

**Federal Railroad Administration  
FINDING OF NO SIGNIFICANT IMPACT**

**Northern Lights Express High Speed Passenger Rail  
Project from Minneapolis to Duluth, Minnesota**

**From The Interchange to Duluth Union Depot in  
Counties: Hennepin, Anoka, Isanti, Kanabec, Pine, Carlton, and St. Louis of Minnesota  
and Douglas of Wisconsin**

## 1.0 INTRODUCTION

The Minneapolis-Duluth/Superior Passenger Rail Alliance (Alliance<sup>1</sup>), in cooperation with the Minnesota Department of Transportation (MnDOT), proposes to construct the necessary infrastructure for, and to operate, an approximately 155-mile long, high-speed intercity passenger rail service between Minneapolis and Duluth, Minnesota (known as the Northern Lights Express (NLX) service), a portion of which would travel through Douglas County in Wisconsin (see Figure 1), and that would potentially reach speeds of 110 miles per hour. The Alliance and MnDOT propose eight round trips (16 trains) per day.

A Tier 1 service level Environmental Assessment (EA) was prepared by MnDOT in consultation with the Federal Railroad Administration (FRA), the Alliance and the Wisconsin Department of Transportation (WisDOT). MnDOT prepared the EA in compliance with the National Environmental Policy Act (NEPA), FRA's Procedures for Considering Environmental Impacts (64 FR 28545), Minnesota Statutes 116D, Wisconsin Statutes Section 1.11, Wisconsin Administrative Code, TRANS 400. The EA evaluates the service-wide environmental impacts of the proposed action and would set the foundation for the subsequent Tier 2 or project level NEPA documentation (project level NEPA).

This project has received monies from High-Speed Intercity Passenger Rail grants in the amount of 1.1 million in addition to earmarks for \$500,000.00 and \$475,000.00 respectively. As such, the FRA is the lead federal agency and is additionally providing funding for subsequent project level NEPA and preliminary engineering for the discrete capital projects identified within this Tier 1 document. All future funding is conditioned on the completion of the Tier 1 EA for the proposed NLX service. The completion of project level NEPA on discrete capital projects is required prior to the implementation of the proposed NLX service.

This Finding of No Significant Impact (FONSI) is being made at the Tier 1 Level. The FONSI describes the purpose and need for the proposed project, alternatives considered, public and agency coordination, and environmental consequences and identified mitigation.

This FONSI is conditioned on:

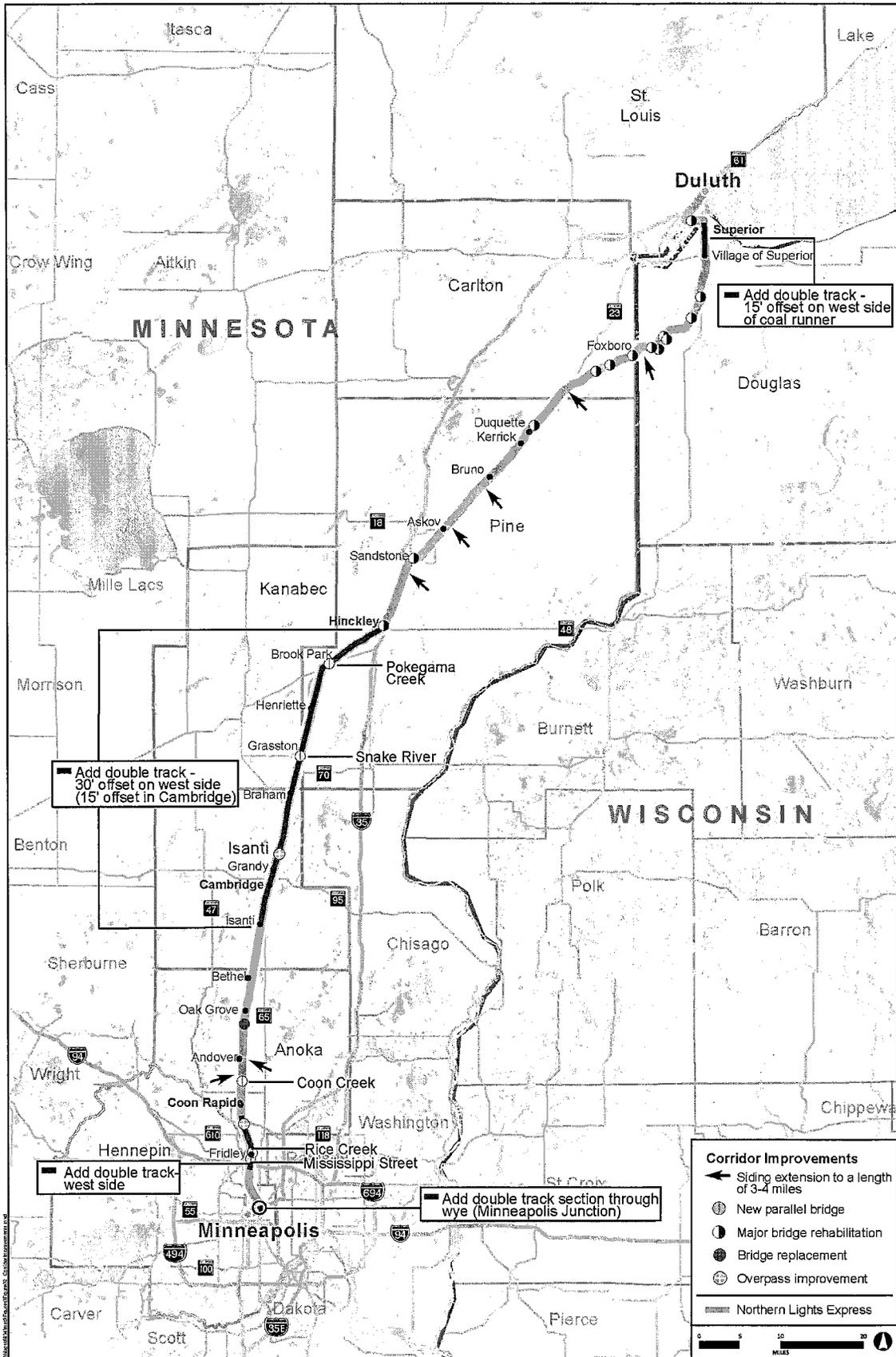
- Commitment from MnDOT that project level environmental documentation will be prepared where determined necessary by the lead federal agency;
- Commitment from MnDOT that all applicable permits and approvals are in place prior to the start of construction; and
- Commitment from MnDOT that any mitigation discussed in this FONSI will be performed.

A summary of the EA's environmental impact evaluation is provided in Table 5.

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<sup>1</sup> The Minneapolis-Duluth/Superior Passenger Rail Alliance is a joint powers board formed in 2007 to explore options for renewing passenger rail service between the two metropolitan areas. Alliance members include the regional rail authorities of Hennepin, Isanti, Pine, St. Louis and Lake counties, the cities of Minneapolis and Duluth, and the Mille Lacs Band of Ojibwe.

**Figure 1. Project Improvement Locations**



The EA also serves as a Minnesota Environmental Assessment Worksheet (EAW) under Minnesota state law. MnDOT would issue an EIS Need Decision, expected to be a Negative Declaration, to conclude the Minnesota state environmental review process.

Proposed project elements that would be fully addressed in the project level NEPA include, but are not limited to, the layover facility at the south terminus (Minneapolis) and the locations for stations within the communities of Cambridge, Hinckley and Superior. Additionally, the potential for a light maintenance facility would be included in subsequent project level NEPA. Potential refinements to the proposed station at Coon Rapids-Foley station would also be addressed in subsequent project level NEPA.

For the proposed NLX project, three stand-alone, project level environmental documents would be completed and advanced simultaneously following the issuance of this FONSI. For purposes of the project level documentation, the full NLX corridor from Minneapolis to Duluth would be divided into three distinct geographic sections, as defined below:

- Section A - The Minneapolis Interchange in Downtown Minneapolis to Coon Creek Junction
- Section B - Coon Creek Junction to Hinckley
- Section C - Hinckley to Duluth

The three geographic sections for the NLX Corridor do not reflect phases of the proposed action, as the proposed action is the full build-out of the NLX high speed rail project from Minneapolis to Duluth. The project level documentation would complete the studies and environmental review required for the NLX Corridor investments and capital improvements to be implemented.

## **2.0 PURPOSE FOR THE PROJECT**

The purpose of the NLX project is to meet transportation needs, summarized in Section 3.0 below, through the creation of a passenger rail service that links Minneapolis and Duluth, and that connects with other existing and planned transportation systems, including other planned intercity passenger rail, commuter rail, light rail transit (LRT), and bus rapid transit (BRT) routes, as well as the roadway network.

## **3.0 NEED FOR THE PROJECT**

The proposed action offers an opportunity for a viable alternative to vehicular travel between Minneapolis and Duluth by providing: competitive travel times; safe, reliable and accessible service; and amenities to improve passenger travel quality and comfort. In addition, the proposed project could provide: improved overall system continuity in the state and interstate transportation networks, in conformance with statewide and regional transportation plans; opportunities for rail oriented development – land use patterns that encourage more efficient development of land in combination with more efficient use of transportation facilities; an impetus for station-area joint development, downtown redevelopment and economic development for growth in travel and tourism in all the communities along the route, contributing to the viability and vitality of the region; and transportation improvements that avoid or minimize environmental impacts.

The *Minneapolis-Duluth/Superior Restoration of Intercity Passenger Rail Service Comprehensive Feasibility Study and Business Plan* (December 2007) found sufficient travel demand between Minneapolis and Duluth to support high speed passenger rail.

#### **4.0 ALTERNATIVES EVALUATION**

Two alternatives were considered for the proposed project, the No Build Alternative and the preferred Build Alternative.

##### **4.1 No Build Alternative**

The No Build Alternative would perpetuate the existing condition, i.e., no high speed passenger rail service between Minneapolis and Duluth. The existing track configuration, consisting of a single mainline track with passing track located infrequently throughout the corridor, would remain. There would be no new bridges. Any rehabilitation or replacement of track or bridges would be done by BNSF to meet its needs for regular freight rail operations. No stations, layover or maintenance facilities specific to the NLX service would be constructed. Improvements to the LRT component of the intermodal station (the Interchange) located at Fifth Street and 3rd Avenue in Minneapolis are assumed under the No Build Alternative, as these are the only programmed improvements at the Interchange at this time.

The No Build alternative was retained for detailed analysis, and its consequences were fully developed to allow comparison to the Build Alternative.

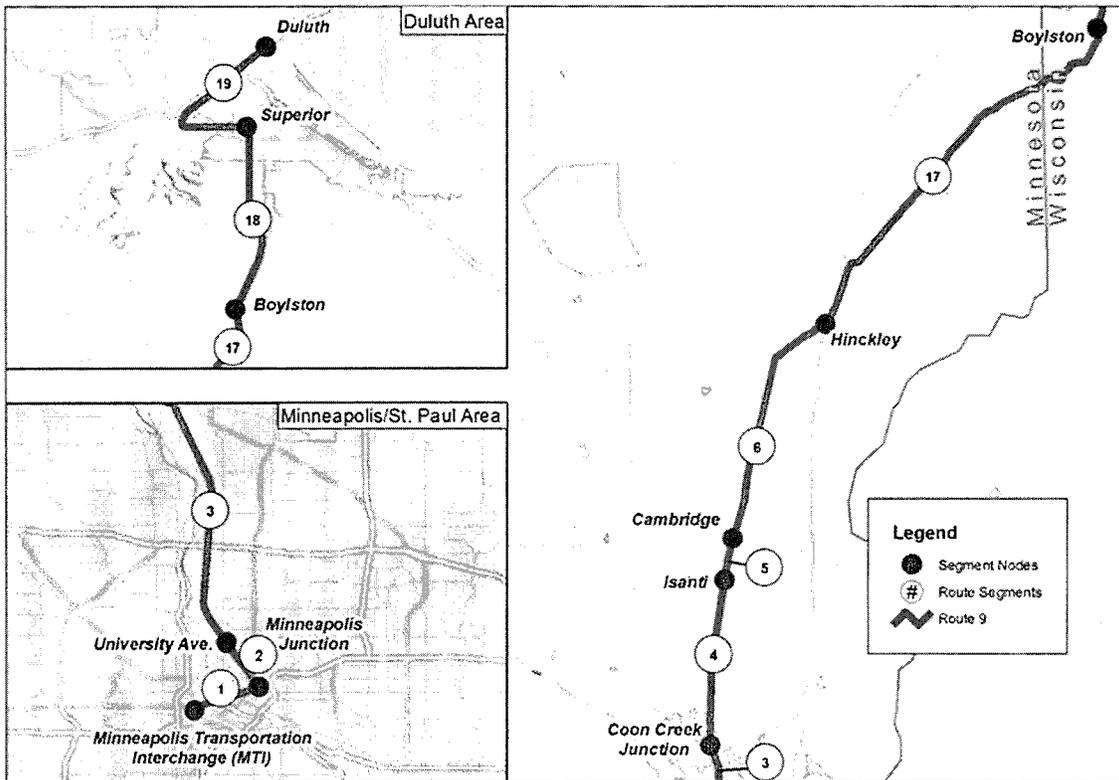
##### **4.2 Preferred Build Alternative (Build Alternative)**

The Build Alternative route follows the existing BNSF Railway right of way from downtown Minneapolis (the Interchange) northeast to Duluth (the Depot). Within this right of way, the route would include the existing track to be shared by the NLX service and BNSF, and a new dedicated track for the NLX service. This route represents the only railroad connection currently in full active freight service between Minneapolis and Duluth. The corridor roughly parallels State Highways 65 and 23 through Hennepin, Anoka, Isanti, Kanabec, Pine, Carlton, Douglas (Wisconsin), and St. Louis counties and terminates in Duluth. See Figure 1.

## NLX Route Improvements by Segments

The preferred Build Alternative route is approximately 155 miles long. For purposes of description only, the route is divided into nine segments, shown in Figure 2 and described in Table 1.<sup>2</sup> As noted previously, the service level impacts described in this FONSI are based on a concept-level project definition. This definition, presented in Table 1, includes assumed project improvements based on current knowledge, using “worst case” assumptions in order to identify the potential for significant environmental impacts.

