Report to the Legislature on the Minnesota Urban Partnership Agreement

January 2013

Your Destination...Our Priority

Urban Partnership Agreement– An innovative partnership building a safe, reliable and modern transportation system

INTRODUCTION

The UPA is a series of projects funded by the U.S. Department of Transportation and the State of Minnesota aimed at improving traffic conditions by reducing congestion on Interstate 35W, Highway 77/Cedar Avenue and in downtown Minneapolis using transit, road pricing, technology and telecommuting. Complete since 2010 the projects are providing commuters with more transportation choices and less traffic congestion and reduced commute times on some of Minnesota's busiest roadways.

Funded by $133.3 million in federal funds and $50.2 million in matching state funds, this innovative partnership allowed Minnesota to leverage federal dollars and keep project costs low while pioneering new ways to move people and goods more efficiently. Building the UPA created jobs, increased safety on the road, moved goods more efficiently and improved the quality of life for motorists. Under the leadership of the program partners, UPA has improved safety and mobility through innovation. The results of this groundbreaking collaboration have delivered 21st century transportation solutions to 21st century transportation challenges in Minnesota and cities across the country.

Background

In 2007, MnDOT and the Metropolitan Council applied for and were awarded $133.3 million of federal funds contingent upon appropriation of $50.2 million in matching state funds and enabling legislation that were provided in the 2008 Minnesota legislative session. The Minneapolis-St. Paul metropolitan area was one of five regions of the country collectively awarded a total of $853 million in federal discretionary funds. The other regions were Miami, New York (since withdrawn due to lack of legislative authority), San Francisco and Seattle. In addition, Los Angeles, Chicago (since withdrawn due to lack of legislative authority) and Atlanta have since been awarded funds for congestion reduction. The intent of the program was to try new concepts, or packages of innovative concepts, that together would create more congestion reduction benefits than traditional concepts implemented on a stand-alone basis.

In Minnesota, the UPA implementation plan has been a regional collaboration involving many entities with responsibilities for various components of the program. These include:

- Minnesota Department of Transportation
- Metropolitan Council / Metro Transit
- City of Minneapolis
- Minnesota Valley Transit Authority (MVTA)
- University of Minnesota (U of M)
- Transportation Management Organizations (TMO)

Although the UPA focused on the I-35W and Highway 77/Cedar Avenue corridors, several congestion reduction elements have region-wide significance, including the dedicated bus lanes in downtown Minneapolis along Second Avenue South and Marquette Avenue South and the telecommuting component that has come to be known as eWorkPlace. The Second and Marquette improvements have had broad regional implications for transit service that begins or ends in downtown Minneapolis and that use those parallel streets. Likewise, eWorkPlace telecommuting efforts transcend specific routes or city boundaries and offer significant personal and collective time and cost savings in the Twin Cities.

Implementation Timeline

The UPA term sheet with the U.S. DOT required that the highway projects be operational by Sept. 30, 2009, and most of the transit projects, including the downtown Minneapolis transit lanes, be completed by Dec. 31, 2009. The exceptions were the High Occupancy Toll lane within the Highway 62/Crosstown project area, Cedar Grove Transit Station in Eagan, and the Driver Assist System along Cedar Ave, all of which were to be completed on or before October 31, 2010. (See Table 1 for a map and timeline of all projects). The U.S. DOT granted MnDOT an extension

of the opening of the HOT lane to November 19, 2010 to coincide with the completion of construction in the Crosstown project area and granted Metro Transit a corresponding extension for the opening of the Transit Commuter Information System signs (auto-bus travel time comparison signs) on northbound I-35W south to March 31, 2011.

MnDOT, Metro Transit, City of Minneapolis, MVTA and the U of M opened their respective UPA program elements to the public on or ahead of schedule with few minor exceptions. As the projects were closed out and the program wrapped up, the overall UPA program was slightly under budget with relatively small amounts of funding, about $32,000, turned back to the government.

UPA Project Elements Summary

Public outreach and communications efforts by UPA partners in 2011 kept various audiences apprised of the short term impacts of building the project, while reminding motorists, transit riders, business owners and policymakers of the long term benefits of the UPA.

During 2011, UPA partners completed the remaining projects and operated, maintained and evaluated their performance in support of the goals for the UPA. What follows is a summary of those transit, road pricing, technology and telecommuting project elements. The report also includes preliminary performance results from most of the transit projects, the I-35W HOT lane and the priced dynamic shoulder lane.

Summary – UPA project elements

Transit

- A 24-block, street and sidewalk reconstruction of Marquette and Second Avenues South in downtown Minneapolis provided an expansion from one reverse flow bus lane to two, wider sidewalks, 26 custom transit shelters, one custom transit canopy and enhanced pedestrian streetscape. This improvement allows up to three times as many express buses to serve downtown on these two streets and reduced bus travel times through downtown by up to 10 minutes. I-35W MARQ2 Express Routes have seen a 27 percent increase in ridership since 2010.

- The addition of more than 2,800 parking spaces at six new or expanded park-and-rides serving I-35W and Cedar Avenue.

- The purchase of 27 new buses serves new and existing park-and-ride spaces along I-35W and Cedar Avenue. Park-and-ride use is up nearly 20 percent since 2010.

