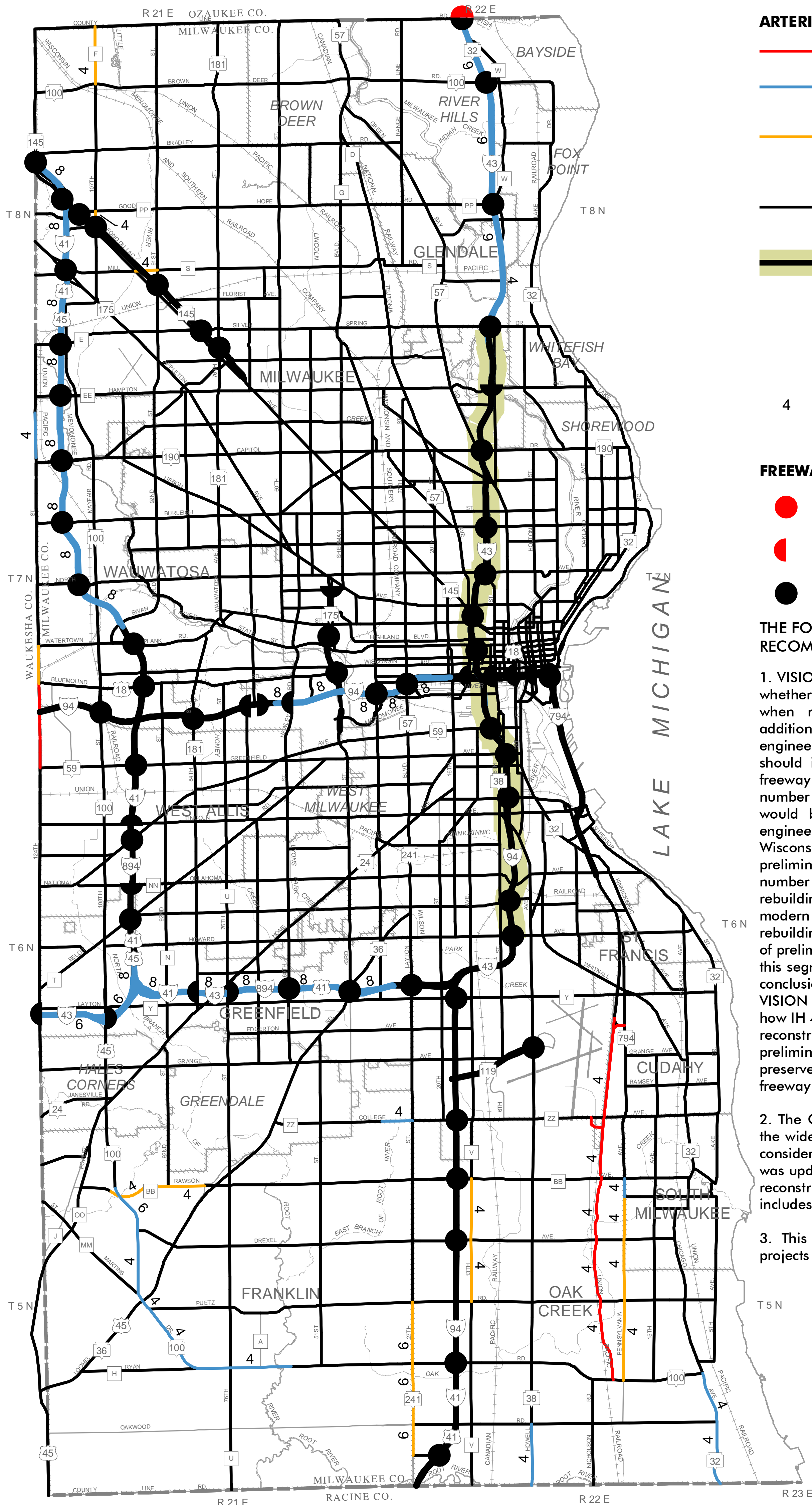


# Functional Improvements to the Arterial Street and Highway System in Milwaukee County: VISION 2050

## I-94 EAST-WEST



### ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (ADDITIONAL LANES OR NEW FACILITY)
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- NO RECOMMENDATION WITH RESPECT TO WHETHER THIS SEGMENT OF IH 43 SHOULD BE RECONSTRUCTED WITH OR WITHOUT ADDITIONAL LANES. DETERMINATION AS TO WHETHER IT WOULD BE RECONSTRUCTED WITH OR WITHOUT ADDITIONAL LANES TO BE MADE DURING PRELIMINARY ENGINEERING. (SEE NOTE 1 BELOW)
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR IMPROVED FACILITY, INCLUDING RIGHT-OF-WAY RESERVATIONS (2 LANES WHERE UNNUMBERED)

### FREEWAY INTERCHANGE

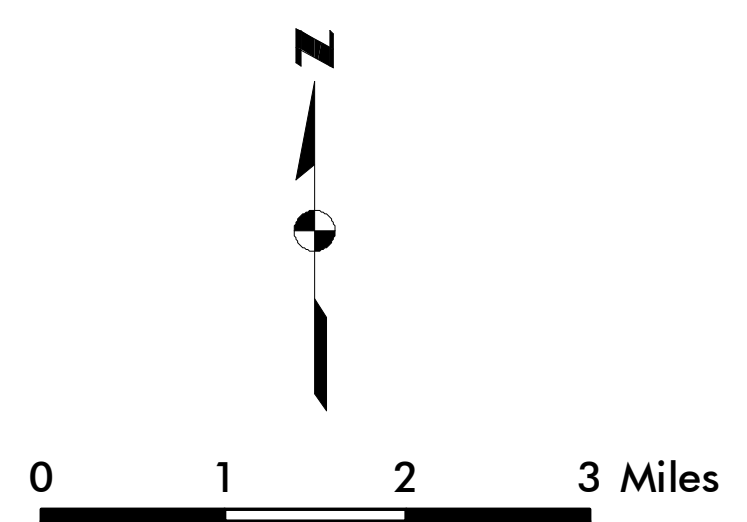
- NEW
- ◐ HALF NEW
- EXISTING

THE FOLLOWING NOTES SUPPLEMENT THE RECOMMENDATIONS PORTRAYED ON THIS MAP:

1. VISION 2050 does not make any recommendation with respect to whether IH 43 between Howard Avenue and Silver Spring Drive, when reconstructed, should be reconstructed with or without additional traffic lanes. VISION 2050 recommends that preliminary engineering conducted for the reconstruction of this segment of IH 43 should include the consideration of alternatives for rebuilding the freeway with additional lanes and rebuilding it with the existing number of lanes. The decision regarding how this segment of IH 43 would be reconstructed would be made as part of preliminary engineering and an environmental impact study conducted by the Wisconsin Department of Transportation (WisDOT). During preliminary engineering, WisDOT would consider and evaluate a number of alternatives, including rebuilding 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 preliminary engineering would a determination be made as to how this segment of IH 43 freeway would be reconstructed. Following the conclusion of the preliminary engineering for the reconstruction, VISION 2050 would be amended to reflect the decision made as to how IH 43 between Howard Avenue and Silver Spring Drive would be reconstructed. Any construction along this segment of IH 43 prior to preliminary engineering—such as bridge reconstruction—should fully preserve and accommodate the future option of rebuilding the freeway with additional lanes.

2. The Cities of Milwaukee and Wauwatosa expressed opposition to the widening of IH 94 between 70th Street and 16th Street, which is considered a committed project as WisDOT, at the time VISION 2050 was updated in 2020, had completed preliminary engineering for the reconstruction of this segment of IH 94 and their preferred alternative includes its widening.

3. This map has been updated to not show capacity expansion projects completed through the end of 2020.



Source: SEWRPC

# Traffic Patterns

I-94 EAST-WEST



## 2019 DATA BETWEEN THE STADIUM INTERCHANGE AND 35TH STREET

AM peak hour volumes are:

Westbound - 50.5%

Eastbound - 49.5%

PM peak hour volumes are:

Westbound - 51.1%

Eastbound - 48.9%

## 2021 DATA BETWEEN THE STADIUM INTERCHANGE AND 35TH STREET

AM peak hour volumes are:

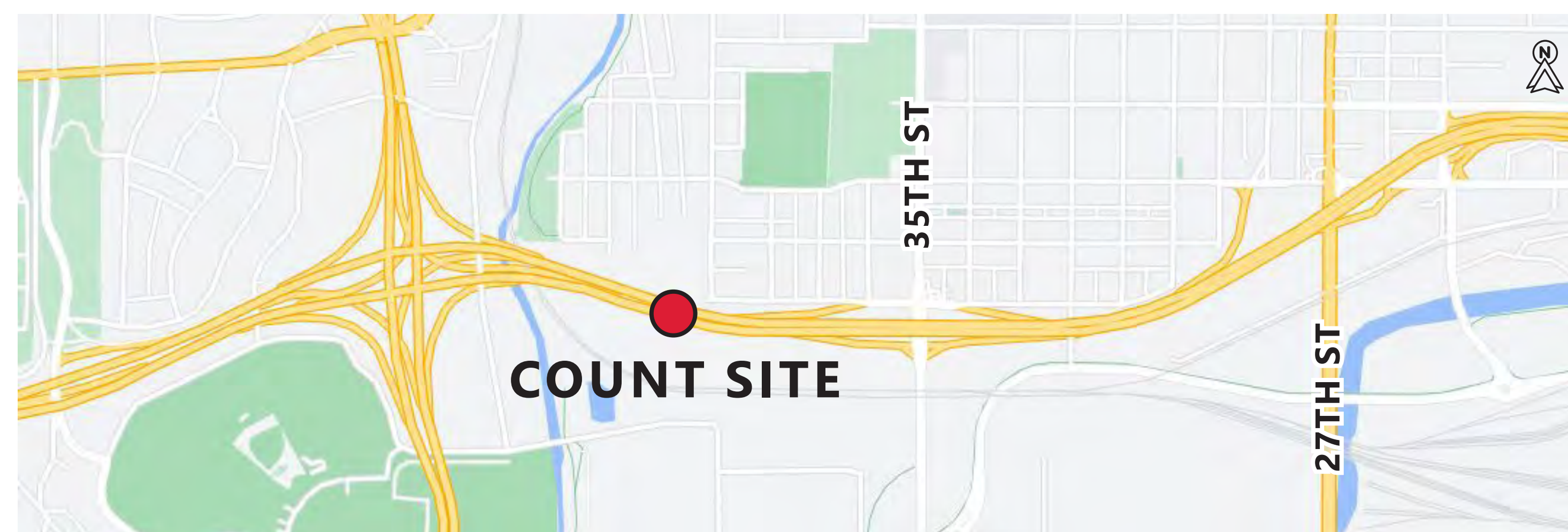
Westbound - 51.0%

Eastbound - 49.0%

PM peak hour volumes are:

