
1.0 Project Background

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■ 1.1 Purpose

The Minnesota Department of Transportation (Mn/DOT) operates high-occupancy vehicle (HOV) facilities on two corridors in the Twin Cities metropolitan area. The HOV lanes require a vehicle occupancy of two or more persons (including children of any age). Carpools, vanpools, buses, and motorcycles all qualify to use the HOV facilities. There are approximately 32 lane-miles of HOV lanes and more than 75 HOV ramp meter bypasses in operation in the Twin Cities metropolitan area. In addition, there are approximately 175 miles of freeway where transit vehicles are authorized to use the shoulder. The goals of the HOV system are to provide faster, more reliable travel for those who rideshare or use transit, and to transport more people in fewer vehicles.

In 2001, the Minnesota Legislature asked Mn/DOT to study how opening the HOV lanes to all traffic would affect traffic flow and safety on the interstates. During the summer of 2001, the Federal Highway Administration (FHWA) barred Mn/DOT from opening the HOV lanes to all traffic for this study. Federal funds were used to build portions of the HOV facilities and, if Mn/DOT decides not to comply with the FHWA guidance, all new federal funding will be withheld for projects in the Twin Cities area. The FHWA also felt that opening the HOV lanes to all traffic would erode transit incentives, and could negatively impact the use and acceptance of the HOV lanes in the future. As a result, Mn/DOT proceeded with a non-intrusive study for determining the impacts of opening the HOV lanes to all traffic. This study relies on accepted methods for modeling traffic flow and congestion, estimating transit and HOV use, and estimating safety impacts associated with opening the HOV lanes to all traffic.

The study occurred in the fall and winter of 2001-2002, with the results presented to the Legislature during the 2002 legislative session. The study was conducted by a consultant team led by Cambridge Systematics, Inc. Joining Cambridge Systematics on the study team were URS Corporation and Mn/DOT's market research consultant, MarketLine Research.

A Technical Working Group (TWG) was established to advise and provide technical assistance to the consultant team. The TWG's roll was to represent the stakeholders who have an interest in the legislatively-mandated study, provide direction and feedback to the consultant team, keep the study on track, and identify and discuss issues and concerns regarding their respective areas of expertise. See Appendix A for the complete list of committee members. HOV experts from Virginia DOT, California Department of Transportation (Caltrans), Texas Transportation Institute (TTI), Washington DOT, and New Jersey DOT were also consulted as part of this study.

1.2 Existing Twin Cities HOV System Corridors

The Twin Cities HOV system consists of two facilities and several HOV ramp meter bypasses. Figure 1.1 presents the HOV facilities on I-394 and I-35W. The HOV lanes require a vehicle occupancy of two or more persons; carpools, vanpools, buses, and motorcycles all qualify to use the HOV facilities.

Table 1.1 summarizes the I-394 and I-35W HOV facility characteristics. The I-394 HOV corridor consists of two types of HOV operations, barrier-separated and non-barrier separated (concurrent), and has different restrictions on use in the two distinct sections. The I-35W HOV facility is non-barrier separated (concurrent).

