Managed Lanes and Congestion Pricing in Minnesota

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Regional Transportation Management Center

- Shared Operations Center
  - Mn/DOT Traffic Operations
  - Mn/DOT Maintenance Dispatch
  - State Patrol Dispatch
- 400 miles of freeway management system
- Backbone for Managed Lanes system

Congestion Pricing in Minnesota

- Congestion pricing brand name

MnPASS

- Opened 11 mile High Occupancy Toll (HOT) lane on I-394 in 2005
- Opened 16 mile HOT lane in two phases on I-35W as part of the Minnesota UPA project

I-394 MnPASS Express Lanes

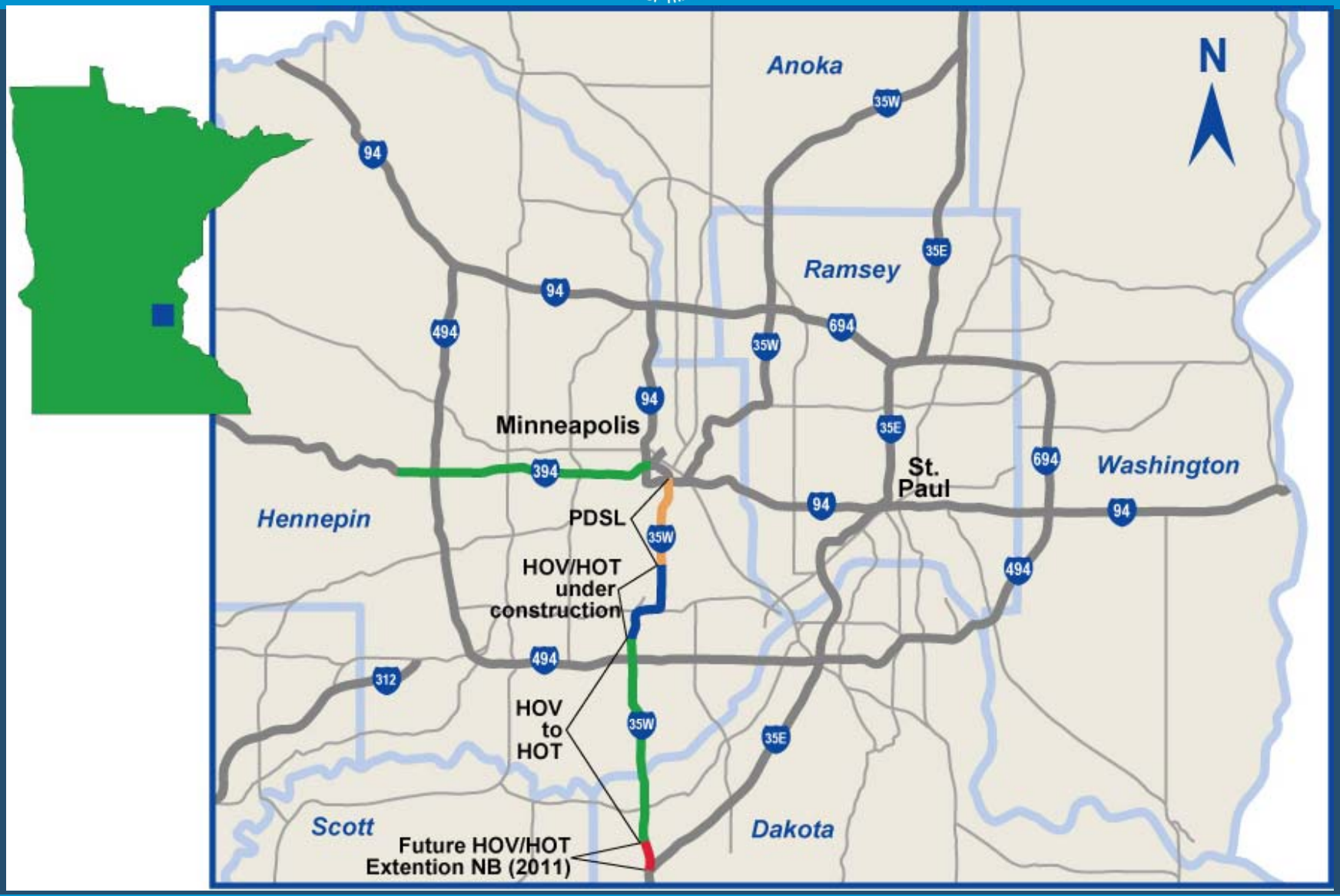
- Two-lane reversible section; one-lane-per-direction diamond lane in middle of four-lane freeway
- 10-12 miles long
- First non-barrier separated HOT
- HOV 2+ and transit free
- Dynamic pricing: Fees range from 25 cents to $8.00 in the peak

