Executive Summary

1. What is the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project?

The proposed BLRT Extension project would provide transit improvements in the highly traveled northwest area of the Twin Cities metro area. The proposed BLRT Extension project would be located in Hennepin County, Minnesota, extending approximately 13 miles from downtown Minneapolis to the northwest serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park (see **Figure ES-1**). The proposed alignment includes the following features:

- 11 new stations
- Approximately 1,670 additional park-and-ride spaces at four new lots
- Accommodations for passenger drop-off facilities
- New or restructured local bus routes connecting stations to nearby residential, commercial, and educational land uses
- One Operations and Maintenance Facility (OMF) located in the City of Brooklyn Park, Minnesota

The proposed BLRT Extension project would connect downtown Minneapolis with Theodore Wirth Regional Park, Crystal Airport, North Hennepin Community College, and Target's North Campus. As an extension of the existing METRO Blue Line, the proposed BLRT Extension project would provide a one-seat ride to the Minneapolis–St. Paul International Airport and the Mall of America.

2. What is the purpose of and need for the proposed BLRT Extension project?

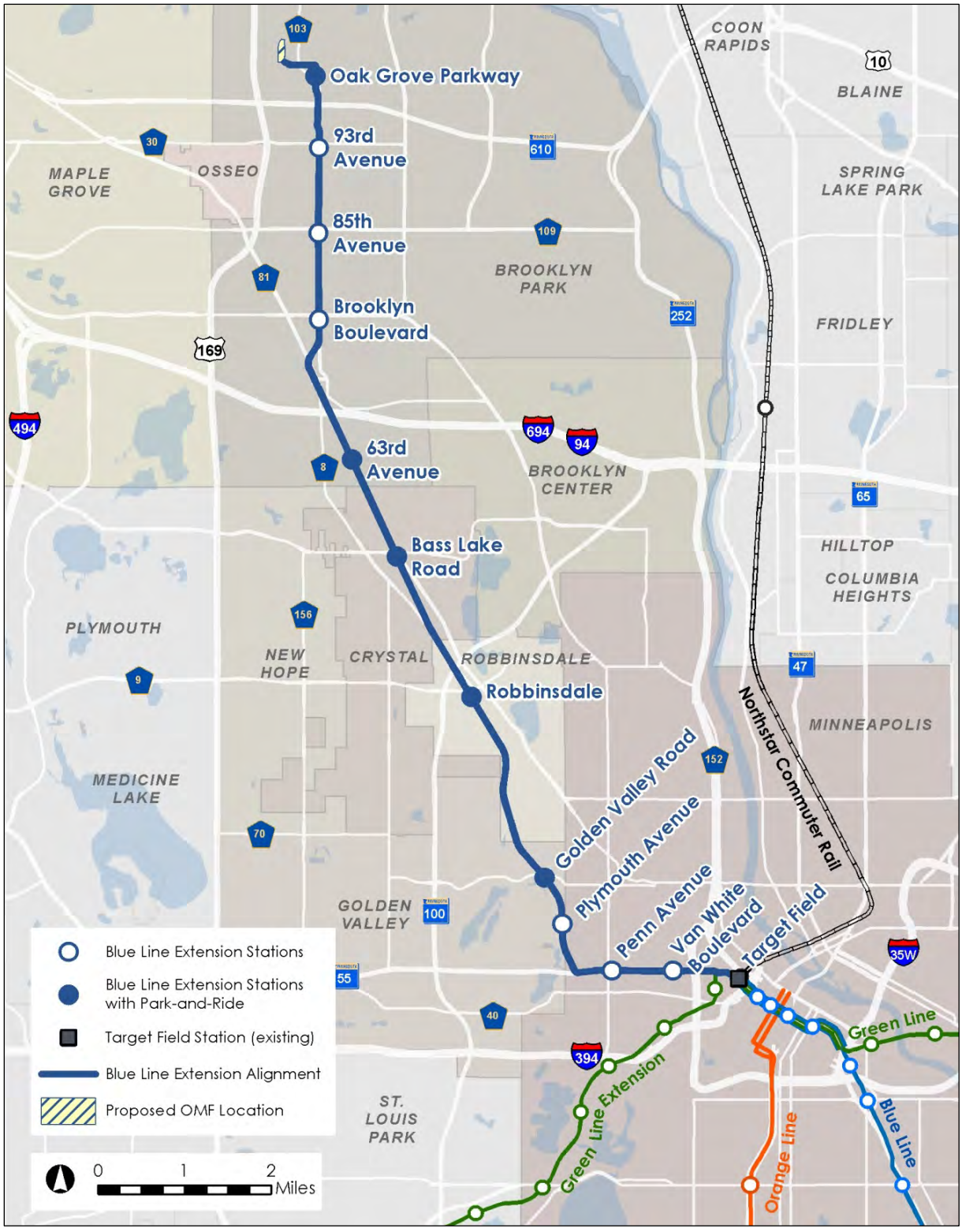
The Purpose and Need provides the foundation for the proposed BLRT Extension project (see **Chapter 1** of the Final Environmental Impact Statement [Final EIS]). The purpose of the proposed BLRT Extension project is summarized below:

- The purpose of the proposed BLRT Extension project is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public.

The need for the proposed BLRT Extension project is summarized as follows:

- The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

Figure ES-1. Proposed BLRT Extension Project



3. Who are the proposed BLRT Extension project's lead agencies and sponsors?

The Federal Transit Administration (FTA) is the Federal Lead Agency for the proposed BLRT Extension project. The Metropolitan Council (Council) is the proposed BLRT Extension project's local lead agency and project sponsor. The Hennepin County Regional Railroad Authority (HCRRA) served as the local lead agency during development of the Draft Environmental Impact Statement (Draft EIS) and its public comment period, which concluded in May 2014.

4. Who are the proposed BLRT Extension project's Cooperating Agencies, and what role does a Cooperating Agency play?

The United States (US) Department of Transportation, Federal Aviation Administration (FAA); the US Army Corps of Engineers (USACE); and the US Department of the Interior's National Park Service (NPS) are the federal Cooperating Agencies for the Final EIS. A Cooperating Agency is a federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative (40 CFR Part 1508.5).

