILLE
- PROPOSED RAPID SERVICE BUS ROUTE
- PROPOSED RAPID TRANSIT STATION

NOTE: THE WIDENING TO SIX TRAFFIC LANES OF IH 43 BETWEEN BENDER ROAD IN MILWAUKEE COUNTY AND HIGHLAND ROAD, IS RECOMMENDED, BUT REQUIRES A MAJOR INVESTMENT STUDY PRIOR TO ITS IMPLEMENTATION.



A major investment study will be required to determine the scope and content of the proposed transportation facilities in the north travel corridor, which extends from the central business district of Milwaukee to the Saukville-Port Washington area of Ozaukee County. This major investment study is proposed to be initiated in 1999.

Source: SEWRPC.

Map 38

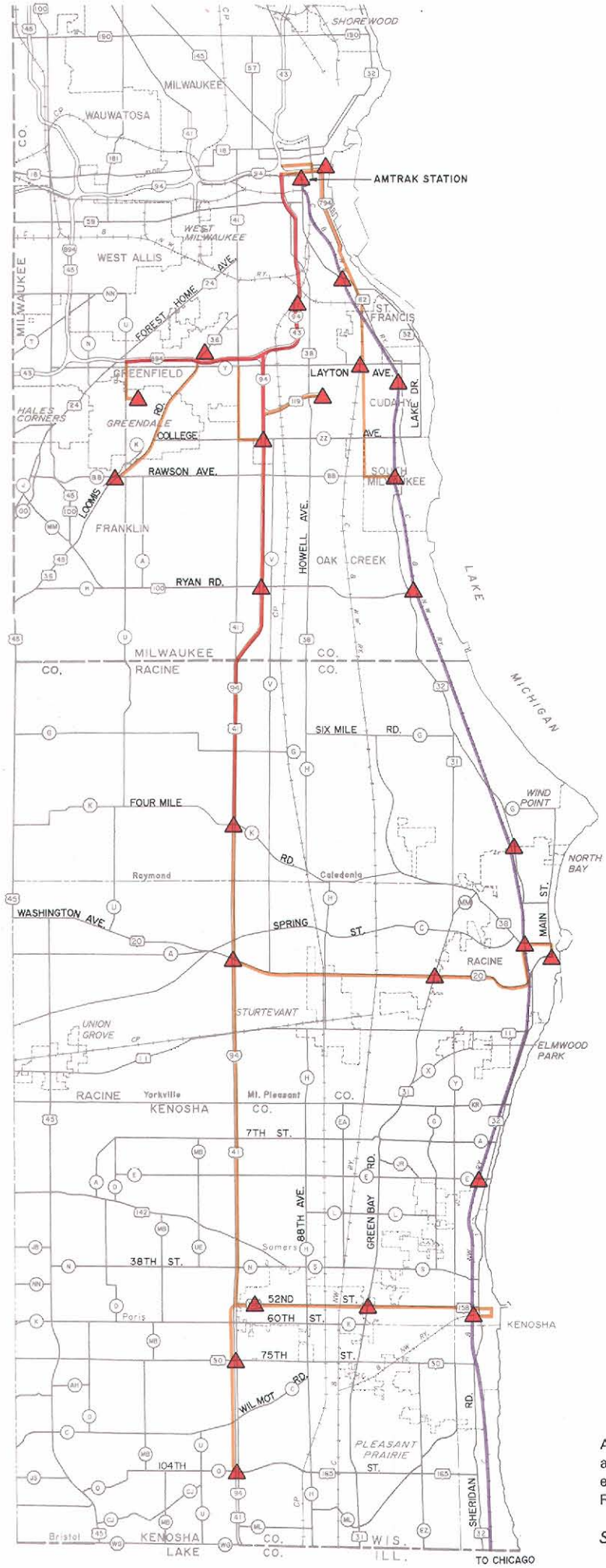
TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A NORTHWEST TRAVEL CORRIDOR MAJOR INVESTMENT STUDY

A major investment study will be required to determine the scope and content of the proposed transportation facilities in the northwest travel corridor, which extends from the central business district of Milwaukee to the City of West Bend in Washington County.

Source: SEWRPC.

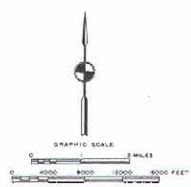
Map 39

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A SOUTH TRAVEL CORRIDOR MAJOR INVESTMENT STUDY



LEGEND

- SOUTH SHORE BUSWAY/HIGH OCCUPANCY VEHICLE LANE
- COMMUTER RAIL LINE TO RACINE AND KENOSHA WITH LINK TO CHICAGO METRA SYSTEM LINE
- PROPOSED RAPID SERVICE BUS ROUTE
- PROPOSED RAPID TRANSIT STATION



A major investment study will be required to determine the scope and content of proposed facilities in the south travel corridor, which extends from the central business district of Milwaukee to the Racine and Kenosha areas.

Source: SEWRPC.

8. Milwaukee Northridge Corridor Major Investment Study

   The regional transportation system plan recognizes the potential to establish an express transit service in the Milwaukee Northridge travel corridor, extending for about 12 miles from the Milwaukee CBD to a terminal near the Northridge shopping center (see Map 43). This particular service, which could be provided by bus or light-rail service, was the subject of a corridor study conducted by the Commission for Milwaukee County. The findings and recommendations of this study are documented in SEWRPC Community Assistance Planning Report No. 150, *A Rapid Transit Facility Plan for the Milwaukee Northwest Corridor*, January 1988. Based upon that study, Milwaukee County determined to implement an express bus system in the corridor. It was recognized, however, that, should transit ridership increase significantly in the corridor following initiation of the express bus service, it may be desirable to again examine the potential for light-rail service. The recommended regional transportation system plan thus holds open the possibility for such a reexamination.

9. East-West Corridor Major Investment Study

   Because the scope of the current Wisconsin Department of Transportation East-West Corridor Transit Study did not include consideration of commuter-rail passenger service, a future major investment study may be required in the East-West Corridor for the proposed commuter-rail passenger line extending from the Milwaukee Amtrak station west to the City of Oconomowoc, a distance of about 32 miles (see Map 44). Historically, commuter-rail passenger service was provided on the railway line in this corridor, the former Chicago, Milwaukee, St. Paul & Pacific Railroad Company line, until its termination in 1972. Because this major investment study will follow the current study in the East-West Corridor, the future study should be designed to accept as committed decisions those major transportation facilities which ultimately are recommended for implementation through the Wisconsin Department of Transportation East-West Corridor Transit Study.

10. Burlington-Antioch, Illinois, Corridor Major Investment Study

    A major investment study would be required for the potential commuter-rail passenger line extending from the City of Burlington in Racine County through the Village of Silver Lake in Kenosha County to Antioch, Illinois, and on into Chicago. This commuter-rail line would represent an extension of Chicago-oriented service of Metra, which was scheduled to begin in 1996. The extension from Antioch to Burlington would represent about 17 miles of additional service, with the Antioch terminal located about 1.5 miles south of the Wisconsin-Illinois state line (see Map 45). This major investment study has begun with a limited-scope feasibility analysis initiated in 1997 and, depending upon the findings and recommendations of that analysis, could be expanded to complete the requirements for a major investment study.

