I-94 EAST-WEST

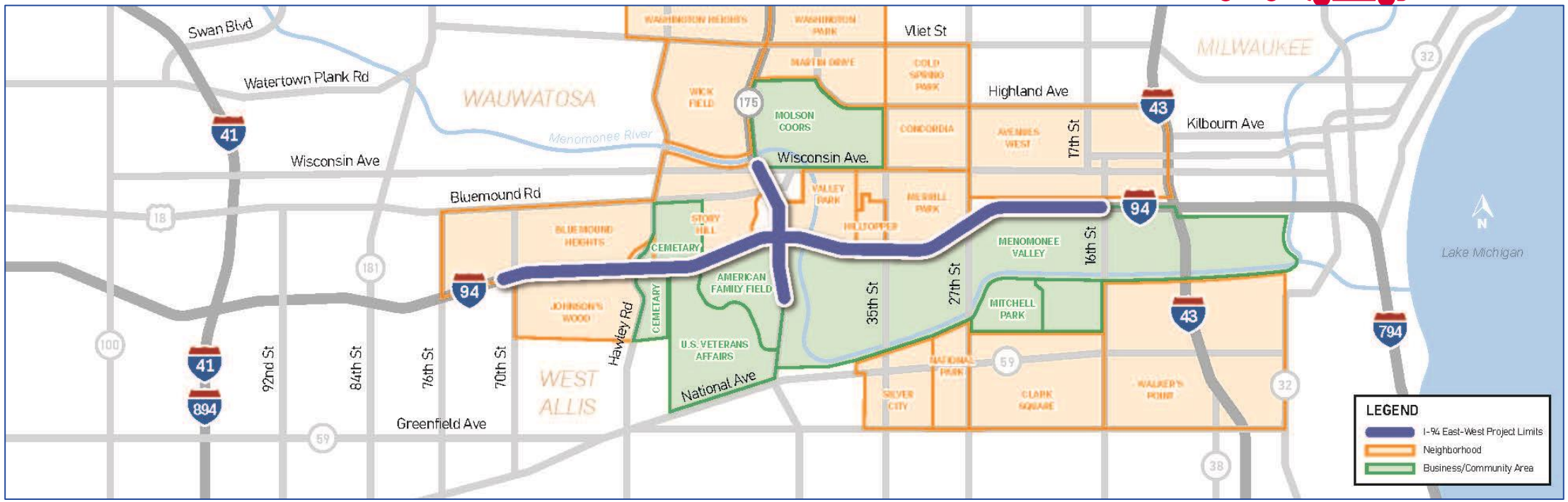
SE WI Transportation Symposium
October 2022

Wisconsin Department of Transportation

Agenda

- Project Updates
- Traffic
  - OD Data
  - Pandemic Impacts
  - Existing Cluster Analysis
  - Forecast Sensitivity
  - Stadium Int Sub-Area Modeling
  - Operations Comparison
- Questions?

Project Corridor



- I-94 from 70th Street to 16th Street; WIS 175 from Wisconsin Avenue to just south of stadium
- Located entirely in the City of Milwaukee, with close proximity to Wauwatosa, West Allis and West Milwaukee

Project updates

- Supplemental Draft EIS ongoing
- Examining additional Stadium Interchange alternative
- 6-lane/8-lane alternatives still under consideration
- Proceeding with reduced impact options at 35th and 68th Street
- Bike/Ped connectivity
- Adjacent study – WIS 175 Study

STADIUM INTERCHANGE ALTERNATIVES

Stadium Interchange - Hybrid

Preferred "Hybrid" alternative identified in 2016 Final EIS/Record of Decision

- Move all the movements to right-hand to improve safety
- Extending local roads (44th and 46th) to accommodate local/Brewer traffic
- 3-levels above local roads
- 2-signals on WIS 175

Note: Supplemental EIS will reevaluate recommendation

Additional alternative

WHY NOW?

- SEWRPC traffic forecasts for some of the Stadium Interchange ramp movements changed from those generated during the previous study period (2012-2016). Current forecasts are out to 2050, previous forecast were to 2040.
- Since the December 2021 public meetings, the updated traffic forecasts allowed the project team to investigate additional interchange alternatives that could potentially meet the project purpose and need.

