



# *Regional Transportation Needs Within Southeastern Wisconsin*

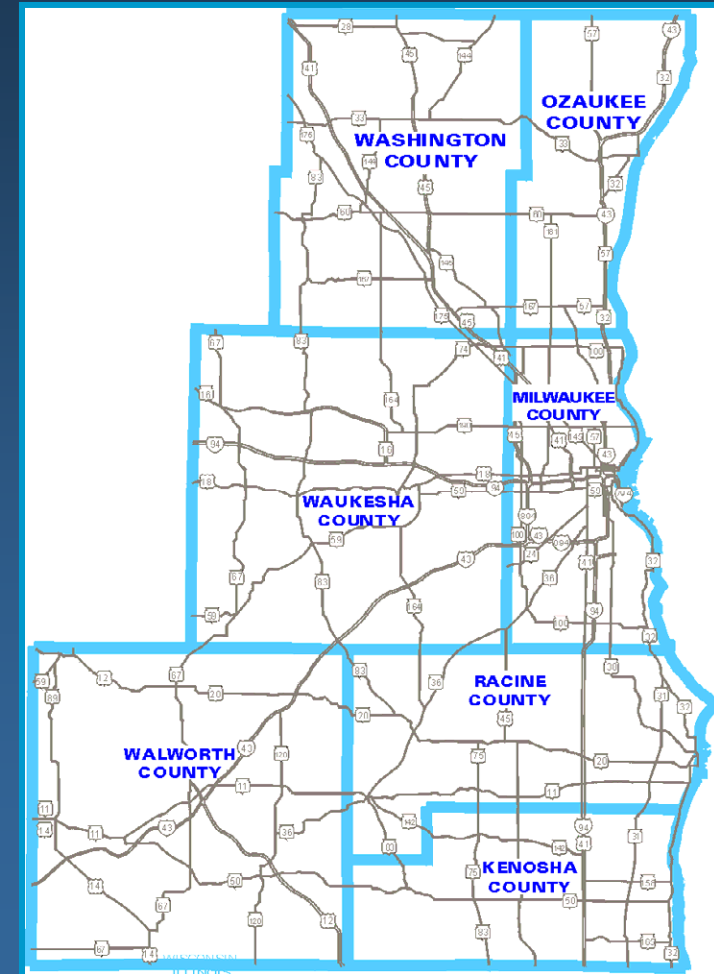


May 24, 2006



# Introduction

- The Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the official areawide planning agency for land use and infrastructure in the seven county Southeastern Wisconsin Region.
  - Transportation
  - Flood management
  - Sewerage
  - Water Supply
  - Parks and open spaces
  - Environmental corridors
  - Natural areas
  - Urban and rural development
- By law, the regional plans are advisory to State, county, and municipal governments





## *Introduction (continued)*

- Southeastern Wisconsin
  - About 40 percent of the State's population, jobs, wealth
  - About 5 percent of the State's area





# *Southeastern Wisconsin Transportation Problems, Concerns, and Needs*

- Presentation is based on findings, conclusions, and recommendations of the Commission's regional transportation planning
  - Recently completed review, update and extension of regional transportation plan to year 2035
  - Guided by Advisory Committee with representatives of the seven counties and 147 municipalities of the Region, WisDOT and WisDNR, and U.S. DOT and U.S. EPA
  - Considered forecast growth of the Region to the year 2035 – jobs, population, and households
  - Defined guiding vision, principles, and objectives for land use and transportation



# *Southeastern Wisconsin Transportation Problems, Concerns, and Needs (continued)*

- Developed the regional transportation plan to serve, be consistent with, and promote implementation of, a more desirable future land use pattern.
- Considered the potential of more efficient land use and expanded public transit, systems management, bicycle and pedestrian facilities, and demand management to first alleviate traffic congestion. Highway improvements were only then considered to address any residual congestion.
- Each plan element needs to be implemented to provide a comprehensive, multi-modal, balanced, high quality transportation system in southeastern Wisconsin.
  - Arterial Streets and Highways
    - Freeways
    - Surface Arterials
  - Public Transit
  - Transportation Systems Management
  - Bicycle and Pedestrian Facilities
  - Travel Demand Management
- Throughout the process extensive efforts were made to inform, and obtain input from the public. ([www.sewrpc.org/regionalplans/](http://www.sewrpc.org/regionalplans/))

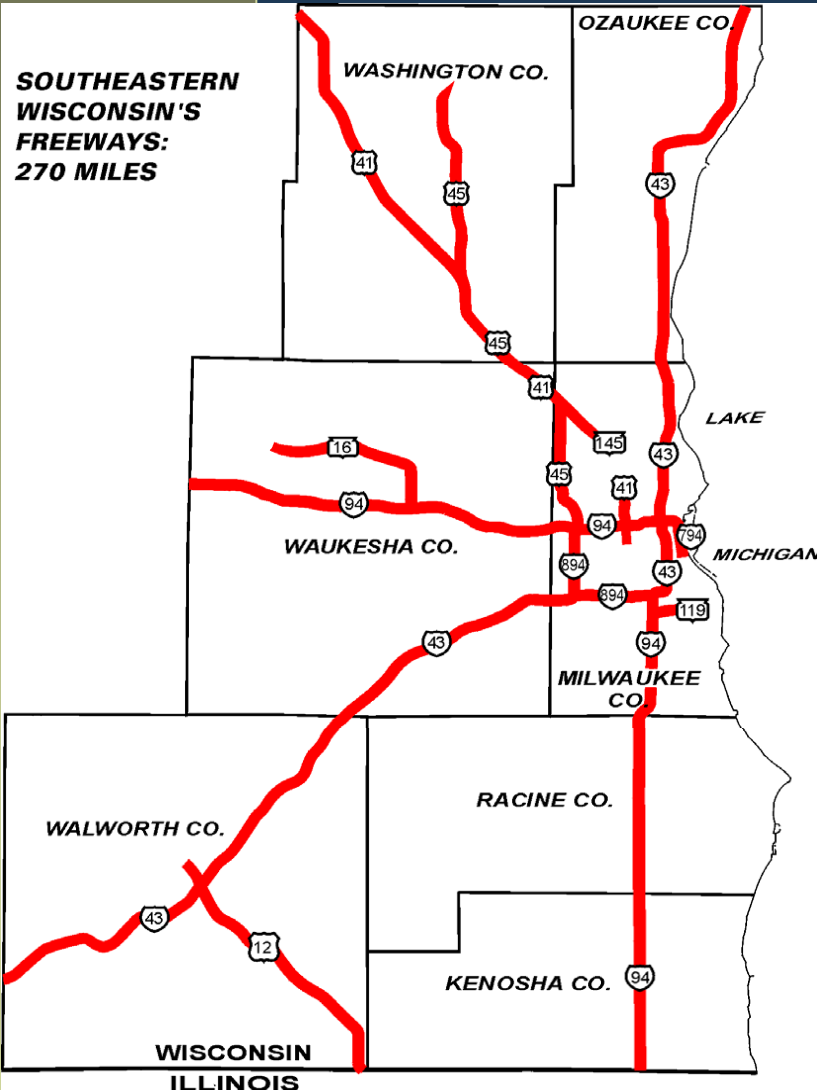


# *Southeastern Wisconsin Transportation Problems, Concerns, and Needs (continued)*

- Arterial Street and Highway System
  - Freeways
  - Surface Arterial Streets and Highways
- Public Transit System
- Systems Management
- Bicycle and Pedestrian Facilities
- Demand Management



