

Surveys of MnPASS HOT lanes users and commuters in the I-35W South corridor indicated support for the HOT lane as a traffic management tool and satisfaction in using the lanes. In addition, interviews and focus groups with Minnesota State Patrol Officers, Freeway Incidents Response Safety Team (FIRST) operators, and bus operators indicated mostly positive responses to the MnPASS lanes. For example, bus operators noted trip-time savings and easier driving with the MnPASS lanes.

The UPA transit projects enhanced the travel choices for commuters and performance of the transit system:

- Ridership on I-35W South routes increased by 13 percent, followed by 8 percent on Cedar Avenue routes, and 7 percent on I-35W North routes.
- The MARQ2 lanes have improved bus travel speeds through downtown Minneapolis. For example, morning peak-period bus operating speeds on 2nd Avenue were 4.3 mph in 2008, compared to 7.4 mph in 2011, representing a 72 percent increase, and similar increases in speed were realized in the afternoon. To take

advantage of the added capacity and higher operating speeds, other express and limited express routes were moved to the MARQ2 lanes, resulting in a 23 percent increase in the morning peak period and a 52 percent increase in the afternoon peak period. The MARQ2 lanes benefit more than just buses operating on I-35W. A total of 76 express and limited express routes use the MARQ2 lanes, providing trip-time savings and trip-time reliability to bus riders throughout the metropolitan area. Ridership on express routes operating on the MARQ2 lanes experienced a 9 percent increase, while ridership on non-MARQ2 routes grew by only 2 percent.

For the Minnesota UPA's innovative telecommuting project, eWorkPlace, as of June 2011 when the program concluded, 48 employers and 4,212 employees were participating. It was estimated that 420 participants would drive alone on I-35W when not teleworking. Based on the participant survey data, over 1,260 single-occupancy vehicle trips per work week were eliminated on I-35W from the eWorkPlace program.

**Non-Technical Success Factors and Lessons Learned.** Stakeholder interviews and workshops provided insight into the non-technical success factors and lessons learned from the Minnesota UPA, including the following highlights:

- The Minnesota UPA built on strong existing partnerships among the local agencies. New and expanded partnerships were also developed through the Minnesota UPA.
- There was a strong commitment from all agencies at all levels throughout the process. There was bi-partisan support for the application from the Minnesota Legislature, and the needed funding was appropriated.
- Clear authority and responsibilities existed both between and within agencies.
- The amount of federal funds, and the threat of losing those funds, was clearly a driver. The mix of funding and the flexibility in applying the funds were also important factors in the deployment process.
- The real and meaningful deadlines associated with the UPA created motivation for all the local partners. No one individual or agency wanted to let the team down.
- Multimodal solutions do work.
- Simple solutions, such as the Transit Advantage bus bypass ramp, were as important as major solutions such as the MARQ2 and MnPASS lanes.
- Good planning does not just sit on a shelf – it prepares an agency and a community for opportunities.
- Constant and open communications were critical throughout the process, across all groups, and with policy makers and the public.
- The expectations of the local partners were met. The Minnesota UPA projects were delivered on-time and under budget. The reaction to the projects has been positive. The projects meet current needs and provide capacity for future growth.

#### For Further Information

Minnesota UPA website: <http://www.dot.state.mn.us/upa/>

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## UPA/CRD Annual Report

### Minnesota: Innovative Choices for Congestion Relief

#### LOCAL PARTNERS:

- Minnesota Department of Transportation
- Twin Cities Metropolitan Council
- Metro Transit
- City of Minneapolis
- Minnesota Valley Transit Authority
- Anoka, Dakota, Hennepin and Ramsey Counties
- University of Minnesota: Center for Transportation Studies and Hubert H. Humphrey School of Public Affairs.
- Four Transportation Management Organizations

