REVIEW AND UPDATE OF REGIONAL LAND USE AND TRANSPORTATION SYSTEM PLANS FOR SOUTHEASTERN WISCONSIN

NEWSLETTER 4 MARCH 2006

INTRODUCTION

The review and update of the land use and transportation system plans for the seven-county Southeastern Wisconsin Region is nearing completion.

This is the fourth in a series of newsletters on the review and update. The first included the announcement of an initial series of public meetings held in August 2004 and information regarding the Regional Planning Commission, the new year 2035 population and economic projections for the Region, the basic principles guiding the Commission's regional land use and transportation planning, and the existing regional land use and transportation system plans. The second issue included announcement of a second series of public meetings for May 2005, and information regarding the advisory committees on regional land use and transportation planning, the implementation to date of existing regional land use and transportation plans and historic trends in land use and transportation, and the proposed process for development of regional land use and transportation plans. The third issue included announcement of a third series of public meetings in September of 2005, information regarding the preliminary recommended land use plan for the year 2035, and preliminary proposals for public transit, bicycle and pedestrian facilities, travel demand management, and transportation systems management being considered for inclusion in the year 2035 regional transportation plan.

This fourth newsletter includes information regarding:

- A preliminary recommended regional transportation plan for the year 2035; and,
- Public informational meetings and hearings scheduled for April 2006.

STUDY PUBLIC INFORMATIONAL MEETINGS AND HEARINGS

A series of public informational meetings and hearings has been scheduled throughout the Region in April. The purpose of these meetings and hearings is to brief residents of the Region on the preliminary recommended year 2035 regional transportation plan and to provide an opportunity for comment. The table below highlights the dates and locations of the upcoming meetings and hearings. Staff will be available in an "open house" format from 4:30 p.m. to 6:00 p.m. to individually answer questions and provide information about the review and update of the regional land use and transportation system plans. A presentation will be made by study staff at 6:00 p.m., followed at 6:30 p.m. by a public hearing providing a forum for public comment in "town hall" format. Persons with special needs are asked to contact the Commission offices a minimum of 72 hours in advance so that appropriate arrangements can be made. Contact information may be found on the back of this newsletter. The comment period on the preliminary recommended plan extends through April 20, 2006

Date	Location
April 5, 2006	United Community Center, Auditorium 1028 S. 9th Street, Milwaukee
April 5, 2006	Racine Gateway Technical College, Great Lakes Room 1001 Main Street, Racine
April 6, 2006	Ozaukee County Administration Center, Auditorium 121 W. Main Street, Port Washington
April 6, 2006	Washington County Fair Park Pavilion, Room 112 3000 County Highway PV, Town of Polk
April 12, 2006	Kenosha Gateway Technical College Madrigrano Auditorium 3520 30th Avenue, Kenosha
April 12, 2006	Elkhorn Gateway Technical College Room 112-100 Building 400 County Highway H, Elkhorn
April 13, 2006	HeartLove Place, Auditorium 3229 N. Dr. Martin Luther King, Jr. Drive Milwaukee
April 13, 2006	Rotary Building, Frame Park 1150 Baxter Street, Waukesha
April 19, 2006	Milwaukee Downtown Transit Center, Harbor Lights Room 909 E. Michigan Avenue, Milwaukee

PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN

The development of the preliminary recommended year 2035 regional transportation system plan for southeastern Wisconsin was guided by the following vision for the transportation system of southeastern Wisconsin:

A multimodal transportation system with high quality public transit, bicycle and pedestrian, and arterial street and highway elements which add to the quality of life of Region residents and support and promote expansion of the Region's economy, by providing for convenient, efficient, and safe travel by each mode, while protecting the quality of the Region's natural environment, minimizing disruption of both the natural and manmade environment, and serving to support implementation of the regional land use plan, while minimizing the capital and annual operating costs of the transportation system.

The development of each plan element of the preliminary recommended regional transportation system plan for the year 2035—public transit, bicycle and pedestrian, travel demand management, transportation system management, and arterial streets and highways—builds upon the current adopted year 2020 regional transportation plan, recognizing the successful implementation of approximately 15 to 20 percent of each element of the year 2020 plan since 1997. In the development of the preliminary recommended year 2035 regional transportation system plan, consideration was given to those year 2020 plan proposals which had advanced to project planning and engineering, but which could not be implemented at the project level. Also considered was the support and opposition which has been offered on the recommendations of the current adopted year 2020 regional transportation system plan.

The preliminary recommended year 2035 regional transportation system plan is designed to serve, and to be consistent with, the year 2035 regional land use plan. Future needs for public transit, street and highway, and other transportation improvements considered in the regional transportation planning process was derived from the projected travel based upon the regional land use plan. In addition, the consistency of the regional transportation and land use plans was evaluated by comparing the accessibility provided under the preliminary recommended transportation plan and the location of improvements proposed under the preliminary recommended transportation plan to the location of land use development and redevelopment proposed under the land use plan.

The process for the development of the preliminary recommended year 2035 regional transportation plan began with consideration and development of the travel demand management, transportation systems management, bicycle and pedestrian, and public transit elements of the plan. The effects on travel demand of a regional transportation plan alternative including these four combined plan elements (a Transportation Systems Management, or TSM Plan alternative) was then tested and evaluated, and compared to that of a no-build plan which proposed to maintain the existing transportation system. Only subsequent to this testing and evaluation did the year 2035 regional transportation system plan development process consider arterial street and highway system improvement and expansion. Arterial street and highway improvement and expansion was then considered only to address the residual highway traffic volumes and attendant traffic congestion which may not be expected to be alleviated by travel demand management, transportation systems management, bicycle and pedestrian facilities, and public transit. A plan including arterial street and highway improvement and expansion (a TSM Plus Highway Plan) was then compared to a plan which only includes travel demand management, transportation systems management, bicycle and pedestrian, and public transit elements, and to a "no-build" transportation system plan. The TSM Plus Highway Plan is the preliminary recommended plan being advanced by the Commission staff and Regional Transportation Planning Advisory Committee.

Discussed in the remainder of this newsletter are the public transit, bicycle and pedestrian facilities, transportation systems management, travel demand management, and arterial street and highway elements of the preliminary recommended year 2035 regional transportation plan.

Public Transit Element

The public transit element of the preliminary recommended plan envisions significant improvement and expansion of public transit in southeastern Wisconsin, including development within the Region of a rapid transit and express transit system, improvement of existing local bus service, and the integration of local bus service with the proposed rapid and express transit services. Map 1 displays the transit system proposals for each of the three transit system components. Altogether, service on the regional transit system would be increased from service levels existing in 2005 by about 100 percent measured in terms of revenue transit vehicle-miles of service provided, from about 69,000 vehicle-miles of service on an average weekday in the year 2005 to 138,000 vehicle-miles of service in the year 2035 (see Table 1).

The proposed expansion of public transit is essential in southeastern Wisconsin for many reasons:

- Public transit is essential to provide an alternative mode of travel in heavily traveled corridors within and between the Region's urban areas, and in the Region's densely developed urban communities and activity centers. It is not desirable, and not possible, in the most heavily traveled corridors, dense urban areas, or the largest and densest activity centers of the Region to accommodate all travel by automobile with respect to both demand for street traffic carrying capacity and parking. To attract travel to public transit, service must be available throughout the day and evening at convenient service frequencies, and at competitive and attractive travel speeds.

- Public transit also supports and encourages higher development density and in-fill land use development and redevelopment, which results in efficiencies for the overall transportation system and other public infrastructure and services.

- Public transit also contributes to efficiency in the transportation system, including reduced air pollution and energy consumption.

- Public transit permits choice in transportation, enhancing the Region's quality of life and economy. A portion of the Region's population and businesses would prefer to have public transit alternatives available and to travel by public transit. High quality public transit helps provide a high quality of life and contributes to the maintenance and enhancement of the Region's economy.

- Public transit is essential in the Region to meet the travel needs of persons unable to use personal automobile transportation. In the year 2000, approximately 80,000 households, or 11 percent of the Region's households, did not have a personal vehicle available and were dependent upon public transit for travel. The accessibility of this portion of the Region's population to the metropolitan area—jobs, health care, shopping and education—is almost entirely dependent upon the extent to which public transit is available, and is reasonably fast, convenient, and affordable.

Rapid Transit Service

The proposed rapid transit service would consist of buses operating over freeways connecting the Milwaukee central business district, the urbanized areas of the Region, and the urban centers and outlying counties of the Region. Rapid transit bus service would be provided south to Racine and Kenosha, southwest to Mukwonago and East Troy, west to Waukesha and Oconomowoc, northwest to West Bend and Hartford, and north to Cedarburg, Grafton, Saukville, and Port Washington. The proposed rapid transit system would have the following characteristics:

- The bus rapid transit service would operate in both directions during all time periods of the day and evening providing both traditional commuter and reverse-commute service.

- The rapid transit service would operate with some intermediate stops spaced about three to five miles apart to increase accessibility to employment centers and to increase accessibility for reverse-commute travel from residential areas within central Milwaukee County. The stops would provide connections with express transit service, local transit service, or shuttle bus or van service to nearby employment centers.

- The service would operate throughout the day. The frequency of service provided would be every 10 to 30 minutes in weekday peak travel periods, and every 30 to 60 minutes in weekday off-peak periods and on weekends.

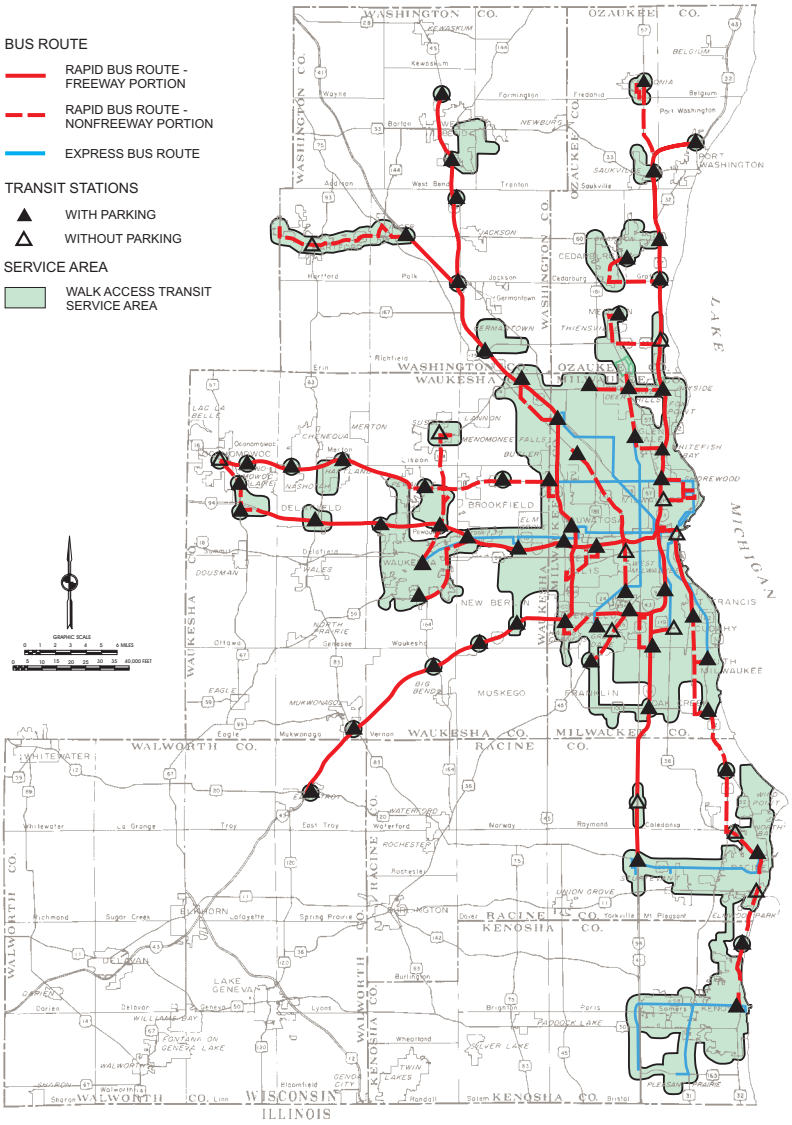
An approximately 204 percent increase in rapid transit service is proposed as measured by daily vehicle-miles of bus service, from the 7,900 vehicle-miles of such service provided on an average weekday in the year 2005, to 24,000 vehicle-miles in the plan design year 2035.

Express Transit Service

The proposed express transit service would consist of a grid of limited-stop, higher-speed routes located largely within Milwaukee County connecting major employment centers and shopping areas, other major activity centers such as General Mitchell International Airport, tourist attractions and entertainment centers, and residential areas. The express routes would replace existing major local bus routes. Stops would typically be spaced about one-quarter mile apart. It is envisioned that this system of limited-stop express service routes would initially consist of buses operating over arterial streets in mixed traffic, and would be upgraded over time to buses operating on reserved street lanes with priority treatment at traffic signals.

Map 1

PUBLIC TRANSIT ELEMENT OF PRELIMINARY RECOMMENDED REGIONAL TRANSPORTATION SYSTEM PLAN: YEAR 2035



Source: SEWRPC.

Table 1

PUBLIC TRANSIT ELEMENT OF PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN

Average Weekday Transit Service Characteristics	Existing 2005[a]	Proposed 2035	Proposed Increment	
			Number	Percent Change
Revenue Vehicle - Miles				
Rapid	7,900[b]	24,000	16,100	203.8
Express	- -	17,000	17,000	- -
Local	61,100	97,000	35,900	58.8
Total	69,000	138,000	69,000	100.0
Revenue Vehicle - Hours				
Rapid	350[b]	1,100	750	214.3
Express	- -	1,100	1,100	- -
Local	4,750	8,900	4,150	87.4
Total	5,100	11,100	6,000	117.6

[a] *Estimated.*

[b] *Includes the existing commuter bus route operated in the Kenosha-Milwaukee-Racine corridor. While portions of this route operate with express stop spacing, the long trips served by, and average operating speeds of, this route are typical of those for rapid service.*

Source: SEWRPC.

As envisioned under the plan:

- The express service would operate in both directions during all periods of the day and evening providing both traditional and reverse-commute service.

- The service would generally operate with a stop spacing of about one-quarter mile with one-half mile stop spacing in outlying portions of Milwaukee County and the Milwaukee urbanized area.

- The frequency of service provided would be about every 10 minutes during weekday peak periods, and about every 20 to 30 minutes during weekday off-peak periods and on weekends.

Table 2

RECOMMENDED FREQUENCY OF LOCAL BUS SERVICE UNDER THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN

Area	Average Weekday Headways on Local Bus Service (minutes)		
	Morning and Afternoon Peak Periods	Midday Off-peak Period	Evening Off-peak Period
Within Milwaukee County			
Central Milwaukee County	5-15	10-20	15-20
Remainder of Milwaukee County	15-20	20-30	20-60
Outside Milwaukee County	15-30	30-60	30-60

Source: SEWRPC.

- The overall travel speed provided would be about 16 to 18 miles per hour, a significant improvement over the average 12 miles per hour speed provided by the existing local bus transit service.

- No express transit service existed in the Region in 2005. As proposed, about 17,000 vehicle-miles of express transit service would be provided on an average weekday in the Region in the year 2035.

Local Transit Service

The improvement and expansion of local bus transit service over arterial and collector streets, with frequent stops throughout the Kenosha, Milwaukee, and Racine urbanized areas is also proposed. Service would be provided on weekdays, and during weekday evenings, Saturdays, and Sundays. An approximately 59 percent increase in local bus service is proposed from the 61,100 vehicle-miles of local bus service provided in 2005 on an average weekday to 97,000 vehicle-miles in the plan design year 2035. The service improvements and expansion proposed include expansion of service area and hours, and significant improvements in the frequency of local transit service provided, particularly on major local routes. The proposed frequency of local bus service is shown in Table 2.

