1. Purpose and Need

This chapter introduces the proposed Northern Lights Express (NLX) Project and sets the stage for the technical analysis that is documented in this Tier 2 Project Level (Tier 2) Environmental Assessment (EA). This chapter also describes the Project location and setting in East Central Minnesota and Northwest Wisconsin, and summarizes the environmental review process followed for this Tier 2 EA. Section 1.1 provides a description of the proposed Project; Section 1.2 provides the background, including policy direction; and Sections 1.3 and 1.4 provide the purpose and goals and needs, respectively, for the proposed NLX Project.

1.1 Project Description

1.1.1 Project Location

The proposed NLX Project would introduce new higher speed intercity passenger rail service between Minneapolis and Duluth, Minnesota. Stations are proposed in six communities: Minneapolis, Coon Rapids, Cambridge, Hinckley, and Duluth in Minnesota and Superior in Wisconsin. The NLX Project, including proposed station locations, is shown in **Figure 1-1**. In addition, the NLX Project would include one maintenance facility and one layover facility to provide for daily servicing of the trains. These facilities may be on separate sites in Sandstone and Duluth, or co-located on one site in Duluth. The NLX Project would operate four round trips per day at speeds up to 90 miles per hour (mph) on 152 miles of existing BNSF Railway (BNSF), formerly Burlington Northern Santa Fe Railway, track in Minnesota (approximately 129 miles) and Wisconsin (approximately 23 miles). The NLX Project crosses Hennepin, Anoka, Isanti, Kanabec, Pine, Carlton and St. Louis Counties in Minnesota, and Douglas County in Wisconsin. Chapter 2 provides a detailed alternatives analysis, including the background for this study and the ridership, operations and improvements that support this EA.

1.1.2 Project Setting

The NLX Project is located on an active BNSF freight line that crosses a mixture of urban, suburban and rural areas. Minneapolis and Duluth are the largest cities in the NLX Project area, reflecting a mix of residential, public, commercial, industrial and parkland and open space. Anoka, Isanti, Kanabec and southern Pine Counties are north of the Twin Cities Metropolitan Area (including Minneapolis, St. Paul and surrounding suburbs), but are considered within commuting distance to the Twin Cities. The airports near the NLX Project that offer commercial flights are Minneapolis-St. Paul International Airport and Duluth International Airport. Anoka County-Blaine Airport (Jane's Field) is a reliever airport for Minneapolis-St. Paul International Airport and is primarily used by "single engine, twin-engine piston and turbo props, small business jets, and helicopters" for business and recreational use (Metropolitan Airports Commission, 2010). Section 1.1.3 describes the existing connectivity of multimodal transportation along the NLX Project.

Figure 1-1: Project Location

Minneapolis is located along the banks of the Mississippi River, just north of the river's confluence with the Minnesota River and west of St. Paul, Minnesota. The Twin Cities Metropolitan Area is the primary business center between Chicago, Illinois, and Seattle, Washington, with an economy based in commerce, finance, rail and trucking services, health care and industry. The Twin Cities are a center for the arts, with regional attractions including the Guthrie Theatre, the Minnesota Orchestra and St. Paul Chamber Orchestra, the Minneapolis Institute of Arts and numerous other musical, artistic and theatrical organizations. In addition, at least six major professional sports teams, along with numerous semi-professional and college-level teams, are based in the Twin Cities.

Along the NLX Project between the Twin Cities and Duluth-Superior (the cities of Duluth, Minnesota, and Superior, Wisconsin, are often considered a single metropolitan area and are referred to as the Twin Ports), land use is primarily low-density and rural with numerous communities. Agricultural use is most prevalent in Anoka, Isanti, Kanabec, and southern Pine Counties.

