



Memo

**395 John Ireland Boulevard
Transportation Bldg. - M.S. 120
St. Paul, Minnesota 55155**

**Phone: (651)296-1344
Fax: (651)296-6135**

October 11, 2004

To: Lt. Governor Molnau

From: Henry Van Dellen, Chair
I-394 Express Lane Community Task Force

Subject: Task Force Report

I am pleased to present for your consideration the report of the I-394 Express Lane Community Task Force. The report addresses important design and operational features we believe that are important to the success of the Express Lane project. Since this is the state's first conversion of an HOV lane to a toll facility, we have recommended a strong evaluation component. Monitoring the operation of this lane in actual field conditions will enable quick adjustment to real time conditions.

The Task Force met eight times from September, 2003 through July, 2004; we have one more scheduled meeting on October 28 to review the proposed public information/education effort which is scheduled to begin in January.

On behalf of the Task Force members, I want to thank you for assembling a group from the corridor to offer suggestions on the design and operations of the toll lane. I believe the project will succeed largely because of the thoughtful recommendations contained within the report. We look forward to your decision.

Cc:
I-394 Express Lane Community Task Force

**MnPASS I-394 EXPRESS LANE
COMMUNITY TASK FORCE FINAL REPORT**



October 6, 2004

MnPASS I-394 EXPRESS LANE COMMUNITY TASK FORCE REPORT

TABLE OF CONTENTS

	<u>PAGE</u>
GLOSSARY OF TERMS.....	i
I. INTRODUCTION.....	1
• Background	
• Legislative Action	
• MnPass Project Objectives	
• Concept Plan	
II. EXPRESS LANE COMMUNITY TASK FORCE.....	6
• Establishment of Task Force	
• Mission Statement	
• MnPass Partnership Team	
III. TASK FORCE DISCUSSION AREAS.....	7
1. Access Points/Traffic Operations	
2. Hours of Operation	
3. Enforcement	
4. Dynamic Message Signs	
5. Toll Rates	
6. Type of Vehicles Allowed	
7. Transponders	
8. Expected Revenues	
9. Public Outreach	
10. Project Evaluation	
IV. NEXT STEPS.....	16
V. APPENDICES.....	18
1. MnPass Enabling Legislation	
2. Community Task Force Membership	
3. Clarification of Private Partner Role in Partnership Team	
4. I-394 Express Lane Task Force Minority Report	
5. Summary of Focus Group Findings	
6. MnPass Evaluation – Attitudinal Surveys	

GLOSSARY OF TERMS AND EXPRESSIONS

DMS:	Dynamic Message Signs used for displaying changes in toll rates in response to demand
Express Lanes:	Used interchangeably with HOT Lanes
HOT Lanes:	High Occupancy Toll Lanes for HOVs and paying solo drivers
HOV Lanes	High Occupancy Vehicle Lanes: Exclusive Carpool and Bus Lanes
MnPass:	Minnesota's Pricing Program
SOVs:	Single Occupancy Vehicles: Solo Drivers
TH:	Trunk Highway or State Highway
Toll Zones:	Areas of the MnPass lanes where the toll is charged to SOVs
Transponders:	Tags, attached to SOV windshields, which are read by overhead readers in toll zones. The toll value is electronically subtracted from the transponder's account balance at these toll zones.

I. INTRODUCTION

Background

Interstate 394 opened to traffic in October 1992. The newly-reconstructed facility was a six-lane freeway with two reversible HOV lanes through the Penn Avenue area, from TH 100 to I-94. West of TH 100, the facility was built with one Diamond Lane in each direction. The HOV facility was designated for carpools with two or more passengers and bus-use. Time restrictions were placed on the Diamond Lanes that allowed HOVs only inbound in the morning (6:00 a.m. to 9:00 a.m.) and outbound in the afternoon (3:00 p.m. to 6:00 p.m.).

Shortly after opening, congestion in the general-purpose lanes plus a less-than-full HOV facility created a perception that the HOV lanes were underutilized. This perception has persisted for the decade since I-394 opened and has led to periodic requests that the HOV lane be opened to solo drivers. This culminated with a request by the Legislature that Mn/DOT conduct a study to evaluate the feasibility of this action. The study, which was completed in 2001, concluded that the HOV facility was underutilized but that opening it to general traffic would not be cost effective and would result in a congested facility. The same study concluded that conversion to a High Occupancy Toll (HOT) lane operation would be the most cost-effective action.

Legislative Action

In 2003, the Minnesota Legislature enacted High Occupancy Toll Lane Legislation (160.93, Sec. 7) authorizing the Commissioner of Transportation to implement user fees on high occupancy vehicle lanes in Minnesota. Highlights of the legislation are as follows:

- The goal of the legislation is to improve the operating efficiency in trunk highway corridors and provide more options to travelers.
- Fees can be collected electronically or by other methods, which may vary in amount by time of day and may vary with congestion.
- Fees collected will be used to repay the trunk highway fund or other fund sources for cost of equipment and modification in the corridor and to pay for the costs of implementing and administering the fee collection system.
- Excess revenues shall be spent as follows: One half for capital improvements in the corridor and one half transferred to the Metropolitan Council for expansion and improvement of bus transit services in the corridor in which the funds are collected.
- Violators are guilty of a petty misdemeanor.

The full text of the legislation can be found in Appendix 1.

MnPass Project Objectives

Five objectives have been defined for the project:

1. Improve the efficiency of I-394 by increasing the number of people and vehicles using the HOV lanes;
2. Maintain free flow speeds for transit and carpools in the Express Lanes;
3. Use excess revenues, if available, to make transit and highway improvements in the I-394 corridor;
4. Use electronic toll collection (i.e., tags/transponders and readers) which do not require toll booths; and
5. Employ new Intelligent Transportation System (ITS) technologies such as dynamic pricing and in-vehicle electronic enforcement.

The main focus of the MnPass Evaluation being conducted by independent evaluators will be to measure the extent to which the MnPass project achieves these objectives.