#### STRATEGIC OBJECTIVES:

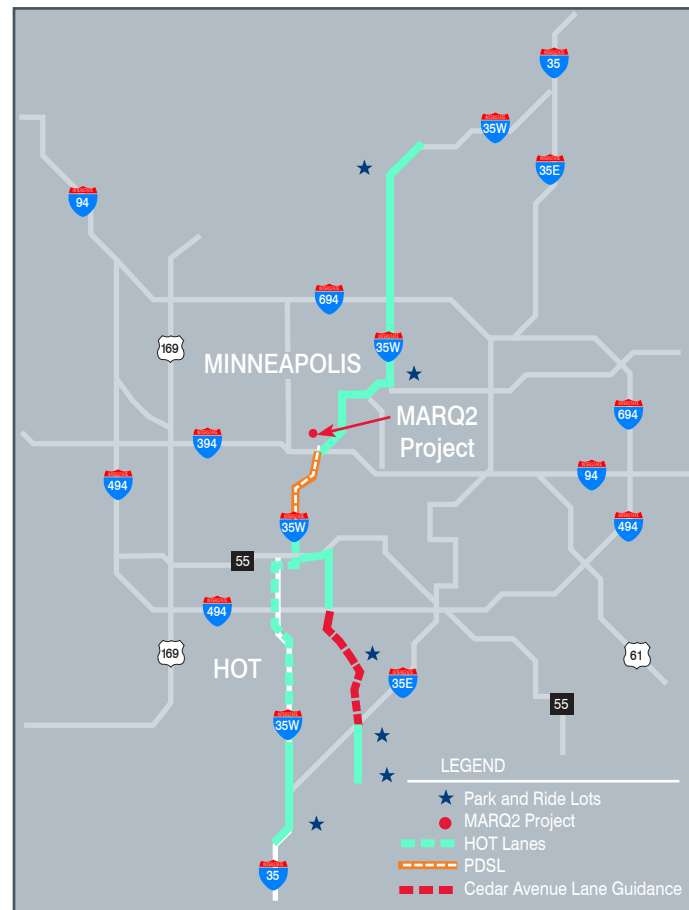
Minnesota UPA projects focus on reducing traffic congestion in the I-35W corridor and in downtown Minneapolis. ITS technologies underlie many of the Minnesota UPA projects, including those centered on tolling, real-time traffic and transit information, active traffic management, and a driver assist system for shoulder-running buses.

Urban Partnership Agreement/Congestion Reduction Demonstration Programs of the U.S. Department of Transportation

# Minnesota: Innovative Choices for Congestion Relief

## TIMELINE

All of the Minnesota UPA projects are in operation. The first project, the Transit Advantage Bus Bypass at the Highway 77/Highway 62 intersection, was implemented in December 2008. Most of the transit projects and the expansion of the existing high-occupancy vehicle (HOV) lane to a high-occupancy toll (HOT) lane and the priced dynamic shoulder lane (PDSL) on I-35W South were operational by the end of 2009. The new HOT lanes in the Crosstown Commons section of I-35W South opened in November 2010.



downtown Minneapolis. The HOT lane in the southbound direction is approximately 14 miles.

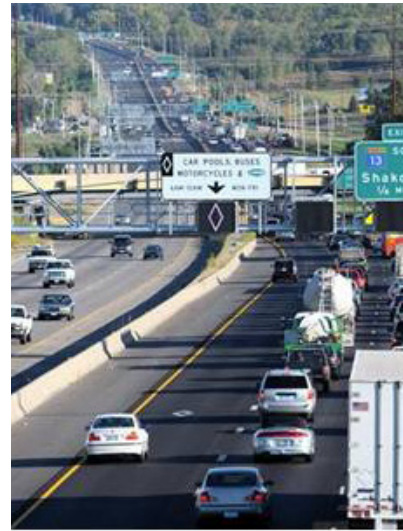
### ■ Park-and-Ride Facilities

– Six new or expanded park-and-ride facilities adding 2,347 new parking spaces were constructed: two on I-35W north of downtown Minneapolis, one on I-35W south of downtown Minneapolis, and three on Cedar Avenue. New routes and expanded service on existing routes were implemented from the park-and-ride lots, including to downtown Minneapolis and the University of Minnesota.

■ **New Buses** – 27 new buses, which include a mix of standard, hybrid, and coach buses, were purchased and operate on the new and expanded express bus services from the I-35W North park-and-ride lots and other areas.

■ **Downtown Minneapolis Dual Bus Lanes on Marquette and 2nd Avenues (MARQ2)** – Improvements included wider sidewalks and improved lighting, landscaping, passenger waiting areas, and next bus arrival signs. The contraflow lanes opened in December 2009.

■ **Transit Advantage Bus Bypass Lane** – A “Transit Advantage” bus bypass lane/ramp was constructed to facilitate the movement of northbound buses at the Highway 77/Highway 62 intersection. The new bus-only left-turn lane and new traffic signals were implemented in December 2008, allowing buses to make a left turn from Highway 77 to Highway 62.



I-35W South MnPASS HOT Lane



MARQ2 Lanes in Downtown Minneapolis

### ■ Driver Assist System (DAS) for Shoulder Running Buses Lane Guidance System

– The Minnesota Valley Transit Authority (MVTA) implemented a DAS on Cedar Avenue. The DAS provides feedback to bus operators through a “heads up” windshield display, a vibrating seat, and an active steering wheel. The project included the development and use of a driver training simulator, equipping 10 MVTA buses with the DAS technology, and operating the buses in regular service.

### ■ Real-Time Transit Information and Real-Time Traffic and Transit Information

– Real-time transit information, including next bus arrival information, is provided along the MARQ2 lanes in downtown Minneapolis and park-and-ride facilities. Dynamic message signs (DMS) along I-35W display real-time traffic and transit travel times to downtown Minneapolis and information on available park-and-ride lots.

