ATM in Minnesota During Weather Events

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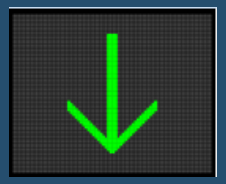
Active Traffic Management

IIntelligent Lane Control Signals

- ILCS located every ½ mile over every lane.
- ILCS are a 4ft x 5ft full color matrix signs.
- Use of the ILCS is for incident management , speed harmonization and priced dynamic shoulder lane.
- I-35W – about 190 ILCS
- I-94 – about 110 ILCS

ILCS Sign Options

Blank – default



Green – Lane Open

Flashing Yellow – Caution

Red X – Closed

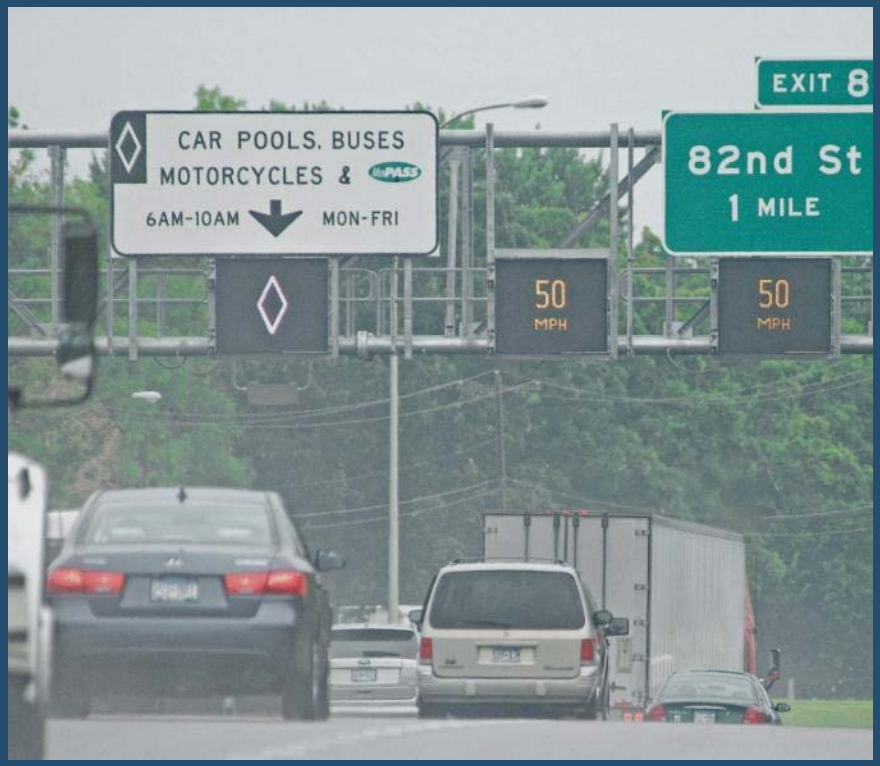
Yellow X – Closed Ahead

Merge

Speed Limit

White Diamond

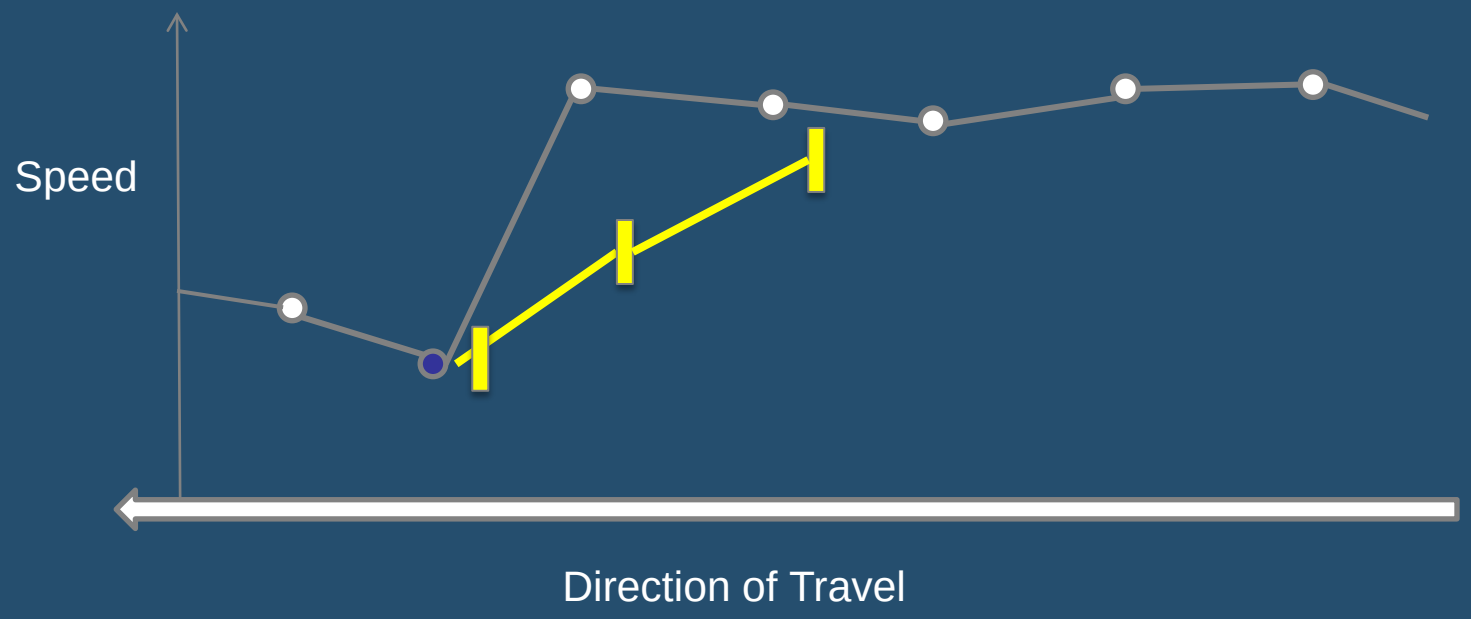
Variable Speed Limits



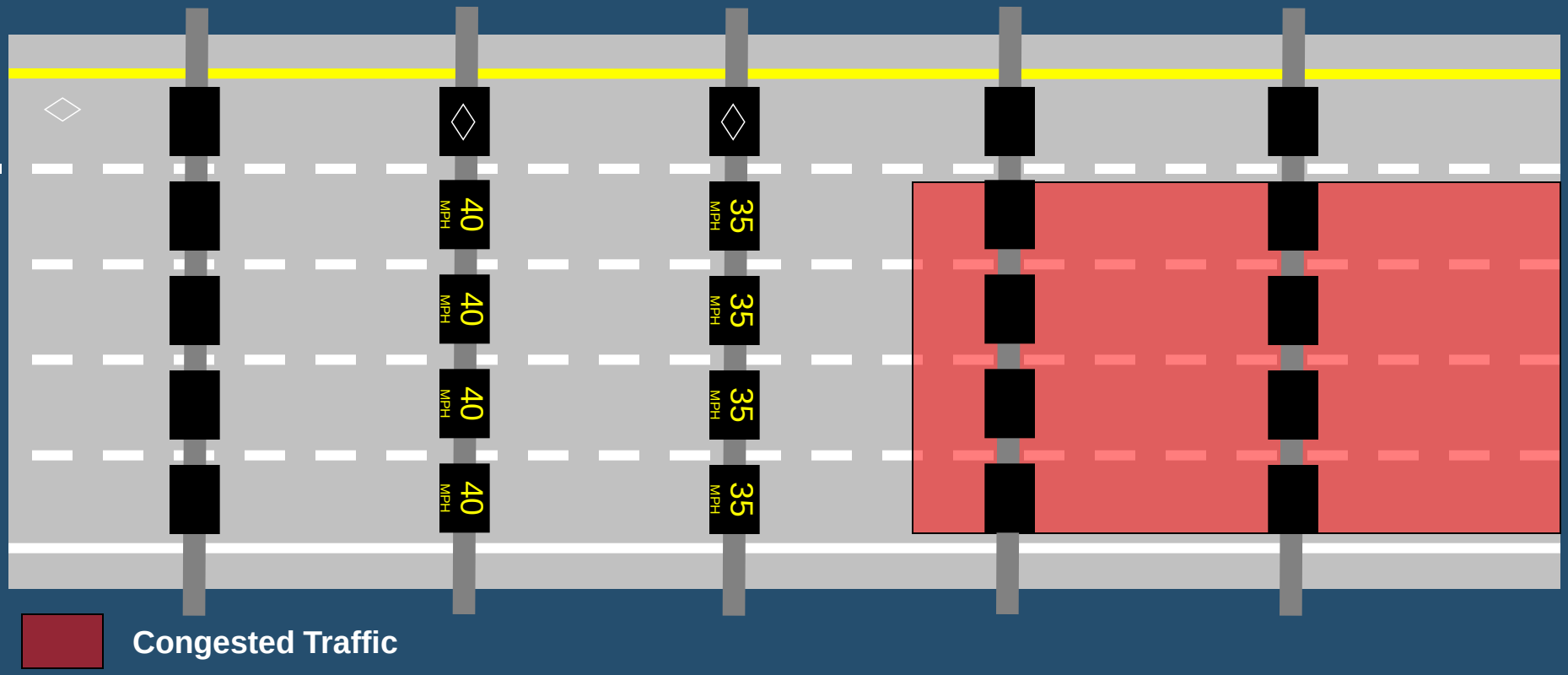
- Advisory Only
- Detection measures traffic speeds downstream