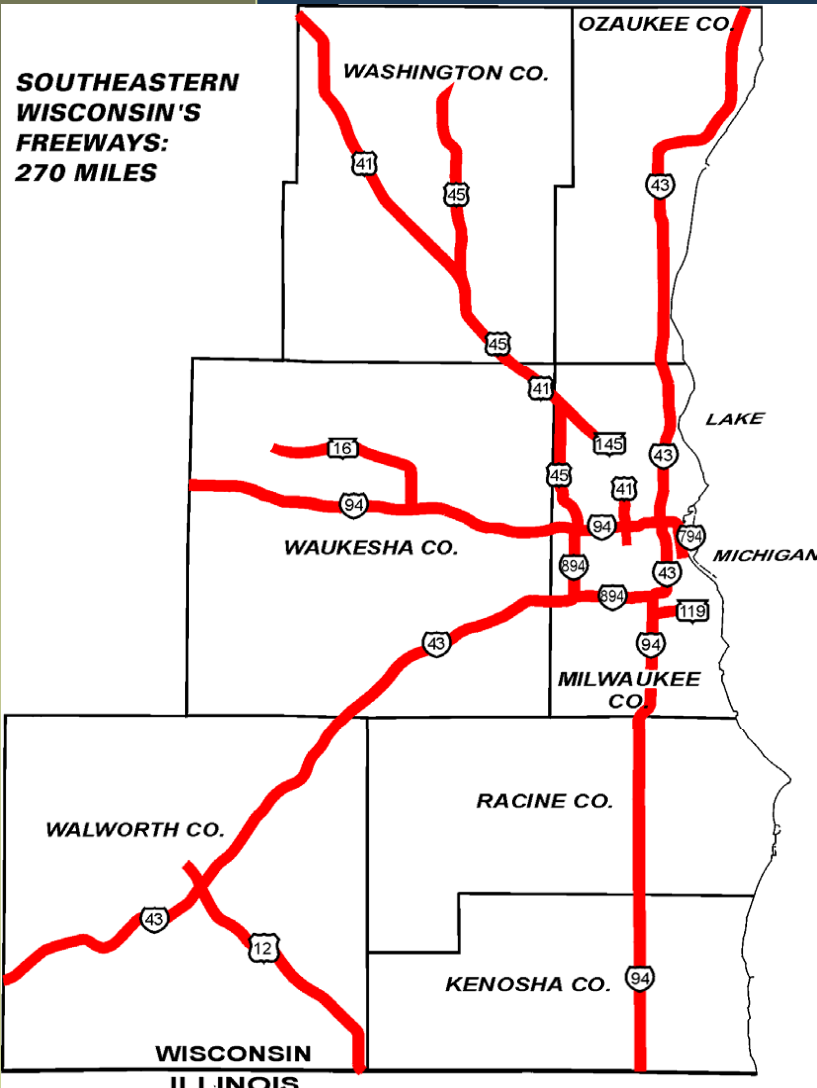
# Importance of Southeastern Wisconsin Freeway System



- Importance to the State
  - Carries virtually all vehicle traffic traveling through the Region on an average weekday
- Importance to Southeastern Wisconsin residents, businesses, and industries
  - About 33 percent of all travel made on an average weekday by Southeastern Wisconsin residents and by Milwaukee County residents is made on the freeway system.



# Regional Freeway System: Problems and Concerns

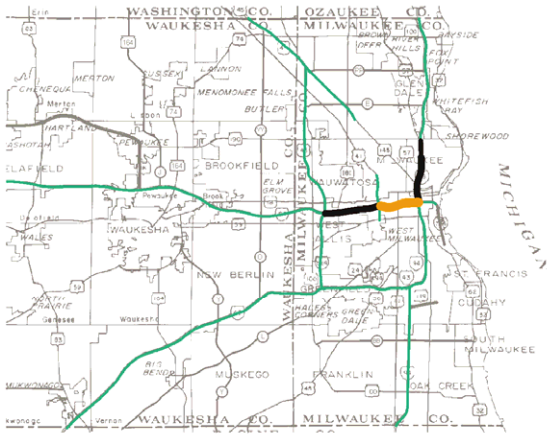


- Need for reconstruction
  - The freeway system is nearing the end of its 40 to 50 year service life. After the reconstruction of the Marquette Interchange from 2005 to 2008, the rest of the 270-mile freeway system will require reconstruction segment-by-segment over the next 30 to 40 years.
- Physical Design
  - The 30 to 50 year old freeway system has many design deficiencies: left-hand ramps, lane drops, low speed freeway-to-freeway ramps, closely spaced freeway-to-freeway interchanges and service interchanges, inadequate interchange ramp tapers, lack of shoulders in some locations, and others.
- Traffic Accidents
  - The Milwaukee County freeway system accident rate is more than double that of the other six counties due to a greater concentration of design deficiencies and more severe traffic congestion. Rear-end accident rates are 5 to 15 times higher on congested freeways. More than 70 percent of the accidents on congested freeway segments are rear-end accidents.
  - Accident rates on freeway segments in other counties exceed region and countywide averages by 50 percent or more.



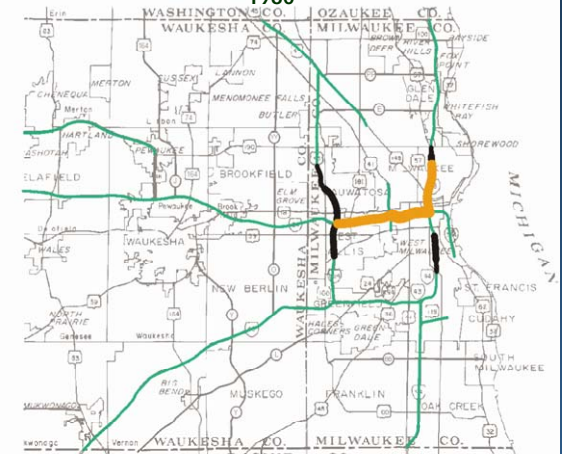
# Growing Freeway System Traffic Congestion