Additional alternative

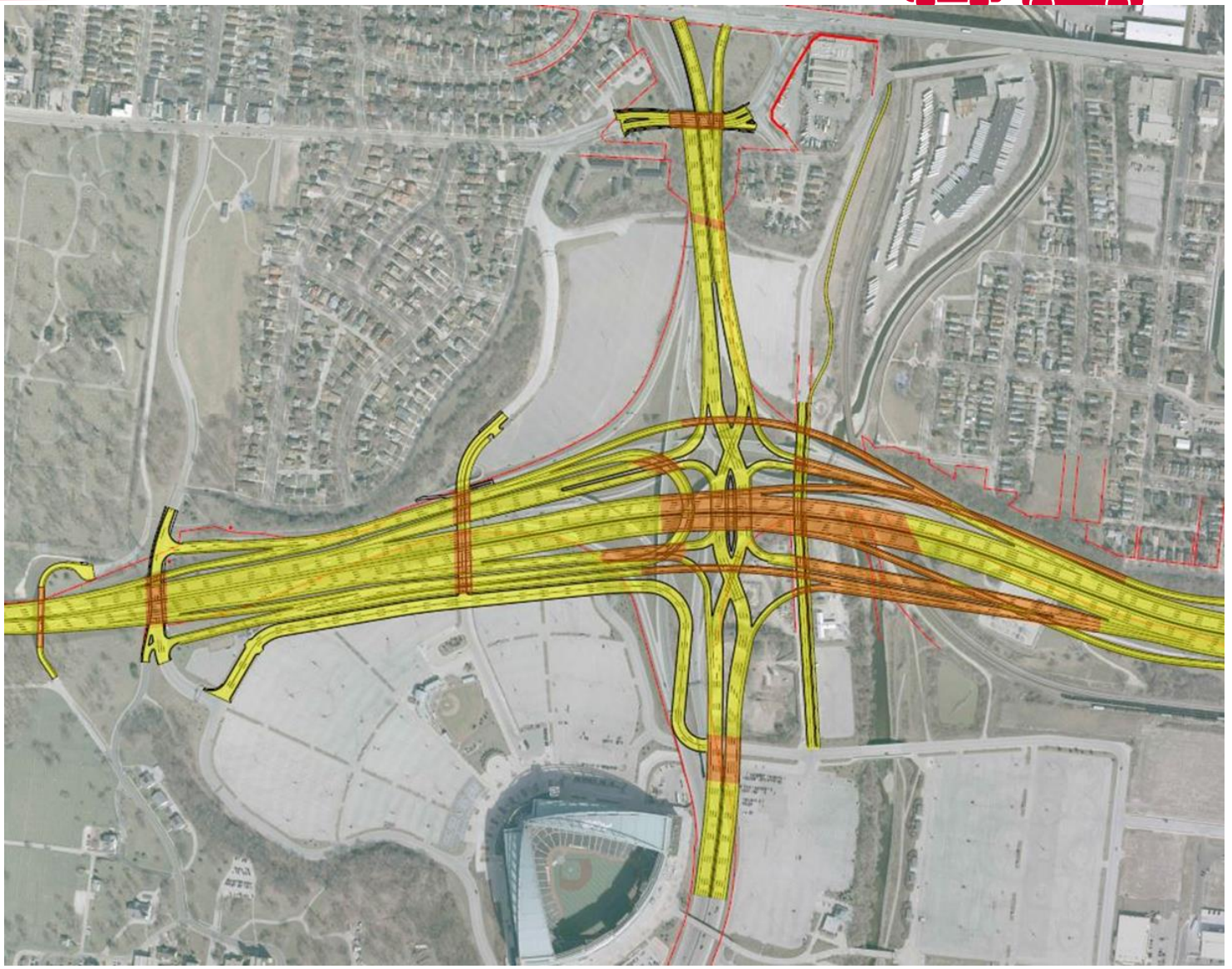
- Additional interchange types were investigated by the project team.
  - Tight Diamond Interchange
  - Single Point Interchange
  - Echelon Interchange
  - Diverging Diamond Interchange
  - Grade Separated Diverging Diamond Interchange

- Interchange types were evaluated and screened based on traffic operations, construction cost, physical impacts and other design considerations.

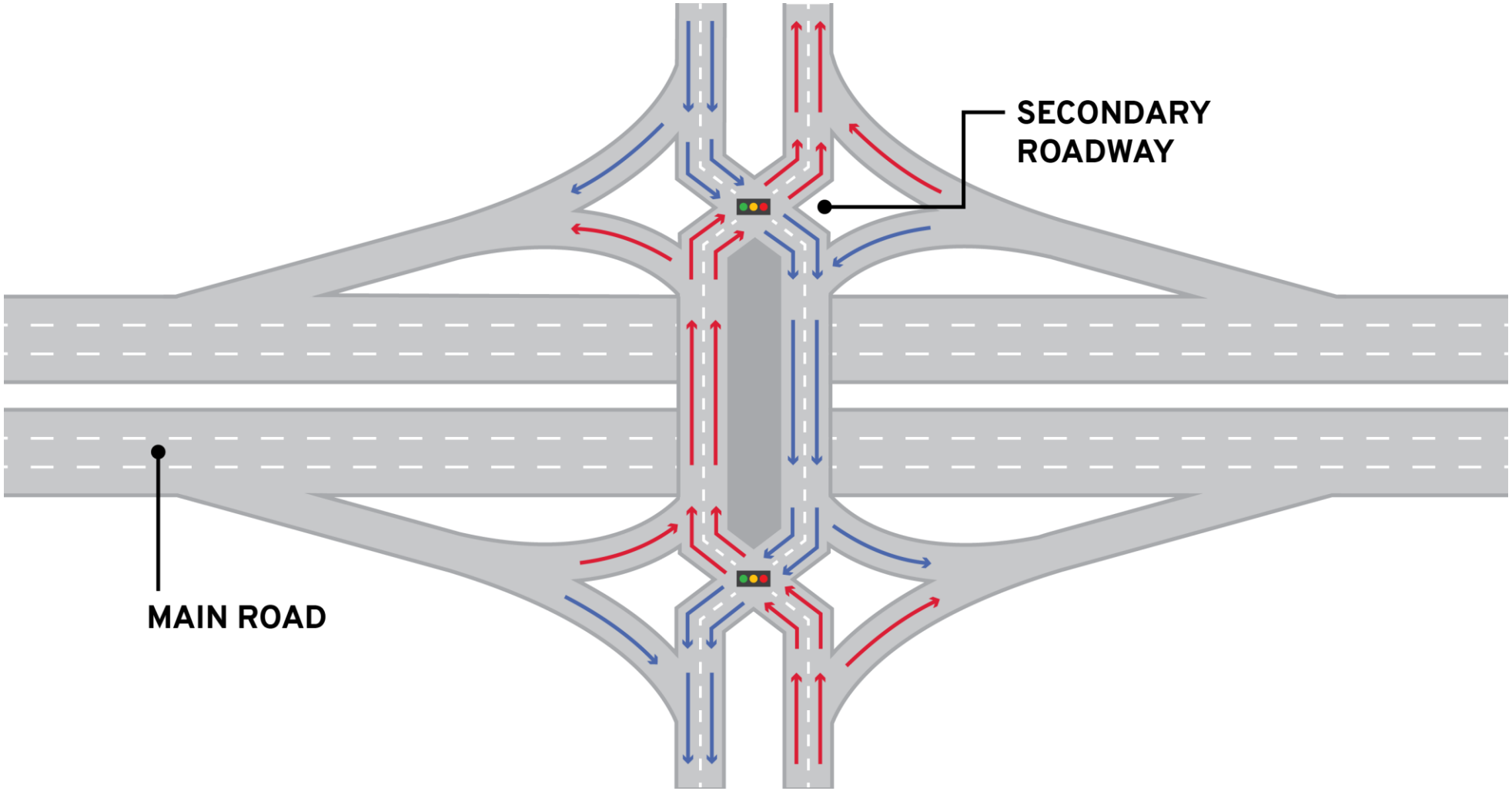
Stadium Interchange - DDI

Diverging Diamond Interchange (DDI)