The construction of a bus-only left turn lane and signal from northbound Highway 77 to westbound Highway 62 provides a reliable and quick trip for bus loads of express customers every weekday morning.

Road Pricing

- Priced dynamic shoulder lanes opened on Sept. 30, 2009 from 46th Street to downtown Minneapolis on northbound I-35W. This new lane allows buses to travel at free-flow freeway speeds instead of the current 35 mph limit on bus-only shoulders. The priced dynamic shoulder lanes are also used during peak periods as shared lanes for buses, carpoolers and MnPASS express lanes for single occupancy vehicles.

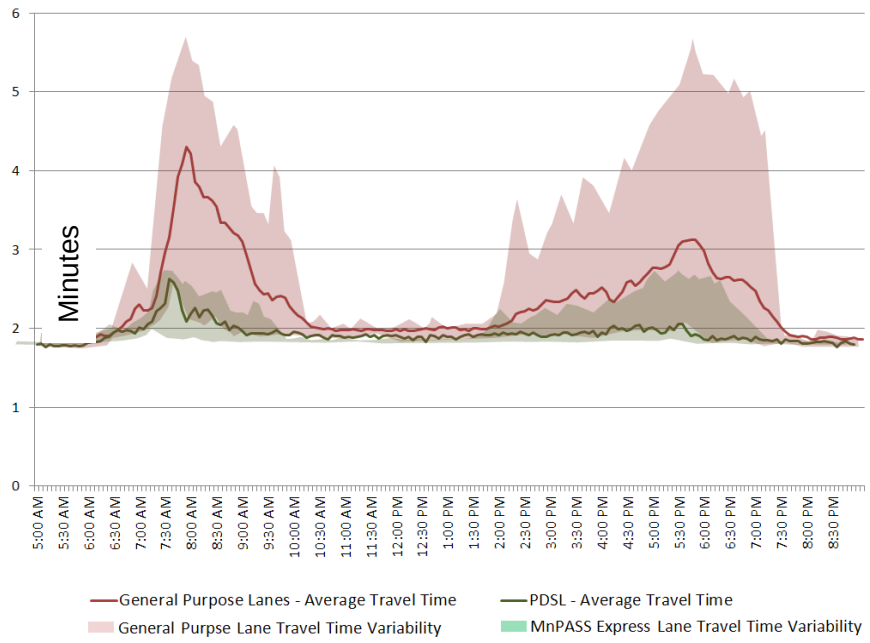


Figure 1. Travel Time Reliability, Priced Dynamic Shoulder Lane
Northbound I-35W from 46th St to 26th St , October 2012

- In 2011, the I-35W shoulder lane averaged more than 3,000 total tolled trips per week. By 2012 the lane averaged more than 4,100 tolled trips per day.
- Existing high occupancy vehicle lanes on I-35W from Burnsville Parkway to I-494 were converted to MnPASS Express lanes on Sept 30, 2009. The completion of the Crosstown project Nov.19, 2010 completed new I-35W MnPASS Express Lanes from I-494 to 46th Street, connecting the pieces of MnPASS that opened in 2009.
- Between Jan. 1 and Dec. 31, 2011, I-35W had 648,817 tolled trips. For that same period in 2012 the lane had 820,487 tolled trips, a 26 percent increase.
- As of Dec. 31, 2012, the new I-35W MnPASS Express Lanes had 9,064 active accounts and 10,338 transponders. There were a total of 21,828 active accounts and 26,741 transponders being used on the two express lanes on I-394 and I-35W.
- MnDOT is now reporting MnPASS revenue on a state fiscal year basis. For SFY 2012 (July 1, 2010-June 30, 2011), total earned toll revenue on I-35W was $1,634,858. During that same period, total earned toll revenue on I-394 was $1,497,507.
- MnPASS Express Lanes on I-35W have been extended two miles to the I-35W and I-35E split in Burnsville.

Technology

- Global positioning technology and a comprehensive in-vehicle driver-vehicle interface is now in use on 10 buses serving Cedar Avenue. With this system, bus drivers are able to keep buses centered in narrow bus-only-shoulders, ensuring safe, reliable and consistent daily bus operations regardless of weather and traffic conditions.

- Real-time information signs at every bus stop along Marquette and Second Avenues in downtown Minneapolis and at five park-and-rides and two transit station along I-35W provide travelers information on when the next bus will arrive.

- In-vehicle and intersection controller technology along Central Avenue in Minneapolis and Columbia Heights provide consistent and reliable bus operations along the corridor.

- Real-time signs displaying auto-to-bus travel time comparison and park-and-ride space availability on I-35W and intersecting roadways from four park-and-rides shows travel time saving of using transit.