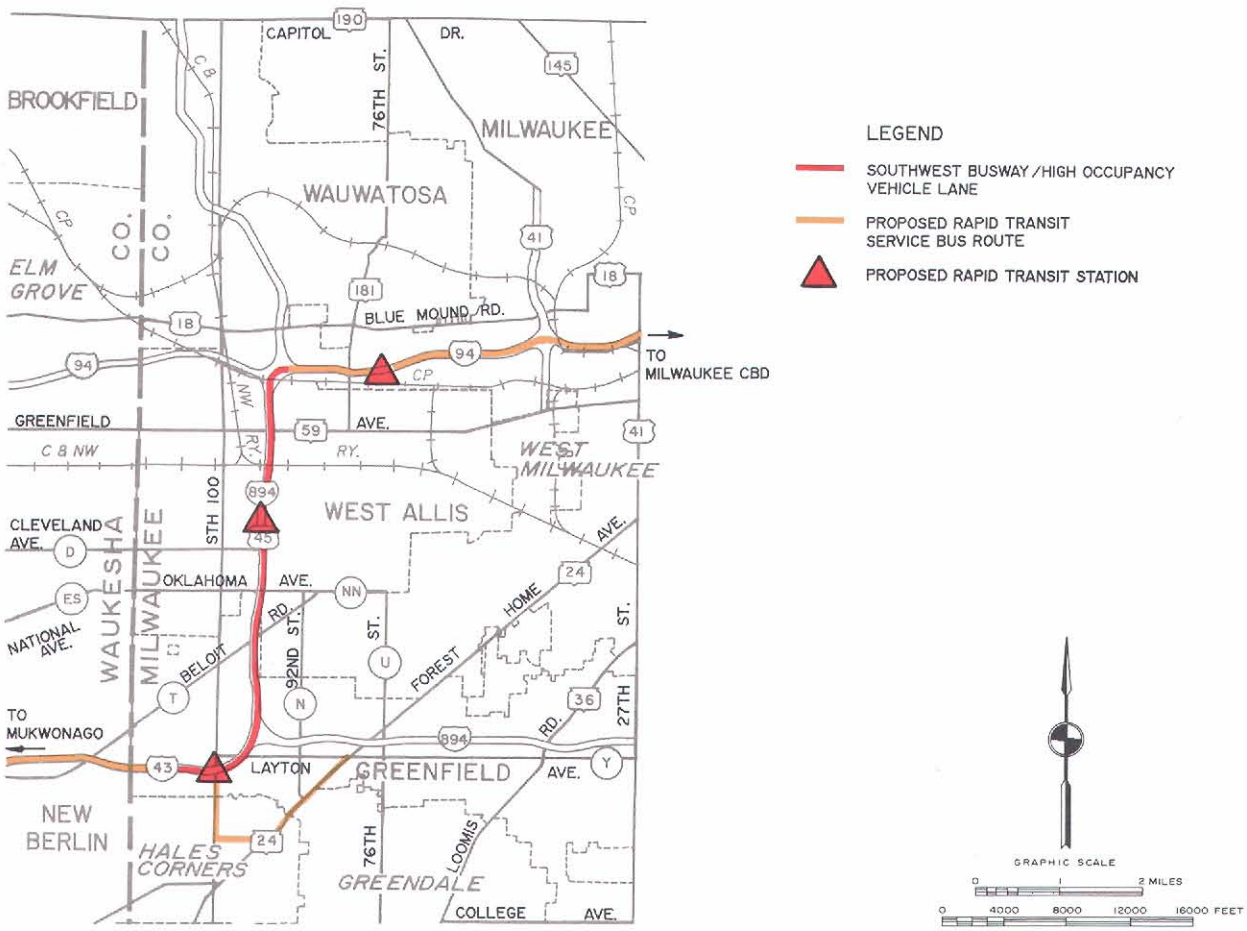
11. Walworth-Fox Lake, Illinois, Corridor Major Investment Study

    A major investment study would be required for the proposed commuter-rail passenger line extending from the Village of Walworth in Walworth County to Fox Lake, Illinois, and on into Chicago. This commuter-rail line would represent an extension of the current Chicago-oriented service of Metra. The extension from Fox Lake to Walworth would represent about 26 miles of additional service, about nine of which would be located within Walworth County (see Map 46). A major investment study would be required even though Walworth County is outside of the Milwaukee Transportation Management Area because the two counties in Illinois through which the extension would run, McHenry and Lake, lie within a Chicago-based Transportation Management Area. This major investment study has begun with a limited-scope feasibility analysis initiated in 1997 and, depending upon the findings of that analysis, could be expanded to complete the requirements for a major investment study.

The only other project identified in the recommended regional transportation system plan that might require a major investment study and that lies within the six-county Milwaukee Transportation Management Area is the extension of the STH 16 Freeway to bypass Oconomowoc. That project will not require the conduct of a new major investment study. An abbreviated study of this proposed improvement, completed by the Wisconsin Department of Transportation in 1994, meets the requirements of the Federal regulations implementing the Intermodal Surface Transportation Efficiency Act of 1991. The work included a final environmental impact statement. The only other freeway improvement projects included in the recommended regional transportation system plan lie in Walworth County, where the major investment study requirements do not apply and where, therefore, the normal preliminary engineering-environmental impact

Map 40

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A SOUTHWEST TRAVEL CORRIDOR MAJOR INVESTMENT STUDY



A major investment study will be required in the southwest travel corridor attendant to a southwest busway/high-occupancy-vehicle lane. This facility would extend along the Zoo Freeway for about six miles from the Zoo Interchange south through the Hale Interchange to S. 116th Street.

Source: SEWRPC.

statement process will be used as a decision-making mechanism. The recommended regional transportation system plan does not call for the construction of any expressways.

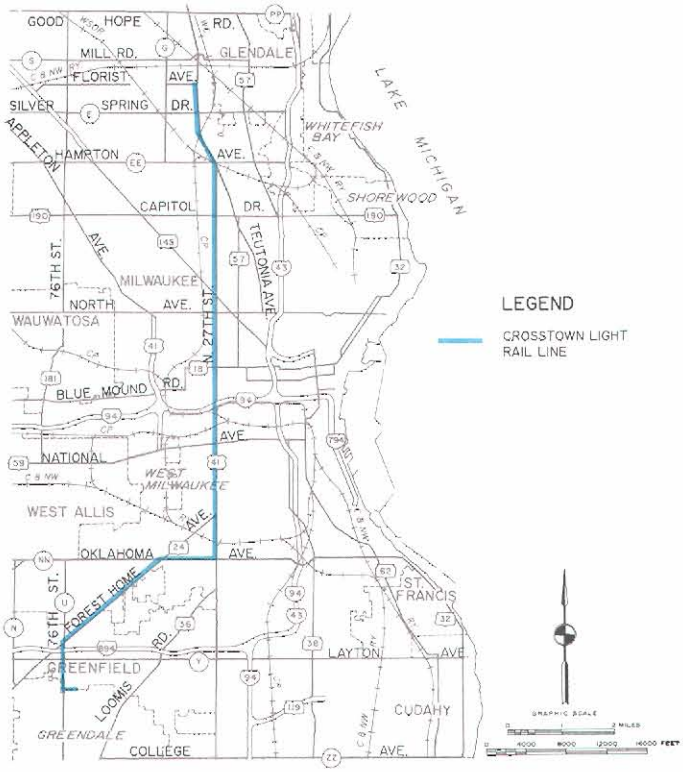
The Federal rules attendant to major investment studies envision a cooperative and collaborative process involving the U. S. and Wisconsin Departments of Transportation; affected local public works agencies; transit operators, both public and private; environmental agencies and interest groups; and the Regional Planning Commission as the metropolitan planning organization. A major investment study can be initiated by an affected public transit operator, the Regional Planning Commission, or the Wisconsin Department of Transportation. Regardless of sponsorship, upon completion of a major investment study, the Regional Planning Commission must formally act to either confirm or revise the adopted regional transportation system plan if the transportation facilities identified for implementation in the major investment study are to be eligible for inclusion in the regional transportation improvement program.