North of Hinckley, in Pine and Carlton Counties, Minnesota, and in Douglas County, Wisconsin, agriculture gives way to a landscape dominated by wetlands and forests. Pine, Carlton and St. Louis Counties, Minnesota, and Douglas County, Wisconsin, all support outdoor recreation, including fishing, boating, canoeing and kayaking, hiking and cross-country skiing. Douglas County, Wisconsin, is a destination for parks and forests, trails, all-terrain vehicles (ATVs), snowmobiles, winter recreation, camping, hunting, fishing and museums (The Chamber and Visitor Bureau of Superior-Douglas County, 2016a). Numerous state parks and wildlife management areas (WMAs) are located near the NLX Project, including Rice Creek State WMA, the Willard Munger State Trail between Hinckley and Duluth, Kettle River Scientific and Natural Area, Saint Croix State Forest, Banning State Park, Nemadji State Forest and Spirit Mountain Recreation Area in Minnesota, and Belden Swamp State Natural Area, Pattison State Park, Pokegama Carnegie Wetlands State Natural Area and Lake Superior National Estuarine Research Reserve in Wisconsin. In addition to the abundant outdoor recreation opportunities, four casinos are located near the NLX Project in Minnesota: Running Aces Casino and Race Track in Columbus, Grand Casino in Hinckley, Black Bear Casino Resort in Carlton and Fond-Du-Luth Casino in Duluth.

The Twin Ports is the largest inland freshwater port on the Great Lakes (Duluth Seaway Port Authority, n.d.). The port handles 38 million tons of cargo annually, with the primary cargoes divided among iron ore (40 percent), coal (40 percent) and grain (5 to 10 percent) (Duluth Seaway Port Authority, n.d.). Approximately 900 vessel visits are made to the Twin Ports annually (Duluth Seaway Port Authority, n.d.). Primary land uses in the port area are transportation, parks, residential and undeveloped land, with smaller amounts of commercial and industrial and civic uses (City of Duluth, 2006). Superior, Wisconsin, which is Douglas County's and northwestern Wisconsin's governmental hub, has approximately 55 percent of its land base in some form of public ownership (Douglas County, 2009). In addition to the port industry, Twin Ports' industries include tourism, transportation, healthcare, financial and banking, mining, paper, communications, education and shopping (Visit Duluth, 2016; The Chamber and Visitor Bureau of Superior-Douglas County, 2016b). From

downtown Duluth, visitors can access the Duluth Entertainment and Convention Center, Canal Park, Bayfront Park and the Aerial Lift Bridge. Regional attractions include Lake Superior and the North Shore, Marshall W. Alworth Planetarium and Apostle Islands Ice Caves. In addition, this area draws visitors for museums, historical sites, charter fishing and sailing, fishing, boating, canoeing and kayaking, hiking and cross-country skiing.

The proposed NLX Project would provide service to two of the state's largest cities, Minneapolis and Duluth, and would provide better access for smaller cities, towns and rural areas through more convenient access to intercity passenger rail service. The following counties and communities are located along the NLX Project, with communities over 1,500 in population shown in italics (U.S. Census Bureau, 2014):

Hennepin County, Minnesota

- *Minneapolis*

Anoka County, Minnesota

- *Fridley*
- *Coon Rapids*
- *Andover*
- *Oak Grove*
- Bethel

Isanti County, Minnesota

- *Isanti*
- *Cambridge*
- Grandy
- Stanchfield
- *Braham*

Kanabec County, Minnesota

- Grasston

Pine County, Minnesota

- Henriette
- Brook Park
- *Hinckley*
- *Sandstone*
- Askov
- Bruno
- Kerrick
- Duquette
- Nickerson

Carlton County, Minnesota

- Holyoke

Douglas County, Wisconsin

- Foxboro
- Town of Superior
- Boylston
- Village of Superior
- South Superior
- *Superior*

St. Louis County, Minnesota

- *Duluth*

1.1.3 System Connectivity

The NLX Project is envisioned as a key element within a system of intermodal transportation options, connecting major population centers within the state of Minnesota and Wisconsin. Intercity passenger rail service is not provided between Minneapolis and Duluth, and most trips are by automobile or intercity bus service. Amtrak provided passenger rail service until 1985. Key transportation options in the NLX Project corridor are shown in **Table 1-1**. Other than the Amtrak service and planned Midwest Regional Rail Initiative, all services in this table operate in Minnesota.

