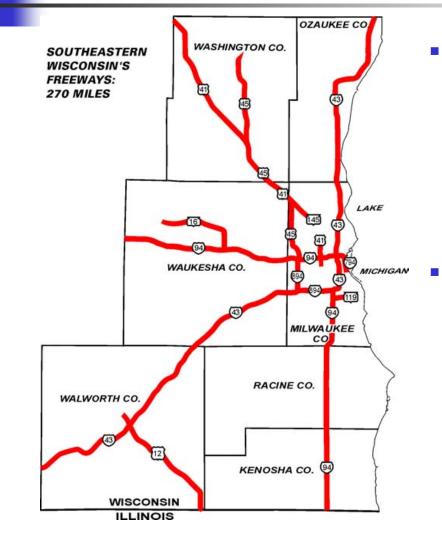
# Southeastern Wisconsin Regional Freeway System Reconstruction Study and Recommended Plan



**Overview and Summary** June 2003

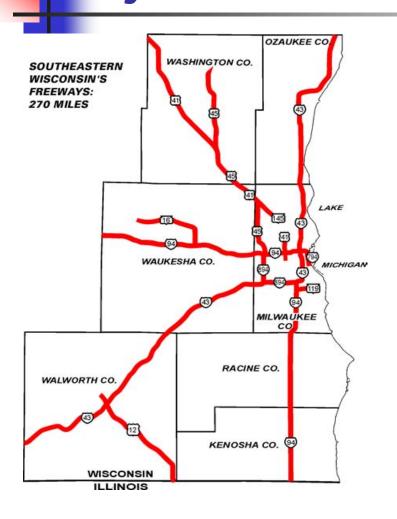
#### **Reason for Freeway System Study**



- The freeway system is nearing the end of its 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.
- Need to consider before reconstruction whether additional lanes and design improvements should be incorporated in a reconstructed freeway system



## Importance of Southeastern Wisconsin and Milwaukee County Freeway System



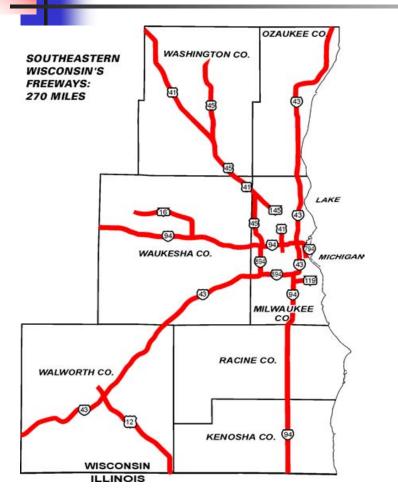
#### Importance to the State

- Carries virtually all vehicle traffic traveling through the Region on an average weekday
- Importance to Southeastern
  Wisconsin and Milwaukee County 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.
- Over 50 percent of the daily traffic on the Milwaukee County freeway system is made by Milwaukee County residents, and another 40 percent of Milwaukee County freeway system daily traffic is to and from Milwaukee County businesses.

# Importance of Southeastern Wisconsin and Milwaukee County Freeway System (continued)



- Freeway system must perform well not just 20 years into the future, but 50 to 75 years in the future. Businesses and industries are increasingly concerned about efficiency and reliability.
  - Economic vitality of the Southeastern
    Wisconsin Region and State at stake
- Also, reconstruction of the Milwaukee County and Southeastern Wisconsin freeway system represents jobs and economic opportunities over the next 30-40 years, for local and minority businesses and labor force.
  - Setting, monitoring, and achieving ambitious goals for minority business and labor force participation, and the development of minority contractors and labor force are part of the agenda and plan.