Transit Development Planning

In addition to the major investment studies identified above, it is recommended that each of the public transit operators in the Region undertake the preparation of transit development plans and programs as a basis for

Map 41

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A MILWAUKEE CROSSTOWN TRAVEL CORRIDOR MAJOR INVESTMENT STUDY

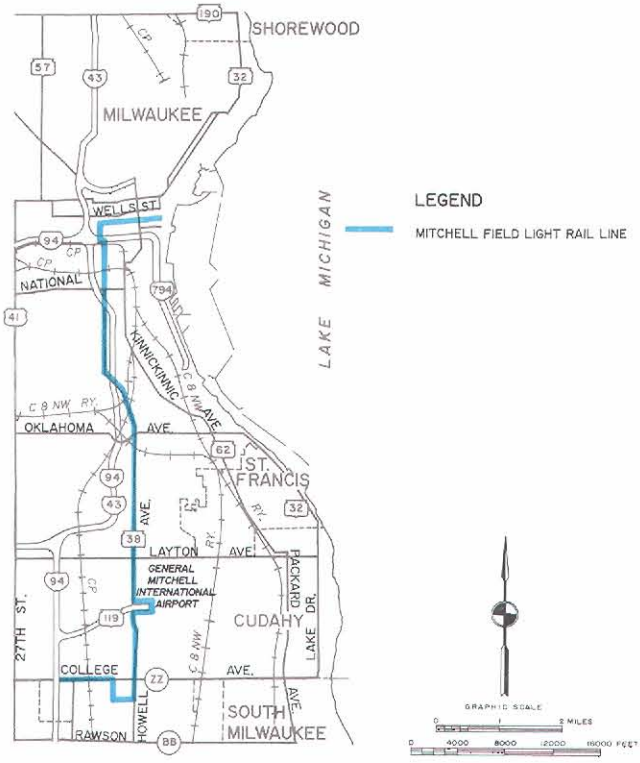


A major investment study will be required in the Milwaukee crosstown travel corridor attendant to a crosstown light-rail line. The light-rail transit line would extend from a terminal near the Southridge shopping center in the Village of Greendale and the City of Greenfield to and along N. 27th Street and S. 27th Street, ending near the intersection of N. Teutonia Avenue and W. Florist Avenue in the City of Milwaukee. The facility would extend a distance of about 14 miles.

Source: SEWRPC.

Map 42

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A FUTURE MITCHELL FIELD TRAVEL CORRIDOR MAJOR INVESTMENT STUDY



A major investment study will be required attendant to a light-rail transit facility extending from the Milwaukee central business district south to General Mitchell International Airport and to a terminal near the interchange of IH 94 and W. College Avenue. This facility would extend for about 10 miles.

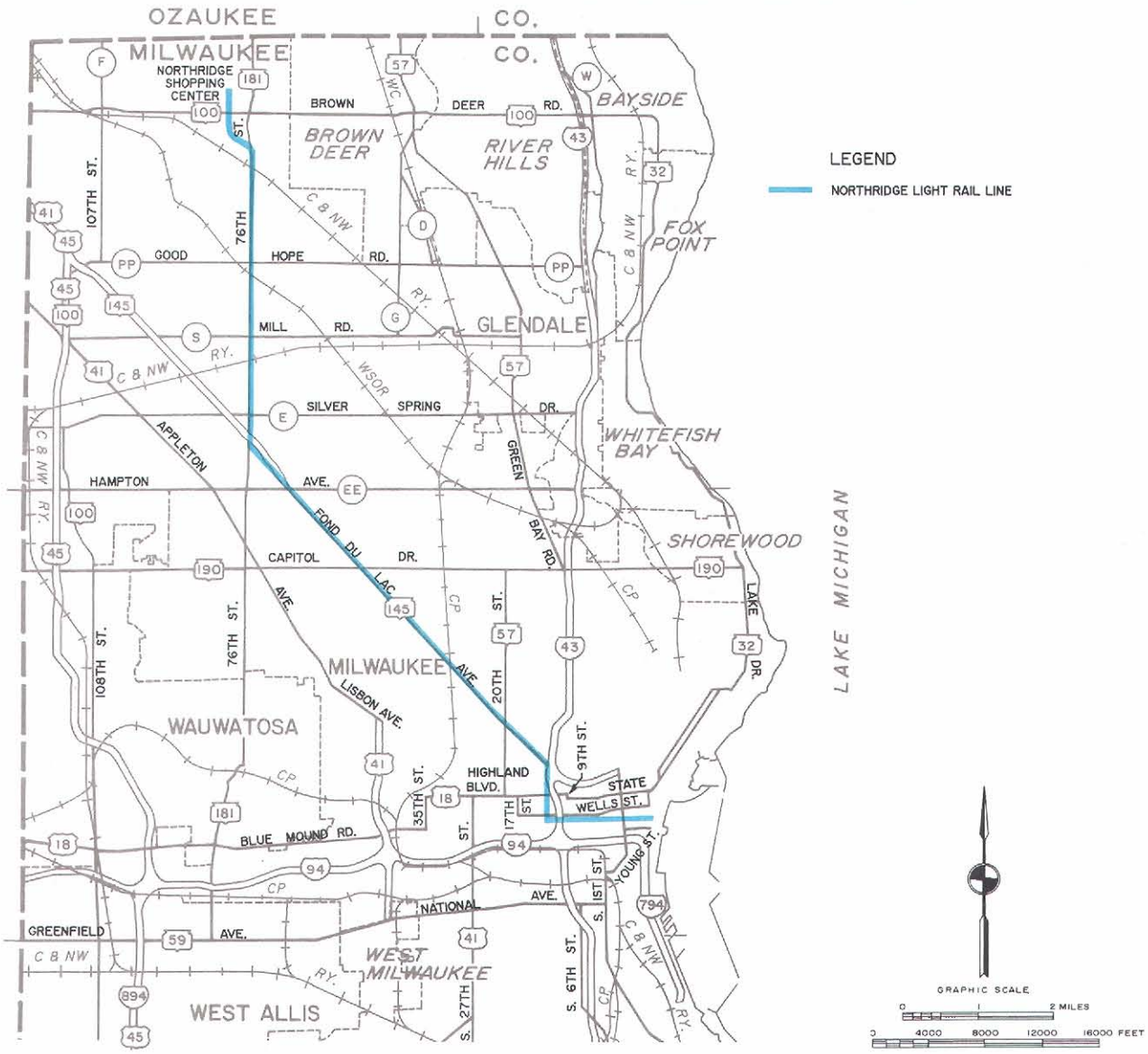
Source: SEWRPC.

refining and detailing the recommendations of the regional plan and for programming projects to implement that plan. Typically, such plans and programs are prepared with a relatively short-term, five-year time horizon. These plans and programs provide the basis for day-to-day decision making on new transit system starts and on modifications to existing transit services. These plans provide the basis, then, for the programming of transit projects by each operator in terms of their individual agency budgets, as well as for submittal of projects to be included in the regional transportation improvement program.

In carrying out the transit development planning, it is further recommended that each transit operator give attention to the need to identify ways to improve non-motorized access to and from transit stops and stations, to the desirability of encouraging the development of multi-purpose land use activity centers at major transit stations, to the improvement of transit signage and route information materials, and to the feasibility of offering an Employee Commute Options (ECO) Pass program, whereby major employers would be encouraged to purchase, at discounted rates, transit passes for use by all their respective employees. It is also recommended that each transit operator explore the desirability of providing neighborhood-based transit vans to shuttle individuals between their homes and major transit stations and activity centers. Finally, it is further recommended that each transit operator continue to plan for improved paratransit services to elderly and disabled individuals, looking in particular toward the improved coordination of service delivery.

Map 43

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A NORTHRIDGE TRAVEL CORRIDOR MAJOR INVESTMENT STUDY



A major investment study will be required attendant to a Northridge light-rail line, which would extend a distance of about 12 miles from the Milwaukee central business district to a terminal near the Northridge shopping center.

Source: SEWRPC.

