ST. CROIX RIVER CROSSING PROJECT SUPPLEMENTAL FINAL EIS
CHAPTER 2
PURPOSE OF AND NEED FOR ACTION

2.0 INTRODUCTION

The *2004 Supplemental Draft Environmental Impact Statement* (SDEIS) is incorporated by reference and is considered to be part of the Supplemental Final EIS (SFEIS).

Project area and transportation facility needs prompting this project are summarized below. The project purpose in Section 2.1 of the SDEIS was developed through the Stakeholder Resolution process and addresses environmental, cultural, economic, and social considerations as well as transportation goals. The Stakeholder Group-developed purpose and need is presented below in Section 2.1.1 of this SFEIS. Section 2.2 of the SDEIS addresses transportation needs in the area that led to consideration of this project.

Purpose of and Need for Action

The project purpose is to improve Minnesota Trunk Highway 36 and Wisconsin State Trunk Highway 64 between Trunk Highway 5/County State Aid Highway (CSAH) 5 in Oak Park Heights and Stillwater, Minnesota, and 150th Avenue in the Town of St. Joseph, Wisconsin, to provide a safe, reliable, and efficient transportation corridor by reducing congestion, improving roadway safety, and providing an adequate level of service for forecasted year 2030 traffic volumes[1]. Transportation needs for this project fall into two primary categories:

- Transportation mobility on a safe and efficient facility; and
- A reliable crossing of the St. Croix River

Further documentation of these needs is included in Section 2.2 of this SFEIS. Project objectives regarding transportation needs and social, economic, cultural, and natural environment concerns are included in Section 2.4 of this SFEIS.

Role in Regional Transportation System

The Lift Bridge over the St. Croix River between Stillwater, Minnesota, and Town of St. Joseph, Wisconsin, is part of a larger transportation system connecting the Minneapolis-St. Paul metropolitan area and west central Wisconsin. The Lift Bridge and its approach highways, Trunk Highways (TH) 36 and 95 in Minnesota and State Trunk Highways (STH) 35 and 64 in Wisconsin, serve the interregional movements of people and goods over long distances between the two states as well as short- to medium-distance trips between local communities in both states. The interstate and interregional connection facilitated by this crossing of the St. Croix River serves to support the economic interdependencies that exist between Minnesota and Wisconsin and the sub-regions within the states.

[1] Level of Service (LOS) is a indicator of intersection operations measuring an average delay per vehicle entering an intersection using the letters A - F, with LOS A representing minimal delay and LOS F representing substantial vehicle delays.

The importance of TH 36 within Minnesota's transportation system was recognized by its designation in 2000 by Mn/DOT as an Interregional Corridor from the point at which it connects to the I-694 ring to its termination at the Wisconsin border. Interregional Corridors are defined as roadways connecting major regional and economic centers within and around the state. As more of Minnesota's population and economic activities are locating in and around regional centers, the corridors connecting them become ever more important by providing safe, timely, and efficient movement of people and goods and by ensuring economic vitality. Further reinforcing the role of TH 36 as a key transportation corridor is its designation on the National Highway System (NHS). The NHS was established by the United States Congress to designate major highways important for interstate travel, national defense, intermodal connections, and international commerce. Wisconsin has recognized the role STH 64 plays in its state transportation system by designating STH 64 as a Multilane Connector in their *Corridors 2020* plan, a long-range highway and economic development plan. STH 64 is also designated as a principal arterial in the NHS system.

2.1 INFORMATION FROM THE SDEIS THAT REMAINS UNCHANGED

The project purpose and need as discussed in Chapter 2 of the SDEIS continues to be valid. Below is the Stakeholder Group-developed purpose and need and a summary of the transportation needs of the proposed project.

2.1.1 Stakeholder Group Developed Purpose and Need

Departments of Transportation in each state are responsible for providing mobility in a safe, reliable and cost-efficient manner and for integrating environmental, cultural, economic, and social considerations into transportation solutions. While this integration is always a necessary part of the DOTs' work, it is of particular importance and sensitivity as WisDOT and Mn/DOT contemplate improving mobility and safety between the two states in the area of the existing crossing between Washington County, Minnesota, and St. Croix County, Wisconsin.

The project goal is to manage congestion and improve mobility in a reliable, safe and cost-efficient manner as part of a broader program of regional transportation improvements while avoiding (and when unavoidable, minimizing and mitigating for) impacts to the area's social, economic, cultural and environmental needs and objectives.

2.1.1.1 Transportation Purpose

Mobility

- The estimated (congestion-free) vehicle capacity for the current river crossing and arterial approaches is 11,200 vehicles a day. The 2002 Average Annual Daily Traffic (AADT) volumes on the river crossing are 16,300 vehicles per day and can exceed 19,000 on a summer weekday. This constraint leads to periodic daily vehicular congestion in downtown Stillwater and on the Wisconsin approach to the bridge.

- The current Metropolitan Council/Mn/DOT travel demand model[2] forecasts average daily vehicle traffic on the river crossing of 21,700 at an average vehicle occupancy of 1.40 persons per vehicle by the year 2030 if no new St. Croix River Crossing is built, no cross-river modal alternatives are established, and Minnesota and Wisconsin projected development and programmed roadway improvements occur as planned. This predicted increase in vehicular traffic volume, if realized, will degrade traffic operations and safety in downtown Stillwater, on the river crossing and arterial approaches, and will double average delay, queue lengths and daily hours of congestion by the year 2030.

- Analysis of existing signalized intersections in downtown Stillwater indicates approximately 90 seconds of average delay per vehicle during peak hour and levels of service[3] (LOS) D-F in 2002. These delays are affected by close intersection spacing, restricted geometrics and delays due to the bridge raising. For a regular peak hour commuter, this delay results in 19 hours in total delay over the course of a year.