- Move all the movements to right-hand to improve safety
- Includes “hook ramp” with direct access to General Mitchell Blvd. to accommodate local/Brewer traffic
- 2-levels above local roads
- 2-signals on WIS 175 & signals for I-94 exits @ WIS 175



DDI – movements explained



DDI Alternative draft rendering

Stadium Alternatives - summary

Both alternative designs remain under consideration

- DDI:
  - Lower cost than Hybrid
  - Similar height to existing interchange
  - Maintains direct access at Mitchell Blvd and Wisconsin Ave (from WIS 175 NB)
  - WIS 175 will have lower posted speed through the interchange

- Hybrid
  - Traffic operations slightly better than DDI
  - Fewer predicted crashes than DDI
  - Traffic from I-94 to WIS 175 is free flow

Fewer acquisitions

- If a build alternative is chosen:
  - One residential displacement (68th Street on-ramp)
  - Six commercial/business displacements
  - One institutional (WisDOT shop in West Allis) displacement *
- Eliminated acquisitions on the west side of 35th Street north of I-94 and eliminated two of three residential acquisitions at 68th Street on-ramp
- Stadium Interchange – chosen alternative will impact similar amount of right-of-way from Stadium District

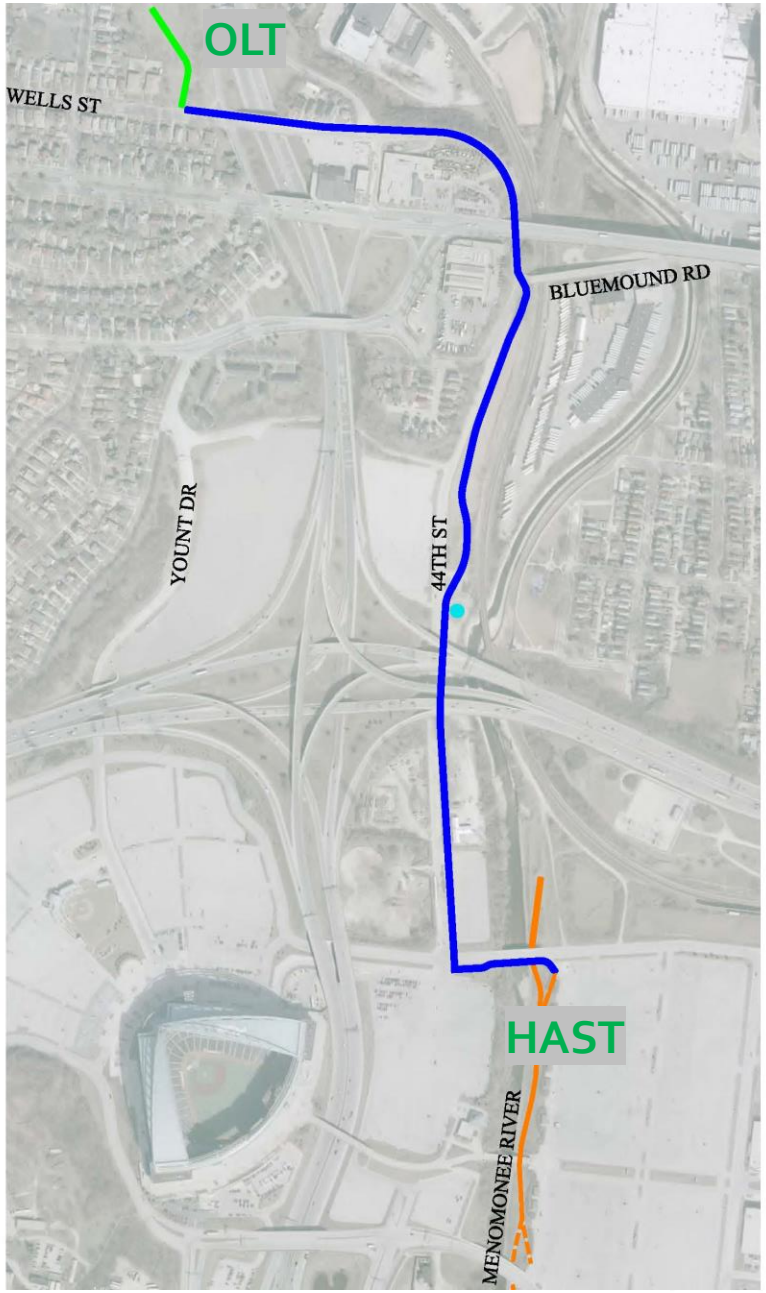
** This displacement is eliminated if full Hawley Rd interchange with 6-lane alternative is selected. Washington Street extension will not be constructed*

WISCONSIN DEPARTMENT OF TRANSPORTATION

east west

Bike/ped connectivity

- Stadium Interchange and East Leg
  - Connect Hank Aaron State Trail (HAST) and Oak Leaf Trail (OLT)
  - Connect north side neighborhoods to jobs in Valley
  - Safer, more inviting access points
  - Design elements to encourage vibrant neighborhood, discourage undesirable activity
- West Leg
  - Providing an additional HAST access at 64th Street
  - Hawley Road – removing conflicts on east side with half-interchange alternative