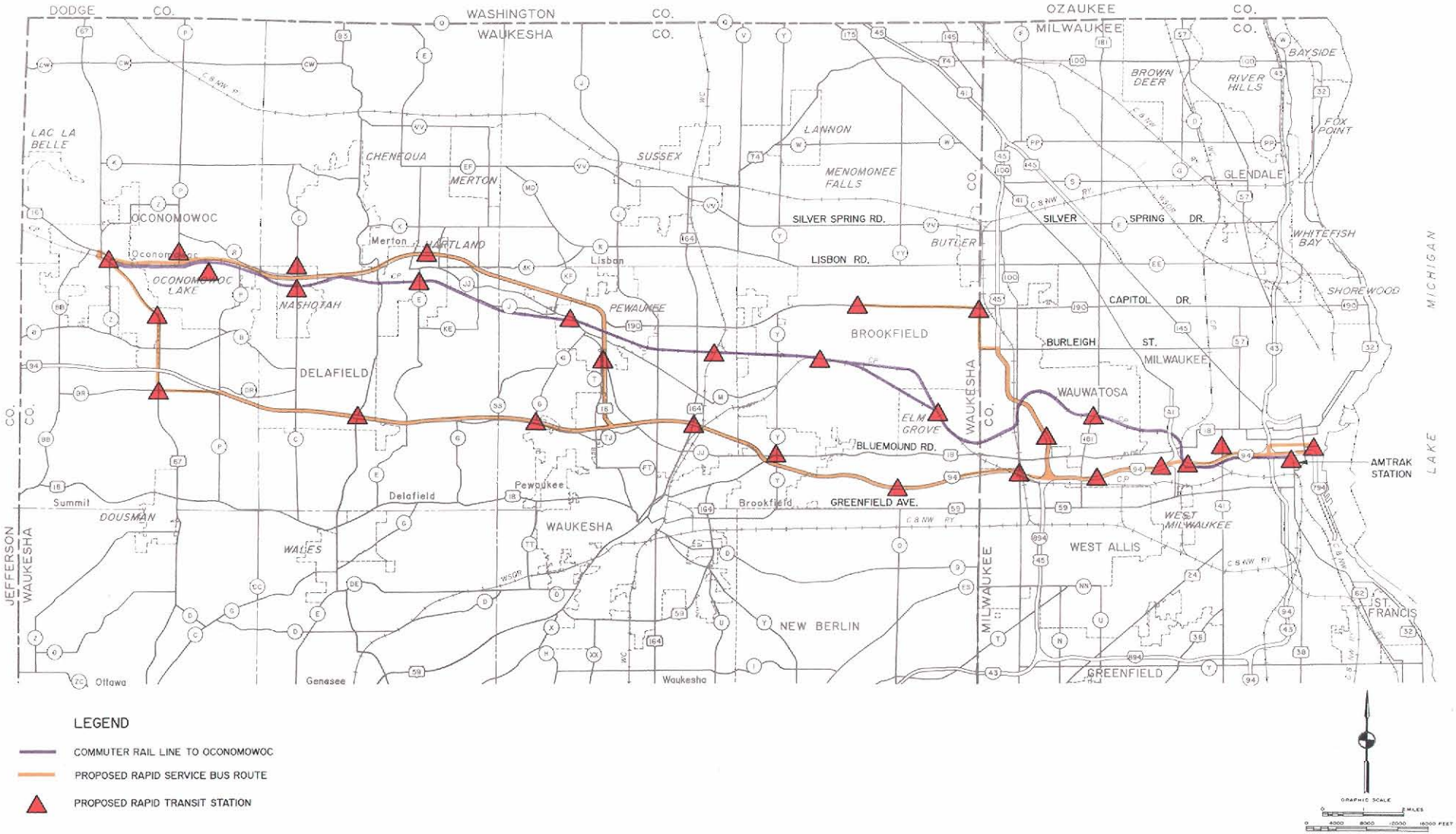
Arterial Street and Highway Planning

County and local public works agencies may also undertake detailed implementation planning attendant to the recommended regional arterial street and highway system. Such planning can serve as a basis for amendment of the regional transportation system plan, but more frequently is used as a basis for refining and detailing that plan and, in particular, for identifying recommended urban and rural arterial street and highway cross-sections and for the determination of right-of-way requirements attendant to such sections.[10] It is recommended that each county and public works agency consider preparing a plan that would

[10] *For an example of this type of implementation planning, see SEWRPC Community Assistance Planning Report No. 210,* City of West Bend Transportation System Plan: 2010, Washington County, Wisconsin, *March 1994.*

Map 44

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A FUTURE EAST-WEST TRAVEL CORRIDOR MAJOR INVESTMENT STUDY

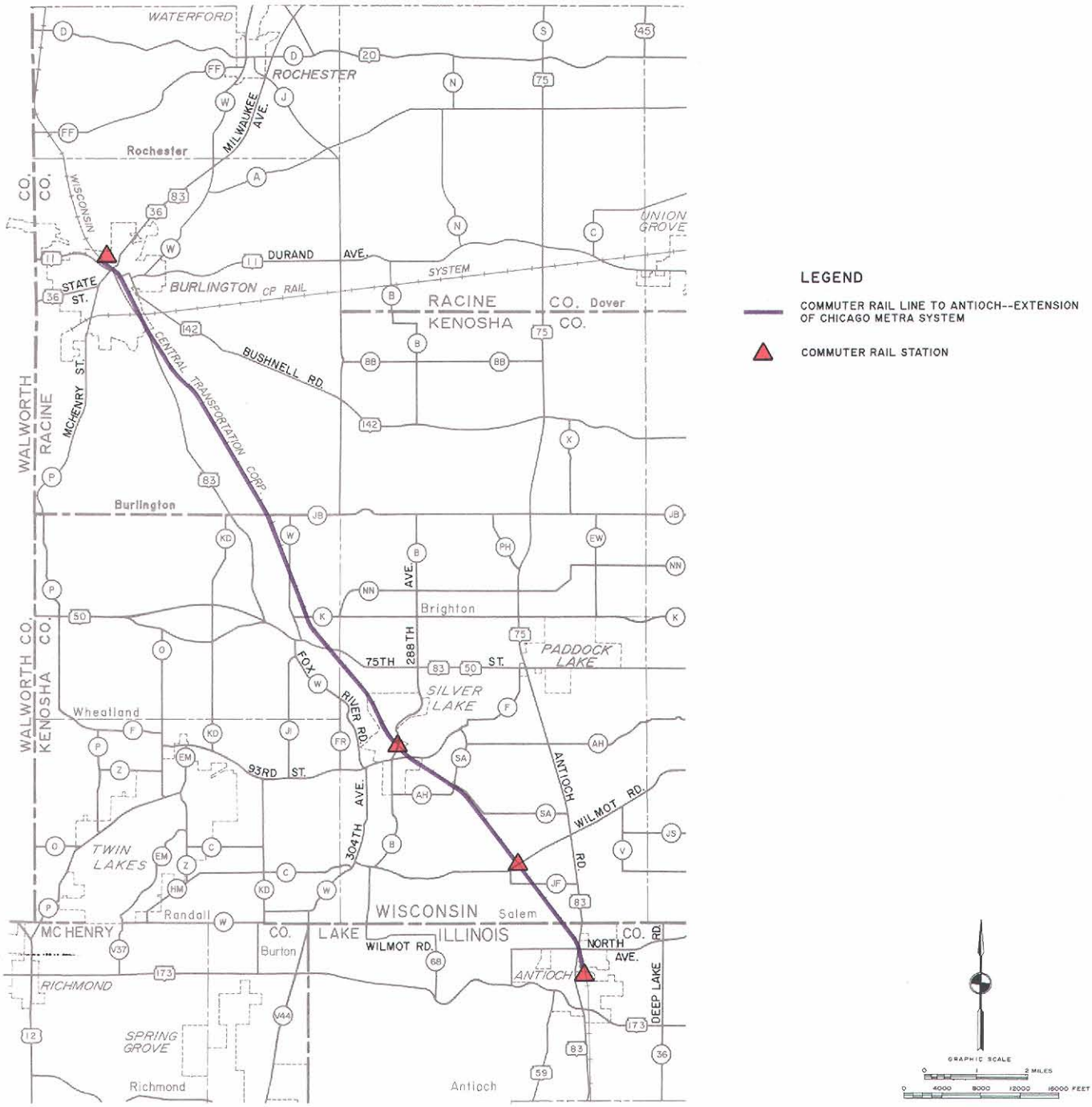


A major investment study will be required attendant to commuter-rail passenger service in the East-West Corridor between the Milwaukee central business district and the City of Oconomowoc. It is necessary to conduct an additional study in this corridor because the scope of the current Wisconsin Department of Transportation East-West Corridor Study did not include consideration of commuter-rail passenger service. The commuter-rail line would extend a distance of about 32 miles.

Source: SEWRPC.

Map 45

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A BURLINGTON-ANTIOCH, ILLINOIS, TRAVEL CORRIDOR MAJOR INVESTMENT STUDY



A major investment study will be required attendant to commuter-rail passenger service from the City of Burlington in Racine County through the Village of Silver Lake in Kenosha County to Antioch, Illinois, and on to Chicago. It is recommended that this major investment study begin with a limited-scope feasibility analysis and, depending upon the findings and recommendations of that analysis, be expanded to complete the requirements of a major investment study.