- FAA is responsible for guidance on compatible land uses within Runway Protection Zones (RPZs) such at the RPZ for Crystal Airport.
- USACE is responsible for implementing the National Environmental Policy Act of 1969 (NEPA[1]) and related laws and Section 404 of the Clean Water Act.
- NPS is responsible for implementing the requirements of Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 (Public Law 88-578), which is codified as 16 United States Code (USC) § 460. Section 6(f) of the LWCF Act contains provisions to protect federal investments in park and recreation resources and ensure the public outdoor recreation benefits achieved through the use of these funds are maintained.

A distinguishing feature of a Cooperating Agency is that the Council on Environmental Quality regulations (40 CFR Part 1506.3) permit a Cooperating Agency to "adopt without recirculation of the environmental impact statement of a lead agency when, after an independent review of the statement, the Cooperating Agency concludes that its comments and suggestions have been satisfied."

During the Draft EIS phase of the project, the Federal Highway Administration (FHWA) was a Cooperating Agency on the project. Since that time, FHWA has requested that it no longer be considered a Cooperating Agency but be considered a Participating Agency. While the proposed BLRT Extension project does not create jurisdictional involvement for FHWA, FHWA is interested in staying involved with the project from a technical expertise standpoint since the proposed BLRT Extension project would cross several major roads: Olson Memorial Highway (Trunk Highway [TH] 55), TH 100, Interstate Highway 94 (I-94), and TH 610. FHWA is interested in the proposed designs implemented at these locations in terms of any potential for impacts associated with roadway operations and safety.

[1] National Environmental Policy Act of 1969 (NEPA), as amended, 42 USC § 4332

5. What jurisdictions are participating in the proposed BLRT Extension project?

Local jurisdictions that are participating in the proposed BLRT Extension project include Hennepin County, the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park, and the State of Minnesota. **Chapter 9** of the Final EIS provides more detail about the proposed BLRT Extension project's Participating Agencies and agency coordination.

6. What does the Scoping report contain, and when was it released?

In January 2012, HCRRA, the Council, and FTA published the proposed BLRT Extension project's federal Notice of Intent to Prepare an EIS (FTA, 2012) and state Notice of EIS Preparation (Minnesota Environmental Quality Board, 2012). HCRRA and the Council began development of NEPA and Minnesota Environmental Policy Act (MEPA[2]) documentation with the proposed BLRT Extension project's Scoping Process, including publication of the Bottineau Transitway Scoping Decision Document, June 2012 (HCRRA, 2012). The Scoping Decision Document describes the proposed BLRT Extension project's Scoping Process, alternatives proposed and evaluated, the public and agency review process, and the outcome of the Scoping Process through the time of its publication. The build alternatives presented for comment during the Scoping Process included:

- LRT A-C-D1 (Maple Grove to Minneapolis via BNSF Railway [BNSF]/Olson Memorial Highway)
- LRT A-C-D2 (Maple Grove to Minneapolis via West Broadway Avenue [County State-Aid Highway 103]/Penn Avenue/Olson Memorial Highway)
- LRT B-C-D1 (Brooklyn Park to Minneapolis via BNSF/Olson Memorial Highway)
- LRT B-C-D2 (Brooklyn Park to Minneapolis via West Broadway Avenue/Penn Avenue/Olson Memorial Highway)
- Enhanced Bus/Transportation Systems Management Alternative

All alternatives were advanced into the Draft EIS for further study. The Scoping Decision Document also describes the source and evaluation of other alternatives that were proposed by others during the Scoping Period, from December 26, 2011, through February 17, 2012, but that were not advanced into the Draft EIS for further study.

On May 8, 2013, prior to the completion of the Draft EIS and based on an extensive alternatives analysis and public involvement process, the Council formally adopted amendments to the *2030 Transportation Policy Plan* (*2030 TPP*)—the region's long-range transportation plan at the time[3]—to include the Bottineau Transitway locally preferred alternative (LPA) as Alternative B-C-D1 as recommended by HCRRA. The identified LPA is light rail transit (LRT) constructed and operating on the Minneapolis to Brooklyn Park via Olson Memorial Highway/BNSF/West Broadway Avenue alignment.

[2] Minnesota Statutes, Section 116D.04 and 116D.045 and the administrative rules adopted by the Minnesota Environmental Quality Board as Minnesota Rules, Chapter 4410, Parts 4410.0200 to 4410.7070

[3] The current regional plan is the *2040 Transportation Policy Plan*, and the Bottineau Transitway LPA is included in that document.

7. What design adjustments were made after publication of the Draft EIS?

Since the completion of the Draft EIS, the proposed BLRT Extension project team developed and evaluated 16 technical segment-specific and system-wide issues that could result in design adjustments, including proposed adjustments to accommodate local goals and objectives, improve the performance of the proposed light rail extension, reduce project costs, and avoid or minimize adverse environmental impacts. Issue Resolution Teams (IRTs) were formed to carry out the issue-resolution process for each of the 16 issues identified. IRTs were composed of representatives of the Council's engineering and environmental project office, and other Metro Transit departments as well as, staff from Hennepin County, the Minnesota Department of Transportation (MnDOT), municipalities along the proposed alignment, and park properties along the corridor. The technical and system-wide issues were examined, and design adjustments to the Draft EIS LPA were analyzed. Results and recommendations from each of the IRTs were documented in a technical issue summary and were incorporated into the proposed BLRT Extension project elements for the Final EIS. **Table ES-1** summarizes the results of the issue resolution process.

8. What alternatives does the Final EIS address?

The Final EIS evaluates the No-Build Alternative and the proposed BLRT Extension project (Preferred Alternative):

- **No-Build Alternative.** The No-Build Alternative represents future transportation conditions without the proposed BLRT Extension project. The No-Build Alternative represents the existing transportation system with all planned transportation improvements included in the Current Revenue Scenarios (i.e., financially constrained) of the regional *2040 Transportation Policy Plan* (*2040 TPP*) (adopted January 2015), except for the proposed BLRT Extension project. The No-Build Alternative represents a possible outcome of the EIS process and functions as a reference point to gauge the benefits, costs, and impacts of the proposed BLRT Extension project. NEPA and MEPA processes also require consideration of the No-Build Alternative.
- **Proposed BLRT Extension project.** The proposed BLRT Extension project is approximately 13 miles of new double track proposed as an extension of the METRO Blue Line that would connect downtown Minneapolis to the cites of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The proposed alignment includes 11 new light rail stations, approximately 1,670 additional park-and-ride spaces, accommodations for passenger drop-off, and bicycle and pedestrian access, as well as new or restructured local bus routes connecting LRT stations to nearby residential, commercial, and educational land uses.