Table 1-1: Existing and Planned Transportation Connections

Transportation Service	Connection Point	Status
Intercity Passenger Rail		
Amtrak Empire Builder	Chicago to Seattle/Portland via Winona, Red Wing, Minneapolis-St. Paul, St. Cloud, Staples and Detroit Lakes in Minnesota	Operating
Midwest Regional Rail Initiative	Chicago to Twin Cities (St. Paul Union Depot and Target Field Station)	Conducting ridership and operations modeling
Intercity Bus		
Jefferson Lines	Minneapolis to Duluth	Operating
Air		
Delta Airlines	Minneapolis, Duluth (Direct)	Operating
United Airlines	Minneapolis, Duluth (via Chicago)	Operating
Commuter Rail		
Northstar (operated by Metro Transit)	Downtown Minneapolis, Fridley, Coon Rapids, Anoka, Elk River and Big Lake	Operating
Light Rail Transit		
Blue Line (formerly Hiawatha Corridor; operated by Metro Transit)	Target Field Station south to Mall of America	Operating
	Extension from Target Field Station would serve Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park	Extension planned – Record of Decision signed September 19, 2016
Green Line (formerly Central Corridor; operated by Metro Transit)	Target Field Station, the University of Minnesota and St. Paul	Operating
	Extension from Target Field Station would serve the southwest suburbs from Minneapolis to St. Louis Park, Hopkins, Minnetonka and Eden Prairie	Final Environmental Impact Statement published May 13, 2016; Record of Decision signed July 15, 2016

Transportation Service	Connection Point	Status
Urban Bus Transit		
Metro Transit	Regular and express route service within Metro Transit's 907-square-mile service area that encompasses the majority of the seven-county Twin Cities Metropolitan Area; provides connections to Light Rail Transit, Commuter Rail, and Bus Rapid Transit in the Twin Cities	Operating
Duluth Transit Authority	Downtown Duluth and Superior, Wisconsin; a number of college campuses in both Duluth and Superior, Wisconsin; Duluth International Airport and Miller Hill Mall	Operating
Rural Transit		
Heartland Express	Isanti County, Cambridge, Isanti, Braham and Pine Brook	Operating
Arrowhead Transit	Pine, Carlton and St. Louis Counties	Operating
Timber Trails Public Transit	Kanabec County	Operating
Recreational Transportation Services		
North Shore Scenic Railroad	Duluth, Canal Park, along the shore of the Lake Superior and into the City of Two Harbors	Operating

In addition to mass transportation options, Interstate 35 (I-35) is the principal arterial providing vehicular connections between Minneapolis and Duluth. Near the northern edge of the Twin Cities, I-35 splits into two routes: I-35E connecting to St. Paul and I-35W connecting to Minneapolis. These divergent segments rejoin in the southern Twin Cities suburbs to continue south.

Interstate 94 (I-94) is the principal arterial providing east to west mobility connecting the downtowns of St. Paul and Minneapolis, extending both east and west through Minnesota into adjoining states. Through the Twin Cities, I-94 divides into three adjacent routes: Interstate 694 (I-694) through the northern portion of the metropolitan area, Interstate 494 (I-494) through the southern portion of the metropolitan area, and

Interstate 394 (I-394) connecting I-94 and I-494 west of downtown Minneapolis. The eastern terminus of I-394 lies adjacent to Target Field Station that provides transit connections in downtown Minneapolis.

This interstate network is supplemented by U.S. Highway 10 (U.S. 10) and Minnesota State Highway 610 (MN 610) in the northern metropolitan suburbs. In Minnesota, MN 23 provides an alternative, scenic route off I-35 from Sandstone to Duluth. Wisconsin State Highway 35 (WIS 35) is the primary roadway from the Twin Cities north to Superior, Wisconsin.

Intermodal connectivity between this principal arterial network and the NLX Project would occur at park and ride facilities adjacent to NLX stations.