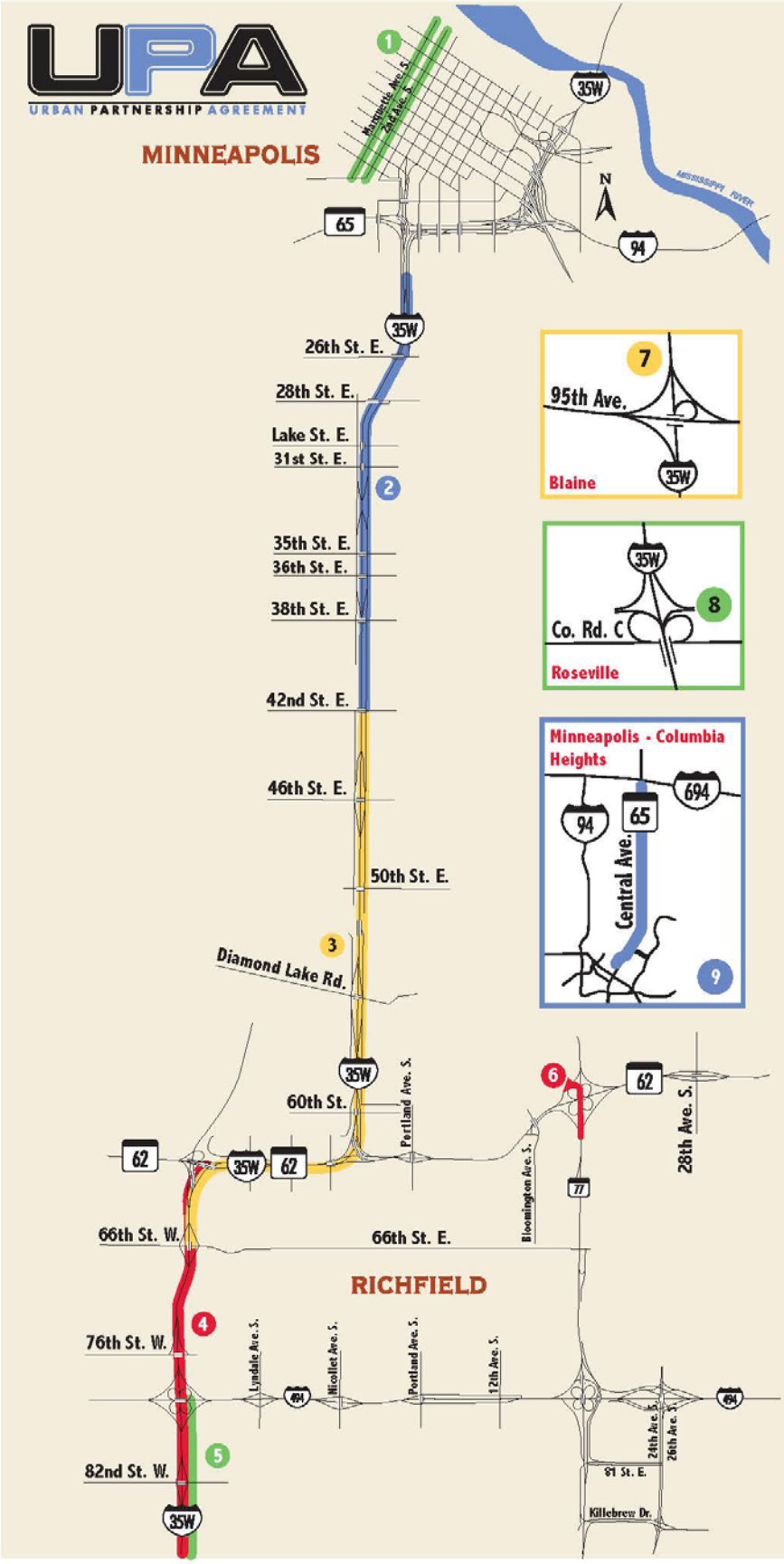
- Cameras on local roadways connecting to the I-35W and Cedar Avenue/Highway 77 corridors provide traveler information for motorists and improve traffic flow.

Telecommuting

- Partnerships with major employers along the I-35W corridor and in downtown Minneapolis have been established to promote flex-time and telecommuting programs with a goal to increase the number of telecommuting workers who would normally commute on I-35W by 500 individuals by 2011. While the UPA has currently exceeded the goal, having generated commitment from three major employers for 960 employees to telecommute at least once per week, recruitment and monitoring continue.

- The eWorkPlace telecommuting initiative was launched in June, 2009 to reach employers and employees interested in traditional telecommuting to improve efficiency and performance. Policy, training and technical assistance are offered through eWorkPlace to assist companies and their employees with telecommuting efforts. At completion of the formal e-WorkPlace program in June of 2011, more than 4,200 employees representing 48 employers are enrolled in eWorkPlace.

- Ongoing operation of the eWorkPlace program is now being handled by the Transportation Management Organizations in the Twin Cities. Although not funded with state dollars, the TMOs are offering policy and technical assistance to employers and employees interested in telework.