Dynamic Pricing Overview

- Adjust the toll rate dynamically to encourage or discourage users
- Maintain free flowing traffic in MnPASS lane (speeds greater than 50 MPH) at all times
- Rates determined based on:
  - Number of vehicles in lane
  - Speed of the vehicles
  - Rate of change of traffic conditions

Minnesota UPA Project

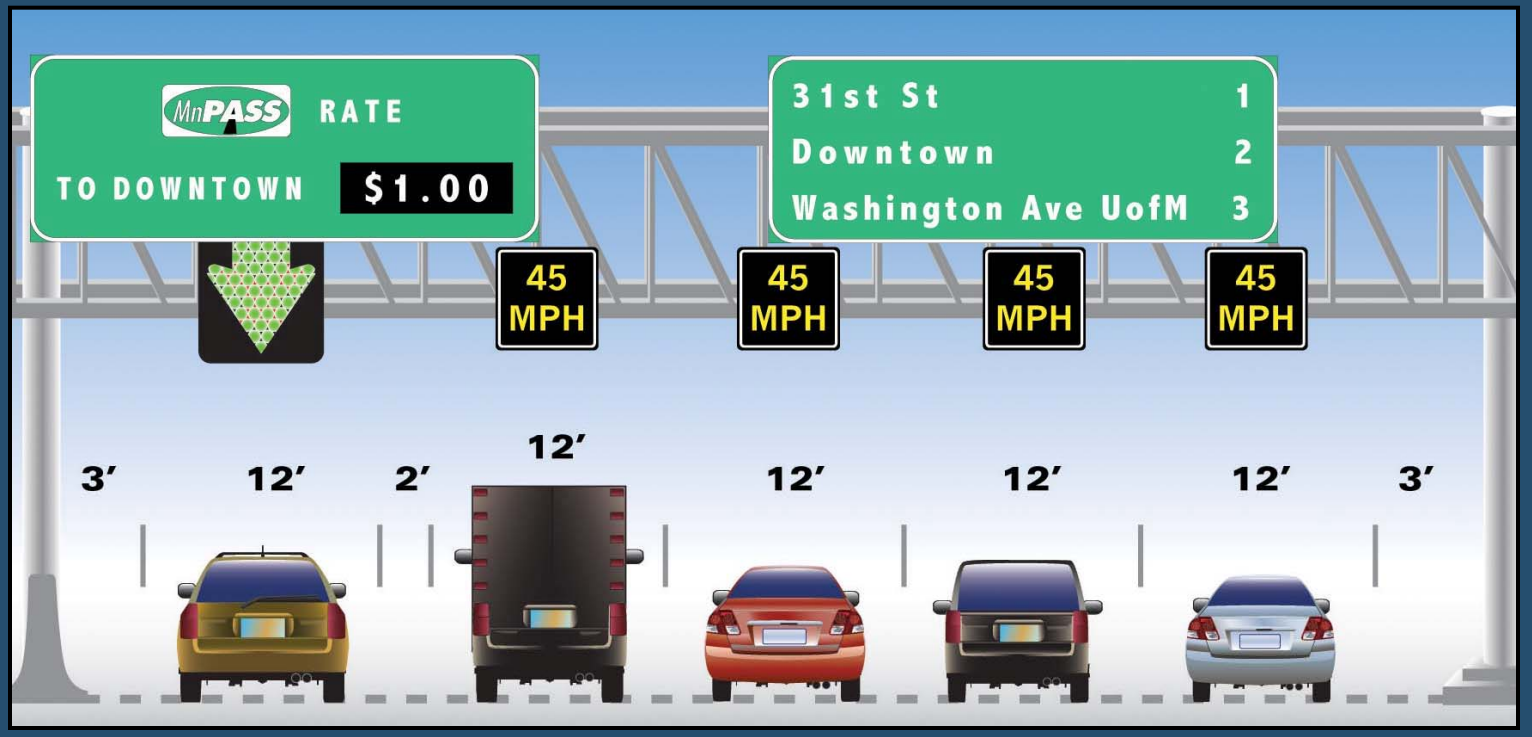
- Combined $133 M in Federal funds, with $50.2 M in State Funds
- Funded 24 different projects and initiatives in four areas
  - Congestion Pricing (Tolling)
  - Transit
  - Telecommuting
  - Technology
- Major program focus is on I-35W, Hwy 77 and Downtown Minneapolis