1.2 Project Background

The Minnesota Department of Transportation (MnDOT) and the Federal Railroad Administration (FRA), in cooperation with the Wisconsin Department of Transportation (WisDOT), conducted a series of route studies to evaluate restoration of intercity passenger rail service between Minneapolis and Duluth. This section provides a brief overview of prior work leading to this environmental document. All documents are available at MnDOT, or online where noted.

1.2.1 Policy Direction and Prior Planning/Decision Making

In 2007, local and tribal officials along the NLX Project corridor established a joint powers board, the Minneapolis-Duluth/Superior Passenger Rail Alliance, to explore options to renew intercity passenger rail service between Minneapolis and Duluth. Led by MnDOT and FRA, in cooperation with WisDOT, the *Minneapolis-Duluth/Superior Restoration of Intercity Passenger Rail Service Comprehensive Feasibility Study and Business Plan* (MnDOT et al., 2007; available at MnDOT) found sufficient travel demand between Minneapolis and Duluth to support higher speed rail. This feasibility study provided the basis for MnDOT to undertake a multi-level evaluation of a wide range of routes between the Twin Cities and Duluth, screening the routes based on operational characteristics, investment requirements and environmental constraints at a broad level, followed by examination of ridership and operations in more detail for potentially viable alternatives. More detailed discussion of the alternatives identification process is described in Chapter 2 of this EA.

The route evaluations led to the identification of a Build Alternative that was evaluated in the Tier 1 Service Level (Tier 1) EA for the NLX Project (http://www.dot.state.mn.us/nlx/documents.html). Tiering is a concept encouraged by the Council on Environmental Quality (CEQ) in environmental impact assessment reviews to eliminate repetitive discussions of the same issues and focus on the critical decisions at each level of environmental review (see 40 Code of Federal Regulations [CFR] 1502.20 and 1508.28). The Tier 1 EA,

completed in March 2013, evaluated impacts of the NLX Project as a whole and compared multiple route alternatives. It addressed broader issues and likely environmental effects for the entire NLX Project relating to the type of service(s) being proposed, including route alternatives, service levels, types of operations (speed, electric or diesel powered), ridership projections, major infrastructure components, identification of cities served and major terminal area or facility capacity constraints. The Tier 1 EA resulted in the selection of a preferred route with an operating plan of eight trains per day in each direction at speeds up to 110 mph. FRA issued a Finding of No Significant Impact (FONSI) in August 2013, and MnDOT issued a Negative Declaration and a Finding of Fact and Conclusion in September 2013 (http://www.dot.state.mn.us/nlx/documents.html). The FONSI determined that the NLX Project would not have significant environmental impacts and could proceed to preliminary engineering and a Tier 2 EA.

This Tier 2 EA builds on the Tier 1 EA, addressing specific NLX Project-related issues and likely environmental effects associated with proposed track infrastructure, stations, and maintenance and layover facilities. As part of the Tier 2 EA, MnDOT, in cooperation with FRA and WisDOT, examined refinements to the NLX Project in terms of ridership, operations and service and potential reductions in capital cost. In 2015, MnDOT completed a benefit-cost analysis that considered several service alternatives of varied daily round trips and speeds. The most cost-effective operating plan that resulted from the analysis was four daily round trips at a maximum speed of 90 mph (see Chapter 2 for a detailed discussion). This refined service alternative led to reductions in capital costs, resulting from a decrease in infrastructure needs to support fewer round trips at lower speeds.

In August 2015, while the benefit-cost analysis was underway, MnDOT completed the *Facilities Site Evaluation and Design Technical Memorandum* (see **Appendix B**) to further evaluate specific locations for the stations that had not been determined in the Tier 1 EA. Based on the information in the Technical Memorandum, MnDOT, in cooperation with FRA and WisDOT, undertook a series of briefings and public meetings with each community in the NLX Project area to identify the preferred locations for stations and maintenance and layover facilities. With the support of the involved communities, station locations were confirmed in Cambridge and Hinckley, Minnesota, and in Superior, Wisconsin.

The changes to the NLX Project from the benefit-cost analysis, as well as the station and maintenance and layover facilities study and public process, are documented in **Table 1-2** and are discussed in more detail in Chapter 2 Alternatives.