## **Study Advisory Committee**

- Seven Counties—Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties
  - County Executives, County Board Chairs; Milwaukee County Board Public Works, Transportation, and Transit Committee Chair
- Municipalities—Mayor and Common Council President of Milwaukee; Mayors of Oak Creek, Wauwatosa, and Brookfield
- Business—MMAC and West Bend Chamber of Commerce
- Labor—Teamsters Union
- Wisconsin Department of Natural Resources
- Wisconsin Department of Transportation
- Federal Highway Administration
- Transportation Development Association



**Findings and Recommendations are Based on Extensive 2 Year Study** 

- Deteriorating condition of freeway system and need for reconstruction
- Function of the freeway system
- Physical design deficiencies, traffic accident history, and traffic volume and congestion
- Potential for improved and expanded transit services, including rail transit systems, to avoid freeway widening
- Alternatives for freeway system reconstruction
  - Rebuild-as-is
  - Rebuild to modern design standards
  - Rebuild with additional lanes



# Findings and Recommendations are Based on Extensive 2 Year Study (continued)

- Comprehensive consideration of costs and impacts of freeway reconstruction alternatives
  - Construction costs
  - Right-of-way acquisition
  - Tax base impact
  - Wetlands and primary environmental corridors
  - Impact on land use location
  - Induced travel
  - Air pollution and motor fuel consumption
  - Traffic congestion and delay
  - Traffic accidents
- Substantial public information and input-19 public meetings and hearings, study website, newsletters, opinion survey, and study briefings
- Recommended plan advanced by Advisory Committee
  - Rebuild to modern design standards
  - Rebuild with additional lanes on 127 miles of freeway



### **Consideration of Travel Alternatives to the Freeway System**

- This study has been structured to consider freeway widening as a measure of last resort, by identifying the freeway traffic volumes and congestion that may be expected even if regional land use and transportation plans are fully implemented including a 70 percent expansion of public transit, and even if complete light rail and commuter rail systems are implemented.
  - This has been done to make clear the choice which this Region and the State face in rebuilding the freeway system, that is, whether to reconstruct the freeway system to its same capacity and accept substantially increased freeway traffic congestion, or to rebuild the freeway system with additional lanes to avoid a substantial increase in traffic congestion.

## **Problems and Deficiencies of the Regional Freeway System**

#### Physical Design

 The 30 to 50 year old freeway system has many design deficiencies: lefthand 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

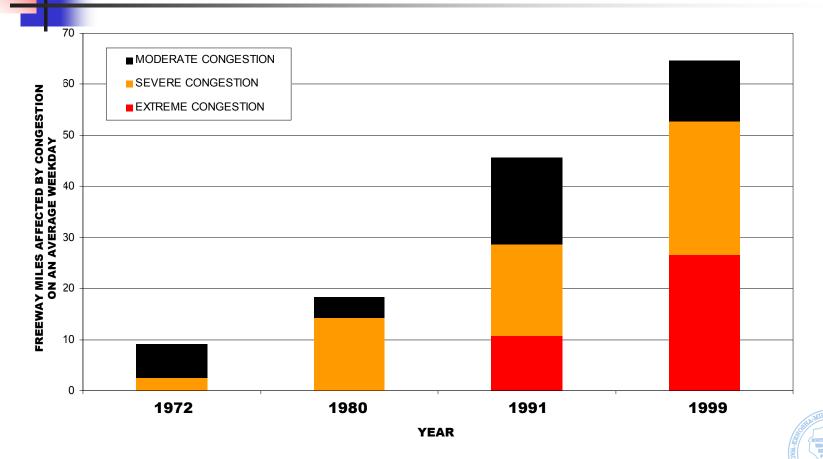
 The Milwaukee County freeway system accident rate is more than double that of the other six counties due to a greater concentration of design deficiencies and more severe traffic congestion. Rear-end accident rates are 5 to 15 times higher on congested freeways. More than 70 percent of the accidents on congested freeway segments are rear-end accidents.

#### Traffic Congestion

- Growing traffic congestion--lost time, unreliability, quality of life



## Historic Trend in Freeway Traffic Congestion—Total Amount



- **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.