1 Transit Lanes on Marquette and 2nd Avenues
Lead Agency: City of Minneapolis
Description: Add second bus lane, 38 real-time signs and 28 transit shelters
Opened: December 2009

2 MnPASS Express Lane
Lead Agency: Mn/DOT
Description: Create additional northbound MnPASS Express Lane from 42nd Street to downtown exits
Opened: September 2009

3 MnPASS Express Lane
Lead Agency: Mn/DOT
Description: Add MnPASS Express Lane to I-35W. Implement safety improvements that eliminate left lane exits and weaving movement for vehicles traveling between Hwy 62/Crosstown and I-35W. Add second through lane on eastbound and westbound Hwy 62/Crosstown. Reduce traffic diversions to local streets.
Opened: Novemberber 2010

4 MnPASS Express Lane Conversion
Lead Agency: Mn/DOT
Description: Create MnPASS Express Lane between Hwy 62 and Hwy 13
Opened: September 2009

5 Improved Freeway Interchange
Lead Agency: Mn/DOT
Description: Add northbound lane to I-35W between 90th Street and I-494 to make safety improvements to interchange
Opened: September 2009

6 Transit Advantage Turn Lane
Lead Agency: Mn/DOT
Description: Construct bus only ramp from northbound Hwy 77 to westbound Hwy 62
Opened: November 2008

7 95th Avenue Park and Ride, Blaine
Lead Agency: Metro Transit
Description: Add 500 spaces to park and ride at I-35W and 95th Avenue with express bus service and real-time signs
Opened: December 2009

8 I-35W and County Road C Park and Ride, Roseville
Lead Agency: Metro Transit
Description: Construct 460 space park and ride at I-35W near Cleveland Avenue with express bus serviceand real-time signs
Opened: December 2009

9 Central Avenue Transit Signal Priority
Lead Agency: Metro Transit
Description: Install technology on buses and at 27 intersections along Central Avenue from Minneapolis to just south of I-694
Opened: December 2009

01/13/11

Please check **www.dot.state.mn.us/upa** for current information.

01/13/11

10 Southbound Fourth Lane
Lead Agency: Mn/DOT
Description: Add new lane on southbound I-35W from 106th Street to Hwy 13
Opened: July 2009

11 Traveler Information Systems
Lead Agency: Mn/DOT
Description: Add cameras, dynamic signs, communications and signal priority on Hwy 13 from I-494 to Hwy 169
Opened: May 2009

12 Kenrick Avenue Park and Ride, Lakeville
Lead Agency: Metro Transit
Description: Convert former truck weigh station/park and pool lot to 750 space park and ride with express bus service and real-time signs
Opened: September 2009

13 Cedar Grove Park and Ride, Eagan
Lead Agency: MVTA
Description: Construct 164 space park and ride with express bus service
Opened: May 2010

14 Bus Lane Guidance System
Lead Agency: University of Minnesota/MVTA
Description: Equip ten buses with advanced technology to help operators navigate lanes and dock buses precisely
Opened: October 2010

15 Apple Valley Park and Ride
Lead Agency: MVTA
Description: Construct 750 space park and ride near 155th Street with pedestrian overpass and side platform Bus Rapid Transit station
Opened: December 2009

16 Lakeville Cedar Park and Ride
Lead Agency: Metro Transit
Description: Construct 191 space park and ride near 181st Street with express bus service
Opened: September 2009

UPA Partners:
U.S. Department of Transportation
Minnesota Department of Transportation
Metropolitan Council/Metro Transit
City of Minneapolis
University of Minnesota
Minnesota Valley Transit Authority
Anoka, Dakota, Hennepin and Ramsey counties
Transportation Management Organizations

UPA PROGRAM FUNDING SUMMARY

Table 1. SOURCES OF STATE AND FEDERAL FUNDS

Federal Funds Source	**Funding Amount**	**Total**
Federal Transit Administration (FTA) 5309 Bus Capital	$85,900,000	
Research and Innovative Technology Administration (RITA) Intelligent Transportation System Op Test Mitigate Congestion	$19,400,000	
Transportation Community/System Preservation	$16,400,000	
Interstate Maintenance Discretionary	$6,600,000	
Value Pricing Pilot Program	$5,000,000	
Total Federal Funds		**$133,300,000**
State Funds Source		
Trunk Highway Bonds	$25,178,000	
State General Obligation (G.O) Bonds	$16,672,000	
Regional Transit Capital Bonds	$4,003,000	
General Fund	$3,500,000[1]	
Trunk Highway Cash	$800,000	
Total State Funds		**$50,153,000**

Table 2. TRANSIT LEVERAGED FUNDS*

Funding Source	**Funding Amount**	**Total**
Cedar Ave BRT State G.O. Bonds	$6,133,038	
County Transit Improvement Board	$6,950,000	
City of Minneapolis Assessments, General Fund, Bonds	$3,301,668	
FTA 5309 Bus Capital	$1,804,634	
Dakota County Regional Rail Authority Levy	$1,390,000	
Regional Transit Capital Bonds	$3,157,814	
FTA 5307	$480,560	
Total		**$23,217,714**

*Leveraged funds refers to project dollars allocated to pre-existing Minnesota Valley Transit Authority and Metro Transit projects that were combined with other projects under the UPA.

Total Federal, State and Local Funds		**$206,670,714**

[1] The $3.5 million represents the original general fund allocation for UPA. This allocation was reduced by $300,000 in early 2009.

CONGESTION REDUCTION STRATEGIES

Strategies to Enhance Transit Service

A number of strategies are being used to enhance transit services and facilities on I-35W and Highway 77/Cedar Avenue and in downtown Minneapolis. Improvements include the construction of additional downtown bus lanes, transit advantages and park-and-ride facilities, acquisition of additional transit vehicles and deployment of advanced vehicle technology and real-time customer information systems.