Table 1-2: Project Modifications between NLX Tier 1 EA and NLX Tier 2 EA

NLX Tier 1 EA	NLX Tier 2 EA
Eight round trips per day	Four round trips per day
Speeds up to 110 miles per hour	Speeds up to 90 miles per hour
Estimated capital cost	Refined estimated capital cost
General locations for stations and maintenance and layover facilities	Defined locations for stations and maintenance and layover facilities
Impacts assessed along general NLX Project route	Impacts refined in accordance with design for specific infrastructure improvements

1.2.2 Environmental Review Process

FRA is the lead federal agency for the National Environmental Policy Act (NEPA) process. MnDOT, in cooperation with WisDOT, assisted FRA in the development of the Tier 1 EA and Tier 2 EA. This Tier 2 EA was prepared in compliance with NEPA to fulfill the requirements of 42 United States Code (USC) 4331 et seq. and FRA's Procedures for Considering Environmental Impacts (64 Federal Register [FR] 28545). This Tier 2 EA was prepared as part of the Minnesota and Wisconsin state environmental review processes to fulfill the requirements of Minnesota Statutes (Minn. Stat.) 116D and Wisconsin Statutes (Wis. Stat.) Section 1.11 and Wisconsin Administrative Code Chapter Trans 400.

At the Minnesota state level, this document serves as an Environmental Assessment Worksheet (EAW) (see **Appendix A**). Minnesota Administrative Rules 4410.1300 allow the EA to take the place of the state EAW, provided that the EA addresses the environmental effects identified in the EAW. For purposes of the EAW, MnDOT is the Responsible Governmental Unit for this project. The EAW is used to provide sufficient environmental documentation to determine the need, under the Minnesota Environmental Policy Act (MEPA), for an Environmental Impact Statement (EIS). A Negative Declaration finding would indicate that no EIS is needed under Minnesota law.

At the Wisconsin state level, Wisconsin Administrative Code Chapter Trans 400 directs WisDOT to follow the Wisconsin Environmental Policy Act (WEPA) when WisDOT has concurrent responsibility with another federal or state agency for a proposed action. WEPA allows the EA to serve as the environmental document and does not require a separate state-level document. By a November 2009 agreement, WisDOT is participating as both a responsible agency and a Cooperating Agency due to its signatory role.

Cooperating Agencies are federal agencies, other than the lead agency, that have jurisdiction by law or special expertise with respect to any environmental impact. A state or local agency of similar qualifications, or a tribal

agency when effects are on lands of tribal interest, may, by agreement of the lead agency, also become a Cooperating Agency. Cooperating Agencies share responsibility for participating in the NEPA process at the earliest possible time and to expedite reviews; for participating in the scoping process; and for developing information and environmental analyses related to their respective areas of expertise. In addition to WisDOT, the U.S. Environmental Protection Agency, Federal Highway Administration and Surface Transportation Board are Cooperating Agencies on the NLX Project.

This Tier 2 EA serves as the primary environmental document to facilitate review of the NLX Project by federal, state and local agencies, and the general public. This document is made available for public review and comment in accordance with 40 CFR 1506, 64 FR 28545, Minnesota Administrative Rules 4410.1500 through 4410.1600, and Wisconsin Administrative Code Trans 400. The Tier 2 EA will be circulated for review to interested parties, including private citizens, community groups, the business community, elected officials and public agencies in accordance with federal and state requirements. Public meetings will be held to provide a forum for citizen and agency participation and comment. See Chapter 5 Public and Agency Involvement for additional information on public meetings.

1.3 Project Purpose

The purpose for the proposed action (the NLX Project) that was established as part of the Tier 1 EA is "to provide a means to meet transportation needs through creating a passenger rail service linking Minneapolis and Duluth, connecting with other existing and planned transportation systems." The NLX Project seeks to introduce a new intercity passenger rail service that would provide a reliable and cost-effective transportation option for travelers between the Twin Cities and Duluth. The new service is designed to provide connections not only between the two termini, but to offer a new transportation connection for residents in the largely rural and small city markets of East Central Minnesota, who must currently rely on limited intercity bus or automobile travel for all trips. In keeping with Minnesota's statewide initiatives to increase multimodal transportation, intercity passenger rail and its station stops must provide greater intermodal connectivity[1] to ensure that more options are available to travelers. The new intercity passenger rail service must be cost-effective, using freight railroad infrastructure, but working in concert with freight railroads to coordinate needed rail improvements to support the new intercity passenger rail service.