Paratransit Service

Paratransit service is proposed to be provided consistent with the Federal Americans with Disabilities Act (ADA) of 1990. Under the provisions of this Act, all transit vehicles that provide conventional fixed-route transit service must be accessible to persons with disabilities, including those persons using wheelchairs. All public entities operating fixed-route transit systems must also continue to provide paratransit service to those disabled persons within local transit service areas who are unable to use fixed-route transit services consistent with federally specified eligibility and service requirements. The complementary paratransit services must 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. The planned paratransit service must be available during the same hours and on the same days as the fixed-route transit service, be provided to eligible persons on a "next-day" trip-reservations basis, and not limit service to eligible persons based on restrictions or priorities to trip purpose, and 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 must be no more than twice the applicable public transit fare per one-way trip for curb-to-curb service.

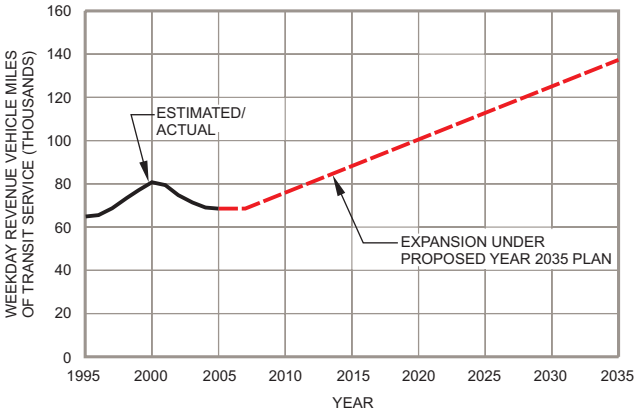
Upgrading to Rail Transit or Bus Guideways

Rapid and express transit service is proposed to initially be provided with buses. This bus service would ultimately be upgraded to commuter rail for rapid transit service and to bus guideway or light rail for express transit service. Map 2 displays seven potential future commuter rail lines and six potential future bus guideway/light rail lines within southeastern Wisconsin. Public transit cannot offer convenient accessibility to metropolitan area services for those without an automobile, offer an attractive alternative in heavily traveled corridors and dense urban activity centers, or provide a true choice for travel if it is caught in traffic congestion, and its travel times are not comparable to those of automobile travel. Upgrading to exclusive guideway transit may also be expected to promote higher density land development and redevelopment at and around the stations of the exclusive guideway transit facilities, promoting implementation of the regional land use plan.

There are two efforts currently underway in southeastern Wisconsin considering upgrading to fixed guideway transit. Milwaukee County in cooperation with the City of Milwaukee and Wisconsin Center District is conducting the Milwaukee downtown connector study which is considering implementation of express transit electric bus guideway technology and buses operating in reserved street lanes. Rapid transit commuter rail in the Milwaukee-Racine-Kenosha corridor was recommended for implementation at the con-

Figure 1

HISTORIC AND PLANNED VEHICLE-MILES OF PUBLIC TRANSIT SERVICE ON AN AVERAGE WEEKDAY IN THE SOUTHEASTERN WISCONSIN REGION: 1995-2035



Source: SEWRPC.

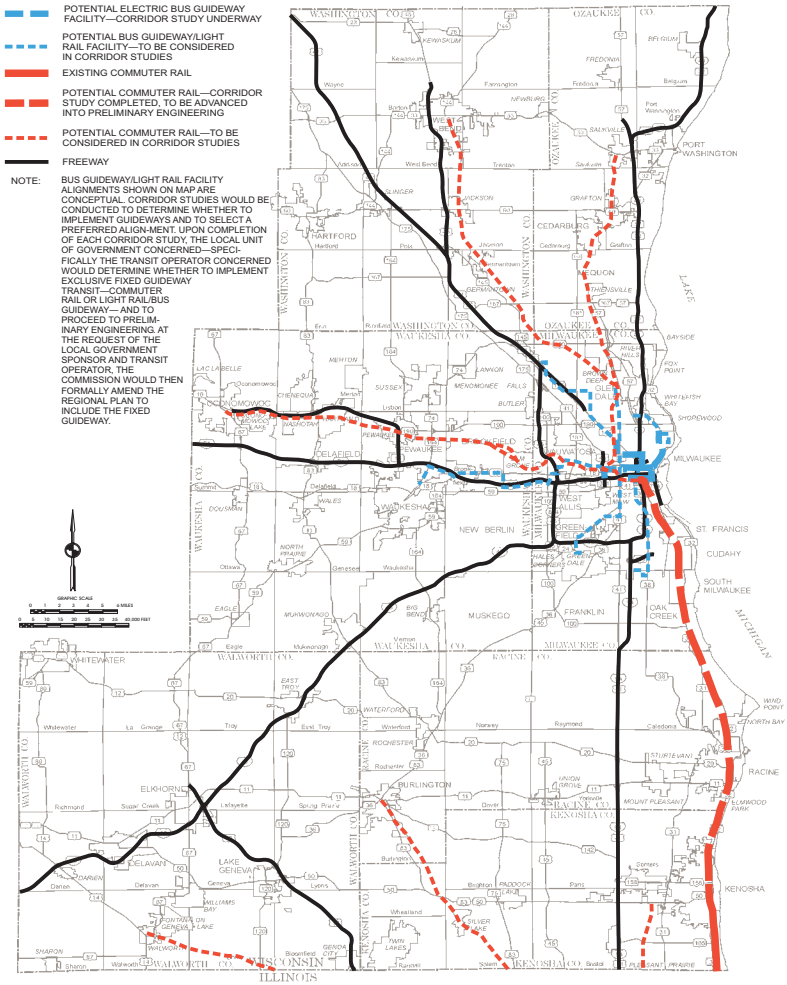
clusion of a corridor transit alternatives analysis study. The Counties and Cities of Milwaukee, Racine, and Kenosha are currently conducting further study addressing funding and refinement of the proposed commuter rail extension. The 2005-2007 State budget created a three County regional transit authority for Kenosha, Milwaukee, and Racine Counties, which would be the operator of the proposed commuter rail service.

Summary and Conclusions—Public Transit

The proposed expansion of public transit in southeastern Wisconsin would represent a near doubling of transit service in southeastern Wisconsin by the year 2035. As shown in Figure 1, this would entail about a 2.5 percent annual increase in transit service to the year 2035, less than the level of annual increase which occurred between 1995 and 2000. Significant implementation of the year 2020 plan occurred between 1997 and 2000 as transit service expanded by over 25 percent. However due to State and local budget problems, transit service was significantly reduced from 2000 to 2005.

Map 2

POTENTIAL RAPID TRANSIT COMMUTER RAIL AND EXPRESS TRANSIT BUS GUIDEWAY/LIGHT RAIL LINES UNDER THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN



Source: SEWRPC.

Implementation of this proposed expansion is dependent upon the continued commitment of the State to be a partner in the maintenance, improvement and expansion, and attendant funding of public transit. The State has historically funded 40 to 45 percent of transit operating costs, and has increased funding to address inflation in the cost of providing public transit, and to provide for transit improvement and expansion. State transit funding to the Milwaukee County Transit System increased by 29 percent from 1995 to 2000 and by 70 percent for all other transit systems in the Region, but only by 5 percent between 2000 and 2005 for the Milwaukee County Transit System and by 12 percent for all other transit systems. In comparison, local funding of public transit increased between 1995 and 2000 by 30 percent for the Milwaukee County Transit System and by 62 percent for other transit systems in the Region, and increased between 2000 and 2005 by 20 percent for the Milwaukee County Transit System and 73 percent for other transit systems in the Region. The 2003-2005 State budget provided no funding increase for public transit Statewide and the 2005-2007 budget only provides a 2 percent annual increase. An annual 4 to 5 percent increase may be essential to address rising costs, including inflation and real increases in fuel costs, and to support system improvement and expansion.

Implementation of the proposed expansion of public transit in southeastern Wisconsin will also be dependent upon attaining dedicated local funding for public transit. The local share of funding of public transit in southeastern Wisconsin is provided through county or municipal budgets, and represents about 15 percent of the total operating costs and 20 percent of total capital costs of public transit. Thus, the local share of funding public transit is largely provided by property taxes, and public transit must annually compete with mandated services and projects. Increasingly, due to the constraints in property tax based funding, counties and municipalities have found it difficult to provide funding to address transit needs, and to respond to shortages in Federal and State funding. Most public transit systems nationwide have dedicated local funding, typically a sales tax of 0.25 to 1.0 percent. A sales tax provides funding which should increase with inflation and area growth, thereby addressing funding needs attendant to inflation in the costs of providing public transit and transit system expansion.

A regional transit authority could also assist in implementing the proposed transit system expansion. A number of the proposed transit services extend across city and county boundaries. A regional transit authority could assist in the implementation of these proposed services.

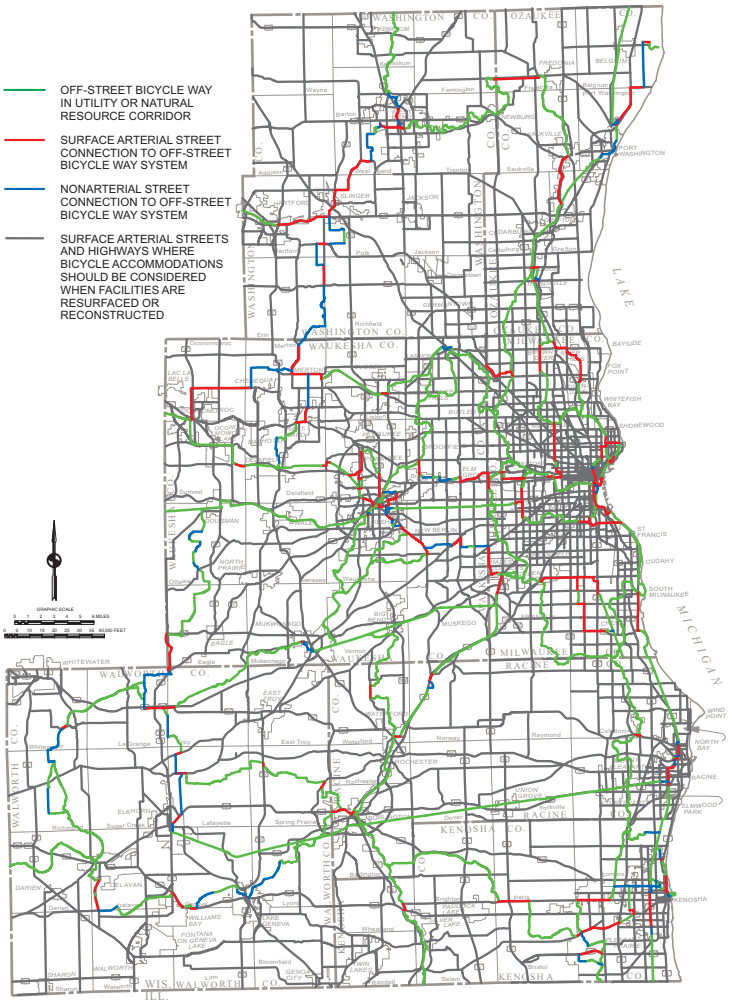
Bicycle and Pedestrian Facility Element

The bicycle and pedestrian facility element of the preliminary recommended plan is intended to promote safe accommodation of bicycle and pedestrian travel, and encourage bicycle and pedestrian travel as an alternative to personal vehicle travel. The preliminary plan envisions that as the surface arterial street system of about 3,300 miles in the Region is resurfaced and reconstructed segment-by-segment, the provision of accommodation for bicycle travel would be considered and implemented, if feasible, through bicycle lanes, widened outside travel lanes, widened shoulders, or separate bicycle paths. The surface arterial street system of the Region provides a network of direct travel routes serving virtually all travel origins and destinations within Southeastern Wisconsin. Arterial streets and highways, particularly those with high-speed traffic or heavy volumes of truck or transit vehicle traffic, require improvements such as extra-wide outside travel lanes, paved shoulders, bicycle lanes, or a separate bicycle path in order to safely accommodate bicycle travel. Land access and collector streets, because of low traffic volumes and speeds, are capable of accommodating bicycle travel with no special accommodation for bicycle travel.

The level and unit of government responsible for constructing and maintaining the surface arterial street or highway should have responsibility for constructing, maintaining, and funding the associated bicycle facility. A detailed evaluation of the alternatives for accommodation of bicycles on surface arterial streets or highways should necessarily be conducted by the responsible level and unit of government as part of the engineering for the resurfacing, reconstruction, and new construction of each segment of surface arterial. It is proposed that the Regional Planning Commission prepare an assessment of the priority of need for bicycle accommodation on each segment of the surface arterial street and highway system considering such factors, as traffic volume, composition, speed, and congestion.

Map 3

OFF-STREET BICYCLE PATHS AND SURFACE ARTERIAL STREET AND HIGHWAY SYSTEM BICYCLE ACCOMMODATION UNDER THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN



Source: SEWRPC.

It is also proposed that a system of off-street bicycle paths be provided between the Kenosha, Milwaukee, and Racine urbanized areas and the cities and villages within the Region with a population of 5,000 or more located outside these three urbanized areas. This system of off-street bicycle paths was initially also proposed in the adopted park and open space plans prepared by the Commission for each of the seven counties of the Region. These off-street bicycle paths would be located in natural resource and utility corridors and are intended to provide reasonably direct connections between the Region's urbanized and small urban areas on safe and aesthetically attractive routes with separation from motor vehicle traffic. Some on-street bicycle connections will be required to connect segments of this system of off-street paths. These connections if provided over surface arterials would include some type of bicycle accommodation—paved shoulders, extra-wide outside travel lanes, bicycle lanes, or separate parallel bicycle paths—or if provided over a nonarterial collector or land access street would require no special accommodation. The proposed system of on- and off-street bicycle facilities is shown on Map 3, and includes 575 miles of off-street bicycle paths with 147 miles of surface arterial and 83 miles of nonarterial connections. Approximately 203 miles of the planned 575 miles of off-street bicycle paths currently exist. Also shown on Map 3 is the surface arterial street and highway system within the Region proposed to be provided with bicycle accommodation.

The pedestrian facilities portion of the proposed bicycle and pedestrian facilities plan element is envisioned as a policy plan, rather than a system plan. It proposes that the various units and agencies of government responsible for the construction and maintenance of pedestrian facilities in southeastern Wisconsin adopt and follow a series of recommended standards and guidelines with regard to the development of those facilities, particularly within planned neighborhood units. These standards include the provision of sidewalks in the urban portions of the Region.

Transportation Systems Management
The transportation systems management element of the preliminary recommended year 2035 regional transportation plan includes measures intended to manage and operate existing transportation facilities to their maximum carrying capacity and travel efficiency, including: freeway traffic management, surface arterial street and highway traffic management, and major activity center parking management and guidance.

Freeway Traffic Management
Proposed measures to improve the operation and management of the regional freeway system include operational control, advisory information, and incident management measures, as well as a traffic operations center supporting these measures. Essential to achieving freeway operational control, advisory information, and incident management is the WisDOT traffic operations center (TOC) in the City of Milwaukee. At the TOC all freeway segments in the Milwaukee area are monitored, freeway operational control and advisory information is determined, and incident management detection and confirmation is conducted. The TOC is important to the safe and efficient operation of the regional freeway system and is in operation 365 days a year , 24 hours a day.

Operational Control
Measures to improve freeway operation during average weekday peak traffic periods and during minor and major incidents through monitoring of freeway operating conditions and control of entering freeway traffic include traffic detectors, freeway on-ramp-meters, and ramp-meter control strategy. Traffic detectors measure the speed, volume, and density of freeway traffic, and are used in operational control, as well as advisory information and incident management. Existing freeway system traffic detectors consist of detectors embedded in the pavement at one-half mile intervals on the freeways in Milwaukee County and on IH 94 in Waukesha County, and at about one to two mile intervals on IH 94 in Kenosha and Racine Counties. The data collected from these traffic detectors is monitored by the WisDOT at the TOC for the purposes of detecting freeway system travel speed and time, traffic congestion, traffic flow breakdowns, and incidents. Freeway ramp meter traffic entry rates can be modified based upon the traffic volume and congestion indicated by the traffic detectors. Travel information on traffic congestion and delays can be provided to freeway system users through the WisDOT website and on variable message signs. Traffic speeds and congestion indicted by traffic detectors can instantaneously identify the presence of a freeway incident. It is proposed that existing freeway system traffic detectors be maintained, and that traffic detectors be installed on the freeway system throughout the Region at one-half mile intervals.