- Speeds are posted up to 1 ½ miles upstream

Overview of VSL Control

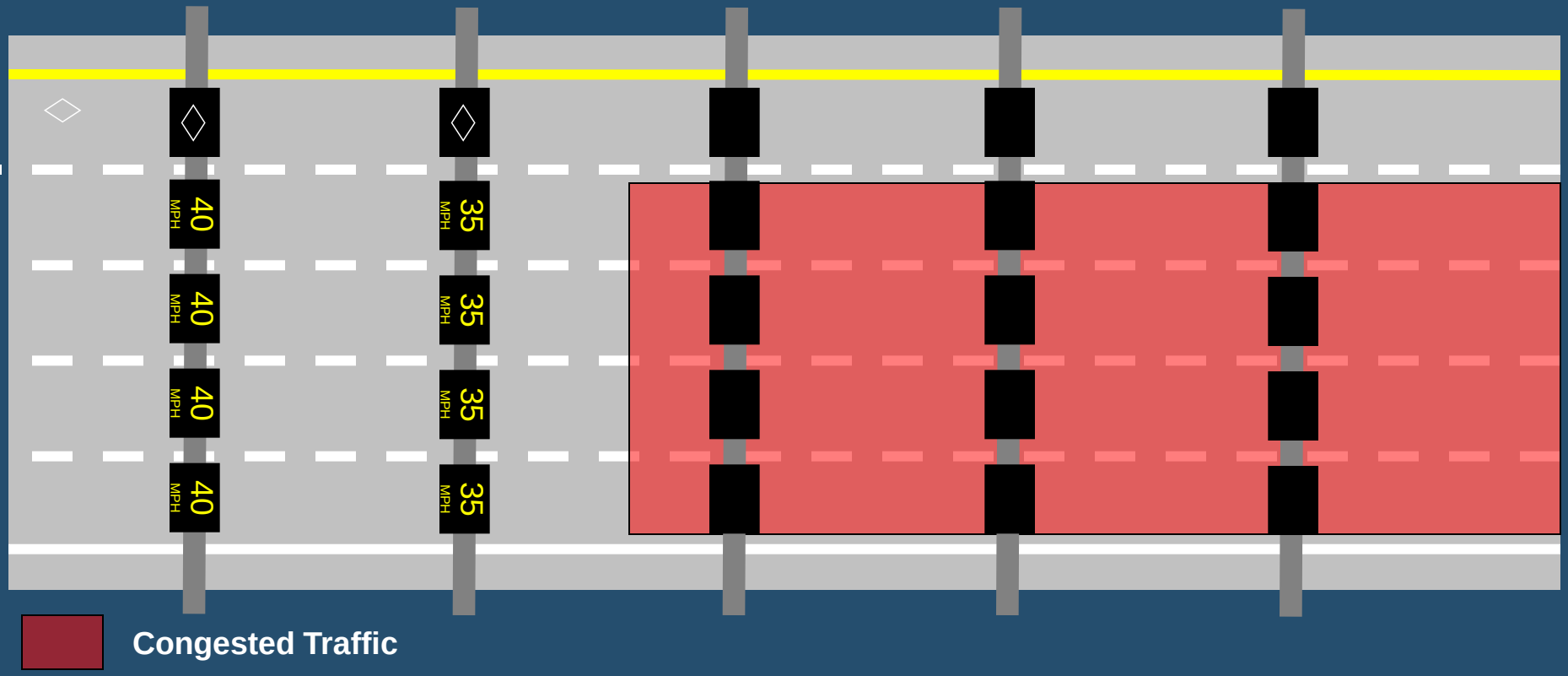
- Goal is to mitigate shock wave propagation from downstream bottleneck by gradually reducing speed levels of incoming traffic flow.



