



# 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 Institute 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, transit signal priority, and guidance technologies for shoulder-running buses.

# Minnesota: Innovative Choices for Congestion Relief

## 2010 ACCOMPLISHMENTS

### Projects

#### ■ High Occupancy/Toll (HOT) Lanes

– The existing High Occupancy Vehicle lanes on I-35W from Burnsville Parkway to I-494 were expanded to HOT lanes and opened to travelers with MnPASS transponders on September 28, 2009. New HOT lanes were added on I-35W from I-494 to 46th Street as part of the reconstruction of the Crosstown Commons Section and became operational on November 19, 2010. The dynamically priced HOT lanes are in operation from 6:00 a.m. to 10:00 a.m. in the northbound direction and from 2:00 p.m. to 7:00 p.m. in the southbound direction. Carpools with two or more people (2+), vanpools, buses, and motorcycles continue to

use HOT lanes for free. The lanes are open to all traffic at other times.

#### ■ Price Dynamic Shoulder Lane (PDSL)

– The PDSL opened to travelers on September 28, 2009, and operates northbound on I-35W from 46th Street to downtown Minneapolis from 6:00 a.m. to 10:00 a.m. and from 2:00 p.m. to 7:00 p.m. The lanes are open to the same user groups as the HOT lanes. The PDSL reverts to a shoulder at other times and is not open to traffic.

#### ■ Park-and-Ride Facilities

– A total of six new or expanded park-and-ride facilities were constructed as part of the UPA project. Two of the park-and-ride facilities are on I-35W north of downtown Minneapolis, one is on I-35W south of downtown Minneapolis, and three are on Cedar Avenue. The

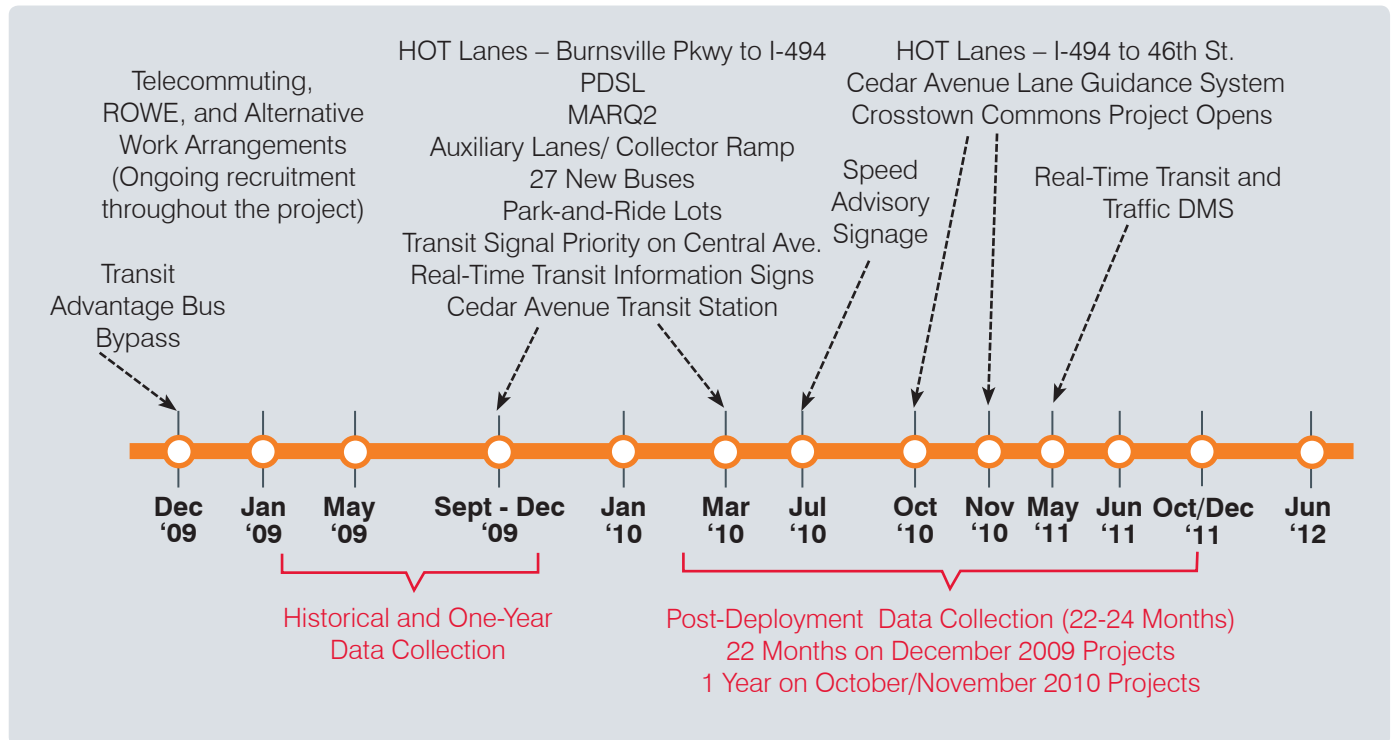
six park-and-ride facilities added a total of 2,347 new parking spaces.