1972

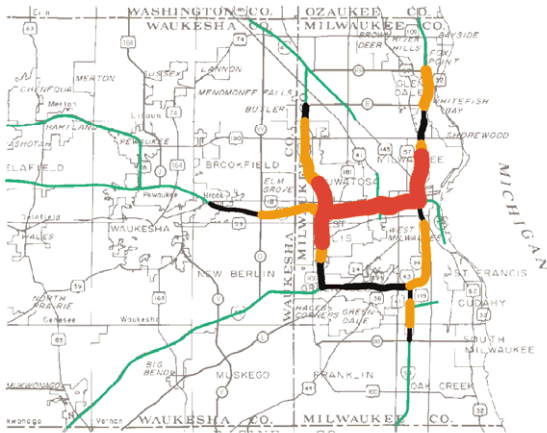


MOST SEVERE LEVEL OF WEEKDAY HOURLY CONGESTION EXPERIENCED	ESTIMATED HOURS OF CONGESTION ON AN AVERAGE WEEKDAY	ESTIMATED AVERAGE WEEKDAY HOURS OF CONGESTION BY CONGESTION LEVEL		
		EXTREME	SEVERE	MODERATE
--	NO CONGESTION	--	--	--
MODERATE	1	--	--	1
MODERATE	3	--	--	3
SEVERE	3	--	1	2
SEVERE	4	--	1	3
SEVERE	4	--	2	2
EXTREME	6	1	2	3
EXTREME	8	1	3	4
EXTREME	11	2	4	5
EXTREME	13	2	5	6
EXTREME	14	2	5	7
EXTREME	15	3	5	7
EXTREME	16	4	5	7
EXTREME	17	4	6	7

1980



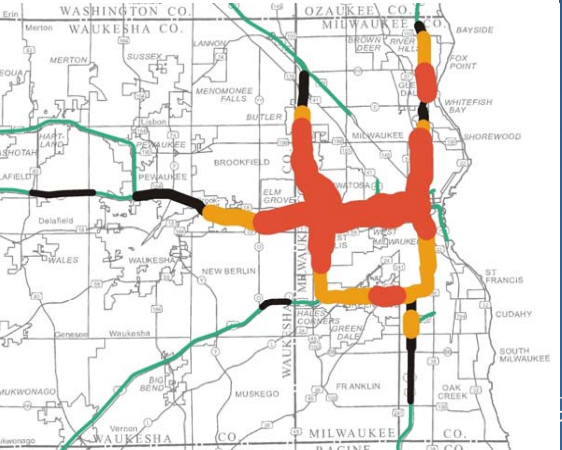
1991



Note: Color represents most severe level of congestion experienced for at least one hour in each direction on an average weekday.

- █ Extreme - stop-and-go bumper-to-bumper traffic averaging 20 to 30 mph or less.
- █ Severe - speeds reduced by up to 15 mph and extremely difficult to change lanes.
- █ Moderate - speeds reduced by up to 5 mph and difficult to change lanes.

2001





# *Regional Freeway System: Needs*

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- Need to reconstruct
- Need to reconstruct to modern design standards
- Need to reconstruct with additional lanes

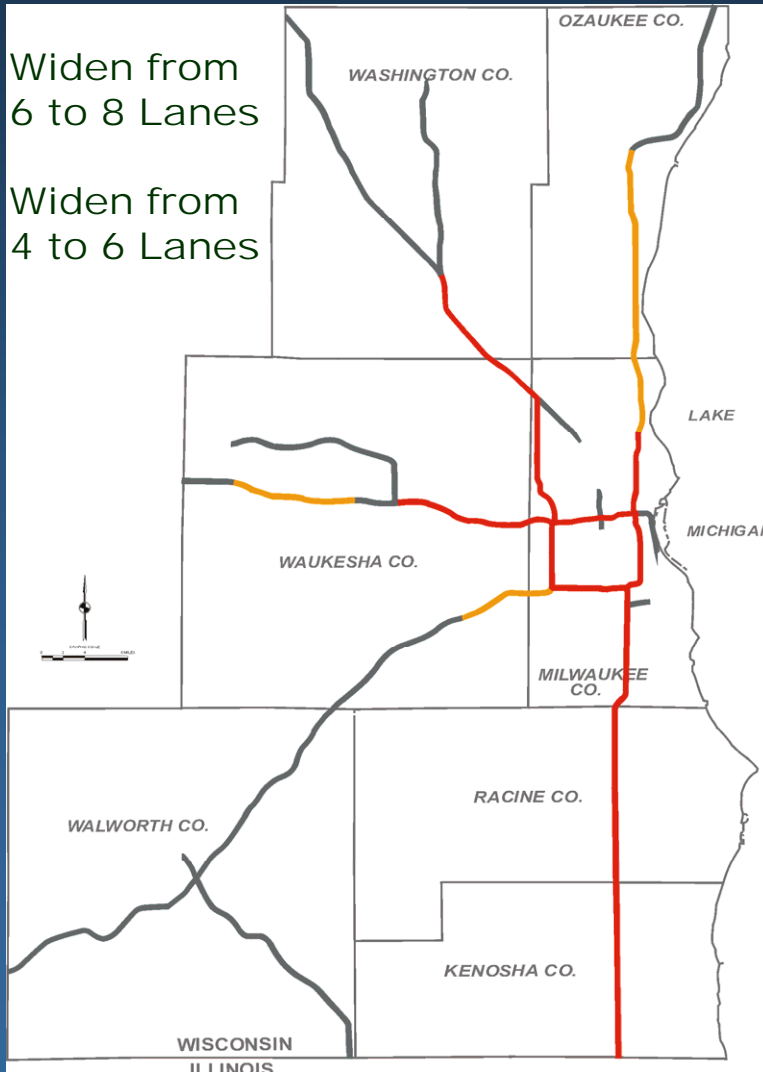


# *Regional Freeway System : Need to Reconstruct to Modern Design Standards*

- Reconfigure freeway-to-freeway system interchanges
  - Relocate left hand on- and off-ramps to right hand side of freeway
  - Eliminate lane drops
  - Improve freeway-to-freeway ramps to provide ramp speeds that are closer to freeway mainline speeds
  - Address service interchanges which are too close to major freeway-to-freeway ramps
- Improve freeway system service interchanges
  - Lengthen and widen ramp tapers
  - Convert multi-point exits to single point exits
  - Separate ramps from frontage roads in Kenosha and Racine Counties
  - Provide selected auxiliary lanes to address closely spaced interchanges
- Improve freeway mainline
  - Improve freeway horizontal and vertical curvature, grades, and vertical clearance to meet standards
  - Provide full inside and outside shoulders



