

2.0 PURPOSE OF AND NEED FOR ACTION

2.1 PROJECT HISTORY

The need for capacity improvements on the interregional transportation system connection between I-94 and TH 10 was initially identified in Mn/DOT's 1996 *Mississippi River Crossing Study (1996 Study)*. The findings of the *1996 Study* and the four corridors recommended for further study were the basis for Mn/DOT's *I-94/TH 10 Regional Connection Scoping Document (1997 Scoping Document)* and 2004 DEIS.

2.2 NEED FOR THE PROPOSED IMPROVED I-94/TH 10 INTERREGIONAL CONNECTION

Subsequent to the 1996 Study and the 1997 Scoping Document, additional studies and forecasting have reconfirmed the need for improvements to the connection between I-94 and TH 10. The sections below establish the need for an improved connection between I-94 and TH 10.

2.2.1 Increasing Travel Demand

Regional traffic forecasts for the study area were updated during the 2004 DEIS for existing (2000), year 2025, and year 2040 volumes. Table 2.1 summarizes traffic volumes and volume to capacity ratios (V/C) for the river crossing corridors in the vicinity of the study area. V/C ratios indicate the level of congestion on a roadway. When a V/C is 1.0, the road is considered to be "at capacity;" the higher the ratio, the more substantial the congestion is on the roadway. In practice, it is typical for peak hour congestion to spread across more hours of the day when high V/C ratios are measured on roadways. (Note: The 2040 No-Build volumes include the proposed 33rd Street river crossing in St. Cloud and the proposed Dayton-Ramsey crossing in the Twin Cities to represent a 'best case' of meeting future No-Build crossing demand.)

The 2025 No-Build results show all crossings as being congested, indicating insufficient capacity in 2025. The 2040 No-Build results show essentially all crossings congested, indicating insufficient crossing capacity in 2040, even if the 33rd Street and Dayton-Ramsey crossings were built.

**TABLE 2.1
DAILY SCREENLINE VOLUMES AND MAXIMUM VOLUME TO CAPACITY RATIOS**

Crossing	Daily Screenline Volumes			Maximum Volume to Capacity Ratios ⁽¹⁾		
	2000	2025	2040	2000	2025	2040
33rd Street	--	--	54,600	--	--	1.8
TH 24	13,200	33,900	34,500	0.7	1.7	1.6 ⁽²⁾
TH 25	23,800	42,100	46,300	1.2	1.9	1.8
CSAH 42	6,600	22,100	7,400	0.8	2.0	0.8 ⁽³⁾
TH 101	40,300	55,400	114,000	1.8	2.6	1.4 ⁽³⁾

⁽¹⁾ Maximum volume to capacity ratio = V/C during the peak hour of travel in each corridor.

⁽²⁾ 2040 V/C is lower than 2025 V/C due to construction of the 33rd Street bridge in St. Cloud, which decreases peak hour V/C in the TH 24 corridor.

⁽³⁾ 2040 V/C is lower than 2025 V/C due to assumed construction of the Dayton-Ramsey crossing and implementation of capacity improvements on TH 101 (i.e., conversion to freeway).

Table 2.2 summarizes the forecast daily hours of congestion for 2000, 2025 and 2040.

**TABLE 2.2
DAILY HOURS OF CONGESTION
NO-BUILD**

Crossing	Daily Hours of Congestion ⁽¹⁾		
	2000	2025	2040
33rd Street	N/A	N/A	6
TH 24	0	6	7
TH 25	7	9	9
CSAH 42	0	6	1 ⁽²⁾
TH 101	7	10	6 ⁽²⁾

⁽¹⁾ Daily hours of congestion = number of hours per weekday when V/C is >1.0.

⁽²⁾ 2040 hours of congestion are lower than 2025 for CSAH 42 and TH 101 due to assumed construction of the Dayton-Ramsey crossing and implementation of capacity improvements on TH 101 (i.e., conversion to a freeway).

2.2.2 Interregional Corridor (IRC) Conformance

In 1999, the *Statewide Interregional Corridor Study* (IRC Study) established the concept of an IRC system to enhance safety and timely travel between regional trade centers within the state. Interstate 94, TH 10 and TH 24 (between I-94 and TH 10) were all classified as high priority IRCs. Based on this classification, goals for these routes include a minimum performance speed of 60 mph. Individual corridor management plans were developed for I-94, TH 10 and TH 24. The findings from these studies pertinent to the proposed I-94/TH 10 Interregional Connection are summarized below:

I-94 Interregional Corridor Plan – from I-494 to Collegeville Township (west of St. Cloud). This study recommended an improved-capacity interregional connection between I-94 and TH 10 between Becker and St. Cloud and additional lane capacity on the I-94 mainline. In addition, it made recommendations for local supporting arterial systems to limit shorter trips on I-94.