Advisory Variable Speed Limits



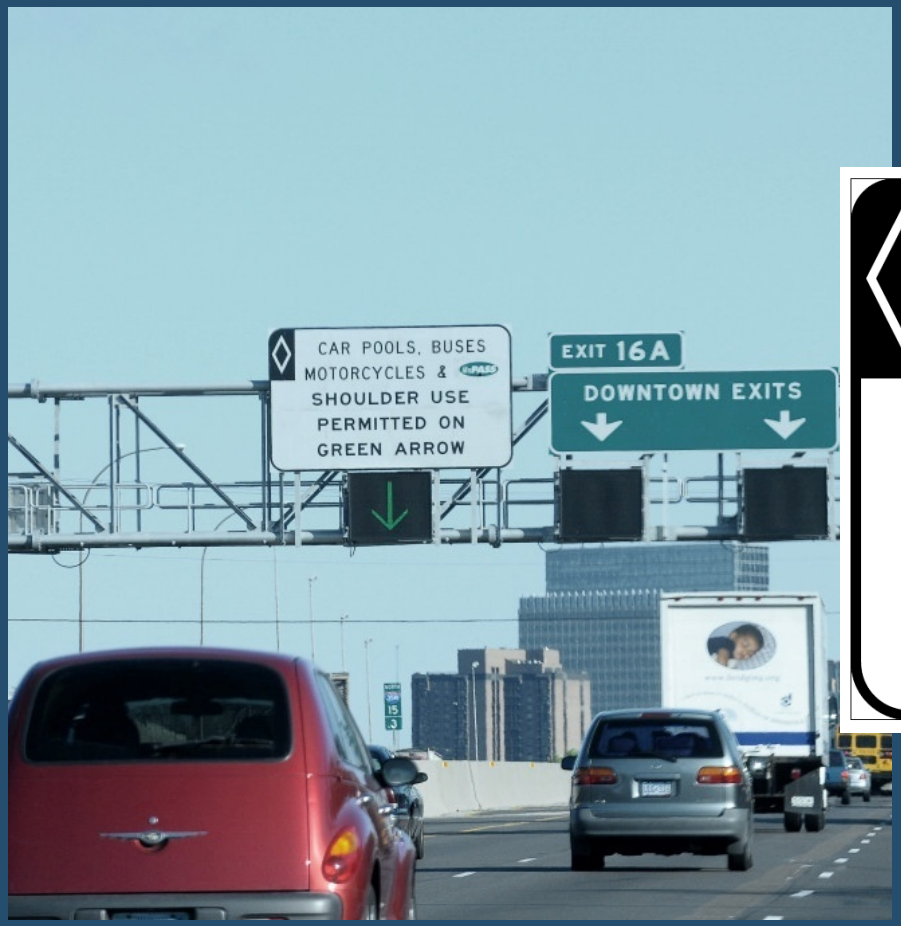
Advisory Variable Speed Limits

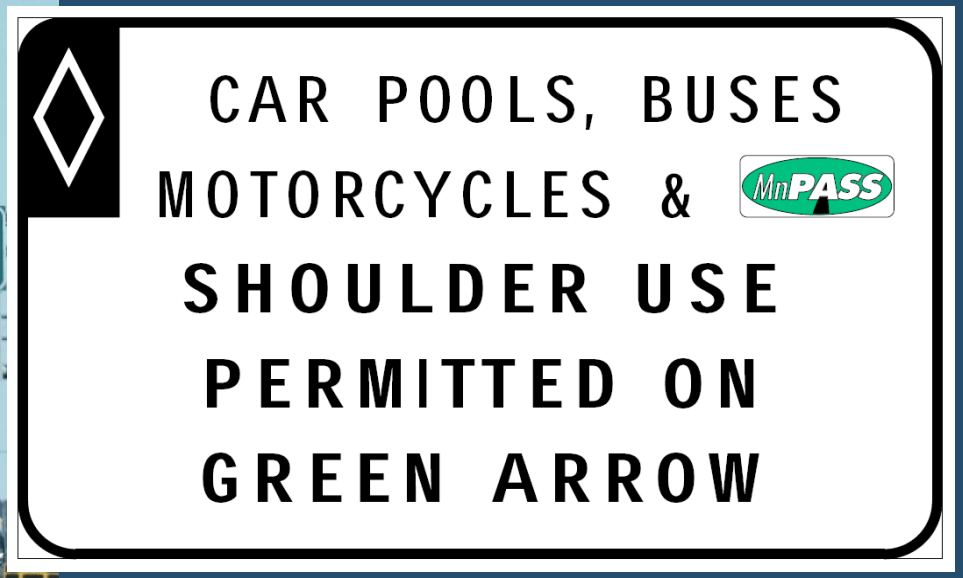


VSL Control During Weather

- VSL system uses a constant deceleration rate to determine advisory speed limit values.
  - Preferred deceleration rates are different during weather.
- Upper speed limit cap is 5 MPH less than posted speed limit.
  - System posting 60 MPH during snow events.
  - Have since changed upper speed limit cap to 50 MPH
- Developing new techniques for VSL operations during weather events.