# Regional Freeway System: Need to Reconstruct with Additional Lanes

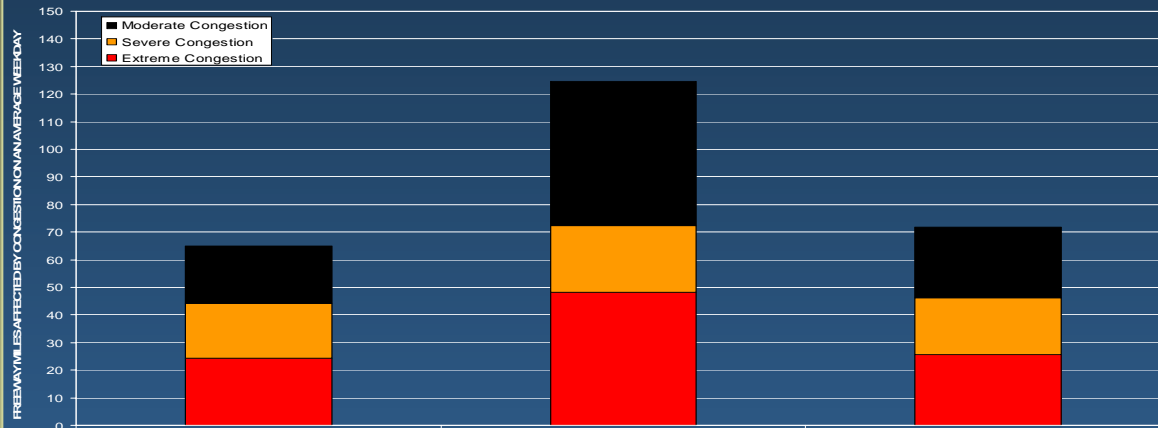


- Recommended Additional Lanes
  - 127 miles, or 47 percent of the regional freeway system
  - Address existing and forecast traffic congestion
  - Recommended lane additions are:
    - 6 lanes to 8 lanes
    - 4 lanes to 6 lanes

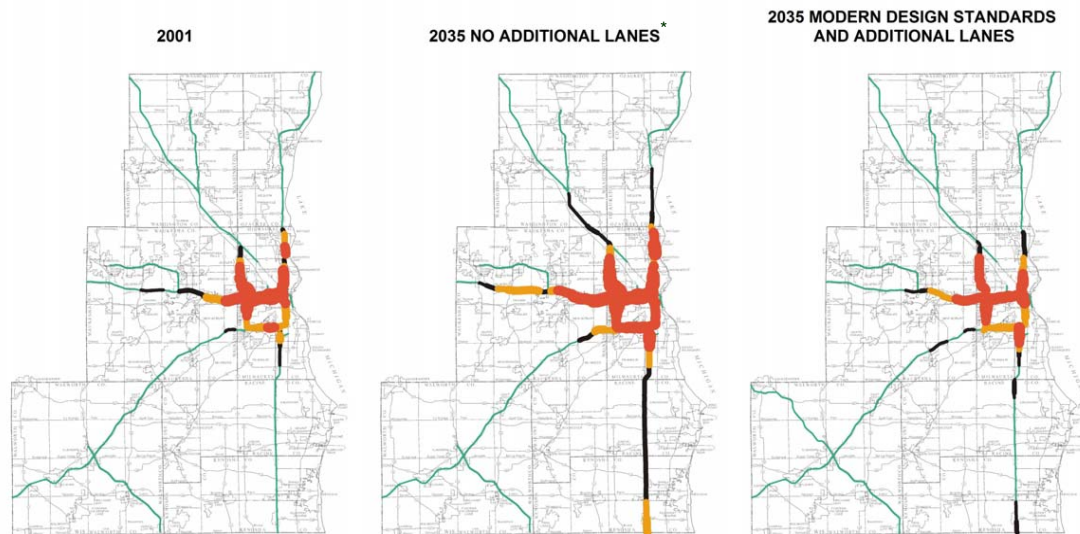


# Regional Freeway System: Need to Reconstruct with Additional Lanes (continued)

- Widening would permit avoiding a substantial increase in freeway system traffic congestion



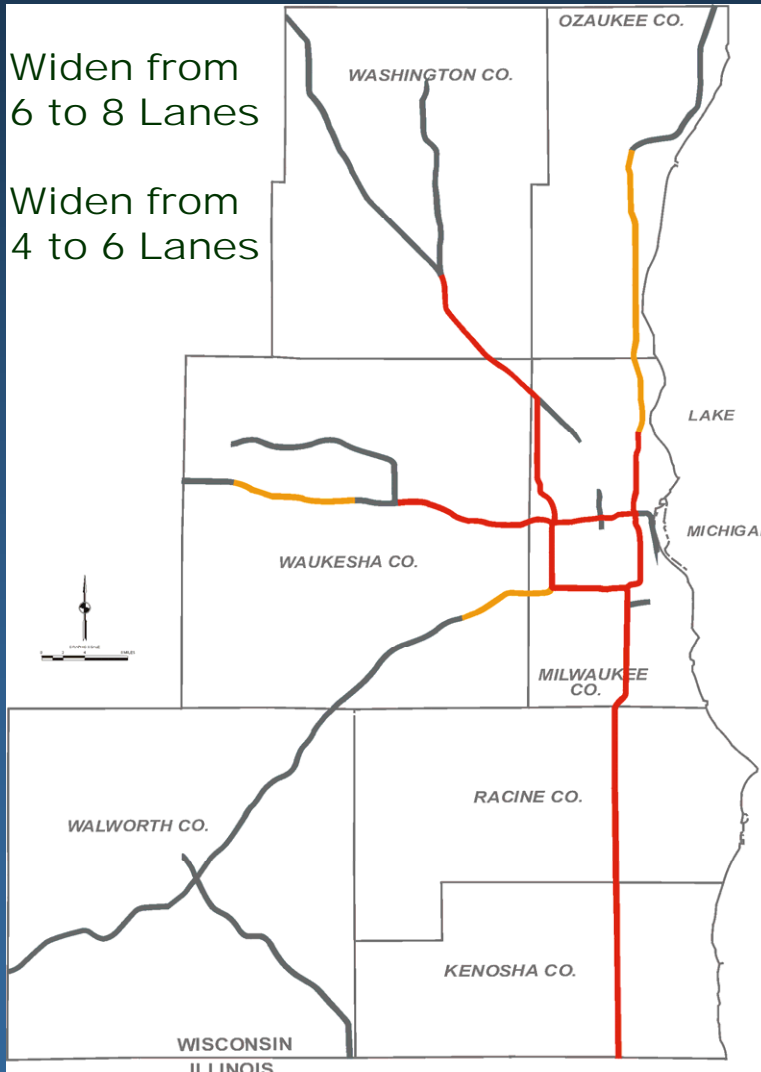
\*(Forecasts of freeway traffic volume and congestion consider freeway widening as a measure of last resort, as they identify the freeway traffic volume and congestion expected even with smart land use growth, substantially expanded public transit, and improved surface arterial streets)



Source: SEWRPC.