Westbound - 50.2%

Eastbound - 49.8%

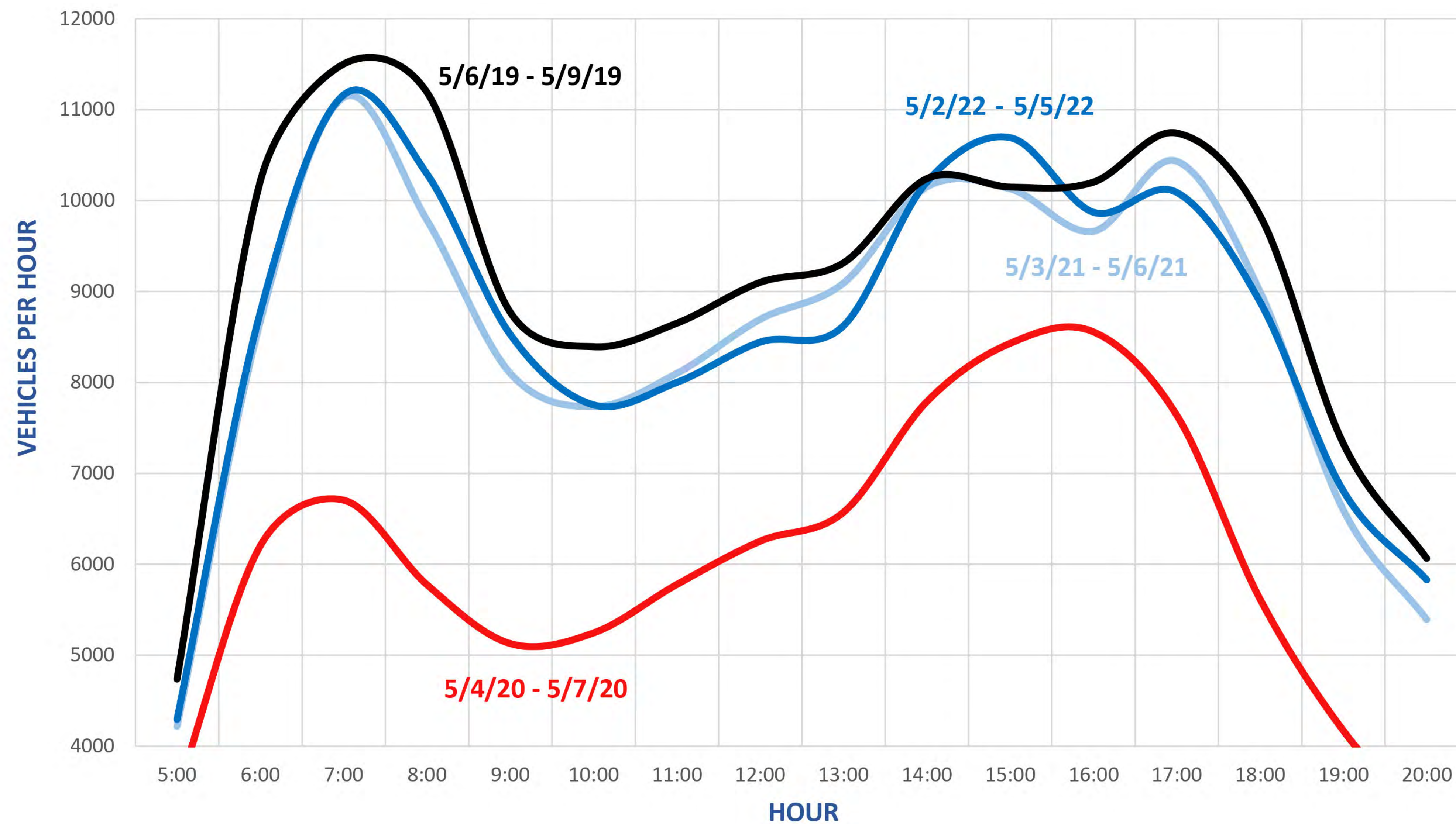


# Existing Hourly Traffic Volumes (2019-2022)

I-94 EAST-WEST



I-94 Eastbound and Westbound, west of 26th Street  
Average Hourly Volume / Average Weekday

