

## 2.0 Corridor Screening

One of the initial tasks in this study was to develop candidate MnPASS systems for more detailed evaluation. Our approach was to use data from Mn/DOT's Traffic Management Center (TMC) and other sources to rank segments against a set of screening criteria. The following four types of segments were considered for the screening:

- **Instrumented Freeways (25 segments):** Segments were defined by available data from the Texas Transportation Institute (TTI) on instrumented freeways in the Twin Cities Metropolitan Area. These segments can be readily linked and analyzed with data from Mn/DOT's Traffic Management Center (TMC).
- **Noninstrumented Freeways (11 segments):** Segments were identified from the 2000 Metropolitan Council freeway network, excluding the instrumented freeway segments accounted for above.
- **Nonfreeways (seven segments):** Segments were identified through discussions with the Steering Committee and Technical Committee. Examples include portions of TH 252, TH 65, and TH 36.
- **Transitways (seven segments):** Segments were identified from the Metropolitan Council 2005 Transitways Plan.

This initial list of 50 potential segments was screened against four criteria.

- **Current and Future Congestion.** We developed measures of current congestion, future congestion, and reliability for each segment, such as percent of annual weekday traffic traveling slower than 45 mph. The primary source of data was Mn/DOT's Traffic Management Center (TMC), supplemented with other Mn/DOT and Metropolitan Council reports, as well as the Metropolitan Council's travel demand model for forecasts of 2030 congestion.
- **Short-Term Revenue Potential.** To screen segments based on short-term revenue potential, we used measures of congested vehicle volume, such as the number of annual weekday vehicles-miles traveling slower than 45 mph during AM and PM peak periods. These measures represented an estimate of the number of vehicles that would potentially pay MnPASS tolls. Note that while the "Current and Future Congestion" criterion looked at the *percentage* of vehicles congested, the "Short-Term Revenue Potential" criterion considers the *number* of vehicles traveling in congested conditions. The primary source of data was the TMC, supplemented by annual average daily traffic (AADT) records for non-instrumented segments. Although these numbers do not reflect the fact that additional capacity provided by new MnPASS lanes would relieve congestion and reduce revenue potential in the

short term, they are adequate to compare segments against one another on a relative basis.

- **Constructability.** The constructability of additional lanes for each segment was scored based on geometrics, available median width, lane-miles at grade, lane-miles elevated, number of overpass reconstructions needed, number of new overpasses needed, and approximate age of existing structures.
- **Other Considerations.** We also considered other factors that could influence the attractiveness of a potential MnPASS segment, such as system connectivity and crashes per mile.

Because the focus of this planning study was on general congestion relief and not on transit improvements specifically, the viability of each segment as a transit corridor was not used as an independent initial screening criterion.

The segments that scored well using these screening criteria were shared with the Technical Team for their consideration. Based on the screening results and the Technical Team input, the consultant team worked with Mn/DOT staff to construct five systems for detailed evaluation. Note that in all cases, the I-394 HOT lane now under construction was assumed as a given. In addition, for purposes of this study, existing and proposed HOV lanes on I-35W were assumed to be converted to HOT lanes, where HOVs would drive for free. Figures 1 through 5 show the systems that resulted from this analysis. Details on the development of these systems are available in Technical Memorandum #1.

- System #1 consists of the entire beltway plus the I-35W HOT lane.
- System #2 is similar to System #1, except it reflects only that portion of the Beltway with the highest immediate traffic demand and need.
- System #3 consists of the core radials, I-35W and I-94, which have the highest traffic demand in the system but have significant constructability concerns.
- System #4 consists of segments that performed well in the screening analysis.
- System #5 includes the transitways that emerged from the screening as potentially constructible MnPASS lanes.

System #5 was ultimately excluded from the next round of analysis as an independent MnPASS system (see Section 4.1), because upon further study, the characteristics of these transitways were not compatible with potential MnPASS lanes. For example, the transitways were generally located in dense residential areas with at-grade intersections, running in mixed traffic, or running on roadway shoulders - all of which required significant conceptual changes to the transitway design and/or extensive community disruption in order to implement MnPASS. Rather than try to incorporate the MnPASS concept into the transitways plan, opportunities to incorporate improved transit into the MnPASS lanes was deemed to be a more effective solution. Potential MnPASS synergies with express bus were explored in a smaller case study (see Section 4.3).



Figure 3. System #3: Core Radials

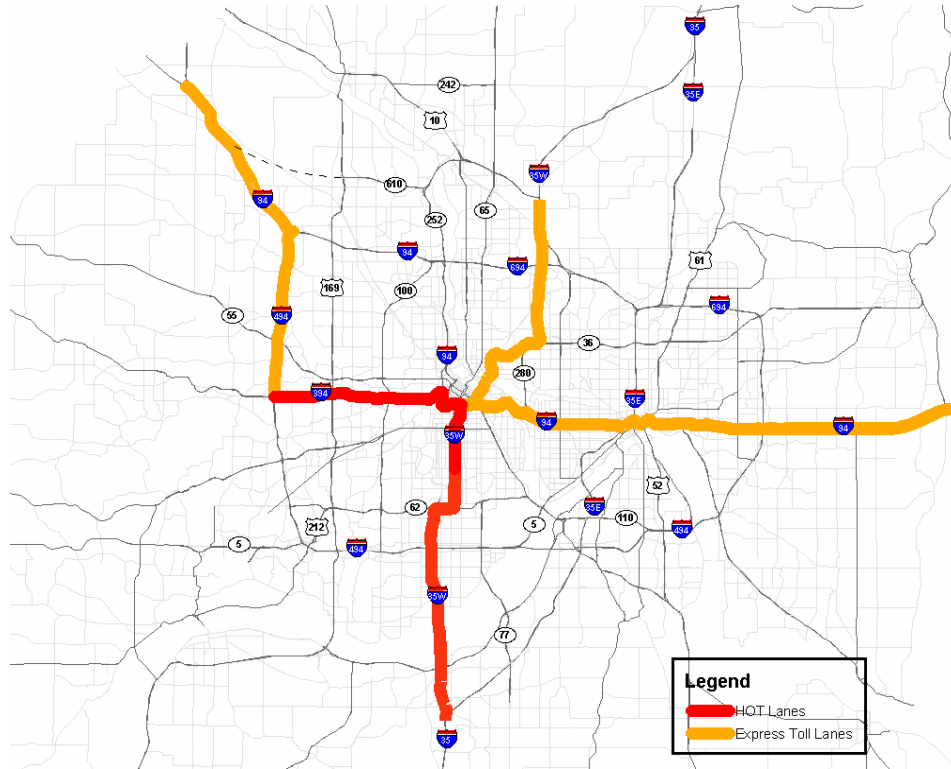


Figure 4. System #4: Best of the Screened Corridors