What's next

- 2022
  - Community input
  - Continued study and analysis
  - Preferred alternative identified in Draft Supplement EIS*
  - Public hearing on Draft Supplemental EIS*

- 2023-2024
  - Continued Federal Highway Administration review
  - Completion of Final EIS/ROD (2023)
  - Final design

- 2025-2029 (dependent on funding, fed/state approvals, if a build alternative is chosen, much to be determined)
  - Construction of related utilities and prep work – year one
  - Freeway construction – likely four years

** Draft Supplemental EIS will be available for formal review and comment for a set period of time before, during and after the public hearing.*

TRAFFIC

OD Data – 2019 Conditions

- StreetLight 2019 Weekday Peak Periods
  - About a quarter of trips are “thru” (I-94 end to end)
  - About half of trips start or end within corridor
- Access Modification Evaluation
  - Avg 15% of peak trips to 35th St from WIS 175 or Brewers Blvd
  - About 5% of peak trips to Mitchell Blvd from WIS 175 or Brewers Blvd

Trip Type	StreetLight (2019)	
	AM	PM
External-External	26%	20%
External-Internal	23%	21%
Internal-External	29%	28%
Internal-Internal	22%	31%

- Brewers Parking Lot OD

From	To					Total
	Hawley Rd	Mitchell Blvd (Preferred/Suite)	FMW (Preferred)	Canal St (General)	35th St	
East (Marq Int)	<1%	4%	5%	5%	1%	15%
West (Zoo Int)	3%	30%	4%	11%	2%	50%
North (WIS 175)	<1%	1%	3%	5%	0%	9%
South (MPW)	<1%	1%	12%	13%	<1%	26%
Total	3%	36%	23%	34%	4%	100%

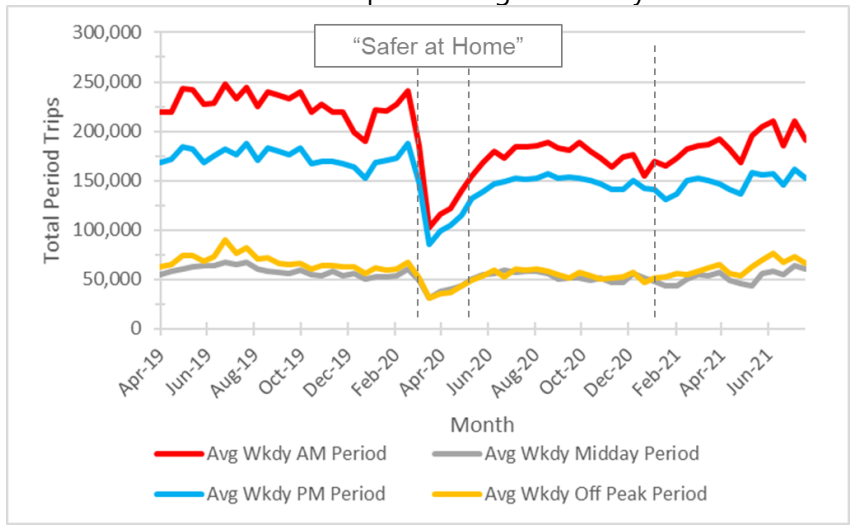
From	To				Total
	East (Marq Int)	West (Zoo Int)	North (WIS 175)	South (MPW)	
Hawley Rd	1%	10%	<1%	<1%	12%
Mitchell Blvd (Preferred/Suite)	6%	19%	1%	1%	27%
Frederick Miller Way (Preferred)	3%	2%	1%	9%	15%
Canal St (General)	5%	9%	7%	15%	36%
35th St	9%	0%	<1%	1%	10%
Total	23%	41%	10%	26%	100%