Source: SEWRPC.

Map 46

TRANSPORTATION FACILITIES PROPOSED TO BE CONSIDERED IN A WALWORTH-FOX LAKE, ILLINOIS, TRAVEL CORRIDOR MAJOR INVESTMENT STUDY

A major investment study is required attendant to commuter-rail passenger service from the Village of Walworth in Walworth County to Fox Lake, Illinois, and on to Chicago. It is recommended that this major investment study begin with a limited-scope feasibility analysis and, depending upon the findings of that analysis, be expanded to complete the requirements of a major investment study.

Source: SEWRPC.

refine and detail the arterial street and highway element of the regional transportation system plan.

Upon completion of any needed detailing and refinement of the arterial street and highway element of the system plan, including preliminary engineering studies, it is recommended that, as appropriate, the Wisconsin Department of Transportation, each county highway and public works agency, and each local public works agency take steps to reserve the required future rights-of-way by means of official mapping, building-setback-line ordinances, land division ordinances, and private deed restrictions. Such prior reservation of right-of-way serves as an expression of governmental intent to acquire land for highway purposes in advance of actual facility construction and thereby not only achieves economies in right-of-way acquisition, but also permits land adjacent to the right-of-way to be privately purchased and developed or redeveloped with full knowledge of the future highway development proposals. The most effective and efficient means of prior reservation of right-of-way is the use of official mapping powers granted to the Wisconsin Department of Transportation, as well as to counties, cities, villages, and towns in Wisconsin.

MANAGEMENT SYSTEMS

The Intermodal Surface Transportation Efficiency Act encourages the State of Wisconsin to develop six transportation management systems: pavement, bridge, safety, congestion, public transportation, and intermodal management. These management systems, as defined by the applicable Federal rules, are intended to assist decision makers in identifying cost-effective actions to improve the efficiency and safety of the transportation infrastructure. The congestion, public transportation, and intermodal management systems, in particular, are important to the successful implementation of metropolitan transportation system plans. These last three management systems must be integrated and incorporated into the ongoing regional

planning process conducted within Southeastern Wisconsin. The objective of such integration is to ensure the provision of the information necessary to implement and to periodically review and revise, as may be found necessary, recommended areawide plans throughout the implementation periods.

The management systems are viewed by the Federal government as ongoing processes. The congestion, public transportation, and intermodal management systems are to be designed to include the following: 1) the continuing collection of data concerning congestion levels, public transit assets, and the use of intermodal facilities and services, 2) the analyses of alternatives to address problems associated with traffic congestion, transit assets, and intermodal transportation, 3) the selection and implementation of preferred alternatives to achieve the resolution of existing and future potential problems, and 4) monitoring to ascertain if the preferred alternatives have been implemented and the identified problems resolved. It is envisioned that the analyses and conclusions drawn from the management systems will provide the basis for periodically reevaluating and, as may be necessary, amending the regional transportation system plan.

The State of Wisconsin may enter into agreements with local units of government, as well as with the Regional Planning Commission, to implement parts of any management system, but the State is ultimately responsible for overseeing and coordinating the implementation of all of the required management systems.

It is recommended that the Regional Planning Commission perform a significant role in carrying out the requirements of the congestion management system. Indeed, the transportation system planning process employed by the Commission is designed to meet the requirements of a congestion management system; the new regional transportation system plan is intended to comprise a congestion management plan for Southeastern Wisconsin. The plan design process explicitly addressed existing and anticipated future traffic congestion problems in a disciplined way so as to ensure that highway capacity expansions were proposed only as a last resort to resolve traffic congestion problems. The Commission has the capability to monitor traffic congestion problems within the Region and to evaluate the effectiveness of implemented measures proposed to resolve such problems.

SUMMARY AND CONCLUSIONS

This chapter has described the various means available, and has recommended specific procedures, for implementation of the recommended regional transportation system plan. The most important recommended plan implementation actions are summarized in the following paragraphs by level of government and responsible agency or unit of government.

Local Level

County Boards of Supervisors

It is recommended that the county boards of the seven counties comprising the Region, upon recommendation of the appropriate highway, transit, and/or public works committees, do the following:

1. Adopt the recommended regional transportation system plan as that plan affects each respective county.

2. Work cooperatively with the Wisconsin Department of Transportation and the cities, villages, and towns in the county in effecting changes in jurisdictional responsibility for portions of the arterial street and highway system as recommended in the plan.

3. Act to expand, improve, and maintain the arterial street and highway facilities designated in the plan for county jurisdiction in accordance with the functional plan recommendations, including undertaking, as may be appropriate, detailed planning, preliminary engineering, and official mapping work efforts.

4. Cooperate with the Wisconsin Department of Transportation, the Regional Planning Commission, and adjoining counties as necessary to conduct the major investment studies attendant to freeways and fixed-guideway transit facilities identified in the plan, and carry out, as appropriate, detailed county-wide transit planning programs to refine and detail the transit element of the regional transportation plan.

5. As appropriate to each county, provide public transit services in accordance with the recommendations set forth in the transit element of the plan.

City Common Councils, Village Boards, and Town Boards

It is recommended that the city common councils, village boards, and town boards in the Region, upon recommendations, as appropriate, of their plan commissions, boards of public works, and transit commissions, do the following:

1. Adopt the recommended regional transportation system plan as that plan affects each respective civil division.

2. Work cooperatively with the Wisconsin Department of Transportation and their respective counties in effecting changes in jurisdictional responsibility for portions of the arterial street and highway system as recommended in the plan.

3. Act to expand, improve, and maintain any arterial street or highway facility designated in the plan for local jurisdiction in accordance with the functional recommendations, including undertaking, as may be appropriate, detailed planning, preliminary engineering, and official mapping work efforts.

4. As appropriate, and upon consideration by, and recommendation of, local plan commissions and traffic engineering staffs, restrict curb-lane parking during peak travel periods on those arterial streets designated in the recommended plan as candidates for such restriction.

5. As appropriate, and upon consideration by and recommendation of the local plan commissions, integrate into the local planning and development practices and ordinances transit- and pedestrian-friendly land use development concepts.

6. As appropriate, cooperate with the Wisconsin Department of Transportation, the Regional Planning Commission, and any concerned counties in conducting major investment studies attendant to freeways and fixed-guideway transit facilities identified in the plan.

7. As appropriate, provide public transit services in accordance with the recommendation of the transit element of the regional transportation plan.

Areawide Level

Regional Planning Commission

It is recommended that the Southeastern Wisconsin Regional Planning Commission do the following:

1. Adopt the recommended regional transportation system plan, the Commission thus acting not only in its capacity as a regional planning agency but also as the federally recognized metropolitan planning organization for the Kenosha, Milwaukee, and Racine urbanized areas.

2. Conduct a continuing regional transportation planning program to review, revise and amend, and update and extend the adopted regional transportation system plan from time to time.

3. Work cooperatively with the county and local governments concerned, the Wisconsin Department of Transportation and the U. S. Department of Transportation, Federal Highway and Transit Administrations, in conducting the major investment studies attendant to freeways and fixed-guideway transit facilities identified in the plan.

4. Cooperate with the Wisconsin Department of Natural Resources in assuring the continued conformity of the regional transportation system plan to the State Implementation Plan for Air Quality.

5. Provide assistance upon request to county and local governments in conducting highway and transit plan implementation efforts, including the preparation of detailed county and local highway and transit development plans and such implementation devices as official mapping.

6. Prepare a local planning guide designed to illustrate transit- and pedestrian-friendly land use development practices and provide assistance upon request to county and local governments in incorporating those practices into county and local plans and ordinances.

7. Provide assistance, upon request, to the Wisconsin Department of Transportation and county and local governments in carrying out cooperative efforts to effect changes in jurisdictional responsibility for portions of the arterial street and highway system as recommended in the plan.