Anoka
Ramsey
Washington
Hennepin
Scott
Dakota
Minneapolis
St. Paul
N
94
35W
35E
494
694
394
312
PDSL
HOV/HOT under construction
HOV to HOT
Future HOV/HOT Extention NB (2011)

I-35W UPA Project Summary

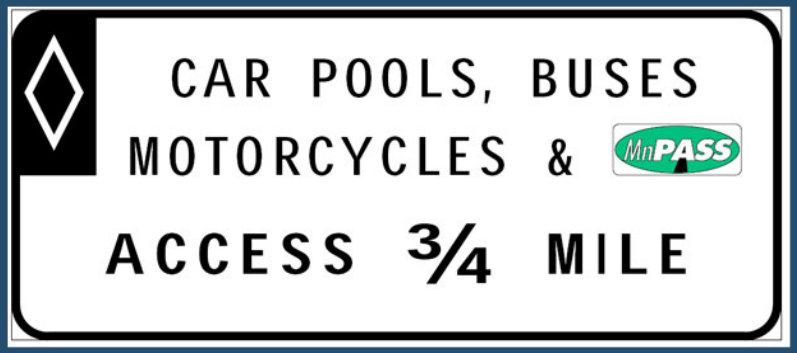
- Outcome: congestion free express lane from Burnsville Parkway to downtown Minneapolis, and commuter choices to avoid congestion
- Transit enhancements
  - Park and ride
  - Parking structures
  - Technology
  - MARQ2
- I-35W UPA Project Budget: $65.7M
  - Resurfacing - Sign Structures
  - Technology
  - Fiber

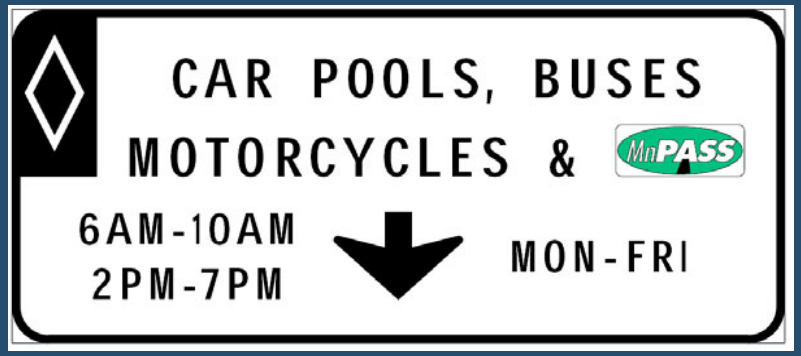
Innovative Use of Technology and Infrastructure

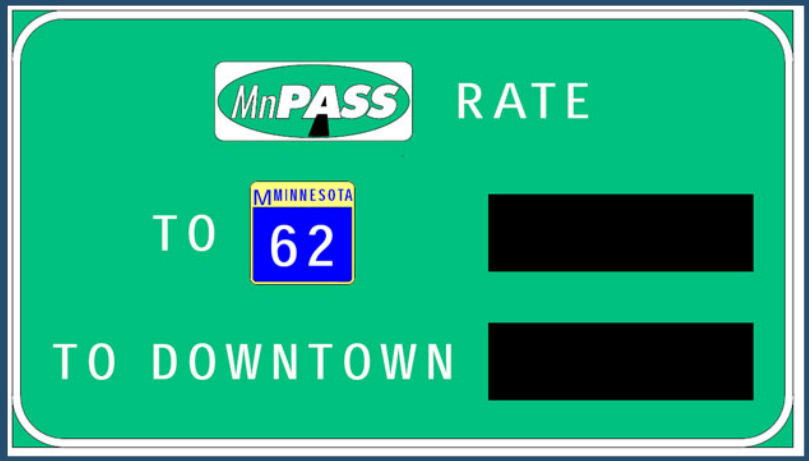


Managed Lanes
And Priced Dynamic Shoulder Lane (PDSL)