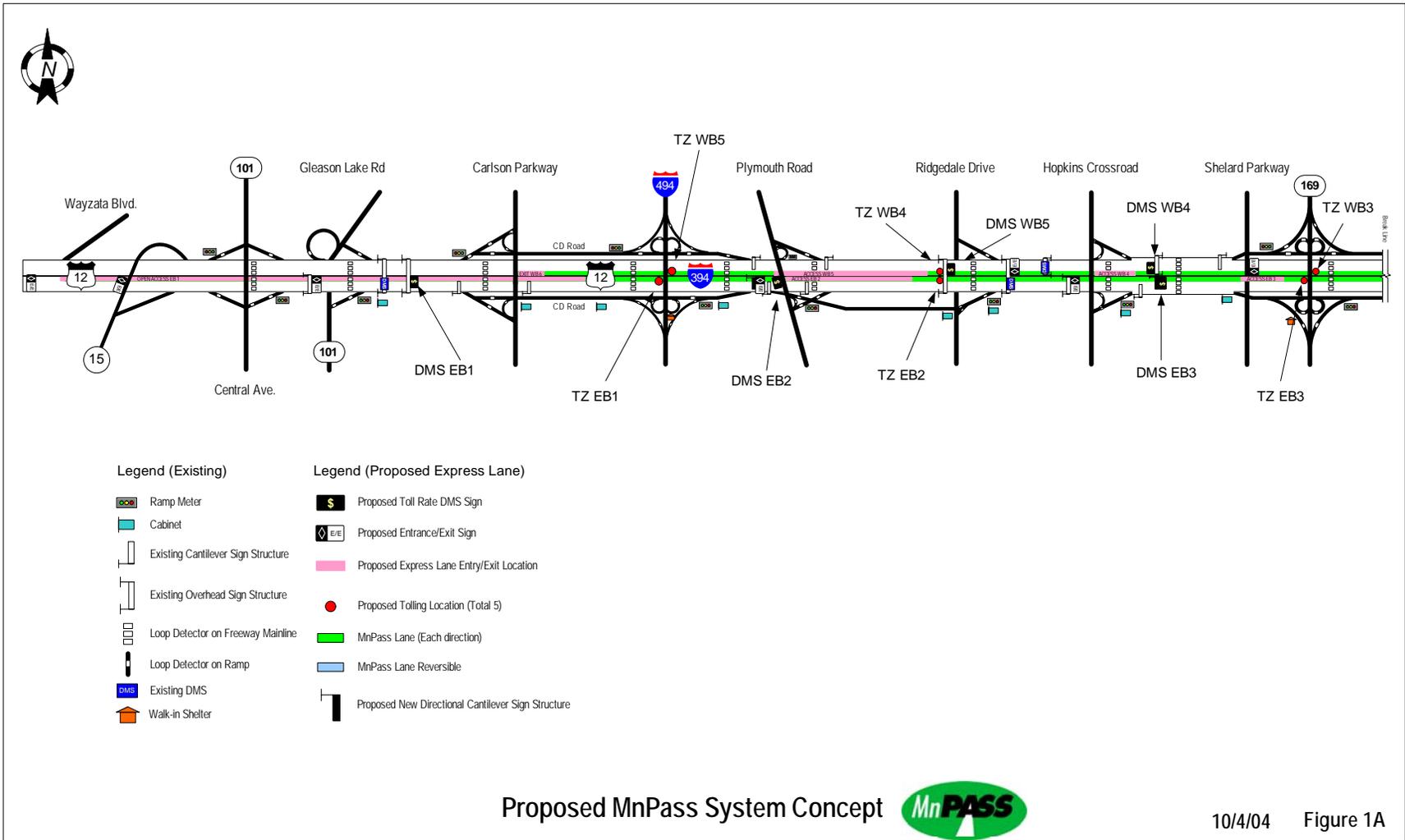
This is a first-of-its-kind application in Minnesota and, as such, its operation will be monitored and evaluated, and adjustments and improvements will be made periodically to ensure that the above MnPass objectives are achieved.

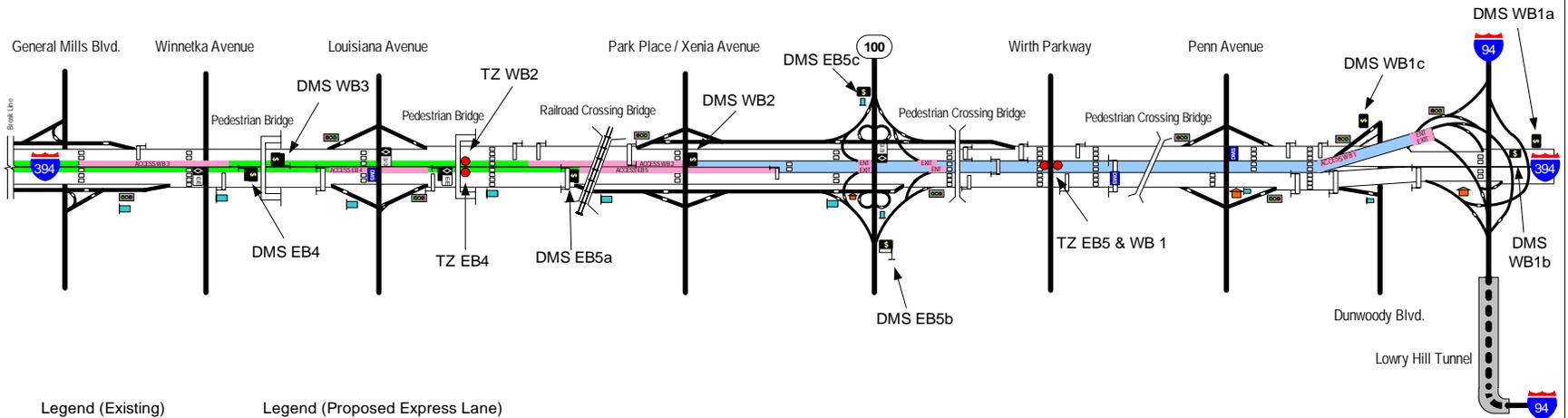
MnPass Concept Plan

Attached, shown in Figures 1A and 1B, is the proposed MnPass System Concept depicting, among other information, the following key elements for both eastbound and westbound I-394:

- Entry/exit access points (six per direction)
- Location of entrance/exit signs prior to access points
- Location of dynamic message signs prior to entrance/exit signs
- Location of toll zones (five per direction)

Figure 2 shows a typical Dynamic Message Sign (DMS) that would be placed prior to TH 100, in or before the reversible section, for westbound traffic. Figure 3 shows a typical DMS sign that would be placed in the Diamond Lane section for westbound traffic indicating, in lieu of a toll rate, that the Express Lane is closed.