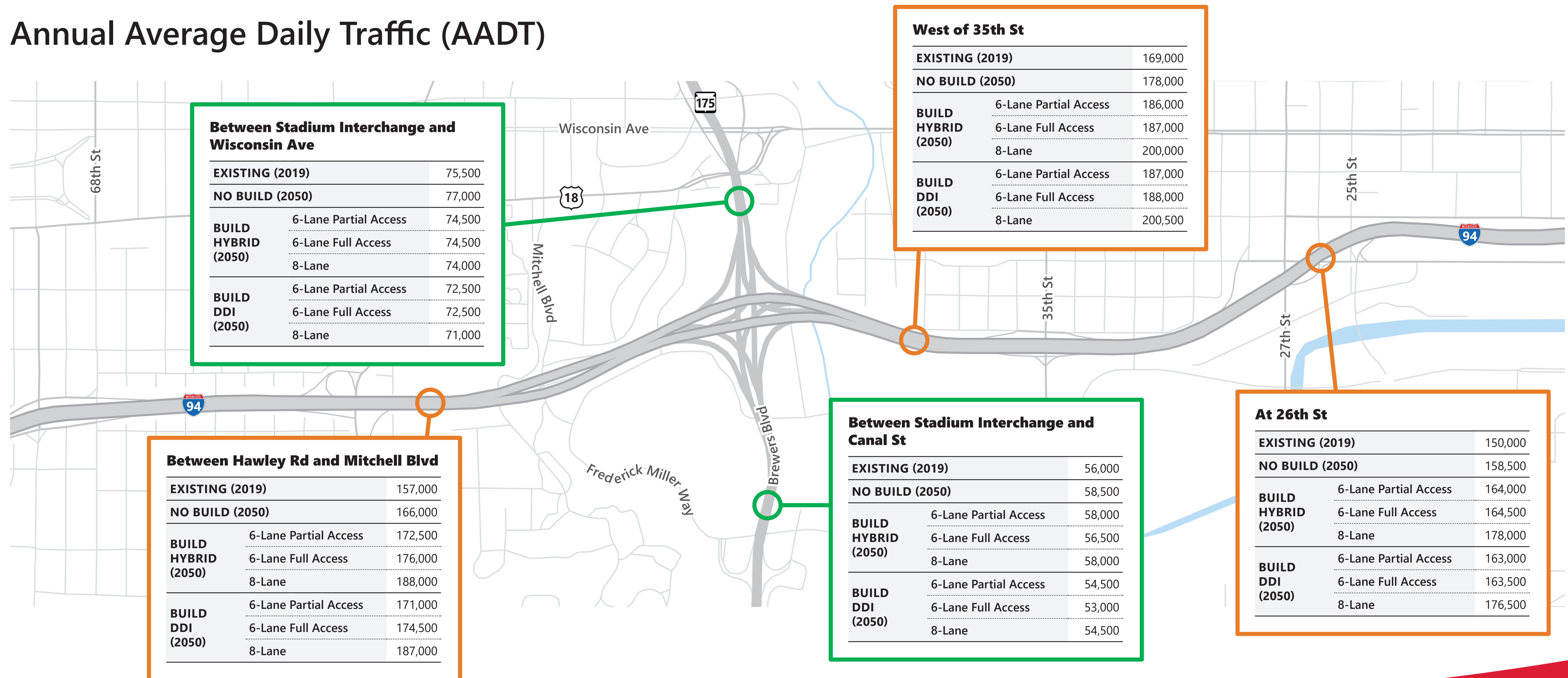


# Existing and Future Traffic Volumes

## I-94 EAST-WEST



### Annual Average Daily Traffic (AADT)



**Between Stadium Interchange and Wisconsin Ave**

<b>EXISTING (2019)</b>		75,500
<b>NO BUILD (2050)</b>		77,000
<b>BUILD HYBRID (2050)</b>	6-Lane Partial Access	74,500
	6-Lane Full Access	74,500
	8-Lane	74,000
<b>BUILD DDI (2050)</b>	6-Lane Partial Access	72,500
	6-Lane Full Access	72,500
	8-Lane	71,000

**West of 35th St**

<b>EXISTING (2019)</b>		169,000
<b>NO BUILD (2050)</b>		178,000
<b>BUILD HYBRID (2050)</b>	6-Lane Partial Access	186,000
	6-Lane Full Access	187,000
	8-Lane	200,000
<b>BUILD DDI (2050)</b>	6-Lane Partial Access	187,000
	6-Lane Full Access	188,000
	8-Lane	200,500

**Between Hawley Rd and Mitchell Blvd**

<b>EXISTING (2019)</b>		157,000
<b>NO BUILD (2050)</b>		166,000
<b>BUILD HYBRID (2050)</b>	6-Lane Partial Access	172,500
	6-Lane Full Access	176,000
	8-Lane	188,000
<b>BUILD DDI (2050)</b>	6-Lane Partial Access	171,000
	6-Lane Full Access	174,500
	8-Lane	187,000

**Between Stadium Interchange and Canal St**

<b>EXISTING (2019)</b>		56,000
<b>NO BUILD (2050)</b>		58,500
<b>BUILD HYBRID (2050)</b>	6-Lane Partial Access	58,000
	6-Lane Full Access	56,500
	8-Lane	58,000
<b>BUILD DDI (2050)</b>	6-Lane Partial Access	54,500
	6-Lane Full Access	53,000
	8-Lane	54,500

**At 26th St**

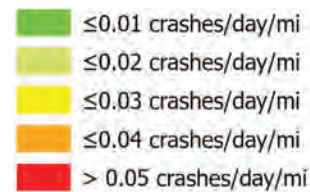
<b>EXISTING (2019)</b>		150,000
<b>NO BUILD (2050)</b>		158,500
<b>BUILD HYBRID (2050)</b>	6-Lane Partial Access	164,000
	6-Lane Full Access	164,500
	8-Lane	178,000
<b>BUILD DDI (2050)</b>	6-Lane Partial Access	163,000
	6-Lane Full Access	163,500
	8-Lane	176,500