Table ES-1. Comparison of Draft EIS LPA and Final EIS for the Proposed BLRT Extension Project

Feature	Draft EIS LPA Description	Final EIS for the Proposed BLRT Extension Project Description
Level of engineering design	1%	15%
Length[1]	13.3 miles	13.49 miles
Capital cost (in millions)[2, 3]	$997 ($2017)	$1.496 (year-of-expenditure $)
Annual operating and maintenance cost (in millions)[2]	$32.5 ($2013)	$50.21($2040)
Ridership (total)	27,000	27,000
Proposed BLRT Extension project stations	■ 10 stations	■ 11 stations
Reconfiguration of roadway network north of TH 610	Not applicable	■ Construct West Broadway Avenue with a wide center median ■ Construct Main Street and intersection to parking ramp ■ Construct road west of parking ramp from Oak Grove Parkway to Main Street ■ Construct a portion of Xylon Avenue to provide access to the OMF
Key bridge structures	■ Four new LRT bridges ■ Eight existing bridges modified	■ Seven new LRT bridges ■ Five reconstructed roadway bridges ■ Modification to two existing bridges ■ Two pedestrian bridges
Operations and maintenance facility site(s)	Two potential sites in Brooklyn Park: 93rd Avenue park-and-ride and 101st Avenue intersection with West Broadway Avenue	In Brooklyn Park at 101st Avenue and new Xylon Avenue North
Traction power substations	19 proposed	17 proposed

[1] The length represents the full end-to-end length of the proposed alternatives.

[2] Cost estimates provided are a snapshot in time and are based on the level of design development completed at the date of publication of Draft EIS (LPA) and the date of publication of the Final EIS (proposed BLRT Extension project).

[3] Draft EIS (LPA) capital cost estimate was updated to $1,002 million for the proposed BLRT Extension project New Starts application filed subsequent to publication of the Draft EIS; the change was due to the addition of finance costs.

9. What would be the construction impacts of the proposed BLRT Extension project?

Construction of the proposed BLRT Extension project has the potential to cause environmental impacts including disruptive noise levels and visual impacts. Potential impacts during construction include temporary detours of trails and roadways, as well as reductions in vehicular access and parking affecting community cohesion, groundwater management impacts (collection, storage, and disposal), and vibration impacts resulting from the operation of heavy equipment (pile driving, hoe rams, vibratory compaction, and loaded trucks). Utility impacts would occur as sewer and water mains, power, gas, and communication lines are relocated. It is reasonable to expect that previously undocumented soil or groundwater contamination may be encountered during construction. Short-term construction impacts to park uses and recreational activities include temporary closures, detours, and temporary facilities built around obstructions. Impacts to identified historic properties from construction have been identified as part of the National Historic Preservation Act of 1966 Section 106 (54 USC § 306108) process (see the corresponding sections of **Chapters 3, 4, and 5** in the Final EIS).

10. How would the proposed BLRT Extension project affect freight rail facilities and operations?

The proposed BLRT Extension project would operate in the eastern half of about 7.8 miles of the BNSF right-of-way within the Monticello Subdivision located between Olson Memorial Highway in the City of Minneapolis and 73rd Avenue in the City of Brooklyn Park. The width of the BNSF-owned right-of-way is generally 100 feet (about 50 feet on either side of the centerline of the existing freight rail track).

The proposed BLRT Extension project would occupy the eastern 50 feet of the existing 100-foot BNSF right-of-way. The BNSF track would be relocated about 15 feet to the west, thereby allowing BNSF to operate within the western 50 feet of the right-of-way while providing at least 25 feet of horizontal clearance from the LRT track centerline. The pond crossings would leave the BNSF track in its existing location and new LRT bridges would be constructed east of the existing freight rail embankment. The proposed BLRT Extension project construction would include a 12-foot-wide access road generally located west of the relocated BNSF track for the majority of the 7.8 miles in the BNSF rail corridor, with the exception of the pond areas and bridges.

The proposed BLRT Extension project includes modifications to active warning devices and signals for at-grade crossings in order to accommodate the relocated BNSF and new LRT tracks. These modifications would include relocating existing active warning devices, such as gate arms, to accommodate the relocated BNSF and LRT tracks and installing new active warning devices, such as gate arms, where they are not currently provided. In addition, combined freight/LRT at-grade crossings would be designed and constructed to meet the requirements for Federal Railroad Administration (FRA) Quiet Zones.[4]

[4] Quiet Zones are locations, at least one-half mile in length, where the routine sounding of horns has been eliminated because of safety improvements at at-grade crossings, including modifications to the streets, raised median barriers, four quadrant gates, and other improvements designed and implemented as a part of the proposed BLRT Extension project and consistent with Quiet Zone readiness. Horns are sounded in emergency situations at these locations. Municipalities must apply to FRA for approval of Quiet Zones.

The Olson Memorial Highway bridge (westbound lanes), Plymouth Avenue bridge, Theodore Wirth Parkway bridge, Golden Valley Road bridge, and 36th Avenue bridge would be reconstructed to accommodate the relocated freight rail track and LRT guideway. In addition, the crossover connection between the BNSF freight rail alignment and the Canadian Pacific Railway (CP) rail spur (just north of the Olson Memorial Highway bridge) would also need to be reconstructed.

Construction activities to relocate the freight rail track required as part of constructing the LRT guideway would have limited effects on existing freight service in the BNSF rail corridor. Construction phasing would likely consist of constructing the new freight rail track adjacent to the existing track, shifting freight rail operations to the new freight rail track, and then removing the existing freight rail track to allow construction of the LRT guideway, thus minimizing disruptions to freight rail operations. Construction work would be done under the guidance of a BNSF flagging crew. At the BNSF/CP diamond crossing, construction would be coordinated with both railroads to limit freight delays.

11. How does the Final EIS address safety where the proposed BLRT Extension project would operate in the BNSF right-of-way parallel to freight rail?

The Final EIS documents the ways that safety would be addressed during operations and construction where freight rail and LRT would be adjacent to each other.