Ramp-meters are traffic signals located on freeway entrance ramps or, in some cases, freeway-to-freeway entrance ramps, and are used to control the rate of entry of vehicles onto a freeway segment to achieve more efficient operation of the adjacent freeway segment and the downstream freeway system. To encourage ridesharing and transit use, preferential access for high-occupancy vehicles is provided at ramp-meter locations to allow the high-occupancy vehicles to bypass traffic waiting at a ramp-metering signal. There are 120 freeway on-ramps currently in the Milwaukee area equipped with ramp-meters. Buses and high-occupancy vehicles currently receive preferential access at 62 of the 120 on-ramp-meter locations. It is proposed that ramp-meters be installed on all freeway on-ramps within the Region, with high-occupancy vehicle preferential access provided at all metered ramps, particularly those which would be used by existing and planned public transit.

Another element of freeway operational control is the strategy used in the operational control of ramp-meters. The existing ramp-meters on the southeastern Wisconsin freeway system are controlled in two ways. Some are controlled in a "pre-timed" mode, operating during specified peak traffic hours of the weekday at specified release rates of vehicles. Others are controlled as well during specified peak traffic hours of the weekday, but the vehicle release rates are based upon adjacent freeway system traffic volume and congestion. It is proposed that the strategy of controlling ramp-meters through consideration of adjacent congestion be expanded throughout the freeway system, and that an operational control strategy be considered which would consider downstream freeway traffic congestion and seek to minimize total travel delay on the freeway system while providing for equitable average and maximum delays at each ramp-meter, and avoiding the extension of vehicle queues onto surface streets. It is also proposed that the need for expanded vehicle storage on freeway on-ramps be considered, and addressed, during the reconstruction of the regional freeway system.

Advisory Information Measures
Providing advisory information to motorists is an integral part of providing an efficient street and highway system. By providing information on current travel conditions, motorists can choose travel routes which are more efficient for their travel, and the result is a more efficient transportation system. Advisory information measures include permanent variable message signs (VMS), the WisDOT website, and provision of information to the media. The WisDOT uses the permanent VMS to provide real time information to travelers about downstream freeway traffic conditions, such as current travel times to selected areas, information about lane and ramp closures, and where travel delays begin and end. There are 23 permanent VMS located on the freeway system, primarily in the Milwaukee area, and 13 on surface arterials which connect with the freeway system primarily located in western Milwaukee County. It is proposed that variable message signs be provided on the entire freeway system, and on surface arterials leading to the most heavily used freeway system on-ramps.

The WisDOT also provides substantial information about current freeway system traffic conditions on a website using data collected from freeway system traffic detectors. The information includes maps depicting the current level of freeway traffic congestion and the locations of confirmed incidents, views of freeway system traffic available from the freeway system closed circuit television camera network, and current travel times and delays on the major freeway segments in the Milwaukee area. The data on the website is also available to the media and used in daily radio and television broadcasts. It is proposed that WisDOT continue to enhance and expand the

information provided on its website and to the media, and consider deployment of a regional 511 traveler information system which would allow the public to dial "511" and receive automated messages about current travel conditions along their desired route through a series of predetermined automated menus.

Incident Management Measures
Incident management measures have as their objective the timely detection, confirmation, and removal of freeway incidents. As noted earlier, the WisDOT freeway system TOC and freeway system traffic volume detectors are essential to incident management, as well as freeway operational control and advisory information. Other incident management measures include closed circuit television, enhanced freeway location reference markers, freeway service patrols, crash investigation sites, the Traffic Incident Management Enhancement Program, ramp closure devices, and alternate route designations.

Closed-circuit television (CCTV) cameras provide live video images to the WisDOT and the Milwaukee County Sheriff's Department which allow for the rapid confirmation of congested areas and the presence of an incident, and immediate determination of the appropriate response to the incident and direction of the proper equipment to be deployed in response to the incident. There are currently 83 closed-circuit television cameras on the southeastern Wisconsin freeway system, covering Milwaukee County freeways, IH 94 and USH 41/45 in eastern Waukesha County, and IH 94 in Kenosha and Racine Counties. It is proposed that the CCTV camera network be provided on the entire regional freeway system.

Enhanced reference markers assist motorists in identifying specific locations along a freeway segment when reporting incidents. These markers are typically small signs provided at one-tenth mile intervals along the freeway system which typically display the highway shield and mile marker. Enhanced reference markers are currently provided in Milwaukee County in the freeway median at each one-tenth mile on USH 45 from the Zoo Interchange to the Milwaukee-Waukesha County line, and on IH 94 from the Mitchell Interchange to the Illinois-Wisconsin State line, including the freeway segments of IH 94 in Kenosha and Racine Counties. It is proposed that enhanced reference markers be provided on the entire regional freeway system.

Freeway service patrols provide for rapid removal of disabled vehicles and initial response to clearing incidents. Freeway service patrols consist of specially equipped vehicles designed to assist disabled motorists and assist in clearance of incidents. Freeway service patrol vehicles may be equipped to provide limited towing assistance, as well as minor services such as fuel, oil, water, and minor mechanical repairs. Freeway service patrols currently operate in a limited role on the Milwaukee County freeway system and on IH 94 in Kenosha, Racine, and Waukesha Counties. In each of these four counties, service patrols operate during weekday peak traffic periods. In Milwaukee County service patrols also operate all day during weekdays, and in Kenosha and Racine Counties, service patrols also operate all day during weekends. In Kenosha, Racine, and Waukesha Counties, one service patrol vehicle serves 12 to 15 miles of freeways, and in Milwaukee County one service patrol vehicle serves 70 miles of freeways. Expansion of the freeway service patrol is recommended to serve the entire regional freeway system, and to provide greater coverage including all day weekday and weekend service, evening service, and increased vehicle coverage of one vehicle per 12 to 15 miles of freeway.

Crash investigation sites are designated safe zones for distressed motorists to relocate to if they are involved in a crash or an incident on the freeway. There are 35 crash investigation sites on the southeastern Wisconsin freeway system, with the largest concentration—24 of the 35, or about 69 percent—located on the system in Milwaukee County. It is proposed that the WisDOT evaluate the extent of use and attendant benefits of existing crash investigation sites, and consider expansion as needed to serve the entire regional freeway system.

The Traffic Incident Management Enhancement (TIME) Program, sponsored by the WisDOT, has served to bring together, and coordinate, the transportation engineering, law enforcement, media, emergency responders, transit, tow and recovery, and other freeway system operational interests at monthly meetings. The goals of the TIME program are to improve and enhance freeway incident management, improve freeway safety, and enhance the quality and efficiency of freeway travel. It is proposed that the TIME program continue to be operated and sponsored by WisDOT.

Ramp closure devices have been deployed on IH 94 in Kenosha, Racine, and Waukesha Counties. The ramp closure devices are either Type III barricades or swing arm gates. These ramp closure devices allow for the closure of freeway on-ramps during planned and unplanned major incidents, such as special events and severe inclement weather. It is proposed that WisDOT evaluate the use and attendant benefits of existing ramp closure devices, and consider their application throughout the Region.

Alternate routes are designated, clearly marked and signed surface arterial street and highway routes which generally parallel freeway segments. These routes would be intended to be used by motorists during major freeway incidents and ramp closures and during particularly extreme congestion. Motorists would be directed through advisory information to these routes during major incidents and periods of particularly extreme congestion. It is proposed that WisDOT and the Regional Planning Commission, together with the concerned and affected local governments, examine the potential for the designation of alternative routes, and consider implementation of a pilot effort in a designated corridor.

Surface Arterial Street and Highway Traffic Management
This group of proposed transportation system management measures would attempt to improve the operation and management of the regional surface arterial street and highway network, and include improved traffic signal coordination, intersection traffic engineering improvements, curb lane parking restrictions, access management, and advisory information.

Coordinated traffic signal systems provide for the efficient progression of traffic along arterial streets and highways allowing motorists to travel through multiple signalized intersections along an arterial route at the speed limit minimizing or eliminating the number of stops at signalized intersections. In the Region, coordinated traffic signal systems currently generally range from systems comprising two traffic signals to systems comprising about 100 traffic signals. Approximately 1,100 of the 1,700 traffic signals in the Region, or about 65 percent, are part of a coordinated signal system. It is proposed that Commission staff work with State and local government to document existing and planned arterial street and highway system traffic signals and traffic signal systems, and develop recommendations for improvement and expansion of coordinated signal systems.

It is also proposed that State and local governments aggressively consider and implement needed individual arterial street and highway intersection improvements, such as adding right- and/or left-turn lanes; improvements in the type of traffic control deployed intersection, including two- or four-way stop control, roundabouts, or signalization; or improvements in signal timing at individual signalized intersections. This measure proposes that State, county, and municipal governments each prepare a prioritized short-range (two to six year) program of arterial street and highway intersection improvements under their jurisdiction, pursue aggressive implementation of the programs, and review and update the programs every two to five years.

It is also proposed that local governments consider implementation of curb-lane parking restrictions during peak traffic periods in the peak traffic direction as traffic volumes and congestion increase. These parking restrictions would be implemented rather than the widening with additional lanes or construction of new arterial streets.

Access management is also proposed to improve transportation systems operations and provide for full use of roadway capacity. Access management involves applying standards for the location, spacing, and operation of driveways, median openings, and street connections. It is proposed that State, county, and municipal governmental units with arterial streets and highways under their jurisdiction adopt access management standards, consider and implement these standards as development takes place along arterials under their jurisdiction, and prepare and implement access management plans along arterials which currently are developed and have access which violates these standards.

Advisory information should also be provided to motorists concerning the surface arterial street and highway network in the Region. It is recommended that the WisDOT improve and expand the data provided on its website (travel times, congestion maps, and camera images) concerning freeway travel to include surface arterial street and highway travel, beginning with the pilot route designated as an alternative route to a segment of the freeway system.

Major Activity Center Parking Management and Guidance

Another proposed transportation system management measure would attempt to improve traffic operation conditions by reducing the traffic circulation of motorists seeking parking in major activity centers. The City of Milwaukee currently has an initiative to construct SummerFest shuttle bus parking management and guidance system. This initiative would provide static and dynamic signing indicating the location of parking structures and the availability of parking in those structures for a number of parking structures in the central business district (CBD) which are near SummerFest shuttle bus routes. This proposed measure supports the City of Milwaukee initiative and proposes expansion of parking management and guidance systems to incorporate all of the Milwaukee CBD at all times of the year.

Regional Transportation Operations Program

It is also proposed that WisDOT in cooperation with SEWRPC and all transportation system operators in the Region work to prepare a Regional Transportation Operation Program (RTOP). It is envisioned that the RTOP would program high priority short-range (three to five year) operational improvement projects for implementation, in part based upon the transportation systems management recommendations in the regional transportation system plan.

Travel Demand Management Element

The travel demand management measures included in the preliminary recommended year 2035 regional transportation plan include measures intended to reduce personal and vehicular travel or to shift such travel to alternative times and routes, allowing for more efficient use of the existing capacity of the transportation system. These measures are in addition to the public transit and pedestrian and bicycle plan elements previously described.

Seven categories of travel demand management measures are proposed for inclusion in the year 2035 plan: high-occupancy vehicle preferential treatment, park-ride lots, transit pricing, personal vehicle pricing, travel demand management promotion, transit information and marketing, and detailed site-specific neighborhood and major activity center land use plans.

High-Occupancy Vehicle Preferential Treatment

This group of proposed travel demand management measures would attempt to provide preferential treatment for transit vehicles, vanpools, and carpools on the existing arterial street and highway system. The proposed preferential treatment category consists of

four specific travel demand management measures: the provision of high-occupancy vehicle (HOV) queue bypass lanes at metered freeway on-ramps; reserved bus lanes along congested surface arterial streets and highways; transit priority signal systems; and preferential carpool and vanpool parking.

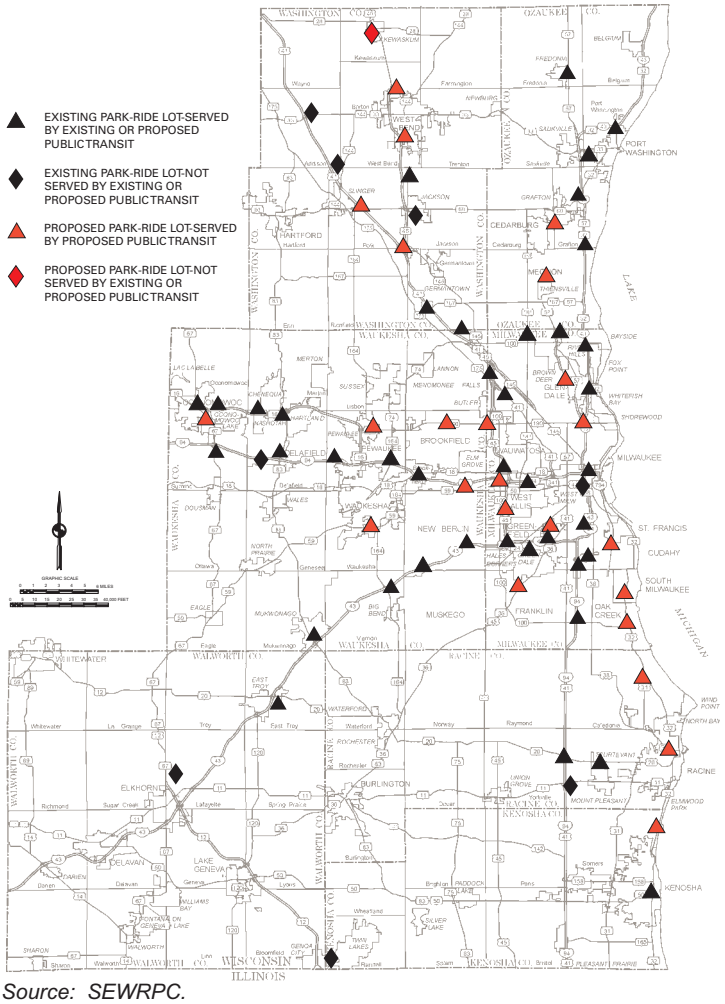
The provision of HOV queue bypass lanes at metered freeway on-ramps currently exists at 62 of the 120 metered freeway on-ramp locations within the Milwaukee area. The proposed travel demand measure recommends that consideration be given to providing HOV bypass lanes at all metered freeway on-ramps within the Region, dependent upon right-of-way and on-ramp geometric design constraints. For this measure to be truly effective, strict enforcement of HOV bypass lanes will be required.

Reserved bus lanes similar to those along Blue Mound Road in Waukesha County allow transit vehicles to bypass vehicle queues attendant to traffic signals on congested arterial streets and highways. These reserved lanes may be expected to reduce transit travel times and improve transit travel time reliability during peak travel periods. This proposed travel demand management measure would expand the use of reserved bus lanes throughout the Region on the congested surface arterial streets and highways which currently, or may be expected in the future, to accommodate express and major local transit routes, and on the surface arterial portion of rapid transit routes.

The third proposed travel demand management measure within the high-occupancy vehicle preferential treatment category is transit priority signal systems. This proposed measure would allow transit vehicles to extend the end of the green phase of traffic signals as they approach a signalized intersection. This proposed measure would include transit priority signal systems along all express and major local transit routes, and the surface arterial portion of rapid transit routes within the Region.

Map 4

PROPOSED PARK-RIDE LOTS WITHIN SOUTHEASTERN WISCONSIN UNDER THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION PLAN



Source: SEWRPC.

The fourth proposed travel demand management measure within the high-occupancy vehicle preferential treatment category is preferential carpool and vanpool parking. This proposed measure would be voluntary and would propose that employers providing free/subsidized parking for their employees consider providing and enforcing preferential parking for those employees who carpool or vanpool to the employment site. This proposed measure may reduce vehicle trips by encouraging ridesharing.

Park-Ride Lots

To promote carpooling and the resultant more efficient use of the Region's transportation system, a network of park-ride lots are proposed to facilitate carpooling. Map 4 shows the proposed system of park-ride lots including existing park-ride lots and those proposed to be served by public transit. Park-ride lots are proposed along all major routes at their major intersections and interchanges where sufficient demand may be expected to warrant provision of an off-street parking facility.