Legend (Existing)

- Ramp Meter
- Cabinet
- Existing Cantilever Sign Structure
- Existing Overhead Sign Structure
- Loop Detector on Freeway Mainline
- Loop Detector on Ramp
- Existing DMS
- Walk-in Shelter

Legend (Proposed Express Lane)

- Proposed Toll Rate DMS Sign
- Proposed Entrance/Exit Sign
- Proposed Express Lane Entry/Exit Location
- Proposed Tolling Location (Total 5)
- MnPass Lane (Each direction)
- MnPass Lane Reversible
- Proposed New Directional Cantilever Sign Structure

Proposed MnPass System Concept



10/04/04 Figure 1B

Figure 2

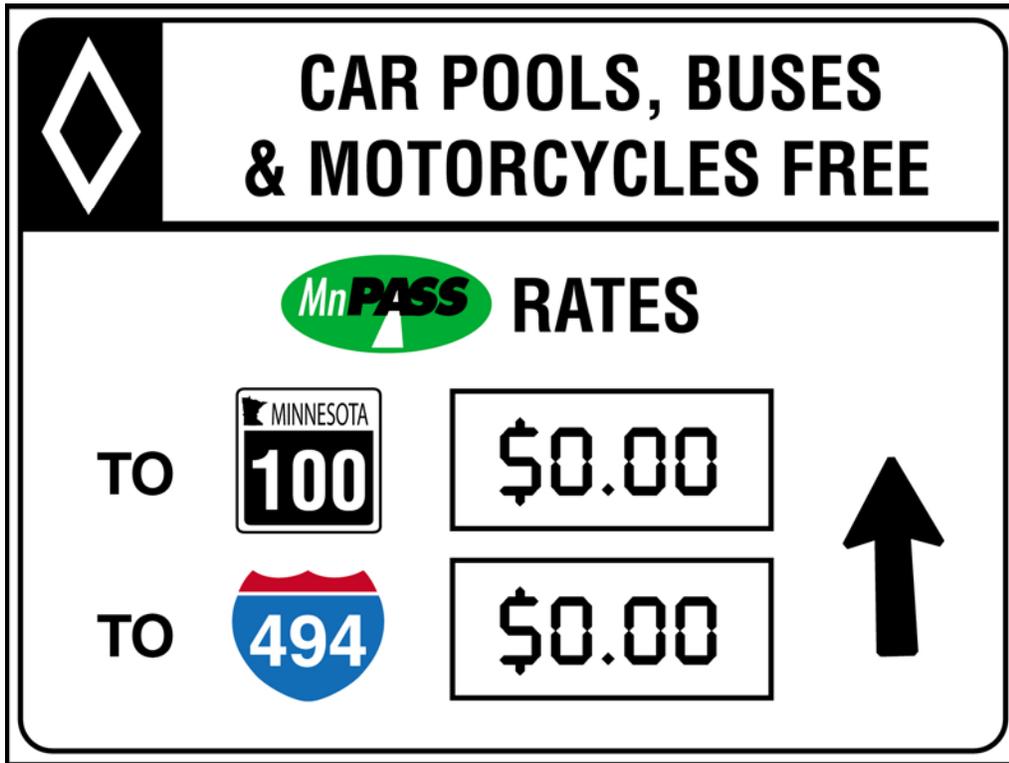
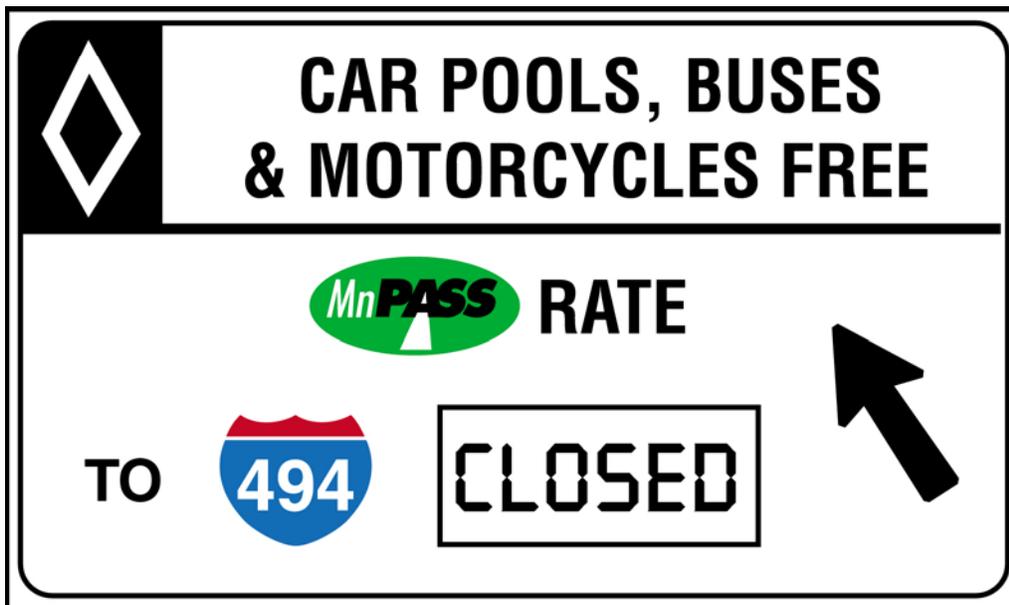


Figure 3



II. EXPRESS LANE COMMUNITY TASK FORCE

Establishment of the Task Force

The I-394 Community Task Force is a 22-person group of leaders and citizens appointed by the Lieutenant Governor, by the House and Senate leadership, and by the communities themselves. The Chairman of the Task Force, Henry Van Dellen, was appointed by the Governor.

Mayor or City Council and citizen members from the Cities of Minneapolis, Golden Valley, Minnetonka, St. Louis Park, Plymouth and Wayzata are represented. In addition, House and Senate legislators, private sector organizations (AAA Minnesota/Iowa, MN Trucking Association), public organizations (Downtown Minneapolis TMO and Transit for Livable Communities), public agencies (Metropolitan Council, Metro Transit, Hennepin County, Mn/DOT), and private citizens are represented. (A full list of the Task Force membership can be found in Appendix 2.)

The Community Task Force has been meeting monthly since September 2003, and is expected to continue to meet until the MnPass project is completed.

Mission Statement

The Community Task Force has articulated its mission as follows:

“Conversion of high occupancy vehicle (HOV) lanes to express lanes was authorized by the 2003 Minnesota Legislature. Express lanes permit single occupant drivers to pay tolls for the privilege of using HOV lanes. The I-394 Express Lane project is Minnesota’s first facility based value pricing demonstration and is a new and significant change in highway facility management. The Minnesota Department of Transportation recognizes that community involvement and acceptance are imperative to the successful application of this concept. The I-394 Express Lane Community Task Force has been established to assist the Commissioner of Transportation in delivering a project that reflects the needs and values of the corridor and broader community to create a forum for public discourse.

The I-394 Express Lane Community Task Force will provide the Commissioner of Transportation with advice and guidance on public involvement, communications, community outreach and education. Other policy issues that the Task Force might address include operations, pricing, access, and violations and enforcement.”

MnPass Partnership Team

Shortly after the authorizing legislation, Mn/DOT issued a Request for Proposals for Partners (RFPP) in July 2003 and entered into a contract with the team of Wilbur Smith, SRF Consulting Group, Raytheon and Cofiroute to implement the MnPass project on I-394.