- Geometric and physical restrictions in downtown Stillwater limit the opportunities to improve transportation operations and management.

- The river crossing is susceptible to closures due to flooding, maintenance activities, and vehicle incidents that disrupt system connections numerous times per year.

Safety

Crash rates on two segments (one in Minnesota and one in Wisconsin) exceed the statewide averages. The severity rate[4] for one segment in Minnesota is nearly double the statewide average. The non-fatal injury crash rate for the Wisconsin segment is 50 percent greater than the statewide average.

2.1.1.2 Environmental, Cultural, Economic and Social Considerations

- The area where transportation mobility and safety improvements are contemplated includes the Lower St. Croix National Scenic Riverway (the Riverway); therefore, it is necessary to protect the Riverway's Outstandingly Remarkable Values – scenic, recreational, and geologic – as guided by the *Cooperative Management Plan* for the Lower St. Croix National Scenic Riverway.

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2 Current Metropolitan Council/Mn/DOT model as modified to include the project study area.

3 Level of service (LOS) is an indicator of intersection operations as measured in average delay per vehicle and provides an indication of the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. Each LOS represents a range of operating conditions and the drivers' perception of those conditions. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow. LOS A through D is generally considered acceptable by drivers. LOS E indicates that an intersection is operating at, or very near, its capacity and that vehicles experience substantial delay.

4 Severity rate is a weighted average taking into account fatal crashes, personal injury crashes, and property damage crashes.

- It is necessary to avoid and, if unavoidable, to minimize impacts to the Riverway's channel, shoreline, bluffs, air quality and water quality.

- It is important to respect the cultural value and historic significance of the Stillwater Lift Bridge, a structure that is listed on the National Register of Historic Places.

- It is important to respect the integrity of the Stillwater Commercial Historic District and the Stillwater Cultural Landscape District. The visual/aesthetic quality, economic viability and physical integrity of these districts are critical to the preservation of these resources and to the protection of the cultural landscape and the community character.

- It is necessary to avoid, and if unavoidable, to minimize impacts to area parklands, cultural resources, threatened and endangered species and wetlands, and if impacted, provide mitigation/compensation for the adverse impacts.

- It is necessary to examine the interaction of land use and transportation, and consider the secondary and cumulative impacts of alternative methods of addressing the transportation needs (and the full impact of failing to address the transportation needs) expressed above.

- It is necessary to avoid and, if unavoidable, minimize impacts to business and property owners, residents and visitors throughout the project area.

2.2 TRANSPORTATION NEEDS

The project purpose, to improve TH 36/STH 64 between TH 5/CSAH 5 in Oak Park Heights and Stillwater, Minnesota and 150th Avenue in the Town of St. Joseph, Wisconsin, in order to provide a safe and efficient facility and a reliable river crossing, has been based on key issues facing the transportation system. The study area's transportation system includes highways and modes such as transit/ridesharing, bicycle/pedestrian facilities, and navigational and recreational boating. The key regional highway facilities that support this area and surrounding communities include TH 36 and TH 95 in Minnesota, and STH 35 and STH 64 in Wisconsin. The Stillwater Lift Bridge crosses the St. Croix River linking TH 36 and Stillwater, Minnesota to STH 64 and the Town of St. Joseph, Wisconsin.

Both the existing and future No-Build transportation systems include issues substantiating roadway improvement. Figure 2-1 summarizes key transportation issues in the study area. This section briefly describes the key issues facing the transportation system, including the ability of transportation system management and travel demand management (TSM/TDM) strategies to address the transportation issues (see Section 2.2.3 of this SFEIS). A detailed discussion of the transportation system and the mobility and safety issues facing it is located in Chapter 4 of the SDEIS.

2.2.1 Providing Safe and Efficient Mobility

Departments of Transportation seek to provide safe and efficient mobility. In providing this mobility, transportation systems must adequately serve travel demand. Travel demand in the study area consists of motor vehicle and multi-modal demand. These modes include transit, ridesharing (park-and-ride, park-and-pool), bicycle/pedestrian travel, and navigational and recreational boating. The transportation system's ability to provide safe and efficient motor vehicle mobility is discussed first. The system's ability to provide multi-modal mobility is discussed in Section 2.2.3 of this SFEIS.

2.2.1.1 Motor Vehicle Mobility

The project area transportation system today does not adequately service motor vehicle demand. Operational issues are brought on by geometric and capacity issues throughout the system. Operational issues are discussed first, followed by a discussion of the system's geometric and capacity issues.

Operational Issues

The project area transportation system poorly serves existing travel demand. Service is anticipated to deteriorate in the future. The following bullet points summarize the traffic operations issues.

- Traffic operations are problematic. A capacity analysis was completed for the existing conditions to determine the quality of traffic flow through study area intersections. This analysis was completed for key intersections in the project area during the 2002 P.M. peak hours. Nine of 26 intersections analyzed under existing (2002) conditions operate at LOS E or F. The failing intersections are located on the TH 36 frontage roads and in downtown Stillwater. Three of the nine intersections operate with more than 300 seconds of delay per vehicle during the P.M. peak hour. Additional information is provided in Section 4.1.4.2 of the SDEIS and is summarized in Section 4.1.1.6 of this SFEIS.