Since the completion of the Tier 1 EA in 2013, and in conjunction with public feedback on the NLX Project, the following goals have been developed to articulate desired benefits of the NLX Project, as well as to place the

[1] *Intermodal connectivity refers to the ability of users to use and transfer between more than one mode of transportation (personal automobile, bus, train, etc.) to complete a trip. An example of good intermodal connectivity is the ability to take a train from one city to another and then switch to a bus to reach the final destination. As intermodal connectivity is improved, the ability to take a trip using more than one mode of transportation becomes easier.*

NLX Project in the context of the various statewide multimodal plans that have been prepared and updated since that time (see references listed for this chapter and discussion of statewide plans in Chapter 4 Affected Environment and Environmental Consequences, Section 4.1 for a description of these plans). The following over-arching goals guide MnDOT's intercity passenger rail program, and the environmental analyses of this NLX Project illustrate how MnDOT is working to accomplish these goals:

- **Goal 1:** Improve mobility
- **Goal 2:** Provide cost-effective, economically viable travel options
- **Goal 3:** Support economic competitiveness and growth
- **Goal 4:** Support environmental sustainability and protect natural environmental features
- **Goal 5:** Preserve and protect individual and community quality of life
- **Goal 6:** Connect to the Midwest Regional Rail System

1.4 Project Need

The need for the NLX Project is based on the limitations and vulnerabilities of available travel modes between Minneapolis and Duluth. Existing transportation modes, including highway, bus and air travel, have inherent problems including congestion near the Twin Cities. While I-35 can adequately support vehicular travel outside of the Twin Cities and Twin Ports areas, there is a need to consider other types of transportation options for expanding and changing populations that may not have access to vehicles or bus travel.

The NLX Project would address the following needs for intercity travel between Minneapolis and Duluth:

- Limited statewide intermodal connectivity
- Travel demand related to population and employment trends
- Decrease in reliable travel due to congestion

1.4.1 Limited Statewide Intermodal Connectivity

The transportation system is important in providing Minnesotans with access to work, school, health care and recreation and is a critical factor in supporting the state's economy for movement of goods and services. Minnesota's Statewide Multimodal Transportation Plan identifies "Critical Connections" as a priority objective, stating that MnDOT should "maintain and improve multimodal transportation connections essential for Minnesotans' prosperity and quality of life" (MnDOT, 2016a).

Along the NLX Project corridor, there are limited modal options to meet increasingly diverse traveler needs. Minnesota is largely dependent on automobiles for travel, particularly outside of the Twin Cities and Twin Ports Metropolitan Areas. Residents in smaller cities or rural areas between the Twin Cities and the Twin Ports

have limited travel options. Intercity bus (either non-stop or with one stop) provides access between Minneapolis and Duluth, but residents and communities in between must drive to reach destinations for shopping, health care, recreation or other services beyond local areas. Rural areas may have local transit service, but it is limited to particular geographic areas and may not provide connections to other services or larger, nearby cities.

Minnesota has recognized the need to emphasize an intermodal approach to future transportation investments and has identified this policy in its statewide planning efforts. As identified in **Table 1-1**, existing and planned transportation services, especially transit, are plentiful in the Twin Cities and the Twin Ports. Investments have been focused on transit in the Twin Cities Metropolitan Area, where transit ridership on all modes of public transit rose from 80.7 million annual rides in 2005 to 98.8 million rides in 2015, which is approximately 25 percent growth (MnDOT, 2016a). Transit systems in the Twin Ports have also made recent investments, including the construction of a new multimodal transit facility in downtown Duluth. However, outside of those metropolitan areas, there are limited opportunities other than automobiles for travel between metropolitan areas. Intercity passenger rail is one method to provide intermodal travel options for those residents who cannot or choose not to drive.