I-35W MnPASS: Active Traffic Management PDSL Open





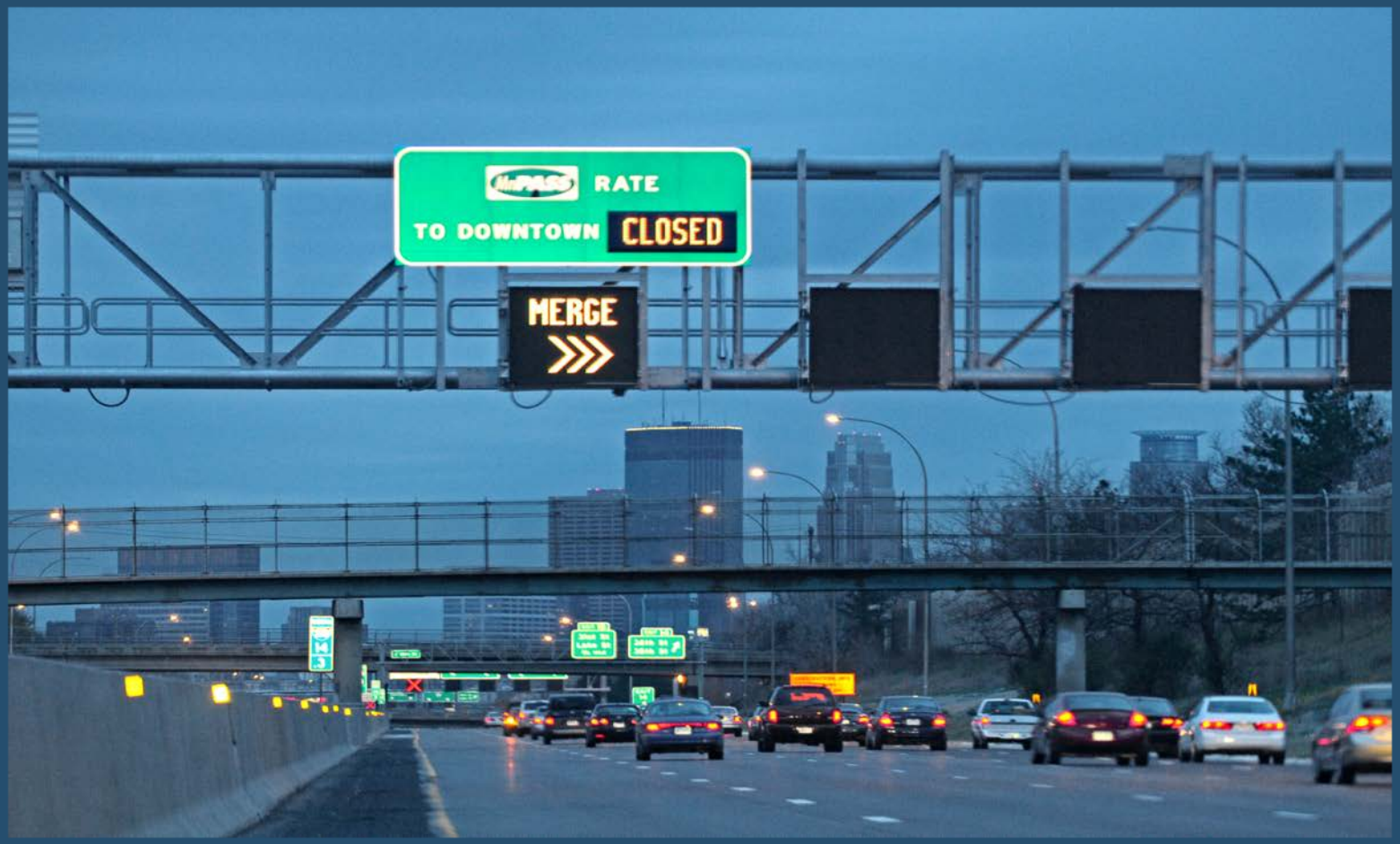
Priced Dynamic Shoulder Lane (PDSL):

Segment 3: 3 miles

- Priced Dynamic Shoulder Lane North of 42nd St on NB 35W
- Maintains existing 4 lanes with an added PDSL Lane
- Effectively extends the MnPASS lane to downtown Minneapolis using existing road space