- Lift Bridge deck lifts substantially affect existing downtown Stillwater traffic operations. Two separate operations analyses were completed for the existing conditions, one including Lift Bridge activity (raising the deck once during the peak hour analysis period), and one scenario excluding it. The Lift Bridge deck raise creates a 10-minute bridge closing to accommodate larger boats using the river. With no bridge deck lift, one of the seven downtown Stillwater intersections analyzed operates at LOS F. With a bridge deck lift, six of the seven downtown intersections analyzed are at LOS E or F. The bridge deck lift causes substantial levels of service problems that result in traffic queues, backups, and local traffic diversions. Additional information is provided in Section 4.1.4.2 of the SDEIS and is summarized in Section 4.1.1.6 of this SFEIS.

- High pedestrian volumes in downtown Stillwater substantially affect traffic operations. Downtown Stillwater is a popular retail and entertainment area with high levels of pedestrian activity. In August 1998, about 400 pedestrians were counted crossing the Main Street and Chestnut Street intersection during the weekday P.M. peak hour. Pedestrians also cross Main

Street at mid-block in downtown Stillwater. During seasons with high pedestrian volumes, the interaction between vehicles and pedestrians not only creates a serious safety problem, but also reduces the capacity and operating efficiency of the intersection.

- Traffic diverts to local collector streets and arterial routes seeking to minimize delay when crossing the river. Locally, drivers attempt to minimize their delay and bypass queued traffic by traveling on alternate routes into and out of downtown Stillwater. Alternate routes include Stillwater Boulevard, Greeley Street, and Osgood Avenue to Nelson Street or Myrtle Street. Substantial queues develop on the alternate routes during afternoon peak hours. Regionally, traffic diverts to alternate river crossing locations including I-94 at Hudson, STH 243 at Osceola, and U.S. Highway (USH) 8 at St. Croix Falls.

  Local traffic diversion also occurs because there is no direct TH 36 access from TH 95 south of the TH 36/95 interchange. Drivers traveling to or from TH 95 south of the TH 36/95 interchange are forced to travel a circuitous route on local streets in Oak Park Heights, or make a U-turn on TH 36/95 just north of the interchange.

  Traffic diversion is a concern. On the local road network, regional traffic occupies the local street capacity, lowering its level of service, and affecting residential neighborhoods and local commercial areas. This degradation of the local street system is unacceptable given that the purpose of the regional roadway network is to serve regional trips, while the local street system should service local trips. These diversion trips are not local trips, but rather, regional "through" trips to/from Wisconsin. Local traffic diversion also has safety implications that are discussed in the next section. Regionally, traffic diverting from the TH 36/STH 64 corridor occupies capacity on other regional corridors, including I-94. Interstate 94 provides the main highway-related freight connection between Chicago and the Twin Cities. It has the highest freight tonnage and value categories of all roadways in Minnesota. Each trip diverting from the TH 36/STH 64 corridor occupies valuable capacity on this important national trade corridor.

- Mainline crash rates (2000 to 2002) are high on two sections of roadway within the project area as compared to averages for similar facility types. The crash rate for TH 36 between the south junction of TH 36/TH 95 and the east end of the Lift Bridge is about 90 percent higher than the average crash rate for two-lane urban trunk highways in Minnesota. In Wisconsin, the crash rate for STH 64 is about 50 percent higher than the average crash rate for two-lane rural roadways in Wisconsin. The crash rate for the STH 64/County Trunk Highway (CTH) E and STH 64/STH 35 intersections is 70 percent higher than the average rate for comparable intersections[5]. Segments or intersections that have substantially higher crash and/or severity rates as compared to peer groups should be noted; they can indicate roadway and operational deficiencies contributing to unsafe conditions. Additional discussion on crash rates is located in Section 4.1.4.3 of the SDEIS and is summarized in Section 4.1.1.6 of this SFEIS.

[5] The STH 64 intersection crash rates were compared to statewide crash rates for comparable intersections in Minnesota. This data was not available in Wisconsin. Minnesota rates are acceptable comparisons because of the intersections' proximity to Minnesota.

- TH 36 frontage road crash frequency (2001 to 2003) is high for three of the six main cross street intersections. More than five crashes occurred per year at the TH 36 north frontage road intersections with Washington Avenue and Greeley Street, and the TH 36 south frontage road intersection with Osgood Avenue. According to the *Minnesota Manual on Uniform Traffic Control Devices* (MUTCD), traffic control alternatives (e.g. signals) should be considered at unsignalized intersections like these when five or more reportable crashes occur at the intersection within 12 months. Although the MUTCD guidelines suggest traffic signals should be considered, signals or other traffic control alternatives such as roundabouts are not feasible given the frontage road intersection proximities to TH 36. The proximities hinder signal coordination and vehicle storage opportunities (space for vehicle queuing) that adequately address mainline, cross street, and frontage road traffic movements.

- Incident Management and Emergency Response. When crashes or emergency situations occur within the project area and western Wisconsin, the safety of victims and passersby is further compromised by the constrained geometrics of TH 36/TH 95 entering Stillwater, the Chestnut-Main intersection, and the Lift Bridge. The constrained geometrics of these facilities, exacerbated by congested peak period traffic conditions (when about 40 percent of crashes occur[6]), create difficulties for emergency vehicles in reaching the scene of an incident and in rerouting traffic around crash/incident sites until the area can be cleared.

- Conditions substantially deteriorate under future No-Build conditions as compared to the existing condition. In terms of traffic operations, 20 of the 26 intersections analyzed in the No-Build Alternative were at LOS E or F as compared to nine intersections under existing conditions. Sixteen of the 20 failing intersections are anticipated to operate with more than 300 seconds of delay per vehicle. The failing intersections are spread throughout the project area in the 2030 No-Build Alternative; operations are anticipated to be poor at TH 36 frontage road intersections in Oak Park Heights, at TH 95 intersections, at downtown Stillwater intersections, and at Wisconsin approach roadway intersections. Additional information on local traffic operations is discussed in Sections 4.2.3 and 4.3.2 of this SFEIS.