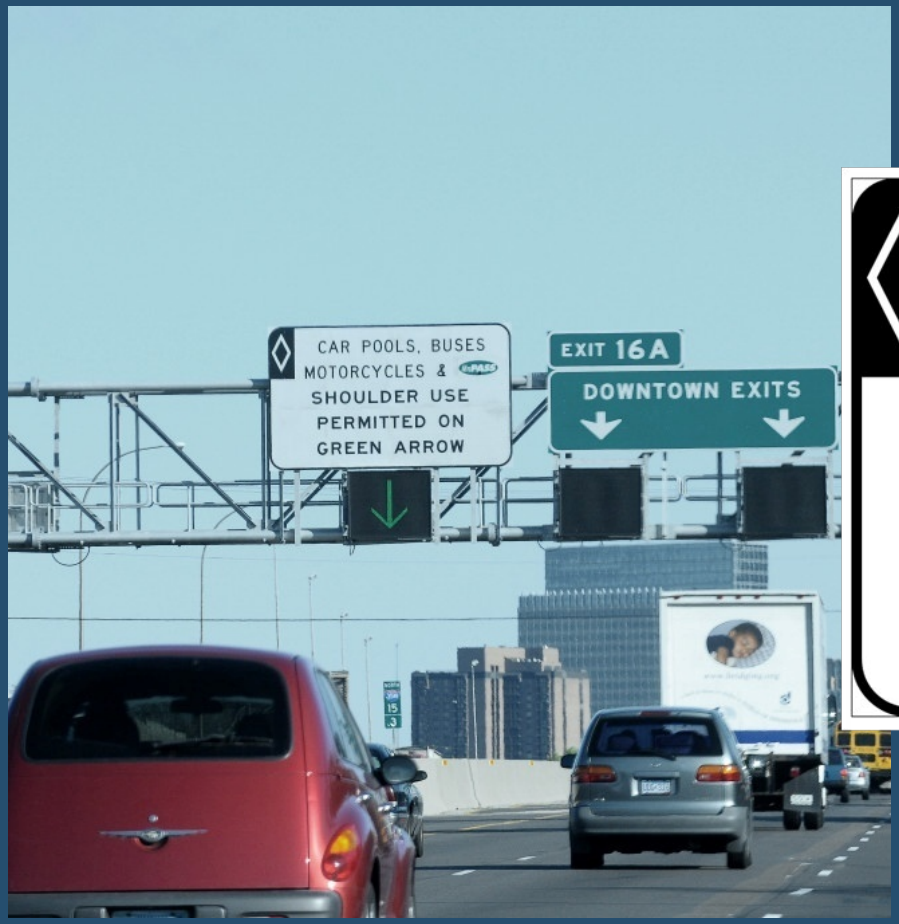
I-35W HOT Lane Signing

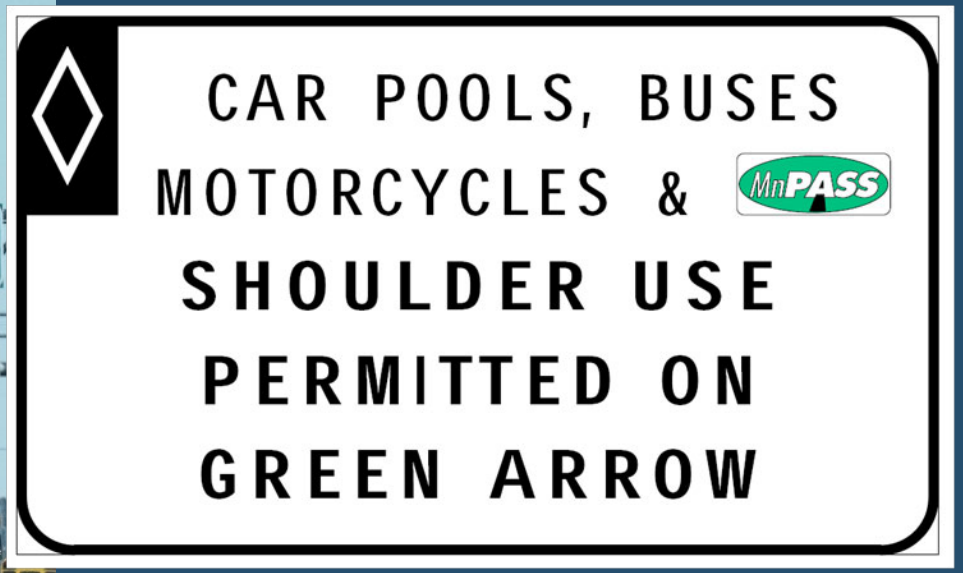




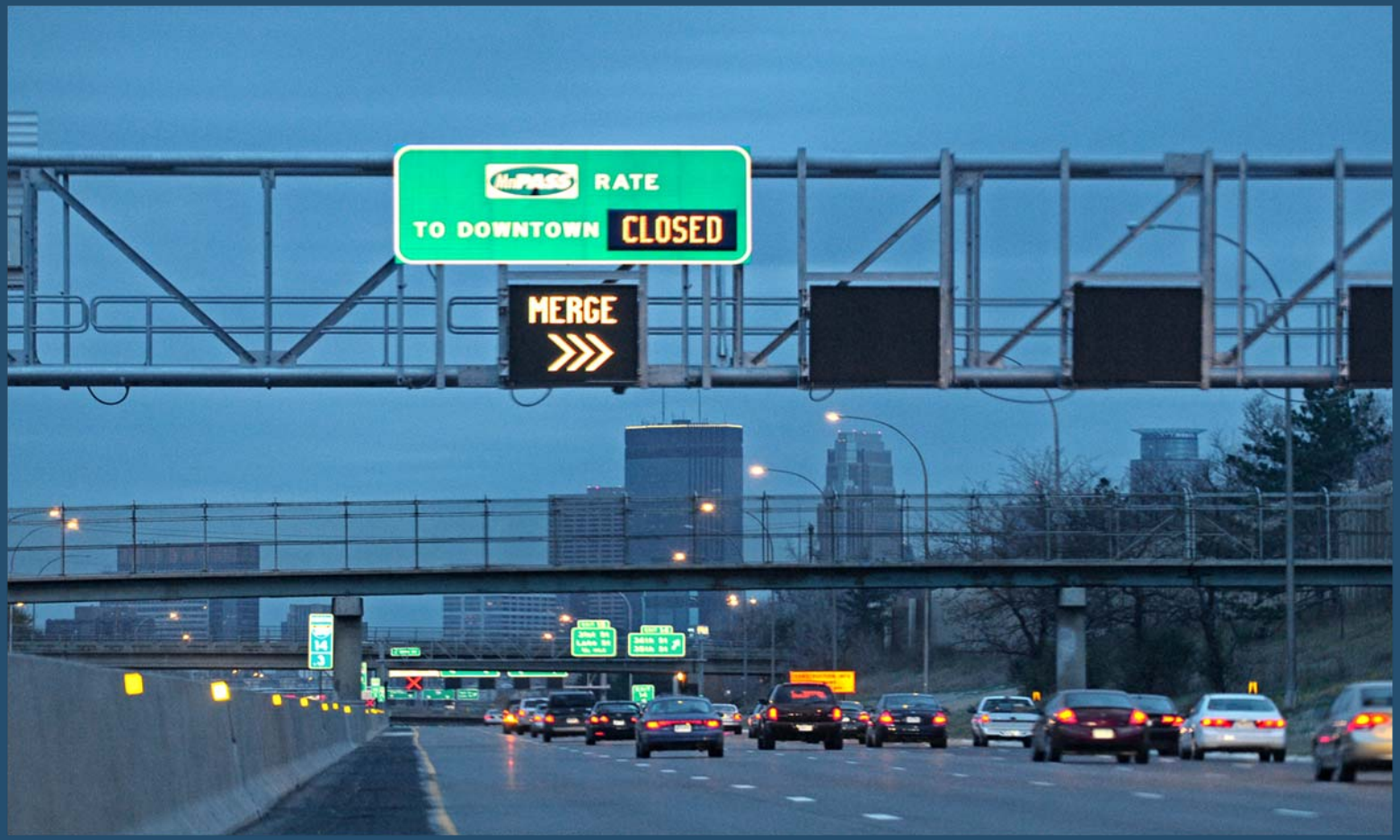


I-35W MnPASS: Active Traffic Management PDSL Open





I-35W MnPASS: Active Traffic Management
PDSL Closed