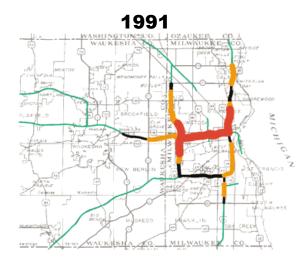
# Historic Trend in Freeway Traffic Congestion— Geographic Distribution

1972



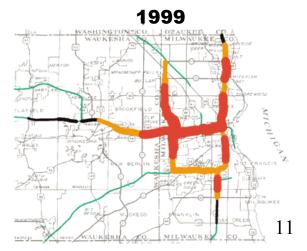
MOST SEVERE LEVEL OF WEEKDAY HOURLY CONGESTION	ESTIMATED HOURS OF CONGESTION ON AN AVERAGE	ESTIMATED AVERAGE WEEKDAY HOURS OF CONGESTION BY CONGESTION LEVEL		
EXPERIENCED	WEEKDAY	EXTREME	SEVERE	MODERATE
-	NO CONGESTION		-	
MODERATE	1			1
MODERATE	3		-	3
SEVERE	3	-	1	2
SEVERE	4		1	3
SEVERE	4		2	2
EXTREME	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





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





## Alternatives Considered for Freeway System Reconstruction

- Rebuild-As-Is
- Rebuild to Modern Design Standards
- Rebuild to Modern Design Standards and with Selected Additional Freeway Lanes

## **Recommended Plan for Freeway** System Reconstruction

- Rebuild to Modern Design Standards
- Rebuild with Additional Lanes on 127 Miles of Freeway



# **Recommended Plan – Design Improvements**

- Reconfigure freeway-to-freeway system interchanges
  - Relocate left hand on- and off-ramps to right hand side of freeway
  - Minimize lane drops and provide route continuity
  - Improve freeway-to-freeway ramps to provide ramp speeds that are closer to freeway mainline speeds
  - Address service interchanges which are to close to major freeway-to-freeway ramps



# **Recommended Plan –**

## **Design Improvements (continued)**

#### Improve freeway system service interchanges

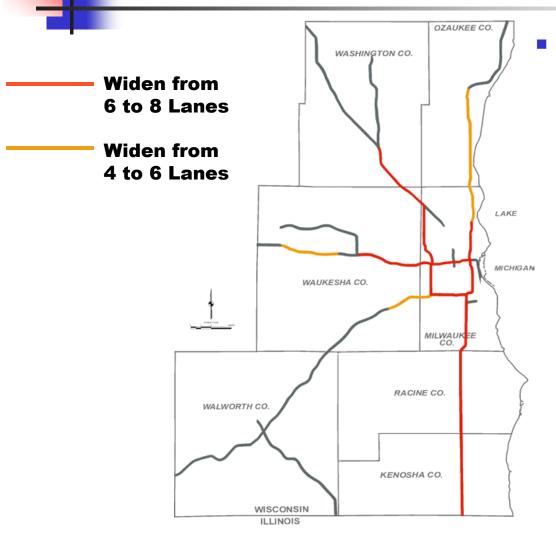
- Lengthen and widen ramp tapers
- Convert multi-point exits to single point exits
- Separate ramps from frontage roads in Kenosha and Racine Counties
- Provide selected auxiliary lanes to address closely spaced interchanges

#### Improve freeway mainline

- Improve freeway horizontal and vertical curvature, grades, and vertical clearance to meet standards
- Provide full inside and outside shoulders



## **Recommended Plan—Additional Lanes**



#### Proposed Additional Lanes

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





- \$3.37 billion Base Cost of Reconstruction (Rebuild As Is)
- \$2.15 billion Cost of Improvements to Meet Modern Design Standards
- \$0.71 billion Cost of Additional Lanes on 127 Miles of Freeway
- \$6.23 billion Total Construction Cost Over Next 30 Years (\$208 million annually)
- Note: Adding lanes to the freeway system during reconstruction represents 11 percent of the cost of freeway system reconstruction, but provides a 33 to 50 percent increase in the traffic-carrying capacity of the freeway system.

## Right-of-Way Needed to Implement Recommended Plan

	To Meet Modern <u>Design Standards</u>	To Add <u>Lanes</u>	<u>Total<sup>a</sup></u>
Residences	166	35	201
<b>Commercial Buildings</b>	23	5	28
<b>Governmental Buildings</b>	2	1	3 <sup>b</sup>
Property Tax Base Impact	\$143 Million	\$ 51 Million	\$194 Million <sup>c</sup>

<sup>a</sup>Includes all right-of-way needed for freeway reconstruction, including for electric power transmission line reconstruction and relocation and stormwater mitigation.