**Figure 2. NLX Route Segments**



<sup>2</sup> Route segment numbers are discontinuous. These segments were used during the route alternative evaluation process to allow for consistency in comparing alternatives. Information in the Level 2 and Level 3 studies is presented by these segments.

**Table 1. NLX Route Segments and Assumed Concept-Level Corridor Improvements**

Segment	Location		Milepost*		Segment Mileage	Assumed Concept-Level Improvements**
	Start	End	Start	End		
1 Wayzata Subd.	The Interchange, Minneapolis	Minneapolis Junction, Minneapolis	11.6	9.7	2.1	New connecting track 15' from the existing track – on west for segment and east for a segment – through wye at Minneapolis Junction for a distance of approx. 3,000'.
2 Midway Subd.	Minneapolis Junction, Minneapolis	University Avenue, Minneapolis	9.7	11.4	1.4	
3 Staples Subd.	University Avenue, Minneapolis	Coon Creek Junction, Coon Rapids	11.4	21.1	9.7	6.2 mi new track partially west and partially east of existing track between I-694 and Hwy 610/Coon Creek Junction in Fridley (referred to as “the third main”). Track improvements through Coon Creek Junction. New RR bridges over Mississippi Street and Rice Creek. Modification of Hwy 610 overpass.
4 Hinckley Subd.	Coon Creek Junction, Coon Rapids	Isanti	136.9	113.0	23.9	3 mi. siding west of existing track and 1 mi. siding extension east of existing track in Andover. RR bridge replacement over Coon Creek. New parallel RR bridge over Coon Creek.
5 Hinckley Subd.	Isanti	Cambridge	113.0	107.4	5.6	6 mi. of new track located 30' west of existing track between Isanti and Cambridge, and 15' west of existing track in Cambridge.*** Connection of existing sidings between Isanti and Cambridge.
6 Hinckley Subd.	Cambridge	Hinckley	107.4	72.3	34.1	35 miles of new track located 15' west of existing track in Cambridge and Braham, and 30' west of existing track elsewhere between Cambridge and Hinckley. New RR bridges over Snake River at Grasston, ditch near Henriette (box culvert), and Pokegama Creek at Brook Park. Replacement of 379 <sup>th</sup> Street overpass over RR near Grandy. Rehab of existing bridges over Pokegama Creek and Snake River.
17 Hinckley Subd.	Hinckley	Boylston	72.3	11.8	60.5	New or extended sidings to a total length of 3-4 miles each, 15' east of existing track, near Sandstone, Askov, Bruno, Holyoke, and Foxboro. Rehab of existing bridges over Grindstone, Kettle, Big Willow, Net (2), Black and Nemadji Rivers, and State Line, Balsam, Little Balsam, Hubert and Norvell Creeks.
18 Lakes Subd.	Boylston	Superior (n. of 28 <sup>th</sup> St.)	12.6	5.4	8.7	3 mi. of new track 15' west of existing track between Central Avenue and 11 <sup>th</sup> St. N. in Superior.
19 Lakes Subd.	Superior (n. of 28 <sup>th</sup> Street)	Duluth Union Depot	5.4	0	5.4	1.5 mi. of new track 15' west of existing track between Segment 18/19 boundary and 11 <sup>th</sup> Street in Superior. 1.1 mi new freight siding along existing track from the wye west of Grassy Point to Bridge to 46 <sup>th</sup> Ave. in Duluth. Bridge over water inlet. Segment of main track approaching the Depot and track for layover at Depot. Rehab of Grassy Point Bridge.
Total					152.4	

\*Mileposts change due to change in railroad subdivision. Note that RR MPs often are not exact miles, therefore differences between MP references may not equate to actual distances.  
\*\*The assumed track spacing represents worst-case assumption. The existing track would be rehabilitated to continuous welded rail in all segments. The need for rehabilitation of the existing track parallel to the areas of dedicated track between Isanti and Hinckley and in Superior would be evaluated as operational analyses are refined in subsequent project phases.  
\*\*\*Note 0.3 mile of the dedicated passenger track is located in Segment 4.

## **Station Locations**

*Downtown Minneapolis Station – Passenger Rail Element of the Proposed Interchange Intermodal Station.* The southern terminus of the proposed NLX service would be at the intermodal station (the Interchange) located at Fifth Street and 3rd Avenue in Minneapolis. The existing platform would be extended to a length of approximately 900 feet. This improvement is addressed by this FONSI.

*Duluth Union Depot.* The northern terminus of the proposed NLX service would be the Duluth Union Depot located at Michigan Street and Fifth Avenue in Duluth, Minnesota. There is an existing platform at the Depot that serves the Northshore Scenic Railroad. A new platform to accommodate NLX service would be needed to meet safety and accessibility requirements. In addition, separation of passenger and freight operations in yard territory would be required to accommodate the proposed NLX service. These improvements are addressed by this FONSI.

*Coon Rapids – Foley Station.* A center platform immediately south of Foley Boulevard, between the existing BNSF Main 2 line and the proposed third main, and additional parking for the proposed station in the northeast corner of Foley Boulevard and the BNSF tracks near East River Road are proposed. These improvements are addressed by this FONSI.

*Cambridge.* Station area planning conducted by the city of Cambridge considered four sites and has recommended further analysis of the City Center site, located north of 1st Avenue East and east of Main Street, and the Ritchard site located at 24<sup>th</sup> Avenue Southwest east of Main Street for NLX station location options. Station area planning has assumed that improvements would consist of an 850 foot long platform and parking space for 200. Station improvements in Cambridge would be addressed in project level NEPA.

*Hinckley.* Station area planning conducted by the city of Hinckley considered two sites and has recommended further analysis of both of these: the southwest site near the intersection of Old Highway 61 and Fire Monument Road; and the Pit Site, south of Main Street, east of Power Avenue South, north of 2nd Street SE and west of Steven Avenue South. Station area planning has assumed that improvements would consist of an 850 foot long platform and parking space for 200 cars. Station improvements in Hinckley would be addressed in project level NEPA.

*Superior.* While no formal station area planning has yet been done in Superior, improvements are assumed to be similar to stations in Foley, Cambridge, and Hinckley with respect to platform length, access to platform, and parking. A site just north of Highway 2 (Belknap Street) immediately east of the proposed Build Alternative, has been identified by City staff as a potential station location. Station improvements in Superior would be addressed in project level NEPA.

## **Other Project Improvements**

Except where noted, the following improvements are also identified and preliminarily addressed by this FONSI. Additional design and environmental review is necessary and would be carried out in consultation with the lead federal agency in project level NEPA documentation prior to moving into final design and construction.

- Extension of existing culverts within new track areas.
- Rehabilitation/improvements to existing track where new parallel track is not provided.
- Limited curve straightening occurring within existing railroad right of way.
- Signalization and communication systems upgrades throughout the corridor.
- Track and signal improvements, including control points, turnouts and crossovers, to increase flexibility and capacity in operations.
- Installation of warning devices with four quadrant gates or other appropriate warning devices at all public crossings.
- Improvements to “humped” at-grade street crossings.
- Closure of 30 to 40 percent of private at-grade crossings, with alternative access provided.
- Installation of fencing in urbanized areas of the corridor and as determined needed for safety in rural areas of the corridor.
- Layover track occurring at existing train yards at the south and north project termini.
  - At the south terminus (Minneapolis), approximately 1,000 feet of track is anticipated to accommodate the layover needs of the proposed NLX service (two train sets). If additional track and/or layover structure is needed at the layover site at the south terminus, it would be addressed separately in project level NEPA.
  - At the north terminus (Duluth), the identified NLX layover site is the rail yard immediately west of the Depot; this site would accommodate layover of two train sets. There are currently no structures for layover at this location. A layover structure at the north terminus would be addressed separately in project level NEPA.
  - A light maintenance facility is necessary for operation of the NLX service. The maintenance facility would be addressed separately in project level NEPA.
  - Heavy maintenance would be provided by the equipment vendor or other agencies at an existing off-site location yet to be selected.

### **Area of Direct Impact (Footprint)**

Typical cross-sections developed for new track areas estimate an area of impact (footprint) with widths that range from 44 feet to 92 feet except for a portion in the City of Braham where a cross-section of 29 feet was developed in order to avoid impacts to a park. This area of direct impact is addressed by this FONSI. Further detailed analysis of environmental impacts within this footprint would be conducted in project level NEPA.

### **Operations**

While the NLX operating plan would continue to be refined through on-going project development activities, including consultation with BNSF, preliminary analysis has assumed a track configuration along with assumed speeds of up to 79 mph south of Coon Creek Junction; up to 90 mph on existing track north of Coon Creek Junction; up to 110 mph on dedicated track

between Isanti and Hinckley; and up to 90 mph between Hinckley and Superior, WI. This track configuration results in a 2 hour 17 minute timetable between Minneapolis and Duluth. Preliminary analysis assumed use of FRA-compliant tilting trains, preliminary NLX train schedules using a three-train active fleet rotation (a fourth train held for equipment protections and maintenance reserve) and assuming eight round trips (16 trains)per day.

## 5.0 PUBLIC AND AGENCY COORDINATION

Several public information meetings were held between 2009 and 2012 in Braham, Cambridge, Coon Rapids, Duluth, Hinckley, Minneapolis, and Sandstone, Minnesota and in Superior, Wisconsin. Project information has been distributed through newsletters and the project website <http://www.northernlightsexpress.org>.

The project is guided by a Steering Committee comprising staff from the Alliance, MnDOT, WisDOT, Anoka County, Hennepin County, the Mille Lacs Band of Ojibwe and the Duluth–Superior Metropolitan Interstate Council (MPO).

Numerous agencies provided input to the study process, both through environmental agency coordination meetings, held October 2009, November 2011 and December 2011, as well as via email, phone or mail correspondence. In addition to the FRA, MnDOT, WisDOT, and other agencies participating through the project Steering Committee, agencies involved in project coordination include the Minnesota Department of Natural Resources (MnDNR), Wisconsin Department of Natural Resources (WDNR), Minnesota Pollution Control Agency (MPCA), Natural Resources Conservation Service (NRCS), U.S. Fish and Wildlife Service (USFWS), U.S. Coast Guard (USCG), U.S. Army Corps of Engineers (COE), Great Lakes Indian Fish and Wildlife Commission (GLIFWC), Minnesota State Historic Preservation Office (MnSHPO), Wisconsin State Historic Preservation Office (WisSHPO), and Federally-recognized tribes in Minnesota and Wisconsin.

In addition, project staff met with BNSF on a number of occasions to discuss project progress and review technical data. BNSF evaluated and commented on proposed operations, infrastructure and analyses with regard to track charts, timetables and proposed improvements as they were being developed at the concept level described in the EA.

The EA was made available to state and federal agencies and the public on March 18, 2013. The public comment period closed on **April 17, 2013**. Copies of the EA were available for review at public libraries and government buildings along the project corridor. The EA was also made available on the Project websites <http://www.northernlightsexpress.org> and [www.mndot.gov/nlx](http://www.mndot.gov/nlx). A public hearing was held April 4, 2013 from 6:00 pm to 8:00 pm in Cambridge, MN.

A total of **93** comments were received from the agencies, organizations and the public. Comments were submitted via comment sheets submitted at or following the public hearing, email, letters and telephone calls.

## **Responses to Comments on the NLX EA**

In March 2013, the EA was distributed to agencies and organizations on the project distribution list. The EA was available for public review at local libraries and local government offices, and available in electronic format on the project website (<http://www.mndot.gov/nlx>). This section, together with Appendix B, provides the responses to comments received on the EA during the public comment period for the NLX EA from March 18, 2013 to April 17, 2013. A public hearing for the project was held on April 4, 2013 in Cambridge, Minnesota. Comments were received in three formats during the comment period: comment forms, oral statements, and written statements.

The comment period for agencies and organizations that received copies of the EA as well as individuals responding as part of the public comment process officially closed on April 17, 2013. 18 written comments were received from government agencies and non-governmental organizations; a total of approximately 75 additional public comment cards, letters, e-mails, and oral statements were submitted by the public.

The methodology for responding to comments received on the EA is based upon the general guidelines developed as part of NEPA. Written responses are provided for comments pertaining to analysis conducted for and documented in the EA. Specifically, responses have been prepared for substantive statements noting: incorrect or unclear information; permit requirements; or content requirements. Comments agreeing with EA information or statements, general opinions, statements of fact, or statements of alternative preference were not formally responded to, but are summarized in this section.

While written responses were not provided specifically for each comment received, all comments will be considered in developing the scope and methodology for the preliminary engineering and project level NEPA.

## Responses to Government Agency and Non-Governmental Organization Comments on the EA

Table 2 lists the individual government agencies and non-government organizations that commented on the EA. Responses to government agency comments and non-governmental organization comments are found in Appendix B.

**Table 2. Agencies and Organizations Commenting on EA**

<b>Federal Agencies</b>
Surface Transportation Board – Office of Environmental Analysis
United States Environmental Protection Agency (EPA)
<b>State Agencies</b>
Minnesota Department of Natural Resources (MnDNR)
Minnesota Pollution Control Agency (MPCA)
Wisconsin Department of Natural Resources (WDNR)
<b>Regional, Local, and Tribal Governments</b>
City of Braham
City of Fridley
City of Minneapolis
City of Sandstone
City of Pine City
Coon Creek Watershed District
Hennepin County Regional Rail Authority
Metropolitan Council
Keweenaw Bay Indian Community
Leech Lake Band of Ojibwe
<b>Non-Governmental Organizations</b>
Alliance for Metropolitan Stability
Harrison Neighborhood Association
Seven County Senior Federation

## Responses to Public Comments on the EA

The section relates to the 75 comments received from the public during the public comment period for the NLX EA from March 18, 2013 to April 17, 2013. The public hearing for the project was held on April 4, 2013 in Cambridge, Minnesota. Fourteen (14) written comments were submitted at the public hearing, and 13 individuals provided oral comments, at the public hearing. The remaining comments were received by mail or e-mail prior to the end of the comment period. Comments were received in three formats:

- **Comment forms:** Interested individuals were invited to submit written comments on comment forms provided at the public hearing. **Oral statements:** Statements were recorded by a court reporter during the public hearing.

- **Written statements:** Interested individuals were invited to submit written comments. Written statements could be submitted in letter format or submitted electronically to the project e-mail address or project manager.