Transit Pricing

This group of proposed travel demand management measures would build upon existing transit pricing programs conducted by the transit operators in the Region. The proposed transit pricing category consists of three specific travel demand management measures: annual transit pass programs, monthly or weekly pass programs, and vanpool programs.

The Milwaukee County Transit System has implemented a pass system at four colleges and universities which provides for free transit use with a reduced fee included in student tuition and fees. This annual transit pass program should be expanded to include the other local public transit operators in the Region and additional colleges and universities within the Region. This annual pass program should also be expanded to employers, with the Region's transit operators negotiating an annual fee with individual employers, which would allow those employers to provide each employee with an annual transit pass.

Monthly or weekly discount pass programs currently exist for three of the Region's public transit operators—the Milwaukee County Transit System, the Racine Belle Urban System, and the Waukesha Metro Transit System. This proposed monthly or weekly pass

program would allow employers to offer their employees discounted monthly or weekly passes, where the employer and the transit operator have negotiated an agreement in which they both agree to subsidize a portion of the monthly or weekly pass.

The third proposed travel demand management measure within the transit pricing category is expansion of existing vanpool programs. Currently, the Milwaukee County Transit System operates a vanpool program with about 20 vanpools in which a group of employees who live in the same general area split the operation, maintenance, and a portion of the capital costs—currently 20 percent—of a van. Currently, the Milwaukee County Transit System vanpool program requires one end of the work trip to be in Kenosha, Milwaukee, Ozaukee, Racine, Washington, or Waukesha Counties, and that one end of the work trip is outside the regular Milwaukee County Transit System service area.

Personal Vehicle Pricing
The proposed personal vehicle pricing group of travel demand management measures would propose to allocate a larger percentage of the full costs of construction, maintenance, and operation of street and highway facilities and services directly on the users of the system. The proposed personal vehicle pricing category consists of two specific travel demand management measures—cash-out of employer-paid parking and auto pricing.

Cash-out of employee paid parking would propose that employers currently providing free/subsidized parking to employees would voluntarily begin charging their employees the market value of parking. Employers could offset the additional cost of parking through cash payment or salary increases to employees. This proposed measure would potentially reduce vehicle-trips and vehicle-miles of travel through the increased use of transit, ridesharing, walking, and bicycling, as some employees may "pocket" the cash payment and use other modes of travel.

The second proposed travel demand management measure within the personal vehicle pricing category encourages the continued and expanded use of user fees to pay the costs of construction, maintenance, and operation of street and highway facilities and services. Currently, user fees primarily include the Federal and State motor fuel tax and vehicle registration fees. These user fees currently fund 100 percent of the costs associated with State highways and about 20 to 25 percent of the costs associated with county and municipal streets and highways. There is substantial and growing opposition to increases in motor fuel taxes. In addition, there is the potential in the future for technological advances, such as increased fuel efficiency and alternative fuels, to render the current motor fuel tax obsolete. However, there is merit in having the users of the transportation system pay the actual costs of constructing, maintaining, and operating the transportation system. Travel behavior is affected by the cost of travel, and user fees can encourage more efficient travel.

Travel Demand Management Promotion
A regionwide program to aggressively promote transit use, bicycle use, ridesharing, pedestrian travel, telecommuting, and work-time rescheduling, including compressed work weeks is proposed to encourage alternatives to drive alone personal vehicle travel. The program would include education, marketing, and promotion elements.

Transit Information and Marketing
Proposed transit information and marketing measures would include the continuation and expansion of the joint marketing efforts of the transit operators within southeastern Wisconsin. It is also proposed that a single website be developed in which transit users could access all necessary information for each transit system in southeastern Wisconsin. This proposed website would allow a potential transit user to enter such information as beginning and ending addresses of a desired trip within the Region, and then would display the most feasible transit routing of the desired trip including all fares, transfers, and schedules.

The third proposed transit information and marketing measure is real-time travel information. This proposed measure would utilize global positioning system (GPS) data to provide real-time transit information to transit riders at transit centers and transit stops, including transit vehicle arrival times, and real-time maps, showing where on the route a transit vehicle is currently located.

Detailed Site-Specific Neighborhood and Major Activity Center Land Use Plans
The preparation and implementation by local governmental units of detailed, site-specific neighborhood and major activity center plans to facilitate travel by transit, bicycle, and pedestrian movement and reduce dependence on automobile travel is proposed, as recommended in the regional land use plan.

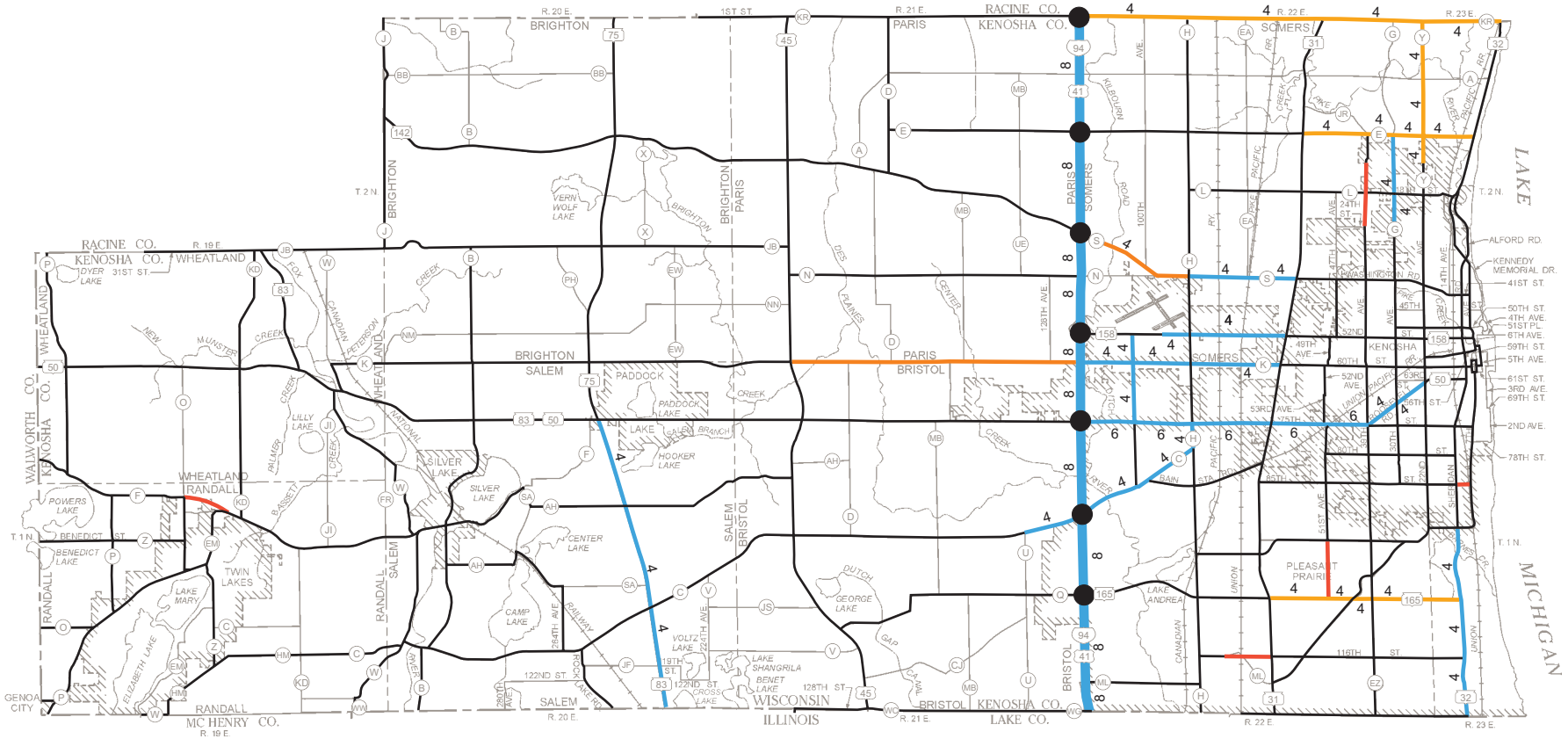
Arterial Street and Highway Element
The arterial street and highway element of the preliminary recommended year 2035 regional transportation plan totals 3,627 route-miles. Approximately 88 percent, or 3,196 of these route-miles, are recommended to be resurfaced and reconstructed to their same capacity. Approximately 346 route-miles, or less than 10 percent of the total preliminary recommended year 2035 arterial street and highway system are recommended for widening to provide additional through traffic lanes, including 127 miles of freeways. The remaining 85 route-miles, or about two percent of the total arterial street mileage, are proposed new arterial facilities.

Map 5 displays the preliminary recommended year 2035 regional transportation plan arterial street preservation, improvement, and expansion by county. Highway improvements were recommended to address the residual congestion which may not be expected to be

Map 5

ARTERIAL STREET AND HIGHWAY SYSTEM ELEMENT OF THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSPORTATION SYSTEM PLAN

KENOSHA COUNTY



ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE FUTURE IMPROVEMENT (ADDITIONAL LANES OR NEW FACILITY)
- 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)

FREEWAY INTERCHANGE

- EXISTING

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.

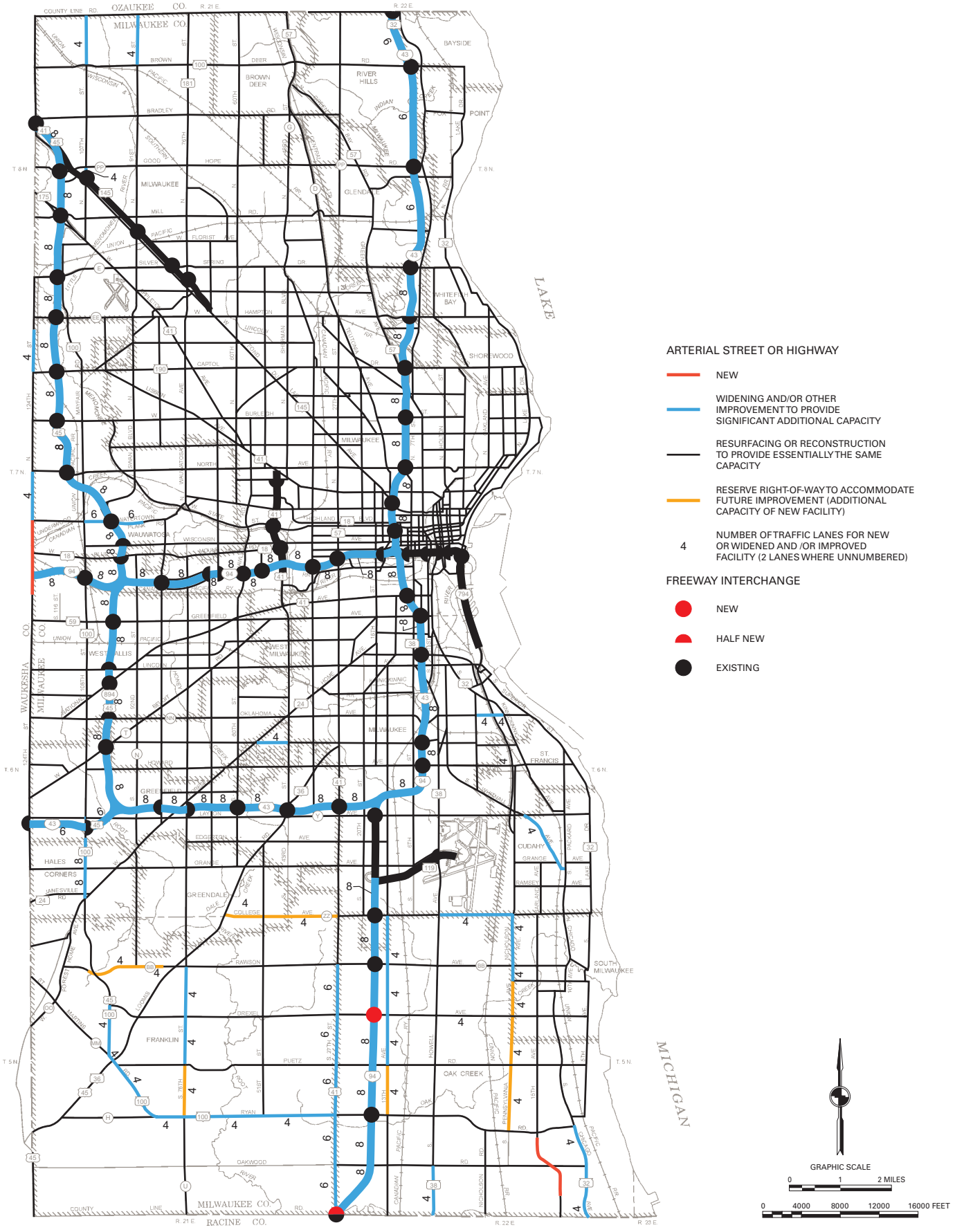
3. AS IMPROVEMENTS ARE MADE TO IH 94 AND THE FRONTAGE ROADS ALONG IH 94 IN THE VICINITY OF CTH K, THE ULTIMATE PROVISION OF AN INTERCHANGE WITH CTH K SHOULD BE TAKEN INTO CONSIDERATION.

GRAPHIC SCALE
0 1 2 MILES
0 4000 8000 12000 16000 FEET

Source: SEWRPC.

Map 5 (continued)

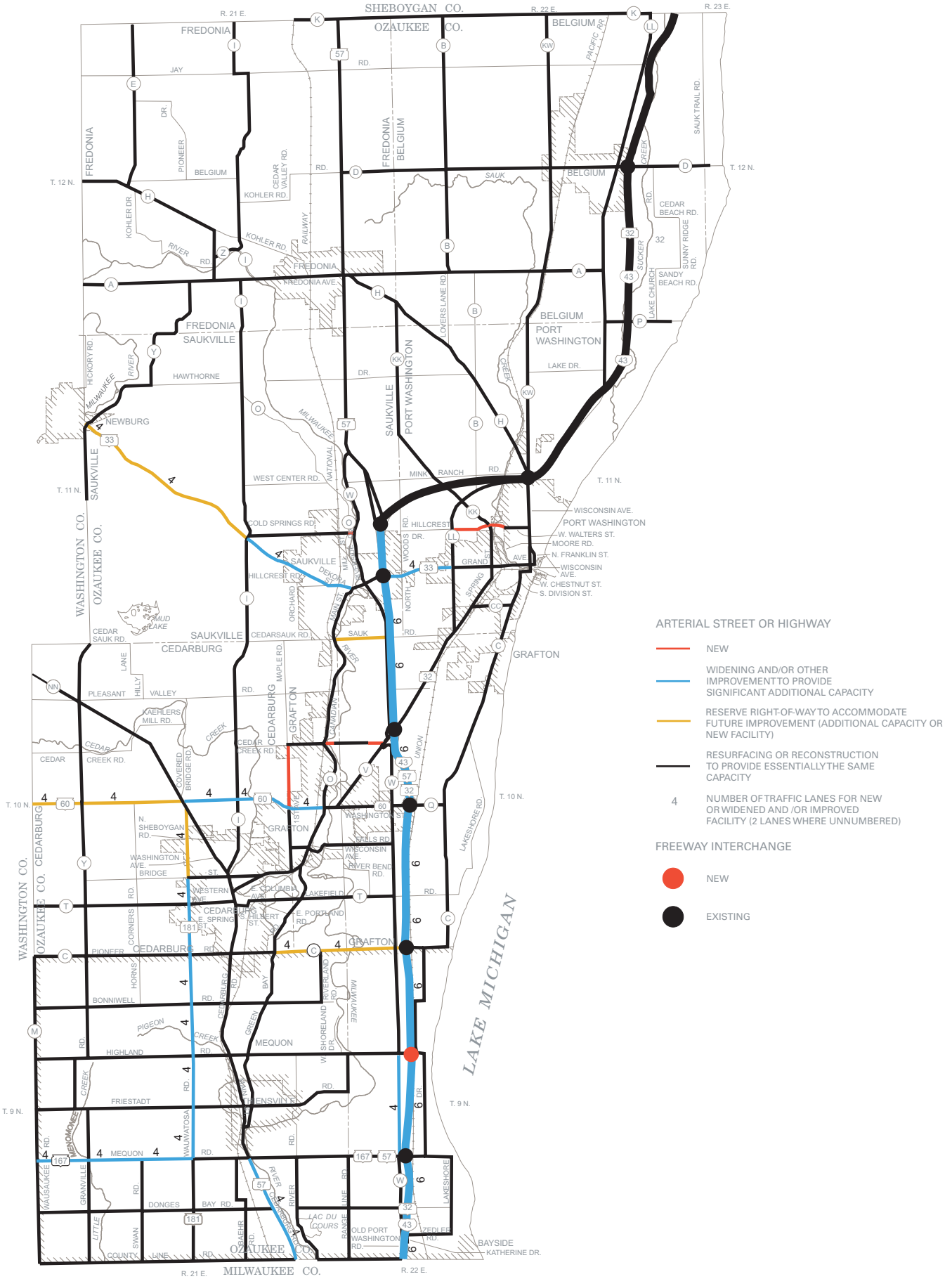
MILWAUKEE COUNTY



Source: SEWRPC.