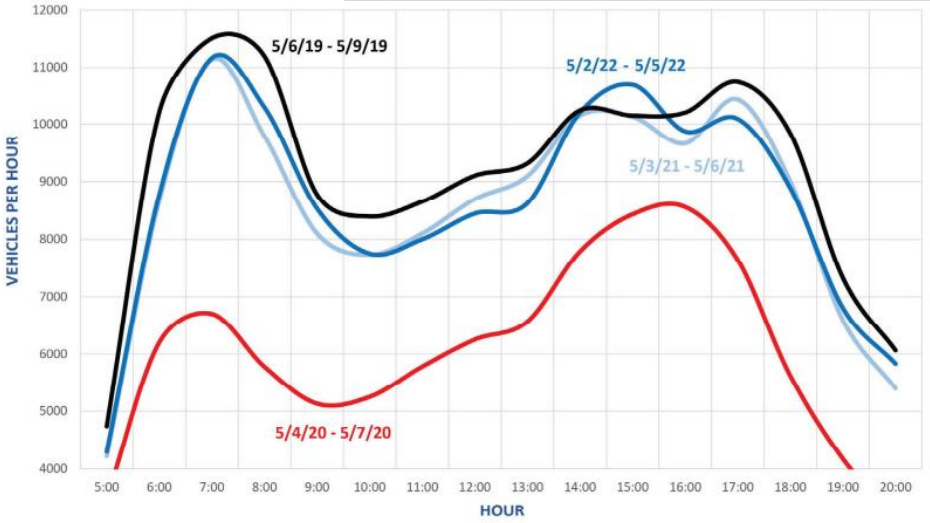
east west

OD Data - Pandemic

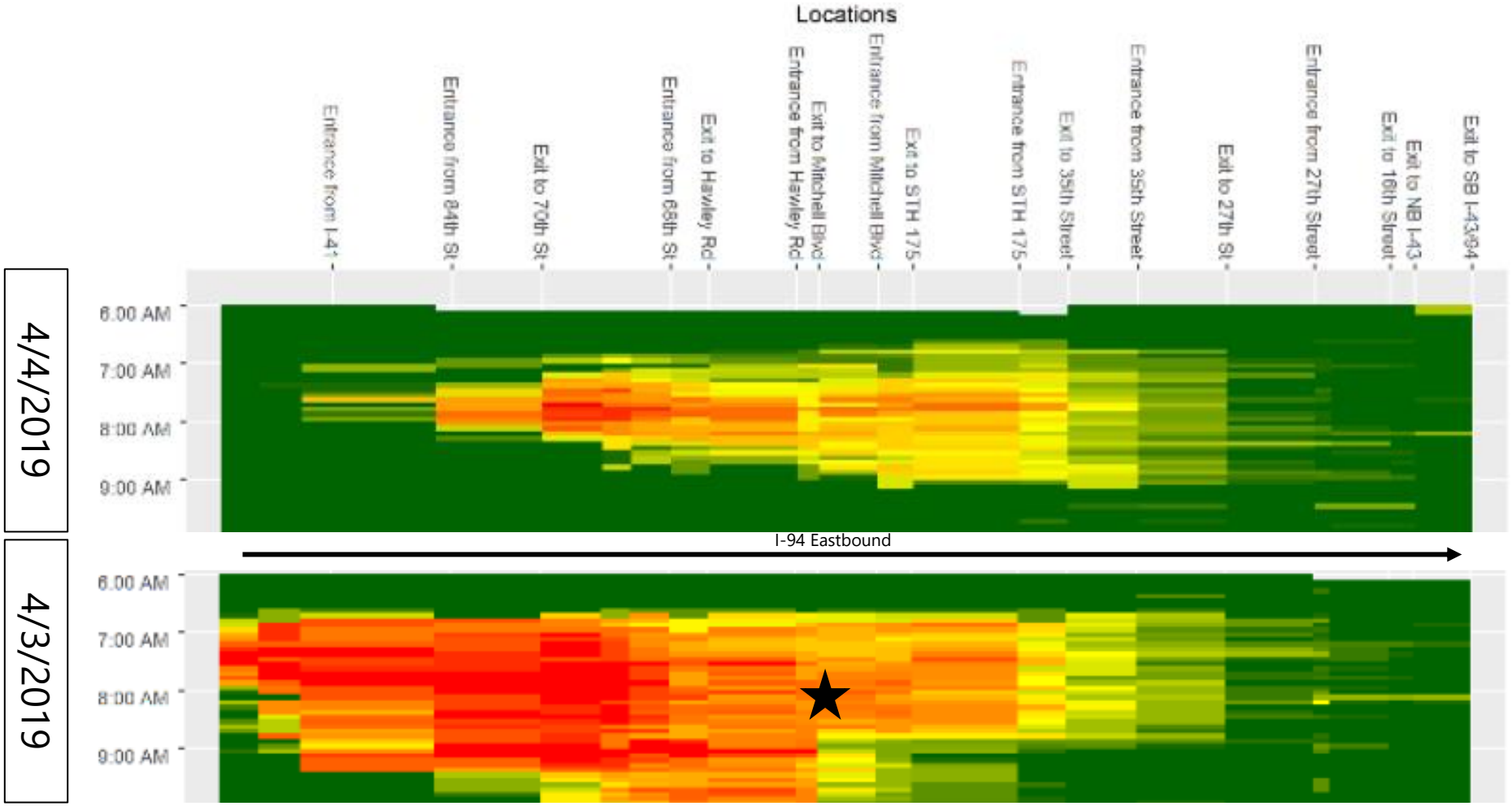
- I-94 trips
  - SAH: one-third reduction of daily trips using I-94
  - About 20% difference Jun ‘20 to Jan ’21 vs 2019
  - Upward trend in 2021 (+2%/month)
- Internal to Internal (I-I) trips
  - About 5% reduction vs 2019

I-94 Total Trips – Average Weekday





Existing Cluster Analysis



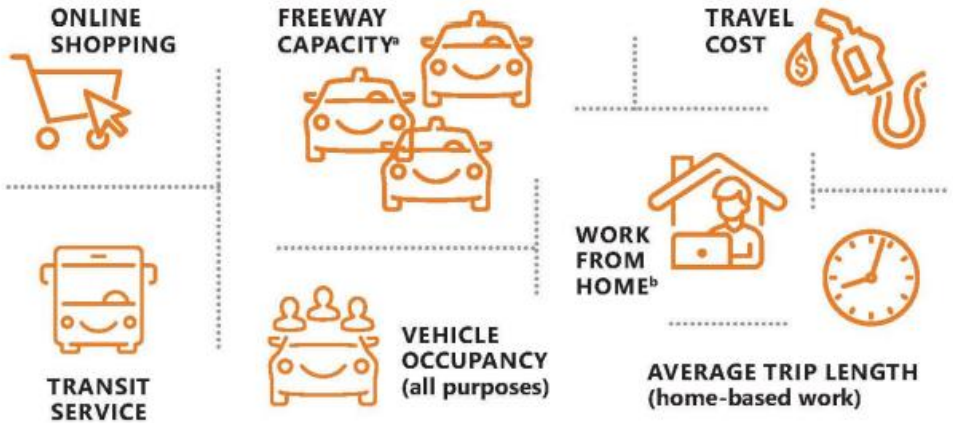
Typical Day Cluster

Non-Typical Day (Incidents Cluster)

