
Appendix D

Segment Evaluation Summary

Table D-1. Segment Evaluation Summary

Segment	Description	Length (miles)	Capital Cost (2004\$M) ¹	Long-Term Cost Recovery Ratio ²	Long-Term Funding Gap (2004\$M) ²	Average 2030 Daily Speed Savings versus No-Build (mph)	Issues Related to MnPASS Development
I-494-a	From I-94 to TH 55	5.6	\$ 34.7	86%	\$ 4.3	4.3	There are currently two lanes in each direction. MnPASS is the third lane. The TPP adds a third lane (after 2013), which is used to leverage the capital cost. The value of MnPASS in this segment is tied to connecting with the next segment south (494-b), which would connect to the I-394 HOT lane (under construction).
I-494-b	From TH 55 to I-394	2.9	\$ 132.5	5%	\$ 114.1	2.2	There are currently two continuous lanes in each direction. Three lanes in each direction are programmed to be in place by 2008 as part of the 494 design-build project, so the MnPASS lane would be the fourth lane. Tolling the programmed third lane would reduce the cost attributable to MnPASS and increase the revenue, resulting in a much higher cost recovery ratio. Tolling the third lane would also provide a more immediate way to connect the I-394 HOT lane (under construction) to potential toll lanes on I-494 north of this segment (to I-94).
I-494-c	From I-394 to TH 100	11.6	\$ 265.6	23%	\$ 185.7	4.2	From I-394 to TH 212, three lanes in each direction are programmed to be in place by 2008 as part of the I-494 design-build project. From TH 212 to TH 100, there are 3-lanes in place now. The capital cost assumes the MnPASS lane as the fourth lane, meaning the entire cost of additional expansion is borne by MnPASS. Tolling the programmed third lane would lower the cost and increase revenue, improving the financials for this segment.

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I-494-d	From TH 100 to TH 77	5.7	\$ 18.7	427%	\$ (55.5)	5.2	This segment is now 2-3 lanes per direction. The TPP has plans to create 4-5 lanes in each direction by 2030. The capital cost assumes that the TPP improvement is already done, and that one of the new lanes is converted to MnPASS. This means that the cost of MnPASS is relatively low -- the revenue potential in this segment is very high, as it is heavily travelled. This is the only segment that shows a potential surplus of toll revenue over costs. Some cautions are in order with regard to this segment. First, the segment is short, and is bisected by I-35W. This means that it would not necessarily make a good choice as a standalone project. It would work much better together with the segment if I-494 that extends to I-394 and beyond to I-94. The segments on the beltway in general, though, have a potential issue with the typical length of trips. We understand that the Metropolitan Council has done studies indicating that the average trip length on the southwest part of the beltway is about 5 miles, which are fairly short when considering toll lanes.
I-694-1	From I-94 to TH 252	8.2	\$ 159.1	20%	\$ 115.6	3.8	This segment has been recently expanded to 3 lanes in each direction and is about to open to traffic. The cost estimate assumes MnPASS as the fourth lane, which results in a high cost and relatively low traffic levels.
I-694-5	From TH 252 to I-35W	4.9	\$ 149.3	16%	\$ 113.6	2.8	This segment has been recently expanded to 3 lanes in each direction and is about to open to traffic. The cost estimate assumes MnPASS as the fourth lane, which results in a high cost and relatively low traffic levels.

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I-694-2	From I-35W to I-35E	5.3	\$ 241.4	11%	\$ 194.0	4.2	Issues Related to MnPASS Development This segment currently has two lanes in each direction. The cost estimate assumes that a third lane will be built as part of the ten year work program and will be in place by 2014 -- the MnPASS lane will be an additional fourth lane, which makes the cost of this expansion very high. However, we understand that this expansion may be removed from the 10 year work program, which would mean that the third lane might be built as part of the 2014-2030 part of the TPP, meaning that the cost of MnPass expansion would be much lower than shown. If this were the case, this segment would make a valuable connection between I-35W and I-35E as part of a number of possible combinations of lanes.
I-94-e	From TH 101 to I-494	9.0	\$ 115.5	16%	\$ 88.2	3.5	This is currently 3 lanes in each direction; MnPASS is assumed to be the fourth lane. There are no current expansion plans for this segment. The travel demand estimates from the average weekday model may underestimate the potential of this corridor due to the high level of demand related to weekend recreation travel.
I-94-4	From West of Earl St. to I-694	4.8	\$ 122.1	27%	\$ 80.5	13.2	There are currently 3 lanes in each direction; MnPASS is the fourth lane. There are no plans for expansion in the TPP.
I-94-5	From I-694 to TH 95	9.7	\$ 105.4	23%	\$ 74.1	2.8	There are currently 3 lanes in each direction; MnPASS is the fourth lane. There are no plans for expansion in the TPP.
36-1	From I-35W to I-35E	4.6	\$ 72.1	40%	\$ 39.2	5.2	There are currently 2 lanes in each direction. The TPP adds a third lane (after 2013), which this study has assumed would become a MnPASS lane. This is a relatively short segment by itself, but would work well with connections to potential lanes on I-35E and I-35W.
36-g	From I-35E to I-694	6.6	\$ 172.6	27%	\$ 114.5	5.2	There are currently two lanes in each direction; MnPASS would be the third lane. There are no expansion plans in the TPP. MnPASS requires bypassing the at-grade intersections.