Map 5 (continued)

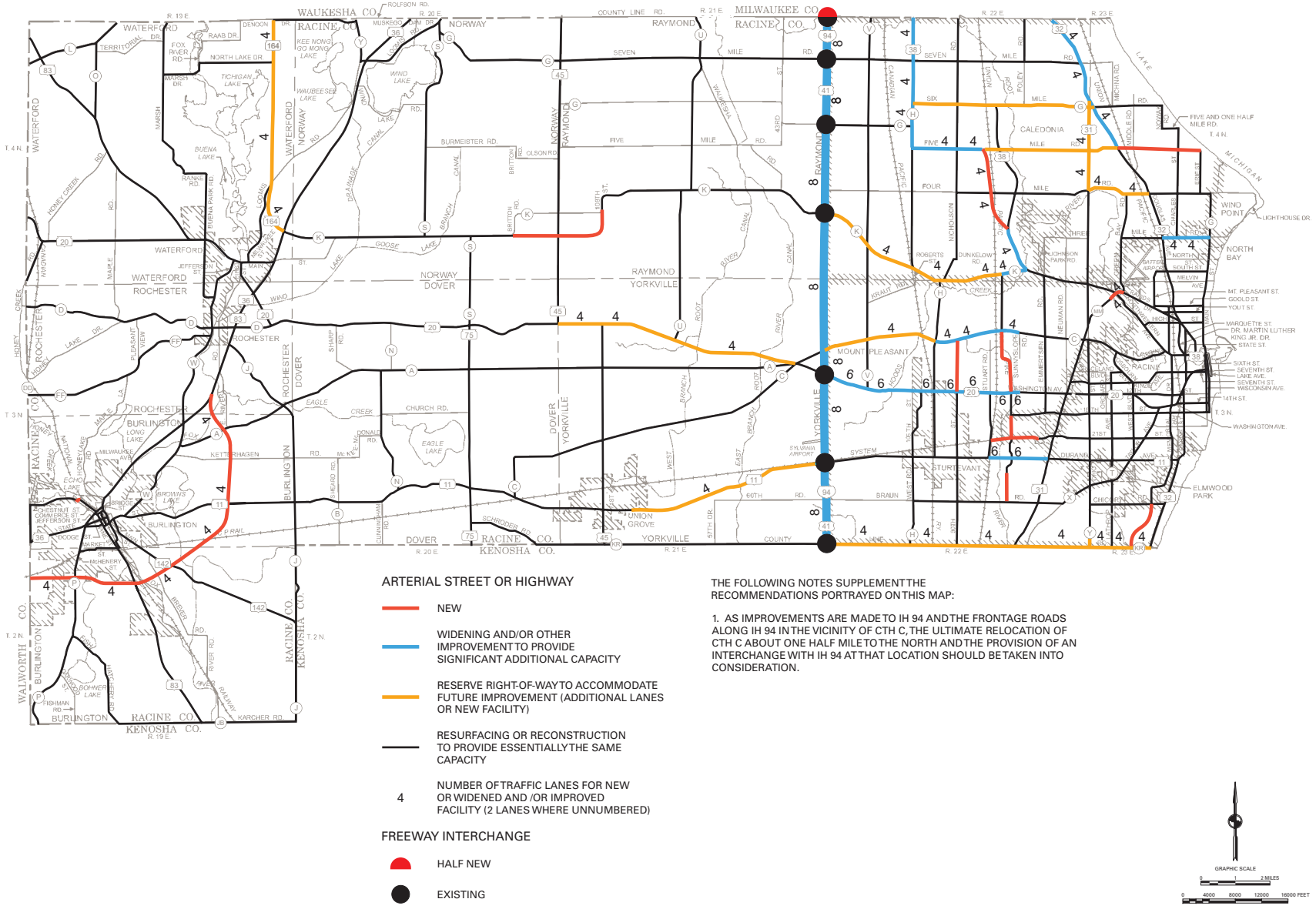
OZAUKEE COUNTY



Source: SEWRPC.

Map 5 (continued)

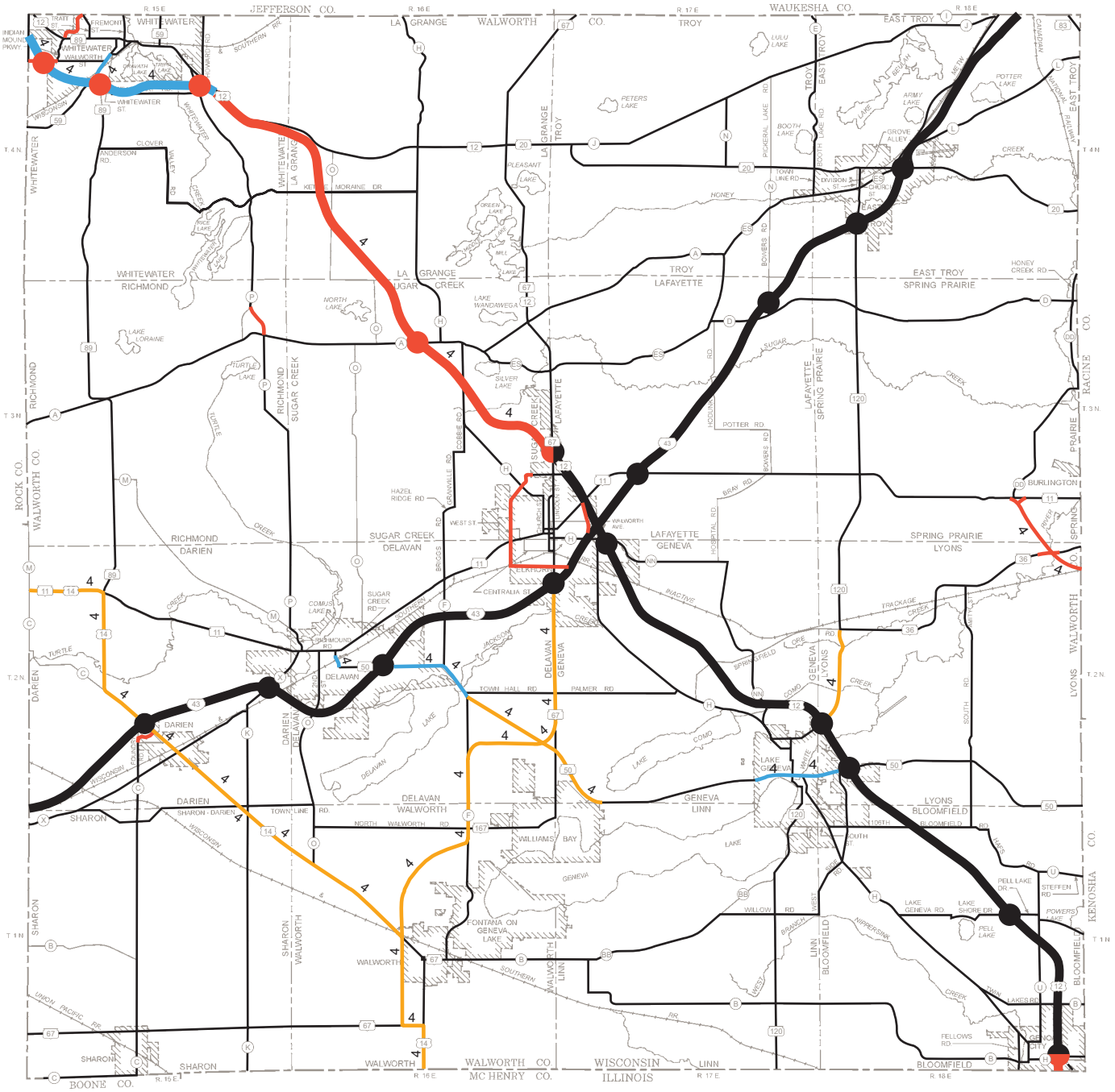
RACINE COUNTY



Source: SEWRPC.

Map 5 (continued)

WALWORTH COUNTY



ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE FUTURE IMPROVEMENT (ADDITIONAL CAPACITY OR NEW FACILITY)
- 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)

FREEWAY INTERCHANGE

- NEW
- HALF NEW
- EXISTING

GRAPHIC SCALE

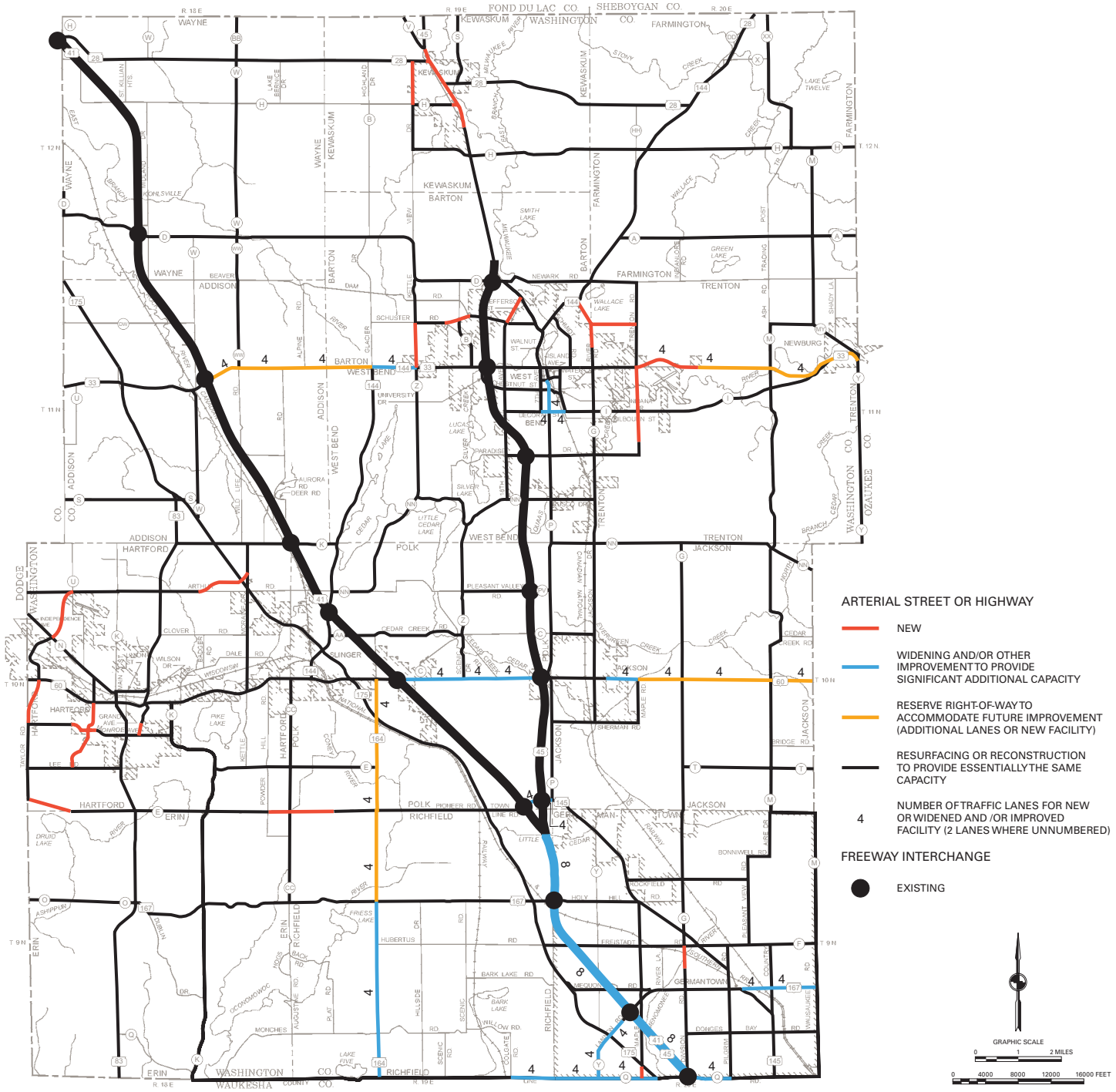
0 1 2 MILES

0 4000 8000 12000 16000 FEET

Source: SEWRPC.

Map 5 (continued)

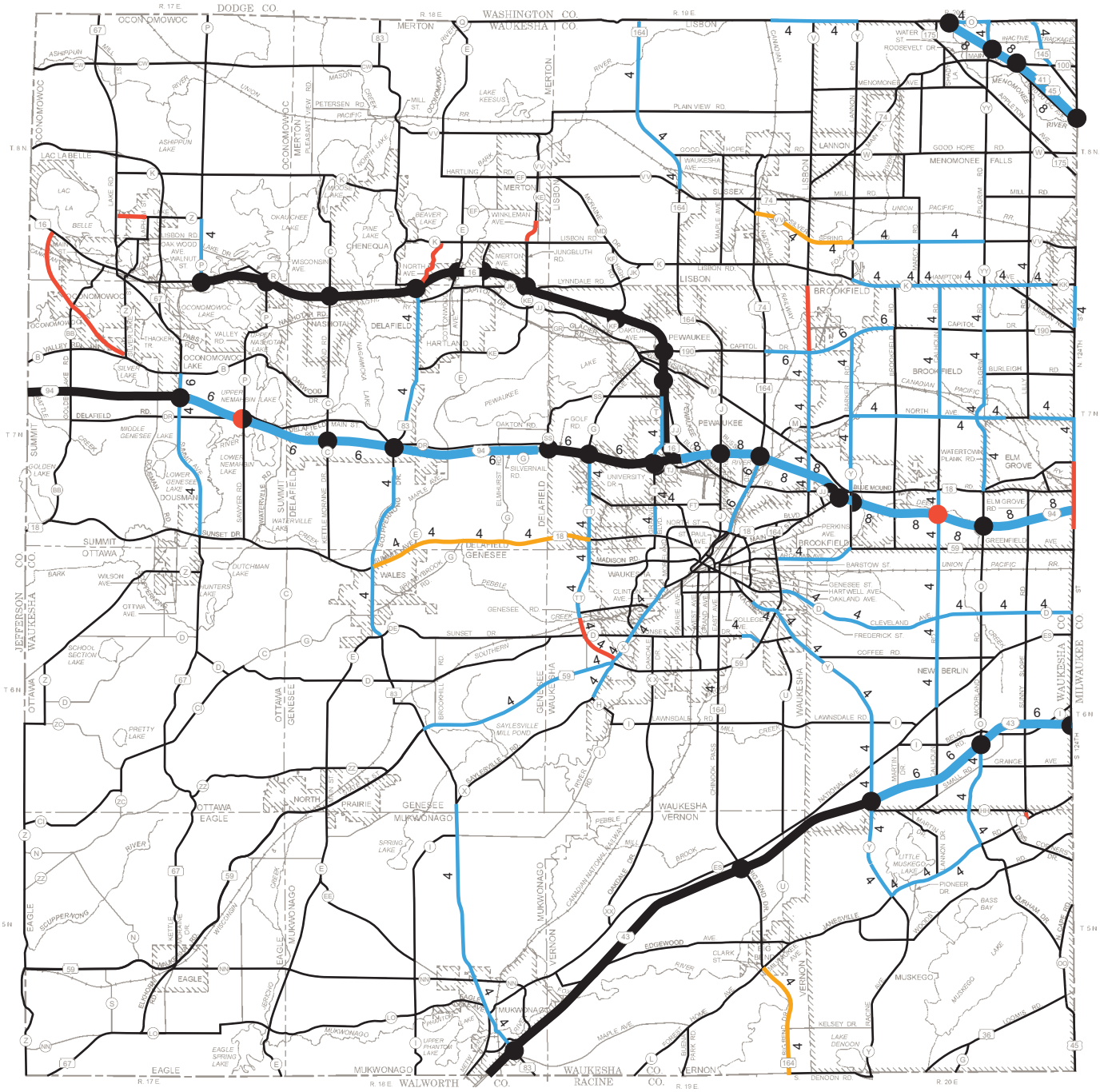
WASHINGTON COUNTY



Source: SEWRPC.