The public/private partnership between Mn/DOT and the Wilbur Smith Team is referred to as the MnPass Partnership Team. (For further information on the Partnership Team, please refer to the Appendix 3.)

III. TASK FORCE DISCUSSION AREAS

The Task Force deliberated on a variety of I-394 Express Lane issues, as follows:

1. Access Points/Traffic Operations
2. Hours of Operation
3. Enforcement
4. Dynamic Message Signs
5. Toll Rates
6. Type of Vehicles Allowed
7. Transponders
8. Expected Revenues
9. Public Outreach
10. Project Evaluation

1. Access Points/Traffic Operations

One of the most often-mentioned issues raised by the Task Force concerns traffic operations related to the limitation of access points on the diamond lane section. Four major concerns were expressed:

- (a) HOVs and buses, which can now enter the HOV lane at will, will be forced to enter/exit only at half-a-dozen pre-defined locations;
- (b) The Louisiana and Shelard access points are troublesome because of the current level of congestion in the general purpose lanes;
- (c) With paying solo drivers being added to the volume of vehicles using these limited access points, weaving problems could increase, creating congestion and safety problems;
- (d) The Lowry Tunnel “bottleneck”, unless it is improved, could contribute to creating backups in the Express Lane and add to the level of congestion in the general-purpose lanes; and
- (e) The shift of traffic from the general-purpose lanes to the Express Lanes has the potential for worsening backups on the ramps to and from downtown Minneapolis.

In response to these Task Force members' concerns, multiple runs of the traffic simulation model (CORSIM) were done in order to better understand the corridor operation without and with pricing. In addition, multiple meetings were conducted with traffic operations experts to discuss the traffic flow dynamics and model inputs. As a result of these traffic simulation and expert discussions, and in response to Task Force concerns, the following findings and conclusions were offered by the Partnership Team:

- a. **Concern:** HOVs and buses, which can now enter the HOV lane at will, will be forced to enter/exit only at the half-a-dozen pre-defined locations.

Because of concerns expressed about limiting the number of access location for buses and HOVs, the following adjustments were made in the Express Lane operation:

- Serious consideration was given to allowing buses to cross the double white lines, given that their number is relatively low. When this proposed exception was presented to the Federal Highway Administration, they expressed concerns about potential safety and operations problems. At issue is the conflict between high-volume, fast-moving traffic in the MnPass lanes and slower-moving buses accessing the lane at will. This safety and operations issues are the reason why modern HOV lanes are designed with limited access points. Express lane users know, ahead of time, when other vehicles might merge into the lane.

A detailed modeling of bus operations was conducted, under restricted and unrestricted access scenarios. The results indicate that, overall, the additional delay under restricted access is negligible. The reason is that the frequency and location of access points matches, to a large extent, where buses currently access the HOV lanes. The one exception is the westbound access at Louisiana Avenue, where the additional delay per bus is 30 seconds.

Based on these findings, and given that FHWA does not support this exemption for transit, the Partnership Team recommends that buses access the MnPass lanes at the designated access points. Because of concerns expressed by several Task Force members, as well as by Metro Transit staff, the Partnership Team will monitor and report quarterly on bus operations to determine if the limited access design results in adverse impacts. If adverse impacts occur, this issue will be revisited and changes will be made, as warranted.

- When the unrestricted access for buses was initially considered, some Task Force members wanted the same exception granted to HOVs; however, the Partnership Team expressed a number of reservations. First, this would create the need to verify the occupancy of all vehicles crossing the double white lines, a very difficult, if not impossible, enforcement task. Second, given the enforcement difficulty, some solo drivers could take advantage of the situation, moving in and out of the lane to avoid paying the toll. This would introduce serious safety, equity and revenue-reduction concerns. Third, first-time or infrequent users could be confused by the ambiguous behavior and inadvertently cross the double lines unlawfully.

The Partnership Team did re-examine the proximity of HOV bypass ramps to Express Lane access points to ensure that HOVs could enter the lane as soon as possible after entering I-394. Two types of changes were made: one was to shift the access point to

better meet this objective, and the second was to widen the opening width of the access.

Since the recommendation is that both HOVs and buses be allowed access at only the designated locations, the same rule applies to HOVs and buses. However, to further address the concerns of the Task Force members, the MnPass Partnership Team will closely monitor and report quarterly on the effect on HOV operations of limiting the access points. The independent evaluator will also conduct a similar analysis. Based on these efforts, appropriate changes will be made to the design to address any problems identified.

- b. **Concern:** The westbound Louisiana and the eastbound Shelard Park I-394 access points are particularly troublesome because of the current level of congestion in the general-purpose lanes.

The access locations were re-examined; in particular, an option was developed that closes the Louisiana access (westbound direction) and adjusts the location and width of opening of the adjacent access points. In addition, all access points were re-evaluated in terms of their physical location to minimize conflicts between each access point and the corresponding I-394 entrance and exit ramps. Width of openings was maximized to ensure ease of entering and exiting operation.

Regarding the eastbound Shelard Parkway concern, the Partnership Team closely examined the location and opening width of this access and concluded that shifting this access westward would create conflicts with traffic exiting the Express Lanes to go to TH 169.

- c. **Concern:** With paying solo drivers being added to the volume of vehicles using the limited access points, weaving problems could increase, creating congestion and safety problems.

Regarding the limited-access points in the diamond lane section, the simulation shows that no backups occur in the Express Lanes. However, congestion in the general-purpose lanes is by no means eliminated.

Regarding the weaving concerns, and the related concerns about congestion and safety at these limited access points, the Partnership Team has pointed out that recent trends in HOV lane design in California, Atlanta and Seattle allow access to HOV lanes at only a limited number of locations, similar to the I-394 MnPass design concept. The HOV lanes in these cities carry similar number of vehicles as those anticipated in the I-394 Express Lane and in the general-purpose lanes. The rationale used in those cities for the limited-access design is better traffic management and safety. Pre-defined, limited access points are considered a better design for managing traffic access than the open, random access previously allowed.

- d. **Concern:** The Lowry Tunnel “bottleneck”, unless it is improved, could contribute to creating backups in the Express Lane and add to the level of congestion in the general purpose lanes.

While the tunnel currently appears to create a bottleneck condition for I-394 traffic, the backup is largely a result of the 35-mile-per-hour curves that are part of the approaches to

the tunnel. These approaches currently can only handle a limited number of vehicles (about 2,300 – 2,400 vehicles per hour). The simulation of traffic operations at these locations show that the Express Lane traffic can merge with the general-purpose lane traffic without causing backups in the Express Lane.