Comment forms, the oral transcript and written statements are all included in Appendix B.

Public comments received on the NLX EA included comments agreeing with EA information or statements, general opinions, statements of fact, or statements of preference. The public also commented on specific impact concerns. The more common public comments are grouped by topic below and responses provided..

### Project Support or Opposition

30 public comments were made in support of the project.

32 public comments were made in opposition to the project.

### Topics of Public Concern

**Noise:** Several respondents expressed concerns about noise from the NLX train.

**Response:** Section 4.7.4 of the EA describes the noise analysis methodology which follows FRA protocols. The methodology is detailed in the NLX Environmental Assessment Noise and Vibration Technical Report and Addendum, April 2011, available on the project website (<http://www.mndot.gov/nlx>). The primary components of wayside noise from train operations on the corridor are locomotive warning horns sounding as trains approach at-grade crossings, wheel/rail noise, and power car noise, which results from the engine.

The project level environmental review would analyze potential noise impacts, in further detail as needed.

**Vibration:** Several respondents expressed concerns about vibration from the NLX train.

**Response:** Vibration levels typically decrease very rapidly as the distance from the vibration source increases. The vibration levels from high-speed trains are generally much lower in level than freight trains (see section 4.7.4 of the EA), due to lighter equipment. Additionally, the track standards for a high-speed train system are typically higher than for freight service, resulting in smoother rails. The project level environmental review would analyze potential vibration impacts in further detail, if needed.

**Derailment:** Several respondents expressed concerns about train derailment.

**Response:** Safety concerns such as derailment would be addressed during the project level environmental review.

**Crossing Safety:** Several respondents expressed concerns about safety at crossings.

**Response:** Safety enhancements such as flashing light signals with gates, fencing in urban

areas, track improvements and communication systems upgrades would be addressed in additional detail within the project level environmental review (see section 3.2.2.2 in the EA).

Cost: Several respondents commented on project costs.

**Response:** *FRA uses Benefit/Cost Analysis to determine the feasibility of a project. At this point, this route yields a B/C ratio greater than one (1.0), which supports moving forward with additional design and preliminary engineering. FRA funding is dependent upon completing each stage of analysis before becoming eligible for further funding.*

*Initial cost estimates were based on high level concept engineering. The project development process involves progressively more detailed engineering that informs revised cost estimates. The source of revenue for operating and maintenance cost would be addressed as part of the project level environmental review and preliminary engineering.*

Ridership/Viability: Several respondents commented on ridership projections and the viability of the NLX project.

**Response:**

*FRA uses Benefit/Cost Analysis to determine the feasibility of a project. At this point, this route yields a B/C ratio greater than one (1.0), which supports moving forward with additional design and preliminary engineering. FRA funding is dependent upon completing each stage of analysis before becoming eligible for further funding.*

*The methodology for ridership, cost and benefit estimates is provided in the Northern Lights Express Technical Memorandum: Functional Analysis of Routes 9, 11, and 11a (Level 2 Analysis) December 2010, provided as Appendix C-2 of the EA.*

*The project level environmental review would include additional analysis of projected ridership, costs, and intermodal connectivity for passengers continuing beyond the immediate vicinity of station locations.*

Train Speed/Reliability of Schedule/Travel Times: Several respondents said that train travel speeds were overestimated and would be similar to travel time on the highway. One respondent questioned train schedule reliability if the NLX is on a partially shared line with freight.

**Response:** *The travel times are based on concept level functional analysis as described in the Northern Lights Express Technical Memorandum: Functional Analysis of Routes 9, 11, and 11a (Level 2 Analysis) December 2010, provided as Appendix C-2 of the EA. If needed, the project level environmental review would include additional analysis of train speeds and travel times to verify that the proposed action meets the project purpose and need.*

Business Impacts: Several respondents commented on negative impacts to local businesses.

**Response:** *The Tier 1 Service Level NEPA document evaluates the impacts of the project as a whole, with a focus on corridor-wide and more qualitative impacts. Following completion of the Tier 1 Service Level NEPA document and the associated decision document, project level NEPA*

*documents would be developed to identify and assess the environmental impacts.*

*The project level environmental review would include additional analysis of potential effects of the project to adjacent residences and businesses.,*

Flying Debris: Several respondents expressed concern about debris flying from train tires or tracks.

**Response:** *If needed, the project level environmental review would further investigate the potential for debris impacts to properties.*

Decreased Property Values: Several respondents expressed concern that having the NLX train near their homes would decrease their property value.

**Response:** *The Tier 1 Service Level NEPA document evaluates the impacts of the project as a whole, with a focus on corridor-wide and more qualitative impacts. Following completion of the Tier 1 Service Level NEPA document and the associated decision document, project level NEPA documents would be developed to evaluate the environmental impacts within one or more specific areas.*

*The project level environmental review would include additional analysis of potential effects of the project to adjacent residences and businesses.*

Crime: Several commenters expressed concerns about crime.

**Response:** *Crime aboard high speed passenger trains has not been identified as a significant issue nationwide.*

General Environmental Impacts: Several respondents commented on general environmental impacts of the project including wetlands, contaminated sites, and other unspecified environmental impacts.

**Response:** *The Tier 1 Service Level NEPA document evaluates the impacts of the project as a whole, with a focus on corridor-wide and more qualitative impacts. Following completion of the Tier 1 Service Level NEPA document and the associated decision document, project level environmental review documents would be developed to evaluate the environmental impacts as needed.*

General Environmental Benefits: Several respondents noted the environmental benefits of the project including reduced CO emissions, less traffic congestion, etc.

**Response:** *Comments noted.*

Alternative Route/Terminus Suggestions: One respondent suggested that NLX should follow the I-35 corridor in order to minimize environmental impacts. One respondent said that NLX should start near I-35W/35E and not in Coon Rapids. Several respondents expressed that they would like NLX to connect to downtown St. Paul.

**Response:** *The selected alternative (Route 9) was chosen as a result of a three-level analysis process based on how well each of the initial 17 alternative corridors met the project purpose and need (see Appendices C-1 and C-2 of the EA).*

*The project's purpose and need is to provide an alternative mode of travel that has competitive travel time compared to highway travel (see section 1.0 of the EA).*

*Reducing the number of daily trains and the top speed would decrease the viability of the project as an alternative to vehicular travel.*

*The elements of ridership and intermodal connectivity that support the project terminus at the Interchange in Minneapolis are presented in Section 2.2 of the Tier 1 Service Level Environmental Assessment.*

**NLX Stations:** Respondents expressed support for stations at Cambridge City Center, Coon Rapids at Foley Boulevard, Grasston/Braham, Hinckley, Sandstone, and St. Paul (Union Depot).

**Response:** *Comments noted. When projects are developed, stops are determined by ridership. For an effective high speed rail corridor, competitive time must be attained or the project will not achieve the necessary public benefit to be deemed eligible for future public funding.*

**Crossings/Access:** Many respondents expressed concerns about safety at at-grade crossings. Other asked if specific access would be closed. One commenter asked about crossings for snowmobiles.

**Response:** *Counties, cities and townships would be invited to participate in evaluating their at-grade crossings during an on-site diagnostic review to determine the appropriate treatment. The diagnostic reviews are expected to take place in 2014.*

*Private at-grade crossings are subject to further discussion and will be worked out on a case-by-case basis. By law, no property can be landlocked and access must be provided.*

**Alternative Energy:** Several respondents suggested using electric rail powered by renewable energy instead of standard diesel/oil power.

**Response:** *Electric rail would require significant additional cost in infrastructure that diesel would not.* **Speed-Related Safety:** Many respondents were concerned about the safety of high-speed trains traveling in proximity to their homes or businesses. Several respondents suggested reducing the speed from 90 mph to 50 mph.

**Response:** *Safety enhancements such as flashing light signals with gates, fencing in urban areas, track improvements and communication systems upgrades would be addressed in the project level environmental review (see section 3.2.2.2 in the EA).*

*The purpose and need for the project includes the need to have a competitive travel time with the estimated highway travel time for the 155-mile distance between Minneapolis and Duluth of two hours and 17 minutes. This can be achieved only with the higher speeds proposed for the NLX*

service.

Train Frequency and Wait Times: Several respondents expressed concerns about the increase in frequency of trains traveling near their homes or businesses. Others were concerned about wait times related to frequent train crossings at roadways.

**Response:** *At the expected speeds and train lengths, an NLX train would pass any given property in seconds. Crossing wait times at non-station communities would be shorter than typically experienced with an average freight train.*

*Reducing the number of daily trains and the top speed would decrease the viability of the project as an alternative to vehicular travel.*

Ticket Price: Several respondents expressed concerns about the high price of train tickets.

**Response:** *Ticket prices have not yet been determined but would be informed by cost of service, relationship to ridership, and funding considerations.*

Visual Impacts: Several respondents expressed concerns about negative visual impacts.

**Response:** *The project corridor is an active railroad and the proposed improvements should result in minor alteration of the visual character along the corridor. Visual impacts would be analyzed, if needed, in the project level environmental review.*

Bus/Car Rental Connections: Several respondents noted that there should be car rental options near stations at both ends of the NLX line. One commenter suggested a bus service connection at the Duluth station.

**Response:** *Comments noted. The project level environmental review would include additional analysis of projected ridership, costs, and intermodal connectivity for passengers continuing beyond the immediate vicinity of station locations.*

Reliability of Maintenance: Several respondents asked about rail maintenance and maintaining rails at very low temperatures.

**Response:** *Maintenance details would be addressed in agreements between MnDOT and BNSF. BNSF would maintain the tracks, as is currently the case.*

## **6.0 ENVIRONMENTAL CONSEQUENCES AND MITIGATION**

The potential for environmental impact is summarized for each resource category as follows:

### **6.1 Land Use/Plans/Right of Way Acquisition**

The NLX project is not expected to cause significant change in land use through the corridor as a whole. There would likely be new development near stations. The proposed NLX project is compatible with adjacent and nearby land uses along the entire corridor and is consistent with local and/or regional comprehensive plans.

Within the two terminal metropolitan areas, impacts to land use due to construction of new tracks would be minimal with all improvements located within or immediately adjacent to an existing active freight rail corridor.

Layover and maintenance activities pose no issues of land use incompatibility as they would be located in existing rail yards. Known station locations are compatible with existing land uses. Locations for the proposed new stations in Hinckley, Cambridge and Superior have not been selected; impacts on land uses within these communities would be evaluated in preliminary engineering and project level NEPA.

Construction of a new track parallel to the existing track and dedicated for passenger rail use would be needed for approximately 53 miles of the 155 mile corridor. New or extended freight sidings necessary for operational efficiency would be needed for approximately 17 miles of the 155 mile corridor. Approximately 420 acres of land (of which approximately 300 acres are in BNSF right of way) are within the construction limits. The edge of the proposed footprint is between 44 and 92 feet from centerline of the existing track, except for a short segment in the City of Braham where a cross-section of 29 feet was developed in order to avoid impacts to a park, businesses and a home.

Where the footprint exceeds the width of the existing right of way, the project would acquire up to 120 acres of land in other ownership for railroad use. In rural areas, this is chiefly agricultural or undeveloped uses. Through several communities, the expanded track area is in an undeveloped area between a highway and the existing track.

The proposed project would result in minor impacts to developed land uses in the City of Cambridge, including:

- minor temporary easement on an industrial property (MP 109.0-180.8),
- relocation of BNSF railroad structure (a small metal industrial building used for storage) (MP 107.4), and
- temporary construction impacts to the rear parking lot of the Cambridge Mall (MP 107.4). It is assumed that this would be accommodated within existing BNSF right of way; if right of way is not adequate, an easement or permit would be required.

Any acquisition of property would be conducted in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended, and 49 CFR part 24.

## **6.2 Transportation**

### **Intermodal Transit**

The proposed project would connect to existing and planned intermodal transportation options, including intercity passenger rail, LRT, BRT, commuter rail, urban and rural bus systems, automobile, bicycle, and recreational transportation options (such as the North Shore Scenic Rail).

No adverse impacts to transit are anticipated. Delays at at-grade crossings due to eight additional roundtrip trains (16 trains) a day would be limited in duration. Further analysis would be undertaken in project level NEPA. Potential connections between proposed high speed passenger rail and other transportation modes would offer expanded travel opportunities for residents and visitors. Intermodal connections with existing roadways are anticipated to occur primarily at park and ride facilities adjacent to stations. Stations would also provide opportunities for connections between high speed rail and other modes of transportation including buses, LRT, and commuter rail.

### **Traffic Circulation**

There would be temporary impacts to at-grade crossings during construction. Alternate access would be available during construction. To the extent practicable, construction would be staged to ensure that travelers would only have to go a short distance out of their way to find an alternative crossing opportunity. Further analysis would be undertaken in project level NEPA. All public crossings would be equipped with flashing light signals and four quadrant gates or other appropriate warning devices. Approximately 30 to 40 percent of the private crossings would be closed, with alternate access provided. Property acquisition would occur at critical areas where alternate access cannot be provided. Further analysis would be undertaken in project level NEPA. Flashing light signals with gates would be installed at all other private crossings.

The addition of eight roundtrips (16 trains) a day would have a minor impact on vehicular travel within communities. There are at-grade crossings in the vicinity of the potential station locations in Cambridge and Hinckley, however there are other at-grade crossings within a few blocks that could provide alternative routes for vehicles. Dwell times for passenger trains at stations are estimated to be two minutes. Stations may be affected (cross-street access closed) during this time. Further analysis would occur during project level NEPA station analysis.

The proposed NLX stations are anticipated to generate traffic associated with drop off and park and ride activity. This could result in localized traffic impacts. Proposed stations would be studied under project level NEPA.

### **Pedestrian/Bicyclists**

Access and circulations for pedestrians/bicyclists would be affected by temporary impacts to crossings during construction, rerouting of access where private crossings are closed and minimal wait time at crossing during train operations.

In urbanized areas and as needed in rural areas for safety, the proposed NLX corridor would be a “sealed corridor,” which means that the tracks would be fenced to prevent unsafe access to the corridor. Where appropriate due to the level of pedestrian and bicycle activity, crossing gates would accommodate pedestrian and bicycle movement.

Station areas would be designed to accommodate pedestrians and bicyclists.