Map 5 (continued)

WAUKESHA COUNTY



ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE FUTURE IMPROVEMENT (ADDITIONAL CAPACITY OR NEW FACILITY)
- 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)

FREEWAY INTERCHANGE

- NEW
- NEW HALF
- EXISTING

GRAPHIC SCALE

0 1 2 MILES

0 4000 8000 12000 16000 FEET

Source: SEWRPC.

[a]*Each proposed arterial street and highway improvement and expansion, and, as well, preservation project, would need to undergo preliminary engineering and environmental studies by the responsible State, county, or municipal government prior to implementation. The preliminary engineering and environmental studies will consider alternatives and impacts, and final decisions as to whether and how a plan and project will proceed to implementation will be made by the responsible State, county, or municipal government (State for state highways, County for county highways, and municipal for municipal arterial streets) at the conclusion of preliminary engineering.*

The 127 miles of freeway widening proposed in the plan and in particular the 19 miles of widening in the City of Milwaukee (IH 94 between the Zoo and Marquette interchanges and IH 43 between the Mitchell and Silver Spring interchanges), will undergo preliminary engineering and environmental impact statement by the Wisconsin Department of Transportation. During preliminary engineering, alternatives will be considered, including rebuild-as-is, various options of rebuild to modern design standards, compromises to rebuilding to modern design standards, rebuilding with additional lanes, and rebuilding with the existing number of lanes. Only at the conclusion of the preliminary engineering would a determination be made as to how the freeway would be reconstructed.

[b]*The plan recommends in addition to the three new freeway interchanges shown on this map, that the Wisconsin Department of Transportation during its preliminary engineering for IH 94 consider the provision of interchanges with CTH K in Kenosha County and CTH C in Racine County including through the provision of collector-distributor roadways connecting CTH K and CTH C directly to adjacent interchanges. The plan also identifies additional potential new future freeway interchanges, and recommends that action be taken by the local governments to preserve the potential necessary right-of-way to assure that the future development of these interchanges are not precluded. Should the concerned local governments take the next step of participating with the Wisconsin Department of Transportation in the conduct of a preliminary engineering study of the interchange, and the preliminary engineering conclude with a recommendation to construct the interchange, the Regional Planning Commission, upon request of the concerned local governments and the Wisconsin Department of Transportation, would take action to amend the regional plan to recommend the construction of the interchange. These potential future new interchanges are CTH B and Bloomfield Road with USH 12, CTH F with IH 43, and CTH ML with IH 94.*

The plan also provides further recommendations with respect to half freeway interchanges. The plan recommends that the Wisconsin Department of Transportation during the reconstruction of the freeway system:

- *Convert the 27th Street with IH 94 and CTH P with IH 94 interchanges to full interchanges, and consider conversion from half to full interchanges of other half interchanges where spacing and other conditions permit;*
- *Consider as an alternative where conditions permit the combination of selected half interchanges into one full interchange[3] for example, STH 100 and 124th Street with IH 43; and*
- *Retain all other existing half interchanges and examine during preliminary engineering the improvement of connection between adjacent interchanges.*

[c]*Subsequent to the completion of the regional transportation plan update and reevaluation, more detailed analyses will be conducted with county jurisdictional highway system planning advisory committees addressing the following arterials and potentially considering various alternatives including do-nothing, restrict parking, widen with additional lanes, construct bypass, and improve/construct parallel arterials: STH 33 in the Village of Saukville, STH 20/83 in the Village of Waterford, STH 50 in the City of Lake Geneva, STH 60 in the Village of Jackson, STH 164 in the Village of Big Bend, and CTH K in Franksville.*

alleviated by proposed land use, systems management, demand management, bicycle and pedestrian facilities, and public transit measures proposed in the preliminary recommended plan. Each proposed arterial street and highway improvement, expansion, and preservation project would need to undergo preliminary engineering and environmental studies by the responsible State, county, or municipal government prior to implementation. The preliminary engineering and environmental studies will consider alternatives and impacts, and final decisions as to whether and how a planned project will proceed to implementation will be made by the responsible State, county, or municipal government at the conclusion of preliminary engineering.

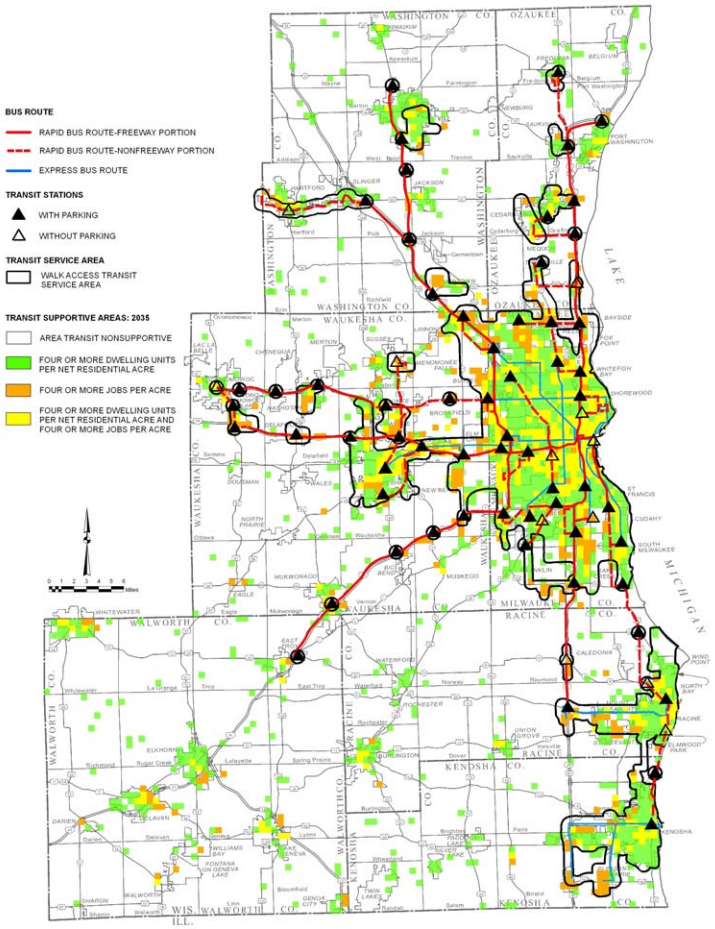
The 127 miles of freeway widening proposed in the plan, and in particular the 19 miles of widening in the City of Milwaukee (IH 94 between the Zoo and Marquette interchanges and IH 43 between the Mitchell and Silver Spring interchanges), will undergo preliminary engineering and environmental impact statement by the Wisconsin Department of Transportation. During preliminary engineering, alternatives will be considered, including rebuild-as-is, various options of rebuilding to modern design standards, compromises to rebuilding to modern design standards, rebuilding with additional lanes, and rebuilding with the existing number of lanes. Only at the conclusion of the preliminary engineering would a determination be made as to how the freeway would be reconstructed.

To arrive at a preliminary recommended plan, the Advisory Committee considered an evaluation and comparison of three alternative regional transportation system plans:

- No-build plan—which would maintain the existing transportation system including continuing to operate the existing public transit system as it existed in the year 2005, to resurface and reconstruct without additional traffic lanes the existing arterial street and highway system, and operate and manage the transportation system as it was operated and managed in 2005;

Map 6

YEAR 2035 TRANSIT SUPPORTIVE LAND AREA SERVED BY THE PRELIMINARY RECOMMENDED YEAR 2035 REGIONAL TRANSIT SYSTEM



Source: SEWRPC.

- Transportation systems management plan (TSM)—which would include all proposed improvements to the transportation system with the exception of arterial street and highway capacity expansion. This would include public transit, bicycle and pedestrian, transportation systems management, and travel demand management elements;

- Transportation systems management plus arterial street and highway capacity expansion (TSM Plus Highway)—which would include the elements of the TSM alternative plan and arterial street and highway capacity expansion.

The preliminary recommended year 2035 regional transportation system plan is the TSM plus highway plan alternative.

EVALUATION OF PRELIMINARY RECOMMENDED PLAN AND COMPARISON TO NO-BUILD AND TSM PLAN ALTERNATIVES

This section of the newsletter provides a summary of the key benefits and costs of the preliminary recommended plan. A comprehensive evaluation of the preliminary recommended plan is presented in Chapter VIII, "Regional Transportation Plan Development and Evaluation", of SEWRPC Planning Report No. 49; *A Regional Transportation System Plan for Southeastern Wisconsin: 2035*, and is available on the Commission website, http://www.sewrpc.org/regionalplans/regionaltransysplan.shtm.

Transportation System Level of Service

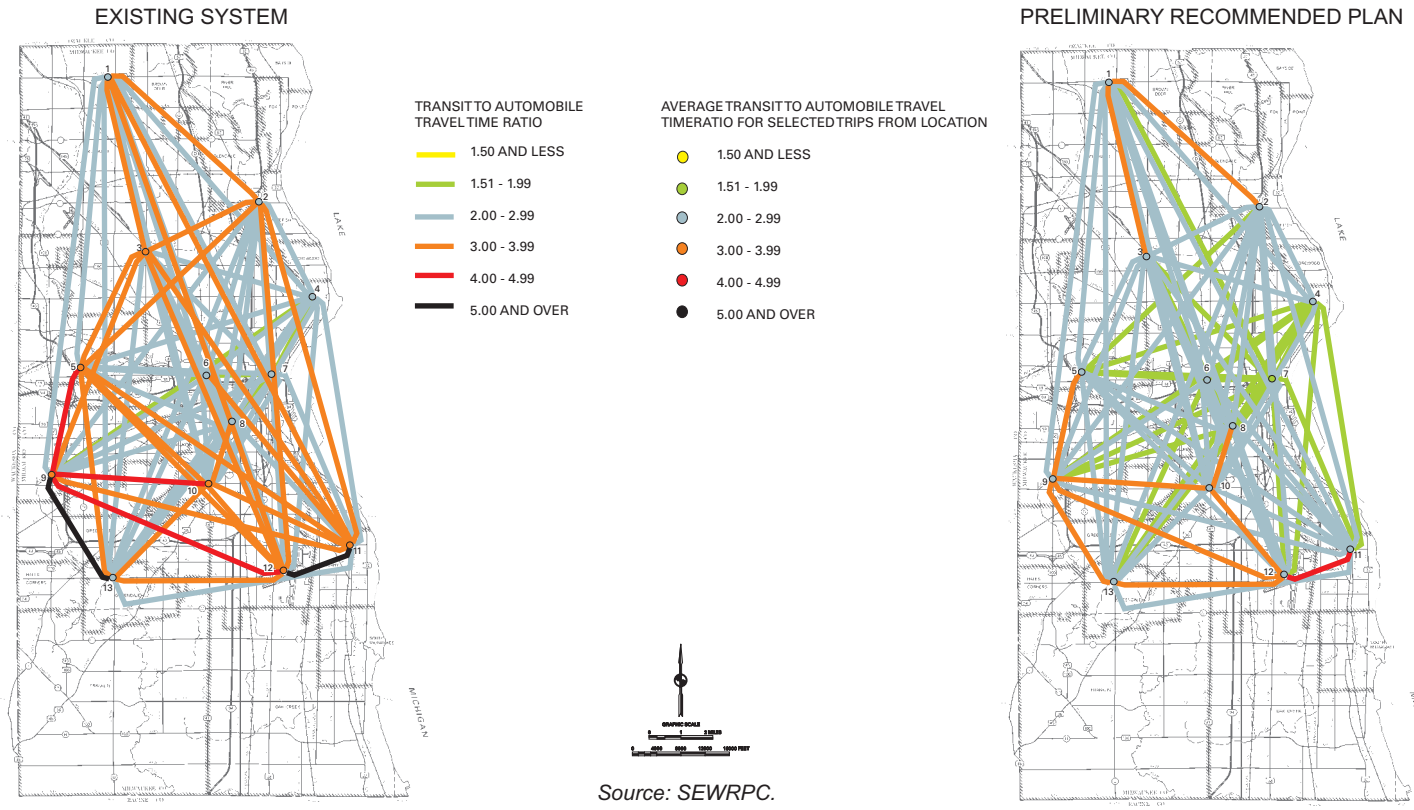
Public Transit

The public transit element of the preliminary recommended regional transportation plan represents a substantial improvement over the existing transit system of the Region with respect to area of the Region served by public transit, days and hours of transit service, frequency of transit service, and speed of transit service.

Map 6 illustrates how well the preliminary recommended transit system plan element serves the areas within the region with population and employment densities sufficient to support public transit use. Table 3 illustrates the significant increase in population and employment served by public transit, particularly by rapid and express transit services.

Map 7

COMPARISON OF TRANSIT TRAVEL TIMES BETWEEN SELECTED LOCATIONS IN MILWAUKEE COUNTY DURING WEEKDAY PEAK PERIODS UNDER THE EXISTING SYSTEM AND PRELIMINARY RECOMMENDED PLAN



Source: SEWRPC.

Under the public transit element of the preliminary recommended plan, public transit would also be significantly expanded in terms of days, hours, and frequency of service. Rapid transit service would be expanded from a weekday, peak period, peak direction service to a daily, all day and evening, bidirectional service with more attractive service frequency. An express transit service would be created which would be available daily throughout the day and evening at attractive service frequencies Local transit service would be significantly improved with more frequent bus service throughout the Region, and initiation or expansion of weekend bus service in the Kenosha, Racine, and Waukesha areas.

Public transit service would be much faster under the preliminary recommended plan due to the emphasis on rapid and express transit service, and proposed improved service frequencies. Map 7 illustrates the improvement in transit travel times for selected trips within Milwaukee County.

Table 3

YEAR 2035 POPULATION AND EMPLOYMENT SERVED BY PUBLIC TRANSIT IN THE REGION UNDER THE PRELIMINARY RECOMMENDED PLAN: 2035

Service Type	Existing System (No-Build Plan)		Preliminary Recommended Plan	
	Population Served	Employment Served	Population Served	Employment Served
Rapid and Express	384,300	219,700	779,700	644,900
Local	1,218,200	866,900	1,419,600	1,020,900
Total[a]	1,282,900	876,100	1,447,800	1,046,800

[a] The total population and employment served does not equal the sum of the service area figures for rapid/express and local service as the service areas overlap. For the total service area figures, the population and employment in the overlapping areas was counted only once.

Source: SEWRPC

Arterial Streets and Highways

As shown in Table 4 and Map 8, if no improvements are made to the region's transportation system over the next 30 years, traffic congestion on an average weekday may be expected to double. Morever, if transportation improvements are limited to the public transit, bicycle and pedestrian, travel demand management , and transportation systems management elements of the preliminary recommended plan, only a modest reduction—about 10 percent—of this projected doubling of congestion may be expected. However, with the arterial street and highway system element of the preliminary recommended plan, the projected doubling of congestion over the next 30 years may be avoided and year 2035 congestion may be expected to be modestly less than current levels of weekday congestion.