8. Work cooperatively with the Wisconsin Department of Transportation as that Department discharges its responsibilities attendant to the development and operation, over time, of the transportation management systems called for in the Federal Intermodal Surface Transportation Efficiency Act, with particular focus on joint work efforts attendant to the congestion, public transportation, and intermodal management systems.

9. Conduct a study to identify and address the anticipated funding shortfall attendant to plan implementation.

State Level

Wisconsin Department of Transportation

It is recommended that the Wisconsin Department of Transportation do the following:

1. Adopt the recommended regional transportation system plan and integrate that plan into the Wisconsin intermodal transportation plan as a functional and jurisdictional guide to transit and highway system development within the Region.

2. Work cooperatively with the counties, cities, villages, and towns in the Region in effecting changes in jurisdictional responsibility for portions of the arterial street and highway system as recommended in the plan.

3. Act to expand, improve, and maintain any arterial street or highway facility designated in the plan for State jurisdiction in accordance with the functional recommendations, including undertaking necessary preliminary engineering and official mapping efforts.

4. Cooperate with the Regional Planning Commission and the concerned counties and local governments in the Region in conducting the major investment studies related to freeways and fixed-guideway transit facilities identified in the plan.

5. Provide financial support for the preparation by the Regional Planning Commission of a local planning guide designed to illustrate transit- and pedestrian-friendly land use development practices.

6. Develop and carry out in a cooperative manner with the Regional Planning Commission the congestion, public transportation, and intermodal management systems called for in the Federal Intermodal Surface Transportation Efficiency Act of 1991.

7. Continue to develop and operate the Milwaukee-area freeway traffic management system so as to achieve the highest possible level of service on the freeways and help encourage travel and transit and carpools and vanpools.

8. Continue to develop a transportation demand management program, including ridesharing promotion, assistance to transportation management associations, promotion of employee-based transportation demand management strategies, promotion of travel by bicycle and walking, and construction of carpool lots.

Wisconsin Department of Natural Resources
It is recommended that the Wisconsin Natural Resources Board endorse the regional transportation system plan and direct its staff to complete the State Implementation Plan for Air Quality in a manner consistent with the transportation plan.

Wisconsin Department of Administration
It is recommended that the Wisconsin Department of Administration endorse the regional transportation system plan and use that plan as a basis for reviewing and commenting on federally funded transportation projects.

Wisconsin Department of Commerce
It is recommended that the Wisconsin Department of Commerce endorse the regional transportation system plan and consider that plan as it makes economic-development-related decisions.

University of Wisconsin-Extension
It is recommended that the University of Wisconsin-Extension acknowledge the regional transportation system plan and promote implementation of the plan in its ongoing educational programs.

Federal Level

U. S. Department of Transportation, Federal Highway Administration
It is recommended that the Federal Highway Administration endorse the regional transportation plan, find that the plan meets the requirements of the Intermodal Surface Transportation Efficiency Act of 1991 and is consistent with the State Implementation Plan for Air Quality, and use the plan in the administration of its various Federal grant programs.

U. S. Department of Transportation, Federal Transit Administration
It is recommended that the Federal Transit Administration endorse the regional transportation plan, find that the plan meets the requirements of the Intermodal Surface Transportation Efficiency Act of 1991 and is consistent with the State Implementation Plan for Air Quality, and use the plan in the administration of its various Federal grant programs.

U. S. Environmental Protection Agency
It is recommended that the U. S. Environmental Protection Agency endorse the regional transportation plan and use the plan as it carries out its day-to-day regulatory activities.

General Considerations

Several particularly significant aspects of regional transportation system plan implementation warrant restatement here in summary form. First, the recommended regional transportation plan presented in this report, like the companion recommended regional land use plan docu-

mented in a separate report, is intended to comprise a guide to certain important aspects of the sound physical development of the Region. As such, the plan is advisory to the local, State, and Federal units and agencies of government concerned as these public bodies consider transportation facility development matters in the Region. The regional transportation system plan is not to be considered as an inflexible mold to which all future transportation system development within the Region must precisely conform. Rather, the regional transportation system plan is to be regarded as a point of departure against which transportation system development proposals can be evaluated as they arise and in the light of which better development decisions can be made by all parties concerned. The regional plan is intended to be used as a framework for more detailed county and local planning. As such, the plan is subject to refinement, detailing, and amendment as plan implementation proceeds, over time, within the Region.

Second, the adoption or endorsement of the recommended regional transportation plan as a guide to the sound development of the Region by the local units of government and the various State and Federal agencies concerned is highly desirable. Indeed, in some cases, that adoption or endorsement is essential in order to ensure a common understanding of the areawide development objectives and to permit the necessary plan implementation work to be cooperatively programmed and jointly executed. Moreover, the Federal Intermodal Surface Transportation Efficiency Act of 1991 envisions the appropriate incorporation of metropolitan transportation plans and programs into statewide transportation plans and programs.

Third, plan implementation action policies and programs should not only be preceded by plan adoption or endorsement, but should also emphasize the most important and essential elements of the plan and those areas of action which will have the greatest impact on guiding and shaping transportation system development in accordance with the recommended plan. Regional transportation system plan implementation should focus on those facilities and activities having areawide significance. Implementation of the regional transportation plan will be largely achieved if the transportation management measures recommended in the plan are implemented, particularly the proper implementation of the Milwaukee-area freeway system traffic management system and the promotion of demand management activities by the Wisconsin Department of Transportation, if the freeway system serving the greater Milwaukee area is appropriately rehabilitated and modernized, if improvements to the major surface arterials are implemented, and if the rapid and express transit expansion and improvement recommendations are carried out.

Fourth, the importance of close coordination and cooperation between the local units of government and between those units of government and the State and Federal agencies concerned in plan implementation cannot be overemphasized. Responsibilities for achieving such coordination and cooperation on a voluntary basis within the traditional framework of government in Wisconsin have been assigned to the Commission by the State Legislature through the regional planning enabling act. In addition, the Federal Intermodal Surface Transportation Efficiency Act provides a further basis for coordinating planning and plan implementation efforts by the Commission as the designated metropolitan planning organization. In its capacity as the coordinating agency under both State and Federal law, advisory review of proposed transportation facilities by the Commission is essential for the effective development over time of the regional transportation system. That system must be put in place to properly serve and promote the desired regional land use pattern. The proper vehicle for the review of proposed transportation facilities is the regional transportation improvement program compiled annually by the Commission in accordance with the requirements of Federal transportation legislation.

Fifth, implementation of the regional transportation plan will not be brought about by a single massive action on the part of one unit or agency of government. Rather, implementation of that plan will be brought about through many individual development decisions made on a day-to-day basis over a period of many years by public administrators and elected officials operating at the local, areawide, State, and Federal levels of government. It is extremely important that the individuals and agencies making these decisions be aware of and understand the development proposals set forth in the recommended regional transportation plan so that those proposals receive proper consideration as development decisions are made.

Finally, regional transportation plan implementation can only be achieved within the context of a continuing, comprehensive areawide planning effort wherein the planning inventories and forecasts on which the regional plans are based are updated, monitored, and revised; in which the plans are reappraised and, as necessary, revised to accommodate changing conditions; and through which the plans are interpreted on a day-to-day basis to the local, State, and Federal units and agencies of government concerned as the need to make development decisions arises. In this respect, planning does not and cannot

concern itself with future decisions; that is, with "things that should be done in the future." Rather, it must be recognized that decisions exist only in the present and that planning is necessary just because decisions can be made only in the present, yet cannot be made for the present alone. The question, therefore, that faces elected officials and concerned citizens throughout the Region concerning implementation of the recommended regional transportation system plan is not what should be done tomorrow to bring about that plan, but, rather, what must be done today in light of the plan to get ready for an uncertain tomorrow.

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Chapter VII

SUMMARY AND CONCLUSIONS

This report documents a new transportation system plan for the Southeastern Wisconsin Region, as well as the process used to arrive at that plan. The new plan is for the design year 2020. As such, the plan updates and extends the design year 2010 plan adopted by the Regional Planning Commission in 1994. The development of the year 2020 regional transportation plan was explicitly coordinated with the development of the year 2020 regional land use plan. The Commission has historically conducted transportation system planning concurrently with land use planning, recognizing that future land use will determine the amount and spatial distribution of travel and needed future transportation facilities and services and, in turn, that the transportation system is a determinant of the land use pattern forming a framework for urban development.