## **Freight**

The ability for high speed passenger rail to co-exist successfully with freight rail was analyzed during concept development, in consultation with BNSF, and resulted in trackwork and system improvements for track segments that support joint passenger and freight operations (for daily operations and during periods of track maintenance). Through the concept development process, improvements were refined (in particular, location and length of freight sidings) in order to add capacity and flexibility into the system and minimize impacts to freight movement. This objective would continue through subsequent preliminary engineering.

## **Summary of Impacts**

The proposed project would integrate with intermodal transit; has minor impacts on localized traffic circulation; has positive impact on system highway congestion by diverting automobile trips; has minor impacts on pedestrian/bicycles access and circulation; has positive safety impacts on pedestrians/bicycles; and supports joint passenger and freight operations.

## **6.3 Vegetation and Wildlife/Threatened and Endangered Species**

### **Vegetation, Wildlife Resources and Habitats**

**Land Cover** The project would result in a total of 420 acres being converted to rail use. The project would convert approximately 94 acres of wetland, 61 acres of woods/forest, 94 acres of brush/grassland, 47 acres of cropland, 61 acres of developed open space (lawns and landscaping), and 63 acres of developed low- to high-density areas.

#### Habitat

These impacts to habitats (the land covers noted above) would be narrow strips of land adjacent to railroad track (approximately 29 to 96 feet wide) that are relatively small portions of the various habitat types. In addition, as an extension of an existing rail corridor, these conversions of vegetation to rail use would be at the edge of existing habitat sites, minimizing the effect to wildlife due to habitat fragmentation (effect on animal migration discussed below). Furthermore, much of the construction limits beyond the new track ballast would revegetate over time. Outside of the construction limits and siding extension areas, there would be no conversion of habitat to rail use. Minimal construction impacts to wildlife habitat are anticipated. Measures to minimize impacts to habitat would be further developed during preliminary engineering and project level NEPA.

## Invasive Species

Invasive species are present in all types of habitat along the project corridor. Pathways for the spread of invasive species relevant to the proposed project include inadvertent introduction of weed seed during construction or rehabilitation work via personnel clothing, gear, and equipment, through the use of mulch, imported soil, gravel or sod, or through inadvertent transport of non-native aquatic species via equipment used in waterways during bridge construction or rehabilitation. Minnesota and Wisconsin have comprehensive regulations related to control of invasive species<sup>3</sup> and both state agencies promote best practices within the construction industry through education, permitting and contract specifications.

## Animal Mortality/Migration

As the project corridor is currently an active freight rail line with an average of 12 trains per day, the addition of eight round trips (16 trains) a day would have minimal potential for significant impacts to wildlife due to train-animal collisions. To minimize barriers to animal movement, fencing would be omitted from the project corridor except when needed for pedestrian, bicycle or vehicle safety. Project staff would continue to consult with DNR and US Fish and Wildlife Service (USFWS) staff, during project design and construction, regarding fencing and related wildlife crossing considerations for the corridor, as well as design measures to help prevent significant increase in animal mortality and mobility due to the high speed train operations.

## Migratory Birds

Bridges provide potential bird nesting habitat, therefore bridge rehabilitation activities pose the potential for impacts to nesting for migratory birds. In compliance with the Federal Migratory Bird Treaty Act, 50 CFR 21.41, bridges to be rehabilitated would be kept clear of nests prior to nesting season. After inactive nests have been removed, tarps or nets would be secured to the bridges to restrict birds from gaining access below the bridge to discourage nesting and keep the structure clear of nests until nesting season is over. If birds are found nesting, consultation will occur with the US Fish and Wildlife Service to ensure safe removal of the birds. These measures will be further defined as the project advances and additional consultation occurs with the appropriate agencies.

## Aquatic Habitat

Temporary impacts to aquatic habitat may include suspended or deposited silt and sediment which can interfere with the feeding, movement, and reproductive activities of aquatic species. Permanent impacts include additional piers where new bridges are to be constructed (over the Snake River and Pokegama Creek) and the extension of existing culverts over other streams within the new construction area. Impacts to aquatic life as a result of these improvements are expected to be minor as they would not substantially interfere with feeding, movement or reproduction of aquatic species.

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<sup>3</sup> For best management practices to be followed in Wisconsin, see <http://council.wisconsinforestry.org/invasives/transportation/pdf/ROW-Manual.pdf>.

Railroad bridge rehabilitation, including replacing the open decks with ballasted deck, cleaning and painting, bearing replacement, and pointing of abutments and/or piers may cause short-term (i.e., a few days) impacts to the waterway flow. Likewise, the construction staging for abutment or pier pointing may be located near the bridge site or within waterway bank slopes, posing impacts to waterway flow, and therefore to aquatic species, that would be short-term and minor (i.e. a small encroachment, not blocking the flow of water or movement or feeding of fish, reptiles or amphibians).

Potential measures to avoid, minimize, or mitigate impacts to aquatic habitat include timing of new bridge construction and bridge rehabilitation activities to avoid spawning periods, to occur during periods of low flow, and best management practices to protect stream banks and to prevent silt from entering streams. These measures will be further defined as the project advances and additional consultation occurs with the appropriate agencies.

### Native Prairies

Impacts to identified prairie resources may occur at two locations where new track would be constructed. These include a 2.5-acre impact to an estimated 4-acre prairie remnant designated as “fair” along the track south of 301<sup>st</sup> Avenue NE in Isanti; and a 3.5-acre impact to an estimated 4.5-acre prairie remnant designated as “good” south of 11<sup>th</sup> Avenue SE in Cambridge. It should be noted that the impacts described above include the total area within the construction footprint and that substantial area within the construction footprint would be for slopes for drainage; these provide an opportunity for minimization through design and also reseeded with native grass mixtures. Further evaluation would occur in project level NEPA, including coordination with MnDNR as needed.

### **Federal Threatened and Endangered Species**

The USFWS was contacted to assist in determining the appropriate consultation path in accordance with Section 7 of the Endangered Species Act of 1973, as amended. Based on the coordination and field work conducted by staff from USFWS, MnDNR and MnDOT, the nature of the proposed activities, the federally-listed species identified and the absence of designated critical habitat within the action area, FRA determined that the proposed action may affect, but is not likely to adversely affect the Canada lynx, a federally-listed threatened species.

For all other federally-listed species identified, the FRA determined that the project would have no effect. The FRA requested USFWS concurrence by letter dated April 12, 2012. USFWS issued its concurrence by letter dated September 26, 2012.

### **State-Listed Species**

#### Plants

In Minnesota, the Natural Heritage Information System (NHIS) identified occurrences of three state-listed threatened or endangered plant species within the proposed construction limits: ram’s head lady’s slipper (*Cypripedium arietinum*), bog bluegrass (*Poa paludigean*), and snailseed

pondweed (*Potamogeton bicupulatus*). The ram's head lady's slipper prefers dry to moist forests, fens, and cedar swamps while bog bluegrass and snailseed pondweed tend to occur in wet areas.

In Wisconsin, WDNR staff consulted advised that Slender Spike-rush (endangered), Arrow-leaved Sweet-coltsfoot (threatened), and Seaside crowsfoot (threatened) are likely to be present in the project corridor.

Plant surveys have not been done. Biological surveys would be necessary in project level NEPA to determine the presence of threatened or endangered plant species where suitable habitat exists within the proposed construction limits.

### Mussels

In Minnesota, the NHIS search also identified several mussel species within one mile of the proposed NLX corridor. Occurrences of the mucket (*Actinonaias ligamentina*) and elktoe (*Alasmidonta marginata*) were identified in the Snake River (Grasston), Grindstone River (Hinckley), and the Kettle River (Sandstone). The Round Pigtoe (*Pleurobema coccineum*) was also identified in the Kettle River. The MnDNR has also indicated the presence of mussel populations in the Snake, Kettle, Nemadji, and St. Louis rivers.

Surveys would be done within three years of construction to determine the presence of mussels in/near the construction impact area. Depending on the survey outcomes, future agency consultation may be required to investigate measures to avoid, minimize, or mitigate mussel impacts.

### Turtles

In Minnesota, the NHIS search also identified known occurrences of Blanding's turtles (*Emydoidea blandingii*) (threatened) having been recorded within the proposed construction limits. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. As wetlands are located in and near the project corridor, Blanding's turtles may be affected during construction.

Construction impacts on Blanding's turtles would be minimized by following MnDNR recommendations which include installing silt fence to keep turtles out of the construction area. If encountered during construction and determined to be in danger, the turtles would be moved to a safe place by hand. If it is determined that they are not in danger, the turtles would be left undisturbed. The MnDNR flyer summarizing recommendations for avoiding and minimizing impacts to Blanding's turtles would be distributed to all contractors in the area.

In Wisconsin, one reptile, the wood turtle (*Glyptemys insculpta*) (threatened), was identified within one Public Land Survey (PLS) section where new dedicated track is proposed (in Superior). The wood turtle prefers clean rivers and streams with moderate to fast flows, adjacent riparian wetlands, and upland deciduous forests. Because the landscape near the proposed dedicated track is dominated by residential and commercial development to the east and an existing railroad yard to the west, impact to the wood turtle is not likely.

## Other

No Minnesota or Wisconsin state-listed mammal, bird, or insect species were identified near the project corridor.

## **Future Coordination**

Project staff would continue to coordinate with Minnesota and Wisconsin DNR staff regarding the need for surveys related to state threatened and endangered species as the project progresses, including location and methodologies.

If sensitive plant or animal species are found in locations that would be impacted by construction activities, agencies would be consulted during project level NEPA regarding methods to, first, avoid and then, minimize such impacts. Agencies would also be consulted for viable procedures to transplant species or other mitigation measures where impacts are unavoidable.

## **6.4 Wetlands**

Total potential wetland impacts are estimated to be between 74 and 97 acres<sup>4</sup>. Three Minnesota public waters (PWI)<sup>5</sup>, all of which are public waters wetlands, are included in these impacts. Approximately 96 of these are in Minnesota, less than one acre is in Wisconsin.

The potential for additional stream diversions, diking, or impoundment of any surface waters is unlikely.

Opportunities to further define the area of impacts and to minimize construction and permanent impacts, including impacts to wetlands would continue to be identified through final design. Applicable permits include Section 404 permits for impacts to Waters of the United States (jurisdictional wetlands); Minnesota WCA permits, and Wisconsin DNR waterway and wetland permits. The project would require local, state and federal wetlands/water permits. The permitting requirements for this project would depend upon the amount of wetland impact as it relates to the threshold amounts under each regulatory jurisdiction involved and would be documented throughout project level NEPA. The permitting agencies, including the COE, MnDNR, WDNR, and Local Government Units (LGUs), would continue to be consulted during project level NEPA, final design, permitting and mitigation.

As discussed in agency coordination meetings, the majority of wetland impacts are anticipated to occur in Minnesota and mitigation would be primarily through the state's wetland banking system. Further analysis will be undertaken in project level NEPA. Replacement ratios would range from a ratio of 1:1 to 2:1. Based on these mitigation ratios, up to 200 acres of mitigation

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<sup>4</sup> The National Wetlands Inventory (NWI) was used to calculate potential wetland impacts in Minnesota. The Wisconsin Wetland Inventory (WWI) was used to calculate potential wetland in Wisconsin. Wetlands identified using NWI and WWI data were field verified using methodologies developed in consultation with the U.S. Army Corps of Engineers. A multiplier was applied to account for the limitations of the NWI/WWI data.

<sup>5</sup> In Minnesota, "Public Waters" are designated as such to indicate which lakes, wetlands, and watercourses over which the Minnesota DNR Waters has regulatory jurisdiction.

would be needed. Mitigation of all unavoidable impacts would likely be accomplished through a combination of on-site mitigation and through the purchase of wetland banking credits. PWI mitigation would be required in accordance with applicable regulatory rules, including the MnDNR option to waive the public waters work permit requirement for projects regulated by the Wetland Conservation Act (WCA). Note that, due to the expansive nature of this project, there may be multiple WCA regulatory jurisdictions.

For impacts occurring within Wisconsin, the typical mitigation ratio would be 1.5 acres of mitigation for each acre of wetland impact (mitigation ratio of 1.5:1). Further analysis would be undertaken in project level NEPA. A mitigation ratio of 1:1 may be possible if mitigation would be accomplished through an established mitigation bank within an appropriate Geographical Management Unit (GMU) and the impact is not to a rare wetland type as described by the WDNR. During agency coordination, WDNR and WisDOT staff advised that the project would not be eligible for use of public mitigation banking (through the WisDOT-WDNR cooperative process) but that a private banking site(s) would be a likely option. Further analysis will be undertaken in project level NEPA.

## **6.5 Water Resources**

### **Water Quality/Stormwater Runoff**

The potential for impacts to water resources is limited to areas of new track construction, new bridges, and major bridge rehabilitation<sup>6</sup>. The proposed project would alter the existing drainage pattern where new track is constructed, but these changes would not cause major change in the direction or volume of flow. A rural drainage system is anticipated for most of the corridor. There is a short segment in the City of Braham where no ditch drainage or other conveyance is planned in order to minimize the construction footprint and avoid impacts to businesses, a home and a park which all abut the rail corridor; the trackbed would drain in the same manner as it does under existing conditions. There are other drainage system options (e.g. curb and gutter, stabilized slopes, etc.) to minimize additional impacts to properties elsewhere in the corridor that may be identified as a result of preliminary engineering studies.

All existing drainage culverts would be extended beneath the new track and would be installed at the same or comparable size as the existing culverts. Consequently, no substantial effect to downstream surface water hydrology is anticipated. However, further analysis would be undertaken in project level NEPA.

The track expansion would result in increased impervious surfaces and potential fill placement in order to accommodate the new track embankment. New impervious surfaces can have potentially adverse impacts on receiving water bodies and waterways if not mitigated properly. An increase in impervious surface typically results in increased peak flows and runoff volumes. Higher flows can also result in an increase in sediment and pollutant loading.

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<sup>6</sup> The existing track tie replacement and ballast improvements can be done as maintenance on the line utilizing tie replacement trains and ballast replacement trains. All work is performed from the track and is expected to have no impacts outside the existing track bed.

Based on the type of development (disconnected impervious of a longitudinal project) and the potential for implementing Best Management Practices (BMPs) along the corridor, it is anticipated that the impact on the quality of the receiving waters, including special and impaired waters would be negligible.