Because there are some concerns about how realistically the simulation reflects future operations, traffic operations in this bottleneck area will need to be closely monitored, both before and after Express Lane implementation, to determine whether adverse impacts are introduced and to take measures to correct them.

- e. **Concern:** The shift of traffic from the general-purpose lanes to the Express Lane has the potential for worsening backups on the ramps to and from downtown Minneapolis.

This operations concern continues to be monitored and analyzed. If actual problems are found due to the increase in total vehicles to downtown, resulting from the Express Lane implementation, toll rates in the reversible section will have to be increased, accordingly, to reduce demand.

2. Hours of Operation

The current hours of operation, which were set in the early 90s, are as follows:

- *Reversible Section:* 6:00 a.m. to 1:00 p.m. eastbound; 2:00 p.m. to 12:00 midnight westbound. Use of the reversible section is limited to HOVs only.
- *Diamond Lanes:* 6:00 a.m. to 9:00 a.m. eastbound; 3:00 p.m. to 6:00 p.m. westbound. Outside of these time periods, the Diamond Lane is open to all users.

The initial recommendation of the Partnership Team was to price the MnPass lanes at all times (i.e., 24/7). Several Task force members have expressed concerns regarding requiring SOVs to pay to use the Diamond Lane portion of the Express Lanes during off-peak time periods when lane use is low. This is seen as a take-away with respect to what SOVs enjoy today, and they would prefer that a zero rate be shown on the Dynamic Message Signs during off-peak periods (instead of the minimum charge of \$0.50 that was initially proposed). Due to enforcement concerns, these Task Force members do accept that SOV users be required to have a valid transponder, even if the rate were zero.

In response to this concern, the Partnership Team has revisited this issue in search of an approach that would mitigate this concern, while maintaining the integrity of the MnPass operations and enforcement program. The Partnership Team's reservations about showing a zero rate are based on the following concerns.

1. It is very important that the pricing rules and messages be both easy to convey and easily understood by the public. The clear message should be that SOVs must have a transponder and pay the fee displayed any time they use the MnPass lanes. This simple rule helps avoid ambiguity and confusion, and contributes to consistent enforcement.
2. Pricing the lanes at all times gives MnPass operators the ability to optimally manage flow and speeds in the lanes, thus avoiding congestion. If demand is low in the MnPass lane while congestion is growing in the general-purpose lanes, toll rates can be set sufficiently low to attract additional SOVs. If demand is too high, the rate can be increased to discourage additional SOVs from using the lanes. This demand

management technique ensures not only that free-flow speeds are maintained in the Express Lanes but also that the lanes do not “look empty”.

3. If a zero rate were displayed, there is a risk that SOVs without transponders will mistakenly interpret the zero fee to mean that they do not need to have a transponder when using the MnPass lane. Since this would constitute a violation, a ticket could be issued to the SOV driver, thus creating a public relations problem that is the result of an ambiguous message. This creates, in turn, a dilemma for enforcement officers since many violators are likely to plead innocence or claim that they were confused.
4. The zero rate introduces several complicating factors in the operation of the lanes:
 - If SOVs enter the Express Lane while the lane is in the “free” mode, and they are still in the lane when the operation changes to the “toll” mode, the MnPass operator could lose the ability to control the flows and speeds during these transition periods, and congestion could result;
 - Enforcement becomes very difficult during these transition periods since paying and non-paying SOVs will coexist in the Express Lanes; and
 - There will be conditions when, due to weather or to a crash in the general-purpose lanes, SOVs will want to shift to the Express Lanes to avoid severe delays. If this happens while the lane is in the “zero” or “free” mode, the Express Lane would become congested since dynamic pricing would not be in force to manage the excess demand.

To mitigate the concerns expressed by several Task Force members, the Partnership Team offers the following modified 24/7 operations plan for the Diamond Lane section. The modified proposal defines peak and off-peak periods, sets a very low minimum toll rate (\$0.25) for off-peak periods, defines traffic flow conditions under which this minimum toll rate will apply, and defines special conditions under which the minimum rate would be modified, if necessary, to maintain speeds.

The modified hours-of-operations plan is as follows:

1. The Dynamic Message Signs that indicate what rate(s) is being charged in the Diamond Lane segment will be set to \$0.25 during certain off-peak time periods when Express Lane demand is low. The Partnership Team feels that this low rate of \$0.25 will not overburden SOV users during these low-demand, off-peak periods. This minimum rate does not apply to the reversible section, which is currently restricted, at all times, to HOV use only.
2. The dynamic pricing schedule and hours of operation in the Diamond Lane section are as follows:

Reversible Section:

In this section, the hours will be 1:00 a.m. to 1:00 p.m. eastbound and 2:00 p.m. to 12:00 midnight westbound. The minimum rate in the reversible section will be set through the dynamic pricing mechanism.

Diamond Lane Section:

- The EB Diamond Lane section will be priced between 6AM and 11 AM and between 2 PM and 8 PM seven days a week. This range of hours includes both peak periods and the shoulders of the peak period.
- The WB Diamond Lane section will be priced between 6 AM and 11 AM and between 2 PM and 8 PM seven days a week. This range of hours includes both peak periods and the shoulders of the peak period.

The rate will be set to \$0.25 during all other times, unless the demand is such that Level of Service B is exceeded. This would happen when demand in the Diamond Lane exceeds approximately 750 vehicles per hour, which is about 50 percent of the free-flow lane capacity. Beyond this flow level, the risk of congestion increases, and so does the need to manage the lane through dynamic pricing.

3. The primary reason for the 24/7 proposed hours of operation is to give the Express Lane operator the ability to manage traffic demand at all times so as to prevent congestion in the Express Lanes. To continue to meet this objective under the modified proposal, transponders would be required of all SOVs using the Express Lanes.

Once MnPass is implemented with these modified hours of operations, traffic operations and public response will be closely monitored during the one-year evaluation period. Changes may have to be implemented based on the findings from the evaluation study.

Of all the issues addressed, the MnPass hours of operation elicited the most discussion. In response to the Partnership Team's recommendations outlined above, a Minority Report was received reflecting the concerns of several Task Force members. The Minority Report is reproduced in Appendix 4.

3. Enforcement

The Task Force members were very concerned that adequate enforcement be in place to maintain a low rate of violations. The experience in similar systems elsewhere in the United States is that violation rates do go down. The Partnership Team has been working hard to make sure that the same happens in the Twin Cities. The measures discussed and adopted to achieve this objective are as follows:

- Increase the number of hours currently spent on enforcement on the I-394 HOV lanes, up to about 2,500 per year (12 four-hour shifts per week), using toll revenues. This level of enforcement is considerably higher than the present level, which is done on a very limited, random basis.
- Continue to implement "visual enforcement" to verify vehicle occupancy. Visual enforcement will also be used to ensure that no vehicles (except buses) cross the double white line.
- Use an "enforcement transponder" so that an enforcement vehicle following an SOV in the Express Lane can receive a signal that the SOV has a valid transponder.