The Commission first adopted regional land use and regional transportation system plans in 1966. Those plans had a design year of 1990. Following a period of about 10 years, those plans underwent a major review and reevaluation, including analyses of population and employment growth and change, land development trends, trends in travel habits and patterns, trends in transit ridership and highway traffic, and the conformance of those trends to the forecasts used in the preparation of the plans. This plan reappraisal was supported by then-new 1970 and 1975 regional land use inventory data, 1970 U. S. Bureau of the Census population and household data, and 1972 regionwide surveys of travel and traffic. This major plan reappraisal, which included a review of the extent to which the 1990 regional land use and regional transportation system plans had been implemented, resulted in a new design year 2000 regional land use plan, which was adopted by the Commission in 1977, and a new design year 2000 regional transportation system plan, which was adopted by the Commission in 1978.

Similarly, following a period of about 10 years, another major review and reevaluation was undertaken using 1980, 1985, and 1990 land use inventory data; 1980 and 1990 U. S. Bureau of the Census population and household data; and 1991 regional travel and traffic survey data. This review and reevaluation resulted in a new design year 2010 regional land use plan, adopted by the Commission in 1992, and a new design year 2010 regional transportation system plan, adopted by the Commission in 1994.[1]

In 1995, the Regional Planning Commission undertook a project intended to extend the year 2010 regional land use and transportation plans 10 years further into the future, to a new design year of 2020. The year 2020 regional land use and transportation system plans were developed largely based upon the year 2010 regional land use and transportation plans, and the final year 2020 regional plans are modest adaptations of the year 2010 regional plans. This was done for a number of reasons. First, the year 2010 plans had been well received by all parties concerned, and had been adopted by the Commission, each of the seven counties in the Region, and many municipalities; the year 2010 land use plan had been endorsed by the Wisconsin Department of Administration, and the year 2010 transportation plan had been endorsed by the Wisconsin Departments of Transportation and Natural Resources. There was no reason to explore a major departure from the framework of land use and transportation development and improvement envisioned in the 2010 plans. Second, forecasts of regional change another 10 years beyond the year 2010, to the year 2020, indicated that only modest growth may be expected in levels of

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[1] *The first regional land use and transportation plans are documented in SEWRPC Planning Report No. 7,* Land Use-Transportation Study, *Volume One,* Inventory Findings: 1963, *May 1965; Volume Two,* Forecasts and Alternative Plans: 1990, *June 1966; and Volume Three,* Recommended Regional Land Use and Transportation Plans: 1990, *November 1966. The second regional land use and transportation plans are documented in SEWRPC Planning Report No. 25,* A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000, *Volume One,* Inventory Findings, *April 1975, and Volume Two,* Alternative and Recommended Plans, *May 1978. The third regional land use plan is documented in SEWRPC Planning Report No. 40,* A Regional Land Use Plan for Southeastern Wisconsin—2010, *January 1992, and the third regional transportation plan in SEWRPC Planning Report No. 41,* A Regional Transportation System Plan for Southeastern Wisconsin: 2010, *December 1994.*

households, employment, travel, transit ridership, and highway traffic, that is, increases of approximately 8 percent. Analyses of the ability of the year 2010 transportation plan to meet year 2020 travel and traffic demands indicated that minimal changes to the year 2010 plan were necessary for that plan to serve year 2020 travel and traffic needs. The third reason that the year 2020 transportation plan was principally derived from the year 2010 plan was that the only concern that had been expressed about the year 2010 transportation plan since its adoption is that it may be too ambitious to be accomplished within the remaining 13-year time frame. Its extension by another 10 years, and modest amendment to include actions to address additional needs over those additional 10 years, responds to that concern. A fourth reason was that substantial changes have not yet occurred in the Region, and additional data were not yet available, to warrant the expenditure of the time and resources for a major plan reevaluation at this time. A fifth and final reason was that the year 2010 plans had been shaped and modified to reflect the substantial public comment received during their development, and that public comment, received less than three years ago, remained sufficiently valid to be directly incorporated within the year 2020 plans.

The year 2020 regional transportation system plan was explicitly designed to serve the anticipated future travel demands derived from the companion year 2020 regional land use plan, which is documented in SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997. Thus, the year 2020 regional transportation system plan, like the previous year 2010 plan, was designed to serve and promote a desirable regional land use pattern, not a land use pattern simply representing a continuation of existing trends. If transportation facilities and services do indeed influence land development and redevelopment, then the year 2020 regional transportation plan should serve to promote a desirable regional land use pattern.

Being derived from the year 2010 plan, the year 2020 regional transportation plan was designed to minimize investment in the provision of additional highway capacity. The year 2010 plan explicitly considered highway capacity improvement and expansion as measures of last resort in addressing traffic congestion problems. The potential for land use, public transit, travel demand management, and traffic management measures to alleviate traffic congestion was first considered. Only the residual traffic congestion problems which could not be resolved through these measures were subsequently addressed through the inclusion in the plan of arterial street and highway system capacity improvement and expansion.

The process for preparing the year 2020 regional transportation system plan consisted of six steps. The first step involved assessing the current performance of the regional transportation system and the trends in that performance since the completion of the year 2010 plan. The implementation of the year 2010 plan over the past three years was also reviewed.

The second step involved testing the ability of the adopted year 2010 regional transportation plan to accommodate travel derived from the year 2020 population, household, and employment forecasts as incorporated in the year 2020 regional land use plan. Thus, under this step, the potential for the year 2010 plan to meet the transportation needs of the Region 10 years further into the future was determined. The additional household and employment growth, and attendant travel and traffic growth, for the 10-year period between 2010 and 2020 was relatively modest, being approximately an 8 percent increase regionwide. In this second step, the deficiencies of the year 2010 plan in meeting year 2020 travel needs were ascertained in terms of identifying 1) those additional areas of the Region warranting transit service by the year 2020 and 2) those arterial street and highway facilities expected to experience traffic congestion by the year 2020, even after undertaking the improvement and expansion projects proposed in the year 2010 plan.

The third step in the development of the year 2020 regional transportation system plan was to propose amendments to the adopted year 2010 plan to address the deficiencies and thereby extend and advance the plan to the year 2020. These amendments included the improvement and extension of transit service and the addition of highway capacity improvement and expansion projects. Other amendments were derived from evaluating proposals for plan modification advanced by local governments since completion of the year 2010 plan. All of the proposed amendments were reflected in the design of a preliminary recommended year 2020 plan.

The fourth step involved the testing and evaluation of the preliminary recommended year 2020 plan. This consisted of an assessment of the extent to which the plan met objectives for transportation system development and performance, and an assessment of the financial feasibility of implementing the plan.

The fifth step involved obtaining public comment on the preliminary recommended year 2020 regional transportation system plan. The sixth and last step was the preparation of a final year 2020 recommended regional transportation system plan. This effort took into considera-

tion the comments made regarding the preliminary plan, modifying that plan as appropriate.

The final recommended regional transportation system plan for the year 2020 has three major elements: transportation systems management, public transit maintenance and improvement, and arterial street and highway maintenance and improvement.

The recommended plan proposes the use of transportation system management measures to ensure that maximum use is made of existing transportation facilities before commitments are made to new capital investment. The plan envisions the implementation of an areawide freeway traffic management system; the imposition of peak-hour curb-lane parking restrictions on approximately 400 miles of urban arterial streets; the use of appropriate traffic management and engineering techniques to assist in achieving efficient traffic flow on urban arterial streets; the application of intelligent transportation systems technology; areawide promotional measures to encourage carpooling, vanpooling, telecommuting, and rescheduling of work time; and transit management and operational measures that have the potential to make transit use more convenient. The plan also recommends the preparation of community- and neighborhood-level land use plans to guide the development of new urban neighborhoods and the redevelopment of older neighborhoods to promote a mix of land use activities, higher-density development near transit lines and stations, the orientation of buildings on sites in a manner facilitating transit use, and the use of bicycle and pedestrian as well as transit facilities.