# Existing Crash Summary (2015-2019)

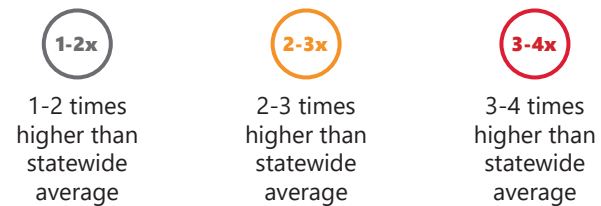
## I-94 EAST-WEST



### Areas of high crash density

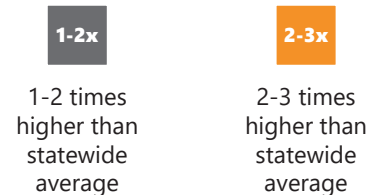


### Crash rates higher than statewide average



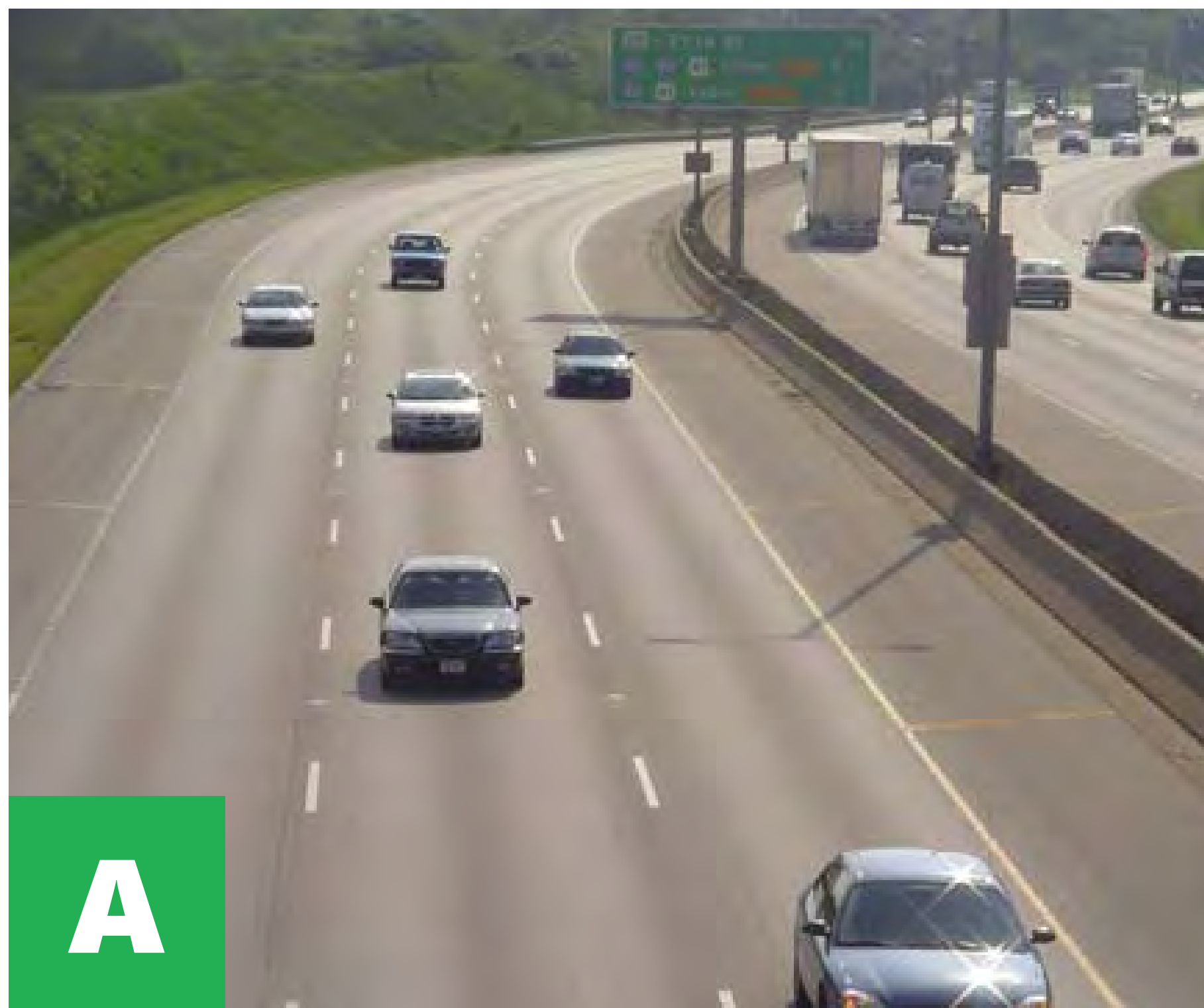
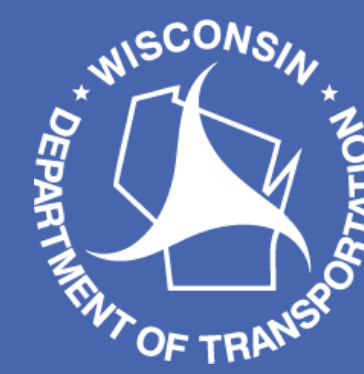
### KAB crash rates higher than statewide average

Fatal crashes are denoted as "K crashes," incapacitating injury crashes are denoted as "A crashes," and non-incapacitating injury crashes are denoted as "B crashes."



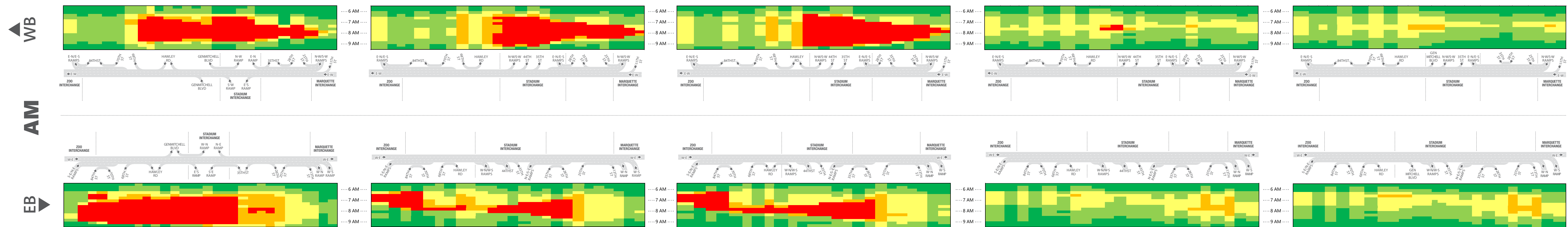
# Level of Service

I-94 EAST-WEST



# Traffic Operations by Alternative

## I-94 EAST-WEST



Existing (2019)

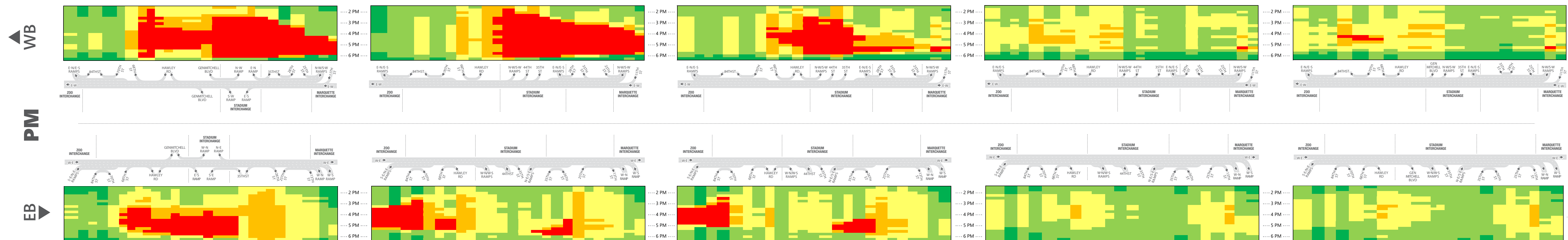
6-Lane Partial Access at Hawley Rd - Hybrid (2050)