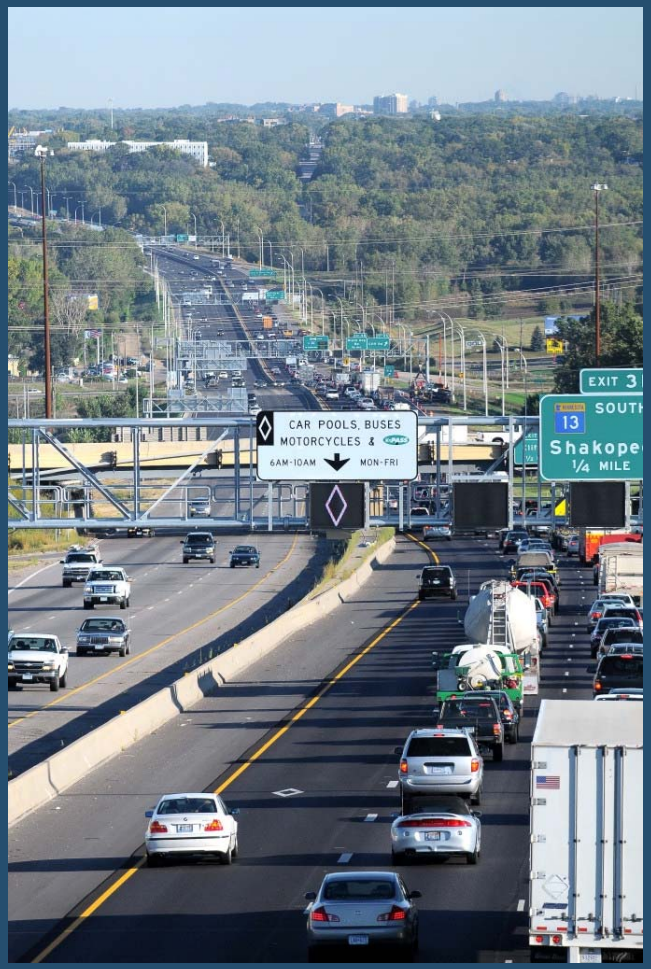
I-35W MnPASS: In Pavement Lighting PDSL Closed

I-35W MnPASS: In Pavement Lighting PDSL Open

I-35W MnPASS: Active Traffic Management

I-35W Intelligent Lane Control Signals

- ILCS located every ½ mile over every lane.
- A total of about 174 ILCS will be installed by the end of 2010.
- ILCS are a 4ft x 5ft full color matrix signs.
- Use of the ILCS is primarily for incident management and speed harmonization.
- Designates when the priced dynamic shoulder lane is open or closed along with additional signing.