New routes and expanded service on existing routes were implemented from the park-and-ride lots. New express routes from the new Lakeville park-and-ride lot to downtown Minneapolis and from the expanded 95th North park-and-ride lot to the University of Minnesota were initiated in September 2009. In addition, Go-To transit passes are cross-marketed with the new I-35W MnPASS registration.

#### ■ New Buses

– 27 new buses, which include a mix of standard, hybrid, and coach buses, were purchased as part of the Minnesota UPA. These vehicles are in operation on the new and expanded express bus services from the I-35W North park-and-ride lots.

## Timeline



# Minnesota: Innovative Choices for Congestion Relief

■ **Downtown Minneapolis Dual Bus Lanes on Marquette and 2nd Avenues (MARQ2)** – Double contraflow bus lanes have been constructed on Marquette and 2nd Avenues in Minneapolis to replace existing single contraflow lanes on each avenue. Wider sidewalks and improved lighting, landscaping, and passenger waiting areas are part of the project. The contraflow lanes were opened in December 2009 to buses

on routes previously operating on Marquette and Second Avenues.

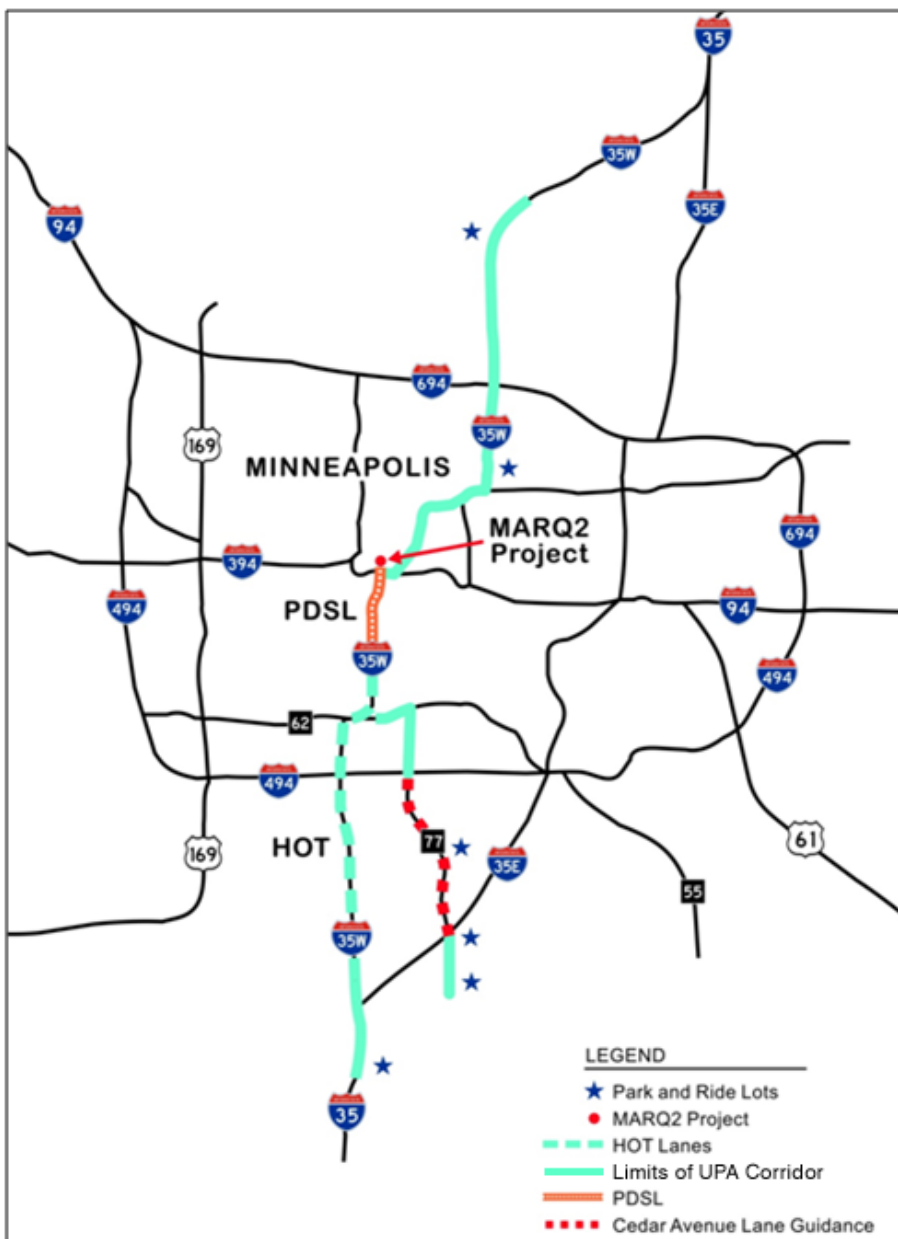
■ **Transit Advantage Bus Bypass Lane** – A “Transit Advantage” bus bypass lane/ramp was constructed to facilitate the movement of northbound buses at the Highway 77/Highway 62 intersection. The new bus-only left-turn lane and new traffic signals were implemented in December 2009, allowing buses to make a left turn from Highway 77 to Highway 62. The Transit

Advantage project currently saves buses 60 to 90 seconds during the morning peak hours.