6-Lane Full Access at Hawley Rd - Hybrid (2050)

8-Lane Partial Access at Hawley Rd - Hybrid (2050)

**PREFERRED ALTERNATIVE**

8-Lane Partial Access at Hawley Rd - DDI (2050)

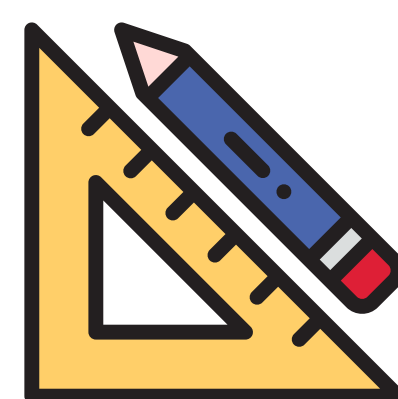


# Construction Impacts and Mitigation – Transit Recommendations

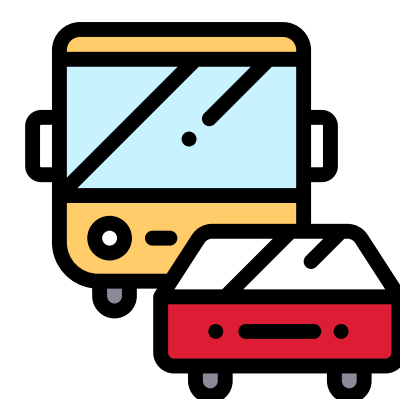
I-94 EAST-WEST



INPUT FROM  
TRANSIT  
TECHNICAL  
ADVISORY  
COMMITTEE &  
GENERAL  
PUBLIC



IDENTIFY  
INITIAL  
CONSTRUCTION  
PLAN &  
ANALYZE  
IMPACT OF  
PLAN ON  
TRANSIT



DEVELOP  
POTENTIAL  
MITIGATION  
STRATEGIES  
TO TRANSIT  
SYSTEM AS  
WELL AS USING  
TRANSIT AS  
MITIGATION  
TOOL



GATHER  
FEEDBACK FROM  
STAKEHOLDERS



RECOMMEND  
INVESTMENT OF  
\$25M-\$30M



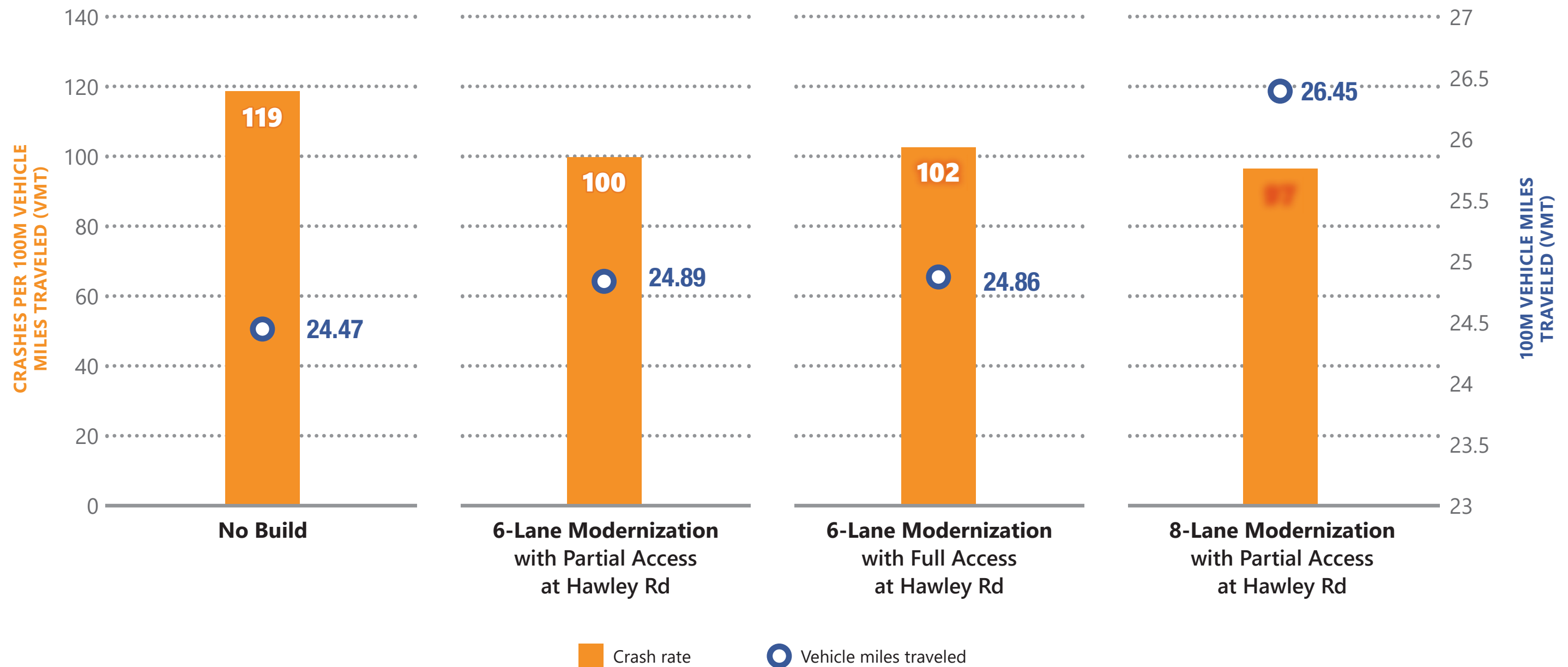
REVISE  
MITIGATION  
PLAN AS  
PART OF  
FINAL DESIGN  
OF CHOSEN  
ALTERNATIVE