  Traffic diversion also would worsen under future No-Build conditions. Modeling forecasts year 2030 traffic volumes to increase by over 30 percent on Stillwater Boulevard and Greeley Street, by over 70 percent on Osgood Avenue, by over 100 percent on I-94 and STH 243, and by over 50 percent on USH 8 with the No-Build condition. Only part of the anticipated increases can be attributed to development; the rest is attributable to project area traffic attempting to minimize crossing delays.

Geometric and Capacity Issues

Several factors contribute to existing and forecasted future traffic operations, including geometric and capacity characteristics of the Lift Bridge, TH 36, and STH 64. This section addresses geometric and capacity issues; the issues are presented below moving from west to east along the corridor. Interruptions of service associated with the Lift Bridge also affect traffic operations and are discussed in Section 2.2.2 (Providing A Reliable River Crossing).

[6] Based on an analysis of crashes occurring from 2001 – 2003 at TH 36 intersections in the project's Upper Bluff area.

- High-volume, signalized intersections on TH 36. The posted speed limit on TH 36 is 60 mph as it approaches the TH 36 Partnership Area (TH 5 to TH 95) from the west. As it enters Oak Park Heights and Stillwater, the posted speed limit drops to 50 mph as traffic travels through one grade-separated interchange (TH 5/CSAH 5) and three at-grade, signalized intersections: Washington/Norell Avenues, Oakgreen Avenue/Greeley Street, and Osgood Avenue. Volumes on TH 36 traveling through these intersections are approaching capacity and are anticipated to exceed capacity by 2030.

- Close TH 36 frontage road system. The distance between TH 36 main-line and frontage road intersections is very short (160 to 175 feet). The frontage road/cross street intersections are also side-street stop controlled, i.e., only the frontage road legs of the intersection are stopped. The combination of the proximity of the frontage road intersections to the mainline/cross-street intersections and the stop-controlled conditions limits the capacity of the frontage roads, encouraging short, local trips on TH 36. The inadequate spacing between mainline TH 36 and the frontage roads also creates confusion and uncertainty as to who has the right-of-way causing delays and queuing during peak periods. These conditions are anticipated to deteriorate under 2030 No-Build conditions.

- Discontinuous, local street system. Two constraints limit the capacity of the local road system in the area bordering TH 36: missing links and physical constraints. There are two critical links missing between Greeley Street/Northbrook Boulevard and Osgood Avenue within the project area: 62nd Street on the north side of TH 36, and 58th/57th Street on the south side. Traffic traveling between these areas is easily diverted onto TH 36, occupying valuable capacity. The downtown Stillwater local street system is also affected by physical constraints. Downtown Stillwater sits within a topographical "bowl" at the edge of the river bluff. Ravines and steep grades at the edge of the "bowl" interrupt the street grid and provide few continuous paths into downtown Stillwater other than TH 36/95 (Main Street).

- Reduced capacity and limited access exists at the TH 36/TH 95 merge area. Reduced capacity occurs as two lanes of eastbound TH 36 traffic merge with one additional lane of northbound TH 95 traffic, and then are reduced to one lane heading north to Stillwater. The TH 36/TH 95 interchange also does not provide full access for traffic traveling to/from TH 95 south of the interchange; the interchange configuration forces drivers to travel a circuitous route on local streets or make a U-turn on TH 36/95 just north of the interchange.

- Restricted geometrics at Chestnut Street/Main Street intersection limit its capacity. This intersection is the Lift Bridge gateway on the Minnesota side of the river. The area's geometrics limit traffic flow to one lane in each direction and limit the ability of large vehicles to make turns.

- The Lift Bridge is located only 420 feet from the Chestnut Street/Main Street intersection in downtown Stillwater. Space for traffic queuing is insufficient for the existing and forecasted future traffic volumes. This causes traffic queues to spill back on to adjacent downtown Stillwater streets, exacerbating traffic congestion in downtown Stillwater.

- Restricted Lift Bridge geometrics limit its capacity to one travel lane in each direction. The Lift Bridge has substandard lanes (less than 12 feet wide) and no shoulders. In addition, limited lateral clearance caused by bridge trusses on both sides of the roadway encourages semi-trailer trucks and other large vehicles to crowd the centerline of the road to avoid hitting the bridge structure on the sides. These characteristics limit the capacity and travel speeds across the bridge. The geometrics of the Lift Bridge also limit its ability to manage traffic after crashes/incidents on the bridge.

- Steep STH 64 gradient (7 to 7.5 percent) from the Lift Bridge to Houlton, Wisconsin, limits the speed of eastbound traffic, especially trucks. This in turn limits the capacity of this section of roadway.

- Dangerous STH 35/64 and STH 64/CTH E intersections increase the likelihood of accidents. The skew of the intersections makes attempts to enter or exit STH 35/64 difficult and dangerous during peak traffic periods. The crash rates for these intersections are 70 percent higher than the average rate for comparable intersections[7].

- Limited opportunities for passing along STH 35/64 within the project area, which limits the capacity of this section of the roadway.

2.2.2 Providing a Reliable River Crossing

The Lift Bridge is a key element affecting the quality of the transportation system in the project area. Because of the bridge deck lifts, elevation (e.g., relative to the 100-year floodplain elevation), and physical condition, the Lift Bridge cannot provide reliable service. Between 2001 and 2003, the Lift Bridge was closed on average 73 days per year (closed all or part of the day) because of maintenance activities, vehicle incidents, or flooding[8]. Deck lifts cause additional interruptions. Interruptions and unreliability are anticipated to continue or deteriorate in the future as the Lift Bridge structure ages and traffic volumes continue to grow. The following bullet points summarize the Lift Bridge characteristics.