# Regional Freeway System: Need to Reconstruct with Additional Lanes (continued)



- Adding lanes to 127 miles of the freeway system during reconstruction represents an estimated 11 percent of the cost of freeway system reconstruction, and provides a 33 to 50 percent increase in the traffic-carrying capacity of the freeway system.
- Adding lanes to 127 miles of the freeway system is estimated to only require the acquisition of about 30 homes over the next 30 years.
- Air pollutant emissions are projected to continue to decline from 2001 to 2035 even with increasing traffic due to cleaner motor vehicles
  - Ozone related emissions – 70 to 90 percent
  - Fine particulates and carbon monoxide – 55 percent
  - Air toxics – 70 percent



# *Surface Arterial Street and Highway System: Needs*

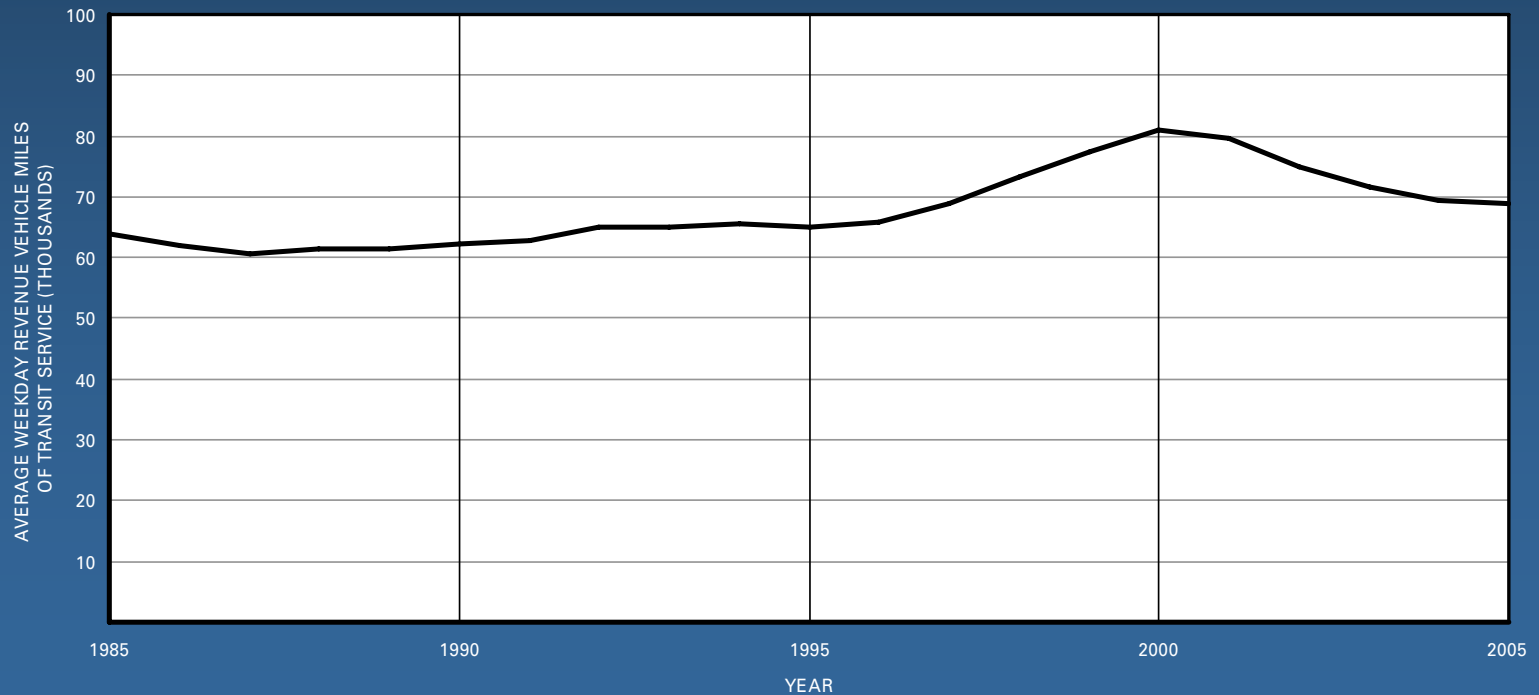
- Need a good surface arterial street system – carries over 60 percent of travel in the Region.
  - There are about 3,300 miles of surface arterials in southeastern Wisconsin – principal function is to carry and move traffic (Surface arterials account for about 33 percent of the 11,000 total miles of streets and highways)
    - 3,049 miles will require preservation through the year 2035 (resurfacing and reconstruction)
    - 226 miles will require widening with additional traffic lanes upon reconstruction
    - 75 miles of proposed new arterials
- Together with widened freeways, proposed 12 percent expansion of total arterial street system capacity over next 30 years (4 percent expansion of lane-miles)



# Public Transit: Problems, Concerns, Needs

- Public transit system in decline since 2000
  - 15% reduction in service and substantial increases in fares

HISTORIC VEHICLE-MILES OF PUBLIC TRANSIT SERVICE ON AN  
AVERAGE WEEKDAY IN THE SOUTHEASTERN WISCONSIN REGION: 1985 - 2005