Establishing MnPASS lanes on I-35W promotes an increase in transit ridership and overall corridor performance. The priced lanes provide transit advantages that significantly improve bus travel time and travel time reliability. Commuters generally respond more readily to travel time savings and travel time reliability when choosing travel modes than they do to other factors. The guarantee of faster and more reliable trips on the MnPASS express lanes has resulted in additional riders in the I-35W corridor during peak periods.

One goal of the Twin Cities UPA is to increase transit ridership by combining roadway infrastructure improvements, increased facility and vehicle capacity, and technological innovations to provide a higher quality of bus service than traditional systems. Suburban park-and-ride facilities are an essential component of the region's express bus system. In the Twin Cities, suburban commuters have shown a clear preference for driving to a common location with high frequency bus service to start the express portion of the transit trip, rather than having less frequent buses circulate through neighborhoods. Increasing the number of spaces available for parking will support the expansion of express service serving both downtowns, the University of Minnesota and the Mall of America.

The Metropolitan Council, with Metro Transit, the Minnesota Valley Transit Authority, and other suburban transit providers identified six locations where new or expanded park-and-ride facilities could be provided (see Map and Project Status, next page) Funds made available through the UPA program were used to expedite construction of these spaces.

Because of the high transit traffic share to downtown Minneapolis, more than 665 express buses enter downtown Minneapolis during the morning peak period and use the city streets to collect and distribute passengers. Funds made available through the UPA program were used to expand the single transit lanes to two lanes on both Marquette and Second Avenues. This tripled the number of buses per hour and reduced bus travel time through the 16-block downtown area by up to 10 minutes, a substantial time savings.

The addition of transit passenger-carrying capacity is an essential component of the comprehensive approach to pricing and congestion reduction. Most suburban express routes are now at capacity. An increase in passenger seats is required to accommodate the additional demand generated for transit on the priced facilities. UPA transit funding provided for 27 additional buses to meet the anticipated demand on I-35W.

Strategies to Enhance Congestion Pricing

MnDOT expanded the successful MnPASS program currently operated on I-394 by converting high occupancy vehicle lanes to HOT lanes with pricing based on traffic demand. The new I-35W MnPASS expansion accommodates bus rapid transit in the corridor, allowing buses to achieve speeds of 50 mph or higher. Single occupant vehicles are allowed to use the lanes during peak periods by paying a toll. Buses and carpoolers are exempt from paying the toll.

Free-flow speeds for transit, carpoolers, and MnPASS users are maintained by using the dynamic pricing approach currently used on the I-394 MnPASS HOT lanes. The pricing and lane restrictions occur at pre-defined peak periods. To manage this time-of-day restriction, MnDOT uses dynamic lane control technology to provide advanced, real-time information about priced lane availability, toll rate, applicable speed and other traffic and safety management features. Lane control technology allows traffic managers to close lanes during incidents or planned maintenance/construction work, thereby enhancing safety and improving response time for emergency vehicles.

In 2005, the Twin Cities opened its first priced lane, the I-394 MnPASS HOT lanes, using dynamic pricing and innovative enforcement technology. The HOT lanes now carry a third more trips during peak periods, while maintaining 50 to 60 mph speeds for transit, carpoolers and MnPASS users. The rate of violations has been cut by a factor of three. MnDOT has replicated the success of the I-394 MnPASS project on the MnPASS lanes located on I-35W.

The hours of operation on the I-35W MnPASS lanes match peak traffic times. South of I-494 the MnPASS lane are tolled northbound in the morning peak period and southbound in the afternoon peak period. North of I-494 the MnPASS lanes are tolled in both directions during the peak periods. Toll pricing on I-35W matches the I-394 MnPASS pricing system. Minimum price will be 25 cents per segment with the maximum price being $8 for using the entire corridor in one direction. Prices are automatically adjusted to traffic conditions and demand in the MnPASS lanes.

An effective enforcement program is essential to the success of the MnPASS lanes on I-35W. Through the presence of additional law enforcement officials in the corridor and read/write transponder technology, violations have been reduced significantly. Agreements have been established with the Minnesota State Patrol to provide added enforcement on both the HOT lane sections and the priced shoulder lanes section on I-35W. Violation data collected in spring 2010, showed that violation rates on the MnPASS lane were significantly reduced compared to when the lane operated only for High Occupancy Vehicles, buses and motorcycles.

As provided by law, revenue collected from the toll operations on I-35W goes first to operating and administering the fee collection system within the corridor. Excess revenue is used for transit and highway operations and investments within the corridor.

Access Management within the Congestion Pricing System

HOT facilities located within existing freeway corridors are a relatively new strategy for providing congestion free alternatives to commuters. The introduction of MnPASS on I-394 in 2005 was the first time that a HOT lane was placed in operation adjacent to a general purpose lane without a physical barrier. The design of the I-394 MnPASS system was done in cooperation with the Federal Highway Administration (FHWA) and incorporated many of their design guidelines for HOT lanes. There are three elements critical to HOT lane design: the presence of a buffer area to separate the HOT lane from the general lane; the signing that indicates pricing and restriction on use; and the access management striping which controls where traffic can enter and exit the HOT lane.