ILCS Sign Options

Blank – default

Green – Lane Open

Flashing Yellow – Caution

Red X – Closed

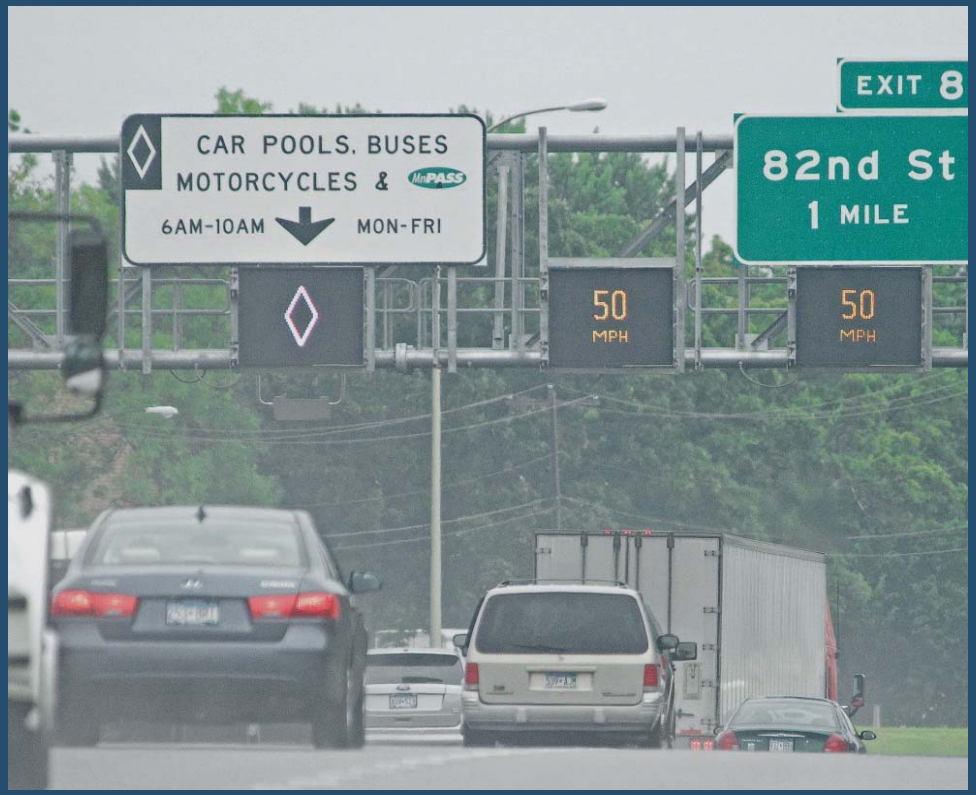
Yellow X – Closed Ahead

Merge

Speed Limit

White Diamond

Variable Speed Limits



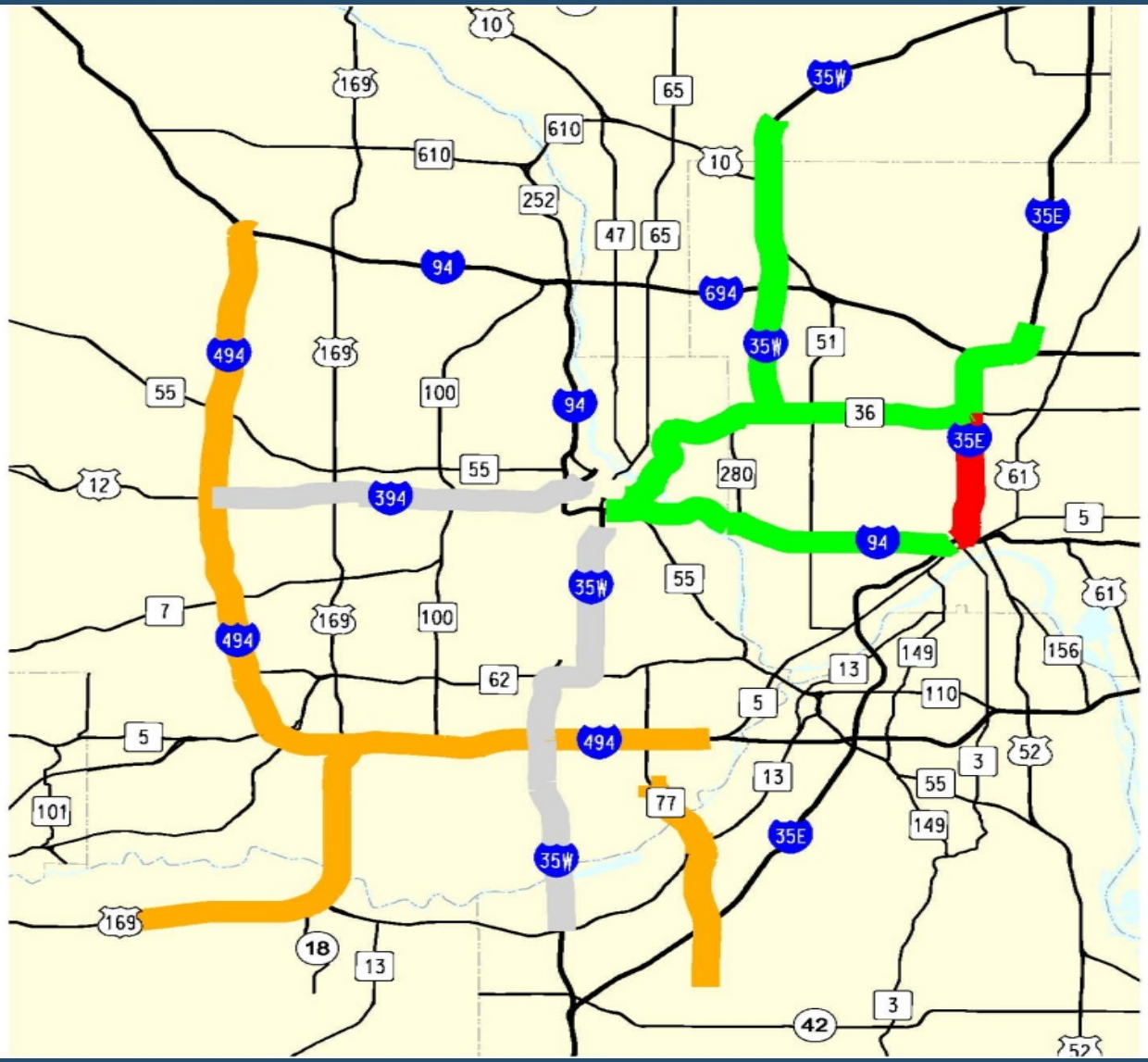
- Advisory Only
- Detection measures traffic speeds downstream
- Speeds are posted up to 1 ½ miles upstream