Operations. Throughout the United States, there are numerous examples where LRT and freight rail operate in a shared corridor. These are known as "Common Corridor Operations." The Council collected and documented information on these locations, including mitigation measures in place. Based on this research the following Light Rail Operators have Common Corridor Operations on portions of their lines: Port Authority Transit Corp (PATCO), Charlotte NC LYNX, Greater Cleveland Regional Transit Authority Blue and Green Lines, Dallas DART, Denver RTD, Jersey City NJT Hudson-Bergen LRT, Los Angeles LACMTA Green and Gold Lines, Sacramento CA, Sacramento RTD, St. Louis, Bi-State Development Agency, San Jose, VTA, Maryland Counties, Purple Line and Portland MAX Orange Line.

The Council contacted staff associated with these projects to identify the following common methods in use or planned after system build-out. Some of these projects and methods are still in development, but the following is a summary of these measures:

- Reliance on direct communication by internal radio systems and emergency telephone contact with the adjacent railway's dispatch center and vice-versa for notification of an accident that interferes with the other's operation
- Establish incident response protocols with the adjacent railway and first responders as part of their emergency preparedness programs
- Conduct emergency response exercises and drills as part of their training requirements. Many properties actively support "Operation Lifesaver" to reduce trespasser/transit rail accidents.
- Construct corridor protection walls between freight and light rail
- Install intrusion detection devices in areas between freight and light rail

These methods are also planned to be used and would be incorporated into the construction and management documents, as applicable.

The Metro Transit Light Rail Transit Design Criteria (Council, 2015), which includes design standards and specifications to provide security and/or enhance safety, includes safeguards to prevent LRT operational derailments, including guardrails (i.e., a rail or other structure laid parallel with the running rails of the track to keep derailed wheels adjacent to the running rails of the track). In addition, the proposed BLRT Extension project includes a combination of horizontal separation, vertical separation, and physical means to provide safe operations. Three specific corridor-protection treatments are proposed:

- A ditch (used where the corridor width permits)
- A retained fill option where the LRT tracks would be at a higher grade than freight rail tracks
- A wall

In addition, where clearance between the centerline of the light rail tracks and the centerline of the freight tracks is less than 50 feet, intrusion detection for possible freight derailment would be installed, where appropriate. These corridor-protection treatments were coordinated with BNSF.

Further, the design would include safeguards in the catenary system to help minimize the possibility of sparking occurring in the overhead catenary wires. Electrical sparks, or arcing, occurs when there is a gap between the overhead contact wire and the vehicle's pantograph. Numerous safeguards are included in the design of the proposed BLRT Extension project to address and minimize electrical sparking. Ice cutters would be utilized to maintain positive contact between the contact wire and pantograph during winter weather. Additionally, Metro Transit would regularly inspect pantographs for grooves along the pantograph's carbon strip (as it does on its existing light rail lines), which could cause arcing. Included in the design of the proposed BLRT Extension project to minimize arcing are contact wire gradients, which meet or exceed American Railway Engineering and Maintenance-of-Way Association recommendations, staggering or zig-zags of the contact wire to ensure even wear, and overlaps between power sections. Finally, the design accounts for the Occupational Safety and Health Administration (OSHA) 10-foot zone of influence, and meets or exceeds National Electrical Safety Code requirements along the proposed shared light rail and freight rail corridor.

The Council's *Operations Emergency Management Plan* (*OEMP*) for light rail was developed to assist in identifying, responding to, and resolving emergency situations in an efficient, controlled and coordinated manner, including those related to the location of LRT and freight rail within the same corridor. The *OEMP* establishes the response process and responsibilities for departments and staff within Metro Transit, as well as outside agencies, in the event of a rail emergency.

In addition, the Council maintains an emergency preparedness exercise plan. The emergency preparedness exercise plan identifies emergency preparedness exercises, which would be carried out by the Fire Life Safety and Security Committee (FLSSC). Before beginning revenue operations, a number of drills would be planned, conducted, and documented in the emergency preparedness exercise plan. Emergency preparedness training exercises would be designed to address areas such as rail equipment familiarization, situational awareness, passenger evacuation, coordination of functions, communications, and hands-on instruction. The FLSSC would coordinate training exercises with the Council and the freight railroad owners and operators, as appropriate. During

normal revenue service, the FLSSC would coordinate training exercises to evaluate emergency preparedness. The exact nature of emergency preparedness exercises would be developed in coordination with the FLSSC prior to construction, but could include one tabletop and one full-scale emergency preparedness exercise, annually.

Construction. Construction activities would occur close to an active freight rail corridor. The Council would develop and implement a freight rail construction coordination plan that would be based on and coordinated with the proposed BLRT Extension project's construction documents. During construction, the Council would continue to work closely with the railways concerning railway coordination. The Council would adopt and use the safety and construction specifications and standards of the Class 1 railways: CP and BNSF for the entire proposed BLRT Extension project when construction is adjacent or on railways' rights-of-way, in addition to all applicable OSHA construction and other safety regulations. The railways' safety and construction specifications and standards are very specific and rigorous in their intent and execution. In addition, contractors' personnel, project engineering staff, Metro Transit staff, and all other support staff working on or adjacent to the railways' rights-of-way would be required to have completed and possess valid Federal Railroad Administration Rule 214 Roadway Worker Training Certification, e-RAILSAFE, and BNSF Contractor Orientation Training. Railway flaggers would be used to control freight train movements through construction limits. Qualified inspectors would be used to assess the operational safety condition of the right-of-way prior to the movement of a train through areas of railway trackage that may be disturbed by excavating and excavations, pile driving, crane lifts, and related activities that may affect the safety of the site and rail operations through the construction limits.

12. How would the proposed BLRT Extension project affect traffic operations?

Several roadway and intersection improvements were identified by the Council as part of the proposed BLRT Extension project. These improvements fall into four primary categories: (1) improvements necessary to facilitate LRT alignment transitions, (2) improvements necessary to maintain or improve neighborhood access, (3) improvements necessary to maintain or improve traffic operations (level of service), and (4) improvements to support the necessary transportation framework for the planned development north of TH 610. These proposed improvements were incorporated into the proposed BLRT Extension project (build) conditions traffic analysis. With these improvements being implemented, the Council expects all intersections in the proposed BLRT Extension project study area to operate at an acceptable level of service during the AM and PM peak hours in 2040 with the proposed BLRT Extension project, with the exceptions of the following intersections: Oak Grove Parkway at Xylon Avenue, West Broadway Avenue at Oak Grove Parkway, West Broadway Avenue at Main Street, Golden Valley Road at Theodore Wirth Parkway, Olson Memorial Highway at Thomas Avenue North, Olson Memorial Highway at 7th Street North and 6th Avenue North.