### ■ Active Traffic Management (ATM)

– The ATM components include intelligent lane control signals (ILCS), along with the real-time transit and traffic DMS, collectively termed “Smart Lanes” by MnDOT. The system includes 174 ILCS at gantries spaced approximately every 0.5 miles on I-35W South from Burnsville to downtown Minneapolis. Primarily for incident management and speed harmonization, the ILCS also designate when the MnPASS HOT lanes, including the PDSL, are in operation. Loop detectors measure traffic speeds downstream of the ILCS signs. Speeds are posted up to one and one-half miles upstream and are advisory only.

■ **Telecommuting** – The telecommuting element, branded eWorkPlace, focuses on the use of Results Only Work Environment (ROWE), telework, and flexible work arrangements. ROWE, which provides flexibility in work locations and hours, is used by Best Buy Corporation headquartered in Minnesota.

## Independent Evaluation

■ The national evaluation of the Minnesota UPA projects was initiated in 2008. The final report, covering the period from 2008 to 2011, was completed in January 2013.

## RESULTS TO DATE

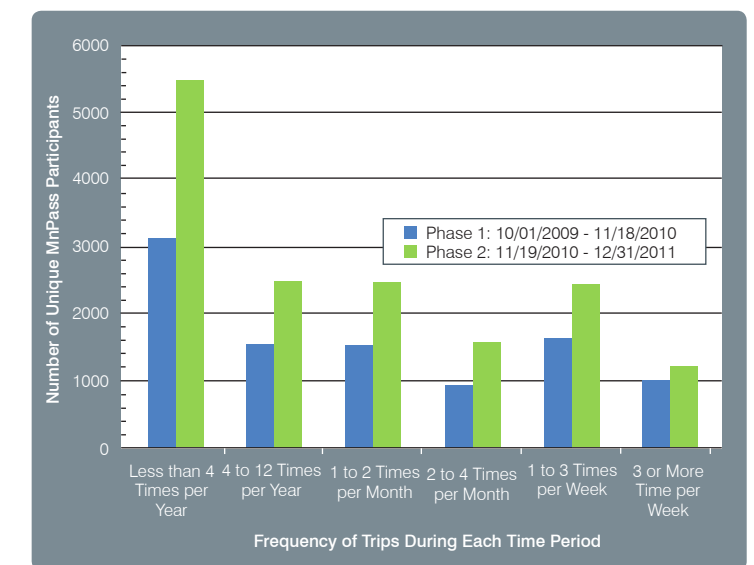
The number of MnPASS accounts and use of the I-35W HOT lanes has grown between October 2009 to October 2012 from 3,287 to 8,869 I-35W active MnPASS accounts and from 3,649 to 10,209 active I-35W MnPASS transponders. Over the same three-year period, the number of total monthly I-35W MnPASS HOT lane trips more than tripled from 25,024 to 83,485. Total monthly revenue during that period grew almost tenfold reaching \$176,636 in October 2012.

## I-35W South MnPASS Accounts, Trips, and Revenue

	October 2009	November 2011	October 2012
Number of I-35W MnPASS Active Accounts	3,287	7,397	8,869
Number of I-35W MnPASS Transponders	3,649	8,425	10,209
Monthly I-35W MnPASS Trips			
Northbound Trips	15,913	38,972	52,735
Southbound Trips	9,111	21,965	30,750
Total Monthly Trips	25,024	60,937	83,485
Total Monthly Revenue	\$19,609	\$94,619	\$176,636

HOT-lanes users realize trip-time savings and trip-time reliability compared to travelers in the general-purpose lanes. Vehicles using the lanes has increased with the HOT designation and the user mix has changed. In the section with an HOV lane prior to the UPA, the number of morning peak period vehicles increased from 2,068 vehicles in 2008 to 2,815 in 2011. MnPASS users account for the increase in vehicles, with approximately 370 fewer carpools using the lanes. The results of a survey of MnPASS users indicate that 85 percent previously drove alone on I-35W, 8 percent drove alone on another roadway, 2 percent carpooled in the HOV lane, 2 percent did not make the trip, 1 percent rode the bus, and 1 percent drove alone in the HOV lane.

The chart below categorizes users of the I-35W MnPASS HOT lanes by frequency of usage. Users in all categories increased when the HOT lanes in the Crosstown Commons section opened, thereby providing an uninterrupted HOT-lane trip for many more travelers.



## ACCOMPLISHMENTS THROUGH 2012

### Projects

■ **HOT Lanes and PDSL** – The existing HOV lanes on I-35W from Burnsville Parkway to I-494 were expanded to HOT lanes and opened to travelers with MnPASS transponders in September 2009. The PDSL, which operates northbound on I-35W from 46th Street to downtown Minneapolis, also opened in September 2009. The opening of the new HOT lanes in the Crosstown Commons section of I-35W in November 2010 provided a 16-mile dynamically-priced HOT lane in the northbound direction from Highway 13 to