<sup>b</sup>All three structures are owned by Milwaukee County.

<sup>C</sup>The estimated property tax base impact is the total cost of right-of-way acquisition less the cost of the 3 government buildings to be acquired. It is conservatively high, as it includes acquisition administration and relocation costs.

- The amount of right-of-way acquisition estimated to be necessary for additional lanes is significantly less than that needed to correct freeway design standards.
- Two portions of the freeway system have already proceeded through preliminary engineering and their attendant right-of-way acquisition has been approved: Marquette Interchange and IH 94 in Kenosha and Racine Counties. This already approved right-of-way acquisition includes 34 of the 201 residences, 14 of the 28 Commercial buildings, and \$90 million of the \$194 million property tax base impact.
- Property tax base impact in Milwaukee County
  - \$87 million to meet modern design standards (\$55 million in Marquette Interchange already approved)
  - \$47 million to provide additional lanes
  - \$134 million Total

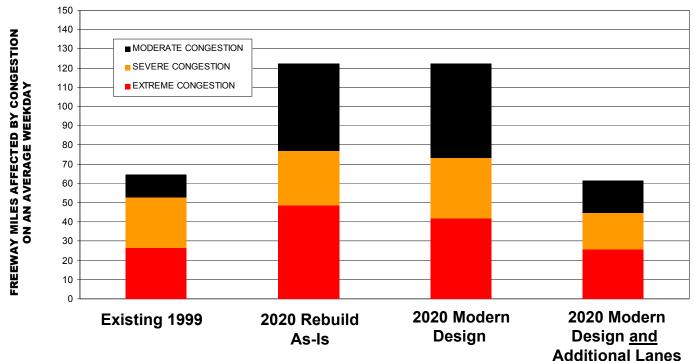


The total \$134 million property tax base impact represents a possible 0.33 percent reduction in Milwaukee County property tax base over 30 years as the freeway system is rebuilt, or about a 0.01 percent annual reduction. Milwaukee County property tax base has been growing at about 1.5 percent annually from new construction and at about 4.0 percent annually including inflation.

 In addition, the property tax base impact may not represent a loss in tax base. Aldrich Chemical, which will be acquired as part of the Marquette Interchange, will be building a new plant in the City of Milwaukee.

## Impact on Freeway Traffic Congestion of Recommended Plan with Additional Lanes

#### 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)

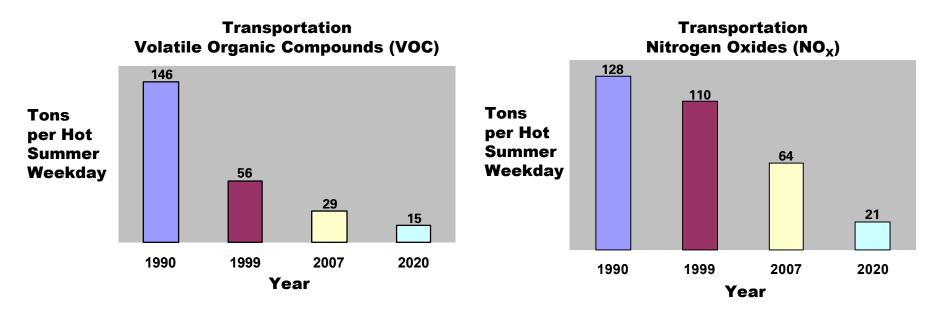
# **Other Benefits of Recommended Plan**

- Avoids a doubling of daily travel delay on the freeway system by the year 2020
- Avoids a continuing decline in freeway system travel time reliability
- Addresses freeway safety problems due to both design deficiencies and traffic congestion—rear-end crash rates are 5 to 15 times higher on congested freeway segments
- Avoids substantial increases in traffic volumes on surface arterial streets and adverse neighborhood impacts
- Provides capacity for economic growth



Ozone Air Quality — Transportation system ozonerelated air pollutant emissions have been significantly declining and are projected to continue to decline even with increasing traffic. This is principally a result of new motor vehicle standards for air pollutant emissions – "tailpipe technology".