Also, the preliminary recommended plan may also be expected to have travel safety benefits with more travel on public transit as opposed to automobile travel and more travel on freeways as opposed to surface arterials, and more travel on less congested freeways. The crash rates for surface arterials are about three times higher than those for freeways for total crashes and fatalities and injuries. The

Table 4

COMPARISON OF EXISTING YEAR 2001 AND FORECAST FUTURE YEAR 2035 AVERAGE WEEKDAY TRAFFIC CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION UNDER THE NO-BUILD PLAN, TSM PLAN, AND THE PRELIMINARY RECOMMENDED PLAN: 2035[a]

TOTAL ARTERIAL SYSTEM—FREEWAYS AND SURFACE ARTERIALS

County	Existing Base Year 2001								Total Mileage
	Under or At Design Capacity		Over Design Capacity						
			Moderate Congestion		Severe Congestion		Extreme Congestion		
	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	Mileage	Percent of Total	
Kenosha	303.2	95.5	9.9	3.1	1.5	0.5	3.0	0.9	317.6
Milwaukee	641.1	82.0	72.1	9.2	24.7	3.2	43.4	5.6	781.3
Ozaukee	244.2	97.4	4.3	1.7	1.5	0.6	0.8	0.3	250.8
Racine	341.3	96.8	9.4	2.7	0.5	0.1	1.4	0.4	352.6
Walworth	430.1	98.4	5.1	1.2	1.1	0.3	0.3	0.1	436.6
Washington	391.1	96.2	15.4	3.8	- -	- -	- -	- -	406.5
Waukesha	650.9	87.2	70.7	9.5	11.4	1.5	13.4	1.8	746.4
Region	3,001.9	91.2	186.9	5.7	40.7	1.2	62.3	1.9	3,291.8
Year 2035 No-Build Plan									
Kenosha	298.9	83.7	44.7	12.5	3.3	0.9	10.2	2.9	357.1
Milwaukee	533.1	67.0	133.0	16.7	26.1	3.3	103.6	13.0	795.8
Ozaukee	265.2	87.7	31.4	10.4	2.2	0.7	3.7	1.2	302.5
Racine	379.2	90.4	33.9	8.1	2.9	0.7	3.3	0.8	419.3
Walworth	441.1	94.1	14.7	3.1	3.2	0.7	9.6	2.1	468.6
Washington	382.6	89.9	31.0	7.3	7.1	1.7	5.0	1.1	425.7
Waukesha	567.9	74.1	113.0	14.7	26.0	3.4	59.4	7.8	766.3
Region	2,868.0	81.1	401.7	11.4	70.8	2.0	194.8	5.5	3,535.3
Year 2035 TSM Plan									
Kenosha	298.9	83.7	44.7	12.5	3.3	0.9	10.2	2.9	357.1
Milwaukee	573.9	72.1	110.5	13.9	24.7	3.1	86.7	10.9	795.8
Ozaukee	264.8	87.5	31.8	10.5	2.2	0.7	3.7	1.3	302.5
Racine	379.3	90.5	36.0	8.6	0.7	0.2	3.3	0.7	419.3
Walworth	441.1	94.1	14.7	3.1	3.2	0.7	9.6	2.1	468.6
Washington	382.6	89.9	31.0	7.3	7.1	1.7	5.0	1.1	425.7
Waukesha	571.5	74.6	109.4	14.3	26.0	3.4	59.4	7.7	766.3
Region	2,912.1	82.4	378.1	10.7	67.2	1.9	177.9	5.0	3,535.3
Year 2035 Preliminary Recommended Plan									
Kenosha	339.0	94.6	15.4	4.3	3.9	1.1	- -	- -	358.3
Milwaukee	704.0	88.1	46.4	5.8	20.9	2.6	28.0	3.5	799.3
Ozaukee	305.8	98.2	2.8	0.9	2.1	0.7	0.6	0.2	311.3
Racine	431.5	97.8	8.7	2.0	0.9	0.2	- -	- -	441.1
Walworth	465.9	98.8	5.0	1.1	0.6	0.1	- -	- -	471.5
Washington	448.6	97.6	10.7	2.3	- -	- -	0.6	0.1	459.9
Waukesha	689.8	87.8	72.0	9.2	10.6	1.3	13.1	1.7	785.5
Region	3,384.6	93.3	161.0	4.4	39.0	1.1	42.3	1.2	3,626.9

FREEWAY SYSTEM

Estimated Existing Year 2001

Highest Level of Hourly Congestion Experienced	Miles of Congested Freeways		Average Hours of Congestion on an Average Weekday			
	Number	Percent of Freeway System	Extreme	Severe	Moderate	Total
Extreme	24.4	9.0	1.4	3.3	4.4	9.1
Severe	19.8	7.3	--	1.5	2.5	4.0
Moderate	20.8	7.8	--	--	2.2	2.2
Total	65.0	24.1	--	--	--	--
Forecast Year 2035 Under No Build Plan						
Extreme	53.8	19.9	1.4	3.2	4.2	8.8
Severe	20.7	7.7	--	1.3	2.7	4.0
Moderate	53.5	19.8	--	--	2.8	2.8
Total	128.0	47.4	--	--	--	--
Forecast Year 2035 Under TSM Plan						
Extreme	47.0	17.5	1.5	3.6	4.7	9.8
Severe	21.4	8.0	--	1.4	2.6	4.0
Moderate	56.4	21.0	--	--	1.7	1.7
Total	124.8	46.5	--	--	--	--
Forecast Year 2035 Under Preliminary Recommended Plan						
Extreme	19.8	6.9	1.1	2.5	3.5	7.1
Severe	21.3	7.4	--	1.5	2.5	4.0
Moderate	25.7	9.0	--	--	1.9	1.9
Total	66.8	23.3	--	--	--	--

Footnote to Table 4

[a] *Congestion on freeways and surface arterials maybe described as follows:*

Freeway			
Level of Traffic Congestion	Level of Service	Average Speed	Operating Conditions
None	A and B	Freeway free-flow speed	No restrictions on ability to maneuver and change lanes.
None	C	Freeway free-flow speed	Some restrictions on ability to maneuver and change lanes.
Moderate	D	1 to 2 mph below free-flow speed	Substantial restrictions on ability to maneuver and change lanes.
Severe	E	Up to 10 mph below free-flow speed	Virtually no ability to maneuver and change lanes. Operation at maximum capacity. No usable gaps in the traffic stream to accommodate lane changing.
Extreme	F	Typically 20 to 30 mph or less	Breakdown in vehicular flow with stop-and-go, bumper-to-bumper traffic.

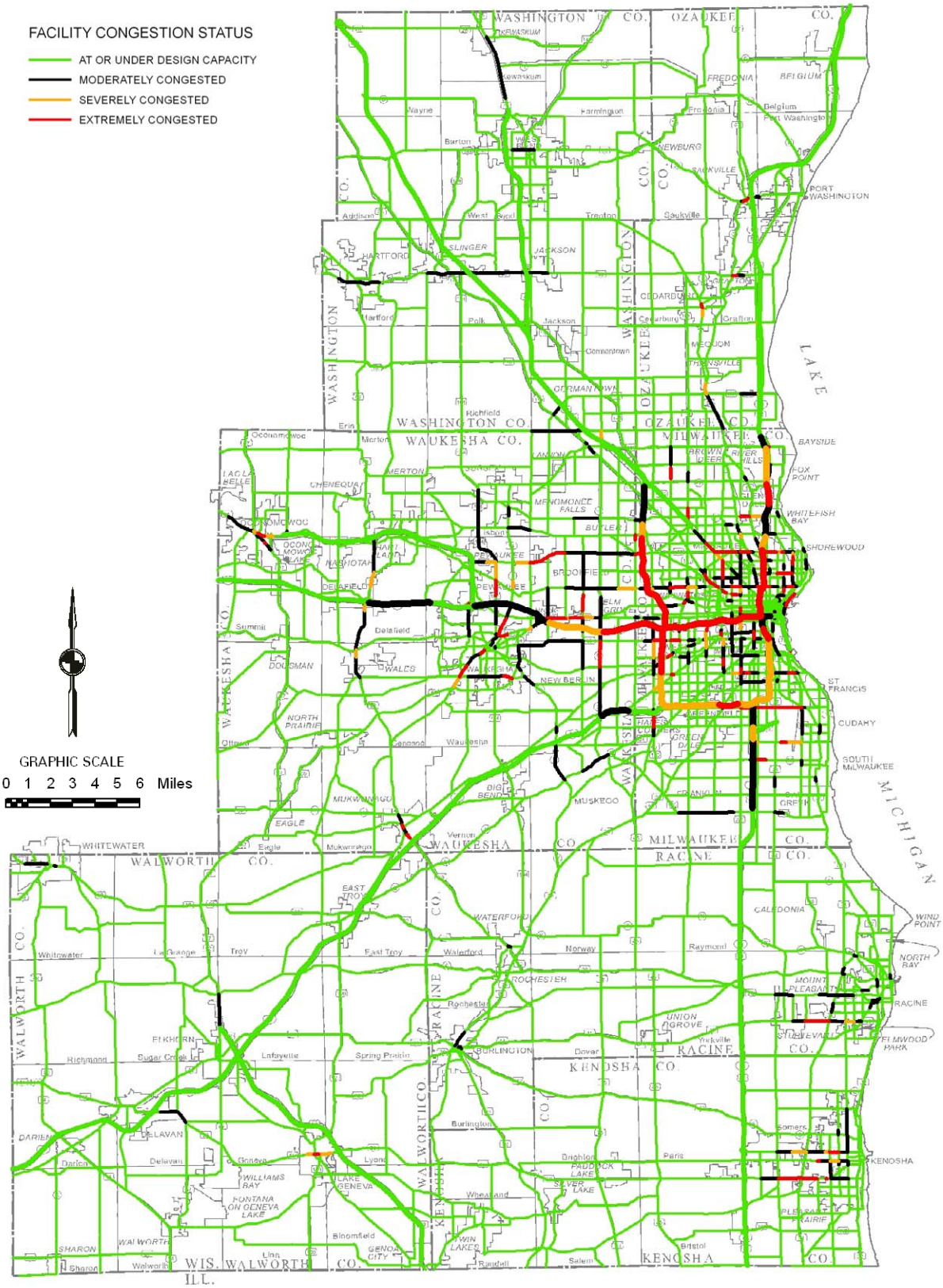
Surface Arterial			
Level of Traffic Congestion	Level of Service	Average Speed	Operating Conditions
None	A and B	70 to 100% of free-flow speed	Ability to maneuver within traffic stream unimpeded. Control delay at signalized intersections in minimal.
None	C	50 to 100% of free-flow speed	Restricted ability to maneuver and change lanes at mid-block locations.
Moderate	D	40 to 50% of free-flow speed	Restricted ability to maneuver and change lanes. Small increases in flow lead to substantial increases in delay and decreases in travel speed.
Severe	E	33 to 40% of free-flow speed	Significant restrictions on lane changes. Traffic flow approaches instability..
Extreme	F	25 to 33% of free-flow speed	Flow at extremely low speeds. Intersection congestion with high delays, high volumes, and extensive queuing.

Source: SEWRPC

Map 8

COMPARISON OF EXISTING YEAR 2001 AND FORECAST YEAR 2035 AVERAGE WEEKDAY CONGESTION ON THE ARTERIAL STREET AND HIGHWAY SYSTEM IN THE REGION UNDER THE NO-BUILD PLAN AND TSM PLAN AND THE PRELIMINARY RECOMMENDED PLAN

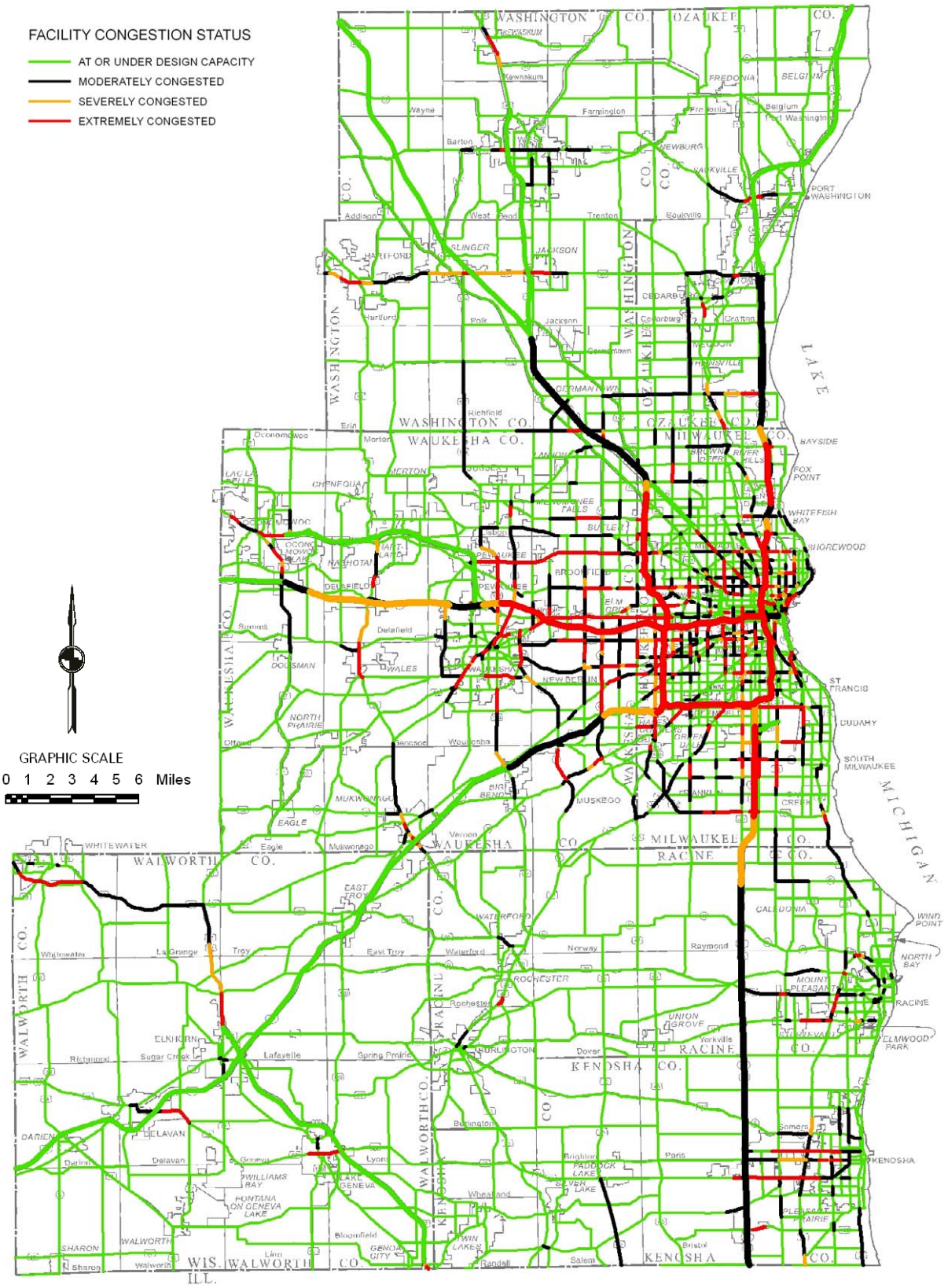
EXISTING



Source: SEWRPC.