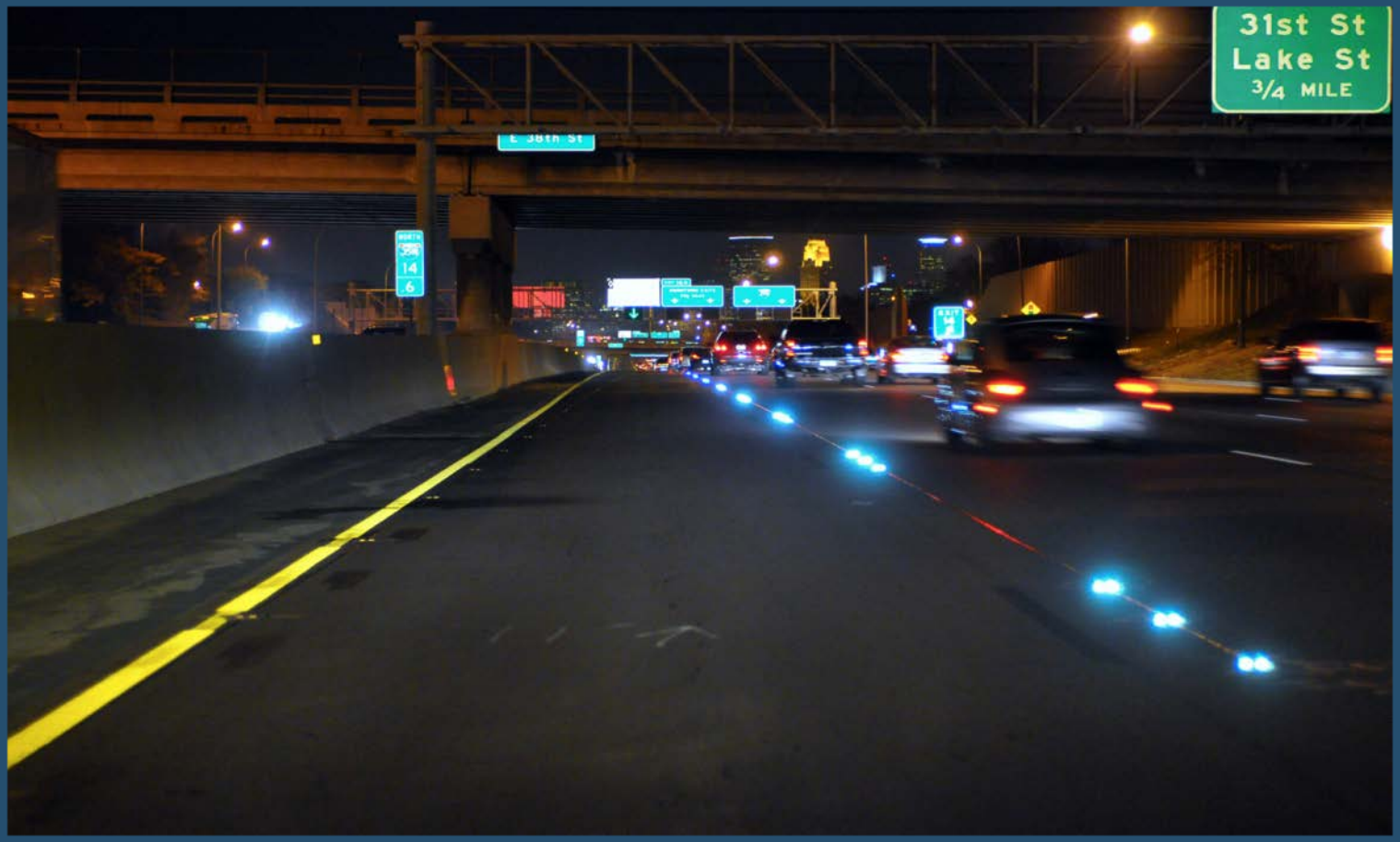
Innovative Use of Technology and Infrastructure