- Equip enforcement vehicles with “mobile enforcement readers” that are capable of detecting a valid transponder from an adjacent lane, and can also find out if the transponder has been read at a preceding toll zone.
- Install a “light-emitting diode” mounted near the toll zone reader that will emit a light signal to indicate whether the SOV passing by has a valid transponder.
- Finally, enforcement officers will have software that enables them to detect invalid or illegal accounts, even if the vehicle has a valid transponder (e.g., if it has been stolen).

Enforcement will be implemented jointly by the State Patrol, the Cities of Minneapolis and Golden Valley, and the Metro Transit Police subject to contractual arrangements. The State Patrol will be the lead agency. The MnPass Partnership Team is developing, with the enforcement agencies, a detailed Enforcement Plan to be completed in the Fall.

4. Dynamic Message Signs

The main interest expressed by the Task Force regarding the Dynamic Message Signs (DMS) was that they be easy to read and understand. Some expressed concern about the proposal to show two toll rates: one that would apply to users getting on the Express Lane prior to TH 100 and getting off prior to or at TH 100 (the Diamond Lane section); and a second higher rate that would apply to the same user if he/she were continuing to I-94 (the Reversible Section).

The initial sign was revised several times by the Partnership Team, assisted by Mn/DOT’s Signing and Striping Committee, to be easily read and understood. (See Figures 2 and 3 for samples of proposed signs.) As with other elements of MnPass, the response of the public to the signs and the effectiveness of the signs will be monitored during the year-long evaluation process.

5. Toll Rates

The preliminary estimates of toll rates are as follows:

- *Peak periods and shoulders of the peak (during weekdays 6:00 a.m. to 11:00 a.m., and 2:00 p.m. to 8:00 p.m., or during weekend events):* The range of toll rates is estimated as \$1.00 to \$4.00 depending on demand. The low value of the range is assumed as the minimum toll during these periods.
- *Off-peak periods include all other hours except during special events:* The range of toll rates is estimated as \$0.25 to \$1.00, depending on demand.
- *Maximum Rate:* Up to \$8.00, as needed, to maintain flow in the Express Lane. If demand were to continue to increase, requiring a higher toll rate than \$8.00, the lane will be restricted to HOVs only.

It should be pointed out that these ranges are in the range of values reported by participants in five focus groups conducted for the I-394 MnPass project by the Humphrey Institute of Public Affairs, as part of its outreach program.

6. Types of Vehicles Allowed

The discussion about what type of vehicles should be permitted on the I-394 Express Lane (other than HOVs, buses, motorcycles and paying SOVs) centered, primarily, around commercial vehicles. It was agreed that two-axle trucks, with 26,000 or less gross vehicle weight, could be allowed in the Express Lane by purchasing a transponder. The rationale was that, so-called light commercial vehicles have operating characteristics that are not too dissimilar to that of buses.

7. Transponders

Transponders will be leased to customers, and their account will be charged \$1.00 to \$1.50 per month. The leasing charges cover the cost of the transponder and a three-year warranty. If the transponder needs to be replaced prior to the end of the warranty period, the customer will be issued a replacement overnight, free of charge.

8. Expected Revenues

Preliminary estimates indicate that, under 24/7 operation, with just under 11,000 estimated daily transactions and the range of rates shown above, daily revenues will be approximately \$16,000. Annual gross revenues are estimated initially at \$2.0M to \$2.5M. Once mature, MnPass estimated revenues are \$3.0M to \$3.5M. Revenue levels will depend on actual demand and ability to maintain desirable level of service conditions.

9. Public Outreach

The Task Force members have repeatedly commented on the importance of ongoing communication with the public, as well as with communities along the I-394 corridor. Mn/DOT, through its own Office of Communications and through the Humphrey Institute of Public Affairs, has prepared press releases and has been available to news reporters for interviews. In addition, they have conducted five focus groups whose participants were selected primarily from among corridor residents. (See Appendix 5 for a Summary of Focus Group results.) A public Open House was conducted in December 2003. And, finally, they have made formal presentations, participated in Question and Answer sessions, and submitted packets of informational materials to the following groups:

- Golden Valley City Council, April 20, 2004
- St. Louis Park City Council, April 26, 2004
- Plymouth City Council, April 27, 2004
- Minnetonka City Council, May 3, 2004
- Hennepin County Board Members, May 6, 2004
- Minneapolis City Council May 18, 2004
- Wayzata City Council, May 18, 2004

The Partnership Team is preparing a marketing plan to help inform and educate the public about upcoming MnPass plans. Mn/DOT is also preparing a Communications Plan to serve the same purpose.

10. Project Evaluation

The Task Force has been kept abreast of the process that will lead to an independent evaluation of the MnPass project. Several Task Force members attended a forum on May 23, 2004, organized by the Humphrey Institute of Public Affairs to discuss the evaluation process. The lead evaluators of the SR 91 project in Orange County, California, the I-15 project in San Diego, California, and the IH 10 (Katy Freeway) in Houston, Texas, were invited to discuss their evaluation project, methodologies, results, lessons learned, etc. Mn/DOT has competitively selected an evaluation team for the technical aspects of the MnPass project. The technical evaluation will address the following measures:

Potential Primary Performance Measures (Before and After)

- Traffic flow and modal use: vehicles and person volumes by mode, time of day and vehicle occupancy
- Speed/travel times by segment and time of day, on Express Lanes and general-purpose lanes; and levels of service on both
- Diversion of trips to/from I-394 and within I-394 on general-purpose and express lanes
- Level of bus service improvements in corridor
- Level of enforcement and violations
- Safety/crashes
- Reliability of implemented technology
- Impact on bus and transit operations at access points

Potential Secondary Performance Measures (Before and After)

- Cost of delays, including enforcement
- Noise levels
- Emission levels
- Capital and operations cost
- Revenues
- Use of TAD Garages

At the same time, the Humphrey Institute, who will lead the market research effort to evaluate attitudes and perceptions regarding MnPass, has selected an independent market research firm. A listing of potential information that would be collected as part of the attitudinal surveys for the MnPass evaluation is provided in Appendix 6.

The technical and attitudinal elements of the evaluation will be closely coordinated during the one-year evaluation period.