★ *Incident*

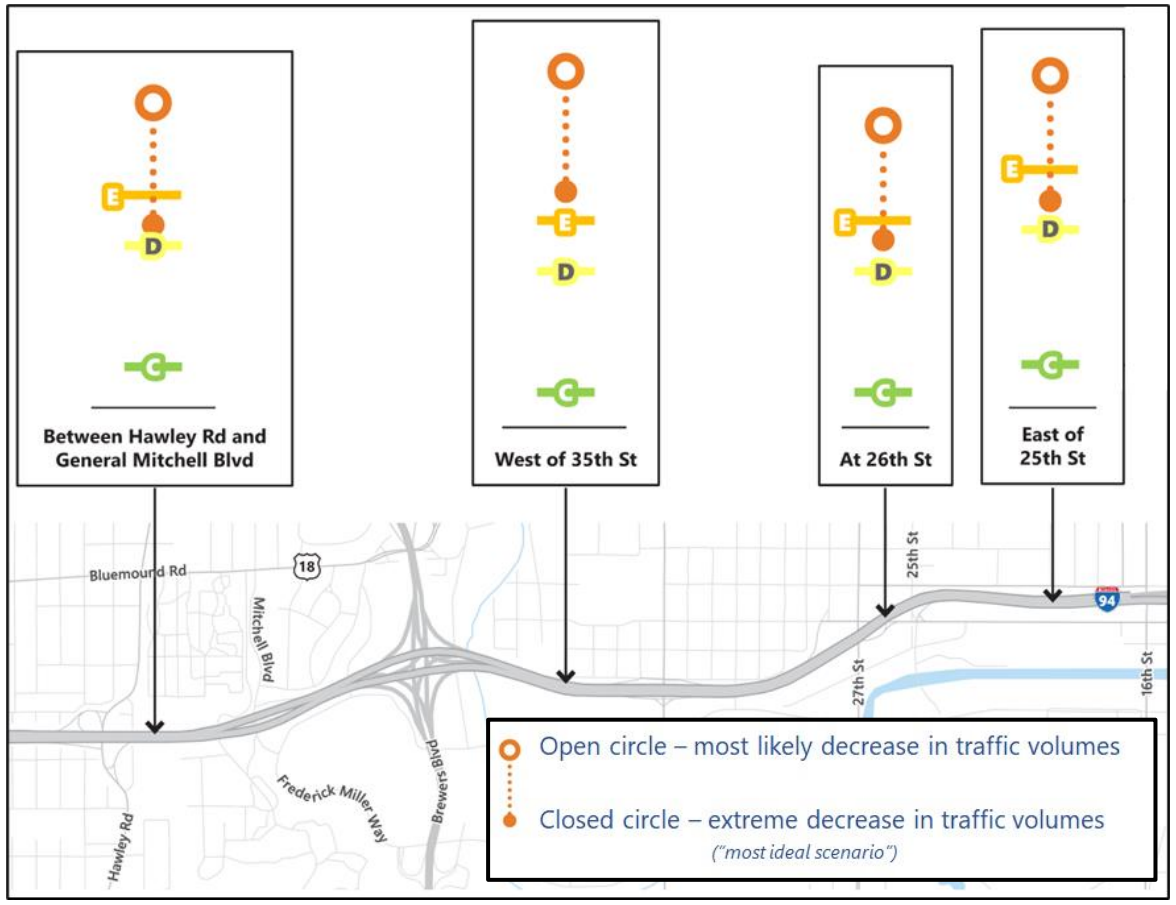
Forecast Sensitivity

- Consider potential long-term impacts of pandemic and societal changes
  - SEWRPC, WisDOT, FHWA, project team
- Seven forecast variables tested



- Objective
  - Does a scenario exist that could provide LOS D in the design year w/o capacity expansion?
  - Combine variables to create a scenario that represented the potential for the greatest reduction in traffic