- The Lift Bridge deck raises at scheduled times throughout the day to allow river navigation. The Lift Bridge deck is scheduled to lift 21 times daily on weekdays and 22 times daily on weekends and holidays from May 15 through October 15. Lift Bridge deck lifts cause substantial queuing throughout downtown Stillwater and up the bluff on the Wisconsin side. In the off season (October 16 – May 14), the Lift Bridge is raised upon 24 hours notice.

- The current Lift Bridge deck lift schedule has been negotiated with the Coast Guard to minimize deck lifts during peak traffic periods. Currently, the deck lifts once every 1.5 hours during the P.M. peak period; a deck lift cannot be avoided during the peak traffic period due to the peak's long duration. Under No-Build conditions, as periods of peak traffic conditions lengthen, additional bridge lifts would occur during peak periods.

[7] The STH 64 intersection crash rates were compared to statewide crash rates for comparable intersections in Minnesota. This data was not available in Wisconsin. Minnesota rates are acceptable comparisons because of the intersections' proximity to Minnesota.

[8] Source: Mn/DOT.

- The Lift Bridge is flood prone. The Lift Bridge is closed five days per year (on average) due to river flooding.[9] The five-day per year estimate includes only days closed due to high water. The bridge is typically closed for additional days for inspection and needed repairs following flood events. Because of the Lift Bridge proximity to historic downtown Stillwater, elevation changes are precluded.

- Poor Physical Condition: At the age of 70 years, the Lift Bridge is already beyond the normal operational life of a bridge structure. Studies have raised substantial structural concerns regarding the Lift Bridge's machinery, structure, and substructure.[10] The condition of these components and recent operational experience suggest that the Lift Bridge is nearing the end of its "useful service." Due to its structural condition, Mn/DOT implemented major Lift Bridge repairs in 2005 (see Section 1.2.4.8 of this SFEIS). These repairs, began in summer 2005 and completed in spring 2006, addressed some but not all of the Lift Bridge's structural deficiencies because of funding limitations. Because of the remaining deficiencies, additional major rehabilitation will be needed in the future if the bridge is to remain operational. This rehabilitation would be needed by 2020 and would result in closing the bridge to traffic for approximately two years[11]. In addition, the bridge is routinely closed for structure inspections.

2.2.3 Ability of TSM/TDM Measures to Address Transportation Issues

Transportation System Management (TSM) strategies are low-cost measures that increase the capacity of the existing transportation system, reducing or postponing the need for major capital investments by making the best use of existing transportation infrastructure. Transportation Demand Management (TDM) is a subset of TSM. It includes strategies designed to reduce travel demand by changing travel behavior, with the goal of reducing the need for major capital investments in transportation infrastructure.

2.2.3.1 Multi-Modal Considerations

Existing

Transportation systems often include other modes that supplement highways and offer a transportation choice to users. In the project area, multi-modal systems include transit and taxi services, ridesharing (park-and-ride and park-and-pool lots), bicycle/pedestrian travel, and navigational and recreational boating. Section 4.1.3 in Chapter 4 of the SDEIS provides detailed information on these facilities.

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[9] Historical data on bridge closures is not well documented. The closure estimate is based on a review of limited data from Mn/DOT, the U.S. Coast Guard, and the U.S. Army Corps of Engineers. The five-day per year estimate is documented in a memo from SRF Consulting Group, Inc, *Stillwater Lift Bridge Historical Closure Dates*, March 16, 2004.

[10] Studies investigating the Lift Bridge structural capacity include the following: A.G. Lichtenstein and Associates, Inc. report, *Alternates Study of Bridge Lift Expectancy for the Stillwater Lift Bridge over the St. Croix River*, May 1999; HNTB report, *Maintenance Projections and Annualized Costs: Report of Findings – Stillwater Lift Bridge*, August 6, 2003; SRF Consulting Group, Inc, *Stillwater Lift Bridge: Determination of Repairs/Replacements to Allow Continuation of Service for Vehicular Traffic Until 2055 and Beyond*, April 16, 2004.

[11] Estimated closure duration is documented in a memo from SRF Consulting Group, Inc, *Stillwater Lift Bridge: Determination of Repairs/Replacements to Allow Continuation of Service for Vehicular Traffic Until 2055 and Beyond*, April 16, 2004.

Transit service in the project area includes regular express and Dial-a-Ride bus service provided by Metro Transit and St. Croix Valley Transit. There is no bus service currently provided in the Wisconsin portion of the project area, but the cities of New Richmond and River Falls do provide shared-ride taxi service operating within and just outside their city limits. Special transportation service is also available for the elderly and the handicapped in St. Croix County through the St. Croix County Department on Aging.

Ridesharing facilities (park-and-ride and park-and-pool lots) exist in the project area and ridesharing is promoted by 3M and Andersen Windows. Today there are two park-and-ride lots located in the Stillwater area. There are no existing park-and-ride lots in the Wisconsin portion of the project area (served by bus service); there is one park-and-pool lot (for carpooling) located off the I-94 north frontage road in Hudson. The locations of these lots are shown in Figure 4-1 in the SDEIS. Other park-and-pool lots are located in western Wisconsin outside of the project area.

Bicycle and pedestrian trail facilities for recreational or commuter use in the project area are limited. On the Wisconsin side, there are no separate bicycle or pedestrian facilities in the project area. There are some trails on the Minnesota side, however they do not provide sufficient community connections. TH 36 forms a bicycle/pedestrian barrier in the area because of its heavy traffic flows, high speeds, congestion, and the presence of continuous traffic movement at its intersections. High pedestrian volumes in downtown Stillwater conflict with vehicular traffic creating unsafe conditions for both pedestrians and motorists, and reducing roadway/intersection capacity.