Highway 10/Highway 24 Interregional Corridor Study – from TH 10 at TH 371 (Little Falls) to TH 24 at I-94 (Clearwater). Analysis performed for the study indicates that by 2025 the average speed for the entire corridor (TH 10 and TH 24) would be 51 miles per hour, but that the TH 24 segment would create the greatest limit to travel, with an average speed of 27 miles per hour.

The IRC Study and the individual IRC plans described above identify the need for capacity improvements on their respective routes as well as the need for an improved interregional connection between I-94 and TH 10.

2.2.3 Relationship to Federal Highway System

In addition to being identified as important state highways, I-94, TH 10 and TH 24 within the study area are components of the National Highway System (NHS) and the Federal Strategic Highway Network (STRAHNET).

2.2.4 Safety

The *Highway 10/Highway 24 Interregional Corridor Study* evaluated crashes on TH 24 for the period between 1997-1999. The analyses indicated that crash rates were similar to statewide averages. However, the corridor has slightly higher crash severity ratings: two percent fatal and 38 percent injury versus statewide averages of 1.1 percent fatal crashes and 35 percent injury.

In addition to crash rates, there are safety concerns related to pedestrians and bicyclists on TH 24, especially with the mix of roadway users. Please refer to Section 2.2.5 in the DEIS for more detailed information.

The DEIS also identifies safety and congestion issues relating to at-grade railroad crossings located along TH 24. With the heavy traffic volumes and high frequency of train traffic (40 trains per day) on the Burlington Northern Santa Fe Rail Line (which is also the proposed North Star Commuter Rail corridor), there is an identified safety concern. Please refer to Section 2.2.6 in the DEIS for more detailed information.

2.2.5 Regional Evacuation Plan

Mn/DOT's Transportation Security Project (MN contract 83533) has started an analysis of the I-94/TH 10 corridor as a means for evacuation from the Twin Cities metro area, as well as evacuation from the Monticello Nuclear powerplant area. The project team has already identified that during an evacuation situation, re-routing traffic between I-94 and TH 10 will be crucial.

2.2.6 Local Traffic Congestion/Delays

As previously described, increasing travel demand will cause more congestion on existing river crossings and affect the quality of downtown areas bisected. The increasing traffic on TH 24 also interferes with the ability of local traffic to find gaps to cross or access TH 24. The 1996 IRC Study included analysis of local intersection operational levels of service on existing crossings for 1995 and 2015 No-Build conditions. The 2015 analysis indicated a V/C above 1.2 at the I-94/TH 24 ramp intersections and at the TH 10/TH 24 intersection, indicating unacceptable delays (i.e., equivalent to level of service F conditions).

2.2.7 Existing Bridge Condition – TH 24 Across the Mississippi River

The existing TH 24 bridge over the Mississippi River was built in 1958 with two travel lanes and 2.5-foot-wide sidewalks on each side of the bridge. Based on an inspection performed in September of 2002, the TH 24 bridge has a Sufficiency Rating of 68. The Sufficiency Rating takes into account the physical condition of the structure and its functional adequacy. Bridges with ratings of 50-80 qualify for rehabilitation and those with ratings of less than 50 require replacement. Based on its rating and age, it is likely that the bridge would require replacement within the next 20 years.

2.2.8 Increasing Growth in the Study Area

The Office of the Minnesota State Demographer estimates that the central portion of Minnesota (including the study area and areas served by the highway corridors) has been and will continue to be one of the highest growth areas in the state over the next 20 to 50 years. Continued development will increase the cost of constructing a new I-94/TH 10 interregional connection in the future if right of way is not protected from future development encroachment. Thus, there is a need to preserve the corridor as soon as possible. This will also allow communities to plan future development with the proposed river crossing corridor in mind, and minimize future right of way acquisition costs for the project.

2.3 SUMMARY OF PROJECT NEED/PURPOSE

The previous sections indicate a need for an improved connection due to:

- Increasing transportation demand on river crossing corridors coupled with limited opportunities in existing corridors to increase capacity. This results in increased congestion and the inability to meet established transportation performance goals.
- The role of I-94, TH 10 and TH 24 as important linkages that connect regional centers throughout the state. They are designated as part of the NHS and/or Minnesota's High-Priority IRC System.
- Safety problems will increase as traffic levels rise since the ability to find gaps in traffic to cross or access TH 24 will become more difficult and motorists take greater risks. Also, pedestrian, bicyclist and snowmobile safety issues will continue to worsen as volumes rise.
- Delay and safety issues at the existing at-grade crossing of TH 24 with the BNSF (also proposed North Star Commuter Rail) corridor will increase as travel demand rises.
- Impacts of congested crossings will lead to increasing delays for local traffic trying to access or cross the corridor. This will also decrease the quality of downtown areas bisected by the highways.
- Increasing growth in the area will limit available options for expanding corridor capacity if a Build Alternative is not identified as the Preferred Alternative during the EIS process. There is an immediate need to identify a Preferred Alternative and preserve the best corridor (i.e., serves the transportation need while minimizing environmental impacts) as soon as possible.