The NLX Service Plan emphasizes the provision of daily intercity passenger rail service between the Twin Cities and Twin Ports Metropolitan Areas. The ridership forecasts prepared suggest that approximately 25 percent of all passengers would ride the entire distance between the two Twin Cities stations and the two Twin Ports stations. Most of the anticipated passengers would ride between one of two intermediate stations, Cambridge or Hinckley, and either the Twin Cities (63%) or Twin Ports (12%). These data underscore the demand for intercity travel options in the NLX Project corridor (see **Appendix C**, Ridership and Revenue Forecast).

Both MnDOT and WisDOT recognize the need for reliable intermodal connections to meet travel demand trends and promote wise stewardship of transportation infrastructure. The NLX Project advances MnDOT's transportation vision articulated in MnDOT's *50-Year Statewide Vision*, which "directs all transportation partners in the state to develop a multimodal transportation system that maximizes the health of the people, the environment, and the economy of Minnesota" (MnDOT, 2011a). MnDOT's multimodal transportation plan and individual modal transportation plans are developed to be consistent with this vision.

The current multimodal plan update continues to implement the 50-year vision, and the NLX Project would be a step toward achieving these guiding principles (MnDOT, 2016a):

- Leverage public investments to achieve multiple purposes, including environmental stewardship, economic competitiveness, public health and energy independence.
- Ensure accessibility and safety for users of all abilities and incomes.
- Build to a maintainable scale to minimize long-term obligations and affordably contribute to the overall quality of life and prosperity of the state.

- Ensure regional connections through multiple modes of transportation.
- Integrate safety to systematically and holistically improve safety for all forms of transportation.
- Emphasize reliable and predictable options to avoid reliance on a single option.
- Strategically fix the system, particularly enhancing or expanding parts of the system to meet changing demand. Strategically maintain and upgrade critical existing infrastructure.
- Use partnerships, including the Minneapolis-Duluth/Superior Passenger Rail Alliance, to coordinate across sectors and jurisdictions to make transportation projects and services more efficient.

The NLX Project supports WisDOT's long-range transportation vision, articulated in its *Connections 2030 Statewide Long-Range Transportation Plan*: "An integrated multimodal transportation system that maximizes the safe and efficient movement of people and products throughout the state, enhancing economic productivity and the quality of Wisconsin's communities while minimizing impacts to the natural environment" (WisDOT, 2009).

In summary, Minnesota is largely dependent on automobiles for travel, particularly outside of the Twin Cities and Twin Ports Metropolitan Areas. Residents in smaller cities or rural areas between the Twin Cities and the Twin Ports have limited travel options. Long-range transportation planning documents in both Minnesota and Wisconsin call for improving connectivity through multiple modes of transportation. Additionally, the ridership forecasts prepared for the NLX Project support the need for intercity travel options in the NLX Project corridor.

1.4.2 Travel Demand Related to Population Trends

Minnesota's population is growing, getting older and more diverse. This growth will in turn increase access needs and travel demand options beyond the current available transportation services.

Demographic, employment and transportation behavior trends indicate increases in travel demand. In 2010, more than half of Minnesota's 5.3 million people lived in the seven-county Twin Cities Metropolitan Area, which is becoming increasingly urban (MnDOT, 2012). The population is aging and becoming more ethnically diverse, which is changing the population's travel needs and priorities. These trends are confirmed in MnDOT's current population trend analysis documented in the *Statewide Multimodal Transportation Plan* (MnDOT, 2016a).

Between 1992 and 2014, Minnesota's population increased 22 percent, reaching a total of 5.457 million in 2014 (U.S. Census Bureau, 2014). While in 2014 less than 14 percent of the statewide population was above age 65, the number of persons in that age group is expected to grow to 1.2 million (20 percent of the population) by 2035. At that point, more Minnesotans will be older than 65 than under age 18 for the first time in history. Seniors are likely to drive less, alter their travel patterns and seek modes of travel other than driving personal vehicles. In 2014, the U.S. Census Bureau reported that 30 percent of Minnesotans age 65 and older

and 45 percent of those age 75 and older have a disability, which also affects transportation options and choices (MnDOT, 2016a).