Forecast Sensitivity

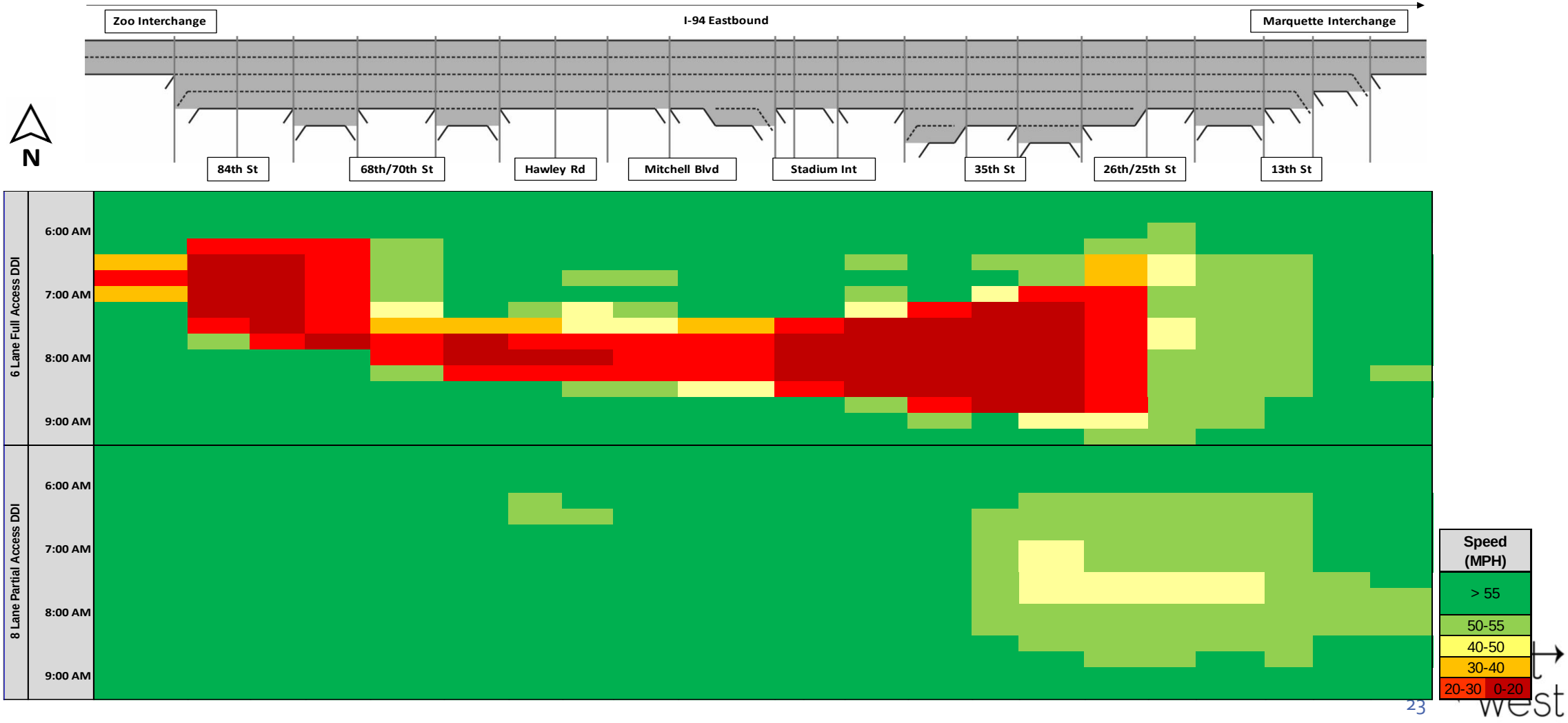


Even the most ideal scenario (●) for reducing single-occupant vehicles resulted in severe (LOS D) or extreme (LOS E) congestion under the no-build condition for I-94 East-West.

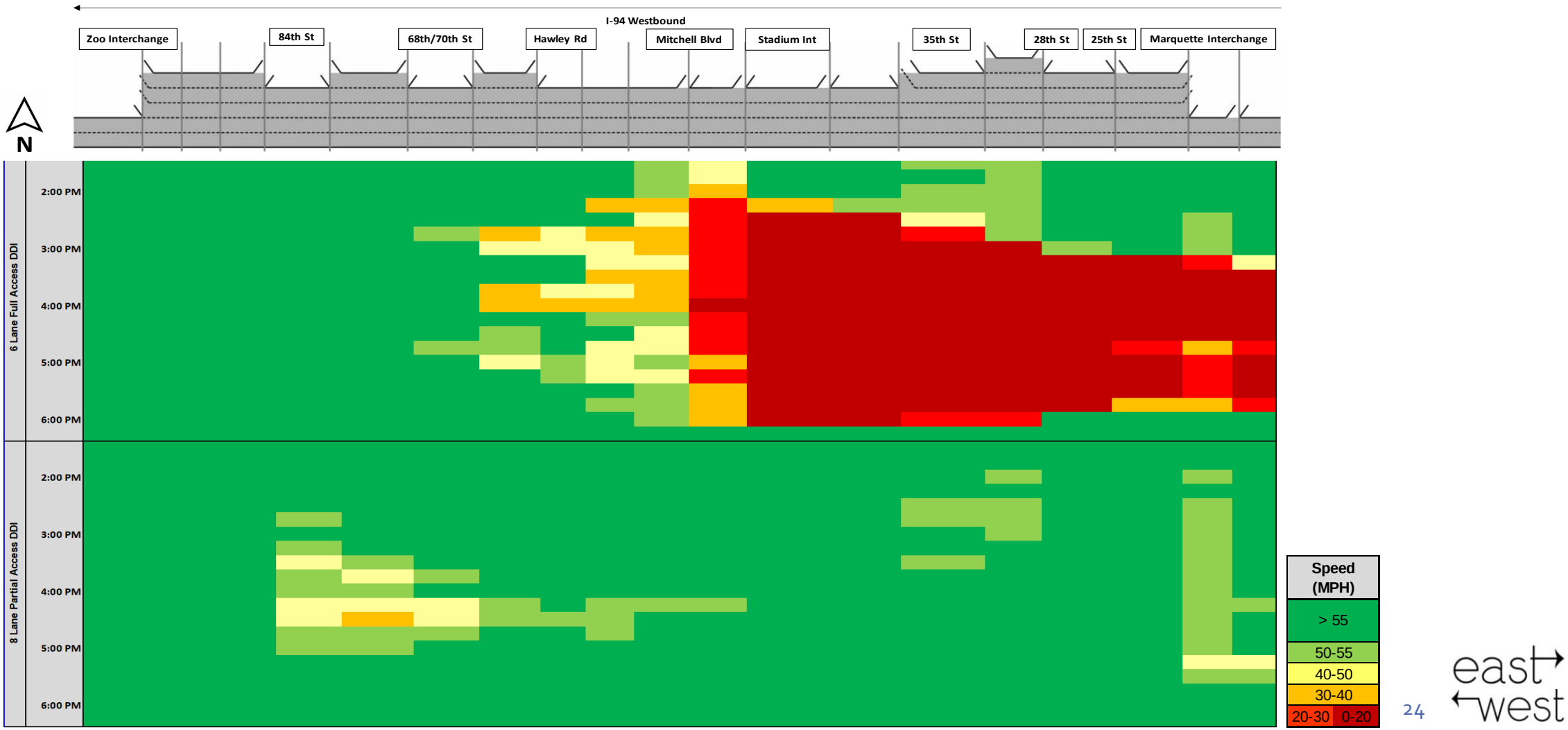
Stadium Int Sub-Area Modeling

- Re-evaluated Stadium Interchange concepts with design year (2050) forecast
  - Screening -> Synchro
  - Detailed modeling -> VISSIM sub-area
    - Two-Level Single Point
    - Two-Level Diverging Diamond
- Developed script to condense corridor trip table to sub-area network
- Similar mainline operations as Hybrid
  - Slightly more intersection delay