The poor operations (delay and queuing) at the Oak Grove Parkway at Xylon Avenue intersection in the PM peak hour with the No-Build Alternative are due to the large amount of traffic that would be generated by development planned to occur in the City of Brooklyn Park.

The poor operations (delay and queuing) at the West Broadway Avenue at Oak Grove Parkway and West Broadway Avenue at Main Street intersections in the PM peak hour with the proposed BLRT Extension project would be due to the large amount of development-generated traffic accessing the TH 610 interchange. The operational issues with the No-Build Alternative would be greater than with the proposed BLRT Extension project; therefore, no mitigation for these intersections is proposed.

The poor level of service during the PM peak hour at the intersection of Golden Valley Road and Theodore Wirth Parkway is due to the forecasted increase in traffic and the inefficiency of the all-way stop. These conditions are essentially the same as those with the No-Build Alternative. The Council expects the addition of the park-and-ride at the Golden Valley Road Station to contribute 2 percent or less of the PM peak-hour traffic volume in 2040.

The poor level of service at the Olson Memorial Highway at Thomas Avenue North intersection with the proposed BLRT Extension project is due to the high eastbound traffic volumes during the AM peak hour. The operations with the proposed BLRT Extension project are expected to be better than with the No-Build Alternative because of the planned improvements associated with the proposed BLRT Extension project; therefore, no additional improvements are being proposed by the Council.

The poor level of service at the Olson Memorial Highway at 7th Street North and 6th Avenue North intersection in the PM peak hour with the proposed BLRT Extension project are due to increased traffic at the intersection, the LRT alignment through the intersection that results in changes to the traffic signal phasing, and the roadway configurations at the intersection. The proposed BLRT Extension project stakeholders, in evaluating the competing needs of all modes at the intersection, recommended that roadway capacity improvements not be implemented at the intersection because of the corresponding negative impacts on other modes, including pedestrians, bicyclists, and buses.

There would be fewer failing intersections in 2040 with the proposed BLRT Extension project than with the No-Build Alternative because of the planned improvements that would be made as part of the proposed BLRT Extension project. The intersections with a poor level of service were largely due to an issue that would also exist with the No-Build Alternative, or, in the instance of the Olson Memorial Highway/7th Street North/6th Avenue North intersection, the stakeholders determined that the traffic mitigation measures would have negative impacts on other modes.

13. Would the proposed BLRT Extension project affect historic properties? If so, how would those effects be minimized or mitigated?

FTA has determined that the proposed BLRT Extension project would have No Adverse Effect on 11 historic properties and an Adverse Effect on six historic properties. The six adversely affected properties are the Wayman African Methodist Episcopal (AME) Church; Floyd B. Olson Memorial Statue; Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad/Great Northern Railway Historic District; Grand Rounds Historic District, Theodore Wirth Segment; Homewood Residential Historic District; and the West Broadway Avenue Residential Historic District. Therefore, FTA has determined that the undertaking (the proposed BLRT Extension project) would have an Adverse Effect on historic properties. See **Section 4.4** and **Appendix H** of the Final EIS for additional information regarding the proposed BLRT Extension project's impacts on cultural resources.

Measures to resolve adverse effects, including avoidance, minimization, and mitigation measures, are specified in the Section 106 Memorandum of Agreement (MOA) (see **Appendix H**).

14. Would the proposed BLRT Extension project use any Section 4(f)/6(f) properties? If so, how would the impacts to those properties be minimized?

Table ES-2 summarizes FTA's preliminary determination on the potential for temporary occupancy or *de minimis* or direct use of Section 4(f)/6(f) properties associated with the proposed BLRT Extension project.

Table ES-2. Impacts to Section 4(f)/6(f) Properties in the Amended Draft Section 4(f)/6(f) Evaluation

Property	Impacts to Property	Amended Draft Section 4(f)/6(f) Preliminary Determination
Park Properties		
Theodore Wirth Regional Park	2.1 acres of permanent easement	*De minimis* Use
Theodore Wirth Regional Park	9.2 acres of temporary easement	Temporary Occupancy
Glenview Terrace Park	0.01 acre of permanent easement	*De minimis* Use
Glenview Terrace Park	0.25 acre of temporary easement	Temporary Occupancy
Sochacki Park: Mary Hills Management Unit[1]	0.57 acre of temporary easement	Temporary Occupancy
Sochacki Park: Sochacki Management Unit[1]	5.6 acres of temporary easement	Temporary Occupancy
Sochacki Park: Sochacki Management Unit[1]	Section 6(f) conversion of 5.6 acres	Section 6(f) Conversion
South Halifax Park	0.7 acre of temporary easement	Temporary Occupancy
Becker Park	0.1 acre of temporary easement	Temporary Occupancy
Park Property Adjacent to Rush Creek Regional Trail	1.1 acres of temporary easement	Temporary Occupancy
Historic Properties		
Osseo Branch, St. Paul, Minneapolis & Manitoba Railway Historic District	43 acres of permanent easement	Direct Use
Grand Rounds Historic District	0.7 acre of permanent easement	Direct Use

[1] Park resource name change – Sochacki Park and Mary Hills Nature Area are now operated as a combined park resource under the Sochacki Park name; the former individual parks are considered separate management units under the joint park resource.