Future

Under No-Build conditions, travel conditions for most multi-modal transportation options would deteriorate in the future. Transit, bicyclists, and pedestrians would find it increasingly difficult to travel through the project area. Infrastructure, delays, and congestion would affect the efficiency of the transit system. Bicyclists and pedestrians would be forced to deal with large volumes of high-speed traffic in the TH 36 partnership area (TH 5 to TH 95) and large volumes of frustrated motorists in downtown Stillwater (frustrated by long delays). Both navigational and recreational boaters would be forced to continue dealing with the obstruction created by the Lift Bridge and the fixed schedule on which its deck lifts.

2.2.3.2 Existing TSM Strategies

Existing, implemented TSM strategies within the travelshed of the Lift Bridge include[12]:

- Traffic signal modernization (signal timing optimization) in downtown Stillwater;
- "Trailblazing" signs to identify alternate routes;
- Park-and-pool lots in western Wisconsin; and,
- Modification of the Lift Bridge schedule to reduce openings during peak traffic periods.

[12] These strategies are discussed in detail in the memorandum from SRF Consulting Group, Inc. entitled, *Existing TSM/TDM Measures: St. Croix River Crossing Study*, September 28, 1998.

2.2.3.3 1998 Braun Studies

Other TSM measures and TDM strategies were explored during the Braun Process to identify additional low-cost modifications that would better utilize the existing roadways and Lift Bridge. These TSM improvements and TDM strategies are discussed in detail in Section 2.2.3.1 of the SDEIS and are summarized below.

- Any improvements to the capacity of the Stillwater crossing were determined to involve capacity improvements to the intersection of Chestnut and Main Streets. A 1990 study found that no improvements providing a long-term solution to the capacity shortage at this intersection were possible.[13] Adding roadway capacity through downtown Stillwater would also negatively affect the pedestrian-oriented character of this historic area.

- Capacity improvements on a broader geographic scale were also considered in an effort to seek out opportunities for more effectively using all four St. Croix River crossings, including improvements to CTH A in St. Croix County to determine if this would encourage greater use of the I-94 river crossing. No other effective regional roadway improvements were identified.

- Travel Demand Management strategies identified included transit service between western Wisconsin communities and metro area destinations with park-and-ride lots provided in the Wisconsin communities, employer-sponsored discounting of transit fares, and carpool incentives such as preferential parking or parking subsidies.

A TSM/TDM alternative was determined to have a small daily effect on traffic volumes across the Stillwater Lift Bridge. If system improvements, transit service increases, and carpooling incentives were provided in an extensive TSM/TDM program, the total reduction would be 1,250 vehicles per day, a 5.2 percent decrease.

Peak period vehicle reductions for a TSM/TDM alternative are estimated to be approximately 15 percent. However, it was expected that these reductions would be offset during the peak hour due to "back filling" of trips. Trips that have already diverted to other crossings would revert to the Lift Bridge if there were any decreases in volumes due to implementation of TDM/TSM strategies. Therefore, peak period reductions realized by implementation of these strategies would likely not be perceptible to motorists, would not meet broader regional travel needs, and would not reduce the number of vehicles per lane in the peak hour from existing congested levels. Therefore, a TSM/TDM alternative (implementing all possible TSM/TDM strategies), while possibly resulting in some reduction in traffic volumes on the Lift Bridge, would not be sufficient to address the need for transportation system capacity improvements in the project area.

[13] Mn/DOT (1990), *An Analysis of TSM actions in Downtown Stillwater*, Mn/DOT unpublished memorandum.

2.2.3.4 2003 Scoping Document: Alternative A

During the scoping phase of the 2004 SDEIS, Alternative A was proposed through the Stakeholder Resolution process to address transportation needs through use of transit and emergency vehicle advantages (transit and emergency vehicle lanes, park-and-ride facilities), new transit travel options (water transit service, express bus service, circulator shuttle, commuter rail lines), use of advanced technologies to enhance mobility (opticon emitters), widening STH 65 in Wisconsin from two lanes to four lanes for the purpose of redirecting more traffic to the I-94 river crossing, and regional policy changes (STH 65 commercial growth zone, restrictive zoning of STH 35, inclusion of St. Croix County in Metropolitan Council planning and research, and other policy changes). Refer to Section 2.2.3.2 of the SDEIS for additional discussion of Alternative A.

Alternative A as modified was determined to not meet the purpose and need of the project through analysis of the travel demand forecasting results. The analysis indicates that Alternative A does not resolve the congestion problem, but shifts it to the I-94 corridor, which could indicate additional capacity concerns. In addition, continued use of the Lift Bridge does not address concerns of reliability associated with this bridge, which has been demonstrated to be susceptible to closures due to flooding, repairs and maintenance. The $5 Million Lift Bridge Project[14], started in summer 2005 and completed in spring 2006, did not eliminate the bridge's vulnerability to flooding, causing periods of traffic diversion.

2.2.3.5 Transit Feasibility Study

While Alternative A was eliminated during the scoping phase because of its inability to fully address the area's transportation needs, travel demand forecasts did identify possible transit markets in western St. Croix County, Wisconsin. As a result, the DOTs conducted a workshop in December 2004 to develop the parameters of a study examining the feasibility of transit services, including bus transit, park-and-ride lots, and park-and-pool facilities in the St. Croix Valley. Refer to Section 15.4.1.2 of this SFEIS for a discussion of the transit feasibility study.