■ **Cedar Avenue Lane Guidance System** – A lane guidance system for shoulder-running buses has been deployed on Cedar Avenue. The system includes lateral-guidance assistance, collision avoidance, and automatic vehicle location system technologies. Lane assistance feedback is provided to the bus operator through a windshield display, a vibrating seat, and an active steering wheel. A driver simulator was developed for training bus operators in the use of the system.

■ **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 along I-35W display real-time traffic and transit travel times to downtown Minneapolis and information on available park-and-ride lots. The Transit Commuter Information System (TCIS) that provides auto-bus travel time messages near park-and-ride lots on the south end of the I-35W corridor will be fully operational by spring 2011 with the completion of the Crosstown Commons in November and testing of the time algorithms.

■ **Transit Signal Priority** – Transit signal priority became operational in April 2010 on a stretch of Cedar Avenue in Minneapolis, in Columbia Heights, and at two intersections near the park-and-ride facility in Roseville.



- **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.

#### **Non-technical Support Activities**

- The local agencies have used a variety of outreach and public information techniques. Workshops, meetings, presentations, electronic newsletters, e-mail updates, and corridor tours were used to provide information to policy makers, businesses, residents, commuters, and other groups.

#### **Independent Evaluation**

- All evaluation plans were completed and posted on <http://www.upa.dot.gov/pub.htm#er>.
- All baseline data collected. Post-deployment data collection started in October 2009 and is continuing through September 2011.
- Presentations on evaluation results were presented at ITS America Annual Meeting June 2010.
- Early post-deployment results reported in Interim Technical Memo in September 2010.

### **For Further Information**

#### **Minnesota UPA website:**

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

#### **Minnesota UPA contacts:**

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## **RESULTS TO DATE**

### **Key Evaluation Findings Use of the I-35W HOT Lanes.**

- Over the 17-month period from July, 2009, to November, 2010, 5,373 I-35W MnPASS accounts were active. Individuals with MnPASS accounts may purchase multiple transponders. As of November 30, 2010, 6,073 transponders were assigned to I-35W MnPASS account holders.
- Use of the HOT lanes increased over the 17-month period. During October, 2009, a total of 24,754 trips were recorded in the I35 HOT lanes. During November, 2010, use levels had increased to a total of 47,147 trips.
- The monthly revenue for November, 2010 was \$54,141, compared with \$19,609 in October, 2009. In addition to MnPASS users, carpoolers, vanpoolers, buses, and motorcycles can use the HOT lanes for free. In May, 2010, approximately 2,100 carpools, vanpools, and buses were using the HOT lanes during the morning peak hours.
- The MARQ2 lanes in downtown Minneapolis have resulted in travel time savings for buses of between a few minutes to 10 minutes during the morning and afternoon peak periods.
- The Transit Advantage project saves buses 60 seconds to 90 seconds during the morning peak hour. The new and expanded park-and-ride lots and bus routes have attracted new riders.
- Between March, 2009 and March, 2010, 30 employers and more than 3,000 employees in the Twin Cities

were participating in eWorkPlace, resulting in overall reductions in commute trips.

### **Lessons Learned**

- The implementation of the Minnesota UPA projects occurred against a backdrop of the highest unemployment rates in the state and metropolitan area in recent times. The annual average not-seasonally-adjusted unemployment rate for the Minneapolis–St. Paul metropolitan area was 2.7 percent in 2000 and 7.8 percent in 2009. The high unemployment rates might have lowered use of the UPA transit, HOT lanes, and Telework program.
- Stakeholder interviews and a workshop highlighted institutional elements contributing to success of the proposal and deployment phases of the Minnesota UPA projects. These included building on strong existing working relationships among agencies, the collaborative culture, and the evolving roles of the various agencies. The significant level of Federal funding was also noted as a key motivating factor.

### **PLANS FOR 2011**

All of the Minnesota UPA projects have been implemented, with the exception of the real-time bus and automobile travel time message signs near park-and-ride lots on the south end of the I-35W corridor. These signs will be fully operational in the spring of 2011, after the testing of real-time algorithms for travel times in the HOT lanes and in the general-purpose freeway lanes in the new Crosstown Commons section.



U.S. Department of Transportation