Measures to minimize harm include:

- Theodore Wirth Regional Park
  - In consideration of the permanent and temporary uses of Theodore Wirth Regional Park property, the Council has evaluated park-related enhancements as measures to minimize harm to the park resource.
- Glenview Terrace Park
  - As part of the measures to minimize harm to Glenview Terrace Park, the Council would provide public awareness of and access to the park property. Specifically the Council would provide pedestrian and bicycle improvements at the nearby Theodore Wirth Parkway/ Golden Valley Road intersection and incorporate wayfinding signs at the trailhead that would direct people to various park system amenities, including Glenview Terrace Park.
- Osseo Branch
  - The Council would incorporate interpretation of the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad/Great Northern Railway into the design of the segment that would utilize the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad/Great Northern Railway Historic District.
- Grand Rounds Historic District
  - The analysis of measures to minimize harm for the Grand Rounds Historic District focuses on the contributing elements to the district. Several options that were developed during the analysis of avoidance alternatives were considered as potential measures to minimize harm to the contributing elements of the district. None of these options were considered viable avoidance alternatives as they still would result in a Section 4(f) use of another resource; the Osseo Branch. However, these options would potentially reduce impacts to the contributing elements of the Grand Rounds Historic District.
  - All of the planned project elements within, and in the vicinity of, the Grand Rounds Historic District would be designed in accordance with the Secretary of the Interior's Standards and NPS's *Guidelines for the Treatment of Cultural Landscapes*.
  - During project design and development (before completion of the 30-percent, 60-percent, and 90-percent plans) FTA would continue to consult with Minnesota Historic Preservation Office (MnHPO), concurring parties, and the public, as appropriate, on the design of elements within, and in the vicinity of, the Grand Rounds Historic District to consider ways to minimize effects on the district and address design concerns.
  - All design plans (30-percent, 60-percent, 90-percent, and 100-percent plans and subsequent modifications) would be subject to FTA review. The purpose of the review is to determine if substantive changes to the proposed BLRT Extension project that have the potential to change the effects or mitigation for historic property have been made, and would need to be addressed. FTA would submit the 60-percent plans to MnHPO for concurrence.

- A Construction Protection Plan would be developed that would detail the measures to be implemented during construction to avoid and minimize adverse effects on the Grand Rounds Historic District from construction activities.
- Interpretation of the Theodore Wirth Segment of the Grand Rounds Historic District would be incorporated into the design of the Plymouth Avenue and Golden Valley Road stations. The park-and-ride lot at the Golden Valley Road Station shall include a trailhead at the intersection of Theodore Wirth Parkway and Golden Valley Road, and this trailhead would also include interpretation of the Grand Rounds Historic District.
- Vegetation and landscaping would be incorporated into the proposed BLRT Extension project design to screen and minimize views of the proposed BLRT Extension project from Theodore Wirth Parkway. Project infrastructure, as well as alterations to the landscape, would be developed in a manner that minimizes the net loss of existing vegetation.
- Preservation and treatment plans would be developed to guide the overall preservation of the Theodore Wirth Segment of the Grand Rounds Historic District and to guide preservation activities for up to 12 different historic features or feature types within this area.

15. What noise and vibration impacts were identified, and how would they be mitigated?

The FTA guidance manual *Transit Noise and Vibration Impact Assessment* (FTA, 2006) is the primary source for the proposed BLRT Extension project's noise assessment methodology and on transit projects throughout the country. The Final EIS used FTA's Detailed Noise Analysis methodology, which is summarized in **Section 5.6** of the Final EIS, included the following steps:

- Identification of noise-sensitive land uses in the corridor using aerial photography, geographic information systems (GIS) data and field surveys, typically within 300 feet of the alignment.
- Measurement of existing noise levels in the corridor near sensitive receptors, including all sources of noise in the area.
- Forecasting future proposed BLRT Extension project noise levels from transit operations, engineering drawings and information on speeds, headways, track type, vehicle type, and grade-crossing operations. The noise level assessment included light rail operations, horns, and bells at grade crossings and stations, associated roadway improvements, and changes and feeder bus operations at select stations. Details regarding the information used to predict future proposed BLRT Extension project noise levels can be found in **Appendix F** of the Final EIS.
- Assessment of the impact of the proposed BLRT Extension project by comparing the projected future noise levels with existing noise levels using the FTA noise impact criteria.
- Identification of mitigation at locations where projected future noise levels exceed the FTA impact criteria.

The proposed BLRT Extension project would cause 366 moderate noise impacts and 618 severe noise impacts at residential noise receptors (homes and apartment buildings) because of LRT horns.

The impacts represent the number of affected units (including those in multi-family buildings), not the number of buildings. The majority of the noise impacts would be because of LRT horns being sounded at FRA-shared at-grade crossings along the proposed BLRT Extension project. If the local municipalities follow the recommendation to implement Quiet Zones[5] at all FRA-shared at-grade crossings, the proposed BLRT Extension project would cause 176 moderate noise impacts and 120 severe noise impacts. **Appendix F** presents a summary of each residential location with a projected noise level that would exceed the FTA criteria.

Additional noise mitigation in the form of noise barriers, wayside devices, and interior testing to determine appropriate mitigation requirements will reduce the residential noise impact to five moderate and two severe noise impacts.

The vibration assessment included the following steps:

- Identification of vibration-sensitive land uses using aerial photography, GIS data, and field surveys, typically within 300 feet of the proposed BLRT Extension project alignment.
- Measurement of vibration-propagation characteristics of the soil in the corridor at sensitive receptors.
- Projected vibration levels from transit operations, using engineering plans and information on speeds, headways, track type, and vehicle vibration characteristics.
- Assessment of the impact from transit by comparing the proposed BLRT Extension project vibration with the FTA vibration impact criteria in Chapter 8 of the FTA guidance manual (FTA, 2006).
- Identification of mitigation measures at locations where proposed BLRT Extension project vibration levels exceed the impact criteria.

The proposed BLRT Extension project would result in 28 vibration impacts, all of which would be at residential land uses. To mitigate for these vibration impacts, ballast mats will be incorporated into the proposed BLRT Extension project at the following locations:

- 36th Avenue North to 38th Avenue North: 700-foot-long ballast mat
- 38th Avenue North to 40½ Avenue North: 300-foot-long ballast mat
- 47th Avenue North to BNSF freight tracks: 300-foot-long ballast mat

[5] Quiet Zones are locations, at least one-half mile in length, where the routine sounding of horns has been eliminated because of safety improvements at at-grade crossings, including modifications to the streets, raised median barriers, four quadrant gates, and other improvements designed and implemented as a part of the proposed BLRT Extension project and consistent with Quiet Zone readiness. Horns are sounded in emergency situations at these locations. Municipalities must apply to FRA for approval of Quiet Zones. If the municipality fails to apply for a Quiet Zone or FRA fails to approve the Quiet Zone, the proposed BLRT Extension project may result in residual noise impacts.