IV. NEXT STEPS

1. The MnPass Partnership Team and Project Evaluation Teams will continue to work in the following areas:

- Continue the Outreach and Education Program
- Develop a detailed Marketing Plan
- Finalize the Enforcement Plan
- Establish the Customer Service Center
- Implement MnPass on I-394
- Conduct the before/after data collection activities and perform the Evaluation Plan

2. Potential Legislative Initiatives

The following initiatives have been discussed by the Task Force:

- Institute photo enforcement to allow for electronic ticketing of violators
- Increase the amount of fines for MnPass violations
- Explore amending the current Toll Lane legislation which requires that the TAD garage funds used to convert the HOV lanes be paid back.

3. Phase II MnPass Improvements

If Phase I of MnPass is successful, as measured by the evaluation results, implement Phase II changes, including:

- Corridor spot improvements to enhance overall corridor operations
- Evaluate the feasibility of restriping the Lowry Tunnel to four lanes (per barrel)
- Convert the reversible section to directional, reversible operations (two lanes inbound and one outbound in the morning and reversing this lane configuration in the afternoon). This requires installation of a movable barrier in the barrier-separated segment of the HOV Lane.
- Convert the TH 100 reversible ramps to directional ramps to accommodate operations in both directions.
- Submit solicitation to FHWA for Value Pricing funds to make the above corridor improvements.

APPENDICES

1. MnPass Enabling Legislation
2. Community Task Force Membership
3. Clarification of Private Partner Role in Partnership Team
4. I-394 Express Lane Task Force Minority Report
5. Summary of Focus Group Findings
6. MnPass Evaluation – Attitudinal Survey Data Needs

APPENDIX 1

MNPASS ENABLING LEGISLATION

[Minnesota Statutes 2003, Table of Chapters](#)
[Table of contents for Chapter 160](#)

160.93 User fees; high-occupancy vehicle lanes.

Subdivision 1. **Fees authorized.** To improve efficiency and provide more options to individuals traveling in a trunk highway corridor, the commissioner of transportation may charge user fees to owners or operators of single-occupant vehicles using designated high-occupancy vehicle lanes. The fees may be collected using electronic or other toll-collection methods and may vary in amount with the time of day and level of traffic congestion within the corridor. The commissioner shall consult with the Metropolitan Council and obtain necessary federal authorizations before implementing user fees on a high-occupancy vehicle lane. Fees under this section are not subject to section [16A.1283](#).

Subd. 2. **Deposit of revenues; appropriation.** (a) Money collected from fees authorized under subdivision 1 must be deposited in a high-occupancy vehicle lane user fee account in the special revenue fund. A separate account must be established for each trunk highway corridor. Money in the account is appropriated to the commissioner.

(b) From this appropriation the commissioner shall first repay the trunk highway fund and any other fund source for money spent to install, equip, or modify the corridor for the purposes of subdivision 1, and then shall pay all the costs of implementing and administering the fee collection system for that corridor.

(c) The commissioner shall spend remaining money in the account as follows:

(1) one-half must be spent for transportation capital improvements within the corridor; and

(2) one-half must be transferred to the Metropolitan Council for expansion and improvement of bus transit services within the corridor beyond the level of service provided on the date of implementation of subdivision 1.

Subd. 3. **Rules exemption.** With respect to this section, the commissioner is exempt from statutory rulemaking requirements, including section [14.386](#), and from sections [160.84](#) to [160.92](#) and [161.162](#) to [161.167](#).

Subd. 4. **Prohibition.** No person may operate a single-occupant vehicle in a designated high-occupancy vehicle lane except in compliance with the requirements of the commissioner. A person who violates this subdivision is guilty of a petty misdemeanor and is subject to sections [169.89](#), subdivisions 1, 2, and 4, and [169.891](#) and any other provision of chapter 169 applicable to the commission of a petty misdemeanor traffic offense.

HIST: 1Sp2003 c 19 art 2 s 7

APPENDIX 3

Clarification of Private Partner Role in Partnership Team

This explanation is in response to a request for "clarification of the public/private partnership arrangement" for the MnPass project from members of the St. Louis Park City Council. The request was initially made at the St. Louis Park City Council meeting held on Monday, April 26, 2004.

State Statute 174.02 reads: (a) The commissioner may enter into agreements with other governmental or nongovernmental entities for research and experimentation; for sharing facilities, equipment, staff, data, or other means of providing transportation-related services; or for other cooperative programs that promote efficiencies in providing governmental services or that further development of innovation in transportation for the benefit of the citizens of Minnesota.

In July of 2003, the Minnesota Department of Transportation issued a Request for Proposal for Partnership (RFPP) for the MnPass project. Stated in the RFPP was the minimum requirement of a 25% partner contribution. A selection was made and the public/private partnership arrangement was negotiated with Wilbur Smith Associates. This resulted in a contract award including a Mn/DOT contribution of \$8 million and a Wilbur Smith Associate Team contribution of \$2.68M or 25% of the total contract amount. Without this partner contribution, Mn/DOT's costs for the project would have been \$10.68M.

The I-394 MnPass project is the first project in the country to convert an open access High Occupancy Vehicle (HOV) Lane to a limited access High Occupancy Toll (HOT) lane. It is common, and at times, critical for private partners to be willing to contribute to new innovative projects in order to gain the experience required to successfully bid on other similar projects throughout the Country. While the Wilbur Smith Team is making a profit by providing their service to Mn/DOT, they have taken a reduced profit to meet the 25% partner contribution. Mn/DOT strongly prohibited the Wilbur Smith Team from receiving a payback or percentage of the revenues that will be collected from users of MnPass. In addition, the Wilbur Smith Team is not guaranteed any future work since Mn/DOT is required to go through a competitive selection process.

In addition to the infrastructure installation costs, Mn/DOT will be paying our partner for the ongoing administration, operation and maintenance of MnPass until it becomes self-sustaining. The cost for this service will be determined by the level of staff needed to support on-going operations and has nothing to do with the amount of revenue collected. Details related to the on-going operations will be made public once finalized.

APPENDIX 4

I-394 Express Lane Task Force Minority Report

**Rep. Jeff Johnson
September 30, 2004**

In general, I'm very pleased that the Pawlenty Administration has been willing to take action to better utilize the HOV lanes on I-394. It's a very good thing for daily commuters that we are finally doing something to encourage more efficient use of those lanes, but I am not supportive of the portion of the plan that will require a transponder and toll payment 24 hours per day.

Currently, drivers who are alone in their vehicles are restricted from using the HOV lanes between the hours of 6:00 a.m. and 9:00 a.m. heading into Minneapolis from the west and between 3:00 p.m. and 6:00 p.m. heading out of Minneapolis to the suburbs. The new plan will allow more commuters to use the lanes during those rush hours for a fee, which I strongly support. It will also, however, require that drivers will have to purchase a transponder and pay a fee to use the HOV lanes during the 21 hours of each day that are not considered "rush hour." There have never before been non-rush hour restrictions on at least the western portion of these lanes.