2.2.4 Summary of Transportation Issues

Both the existing and future No-Build transportation systems include issues substantiating roadway improvement. Figure 2-1 summarized the key transportation issues in the study area. The main issues are also summarized in the following bullet points.

- Poor traffic operations: Substantial delays and queuing are caused by insufficient roadway and intersection capacity, poor TH 36 frontage road geometrics (close proximity to TH 36 mainline), and Lift Bridge deck lifts.

[14] In fall of 2002, the 106th United States Congress provided $4,989,000 in funding from the Labor, Health, and Human Services bill for the repair of the Stillwater Lift Bridge ("$5 Million Lift Bridge Project"), to be completed as a separate but related project. An extensive list of repair needs was identified through inspection and evaluation of the Lift Bridge, including steel repairs, deck replacement, lift span motors, drive gears, cables, tender's house repair, pier caps, and abutments, along with the pedestrian walk and railing. The list was then prioritized, identifying repairs that could be completed with available funds. These repairs began in the summer 2005, and are anticipated for completion in the summer 2006.

- Diverting traffic volumes: Delays, queuing, and Lift Bridge conditions (flooding and maintenance) encourage traffic to use alternate routes. Diverting traffic use alternate regional, river crossings and local travel routes. Regional traffic diversion would be a particular issue in future No-Build conditions when the Lift Bridge would be closed for two years for major rehabilitation.

- High crash rates: Insufficient roadway and intersection geometrics result in unsafe conditions.

- Delayed emergency response: Areas in both Minnesota and Wisconsin experience delays caused by poor traffic operations and Lift Bridge conditions (deck lifts, closure due to flooding and maintenance).

- Impeded access: High traffic volumes and congestion levels hamper access to properties for residents, business patrons, and pass-through travelers.

- Interrupted, unreliable river crossing: The existing Lift Bridge is a two-lane bridge with substantial structural deficiencies. It cannot accommodate existing or forecasted future traffic volumes and does not provide capacity for incident management or emergency response. A rehabilitation project addressing immediate maintenance needs began in summer 2005 and was completed in spring 2006; however, due to lack of funding, this project will not address all structural deficiencies. Another major rehabilitation would be needed by 2020; this would close the bridge for approximately two years. The Lift Bridge is also flood prone and is closed an average of five days per year.

- Lack of bicycle/pedestrian facilities.

- Transportation System Management (TSM)/Travel Demand Management (TDM) cannot fully address transportation needs in the project area. However, a possible transit market has been identified. Mn/DOT, in cooperation with the Metropolitan Council, will conduct a transit feasibility study to determine transit goals and objectives and further examine potential transit markets (including non-traditional transit services) in western Wisconsin.

2.3 PROJECT OBJECTIVES

Both measurable and qualitative objectives have been identified by Mn/DOT and WisDOT for the St. Croix River Crossing Project. These objectives helped Mn/DOT, WisDOT, and the public identify those alternatives described in the SDEIS meeting the project purpose and need as well as the goals and objectives identified by the community.

2.3.1 Measurable Transportation Objectives

The following objectives were identified during the scoping phase as measurements of improving transportation needs and addressing the project purpose as identified in this Chapter 2. These objectives were used in identifying the Preferred Alternative (refer to

Chapter 3 of this SFEIS). The ability of the existing conditions to meet these objectives is discussed in Chapter 4 of the SDEIS. The ability of the Preferred Alternative to meet these transportation objectives is discussed in Chapter 4 of this SFEIS.

- Sufficient intersection capacity and geometrics to accommodate year 2030 average weekday afternoon peak hour traffic volumes at a Level of Service (LOS) B if possible, with a minimum LOS C.
- Reduced volumes of regional through traffic on local streets.
- Sufficient roadway capacity and geometrics to accommodate year 2030 average annual daily traffic (AADT) volumes.
- Reduced travel times during the weekday afternoon peak hour.
- Consistency of travel times during typical conditions.
- Fewer facility closures due to weather conditions (snow, ice, flooding) or facility maintenance or repairs.
- Fewer facility closures due to vehicle crashes or other incidents.
- Crash rates at or better than state average for facility type.
- Transportation benefit/cost ratio greater than or equal to 1.0.[15]

2.3.2 Qualitative Transportation Objectives

In addition to the measurable objectives related to the project need listed above, the following additional transportation objectives have been identified as necessary to fulfill Mn/DOT's and WisDOT's agency responsibilities to providing a state transportation network. The ability of the Preferred Alternative to address these objectives is discussed in Chapter 4 of this SFEIS.

- Efficient access to other regional roadways (TH 95 and STH 35).
- Access to local arterials and collectors where appropriate.
- Provision of multi-modal considerations (bus, rail, pedestrian, bicycle) where they address a demonstrated need and are found to be cost-effective.
- TH 36/STH 64 mobility improvements should contribute to improvements in regional mobility, not simply transfer congestion problems from one location to another.
- Protect public rights to free navigation on the St. Croix River.

[15] Includes measures of transportation performance such as vehicle miles traveled and vehicle hours traveled as compared to estimated project costs. Additional information regarding the benefit/cost analysis methodology can be found in Section 4.3.4 of the SDEIS, the May 2004 technical memorandum entitled *St. Croix River Crossing Benefit-Cost Analysis Memorandum*, or the May 2005 technical memorandum entitled *St. Croix River Crossing Benefit-Cost Analysis Memorandum—Preferred Alternative.*

- Preserve opportunities for multi-modal consideration.