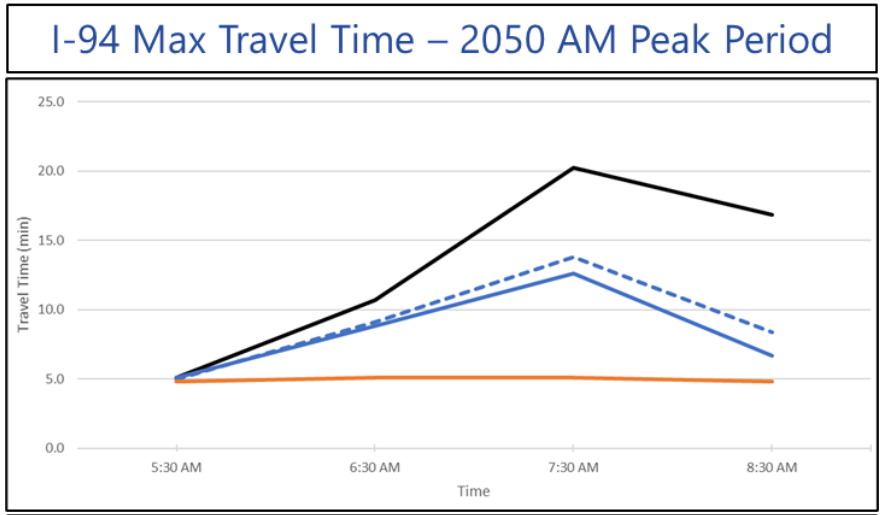
Operations Comparison – I-94 EB AM

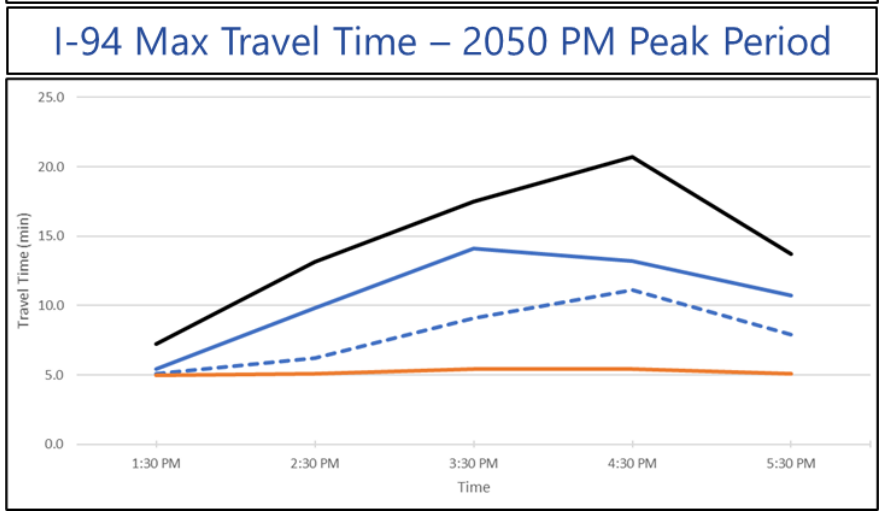


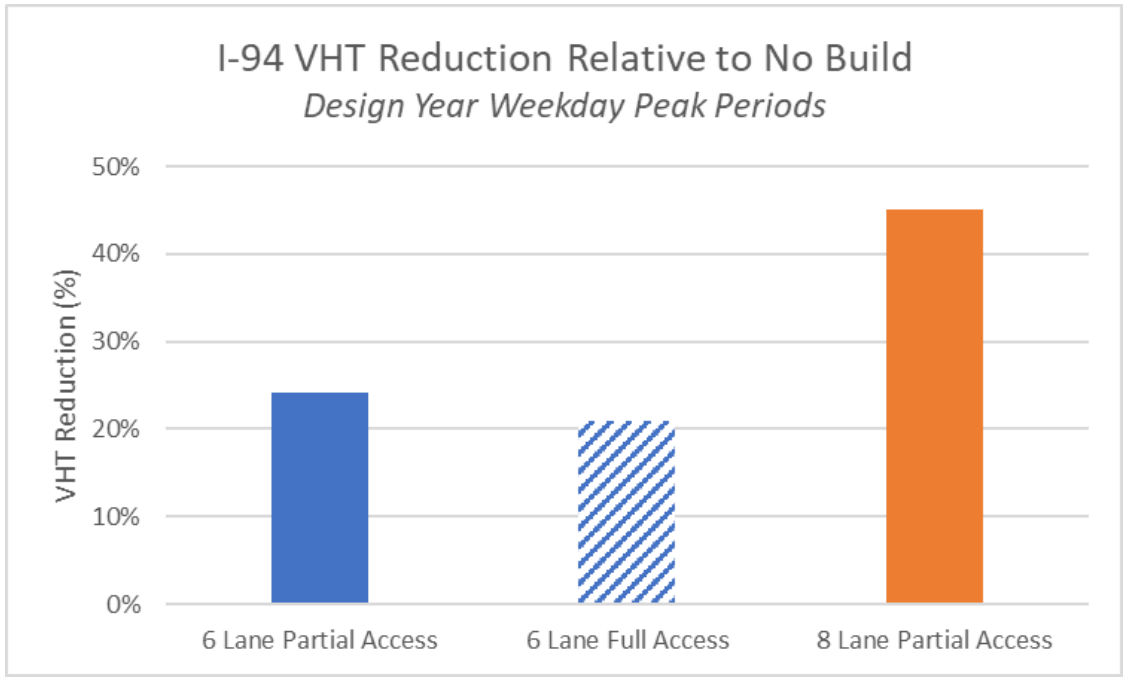
Operations Comparison – I-94 WB PM



Operations Comparison







Note: based on I-94 mainline operations only

Questions?

Contact Information

- Josh LeVeque, WisDOT Project Manager, 414-750-1468, Joshua.LeVeque@dot.wi.gov
- Bill Mohr, WisDOT Supervisor, 262-408-3628, Bill.Mohr@dot.wi.gov
- Joe Ulatowski, HNTB Traffic Engineer, (414) 410-6824, julatowski@hntb.com