Nearly all of the impervious area associated with the track bed is disconnected impervious, which would help mitigate the increase in peak flows and runoff volumes by routing runoff over vegetated pervious surfaces. Vegetation is effective in reducing sediment loads.

The benefits of routing runoff through vegetated swales can be further enhanced by incorporating ditch blocks. Ditch blocks promote slower velocities, which help prevent erosion, and increase the runoff exposure to the pervious surface. The increased exposure often results in additional infiltration and reduced volume runoff and peak flows.

At waterbody crossings, ponds may be employed to remove sediment and slow peak flows. Direct discharge from bridges is not allowed and runoff from the structures would require some treatment. This could be in the form of a vegetated swale. Treatment area sizing and location would be further developed during subsequent design activities.

Rehabilitation of existing railroad bridges includes open deck rehabilitation, cleaning and painting, bearing replacement and pointing of abutments and/or piers. Of these activities, cleaning and painting poses the greatest potential for contamination impact to water quality, however mitigation described in Section 6.8 would reduce this potential significantly.

### **Erosion and Sedimentation**

The project would disturb up to approximately 420 acres (see section 6.3), based on worst-case footprint. Further analysis would be undertaken in project level NEPA.

Track design typically avoids steep grades and follows lowland routes. As the proposed project would be within an existing railroad corridor, it is not anticipated that the track expansion area of impact would include steep slopes. Locally, however, the track embankment could be at a grade of 1 horizontal to 3 vertical (1:3 grade). The slope lengths of the embankment would not be excessive nor propagate erosion.

Activities during construction have a potential to cause erosion, sedimentation and accidental release of pollutants. Erosion and sedimentation of all exposed soils within the project corridor would be minimized utilizing the appropriate Best Management Practices (BMPs) identified in consultation with appropriate agencies during construction. The embankment would be vegetated immediately after construction, complying with the MPCA, WDNR and NPDES requirements. If long slopes are created or encountered, erosion control measures such as erosion control blanket, disk mulching, or hydromulch can be employed. Likewise, sediment management measures such as biorolls and silt fence can be used on long slopes during construction. Where practicable, drainage from the tracks can also be routed through vegetated ditches and through ditch checks to help promote sediment removal prior to entering receiving water bodies.

## **Floodplains**

In Minnesota, a total of 415 linear feet of longitudinal impacts are anticipated to FEMA regulated Zone A floodplain. Of these impacts, it is estimated that 350 feet would be in Kanabec County and 75 feet would be in Pine County. No floodplain impacts are expected to occur in Wisconsin.

Floodplain fill mitigation could take the form of compensatory storage or it may be shown by computation or modeling that the fill impacts at certain locations have negligible impacts of flood stage. In the case where impacts are shown to be negligible, no mitigation is required. During subsequent design stages, consultation with the MnDNR would be required to determine method for identifying impacts, and what, if any, mitigation is necessary.

Eleven major waterbodies are traversed by new rail construction in the corridor. The project also includes numerous transverse stream, creek, and ditch crossings. In addition, 14 FEMA-regulated crossings would be subject to bridge construction or rehabilitation. MnDNR and WDNR would be consulted prior to any bridge work. Specifics of the bridge construction and rehabilitation would be developed during preliminary engineering and project level NPA, but no adverse impact to FEMA-regulated crossings is anticipated based on current assumptions, including:

- It is unlikely that new piles or piers would be needed for bridges under rehabilitation. However, it is possible that pointing or patching work on piers may be required.
- It is likely that the existing abutments would remain in their current configuration, but it is possible that pointing or patching work would be required.
- The bridge lengths would not be shortened for rehab structures.
- For new bridges, it is very doubtful that the bottom flange would be at a lower elevation than existing.

At this time, it does not appear that the project would result in significant encroachment to floodplain. The construction limits would be refined in preliminary engineering to avoid impacts. If, in subsequent project level NEPA, it is determined that the project would result in a significant, unavoidable floodplain encroachment, a floodplain finding (Only Practicable Alternative Finding) would be prepared.

## **Shoreland Protection**

Shoreland regulation is carried out in Isanti, Pine, Kanabec, Carlton, and Douglas counties, and several communities in the affected portions of the corridor. During subsequent design and permitting phases, LGUs would be consulted to clarify which jurisdictions overlap the project and administer relevant regulations.

## **Coastal Zone Management Area – Lake Superior**

The area of the St. Louis River in Carlton County (south of Duluth) as well as Duluth and surrounding areas of urban expansion to the north and west are protected by the National Coastal Zone Management (CZM) program. Specific boundaries are included in the Minnesota's Lake Superior Coastal Program Final Environmental Impact Statement. The counties in Wisconsin bordering Lake Superior are also protected by the CZM (Douglas County in the study area). Coastal Zone Management encompasses potential impact areas discussed elsewhere in this document, including shoreland protection, erosion control, fish and wildlife, visual impact, surface and groundwater quality, floodplain management, air quality, contamination, cultural resources and parks, and impacts and mitigation are addressed under those headings.

## **Navigable Waters**

The project involves rehabilitation of existing railroad bridge (Grassy Point Bridge) over the St. Louis River, which is federal navigable water. The USCG and the COE were consulted regarding the potential for impacts and permitting under Section 10 of Rivers and Harbors Act of 1899 as well as Section 404 of the CWA. Based on the assumed bridge rehabilitation work, it is not likely that a Section 10 permit would be required. Coordination would be required during subsequent design phases.

## **Wild and Scenic River**

The project improvements include rehabilitation of the existing railroad bridge over the Kettle River, which is on the state of Minnesota's list of wild and scenic rivers. Consultation with the MnDNR indicated no specific concerns related to the Kettle River other than potential impacts related to bridge rehabilitation work that are discussed elsewhere (e.g. contamination, erosion control, wildlife movement, etc.).

## **Groundwater**

No impacts to wells are anticipated, however if any unused or unsealed wells are discovered in the project area during construction, they would be addressed in accordance with Minnesota Rules, Chapter 4725 and Section NR 812.26 of the Wisconsin Administrative Code.

Based on preliminary engineering, it is unknown if, or where any groundwater (including dewatering) would be needed. If appropriation of water is deemed necessary during project development, proper permits would be obtained prior to any work occurring.

No other impacts to groundwater are anticipated.

## **6.6 Air Quality**

The project is anticipated to result in a reduction of pollutants due to a reduction in personal vehicle use. The estimated pollutant tonnage reduction per mile is 25 grams for carbon monoxide (CO), 1.3 grams for oxides of nitrogen (NO<sub>x</sub>), 1.05 grams for volatile organic compounds (VOC), 0.09 grams for particulate matter (PM), and 607 grams for carbon dioxide (CO<sub>2</sub>).

Potential for air quality impacts exists at high speed rail crossings where automobiles are stopped while waiting for passenger trains to pass through. Automobile queuing at high speed rail crossings would be of relatively short duration because of the high speed of the train (i.e. gate would be down for seconds) for most of the corridor. The estimated dwell time at rail stations is expected to be approximately two minutes. However, the effect on traffic congestion would be minimal. A maximum of eight round trips (16 trains) daily are anticipated.

No at-grade crossings are near planned stations within either of Minneapolis or Duluth-Superior CO maintenance areas, therefore no congestion at crossings during station dwell times is expected in these areas. Potential station locations in Cambridge and Hinckley are not in CO non-attainment or maintenance areas. Air quality impacts at Cambridge, Hinckley and Superior stations would be evaluated in project level NEPA.

No air quality impacts are anticipated due to implementation of layover or fueling/equipment maintenance facilities because these operations would not generate significant vehicle traffic.

## **6.7 Noise and Vibration**

### **Operational Noise Impacts and Mitigation**

The results of the noise analysis based on currently available NLX operational assumptions indicate that there would be 43 residential (Category 2), and 18 institutional (Category 3) severe noise impacts, and 279 residential, and 10 institutional moderate noise impacts from the NLX trains.<sup>7</sup> There is no noise impact projected at Bayfront Festival Park in Duluth, MN, the only Category 1 land use along the corridor.<sup>8</sup>

In Minneapolis there is one multi-family residential building, located west of the tracks east of 1<sup>st</sup> Street N, consisting of four residences, predicted to have moderate noise impact due to the proximity of the proposed alignment to the buildings, approximately 30 feet away. Trains currently do not sound their horns in this area. In Braham, there is one park (Freedom Park) with severe noise impact due to the proximity of the proposed alignment. All of the other noise impacts identified in the EA are caused primarily by the sounding of locomotive warning horns as trains approach at-grade crossings.

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<sup>7</sup> The EA describes noise impacts in Section 4.7.3. A severe noise impact is described as project-generated noise that can be expected to cause a significant percentage of people to be highly annoyed by the new noise.” A moderate noise impact is described as “the change in the cumulative noise level is noticeable to most people but may not be sufficient to cause strong adverse reactions.”

<sup>8</sup>The FRA Noise Impact Criteria group noise sensitive land uses into three categories. Category 1 includes land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Category 2 includes homes, hospitals and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance. Category 3 includes institutional land uses with primarily daytime and evening use where it is important to avoid interference with such activities as speech, meditation and concentration on reading material.

The project was also assessed in relation to Minnesota Noise Pollution Control Standards, which specify sound level limits according to various land use activity areas. The analysis found that noise levels with NLX trains would exceed state noise standards at several locations, but that for most of these sites noise standards are already exceeded.

Potential mitigation measures for reducing noise impacts from high speed train system sources include:

1. Establishment of Quiet Zones: The projected NLX noise impacts are primarily due to the sounding of horns near at-grade crossings, rather than due to wheel/rail noise, which results from the steel wheels rolling on steel rails, and power car (locomotive) noise, which results from the engine. The most practicable way to mitigate the noise impacts would be with the establishment of quiet zones for all at-grade crossings near noise-sensitive receivers. Further analysis would be undertaken in project level NEPA.

In quiet zones, because of safety improvements at the at-grade crossings, train operators would sound horns only in emergency situations rather than as a standard operating procedure. To meet safety criteria, the municipalities may also be required to provide improvements to grade crossings such as modifications to the streets, raised medians, warning lights, and other devices. The FRA regulation also authorizes the use of automated wayside horns at crossings along with flashing lights and gates as a substitute for the train horn. While activated by the approach of trains, these devices are pole-mounted at the grade crossing, thereby limiting the horn noise exposure area to the immediate vicinity of the crossing.

Municipalities must initiate the request to establish quiet zones through application to the FRA; however the NLX project proponent would encourage and assist municipalities in making this application.

The establishment of quiet zones would eliminate all but four moderate noise impacts at one multi-family residential building in Minneapolis, described above, and one severe noise impact at Freedom Park in Braham; these noise impacts that would remain after full implementation of quiet zones are referred in subsequent text as “residual impacts”. The implementation of quiet zones in the project corridor would have the additional benefit of reducing the existing noise from freight train locomotive horns. This would be expected to decrease the Ldn at sensitive locations along the corridor by up to 5 dBA to 15 dBA compared to existing levels.

2. Noise Barriers: Installation of noise barriers beside the tracks is commonly used to reduce noise from surface transportation sources. The implementation of noise barriers would not be an effective mitigation option for the corridor where noise impacts are caused by locomotive horn noise. Noise barriers would need to be approximately 15 feet high in order to provide adequate noise reduction from the locomotive horns. Additionally noise barriers would be ineffective at locations near at-grade crossings because they could not extend across roadways. Further analysis would be undertaken in project level NEPA.

Trains do not currently sound horns in the area of the multi-family residential building with residual moderate impact in Minneapolis, so the noise impacts are caused by the NLX trains and not horn noise. The impacted multi-family building is elevated above the alignment in

this location. A noise barrier could potentially mitigate this noise impact if located near the track, but it would need to be approximately 12 feet to 15 feet high in order to provide adequate noise reduction from the locomotive noise source. Providing sound insulation for this building is another potential mitigation option. Before any final decision is made regarding noise mitigation at this building, a site specific long-term existing noise measurement should be conducted during the design phase of the project. The existing Ldn at this location was estimated from a one-hour noise measurement. A 24-hour noise measurement at this site would refine the results and may indicate no noise impact.

The residual severe noise impact at Freedom Park in Braham, MN could potentially be mitigated with a noise barrier, but may not be feasible due to its proximity to the track. It is important to note that the noise analysis was done based on a worst-case corridor footprint which has since been reduced. Refined noise analysis would be done as needed in project level NEPA.

3. Other: Other potential noise mitigation measures include vehicle noise specification in the procurement of vehicle technology performance limits, building sound insulation (as noted above), and special trackwork at crossovers and turnouts.

These potential minimization/mitigation measures would be analyzed as needed in project level NEPA.

### **Operational Vibration Impacts and Mitigation**

The results of the vibration analysis based on currently available NLX operational assumptions indicate that there would be four residential ground-borne vibration impacts from NLX trains. Three are at single-family residences in Stanchfield, MN, caused by the proximity of these residences to the NLX track, approximately 50 feet, and the speed of the passing NLX trains at 110 mph. One is at a single-family residence in Nickerson, MN, caused by the close proximity of the residence to the NLX track, approximately 35 feet, and the speed of the passing NLX trains at 90 mph.

Specific vibration mitigation measures would be recommended in preliminary engineering and project level NEPA when more specific characteristics of the vehicle are known. Additionally, site specific ground-borne vibration propagation testing may be conducted during design to provide less conservative results that may indicate no vibration impact.

There are several approaches to reduce ground-borne vibration from high speed rail operations, including:

1. Ballast Mats: a pad made of rubber or rubber-like material placed on an asphalt or concrete base with the normal ballast, ties, and rail on top.
2. Tire Derived Aggregate (TDA): Also known as shredded tires, a typical TDA installation consists of an underlayment of 12 inches of nominally 3-inch size tire shreds or chips wrapped with filter fabric, covered with 12 inches of sub-ballast and 12 inches of ballast above that to the base of the ties.

3. Floating Slabs: Floating slabs consist of thick concrete slabs supported by resilient pads on a concrete foundation; the tracks are mounted on top of the floating slab.
4. Resilient Rail Fasteners: Fasteners that include a soft, resilient element can be used to provide vibration isolation between rails and concrete slabs for direct fixation track on aerial structures or in tunnels.
5. Special Trackwork at Crossovers and Turnouts: See the discussion on noise mitigation above.