I-35W MnPASS: Active Traffic Management PDSL Closed

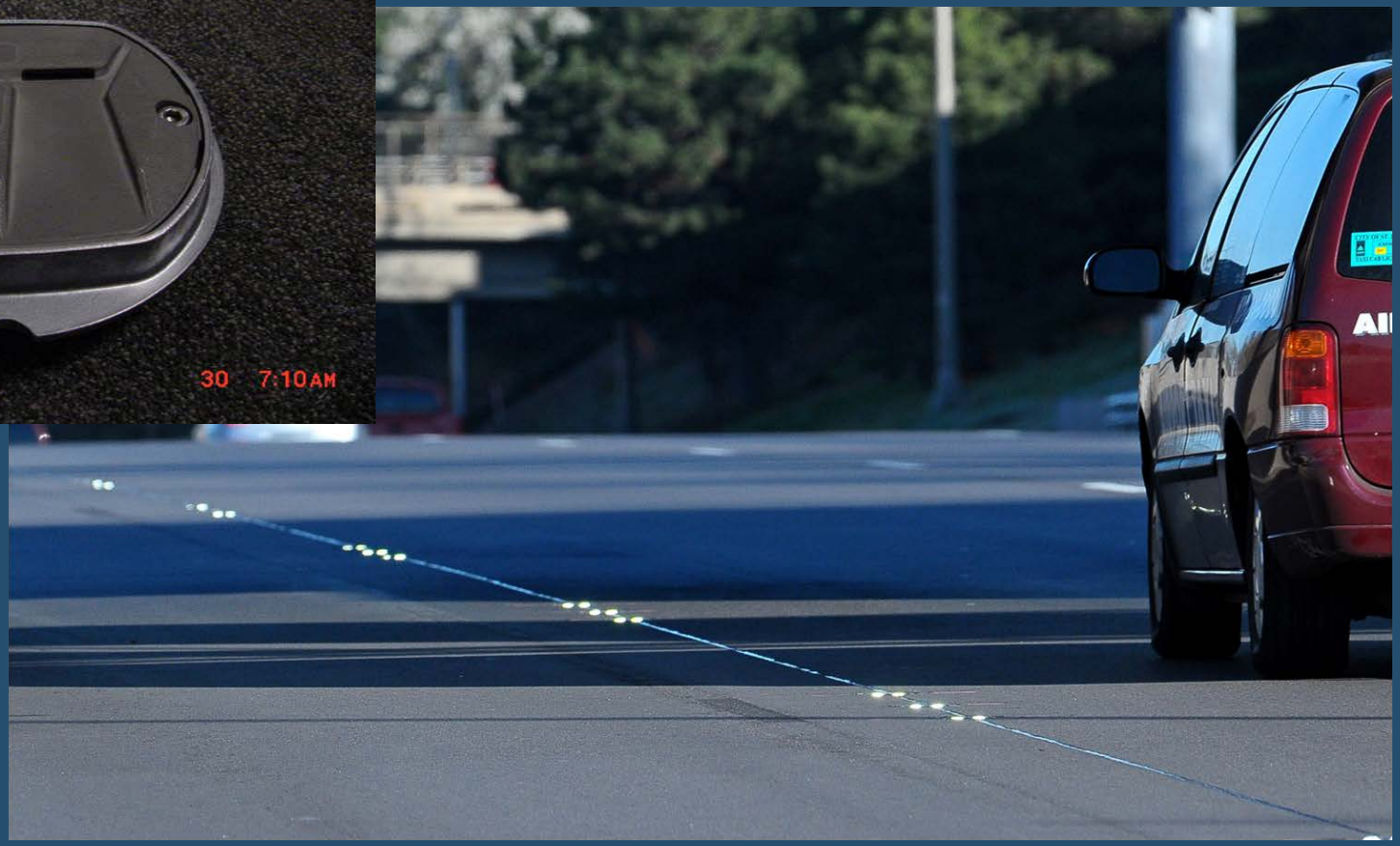


I-35W MnPASS: In Pavement Lighting PDSL Closed

I-35W MnPASS: In Pavement Lighting PDSL Open



I-35W MnPASS: In Pavement Lighting



I-35W MnPASS: In Pavement Lighting Corrosion and Failure

PDSL During Snow & Ice

- PDSL is left open during snow & ice events
- Traffic helps to spread de-icing material

ATM During Rainfall Event

- Shoulder designed to allow some ponding during heavy rainfall.
- Section of I-35W where MnPASS lane is on the old inside shoulder.
- Investigating the use of rainfall sensor to deploy warning message or advisory speed limit.

Questions?

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