Map 8 (continued)

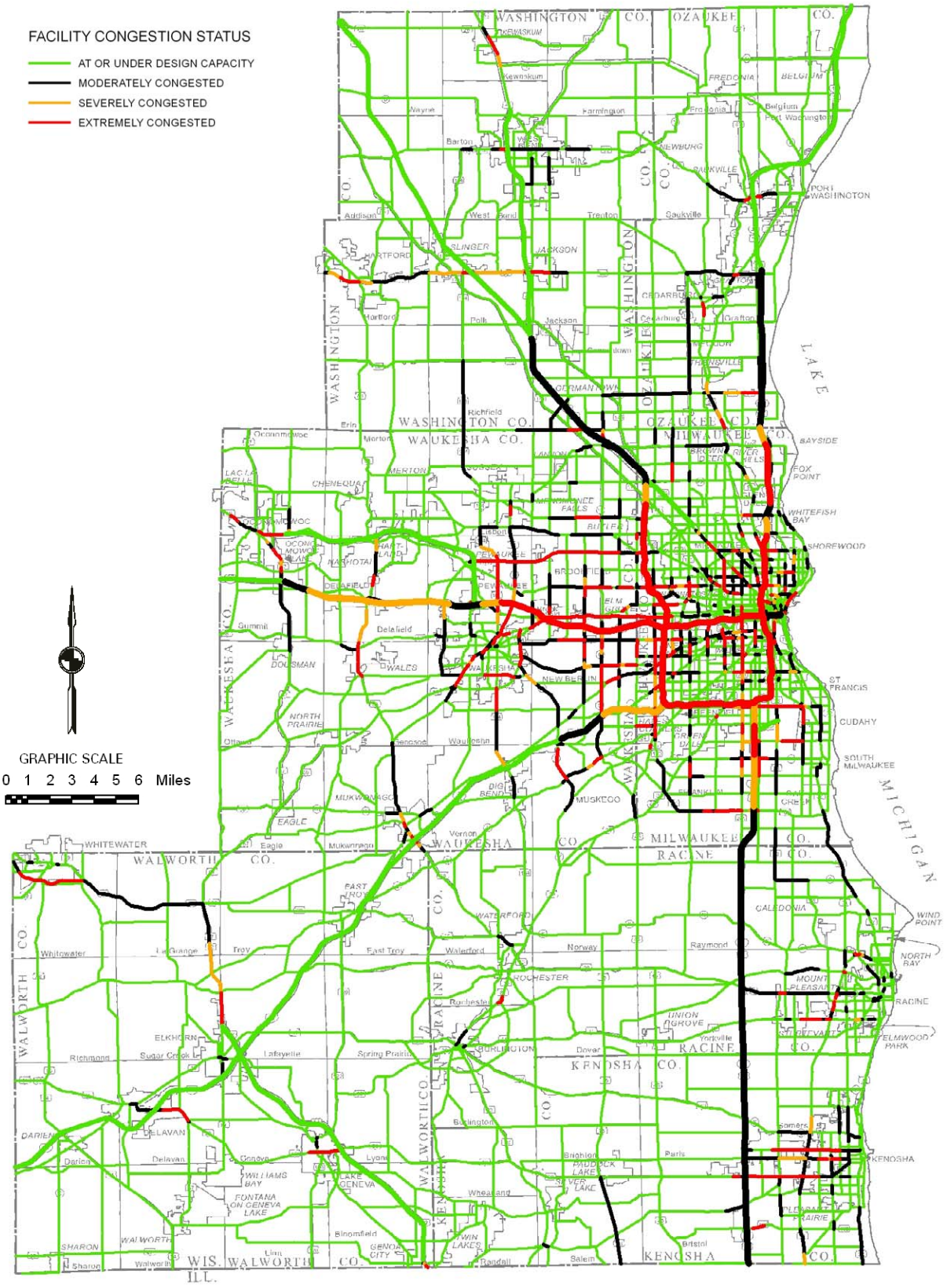
NO-BUILD PLAN



Source: SEWRPC.

Map 8 (continued)

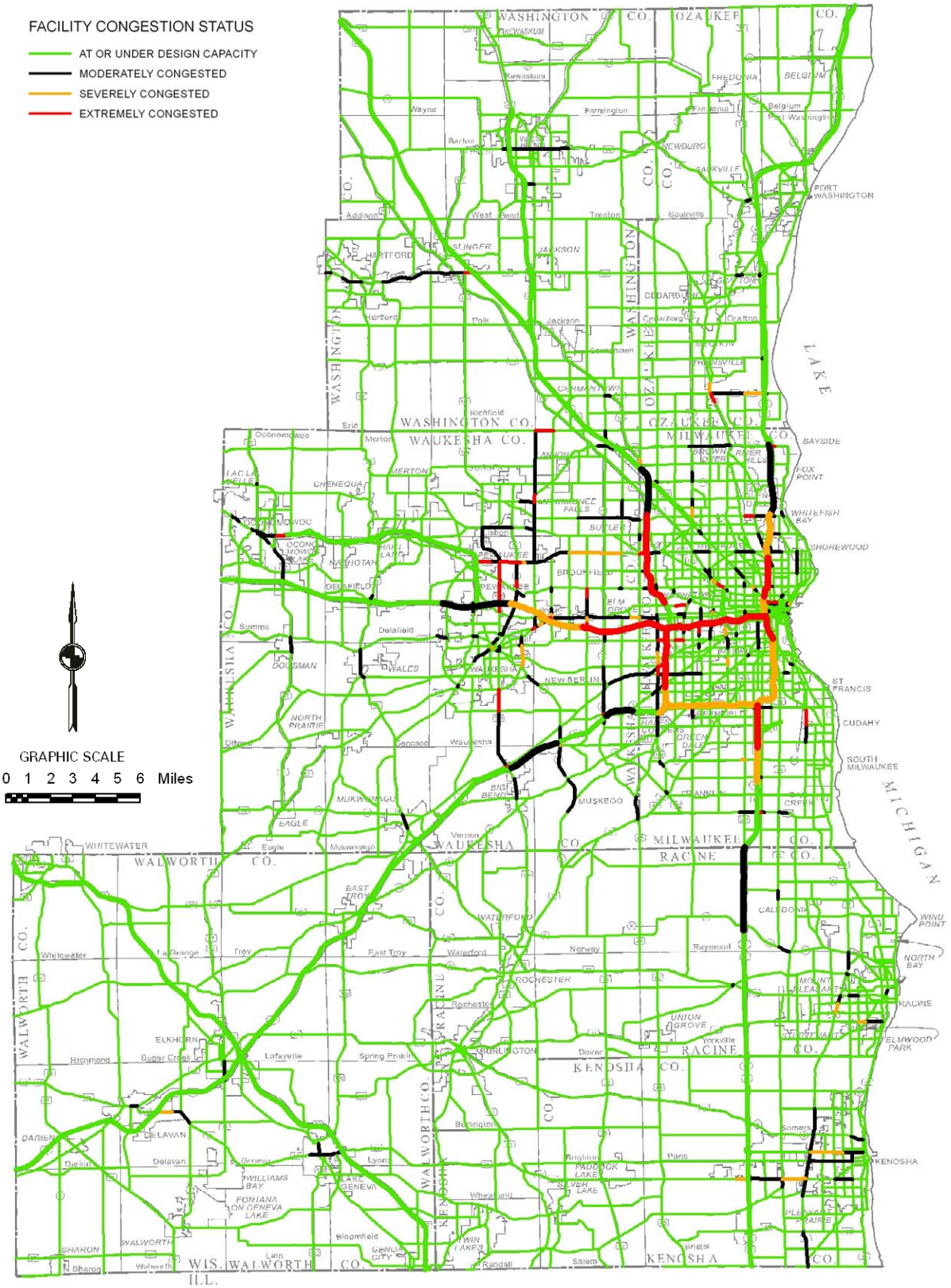
TSM PLAN



Source: SEWRPC.

Map 8 (continued)

PRELIMINARY RECOMMENDED PLAN



Source: SEWRPC.

crash rates for extremely congested freeways are almost triple that for uncongested and moderately congested freeways, and for severely congested freeways are about 60 percent higher than uncongested and moderately congested freeways. Rear-end accident rates are 5 to 15 times higher on congested freeways with the most extremely congested freeways experiencing the highest accident rates.

Transportation System Cost

The preliminary recommended plan represents about a 30 percent increase in cost compared to a "no-build" plan, and about a 10 percent increase in the current expenditures on transportation in the Region, as shown in Table 5. The public transit element of the plan represents about 58 percent of the increase in transportation system costs attendant to the plan, and the highway element represents about 42 percent of the increase.

Table 5

ESTIMATED AVERAGE ANNUAL TRANSPORTATION SYSTEM CAPITAL AND OPERATION AND MAINTENANCE COSTS IN THE REGION OVER THE PERIOD 2006-2035: NO-BUILD AND PRELIMINARY RECOMMENDED PLANS

Cost Element	Average Annual Cost: 2006-2035		
	No-Build Plan (millions of dollars)	Preliminary Recommended Plan (millions of dollars)	Percent Increase
System Element Costs			
Arterial Streets and Highways			
Construction	322	379	18
Operation and Maintenance	58	67	16
Subtotal	380	446	17
Public Transit			
Construction and Equipment	19	32	68
Operation and Maintenance	119	197	66
Subtotal	138	229	66
Total	518	675	30

Source: SEWRPC.

Built and Natural Environment Impacts

The estimated impact on the built and natural environment of the arterial street and highway element of the preliminary recommended plan over the next 30 years is presented in Table 6. The impact is relatively modest. For example, about 157 acres of wetlands may be affected, or about five acres per year over the next 30 years, representing in total an impact on about 0.05 percent of the 273,100 acres of existing wetlands in the Region. Also, for the potential 127 miles of freeway proposed to be widened to carry additional lanes, about 35 residences are estimated to be needed to be acquired, or about one per year over the next 30 years.

With respect to air pollutant emissions as shown in Table 7, transportation system air pollutant emissions have been declining even with increasing traffic, and are projected to continue to decline even with increasing traffic.

SUMMARY AND CONCLUSIONS

The preliminary recommended plan provides a significant improvement in transit service and bicycle and pedestrian facilities. However, even though public transit and bicycle and pedestrian travel are projected to increase with these improvements, highway traffic is projected to also increase, and the arterial street and highway improvements recommended in the preliminary plan will be needed to avoid a doubling of traffic congestion over the next 30 years. Implementation of the plan is estimated to represent about a 30 percent increase in transportation system costs compared to maintaining the existing transportation system with no improvement, and about a 10 percent increase over existing transportation system expenditures.

The Advisory Committee guiding this study and making this preliminary plan recommendation consists primarily of local municipal and County officials appointed by their community or County chief elected official, and of representatives of State and Federal transportation and environmental protection departments. The local officials on the Advisory Committee unanimously endorsed the preliminary plan, although City of Milwaukee representatives indicated their opposition to 19 miles of freeway widening from 6 to 8 lanes in the City of Milwaukee—IH 94 between the Marquette and Zoo interchanges and IH 43 between the Mitchell and Silver Spring Drive interchanges. The Wisconsin Department of Transportation representatives endorsed the preliminary plan; the Wisconsin Department of Natural Resources representatives opposed the preliminary plan citing the need for more environmental impact information particularly on the above 19 miles of freeway and noting that such information would only be available during preliminary engineering; the Federal Highway and Transit Administration representatives abstained as from their perspective proposing a regional plan was a local, and not a federal decision; and , the U.S. Environmental Protection Agency voted no, cited their need to make no recommendation, as they will need to consider each improvement in environmental assessment and impact statements.

In making their preliminary plan recommendation, the Advisory Committee emphasized that the 127 miles of freeway widening proposed in the plan, and in particular the 19 miles of widening in the City of Milwaukee (IH 94 between the Zoo and Marquette interchanges and IH 43 between the Mitchell and Silver Spring interchanges), will undergo preliminary engineering and environmental impact statement by the Wisconsin Department of Transportation. During preliminary engineering, alternatives will be considered, including rebuild-as-is, various options of rebuilding to modern design standards, compromises to rebuilding to modern design standards, rebuilding with additional lanes, and rebuilding with the existing number of lanes. Only at the conclusion of the preliminary engineering would a determination be made as to how the freeway would be reconstructed.

Table 6

ESTIMATED RIGHT-OF-WAY IMPACTS ATTENDANT TO THE IMPLEMENTATION OF THE PRELIMINARY RECOMMENDED PLAN: 2006-2035

Category	Preliminary Recommended Plan				
	Standard Arterial Improvement/ Expansion	Rebuild Freeway System to Modern Design Standards	Provide Additional Lanes on 127 miles of Freeway	Extend Freeway in Walworth County USH 12	Region Arterial System Total
Relocations					
Residential	101	151	35	2	289
NonResidential					
Commercial, Office and Industrial	14	18	5	0	37
Government/Institution	1	2	0	0	3
Historic Buildings and Sites					
Buildings	0	0	0	0	0
Sites	0	0	0	0	0
Park Lands (Acres) [a]					
State	2.9	0	0	19.2	22.1
County	8.1	13.8	1.1	0	23.0
Local	1.2	2.3	0	0	3.5
Environmental Corridors (Acres) [b]					
Primary	102.3	67.5	6.8	27.1	203.7
Secondary	61.1	1.2	1.9	0	64.2
Isolated Natural Resource Area	29.2	4.1	0.6	17.7	51.6
Other Sensitive Lands (Acres) [d]					
Wetland [c]	104.9	38.2	5.4	8.3	156.8
Natural Areas	3.9	3.9	0	0	7.8
Critical Species Habitat Areas	0	0	0	0	0
Geological Areas	66.9	0	0	22.8	89.7
Archeological Areas	0	0	0	0	0
DNR Managed Lands	0.6	0	0	31.7	32.3
DNR Land Legacy Report	44.6	26.3	0	17.2	88.1
Land Trust of Other Conservation Organization Lands	1.1	0	0	0	1.1
Prime Agricultural Lands (Class I or Class II)	313.2	26.4	6.3	340.0	685.9

[a] *Existing State park lands in the Region total about 57,100 acres, existing county park lands total about 29,700 acres, and existing local park lands total about 18,000 acres .*

[b] *Existing primary environmental corridors in the Region total about 296,000 acres, existing secondary environmental corridors total about 48,000 acres, and existing isolated natural resource areas total about 40,000 acres.*

[c] *Existing wetlands in the Region total about 273,100 acres. Approximately 29 of the 38 acres of wetlands estimated to be impacted are located within primary or secondary environmental corridors, or an isolated natural resource area.*

[d] *Existing natural areas in the Region total about 57,600 acres, critical species habitat areas total about 14,700 acres, geological areas total about 101,200 acres, Wisconsin Department of Natural Resources managed lands total about 57,900 acres, Wisconsin Department of Natural Resources legacy lands total an estimated 137,800 acres, and land trust or conservation organization lands total about 6,900 acres. Existing prime agricultural lands in the Region total about 604,800 acres .*

Source: SEWRPC.

Table 7

EXISTING AND FORECAST YEAR 2035 SOUTHEASTERN WISCONSIN REGION TRANSPORTATION SYSTEM AIR POLLUTANT EMISSIONS AND FUEL CONSUMPTION

Plan Alternatives	Existing Year 2001 and Forecast Year 2035 Air Pollutant Emissions (Tons per Hot Summer Weekday)												Existing Year 2001 and Forecast Year 2035 Fuel Consumption (Gallons per Average Weekday)
	Volatile Organic Compounds [a]	Nitrogen Oxides [a]	Carbon Monoxide	Carbon Dioxide	Fine Particulate Matter	Sulfur Dioxide	Ammonia	Butadiene	Acetaldehyde	Acrolein	Benzene	Formaldehyde	
Existing 2001	50.03	114.23	592.48	12,368.0	1.77	2.77	4.84	0.20	0.43	0.03	1.40	0.63	1,236,800
2035 Preliminary Recommended Plan	13.50	13.36	264.88	12,677.0	0.80	0.59	6.55	0.05	0.11	0.01	0.36	0.17	1,267,700

[a] *Estimated 1990 emissions were 154.6 tons of volatile organic compounds and 136.3 tons of nitrogen oxides. Estimated 1999 emissions were 61.3 tons of volatile organic compounds and 118.0 tons of nitrogen oxides.*

Source: SEWRPC.

NEXT STEPS IN THE STUDY PROCESS

The completion of a preliminary recommended plan means that comments and feedback on that plan will now be solicited through April 20, 2006 with public informational meetings and hearings (see announcement of public meetings and hearings in the box on the first page of this newsletter). The preliminary plan and alternatives considered will also be transmitted to each county jurisdictional highway planning advisory committee for their review and comment. Presentations upon request will be made to, and comment, obtained from business, community, and other groups. If your group would like a presentation and/or opportunity to comment, please contact the Commission staff. The Commission staff will also continue its efforts to obtain input from the Region's minority and low income populations.

Following the period of review and comment ending on April 20, 2006, the Advisory Committee will consider the comments made and formulate a final recommended plan to be formally considered by the Southeastern Wisconsin Regional Planning Commission.

ADDITIONAL INFORMATION

An electronic version of each issue of the study newsletter, report chapters, meeting minutes, public meeting notices, and all other project materials are available at www.sewrpc.org/regionalplans. More information can be obtained by contacting:

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