# Predictive Crash Analysis (2025-2034)

I-94 EAST-WEST



## TRAFFIC FORECAST VARIABILITY ANALYSIS

- In response to requests from the public to consider possible impacts of the pandemic and increased transit funding, WisDOT engaged the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to complete modeling and analysis with these factors in mind.
- SEWRPC is the Metropolitan Planning Organization for the seven-county southeast Wisconsin region. SEWRPC maintains a regional travel demand model that contains information from the most recent comprehensive plan, including land use, population, and employment data. More information on the 2050 Comprehensive Plan can be found on SEWRPC's website: [www.vision2050sewis.org](http://www.vision2050sewis.org). Specific information regarding the travel demand model can be found in Technical Report No. 51.
- A technical analysis was completed to identify if there is a possibility that traffic volumes could be reduced to a level that keeps the corridor operating safely and efficiently. The SEWRPC analysis considered various possible future variables, including the following:
  - Transit capacity
  - Transit fares
  - Vehicle occupancy changes
  - Travel costs
  - Trip length
  - Increased work from home
  - Online shopping
  - Operational capacity of roadways due to autonomous
- The following variables were applied to a traffic forecast of the project corridor at different levels and in different combinations: free public transit, increased vehicle occupancy, increased travel cost, increased work from home, and increased online shopping. Combining the variables above, four scenarios were created:
  1. *Increase* in passenger vehicles reliance - most likely scenarios
  2. *Increase* in passenger vehicles reliance - extreme possibility scenarios
  3. *Decrease* in passenger vehicles reliance - most likely scenarios
  4. *Decrease* in passenger vehicles reliance - extreme possibility scenarios
- However, even the most ideal scenario for reducing single-occupant vehicles (increase transit capacity, no fares for transit riders, increase work from home, increase vehicle occupancy with more ride sharing) resulted in severe or extreme congestion under the no-build condition for I-94.

***Conclusion, from SEWRPC report: "Despite developing alternatives that would optimistically reduce demand on the freeway, all model runs resulted in severe or extreme congestion under the no-build condition for I-94."***

# Traffic Forecast Variability – SEWRPC Analysis



## I-94 EAST-WEST

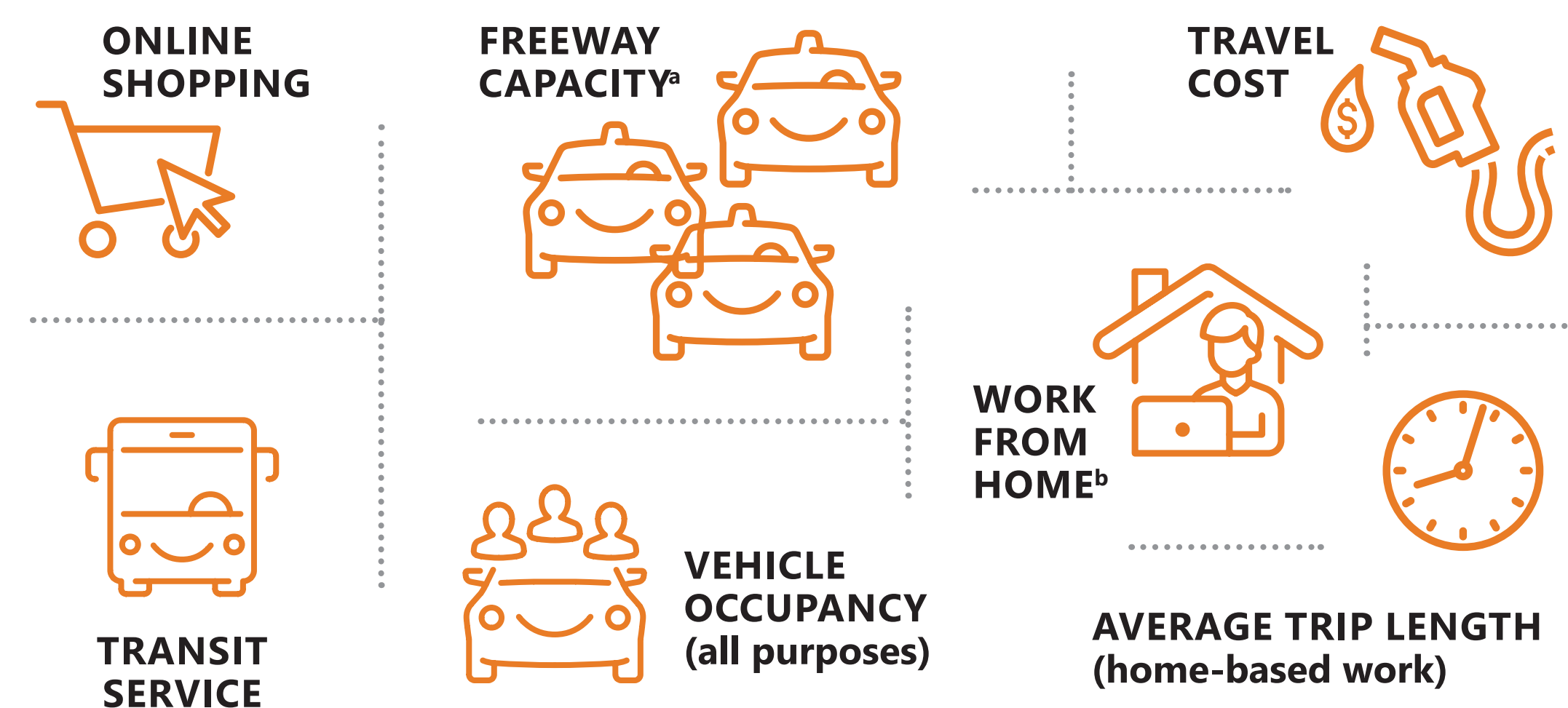
### Forecast background and purpose

In response to requests from the public to consider possible impacts of the pandemic and increased transit funding on future traffic estimates, WisDOT engaged the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to complete modeling and analysis of the I-94 East-West corridor with these factors in mind.