### **Construction Noise and Vibration Impacts and Mitigation**

Temporary noise and vibration impacts could result from activities associated with the construction of new tracks and stations, utility relocation, grading, excavation, track work, demolition, and installation of systems components. Such impacts may occur in residential areas and at other noise-sensitive land uses located within several hundred feet of the alignment. The potential for noise impact would be greatest at locations near pile-driving operations for bridges and other structures and at locations close to any nighttime construction work. The potential for vibration impact would be greatest at locations near pile-driving for bridges and other structures, and at locations close to vibratory compactor operations.

Construction activities would be carried out in compliance with all applicable local noise regulations. Mitigation measures that can be applied as needed to minimize temporary construction noise and vibration impacts include:

- Avoiding nighttime construction in residential neighborhoods.
- Locating stationary construction equipment as far as possible from noise-sensitive sites.
- Constructing noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers.
- Routing construction-related truck traffic to roadways that would cause the least disturbance to residents.
- Using alternative construction methods to minimize the use of impact and vibratory equipment (e.g., pile-drivers and compactors).

Noise and vibration analysis would be reassessed based on subsequent preliminary engineering and project level NEPA. Specific mitigation would be proposed based on results and specific circumstances of identified impact areas at that time.

### **6.8 Hazardous Waste/Contaminated Material/Solid Waste**

Ground disturbance associated with new construction in the proposed project corridor may impact residual contamination within the corridor or contamination related to industrial use. There are a number of sites within 500 feet of the corridor where new track construction is planned that present some potential for contamination.

As part of final design and prior to right of way acquisition, further evaluation of potentially contaminated properties affected by project construction would be completed to determine the extent and magnitude of contaminated soil and/or groundwater in the areas of concern. The results of this investigation would be used to determine whether the contaminated materials can be avoided or whether the project's impacts to these properties can be minimized. If necessary, a plan would be developed for properly handling and treating contaminated soil and/or groundwater during construction in accordance with all applicable state and federal requirements.

Rehabilitation of existing railroad bridges includes open deck rehabilitation, cleaning and painting, bearing replacement and pointing of abutments and/or piers. Of these activities, cleaning and painting poses the greatest potential for contamination impact; however this potential would be reduced significantly by the following mitigation, which would apply to new bridge construction and bridge rehabilitation. The contractor would be required to propose a containment plan, environmental monitoring plan, waste management plan and contingency plan in order to avoid contamination of the waterway from lead-based paint materials. Typical containment systems include tarps, negative pressure, barges/pontoons/small floats, and vacuum equipment. Similarly, debris containment measures would be in place as needed to ensure that construction materials for the open deck rehabilitation do not fall into the waterway.

No above or below ground storage tanks are planned for permanent use in conjunction with this project. Temporary storage tanks for petroleum projects may be located in the project area for equipment during construction. Toxic or hazardous materials would not be present at the site, except for fuel and oil necessary for equipment during construction and to operate the trains. The proposed project could result in a slight increase in the potential for hazardous material spills along the right of way due to the increase in rail traffic compared to the existing condition; however this potential is offset by the opportunity that the proposed project affords to increase safety as a result of improved rail capacity, track condition, and signal and communications systems. In the event of a hazardous materials spill from a high speed rail train, environmental response procedures would be followed to minimize adverse impacts.

Appropriate measures would be taken during construction to avoid spills that could contaminate groundwater or surface water in the project area. In the event that a leak or spill occurs during construction, appropriate action to remediate the situation would be taken immediately, in accordance with MPCA and/or WDNR containment and remedial action procedures, as appropriate.

Prior to construction of corridor improvements, a construction contingency plan addressing hazardous substance identification, notification, management, and disposal if hazardous substances are encountered during construction and operation would be developed. If a spill of hazardous or toxic substances should occur during or after construction of the proposed project, it is the responsibility of the transport company to notify the Minnesota Department of Public Safety, Division of Homeland Security and Emergency Management, to arrange for corrective measures to be taken pursuant to 6 Minnesota Code of Agency Rules (MCAR) 4.9005E. If any spills should occur in Wisconsin, it is the responsibility of the transport company to notify the WDNR's Remediation and Redevelopment Program, and to follow the requirements of Chapter NR 700 of the Wisconsin Administrative Code. Any contaminated spills or leaks that occur

during construction are the responsibility of the Contractor and would be responded to according to the MPCA and/or WDNR's containment and remedial action procedures.

All solid wastes generated by construction of the proposed project would be disposed of properly in a permitted, licensed solid waste facility or a similarly regulated facility elsewhere. Project demolition of concrete, asphalt and other potentially recyclable construction materials would be directed to the appropriate storage, crushing or renovation facility for recycling or reuse.

## **6.9 Cultural Resources**

FRA initiated archaeological and historic resource consultation with the Minnesota (MnSHPO) and Wisconsin (WisSHPO) State Historic Preservation Offices to review the Area of Potential Effect (APE) and for discussion of survey and evaluation of properties within the APE in March 2012 (Appendix I-1 of the EA).

The APE was approved by both MnSHPO and WisSHPO. For architectural history, the APE generally included an area 500 feet either side of the existing track, with expansion to ¼ mile around station locations, or bridge or overpass replacement. The APE was developed to account for any physical, auditory, atmospheric or visual impacts to architectural properties. (Appendix I-1 of the EA). Approximately 1,800 properties from Minneapolis to Duluth, including properties in Wisconsin, have received Phase I architectural history survey within the APE. Identification of properties that meet eligibility requirements and criterion for NRHP consideration is in process. Review of those properties is ongoing and consultation is underway with the MnSHPO and WisSHPO for concurrence on NRHP-eligibility. Eligible properties and impacts would be identified in Project Level NEPA. At that point, assessment of effects on historic properties would be carried out, and all efforts would be made to avoid, minimize and mitigate any adverse effects and memoranda of agreement (MOAs) developed as appropriate to resolve adverse effects. Additional architectural history survey and evaluation may be undertaken in project level NEPA, if necessary.

The APE for archaeology is the same as the project area construction footprint and included all areas of proposed construction activities or other potential ground disturbing activities associated with construction of the project. Because the location and design of some proposed stations, borrow areas, or laydown/storage areas was not yet known, these areas would require further survey in project level NEPA. Phase IA Archaeological analysis has been completed on the existing rail corridor, which has been previously disturbed. Reporting and consultation with the MnSHPO and WisSHPO is on-going.

MnDOT, in coordination with FRA, MnSHPO, and WisSHPO has developed a Programmatic Agreement (PA) to guide the Section 106 process going forward (see PA in Appendix C).

The PA establishes procedures for carrying out the Section 106 process, and includes stipulations that address the following: roles and responsibilities of signatories to the PA; consultation with Native American tribes, other consulting parties, and the public; identification and evaluation of historic properties; assessment of adverse effects; treatment of historic properties; changes in size or location of project areas; unanticipated adverse effects; and treatment of human remains. As a procedural PA, the document does not identify specific properties within the corridor since

consultation is ongoing with the SHPOs. That information will be contained with Memorandum of Agreements developed for Tier 2 projects.

In compliance with Section 106, FRA initiated consultation with federally recognized Native American tribes, in letters sent December 20, 2011(see Appendix I-1 of the EA). Responding tribes expressed no concerns.

## **6.10 Farmland and Soils**

### **Farmland**

Complete soil data is not available for Pine County. In the remainder of the corridor, expected Prime Farmland and Farmland of Statewide Importance impacts total 85 acres.<sup>9</sup> Based on an assessment of cover types, it is reasonable to assume that approximately 10 to 15 acres of farmland would be affected in Pine County, resulting in an estimate of up to 100 acres of farmland impact.

Up to 93 acres of these estimated farmland impacts are in Minnesota, the majority of these being in Isanti and Kanabec counties. Seven acres of the estimated farmland impacts are in Wisconsin (Douglas County).

In project level NEPA, the project team would consult with NRCS offices to provide assistance with the completion of the AD 1006 form (the Federal Farmland Conversion Impact Rating form used for proposed conversions of farmland to non-agricultural uses) which would inform the need for additional attention to avoidance and minimization. In addition, the project would consult with the Wisconsin Department of Trade, Agriculture and Consumer Protection (WDATCP) regarding the need for an Agricultural Impact Statement.<sup>10</sup>

It is estimated that 30 to 40 percent of private at-grade crossings would be closed. Many of these would be farm properties. Alternative access would be provided where feasible; this may result in more circuitous travel to access farmsteads or fields. Where alternative access is not feasible, property would be acquired.

### **Soils**

Proposed project improvements in the length of soft, compressive soils between Nickerson and Foxboro may require construction of a land bridge, which would be constructed from the in-place track and may include driving piling to provide a foundation, placement of precast pier caps, and concrete box girders. This may require some excavation to provide room for the pier

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<sup>9</sup> Prime Farmland and Farmland of Statewide Importance were calculated based on Natural Resource Conservation Services (NRCS) soil types. All areas within the construction limits were included, though portions of the construction limits are currently being used for railroad purposes, and are not considered farmable.

<sup>10</sup> Note that the reported acres of impact to Farmland of Statewide Importance in Wisconsin (7 acres) reported in Table 4.28 reflects several landowners, includes substantial portions that are actually in rail yard use, and reflects a worst-case footprint, therefore it is unlikely that the impacts would require the preparation of an AIS, though the WDATCP may choose to do so.

caps and box girders. This construction activity is not expected to result in impacts not otherwise addressed in the EA and summarized in this FONSI.

Any excavated material from land bridge construction would be hauled off site and properly disposed of at appropriate borrow sites.

## **6.11 Section 4(f)/6(f): Parks, Recreation Areas, Historic Sites, and Wildlife or Waterfowl Refuges**

### **Parks and Trails**

#### *Section 4(f)*

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites eligible for or listed on the National Register of Historic Places (regardless of ownership), wildlife and/or waterfowl refuges from conversion to a transportation use. As an Agency within the U.S. Department of Transportation (USDOT), the FRA may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

- There is no feasible and prudent alternative to the use of the land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use.

#### *Section 6(f)*

Protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f)(3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of the property. These properties may be converted to a non-outdoor recreational use only if replacement land of at least the same fair market value and reasonable equivalent usefulness and location is assured.

Areas of new track (dedicated parallel track or siding construction) abut the following parks:

#### Parks Subject to Section 4(f):

- Andover Lions Park in Andover (siding)
- Coon Creek Park in Andover (siding)
- Blue Bird Park (dedicated parallel track)
- Freedom Park (dedicated parallel track)

#### Parks Subject to Section 4(f) and Section 6(f):

- Bunker Hills Regional Park in Andover (siding)

- D.A.R. State Forest (siding)

For each of these parks, the proposed NLX improvements would be within existing railroad right of way, and require no acquisition of park property. As all work would be done from the tracks, construction impacts such as noise, dust and visual, should be limited and brief in duration. Temporary noise, visual, and dust impacts to parks during construction would be minimized through compliance with local ordinances applicable to construction activities. The assumed project footprint and avoidance measures result in no direct impacts to Section 4(f) or Section 6(f) park properties.

In regard to stations, the proposed rail phase of the Interchange site in Minneapolis, the Duluth Depot, Foley Boulevard, Coon Rapids and the potential site at Superior, WI would not impact any parks or trails. Station sites at Cambridge and Hinckley would be evaluated, if necessary, for impacts to parks and trails in project level NEPA.

#### *Constructive Use*

There are no permanent impacts to any existing trails. Rice Creek Regional Trail, Coon Creek Trail and Sand Creek Trail are all subject to Section 4(f) and Sand Creek Trail is also subject to Section 6(f). There may be temporary closure of the Rice Creek Regional Trail, Coon Creek Trail and Sand Creek Trail where they cross under the track during track rehabilitation activities but this would be of limited duration. Measures would be implemented to minimize impacts due to temporary closure of trails during construction.

Without mitigation, severe noise impacts occur at a number of parks along the corridor. These include Freedom Park in Braham, Train (Railroad) Park in Sandstone, and Banning State Park, just east of Sandstone and Jackie Berger Memorial Park in Duquette. Without mitigation, moderate noise impacts occur at Rose Memorial Garden in Braham and an Unnamed Park in Askov. The implementation of quiet zones in communities impacted by noise reduces noise levels such that only the severe impact to Freedom Park remains. Section 6.7 describes the additional mitigation measures for noise impacts that would be further investigated in subsequent phases of the project level NEPA. Neither the construction impacts to trails or indirect operational noise impacts would result in constructive use under Section 4(f).

The assumed project footprint and avoidance measures result in no direct impacts to Section 4(f) or Section 6(f) park properties and the indirect operational noise impacts and construction impacts do not result in constructive use under Section 4(f). If subsequent project refinement reveals the potential for use of any park properties subject to Section 4(f) or Section 6(f) resources, an evaluation that further considers avoidance alternatives, as well as measures to minimize impact, would be prepared.

#### **Historic Sites**

Avoidance, minimization and/or mitigation measures for impacts to historic properties either listed or eligible for listing on the National Register of Historic Places, which constitute a use (including constructive use) under Section 4(f) would be carried out when historic properties have been determined and project impacts are identified. If impacts constituting use under

Section 4(f) are identified, a Section 4(f) evaluation would be prepared as part of project level NEPA.

## **6.12 Visual Impacts**

The proposed project is not expected to alter the general visual character of the adjacent landscape. In areas with additional track or siding extensions, the corridor would essentially double in width, but since the corridor is currently used for freight rail, widening the corridor would not greatly alter the existing visual character of the surrounding communities. Visual impacts during construction would be temporary.

Additional signals and gates at at-grade crossings would be a visual change in communities and at rural area crossings.

Minor removal of vegetation is expected throughout the corridor but is not expected to significantly change the visual character of the corridor.

New bridges to carry the new parallel track are intended to be similar in design to the existing bridges that they parallel; minimizing negative impact on views of the features they are crossing and surrounding landscape. The rehabilitation of existing railroad bridges would involve visual effects while the work is being done, but the visual effect of the work (deck rehab, cleaning and painting) to the permanent look of these bridges would not be negative and should be an improvement.

A primary change in visual quality would be due to introduction of fencing in developed areas. Should fencing be determined necessary, type and design of fencing would be evaluated in preliminary engineering and project level NEPA.