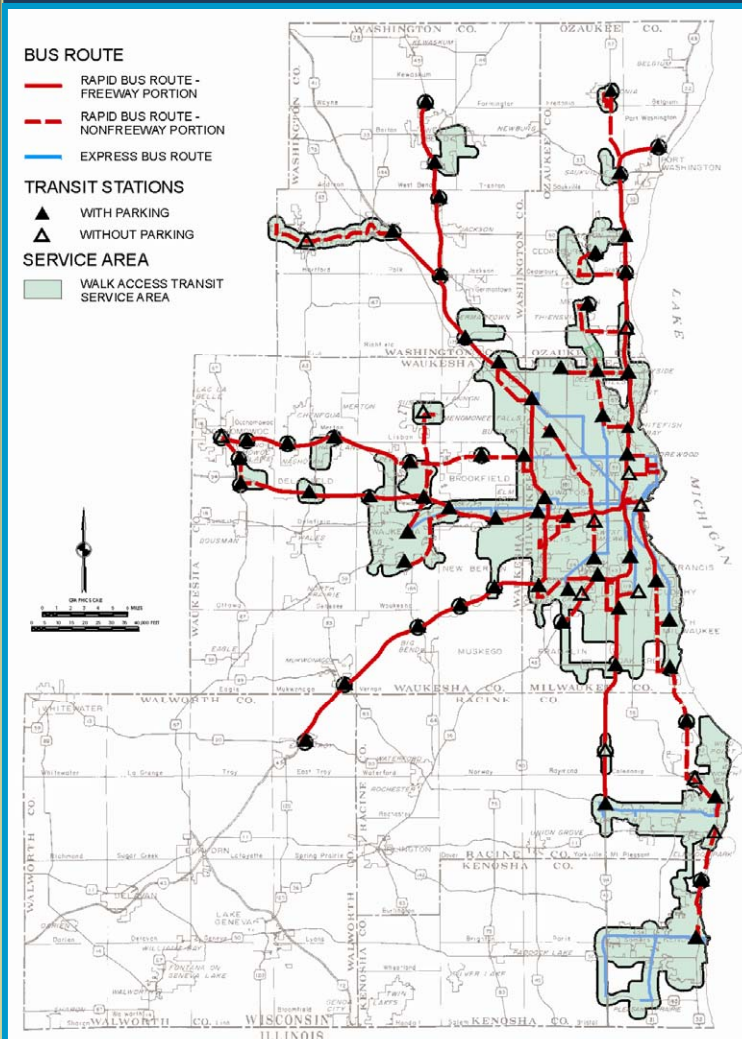
## *Need for Public Transit*

- Provides an alternative mode of more efficient travel for heavily traveled corridors, and densely developed urban communities and activity centers where it is not desirable, or possible to accommodate all travel by automobile.
- Contributes to efficiency in the transportation system, including reduced highway traffic and congestion, air pollution, and energy consumption.
- Supports and encourages higher development density and infill development and redevelopment which results in efficiencies for the overall transportation system and other public infrastructure and services.
- Provides choice in transportation, enhancing the Region's quality of life and economy.
- Reduces the necessary household expenditures on transportation, permitting greater household savings, other expenditures, and overall higher standard of living. Positive impact on household quality of life and local economy.
- Essential to meeting the travel needs – work, education, healthcare, shopping – of persons unable to use personal automobile transportation. (16 percent or 61,000 households in Milwaukee County, 8 percent or 5,800 households in Racine County, and 7 percent or 3,800 households in Kenosha County)
  - About 40 percent of Milwaukee County transit riders do not have an auto available for travel.



# Public Transit Needs

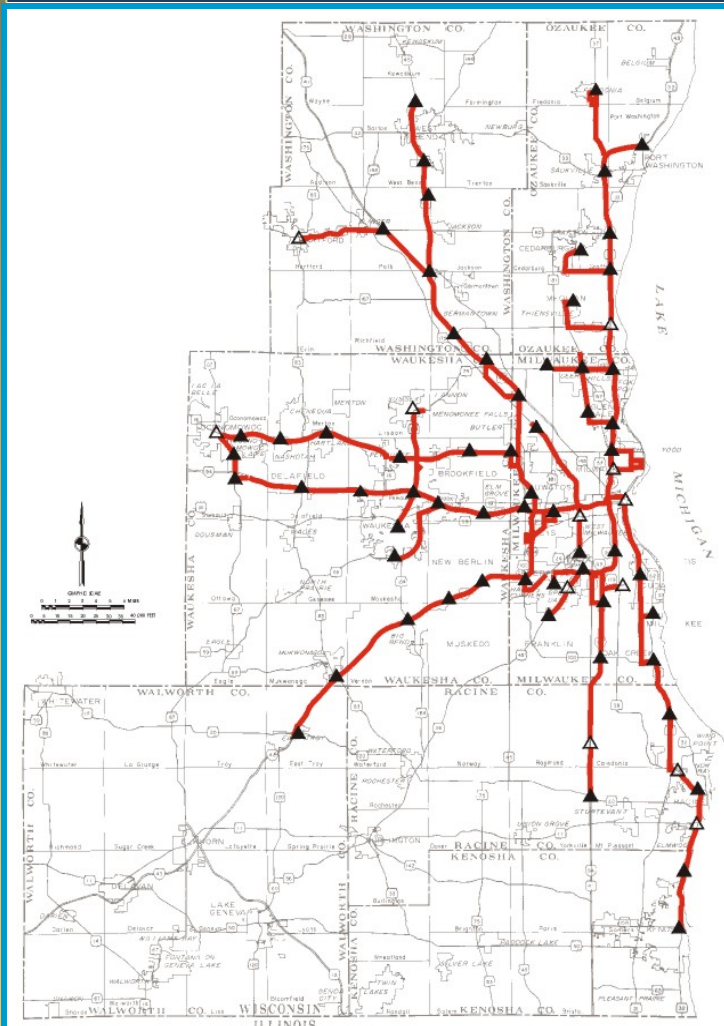
## PUBLIC TRANSIT PLAN: 2035



- Need to significantly expand public transit, with a goal of doubling transit service from 69,000 to 138,000 vehicle-miles of service on an average weekday by the year 2035.
- Need to develop true rapid and express transit system elements.



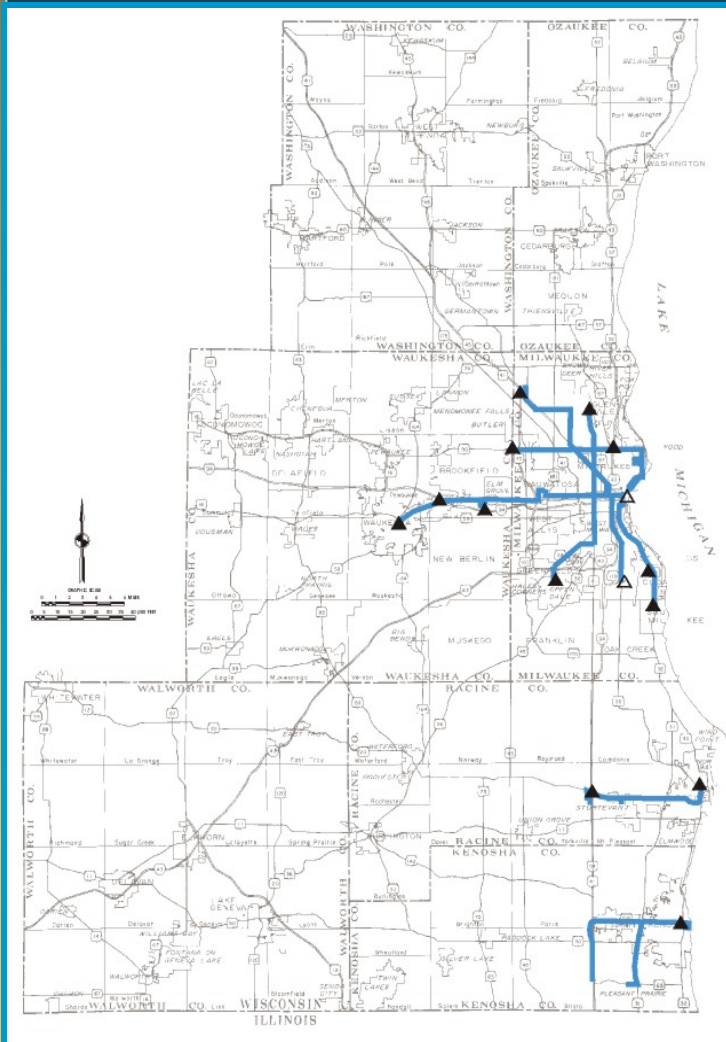
# Public Transit Needs (continued)