The plan also proposes that an integrated system of rapid, express, and local transit facilities be developed within the Region, representing a proposed 69 percent expansion of service measured in terms of revenue transit vehicle-miles of service. The plan seeks the provision of bus rapid transit service within the major travel corridors emanating from the Milwaukee central business district (CBD). The plan calls for the provision of such service south to the Cities of Racine and Kenosha, southwest to the Village of Mukwonago, and west to the Cities of Waukesha and Oconomowoc. The plan also recommends the provision of such service in the Northwest Corridor to the City of West Bend and in the IH 43 North Corridor to the Village of Saukville and the City of Port Washington.

Upon the potential conduct of corridor major investment studies, and concurrence in the recommendations for implementation by the implementing units of government, the plan envisions that the bus rapid transit service could be upgraded to bus service over special bus and carpool lanes, or to commuter-rail service. A major investment study is under way in the East-West Corridor considering special lanes on the IH 94 East-West Freeway, and feasibility studies—precursor studies to major investment studies—are under way considering commuter-rail service in three corridors: one from Kenosha to Milwaukee, one from Antioch, Illinois, to Burlington, and one from Fox Lake, Illinois, to Walworth.

The plan also proposes that an express transit system consisting of 12 regular express transit bus routes be provided within the Region. Within the Milwaukee urbanized area, the express transit routes would be provided in major travel corridors connecting major activity centers to the Milwaukee CBD, as well as in a grid pattern of crosstown routes. An express transit route would also connect the Cities of Racine and Kenosha. Upon the potential conduct of corridor major investment studies, and concurrence in the recommendations for implementation by the implementing units of government, the plan envisions that the bus service in mixed traffic or reserved arterial-street lanes could be upgraded to light-rail transit or bus service on exclusive busways. A major investment study under way in the East-West Corridor is considering a light-rail transit line.

The plan also proposes the expansion and improvement of local public transit service within Milwaukee County and the Cities of Waukesha, Racine, and Kenosha and their immediate environs. The plan also recognizes the need to provide local transit service in the smaller outlying urban and rural communities of the Region, particularly through shared-ride taxi service.

The recommended plan envisions that the regional arterial street and highway system would, by the plan design year 2020, consist of about 3,612 route-miles of facilities. In 1995, the regional arterial system consisted of about 3,277 route-miles of facilities. The plan recommends the construction of 124 route-miles of new arterial facilities, the widening to carry additional traffic lanes of 405 route-miles of existing arterial facilities, and the preservation of the remaining 3,083 route-miles of existing arterial facilities. The recommended plan envisions that as part of resurfacing, and particularly reconstruction, to preserve existing arterials, actions will be taken to modernize the area surface arterial and freeway system to modern design standards.

The number of internal person-trips generated within the Region on an average weekday may be expected to increase from 5.8 million in 1995 to about 6.5 million in the year 2020, or by 12 percent. Under the plan, the number of transit trips made on an average weekday may be expected to increase from about 163,100 in 1995 to about

207,300 by the year 2020, or by 27 percent. The proportion of total internal person-trips made by transit, however, may be expected to remain at about 3 percent.

Vehicle-miles of travel within the Region on an average weekday may be expected to increase from about 35.9 million in 1995 to about 47.0 million by the year 2020, or by about 31 percent. Severe and extreme arterial street and highway congestion, as indicated by the number of arterial miles expected to operate severely or extremely over design capacity, may be expected to decrease from about 285 miles, or 9 percent of the total arterial mileage, in 1995, to about 95 miles, or 3 percent of the total arterial mileage, by 2020. The arterial mileage operating moderately over design capacity and experiencing some congestion, however, may be expected to remain about the same, decreasing from 148 miles, or about 4.5 percent of the total arterial system in 1995, to 146 miles, or about 4.0 percent of the total arterial system in 2020.

The public cost of carrying out the recommended plan, including the construction of new facilities and the operation and maintenance of the arterial street and highway and transit systems, is estimated at an average $417 million per year over the 23-year plan implementation period.[2] All cost and revenue figures are expressed in constant 1997 dollars. The public revenues anticipated to be available, based on existing trends, are estimated at an average of $330 million per year. The average annual difference between anticipated costs and revenues is approximately $87 million per year. An equivalent of a $0.10-per-gallon increase in the motor-fuel tax would be necessary to cover this $87 million annual shortfall in order to fully implement the recommended regional transportation system plan for the year 2020.

Implementation of the recommended plan may be expected to provide the Region with an integrated transportation system that will effectively serve and promote a desirable regional land use pattern, meeting anticipated future travel demand at an adequate level of service through transportation system management measures, as well as transit and highway improvements. In terms of modes, the plan is as balanced as is practicable, with appropriate types of both highway and transit facilities provided for the various subareas of the Region. Implementation of the plan would abate traffic congestion, reduce travel time and costs, and reduce accident exposure. As such, implementation of, or failure to implement, the recommended plan will affect not only the efficiency of the regional transportation system, and thereby directly affect the cost of living and doing business in the Region, but will also affect the overall quality of life in the Region for many years. It is critical, therefore, that government, business and industry, labor, and concerned citizens in the Region take an active interest in securing implementation of the plan recommendations.

Planning is, by definition, expected to deal with an uncertain future. As the governmental agencies concerned consider the recommended plan and its implementation, however, a number of these uncertainties need to be kept specifically in mind. First, there is uncertainty over the future levels of population and economic activity within the Region. A more vigorous economy could lead to greater-than-anticipated levels of growth and change in the Region. Alternatively, a less vigorous economy could return the Region to periods of modest changes in population and employment levels. The variables which relate to this uncertainty need to be closely monitored as plan implementation proceeds.

Second, there is uncertainty with respect to the degree to which county and local governments in the Region will take appropriate and effective steps to implement the regional land use plan. The recommended regional transportation system plan is robust in the sense that analyses have shown that the recommended system will serve well not only the regional settlement pattern identified in the year 2020 regional land use plan, but a more decentralized pattern as well. Significant deviations from the recommended land use pattern, however, could prove to be more problematic. Accordingly, this variable also warrants close scrutiny as plan implementation proceeds.

Third, there is great uncertainty over the feasibility of fully implementing the recommended regional transportation system plan owing to the additional financial resources that will be required. Monitoring activities over the past two decades have demonstrated that it has become increasingly difficult for county and local governments to discharge fully their transportation responsibilities relying totally upon the property tax as the source of needed local revenue for that purpose. This has led to less-than-expected implementation of prior regional transportation system plans with respect to county and local arterial highways and public transit systems. At the State level, the monitoring has demonstrated substantially less fiscal

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[2] *The estimated costs of carrying out the plan do not include potential transit facilities, including light rail, special bus and carpool lanes, and commuter rail, which could be added to the plan following the completion of major investment studies, including such studies in the East-West Corridor.*

uncertainty, since a single State agency exists with dedicated nonproperty-tax revenue sources available to foster more complete plan implementation. While the State has moved in recent years to provide greater revenues to county and local governments for both transit and highway plan implementation, the level of uncertainty with respect to plan implementation remains far greater at the county and local levels than at the State level. Inevitably, it would appear that Southeastern Wisconsin must, like most large metropolitan areas in the Nation, come to grips with this uncertainty by identifying and securing a dedicated nonproperty-tax revenue source for county and local transportation purposes. This uncertainty is perhaps the greatest of all in terms of plan implementation and will need to be carefully monitored as the implementation period proceeds. The Commission will be conducting a study in 1998 addressing the funding needed to achieve regional transportation plan implementation.

Finally, all these uncertainties need to be taken into account in a continuing regional land use-transportation planning program. As the federally recognized metropolitan planning organization for the Southeastern Wisconsin Region, and as the regional planning agency for the Region, the Commission bears the responsibility for conducting that planning process. The process must include efforts to monitor all the foregoing uncertainties, and others as well. The process must continually survey and monitor many factors, must provide for amendment of the regional plan over time, and must provide for the extension of the plan to provide a continual 20-year planning horizon. Consequently, it should be anticipated that the Commission will work collaboratively with the Federal, State, county, and local units and agencies of government concerned and move forward with a work program designed to discharge its continuing planning responsibilities.