In the Twin Ports, 2014 data indicated that 11.6 percent of the population is of college age, 22.4 percent is between the ages of 50 and 64 and 16.2 percent were age 65 and over (U.S. Census Bureau, 2015a). The Twin Ports population aged 65 and older is growing five times faster than the population as a whole (Duluth-Superior Metropolitan Interstate Council, 2014). This statistic continues to underscore the importance of providing safe and affordable transportation options for the elderly.

1.4.3 Decreased Travel Reliability Due to Congestion

MnDOT has identified I-35 as a High Priority Interregional Corridor that is one of the most heavily traveled roads within Minnesota connecting the regional trade centers of the Twin Cities and Duluth. Future traffic volumes in the state are expected to increase by 50 to 100 percent by 2030 (MnDOT, 2013). While I-35 has sufficient capacity at mid-corridor, volumes in the segments approaching the Twin Cities result in traffic delays during peak periods that reduce travel reliability. Anticipated funding for roadway projects will not be adequate to address congestion and reliability problems.

One-way trips on NLX Service between Minneapolis and Duluth are anticipated to take approximately 2.5 hours (see Chapter 2 Alternatives, Section 2.4.2), which is comparable to automobile travel. However, automobile trips are subject to decreased travel time reliability due to traffic congestion in the Twin Cities. Congestion increases can be understood by reviewing vehicle miles travelled (VMT) and average daily traffic (ADT). Between 1992 and 2014, VMT in Minnesota increased by 37 percent (MnDOT, 2015a). The growth in VMT is expected to continue "over the next 20 years due to demographic, technological, and behavioral changes" (MnDOT, 2013).

In the counties along the NLX Project, VMT increased 20 to 30 percent in Hennepin and Pine Counties, increased 30 to 40 percent in Carlton and St. Louis Counties, and increased by more than 40 percent in Anoka and Isanti Counties (MnDOT, 2015a). As of 2015, the ADT in both directions along the I-35 was as follows (MnDOT, 2016b):

- Along the I-35E from downtown St. Paul to the I-35E and I-35W junction, the ADT was between 39,000 and 123,000.
- Along the I-35W between downtown Minneapolis and the I-35E and I-35W junction, the ADT was between 42,000 and 155,000.
- North of the I-35E and I-35W junction to Stacy, Minnesota (Exit 139), the ADT was between 44,500 and 71,000.

- From Stacy to the St. Louis-Carlton County border, the ADT was between 14,000 and 35,500.
- From the St. Louis-Carlton County border to Duluth, the ADT was between 17,600 and 47,000.

Continued increases in travel demand will contribute to congestion that reduces travel reliability.

Traffic congestion and related delays occur daily in the Twin Cities (MnDOT, 2013). "MnDOT defines congestion as traffic flowing at speeds less than or equal to 45 Miles per Hour" (MnDOT, 2016c). In 2011, the Twin Cities were ranked 22nd on a national list of the most congested metropolitan areas with populations greater than 1 million (MnDOT, 2013). From 2014 to 2015, Twin Cities freeways experienced an increase in congestion from 21.0 to 23.4 percent (MnDOT, 2016c). Congestion is anticipated to increase due to increasing VMT and rising construction costs that limit the scope of improvements that can be completed (MnDOT, 2016c). Near the NLX Project, MN 100, I-94, MN 36, I-694, I-35W, I-35E all experience congestion from 1 to 3 hours between 5 a.m. and 10 a.m. and between 2 p.m. and 7 p.m. Because funding is not available for major capacity improvements, MnDOT is relying on active traffic management, spot mobility improvements, price-managed lanes, and strategic capacity enhancements (MnDOT, 2013). While congestion is not as substantial in the Twin Ports today, with the anticipated increases in ADT, portions of the roadway system will be approaching or exceeding capacity by 2035 (Duluth-Superior Metropolitan Interstate Council, 2010).