## **6.13 Socioeconomic Impacts**

### **Community Facilities**

Impacts to community facilities are expected to be minor through most of the proposed NLX corridor, and consist of temporary changes in access during construction. In Cambridge there would be temporary impacts to the rear parking area that serves both the Cambridge Mall and the city hall/police department, however these would be minor. Access to the Braham Area Sportsmen's Club, a private facility, would be further evaluated during preliminary engineering. Temporary noise, visual, and dust impacts to community facilities during construction would be minimized through compliance with local ordinances applicable to construction activities.

Without mitigation, moderate noise impacts would occur to a school in Andover, a church in Bethel, a church in Isanti, Rose Memorial Garden in Braham, a school in Sandstone, a school, church and park in Askov, and a school in Bruno, and severe noise impacts would occur to two churches, a cemetery and a daycare in Cambridge, a cemetery and two churches in Stanchfield, Freedom Park in Braham, a school and three churches in Hinckley, two parks in Sandstone, a church in Askov, a church in Bruno, a park in Duquette, and a school in Superior. The implementation of quiet zones in communities impacted by noise reduces noise levels such that

only the severe impact to Freedom Park remains of the above noted noise impacts to community facilities. Section 6.7 describes definitions of moderate and severe noise impacts, and the additional mitigation measures for noise impacts that would be further investigated in project level NEPA.

### **Access**

Closure of some existing public crossings may be further investigated during preliminary engineering activities; however at this time, no existing public crossings have been identified for closure. Approximately 30 to 40 percent of private crossings would be closed, with alternative access provided. At critical areas where alternative access cannot be provided, property acquisition may be carried out. Specific decisions regarding crossings would be negotiated on a case by case basis during preliminary engineering and project level NEPA.

Impacts to general access and circulation within communities during construction would be minor and temporary; therefore accessibility to most community facilities would not be negatively affected.

### **Community Cohesion**

Physical impacts to community cohesion resulting from the addition of high speed rail service are expected to be minimal given that existing tracks and freight traffic already constitute a physical barrier within some communities.

Travel patterns and access may change slightly depending on the location of stations, parallel track, or the potential closure of some at-grade crossings to be determined in preliminary engineering and project level NEPA.

### **Possible Barriers to Elderly and Handicapped**

No impacts are anticipated as improvements would comply with Americans with Disabilities Act (ADA) requirements.

### **Safety and Security/Public Health**

To ensure safety at rail crossings, railroads must comply with signal and train control systems required by federal regulations. These regulations cover hazardous materials, operating procedures, at-grade crossings, and other issues related to safety and security. Additional regulatory requirements for high speed rail (in addition to those required for all rail) further decrease the risk of incidents, such as limiting at-grade crossings and requiring specific types of barriers as well as track design requirements.

To enhance safety, the NLX corridor would be fenced in urbanized areas and where needed for safety in rural areas, which would be further analyzed in preliminary engineering and project level NEPA. Four quadrant gates or other appropriate warning devices would be installed at all public crossings. Upgrades to signalization and communication systems would be made

throughout the corridor. In addition, horns would be blown at all crossings, except in cities where quiet zones have been established.

## **Infrastructure and Public Services**

The construction of parallel rail for a portion of the corridor and the operation of high speed passenger rail would not require new or expanded public infrastructure or services other than roadway improvements at crossings, modification of the Highway 610 overpass, and replacement of the 379<sup>th</sup> Street overpass, which are addressed in the EA.

### **6.14 Environmental Justice**

Minority and low-income populations have been identified within the project area. Minimal disruption to the surrounding communities would result from the proposed improvements. The project would have a beneficial impact on minority and low-income populations in the vicinity of new stations, and would provide new access to regional rail transit service and thus increase mobility options for those who are transit dependent for travel.

With the addition of passenger rail service, there may be adverse effects to minority and low-income populations in the vicinity of tracks resulting from changes in traffic patterns, access, right of way acquisition, or noise and vibration impacts. Based on the level of design completed, the project does not require total acquisitions of any parcels or relocations of residents, businesses or any other occupants. All acquisitions would be in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended, and 49 CFR Part 24. Adverse impacts due to noise may be mitigated through application of quiet zones, thus limiting impacts to a moderate noise impact on four residential properties in Minneapolis, and a severe noise impact to a park in Braham. Vibration impacts have been identified at three residences in Stanchfield and a residence in Nickerson. In each of these areas, based on the available data, no disproportionate impact to low-income or minority persons has been identified.

Consistent with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, FRA has determined that the project will not have disproportionately high and adverse human health or environmental effects on minority populations or low-income populations.

### **6.15 Economics**

#### **Economic Benefits/Costs**

A corridor economic impact analysis was conducted for the project. Methodology and detailed results are provided in the *Minneapolis-Duluth/Superior Restoration of Intercity Passenger Rail Service Comprehensive Feasibility Study and Business Plan* (December 2007). Estimated economic benefits identified in the 2007 study are presented in Tables 3 and 4 below.

The feasibility study notes that it is likely that these benefits would be achieved after the completion of the building of the entire system and within two or three years of the start of

passenger rail operation. The study also notes that the benefits of the system are likely to increase over time reflecting growth in the economy.

**Table 3. Economic Benefits for NLX Corridor**

	NLX Corridor	Twin Cities Area	Duluth-Superior Area	State of Minnesota	State of Wisconsin
Employment (#jobs*)	13,833	11,406	2,427	13,114	719
Income (2006\$)	\$617 mil	\$529.9 mil	\$87.4 mil	\$583 mil	\$34 mil
State Income Tax (2006\$)	\$26 mil	N/A	N/A	\$24.5 mil	\$1.2 mil
Federal Income Tax (2006\$)	\$69 mil	N/A	N/A	\$66.0 mil	\$3.5 mil
Property Value (2006\$)	\$1,778 mil	\$1,529.4 mil	\$248.3 mil	\$1,672 mil	\$106 mil
Property Tax (2006\$)	\$21 mil	N/A	N/A	\$19.5 mil	\$1.8 mil
Average Household Income (2006\$)	\$372 mil	N/A	N/A	\$384 mil	\$240 mil

\*Jobs identified here are productivity jobs and not construction or operating jobs.

**Table 4. Economic Benefits by Station**

	Minneapolis	Coon Rapids*	Cambridge	Hinckley	Superior	Duluth
Employment (#jobs)	5,700-7,400	1,400-2,000	700-1,100	300-400	700-900	1,400-1,900
Income (2006\$)	\$220-290 mil	\$100-150 mil	\$40-60 mil	\$15-20 mil	\$25-30 mil	\$50-70 mil
Development Potential (2006\$)	\$670-900 mil	\$250-390 mil	\$120-170 mil	\$55-80 mil	\$70-90 mil	\$140-190 mil

\*Shown as "Suburban North" in the Feasibility Study.

The addition of passenger rail service also provides benefit particularly to tourism in the communities along the northern portion of the study corridor by offering an additional mode of transportation for potential visitors.

The proposed project requires the acquisition of private property. These acquisitions are anticipated to be partial "strip" acquisitions and are not expected to result in total takes or relocation of businesses or residences. However, this would be evaluated and efforts to minimize would take place during preliminary engineering and project level NEPA. The change in property tax value resulting from impacts to the affected properties should be non-significant as they would be acquisitions of relatively small strips of land abutting the existing tracks. Furthermore, converted land would continue to be taxed (at industrial rates). Table 3 estimates substantial increase in property value and property tax as a result of the project. Any minor property tax impacts related to conversion of land to rail use would be mitigated by overall increases in property value and tax revenue as a result of the project.

The results of the financial analysis included in the Level 2 functional analysis (see Appendix C2 of the EA), found that NLX is predicted to have a benefit/cost ratio of 1.03.

## Energy

Construction of new infrastructure and rehabilitation of existing infrastructure would require additional energy beyond typical maintenance for existing freight rail activities. These are short term energy impacts lasting as long as the construction phase of the project.

Vehicle miles diverted to rail as a result of the project were generated for scenarios representing a range of gasoline prices and three future years, as follows:

- 2020: 28.7 – 31.0 million
- 2030: 33.6 – 39.5 million
- 2040: 38.4 – 47.0 million

In addition to reduction in fuel expenditure due to diversion of auto users to the rail mode, cost benefit includes the reduction in excess fuel expenditure that results from overall congestion on the highway system. The cost benefit evaluation reported in the Level 2 functional analysis estimated a \$210.5 million in highway fuel savings.<sup>11</sup>

## **6.16 Indirect Effects and Cumulative Impacts**

### **Indirect Effects**

The NLX project has the potential for indirect effects with regard to land use patterns and related transportation improvements. The project is anticipated to result in substantial job and property value growth, focused generally in the Twin Cities and Duluth-Superior areas, and specifically in station communities. The greatest potential for indirect effects from development related to station areas is to land use, transportation systems, stormwater runoff/water quality, cultural resources, and visual quality. Because station areas would be in urban settings, the potential for indirect effects to natural resources (e.g. vegetation, wildlife, wetlands, etc.) is expected to be minimal.

While there is a potential for environmental consequences from any potential change in planned land use, local land use controls are adequate to manage any potential development in the areas near stations. In addition, the station area communities have and would continue to engage in station area planning activities designed to ensure station area development is carried out consistent with community goals and environmental protection requirements. Indirect effects due to station development would be further addressed in project level NEPA to be done for the new stations. Also note that, in Minnesota, development that exceeds certain thresholds is subject to review under state Environmental Quality Board rules.

### **Cumulative Impacts**

Other foreseeable future actions along the corridor include development within communities, particularly in the metropolitan areas, and roadway improvements near the corridor. Other track area improvements necessary for freight operations (independent of NLX-related improvements) are also likely to occur over time. While specifics are not known, it is reasonable to assume that freight rail operations would change over time. Expansion of passenger rail, commuter rail, and light rail transit is being pursued regionally, with particular focus in the Twin Cities metropolitan area. The purpose and need in the EA identified each of these projects that would connect to the

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<sup>11</sup> 2010 benefit, present value discount at 3%, 2010\$

Interchange in Minneapolis and the Duluth Depot, the termini of the NLX line. Each of these projects would require facilities and would have potential to affect land use and transportation development within their communities.

Development within communities has the potential for impacts to land use, traffic and pedestrian/bicycle circulation, and visual quality in or near the areas directly or indirectly affected by the NLX project. Farmland and natural areas on the advancing edge of urban growth in the corridor are also likely to be impacted by future development. However, land development is guided by city and county comprehensive plans and zoning regulations. Local land use controls and permitting (including mitigation requirements) are adequate to manage the impacts of any potential development in or near the project corridor, minimizing the potential for cumulative effects.

Depending on extent and location, roadway improvements have the potential for impacts to natural areas, wetlands, property, vegetation, noise, and farmland. As is the case with land use development, development of highway and local roadway facilities are also guided by these comprehensive plans and are evaluated based on consistency with comprehensive plans. They are also subject to permitting and, in Minnesota, environmental review if state thresholds are exceeded. Minnesota environmental review includes requirements for noise analysis and, if federal funding is involved in transportation improvements, federal noise abatement requirements apply.

Increases in freight rail and/or passenger rail operations would bring additional noise and vibration to the project corridor, posing potential for cumulative effects. Mitigation for NLX noise and vibration effects would serve to also reduce the potential for cumulative effects.

The discussion above describes the potential for cumulative impacts based on current information, including NLX impacts based on concept level functional assessment engineering and the potential for impacts from other actions that are known at this time. The NLX impacts would be re-evaluated as more detailed project information becomes available based on preliminary engineering and project level NEPA. The potential for cumulative impacts would be reassessed with the updated information.

At the present time, in consideration of (1) the mitigation identified for these impacts of the NLX project as currently identified, and (2) the development controls (e.g. zoning and subdivision review), regulations, permits and approvals in place to address impacts of other development and transportation improvements, the direct and indirect effects of the NLX project in combination with reasonably foreseeable future actions, as currently known, are not anticipated to result in significant potential for cumulative effects.

## **6.17 Impacts and Measures to Avoid, Minimize and Mitigate**

Table 5 summarizes the impacts of the No Build and the Preferred Alternative, as well as the proposed measures to avoid, minimize and mitigate the impacts of the Preferred Alternative as analyzed in this Tier 1 EA. Further analysis and refinement would occur in preliminary engineering and project level NEPA.

## 7.0 CONCLUSION

FRA finds that the Northern Lights Express High Speed Passenger Rail Project, as assessed in the attached February 2013 Tier 1 EA, satisfies the requirements of FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999) and NEPA (42 USC § 4321) and has determined that this project would have no foreseeable significant impact on the quality of the human or natural environment provided it is implemented in accordance with the commitments identified in this FONSI. As the project sponsor, MnDOT is responsible for ensuring all environmental commitments identified in this FONSI are fully implemented. The EA provides sufficient evidence and analysis for determining that an environmental impact statement is not required for the project as presented.



8/21/13  
Date

**Federal Railroad Administration**

This document was prepared in August, 2013. This document has been prepared in accordance with FRA's Procedures for Considering Environmental Impacts by the FRA's Office of Railroad Policy and Development, with assistance from the Office of the Chief Counsel. For further information regarding this document, contact: Colleen Vaughn, Environmental Protection Specialist, 1200 New Jersey Avenue SE, Washington, D.C. 20590.

**Table 5. Summary of Identified Impacts and Measures to Avoid, Minimize and Mitigate<sup>12</sup>**

Resource	No Build Impact	Build Alternative	
		Impact	Avoidance, Minimization, Mitigation Measures
Land use	Does not meet planning goals in station communities.	No significant change in land use type.	N/A
		Compatible with corridor land use.	N/A
		Corridor footprint impacts: -420 acres within construction limits -120 acres right of way acquisition -relocate RR structure in Cambridge -temporary impact to rear parking lot of Cambridge Mall/City Hall.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and project level NEPA. Right of way acquisition in accordance with federal law.
		Station locations compatible with local land use plans.	N/A
Intermodal transit	No expanded travel options for corridor.	Connections to other modes expand travel options.	N/A
		No adverse impacts to transit.	N/A
Traffic circulation	No safety improvement at at-grade crossings.	Temporary impacts to at-grade crossings and more circuitous travel during construction.	Staging of construction to ensure availability of convenient alternative crossings.
		No permanent closure of public at-grade crossings identified in service level NEPA.	N/A
		Closure of up to 14 private at-grade crossings.	Alternate access or property acquisition where private crossings closed.
		Safety improvements at at-grade crossings.	N/A
Pedestrian/bicyclists	No safety improvement at at-grade crossings.	Temporary impacts to at-grade crossings and more circuitous travel during construction.	Staging of construction to ensure availability of convenient alternative crossings.
		No permanent closure of public at-grade crossings identified in service level NEPA.	N/A
		Closure of up to 14 private at-grade crossings.	Alternate access or property acquisition where private crossings closed.
Freight	None.	Proposed trackwork and system improvements support joint passenger and freight operations.	N/A
Vegetation/Wildlife/Habitat	None.	Vegetation converted to trackbed and slopes: -61 acres wooded -94 acres brush/grass -94 acres wetlands -47 acres cropland <sup>13</sup> (remaining 124 acres developed, i.e. lawn, impervious surface)	Further minimization of corridor footprint impacts through refinements in preliminary engineering. Further analysis in project level NEPA would identify mitigation as required by agencies such as COE and DNR.
		Construction potential to spread invasive species.	Good housekeeping construction practices, e.g. decontamination of equipment on site, use of weed-free mulch, etc.