16. Would the proposed BLRT Extension project impact wetlands? If so, how would those impacts be mitigated?

The proposed BLRT Extension project would impact about 13.19 acres of wetlands, about 9.96 acres of permanent impact and about 3.23 acres of temporary impact. About 4.16 acres of impacted wetlands under USACE jurisdiction (pursuant to Section 404 of the Clean Water Act) require compensatory mitigation. About 6.28 acres of the impacted wetlands under Minnesota Water Conservation Act (WCA) jurisdiction require compensatory mitigation.[6]

- Seasonally flooded basin (Type 1)
  - Total wetland impacts: 6.59 acres
  - WCA jurisdictional impacts requiring compensatory mitigation: 4.28 acres
  - USACE jurisdictional impacts requiring compensatory mitigation: 2.52 acres
- Deep marsh (Type 4)
  - Total wetland impacts: 2.49 acres
  - WCA jurisdictional impacts requiring compensatory mitigation: 0.10 acre
  - USACE jurisdictional impacts requiring compensatory mitigation: 1.01 acres
- Open water (Type 5)
  - Total wetland impacts: 3.61 acres
  - WCA jurisdictional impacts requiring compensatory mitigation: 1.69 acres
  - USACE jurisdictional impacts requiring compensatory mitigation: 0.42 acre
- Shrub-carr (Type 6)
  - Total wetland impacts: 0.50 acre
  - WCA jurisdictional impacts requiring compensatory mitigation: 0.21 acre
  - USACE jurisdictional impacts requiring compensatory mitigation: 0.21 acre
- A portion of Bassett Creek, a stream reach of 450 feet total length near the Plymouth Avenue bridge would be relocated to accommodate the proposed BLRT Extension project.

[6] Total wetland impacts include all wetlands in the proposed BLRT Extension project area. Some wetlands are under the jurisdiction of the USACE, other wetlands are under the jurisdiction of the WCA, and certain wetlands are under the jurisdiction of both the USACE and the WCA. Generally, only permanent impacts require compensatory mitigation; temporary impacts that occur during construction only require restoration.

17. Would the proposed BLRT Extension project impact floodplains? If so, how would those impacts be mitigated?

The proposed BLRT Extension project would impact two floodplain areas:

- Bassett Creek: 16,800 cubic yards
- Grimes Pond: 200 cubic yards

Mitigation for the Bassett Creek floodplain will include:

- A floodplain mitigation area has been identified in Theodore Wirth Regional Park between the Bassett Creek main stem and the proposed BLRT Extension project and BNSF rail corridor
- Mitigation will include excavating adjacent ground below the elevation of the Bassett Creek 100-year floodplain to provide compensatory floodplain storage for the fill placed in the floodplain

Mitigation for the Grimes Pond floodplain will include:

- Some excavation of adjacent ground below the Grimes Pond 100-year floodplain elevation will provide compensatory floodplain storage for the fill placed in the floodplain
- Impacts to floodplains associated with Grimes Pond were reduced with a design that elevates the LRT tracks on a structure rather than on an embankment

18. What other environmental effects would the proposed BLRT Extension project have on the environment? How would those impacts be mitigated?

Table ES-3 summarizes the environmental effect of the proposed BLRT Extension project and the minimization and mitigation measures by environmental and transportation category.

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Transit Conditions (Section 3.1)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project would result in 27,000 daily boardings in 2040
	Operating-Phase (Long-Term) Indirect Impacts	■ Travel by transit, pedestrian, and bicycle modes would increase, and the number of single-occupant vehicles would decrease, as a result of the proposed BLRT Extension project
	Construction-Phase (Short-Term) Impacts	■ Intermittent impacts to bus operations in construction areas: • Temporary stop relocations or closures • Route detours ■ Suspensions of service on segments of routes
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ No mitigation is required because no long-term adverse impacts would occur. Route modifications to bus service in order to integrate with the proposed BLRT Extension project will be conducted in accordance with Title VI requirements. **Construction-Phase (Short-Term):** ■ Issue construction updates and post them on the BLRT Extension project website ■ Provide advance notice of roadway closures, driveway closures, and utility shutoffs ■ Conduct public meetings ■ Establish a 24-hour construction hotline ■ Prepare materials with information about construction ■ Address property access issues ■ Assign staff to serve as liaisons between the public and contractors during construction ■ Post information at bus stops and regional transit centers indicating temporary stop closures and/or detour details ■ Publish information in advance of bus detours on Metro Transit's website and in its on-board information brochure

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Freight Rail Conditions (Section 3.2)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project includes construction of LRT guideway generally in the eastern half of BNSF right-of-way; BNSF track would be relocated about 15 feet to the west
	Operating-Phase (Long-Term) Indirect Impacts	■ No long-term freight rail impacts anticipated; reconstruction of freight rail infrastructure would improve freight rail conditions
	Construction-Phase (Short-Term) Impacts	■ Potential for temporary rail service impacts
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ No mitigation required for operating-phase (long-term) effects because identified avoidance measures (reconstruction of BNSF rail corridor to current standards including continuously welded rail, provision of a service road, corridor protection measures) will prevent any adverse impacts: • Reconstructing BNSF rail corridor including a service road • Continuously welded freight rail track resulting in less noise and vibration impacts associated with freight rail operations **Construction-Phase (Short-Term):** ■ Development and implementation of freight rail operation coordination plans ■ Work with affected freight rail owners/operators to sequence construction to reduce effects on freight traffic ■ Use flaggers to allow freight rail operations to continue

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Vehicular Traffic (Section 3.3)	Operating-Phase (Long-Term) Direct Impacts	■ Seven intersections would operate at level of service (LOS) F with the No-Build Alternative, which would be reduced to one intersection with the proposed BLRT Extension project in 2040 ■ Two intersections would operate at LOS E with the No-Build Alternative which would increase to five intersections with the proposed BLRT Extension project in 2040
	Operating-Phase (Long-Term) Indirect Impacts	■ No adverse impacts identified
	Construction-Phase (Short-Term) Impacts	■ The construction phase of the proposed BLRT Extension project is expected to cause disruptions to traffic operations, including lane closures, short-term intersection and roadway closures, and detours that would cause local, short-term increases in congestion
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ No mitigation required for operating-phase (long-term) effects because the identified avoidance measures (roadway and intersection improvements) will prevent adverse impacts resulting from the proposed BLRT Extension project **Construction-Phase (Short-Term):** ■ Mitigation for construction-phase (short-term) effects will include development and implementation of the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan ■ Contractors will need to comply with the requirements of MnDOT, Hennepin County, and all municipalities affected by construction activities related to the closing of roads. ■ Contractors will be required to comply with all guidelines in the Minnesota Manual on Uniform Traffic Control Devices and will develop appropriate traffic control plans.