#### Southeastern Wisconsin—6 County Severe Ozone Nonattainment Area



NOTE: These projections have been reviewed and approved by both the Wisconsin Department of Natural Resources and the U.S. Environmental Protection Agency.

#### Land Use Impacts—Recommended Plan

- The recommended plan with the proposed additional lanes may not be expected to have a significant impact on land use patterns.
  - Transportation is one of many possible causes of decentralization, and is generally not considered a significant cause compared to rising affluence, cost of living, schools, environmental amenities, preferences for single family homes and larger lots, perceived and/or actual crime and safety, and other factors.
  - In addition, the levels of congestion forecast in the year 2020 under the recommended plan are only modestly less than existing levels of congestion. Thus, the recommended plan is not expected to result in any substantial change in travel times or accessibility which could be considered to impact land use patterns.
  - However, the alternative plans with no additional lanes would permit a doubling of traffic congestion and delay. It may be argued that this significant increase in congestion could contribute to continued decentralization, as well as a decline in regional economic growth.

### Induced Travel—Recommended Plan

- The recommended plan with the proposed additional lanes may not be expected to induce additional travel.
  - Adding freeway lanes may be expected to result in levels of congestion in the year 2020 which are only modestly less than current levels of congestion. Therefore, adding freeway lanes cannot be expected to induce more travel over the existing situation.
  - Review of historic traffic growth in Southeastern Wisconsin including the period during which the freeway system was first constructed and significantly reduced both peak and offpeak period travel times indicates that nearly 90 percent of historic traffic growth was a result of factors such as economic and household growth and changing population lifestyles, and not travel which was "induced."



Most Controversial Element of Recommended Plan—Widening to 8 Lanes of IH 94 Between Zoo and Marquette Interchanges and Widening to 8 Lanes of IH 43 Between Mitchell Interchange and Silver Spring Drive

#### <u>Cost</u>

- IH 94 widening \$90 million of \$6.2 billion
- IH 43 widening \$151 million of \$6.2 billion

#### **Right-of-Way Impacts**

- IH 94 widening
  - 18 homes
    - South of IH 94 between 70<sup>th</sup> and 76<sup>th</sup> Streets
  - 5 commercial/industrial buildings
    - South of IH 94 between 13<sup>th</sup> and 30<sup>th</sup> Streets
- IH 43 Widening
  - 3 homes
    - West of IH 43 and north of North Avenue
  - The Milwaukee County Courthouse Annex

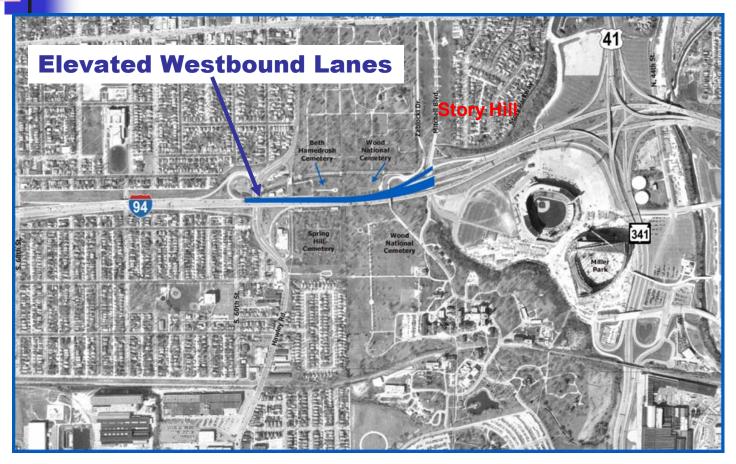
Note: Recommended plan includes the widening of IH 43 between Silver Spring Drive and Brown Deer Road from 4 to 6 lanes, not to 8 lanes as had been proposed under the preliminary plan. 26 Most Controversial Element of Recommended Plan—Widening to 8 Lanes of IH 94 Between Zoo and Marquette Interchanges and Widening to 8 Lanes of IH 43 Between Mitchell Interchange and Silver Spring Drive (continued)