<sup>12</sup> Refer to detail in EA chapters for discussion of impacts by state.

<sup>13</sup> Note that “cropland” refers to cover type, specifically planted or cultivated agricultural land, and differs from “prime farmland” and “farmland of statewide importance” which are based on soil types.

**Table 5. Summary of Identified Impacts and Measures to Avoid, Minimize and Mitigate (cont.)**

Resource	No Build Impact	Build Alternative	
		Impact	Avoidance, Minimization, Mitigation Measures
Vegetation/ Wildlife/ Habitat (cont.)	None.	Minimal impact to terrestrial wildlife habitat, i.e. strip uses of small portions of edge habitat.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and project level NEPA.
		Where corridor not fenced, increased risk of animal mortality, i.e. animal-train collision; where corridor fenced, animal movement restricted.	Consult with DNR regarding fencing when applicable.
		Potential impact to migratory bird nesting (bridges).	Coordinate as needed with USFWS regarding the Migratory Bird Treaty Act; bridges will be cleared and protected from nest-building during construction.
		Potential for erosion/sedimentation, other construction impact to aquatic habitat.	Bridge activities timed to avoid spawning periods. BMPs to protect stream banks and control silt.
		Impacts to 2 native prairies.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and project level NEPA. Coordination with MnDNR. Reseeding with native plant species.
Threatened and endangered species	None.	May affect but not likely to adversely affect the Canada lynx. No effect to other federally-listed species known to occur in project area counties.	N/A
		Construction potential for effect to state plant species (MN and WI), Blandings turtle (MN), and mussel species (MN).	Avoidance or minimization of impacts to species through refinements in preliminary engineering and project level NEPA. Consultation with DNRs regarding need for plant survey; subsequent consultation pending findings. MnDNR practices for protection of Blandings turtle. Mussel surveys at new water crossings within 3 years of construction.
Wetlands	None.	Impacts up to 97 acres.  Impacts 3 Minnesota Public Waters.	Avoidance or minimization of wetland impacts through refinements in preliminary engineering and project level NEPA. Mitigation in accordance with Corps of Engineers (COE) and state requirements. Up to 200 acres of mitigation; public and private wetland banks likely mitigation options.
Water quality/ stormwater runoff	Perpetuates minimal water quality treatment (existing condition).	Potential for water quality and erosion/sedimentation impacts during construction.	BMPs (erosion control practices; also see contamination) during construction. Vegetate embankment after construction.
		Increased impervious surface. Project adds water quality treatment where there currently is none.	Storm treatment ponds and other permanent BMPs to provide treatment in accordance with regulatory requirements.

**Table 5. Summary of Identified Impacts and Measures to Avoid, Minimize and Mitigate (cont.)**

Resource	No Build Impact	Build Alternative	
		Impact	Avoidance, Minimization, Mitigation Measures
Floodplain and other water-related management districts	None.	415 linear feet of floodplain fill. 11 FEMA waterbody crossings in areas of new construction. No significant floodplain encroachment.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and project level NEPA. Federal permits as required.
		No special issues related to shoreland districts, coastal zone management areas, navigable waters, or state wild and scenic rivers, not otherwise addressed through other impact areas.	N/A
Groundwater	None.	Groundwater impacts may occur in construction areas within well protection areas, source water assessment areas, and drinking water supply management areas.	Mitigation measures would include routing stormwater runoff outside of protection areas and/or line treatment facilities that are within protection areas.
Air quality	No reduction in emissions.	Reduction in emissions of carbon monoxide, nitrogen oxide, volatile organic compounds, particulate matter and carbon dioxide.	N/A
Noise	None.	Temporary construction noise.	Avoid nighttime construction in residential areas. Locate stationary construction equipment and route construction-related truck traffic away from noise-sensitive sites. Temporary noise barriers during construction as warranted.
		Operation noise: -43 severe residential impacts. -18 severe institutional (parks, churches, schools) impacts. -279 moderate residential impacts. -10 moderate institutional impacts.	Project proponent would assist communities with quiet zone application process to the FRA (Waiver from the FRA for the Train Horn rule). Implementation of quiet zones would reduce impacts to one severe park impact and four moderate residential impacts. Refined noise study would be conducted as needed during preliminary engineering and project level NEPA. Additional mitigation options may include noise barriers, building sound insulation, and special trackwork at crossovers and turnouts as feasible.
Vibration	None.	Temporary construction vibration.	Avoid nighttime construction in residential areas. Locate stationary construction equipment and route construction-related truck traffic away from vibration-sensitive sites.
		Operation vibration: 4 residential impacts.	Refined vibration analysis as needed during preliminary engineering and project level NEPA. Mitigation options may include ballast mats, tire derived aggregate, floating slabs, resilient rail fasteners, special trackwork at crossovers and turnouts as feasible.

**Table 5. Summary of Identified Impacts and Measures to Avoid, Minimize and Mitigate (cont.)**

Resource	No Build Impact	Build Alternative	
		Impact	Avoidance, Minimization, Mitigation Measures
Hazardous waste/ contaminated material/solid waste	None.	Several contaminated sites within 500 ft. of corridor construction; potential to encounter contamination during ground disturbance.	Avoidance or further minimization of impacts through refinements in preliminary engineering and project level NEPA. Further site investigation prior to construction. Mitigation plan for handling and treating contaminated soil would be developed consistent with state rules and procedures.
		Solid waste generated during construction.	Solid waste management and disposal would be addressed consistent with state rules and procedures.
		Potential for impact to water quality from bridge rehab cleaning and painting.	Best practice containment and monitoring procedures.
		Slight increase in potential for spills due to increased rail traffic.	Best practice containment and monitoring procedures.
Cultural Resources	None.	Programmatic Agreement identifies Section 106 procedures. Impacts would be addressed in project level NEPA.	Avoidance, minimization and mitigation measures would be addressed in project level NEPA.
Farmland and soils	None.	Up to 33 acres of prime farmland impacted. Up to 70 acres of farmland of statewide importance impacted. Land bridge may be needed in area of soft, compressive soils.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and consultation with NRCS and WDATCP during project level NEPA.
		Closure of up to 14 private at-grade crossings; potential for effect to farming operations.	Alternate access or property acquisition where private crossings closed.
Section 4(f)/6(f): parks, recreation areas and trails	None.	Temporary closure of Rice Creek, Coon Creek, and Sand Creek Trails during construction. No Section 4(f) use, including constructive use.	Trail signage, public information during closures.
		Temporary noise, dust and visual impacts to numerous parks during construction. No Section 4(f) use, including constructive use.	Best practices compliant with local ordinances.
		No Section 4(f) use, including constructive use.	Assumes coordination with communities to encourage and assist with implementation of train horn quiet zones. Refined noise study would be conducted as needed during preliminary engineering and project level NEPA.
Section 4(f): historic sites	None.	If identified, impacts would be addressed in project level NEPA.	If identified, measures would be addressed in project level NEPA.

**Table 5. Summary of Identified Impacts and Measures to Avoid, Minimize and Mitigate (cont.)**

Resource	No Build Impact	Build Alternative	
		Impact	Avoidance, Minimization, Mitigation Measures
Visual	None.	Generally minor change in views (existing railroad corridor).	N/A
		Fencing would affect views in urban areas (permanent fixture and potential maintenance issue).	Type and design of fencing would be evaluated in preliminary engineering and project level NEPA.
Socioeconomic	Does not meet development goals in station communities.	Temporary impact to rear parking lot of Cambridge Mall/City Hall.	Further minimization of corridor footprint impacts through refinements in preliminary engineering and project level NEPA.
		Closure of up to 14 private at-grade crossings. Potential change to Braham Area Sportsman's Club access.	Alternate access or property acquisition where private crossings closed.
		Moderate noise impacts to 4 schools, 3 churches, and 2 parks. Severe noise impacts to 2 schools, 8 churches, 2 cemeteries, 1 daycare, and 4 parks.	Project proponent would assist communities with quiet zone application process to the FRA (Waiver from the FRA for the Train Horn rule). Quiet zones eliminate noise impacts to all schools, churches, cemeteries, and daycare, and all but one park.
		Enhanced safety at existing at-grade crossings.	N/A
Environmental justice	None.	Minority and low-income populations identified in the study area but no high or disproportionate adverse effects.	N/A
Economic	Does not meet development goals in station communities.	Benefits: <sup>14</sup> 18,833 jobs. \$617M income. \$26M state tax revenue. \$69M federal tax revenue. \$21M property tax revenue. \$372M household income. Benefit/cost ratio: 1.03.	N/A
	No reduction in energy use.	Benefits: <sup>6</sup> Reduction in energy use. \$210.5M highway fuel savings. Up to 47M vehicle miles traveled (VMT) diverted to rail by 2040.	N/A
	No property value impacts.	Potential for minor negative property value impact due to land conversion.	Any minor negative impacts are offset by corridor property tax value gains due to project-related economic growth.
Indirect and cumulative	None.	Indirect: change in land use patterns in station communities has potential for development-related impacts.	Adverse impacts addressed through planning, permitting and environmental processes.
		Cumulative: NLX impacts plus direct and indirect impacts <sup>15</sup> from other actions would not result in significant potential for cumulative effects.	N/A

<sup>14</sup> *Minneapolis-Duluth/Superior Restoration of Intercity Passenger Rail Service Comprehensive Feasibility Study and Business Plan*. December 2007.

<sup>15</sup> Potential indirect impacts due to other foreseeable actions include impacts to land use, traffic/pedestrian/bicycle circulation, visual quality, farmland, natural areas, wetlands, property, vegetation, noise, animal mortality and vibration.

**Appendix A:**  
**Errata to the EA**

## Errata Sheet

- Page ES-3 **Executive Summary**; delete the word “is” in the first line of the second paragraph.
- Page 2-4 **Intermodal Connectivity**; add Ramsey to the Northstar stops in the paragraph under “Northstar Commuter Rail.”
- Page 2-6 **Intermodal Connectivity**; revise to note that the Central BRT line is slated to serve Fridley and Coon Rapids to Northtown Mall under “Bus Rapid Transit.”
- Page 2-9 **Table 2.1. Anticipated Permits, Approvals and Agreements** and Page 4-33 **Surface Water**; revise to note that the Six Cities WMO has dissolved and that areas previously in the Six Cities WMO are covered by other organizations listed (likely the Coon Creek Watershed District).
- Page 3-17 **Station Locations**; revise the first sentence of the last paragraph to read: “The southern terminus of the proposed NLX service would be at the intermodal station located at Fifth Street North near Fifth Avenue North in Minneapolis.”
- Page 4-2 **Land Use**; revise the last paragraph to acknowledge suburban development in Fridley, which is not suburban and rural. Revise to note that the southern portion of Anoka County is not agricultural.
- Page 4-3 **Land Use**; revise the second paragraph under “Build Alternative” to note that there are benefits to the station areas with increased economic development expected.
- Page 4-5 **Land Use**; revise the first paragraph under “Stations” to note that the Minneapolis Warehouse Historic District is also a local historic district.
- Page 4-8 **Compatibility with Local Plans and Regulations**; revise the first sentence of the second paragraph to read: “*The Minneapolis Plan for Sustainable Growth* (Minneapolis, MN, October 2009) (Chapter 8) states that the City’s existing transportation system must be balanced to strengthen transit and other non-automobile forms of transportation.”
- Page 4-33 **Surface Water**; revise the second sentence of the first paragraph to state: “...and the Lake Superior Basin in Minnesota and Wisconsin.”
- Page 4-35 **Table 4.9. Watercourses Near the Study Corridor**; edit to include:
  - Stewart Creek is a trout stream.
  - Miller Creek (Minnesota) is a trout stream and is impaired.
- Page 4-87 **Table 4.29. Park, Trail and Recreational Resources Adjacent to the NLX Corridor**; change Main Park to Angle Park.
- Page 4-88 **Section 4(f)/6(f): Parks, Recreation Areas, Historic Sites, and Wildlife or Waterfowl Refuges**; revise the document to note that the Mississippi River National Recreational Area also runs along the river in Fridley and Coon Rapids.

- Page 4-90 **Section 4(f)/6(f): Parks, Recreation Areas, Historic Sites, and Wildlife or Waterfowl Refuges**; change Main Park to Angle Park in the sixth paragraph, and change Angie Avenue to Angle Avenue.
- Page 4-99 **Visual Impacts**; revise the fifth paragraph to note that Segment 3 abuts industrial, commercial and residential property, and serves as the Northstar passenger rail line.
- Page 4-102 **Socioeconomic Impacts**; revise the paragraph under “Fridley, MN” to state that the Fridley Community Center is next to Commons Park and is located about 0.75 mile east of the train station / railroad tracks (east of University Avenue), and that there are three at-grade and three grade-separated crossings in Fridley.
- Page 4-105 **Socioeconomic Impacts**; change Main Park to Angle Park and revise the last sentence of the paragraph under “Sandstone, MN” to read: “Angle Park property is owned by BNSF and leased by the City of Sandstone, MN whereas Train Park is owned by the City.”
- Revise the document to include Robinson Park in Sandstone, MN. The north boundary of Robinson Park abuts the rail corridor.

**Appendix B:**  
**Comment Letters and Responses on the EA**

**Appendix C:**  
**Programmatic Agreement**