- Rapid transit
  - A network of bus routes operating throughout the day and evening in both directions, at convenient service frequencies.
  - Stops every 3 to 5 miles to increase accessibility and facilitate reverse commuting.
  - 200 percent increase over existing service



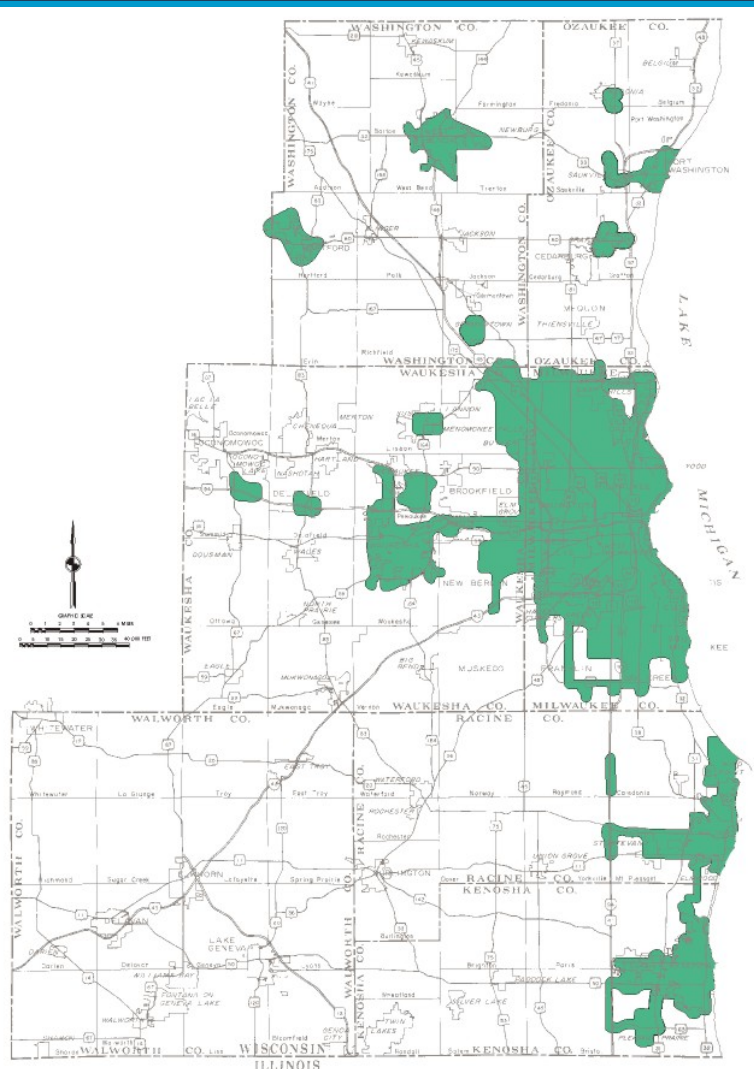
# Public Transit Needs (continued)



- Express transit
  - A grid of limited-stop bus routes with service throughout the day and evening at convenient service frequencies.
  - Stop spacing of about every one-quarter to one-half mile.



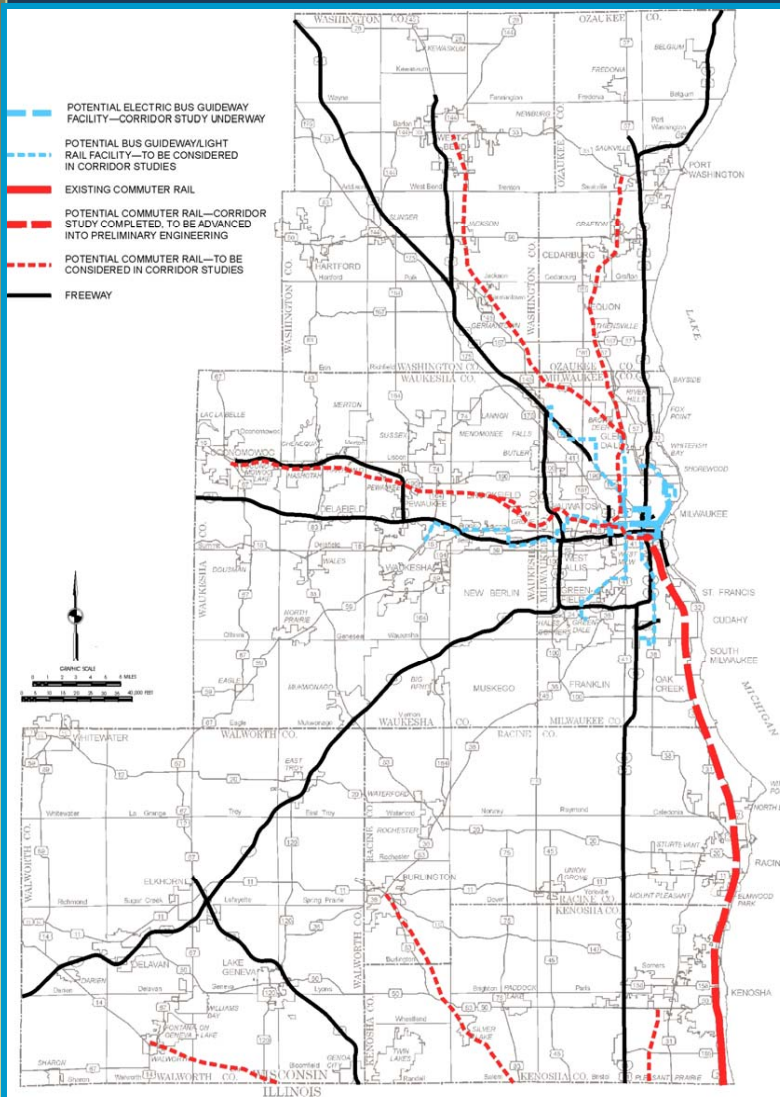
## Public Transit Needs (continued)



- Local transit
  - Expansion of local transit service hours and frequency and extension to developing areas.
  - Approximately a 60 percent expansion over current local transit service.



# Public Transit Needs (continued)



- Need to consider upgrading to rail transit or bus guideways.
- Milwaukee downtown connector study - study underway of bus guideway express transit alternatives.
- Kenosha-Racine-Milwaukee corridor—commuter rail corridor study under refinement.