#### **Travel and Congestion Impacts**

- Additional hours and severity of congestion
- Doubling of peak hour travel delay
- Increase in traffic on surface arterial streets and potential neighborhood impacts
- Reduced travel time reliability and traffic safety
- No new capacity for economic growth



### **Proposed Elevated Westbound IH 94 Lanes**



 No land required, or graves removed or relocated in any cemetery

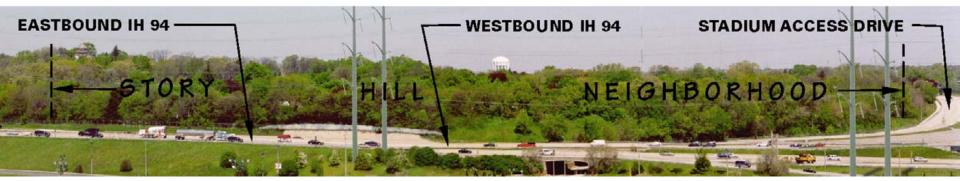


#### **Elevated Freeway Lanes— Perspective from Miller Park**

**EXISTING DESIGN - EAST** 



**PROPOSED DESIGN - EAST** 



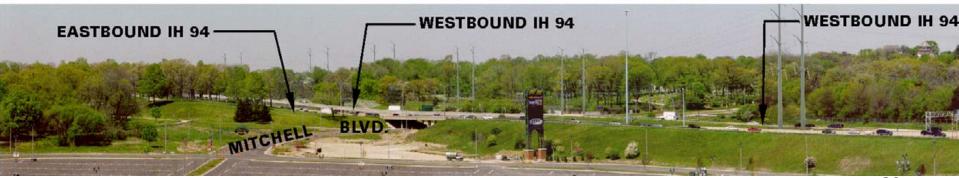
IH 94 Freeway would be rebuilt to same elevation adjacent to the Story Hill neighborhood.

#### **Elevated Freeway Lanes— Perspective from Miller Park**

**EXISTING DESIGN - WEST** 



#### **PROPOSED DESIGN - WEST**



Westbound IH 94 lanes would only begin to increase in elevation west of Mitchell Boulevard.

### **Extensive Efforts to Obtain Comment** on the Plan Over Past Year

#### Series of study newsletters

- Every City Mayor and Alderman, Village President and Trustee, and Town Chair and Supervisor
- Every State Representative and Senator
- Mailing list of 2000 interested persons and groups
- Media

#### Study web site-all study materials

- Newsletters
- Study overview
- Draft report
- All Advisory Committee materials
- Opportunity to comment



## **Extensive Efforts to Obtain Comment** on the Plan Over Past Year (continued)

#### Eleven public informational meetings and hearings

- 310 oral and written comments on preliminary plan
  - 19 neutral
  - 46 supported plan
  - 23 supported a plan subalternative
  - 222 opposed plan
- 1,483 Sierra Club-distributed postcards opposing highway expansion in general

#### Other staff outreach

- Esperanza Unida
- United Community Center
- Heartlove Place
- Story Hill neighborhood
- City of West Allis
- City of Wauwatosa
- Milwaukee North Shore
- City of Glendale neighborhoods
  (Clovernook and Milwaukee River)

- African American Chamber of Commerce
- The Business Council
- Congregations United to Serve Humanity (CUSH)
- Racine/Kenosha Economic Inclusion Coalition
- Milwaukee Plainfield Curve neighborhood

## **Extensive Efforts to Obtain Comment on the Plan Over Past Year (continued)**

#### Survey of over 15,000 resident households in Southeastern Wisconsin

Concerned with Severe and Growing Freeway Traffic Congestion	<u>Region</u> 82%	Milwaukee <u>County</u> 83%	City of <u>Milwaukee</u> 81%
Find Projected Doubling of Freeway Traffic Congestion Unacceptable	72%	72%	71%
Support Rebuilding to Modern Design Standards	87%	87%	86%
Support Adding Freeway Lanes in their County of Residence	75%	78%	76%
Support Widening of IH 94 between Marquette and Zoo Interchanges and IH 43 between Mitchell Interchange and Brown Deer Road	76%	74%	72%