The goal was to determine if a scenario existed outside of the addition of travel lanes that could provide a level of service D or better in the year 2050 within the project corridor.

### Forecast variables

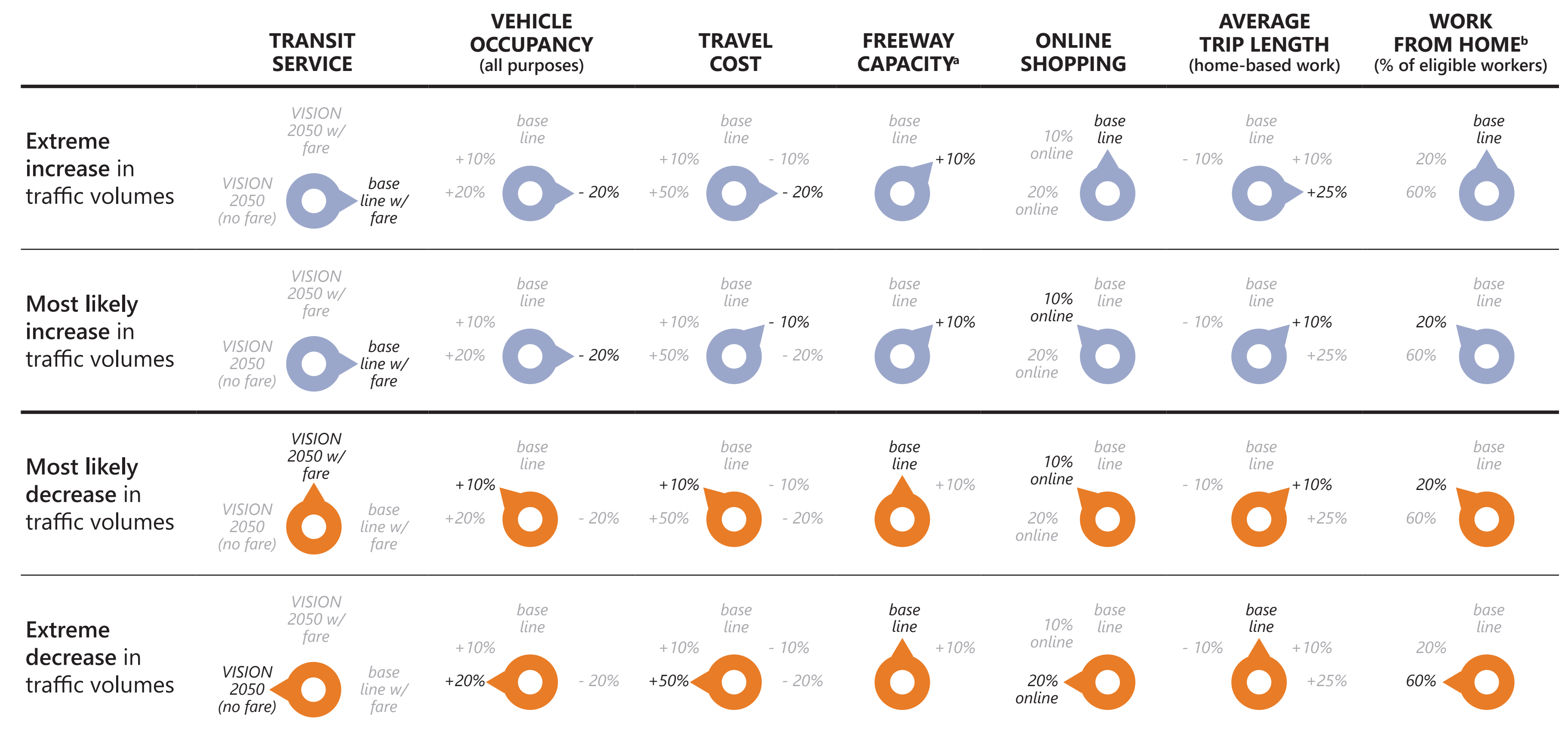
The team identified seven variables that impact traffic:



<sup>a</sup> Freeway operational capacity variable is included specifically to account for the impacts of Connected and Automated Vehicles (CAVs) on freeways.  
<sup>b</sup> 20% and 60% correspond to 1 and 3 days respectively working remotely in a typical five-day workweek.

### Forecast scenarios

The dials below represent the seven variables used in the traffic forecast. Each dial has its own range of values; and as the dial is turned clockwise, traffic volumes increase. By adjusting the dials at different levels and in various combinations, four different scenarios were created for traffic on the I-94 East-West corridor.



The analysis looked for a situation in which some combination of user behaviors, transit availability, and transportation costs would reduce the usage of passenger vehicles such that the existing six lanes could accommodate future travel within the I-94 East-West corridor.

# Traffic Forecast Variability – SEWRPC Analysis

## I-94 EAST-WEST



The goal of the analysis was to determine if a scenario existed outside of additional capacity that could provide a level of service D or better in the year 2050 within the project corridor.

The analysis used the following combination of variables to create a forecast scenario that represented the greatest reduction in the amount of traffic on the study corridor:

### FREE PUBLIC TRANSIT

No-cost public transit, which would reduce individual vehicle use

### INCREASED VEHICLE OCCUPANCY

More carpools and car shares, further reducing single-occupant vehicle use

### INCREASED TRAVEL COSTS

Higher gas prices, reduced fuel efficiency, and increased parking costs, making other modes of travel more attractive

### INCREASED WORK FROM HOME

More people working from home, reducing the number of commuters

### INCREASED ONLINE SHOPPING

More shoppers choosing to shop online, reducing trips to brick-and-mortar shops

## FORECAST RESULTS

Even the most ideal scenario (●) for reducing single-occupant vehicles resulted in severe (LOS D) or extreme (LOS E) congestion under the no-build condition for I-94 East-West.