The buffer on I-394 and I-35W meets the minimum requirement of two feet, and within the I-35W Crosstown area the buffer is set at four feet, the desired width to provide separation of lanes operating at different speeds. On I-394, as well as I-35W, access in and out of the lane is managed by overhead signs and by lane striping. In areas where access is allowed, a standard white skip stripe exists between the HOT lane and the general lane which indicates to drivers it is legal to merge. In areas where access is not allowed a double white line is in place between the two lanes and static signs that state “Do Not Cross Double White Lines”. Crossing a double white line is an enforceable moving violation.

A HOT lane, by design, is managed by signing, striping, and pricing so the lane operates continuously in an uncongested state. The result is that during peak travel times, the HOT lane operates at a substantially higher speed than the adjacent general purpose lane. By managing access in and out of the HOT lane to designated areas marked by skip stripes, it is theorized that adjacent lanes operating at different speeds would operate more safely if drivers could anticipate where other vehicles may merge in or out of the adjacent lane. The other benefit of managing a HOT lane with designated access points is it simplifies and reduces costs of the signing needed to inform drivers of the price and restrictions on use of the facility. The location of access points was based on guidance provided by FHWA. On I-394, approximately 65 percent of the facility has access control, where drivers are not allowed to merge. An indication that the design of MnPASS on I-394 has been effective is that there has been a reduction in crashes each year since the MnPASS facility opened in 2005.

MnDOT had the benefit of five years of experience to draw on while designing and operating the new system on I-35W. The agency determined that the I-35W MnPASS design could significantly open up access to the HOT lane (i.e. reduce the amount of area with double white line restrictions) and still successfully operate a HOT lane. The double white lines are effective, but receive some negative feedback from the corridor users because they restrict access and do not serve a transportation purpose outside of the timeframe when tolling is in effect (during off peak/weekends). The result is less than 25 percent of the I-35W MnPASS is access controlled by double white lines.

Even with more limited access control compared to the I-394 system, the double white lines received negative comments from commuters after I-35W MnPASS opened in fall 2009. At the request of the legislature, MnDOT reevaluated the access design plans. By opening the I-35W MnPASS in phases over two years, MnDOT was able to

address the concerns of drivers and legislators and reconsider access control plans within the Crosstown project areas that were still under construction. Double white lines were removed from the plans in the project on southbound I-35W from Lyndale Avenue to 66th Street as a result of feedback and this review.

In 2011 MnDOT began constructing a 2.2 mile MnPASS expansion on Northbound I-35W from the I-35E/I-35W split to Burnsville Parkway. That lane is open to traffic but additional MnPASS technology and dynamic signing will be installed in spring 2012. FHWA HOT guidelines recommend that 65 percent of this expansion project would include access design with double white lines. Working closely with FHWA staff, MnDOT has determined that this new portion of the MnPASS system will have no access restrictions with double white lines. Furthermore, MnDOT has committed research funds to conduct a detailed three-year safety and traffic operations study of the open access I-35W HOT lane design to ensure the FHWA that the design operates successfully. It is anticipated that results of this research will influence access design guidance for HOT lanes under development across the United States and be the basis of future MnPASS designs in other corridors in Minnesota.

Technology

Incorporation of technology is integral to each of the UPA congestion reduction components. The type and application of technology deployed is, to some degree, unique for each strategy and is described in detail within the previous sections on road pricing, transit and telecommuting. However, some of the more notable innovative technology components that have been deployed within the scope of the UPA are summarized below.

Congestion Pricing/Tolling technologies: Dynamic tolling; read/write transponders; mobile enforcement readers; lane control technology; dynamic message signs.

Transit technologies: Metro Transit's NexTrip, a tool that provides real-time bus arrival and departure information at transit stations and kiosks; auto-to-transit real-time travel time comparisons signs; real-time park-and-ride space availability signs; traffic management and bus priority systems, which include cameras, dynamic signs, signal priority and communications. In addition, technology using global positioning systems is used for lane guidance on buses.

Telecommuting technologies: Telecommuting, or telework, relies strongly on communications and computing technology. As employers and employees enter into a variety of telecommuting initiatives sponsored by the state, each will be responsible for the acquisition, training and use of technology.

Strategies to Enhance Telecommuting

The telecommuting component of UPA is designed to promote increased use of telecommuting and flexible work scheduling, with the ultimate goal of reducing peak period commuting and shifting some commuting travel to off-peak hours. Telecommuting can eliminate some peak period commuting travel by allowing commuters to work from home via a computer and electronic link to the office on predetermined (often regularly scheduled) workdays, or in some cases, on a full-time basis. Flexible work schedules allow employees to shift their commute trips from the peak period to less congested hours. The most promising means to achieve these objectives is to secure agreements from major employers in the Twin Cities to establish or expand telecommuting programs, and to offer flexible work schedules to the maximum number of their employees.

The goal of the Twin Cities UPA telecommuting strategy is to recruit partners from the local employer pool to help increase the number of teleworkers. The Twin Cities metropolitan area is home to 20 Fortune 500 companies and 33 Fortune 1,000 companies. This creates an opportunity to partner with a variety of major employers and public agencies. The UPA Telecommuting component includes efforts by CultureRx, a consulting firm specializing in increasing employee engagement and productivity in the workplace through the Results Only Work Environment product and associated training.