## *Why KRM Commuter Rail?*

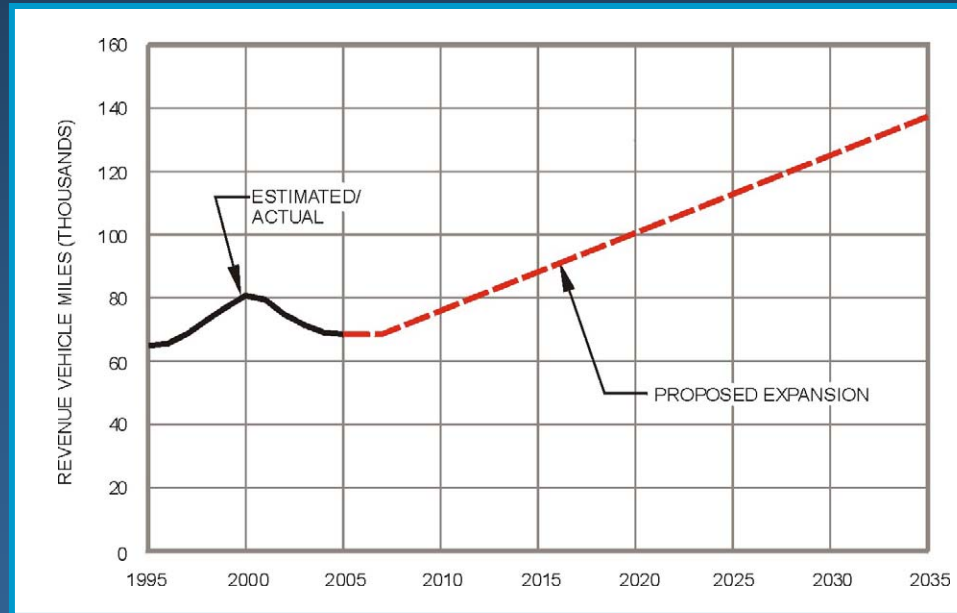
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- Fast and convenient service –
  - Twice as fast as bus and faster than auto
- High degree of reliability
- Removes traffic from highway system
- Environmental benefits
- Increased travel safety
- High quality alternative for travel during freeway reconstruction over next 20 years
- Improved job and labor force accessibility
- Will promote high density efficient land development and redevelopment around stations
- Promote KRM corridor economic development
- Potential GMIA increased use and flights
- Improved accessibility to arts, culture, and entertainment
- Improved accessibility to colleges/universities



## *Public Transit Needs (continued)*

- Proposed doubling of transit service over next 30 years



- Will Require
  - Renewed level of State funding for public transit
  - Dedicated local funding—Regional Transit Authority



## *Systems Management: Needs*

- Need to continue and expand efforts to operate and manage the existing street system as efficiently as possible, obtaining the maximum capacity from the existing street system.
- Expansion and enhancement of freeway traffic management system
  - Operations monitoring and control
  - Advisory Information
  - Incident Management
- Improved surface arterial management
  - Expansion and enhancement of coordinated traffic signal systems
  - Regional and local operations improvement program

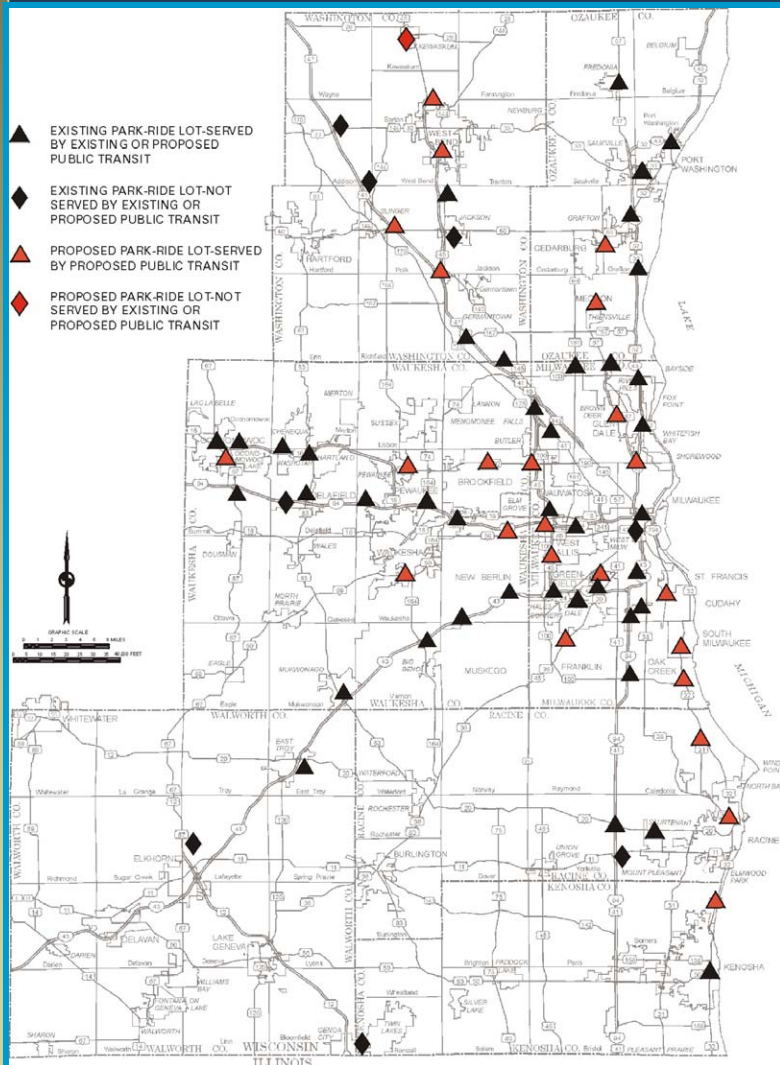


## *Bicycle and Pedestrian Facilities: Needs*

- Bicycle accommodation should be considered and implemented as the 3,300 mile surface arterial street system is resurfaced and reconstructed.
  - Paved and widened shoulders
  - Widened outside travel lanes
  - Bicycle lanes
  - Separate bicycle path
- Continued development of a planned 575 mile system of off-street bicycle/pedestrian paths connecting the Kenosha, Milwaukee and Racine areas, and urban communities with a population of 5,000 or more, nearly a threefold expansion of existing 203 miles of paths.



# Demand Management: Needs



- Need to continue and expand efforts to encourage actions resulting in reductions in personal and vehicular travel.
- Expansion from 49 to 74 park-ride lots
- Exclusive HOV lanes at freeway on-ramps and surface street express bus lanes
- Express transit signal priority



## *Summary and Conclusion*

- To support and encourage expansion of the economy of the Region and the State, and provide a high quality of life, a comprehensive, multimodal, balanced, high quality transportation system in southeastern Wisconsin must continue to be developed within southeastern Wisconsin:
  - Arterial Streets and Highways
    - Freeway System
    - Surface Arterials
  - Public Transit
  - Transportation Systems Management
  - Bicycle and Pedestrian Facilities
  - Travel Demand Management