I understand the enforcement concerns about requiring tolls only during part of the day, but the potential difficulties that this might cause are minimal in comparison to the frustration many of my constituents will experience when they realize the lanes they have been appropriately using for free for many years (if you don't count the taxes they paid to build the road in the first place), will now require them to purchase a transponder and pay a fee every time they enter the lane.

I would not be so concerned about this issue if we were building a new lane and charging for its use, but I don't believe it's wise or fair to take lanes that have been in general use 21 hours per day without any problems for many years and now restrict them only to those who are willing to pay an extra toll to use them.

Again, I commend Governor Pawlenty and Commissioner Molnau for having the courage to do something about the "sane lanes" on 394, but I respectfully voice my strong opposition to the decision to make the new toll provision apply 24 hours per day.

Representative Jeff Johnson
District 43A (Plymouth and Medicine Lake)

APPENDIX 5

I-394 MNPASS FOCUS GROUPS

February/March 2004
Conducted by Cook Research & Consulting, Inc.
For the Humphrey Institute of Public Affairs &
Minnesota Department of Transportation

I-394 MnPass Focus Groups

▪ Group 1 Bus Riders	6
▪ Group 2 SOVs	10
▪ Group 3 SOVs (Technology Friendly/ Early Adopters)	11
▪ Group 4 Carpoolers	10
▪ Group 5 SOVs	11
Total	<hr/> 48

Reactions to the Current I-394

- “Something needs to be done with the HOV lanes on I-394.”
- HOV lanes vastly underused and far too little done to promote transit usage or to encourage carpooling.
- Many SOV drivers angry with “empty sane lane”; would open HOV lanes to all drivers all the time.

Reactions to MnPass

- “About time” something is done with I-394 HOV lanes; may free up general purpose lanes somewhat.
- Ability to pay and drive express lane could mean difference between being late for work or meeting or picking up a child from day care on time.
- Could reduce “stress” by offering option to sitting in congestion.
- Questions about how revenue would be used; transit dollars should be used to provide more frequent buses throughout the day.

Reactions to MnPass

- A few dollars a day would be acceptable expenditure to travel in a faster lane with less stressful driving conditions.
- Carpoolers and bus riders might use pay express lane occasionally if they had to but generally would not change behavior.
- Several participants understood how “dynamic pricing” works to keep traffic flowing in express lane, but others were unsure it would work.

Questions about MnPass

- Will commercial vehicles be able to use express lane? Will there be a size limit?
- How will “out-of-towners” be treated?
- How will violators be identified and pulled over without causing traffic backup?
- What happens if transponder lost or stolen? Does putting in pouch really mean it can’t be read? What if batteries wear out? What if transponder doesn’t tell driver about low account balance? Etc.
- Could user pay a deposit for transponder rather than pay a “small monthly service fee”?

Concerns about MnPass

- Carpoolers and bus riders concerned about “clogging up sane lane” and slowing their commute; may be disincentive to carpoolers and bus riders.
- Problems of “bottlenecks” at Lowry Hill Tunnel.
- Unfair to low-income drivers. Serves “privileged” few who drive SUVs from far western suburbs.
- Safety concerns with “swerving” onto and off express lanes west of Highway 100.

Concerns about MnPass

- Concerns about enforcement, interruption of traffic flow, cost of enforcement.
- Why toll during times when there is little traffic?
- Eastbound traffic heavy in afternoon. Could one of lanes between Highway 100 and downtown be opened to eastbound traffic?
- Confusion about two tolls west and east of Hwy 100.
- “Band aid” approach; lanes will be filled by those from other routes and population growth in western suburbs.

Will MnPass Be Used?

- Solo drivers will pay a fee to use express lane on an occasional basis.
- Some familiar with electronic tolling in other cities but need to know more about how it would work here.
- Most drivers willing to pay a low of \$.50 to high of \$2.50 to use express lanes. Bargain would be \$.25 to \$1.00. \$3 to \$4 the most willing to spend. If “really needed to be someplace,” \$5 to \$10 could be a bargain.

Will MnPass Be Used?

- Carpoolers and bus riders generally selected higher prices to use express lane than solo drivers.
- How will low-income users be affected? Some believe discriminatory, others suggest may benefit by freeing up space on general-purpose lanes.
- “Small monthly fee” for transponder seems inappropriate to several participants; prefer a deposit fee or purchase transponder outright.

Other issues

- Some want to widen I-394 and open to all drivers.
- Others encourage pushing for an increase in gas tax and spending more on public transportation.
- A few suggest adding light rail to middle of I-394; others oppose light rail.
- Little knowledge of how I-394 designed, funded or constructed, or involvement of communities. lame Mn/DOT for faults.
- Time for Mn/DOT to do something about I-394. Several believe MnPass concept may prove effective; others remain skeptical.

APPENDIX 6

MnPass Evaluation Attitudinal Survey Data Requirements

Data Category	Required Information	Other Information (Recommendations in BOLD)
Respondent Characteristics	<ul style="list-style-type: none"> • Income • Auto availability • Household Size • Education • Gender • Age • Employment status 	<ul style="list-style-type: none"> • Home ownership • Years at current address • # of licensed drivers in HH • # of HH members with jobs outside of home • Does (will) HH subscribe to MnPass program? • Who pays toll? • Level of comfort with technology • Number of telephone lines in HH • Number of cell phones in HH
Trip Making Characteristics (All trips on agreed-upon day)	<ul style="list-style-type: none"> • Trip origin and destination • Mode • Trip purpose • Time of travel • Frequency of travel • Travel time savings • Travel time reliability 	<ul style="list-style-type: none"> • Zip code of origin and destination • Use of corridor (and of HOV or Express Lane) • On-ramp and exit ramp used • Use of Park and Ride Facilities • Use of TAD Garages • Intermediate stops on trip
Travel Behavior Changes	<ul style="list-style-type: none"> • Mode shift • Time of travel shift • Route shift • Shift from General Purpose Lanes to Express Lanes 	
Opinions/Attitudes	<ul style="list-style-type: none"> • About congestion • About MnPass • Perception of conditions on HOV/Express Lanes versus GP Lanes • Perception about Electronic Toll Collection • About noise • About overall trip quality 	<ul style="list-style-type: none"> • Awareness of MnPass program • Awareness about toll rates • Awareness of how revenues are used • Perception of time saved • Willingness to pay (amount) • Perceptions of equity (GP versus subscribers versus carpoolers and transit users) • Perception of enforcement measures (too strong, too lenient) • Perception of safety • Perception of effect on air quality
Other Categories		<ul style="list-style-type: none"> • Equity (income, gender, etc.) • Privacy (perception of how data is collected, used) • Transit use (perception of quality and frequency of services offered and how much they are used)