MnDOT, working with the University of Minnesota, through staff at the Hubert H. Humphrey School, developed the telecommuting initiative called eWorkPlace. This was an integrated and multifaceted effort to market telework as an alternative to everyday commuting through the offer of training, support, and feedback. 48 employers and more than 4,200 employees have been enrolled to date. A program evaluation shows that, on average, eWorkPlace participants worked remotely 1 to 2 days per week, which saved 150,000 vehicle miles of travel. This translates to more than $6 million annually in travel time savings and vehicle operating costs. Additionally, more than 8 million pounds of carbon dioxide were saved. The University is responsible for providing necessary technical information to MnDOT and other parties. The University is also coordinating and managing efforts to ensure contracts are properly

executed and take place on time, data is shared and the project is fully evaluated and documented. The University will study the qualitative and quantitative data on telework experiences for intensive study on travel behavior, congestion and other telework impacts on transportation. MnDOT and the University have entered into an agreement to provide these services.

Outreach and Communication

UPA partners coordinated the development and implementation of outreach and communication strategies to ensure accurate, up to date information to the various publics affected by the construction of project elements.

As projects were constructed in 2008, 2009, and 2010 partners implemented extensive outreach efforts for public policymakers, transportation leaders and business partners. Public open houses, workshops and presentations provided these audiences with face-to-face contact with project partners. UPA partners conducted media relations efforts and launch events as various project elements opened that resulted in newspaper articles and radio and television reports. These communication efforts continued in 2011 and include construction updates as needed to alert motorists of the short term impact of construction and the new transportation benefits available upon completion of the project.

More information about the UPA is available at www.dot.state.mn.us/upa/.

Results

- The northbound Highway 77/Cedar Avenue to westbound Highway 62 transit advantage, opened in November 2008, has provided a 90 second per bus trip travel time savings during normal weather and traffic conditions. Even with the completion of the Crosstown Commons project, which has somewhat improved conditions on westbound Highway 62, the transit advantage is maintaining its value.

- The additional transit lanes added on Marquette and on 2nd Avenue South as part of the UPA project has significantly improved operating speeds for transit while at the same time increasing the transit carrying capacity of these streets. To illustrate this, Marquette Avenue in the PM peak hour now carries up to 93% more bus trips, 154 bus trips per hour post construction compared to 80 buses pre construction, with capacity for additional growth. Overall, bus volumes are up by 53% in the peak hour and buses are operating up to 60% faster traveling at 5.61 MPH post-construction as compared to 3.46 MPH pre-construction.

- Reliability, meaning that buses will be at a certain spot at a predictable time, has also improved. On the Marquette and 2nd Avenue project, reliability has increased because the variability in running time has decreased. This has translated into ridership growth with average weekday boardings rising from 23,700 to 28,000. This represents an increase in ridership 5% greater than other express routes in the region.

- The I-35W & 95th Ave Park & Ride Expansion in Blaine opened on November 9, 2009. After it opened service was increased by one afternoon peak period trip on Route 250 in December 2009. The downturn in the economy has led to decreased demand, so some service on Route 250 has since been reduced.

- I-35W & County Rd C Park & Ride in Roseville opened December 14, 2009 with direct service to downtown Minneapolis offered on new Route 264. In September of 2010, late morning and midday service was added on Route 264. Use of the facility has increased year over year with 68 vehicles using the park-and-ride on a daily basis in 2010 and 119 vehicles parking there in 2011.

- Kenrick Ave Park & Ride in Lakeville opened September 28, 2009 with six trips each way on Route 467 offering direct service to downtown Minneapolis. Ridership has grown quickly, and service was expanded to a total of seven trips each way. Ridership and use of the Kenrick facility has steadily increased. Use was up to 46% in 2011 over 2010. Approximately 400 vehicles parked there on any given day and the facility was more than half occupied just two years after construction.

- More than 7,397 MnPASS accounts have been opened on I-35W since the MnPASS Express Lanes opened September 30, 2009.

- There are a total of 19,412 accounts and 23,853 transponders currently being used on the two express lanes on I-394 and I-35W.

- Apple Valley Transit Station use was down about 100 riders in 2012 compared to 2011, but this decrease is largely due to significant delays and detours as a result of road construction on Cedar Avenue. It is anticipated that riders will return by fall 2013, when road construction ends and BRT operation begins.

- Cedar Grove Transit Station in Eagan opened in March 2010 with no express service, attracting only a handful of cars but more than 100 local bus transfers per day. With the addition of express service to the University of Minnesota in September 2010, parking counts are now over 40 on a regular basis. Parking use at Cedar Grove stabilized in the mid-40s, but ridership continues to grow.

- Lakeville Cedar Transit Station use has struggled as the service plan does not provide significant advantage over using the Apple Valley Transit Station. Parking counts have ranged from 15 to 25 since the lot opened in the fall of 2009. Parking use and ridership at Lakeville Cedar were flat in 2012 compared to 2011, as passengers did not view it as an alternative lot during road construction (since routes at the lot still had to detour around the construction). Station-to-station service will not be introduced at this lot in the foreseeable future.