I-35W MnPASS Early Results

- 2500-3000 MnPASS users per day prior to Crosstown opening
- 6000 new transponders holders in I-35W corridor
  - About 150 new-account holders sign up for 35W per week
- Almost 2000 new transponder holders in I-394 corridor
- Substantially more on I-35W once Crosstown Commons opened

What's Next for Managed Lanes and Congestion Pricing in MN?

- All existing HOV lanes converted to HOT
- Seeking MnPASS expansion opportunities under several design concepts:
  - 2 miles extension of I-35W HOT lane in 2011
  - Implementing managed lanes and shoulders on I-94 in 2011
  - Studying MnPASS lane using movable barrier on major river crossing
  - More dynamic shoulders under consideration
- MnPASS Phase Study prioritizing system expansion areas



MnPASS System Study Recommendations

MnPASS Existing

MnPASS Tier 1

MnPASS Tier 2

MnPASS Tier 3

Winning Support Is Key Challenge

- 1993 Public-Private Partnership Law
- 1995 TranSmart tolling initiative
- 1997 Minnesota Road Pricing Study
- 1997 First attempt at MnPASS
- 1998-2002 Value Pricing Policy Debate
- 2003 HOV to HOT Conversion Legislation
- 2005 I-394 MnPASS launched
- 2009 I-35W MnPASS launched

I-394 MnPASS Funding and Financing

- Pricing implemented to better manage corridor, not raise revenue
- Early expectations of revenue generation
- Project revenue exceeds operating expenses
- Law requires payback of capital funds
- Manage expectations

Equity

- Early on the project was tagged with Lexus Lane name
- First MnPASS attempt suffered from monthly tag start-up concept
- Second attempt went to electronic tag
- No discernable equity issues have arisen
- Project ensures high level of performance for transit and HOVs

Technology

- I-394 uniquely suited
- Region's most wired facility
- Required installation of MnPASS pricing signs
- Development of customer service center
- Supported by RTMC

Enforcement

- Unique problem required unique solution
- Read-write transponders essential to success (not interoperable)
- Police embraced the technology
  - High level of service
  - Many tools
  - Effective…, violations at 5%

Lessons Learned

- Public will support if shown the benefits:
  - A low cost and sustainable congestion free alternative
  - Added capacity and performance when capacity is most needed
  - Choice to avoid congestion
  - Guaranteed trip time reliability for commuters
- Must continue to market
- Answer every question

Lessons Learned

- Political leadership is essential
- Pricing projects must work from day one
- Enforcement must be effective
- Outreach, education and marketing are critical for success
- Pricing projects are more likely to generate support if linked to transit improvements
- Nothing succeeds like success!