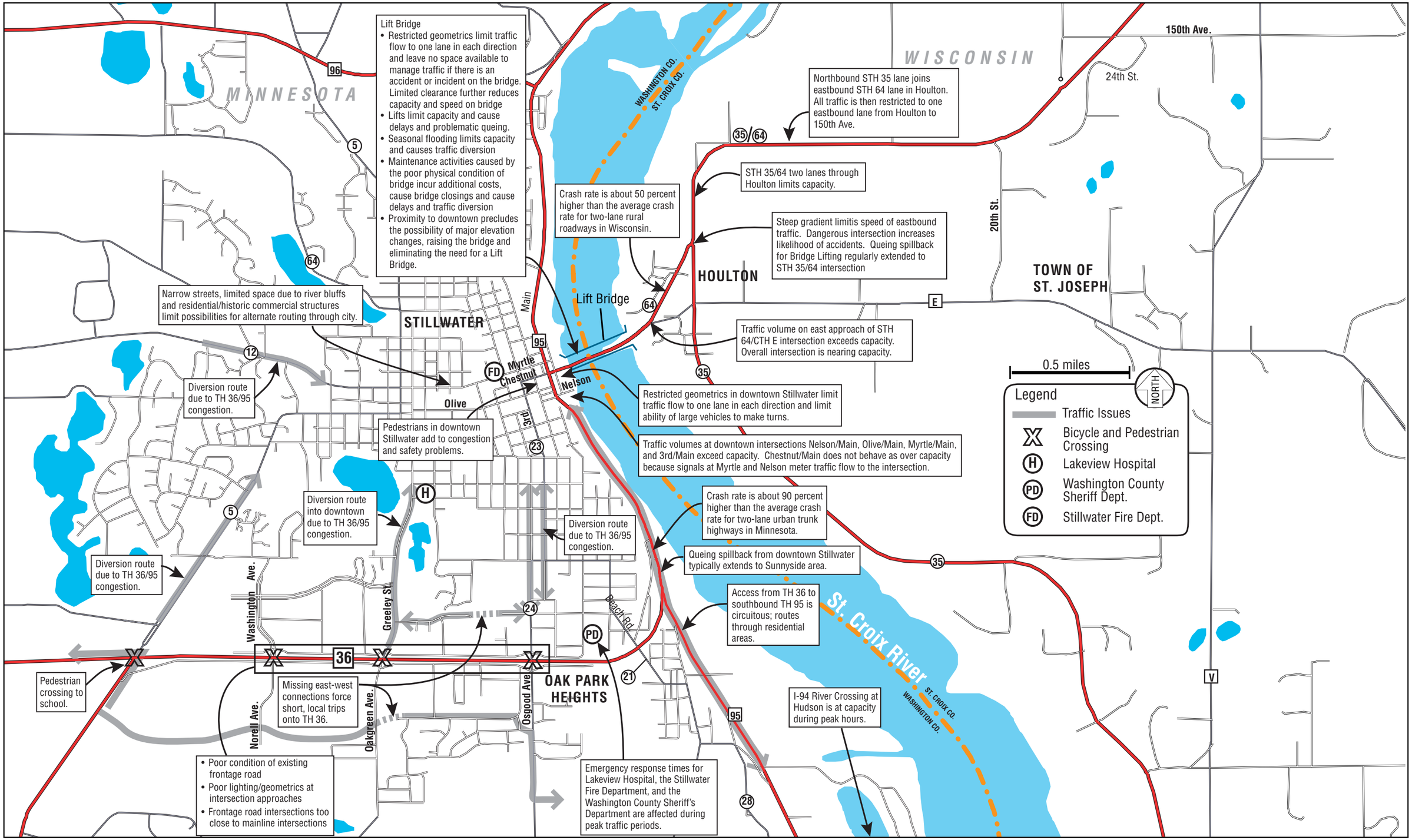
2.3.3 Environmental, Social and Historic Resource Objectives

While the integration of environmental, economic, social and historic resource concerns is always a necessary part of the DOT's work, it is of particular importance and sensitivity due to the unique resources present within the project area. The project area contains the unique resources of the Lower St. Croix National Scenic Riverway – a waterway nationally recognized for its remarkable scenic, recreational and geologic values – as well as numerous historic resources reflecting the area's rich history as the "birthplace" of Minnesota.

The following objectives have been identified regarding these concerns:

- Support the outstandingly remarkable values of the Lower St. Croix National Scenic Riverway (scenic, recreational and geologic).
- Maintain, or potentially enhance, the visual integrity of the Lower St. Croix National Scenic Riverway.
- Maintain, or potentially improve, the existing water quality of the St. Croix River watershed.
- Maintain, or potentially improve, the existing air quality of the St. Croix River valley.
- Respect the integrity of area cultural resources including the Lift Bridge, the Stillwater Commercial Historic District and the Stillwater Cultural Landscape District.
- Avoid, or if not possible, minimize, impacts to area parklands including Lowell Park and Kolliner Park and future parklands at the Stillwater Municipal Barge Facility property, the St. Croix Scenic Overlook-South, the Cover Park/Xcel parkland dedication area, Teddy Bear Park, and other parklands identified in the study area.
- Avoid, or if not possible, minimize impacts to the channel, shoreline and bluffs of the Lower St. Croix National Scenic Riverway.
- Avoid, or if not possible, minimize, impacts to threatened and endangered species.
- Avoid and, if unavoidable, minimize impacts to business and property owners, residents and visitors throughout the project area.
- Avoid, or if not possible, minimize, impacts to land use plans of local communities.

The need to avoid, or if unavoidable, minimize impacts on national scenic riverways, parklands, cultural resources, wetlands, threatened and endangered species as well as other social, economic and environmental resources has been recognized by state and federal laws, regulations, and policies governing roadway design and construction. These laws, regulations and policies as well as the impacts of the Preferred Alternative are discussed in the remainder of this Supplemental Final EIS.



Transportation Issues Map

Figure 2-1