- The Driver Assist System (DAS) was put into operation in late October 2010. While it is still early to report specific impacts on travel time or ridership, bus operators report great satisfaction with the system; in addition, the private firm insuring the bus operation determined the system to be of benefit and has expressed interest in its expansion. A study sponsored by the FTA concluded value to the DAS implementation although at a very low benefit/cost ratio. Shoulder use and speeds increased and variability of shoulder position decreased when DAS was available. The FTA study concluded that the system is viable and valuable if/when hardware costs decrease or alternate hardware systems become available to provide the positional accuracy at lower cost.

- Park & Ride Space Availability System (TCIS) - Manual vehicle checks were performed in early October 2010 of the Park & Rides at the I-35W & 95th Ave Park & Ride (Blaine), I-35W & County Rd C Park & Ride (Roseville), and Kenrick Ave Park & Ride(Lakeville) to compare this data to the actual system counts. Comparison results showed the system to be 99% accurate at these locations.

- To evaluate the real-time signage installations, Metro Transit collected Web Service logs, field bus observation data at select bus stops on Marquette and 2nd Avenues for a total of 6 days in the weeks of August 9 and August 16, 2010. Analysis of the data showed that there was a 92% consistency between the records from bus observations and the Web Service. There was an average difference of 93 seconds between observed departures and the message contents and a standard deviation of 84 seconds. Accuracy was a little better for bus arrivals, with the average difference of 81 seconds and one standard deviation of 79 seconds. Overall, 76% of buses departed or arrived within 2 minutes before or after the Due Off time, 81% of buses departed within 2 minutes of the Due Off time, and 72% of buses arrived within 2 minutes of the Due Off time. The provision of real time signs appears to be persuasive marketing for transit. In a 2011 survey, 8% of all transit riders said they were influenced to take transit because of the real-time arrival signs. In that same survey 14% of new riders and 18% of riders who normally do not ride transit said that they were influenced to take transit because of the real-time arrival signs.

- Metro Transit has deployed a Transit Signal Priority (TSP) System on a majority of Metro Transit vehicles and at signalized intersections along Central Avenue from 2nd St. SE in the City of Minneapolis to 53rd Ave. NE in the City of Columbia Heights. After the TSP System was deployed, transit travel times along the Central Avenue corridor decreased, ranging from 2.6% to 12.73% based on the time of day and direction of travel on the corridor. Travel times for all vehicles along Central Avenue also decreased in both northbound and southbound directions on a range of 3% to 19% after improvements were made to traffic signal timings along the corridor.

- Transit schedule adherence also improved throughout the course of the project. Schedule adherence rates for southbound buses improved from an initial rate of 78.7% to 92.5% at an intermediate stage of the project, and then decreased slightly to 86.4% after the TSP System was deployed. Northbound buses saw a similar trend in schedule adherence rates, improving from an initial rate of 78.0% to 86.9% at an intermediate stage of the project, and then decreased to 64.7% after the TSP System was deployed.

A key reason for the noted decrease in schedule adherence rates after the deployment of the TSP System was a change to the posted schedules. Posted schedules were tightened by 2 minutes after an intermediate stage of the project in which improvements were made to traffic signal operations in the City of Minneapolis, prior to the deployment of the TSP System.

Metro Transit worked with the City of Minneapolis to improve the effectiveness of TSP System operations within the City. This effort was completed in November of 2010. Metro Transit will re-evaluate the effectiveness of the TSP System operations and it is expected that the transit travel times and schedule adherence rates will continue to improve.

Recommended Legislative Action Necessary for the Successful Implementation and Operation of the UPA
At this time, there are no requested legislative actions that would aid the lead implementing agencies in ensuring long-term success with the Urban Partnership Agreement program elements.

Below is a list of requested legislative actions from the 2010 Annual UPA Legislative Report, and their status.

Allow ownership by the City of Minneapolis of the Marquette and Second Avenues custom bus shelters.
Status: Deferred. No legislative action sought.

Allow transit facilities, such as park-and-ride parking ramps, to be exempt from the pre-design requirement under Minnesota Statute 16B.335.
Status: Laws of 2010, Chapter 189, Section 34, amended Minnesota Statute §16B.335, Subdivision 1, Subsection (b) to exempt several transit facility types from the requirements of this subdivision.

The Minnesota Legislature passed a law (Minnesota Session Law 2008, Chapter 306, Sec. 6) requiring the commissioner of transportation, in conjunction with the Metropolitan Council, to report on the status of the state's participation in the urban partnership agreement (UPA). This law requires that the report:

(1) present the elements of congestion reduction strategies to be implemented under the urban partnership agreement;

(2) summarize average daily traffic and congestion levels on affected roadways;

(3) summarize transit usage in affected corridors;

(4) identify the costs of participation and the sources of funding secured or to be secured;

(5) include information on revenues and expenditures under the urban partnership agreement;

(6) summarize any user fees collected on I-35W high-occupancy vehicle and dynamic shoulder lanes; and

(7) recommend any further legislative action necessary for the successful implementation and operation of the urban partnership agreement.

This report was produced in response to that law and cost less than $5,000 to produce.