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I-35E-2	From I-694 to TH 5	6.0	\$ 122.4	16%	\$ 93.1	7.3	There are currently two lanes in each direction; MnPASS would be the third lane. There are no expansion plans in the TPP. MnPASS requires bypassing the at-grade intersections.
I-35E-1	From TH 36 to I-694	1.8	\$ 64.8	5%	\$ 55.9	3.5	There are 2-3 lanes in each direction now. The TPP would add a third or fourth lane (after 2013). MnPASS is assumed to be that third or fourth lane. This is a short segment, and the revenue from this segment is consumed by operating expenses. The capital costs are fairly significant for a conversion because of buffer zone requirements and system connections. This segment would not be built by itself, but as a part of an overall system that would probably include 35E-2 (which has an anticipated cost recovery ratio of over 100%).
I-35E-2	From Maryland to TH 36	3.3	\$ 47.7	119%	\$ (8.0)	6.3	There are 2-3 lanes in each direction now. The TPP would add a third or fourth lane (after 2013). MnPASS is assumed to be that third or fourth lane. This is a short segment that shows a cost recovery ratio of over 100%. This segment would not be built by itself, but as a part of an overall system that would probably include 35E-1 (which has an anticipated low cost recovery ratio)
I-35W-1	From 145th St. to TH 13	1.8	\$ 50.7	-30%	\$ 59.7	12.0	This is currently 2 lanes in each direction and there are no plans for expansion in the TPP. MnPASS would build a third lane as a HOT lane that connects with existing HOV lanes on I-35W. The revenue estimates assumed that HOV 2+ would go free, which resulted in the negative cash flow over the long term. Changing the HOV occupancy policy would improve the financials for this segment.
I-35W-2	From TH 13 to I-494	6.0	\$ 3.0	-68%	\$ 4.6	-3.1	Conversion of existing HOV lane to HOT. Assumes HOV 2+ policy - increasing this standard would improve financial performance.
I-35W-3	From I-494 to 46th St.	4.6	\$ 2.0	-684%	\$ 14.3	-8.4	A project to create an HOV lane is planned for this segment within the next 10 years. The MnPASS project would convert this lane to a HOT lane. Assumes HOV 2+ policy - increasing this standard would improve financial performance.

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I-35W-8	From 46th St. to 4th Ave. Ramp	2.9	\$ 2.0	-983%	\$ 19.8	6.9	Issues Related to MnPASS Development The TPP has plans for an HOV/Transitway as part of the 2030 plan. The MnPASS project would convert this lane to a HOT lane. Assumes HOV 2+ policy - increasing this standard would improve financial performance.
I-35W-f	From 4th St.SE. to TH 36	3.7	\$ 140.0	27%	\$ 92.7	3.8	There are currently 3 to 4 lanes in each direction, and there are no expansion plans in the TPP. MnPASS would add the fourth or fifth lane. Though the cost recovery is relatively low, this segment does provide good connectivity to TH 36 and the next segment of I-35W.
I-35W-6	From TH 36 to I-694	4.0	\$ 159.7	24%	\$ 110.7	3.9	There are currently 3 lanes in each direction with no plans for expansion in the TPP. ; MnPASS would add the fourth lane. Low cost recovery is based on the high cost.
I-35W-7	From I-694 to TH 10	3.2	\$ 126.2	44%	\$ 63.5	3.2	Currently 3 lanes in each direction and there are no plans for expansion in the TPP. MnPASS would build the fourth lane. Provides a good connection from the TH 10 route to the beltway.
10-1	From Round Lake Blvd. to TH 610	7.6	\$ 141.4	55%	\$ 57.4	6.4	Currently 2 lanes in each direction and no plans for expansion in the TPP. MnPASS would add the third lane.
10-2	From TH 610 to TH 65	1.9	\$ 15.3	156%	\$ (7.8)	6.2	Currently 2 lanes in each direction and no plans for expansion in the TPP. MnPASS would add the third lane. There is no gantry in this segment as currently modeled, which reduces operating expenses and increases net revenue.
10-3	From TH 65 to I-35W	2.8	\$ 51.8	39%	\$ 28.5	4.0	Currently 3 lanes in each direction and no plans for expansion in the TPP. MnPASS would add the fourth lane.
65	From north side of TH 242 to TH 1	4.3	\$ 155.6	34%	\$ 93.7	6.2	Currently 2 lanes in each direction with no plans for expansion in the TPP. MnPASS would add the third lane. MnPASS requires bypassing the at-grade intersections.
I-394-1	From CR 101 to TH 100	8.3	\$ -	N/A	\$ (21.9)	1.0	Currently being converted to HOT lane.
I-394-2	From TH 100 to I-94	3.4	\$ -	N/A	\$ (8.8)	1.2	Currently being converted to HOT lane.

¹ Assumes TPP cost contribution.

² Assumes TPP cost contribution, 3% inflation, 4% real discount rate.