Figure 1.1 Twin Cities HOV System

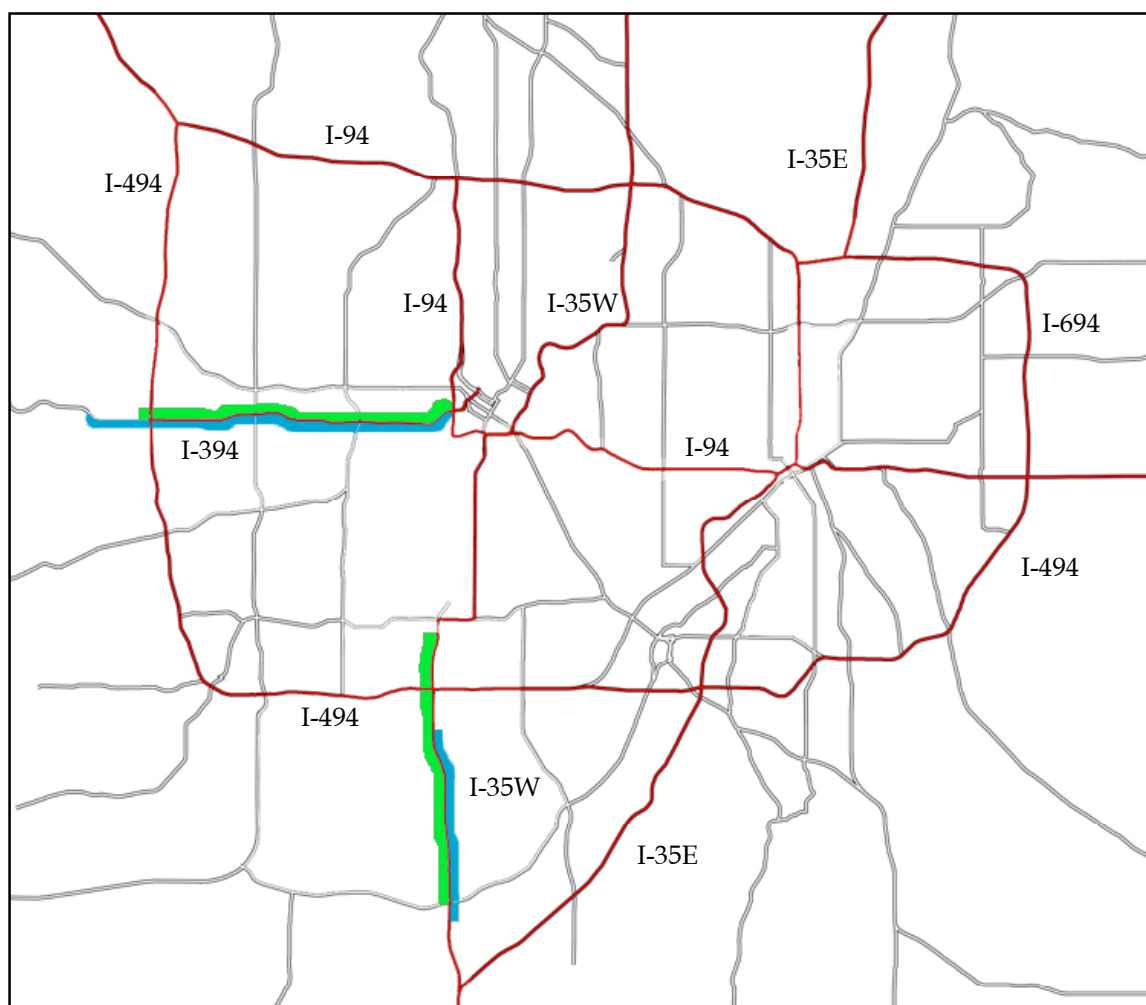


Table 1.1. Twin Cities HOV Lane Characteristics

Characteristic	I-394 Eastbound	I-394 Westbound	I-35W Northbound	I-35W Southbound
Extents	CR 101 S. Jct to I-94	I-94 to Carlson Pkwy	Burnsville Pkwy to 86th St.	66th St. to TH 13
Number HOV lanes	2 east of Hwy 100, 1 west of Hwy 100	2 east of Hwy 100, 1 west of Hwy 100	1	1
Length (miles)	10.37	8.84	5.72	7.51
Type of facility	Barrier-separated east of Hwy 100, concurrent west of Hwy 100	Barrier-separated east of Hwy 100, concurrent west of Hwy 100	Concurrent	Concurrent
HOV eligibility	2+	2+	2+	2+
Hours of operation (weekdays only)	6:00 a.m. to 1:00 p.m. east of Hwy 100, 6:00 a.m. to 9:00 a.m. west of Hwy 100	3:00 p.m. to 6:00 p.m. west of Hwy 100, 2:00 p.m. to midnight east of Hwy 100	6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.	6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.
Other information	All traffic can use concurrent HOV lane at other times No SOV use at any time in the barrier-separated portion Barrier-separated lanes are also used during the weekends for sporting events and special events downtown.	All traffic can use concurrent HOV lane at other times No SOV use at any time in the barrier-separated portion Barrier-separated lanes are also used during the weekends for sporting events and special events downtown.	All traffic can use HOV at other times	All traffic can use HOV at other times

■ 1.3 Report Structure

This document represents the Final Report developed for the study by the CS team, with input from the TWG. It contains the following:

- Section 2.0 – Study Team;
- Section 3.0 – Evaluation Objectives;
- Section 4.0 – Measures of Effectiveness and Evaluation Overview;

- Section 5.0 – Secondary Research;
- Section 6.0 – Traveler Perceptions;
- Section 7.0 – Data Collection and Modeling;
- Section 8.0 – Potential Impacts of HOV Lane Removal on Existing Transportation Plans and Programs;
- Section 9.0 – Benefit/Cost Analysis;
- Section 10.0 – Value Pricing (HOT Lanes);
- Section 11.0 – Conclusions and Recommendations; and
- Appendices – This is a separate volume, which includes the HOV Study TWG members, the Evaluation Plan, the Secondary Research Technical Memorandum, the Value Pricing (HOT Lanes) White Paper, and more detailed summaries of evaluation data and analysis assumptions and methodologies.