# Actions by Cities, Villages, and Towns

- Cities of Brookfield and Racine have endorsed the plan.
- City of Milwaukee has endorsed rebuilding to modern design standards (with qualifications) and widening 108 miles of freeway, opposing widening 19 miles of IH 94 and IH 43 in the City.
- City of Glendale has opposed the proposed widening of IH 43 to 8 lanes within the City.
- City of Wauwatosa failed to adopt a resolution opposing the widening of freeways within and adjacent to the City.

## **Actions by Counties on the Plan**

#### Six County Boards endorsed the plan in its entirety.

- Kenosha County unanimous voice vote
- Ozaukee County 24 to 3 vote
- Racine County unanimous voice vote
- Walworth County unanimous voice vote
- Washington County 27 to 1 vote
- Waukesha County 29 to 3 vote

#### Milwaukee County-No Official Position

- County Board Action
  - Endorsed rebuilding to modern design standards 17 to 8 vote
  - Endorsed rebuilding with additional lanes on 108 miles of freeway 13 to 12 vote
  - Opposed rebuilding with additional lanes on 19 miles of freeway (IH 94 between Marquette and Zoo Interchanges and IH 43 between Mitchell Interchange and Silver Spring Drive) – 15 to 10 vote
- County Executive vetoed Board resolution, indicating agreement with the plan.
- County Board failed to override the veto—16 to 9 vote.



#### **Freeway System Reconstruction – How Will It be Funded?**

#### Entirely with Federal and State funds

- Responsibility of the State of Wisconsin and Wisconsin Department of Transportation (potential 80 to 90 percent Federal funding share and <u>no</u> local funding share)
- Purpose of freeway reconstruction study is to define what is needed for southeastern Wisconsin freeway system.
  - Just as Corridors 2020 Statewide major highway study, and studies of other major highway projects have done for the rest of the State – STH 29, USH 10, USH 53, USH 151, STH 26, USH 41, and others
  - State Legislature and Governor, and WisDOT, will then determine how, and on what schedule, to fund.

## Freeway System Reconstruction – How Will It be Funded? (continued)

- Funding need for implementation of freeway system reconstruction plan – about \$200 million per year
  - \$50 million annually spent now on freeway resurfacing
  - \$50 million annually already set aside by State Legislature
  - Remainder
    - More Federal aid
    - \$850 million annually spent by State on State highway construction. Governor and Legislature have the responsibility to prioritize spending needs.



### **Recommended Freeway System Reconstruction Plan**

Freeway System Reconstruction Development Process

System planning by SEWRPC (Freeway reconstruction study)

Preliminary engineering and environmental impact studies by WisDOT (for each freeway segment-recently completed for Marquette Interchange)

Final engineering and designpreparation of construction plans (for each freeway segment now underway for Marquette Interchange)

Construction

- The plan does <u>not</u> represent the final approval, or conclusion of study, of freeway reconstruction.
  - Each 10- to 15-mile segment of freeway will need to undergo multiyear preliminary engineering and environmental impact studies by the Wisconsin Department of Transportation. <u>Final decisions as</u> to reconstruction are only made at the conclusion of preliminary engineering.



Final Freeway System Recommended Plan and Freeway System Reconstruction

- Regional Planning Commission considered Advisory Committee freeway plan recommendations on May 21, 2003, and added those recommendations to the SEWRPC regional transportation plan.
  - SEWRPC regional transportation plan already recommends
    - Smart" growth
    - Substantial expansion of public transit
    - Actions to improve transportation system efficiency
    - Improved and expanded surface arterials

#### Plan and program submitted to WisDOT Secretary

 WisDOT will then initiate preliminary engineering and environmental impact studies of each freeway segment.