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Pedestrians and Bicyclists (Section 3.4)	Operating-Phase (Long-Term) Direct Impacts	■ No adverse impacts identified
	Operating-Phase (Long-Term) Indirect Impacts	■ No adverse impacts identified
	Construction-Phase (Short-Term) Impacts	■ Temporary closures or detours during construction of the proposed BLRT Extension project would affect existing bicycle and pedestrian facilities
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Provision of pedestrian and bicycle improvements as part of the proposed BLRT Extension project elements, including: • Improved, signalized at-grade pedestrian crossings along Olson Memorial Highway • Improved pedestrian and bicycle connections and elevators at Plymouth Avenue and Golden Valley Road stations • Improved pedestrian crossings of the proposed BLRT Extension project/freight rail corridor at existing roadway crossings • Improved pedestrian crossings of Bottineau Boulevard (County Road 81) at Bass Lake Road and 63rd Avenue • Improved pedestrian and bicycle facilities on West Broadway Avenue • New pedestrian and bicycle facilities north of TH 610 **Construction-Phase (Short-Term):** ■ Mitigation for construction-phase (short-term) effects will include development and implementation of the Construction Communication Plan; implementation of this plan will provide advance notice of pedestrian and bicycle facility closures and detour options.

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Parking (Section 3.5)	Operating-Phase (Long-Term) Direct Impacts	■ Loss of on-street parking spaces: • About 25 spaces along frontage road on north side of Olson Memorial Highway between Humboldt Avenue and Van White Memorial Boulevard • About 50 spaces along frontage road on south side of Olson Memorial Highway between Knox Avenue North and the cul-de-sac west of Van White Boulevard • About 8 spaces along frontage road on north side of Olson Memorial Highway roughly one-half block east and west of Queen Avenue North • About 3 spaces on west side of Hubbard Avenue immediately south of 42nd Avenue • About 6 spaces on west side of West Broadway Avenue immediately south of 42nd Avenue ■ Loss of off-street parking spaces: • About 50 parking spaces from a parking lot north of Hubbard Marketplace between 41st and 42nd avenues • Eleven diagonal parking spaces would be converted to five parallel parking spaces on the north side of the Hubbard Marketplace building • About 75 parking spaces from a retail center (7316 Lakeland Avenue) surface parking lot • About 100 parking spaces from Target store (7535 West Broadway Avenue) parking lot
	Operating-Phase (Long-Term) Indirect Impacts	■ The proposed BLRT Extension project could lead to "spillover" parking in neighborhoods adjacent to proposed LRT stations ■ The proposed BLRT Extension project could affect the supply of and demand for parking around station areas as a result of transit-oriented development
	Construction-Phase (Short-Term) Impacts	■ On-street parking spaces could be temporarily removed at construction locations
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Loss of off-street parking spaces will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) ■ Coordinate mitigation for loss of on-street parking spaces with local jurisdictions to identify whether suitable replacement locations are necessary ■ The proposed BLRT Extension project would add 1,670 new park-and-ride spaces ■ The Council will complete an annual Regional Park-and-Ride System Report to survey use of and travel patterns to park-and-ride facilities, including addressing potential spillover parking **Construction-Phase (Short-Term):** ■ Mitigation for construction-phase (short-term) effects will include development and implementation of a Construction Mitigation Plan to address temporary parking loss during construction

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Aviation (Section 3.6)	Operating-Phase (Long-Term) Direct Impacts	■ The two LRT tracks and associated catenary system would be constructed immediately east of the BNSF tracks within the RPZ of Crystal Airport
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Construction of overhead catenary system would occur within the RPZ
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ No additional mitigation beyond the findings of the RPZ Alternatives Analysis (AA) are required ■ Based on decisions rendered by FAA through the RPZ AA and confirmed through FAA's issuance of a letter of no objection (Form 7460 application), the proposed BLRT Extension project will be included in the updated Crystal Airport Layout Plan
Land Use Plan Compatibility (Section 4.1)	Operating-Phase (Long-Term) Direct Impacts	■ No adverse impacts identified
	Operating-Phase (Long-Term) Indirect Impacts	■ Market-driven development could lead to increased density and intensely used spaces along the proposed BLRT Extension project corridor. The cities in the corridor have planned for future growth and development with their individual comprehensive plans. Potential indirect impacts on land use are compatible with these plans and plans for the region, which state the agencies' desire for transit to alleviate traffic and congestion; no mitigation is required
	Construction-Phase (Short-Term) Impacts	■ None anticipated
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ The proposed BLRT Extension project would be compatible with land use planning policy documents; therefore, no mitigation measures would be needed

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Community Facilities/ Community Character and Cohesion (Section 4.2)	Operating-Phase (Long-Term) Direct Impacts	■ Impacts associated with the proposed BLRT Extension project were not severe enough to affect overall community character and cohesion, or the accessibility to and use of community facilities
	Operating-Phase (Long-Term) Indirect Impacts	■ New businesses and residential development could be attracted to station areas, likely leading to denser land-use patterns and increased demand on community services and facilities
	Construction-Phase (Short-Term) Impacts	■ Traffic detours could increase traffic through residential neighborhoods or change access to community facilities ■ Sidewalk closures and detours could affect pedestrian traffic patterns ■ Construction impacts such as increased levels of noise and dust could temporarily affect neighborhood character, primarily in areas that are relatively quiet ■ The presence of large construction equipment could be perceived as visually disruptive, resulting in temporary effects on community character, particularly in residential settings ■ A temporary easement from Theodore Wirth Regional Park would be required to construct the LRT guideway ■ Construction of the proposed BLRT Extension project would require a temporary occupancy of Sochacki Park: Sochacki Management Unit for construction access and staging. ■ Construction of the proposed BLRT Extension project would require a temporary occupancy of Becker Park to reconstruct the sidewalk and trail from the park to the Bass Lake Road Station. ■ Construction of the proposed BLRT Extension project would require a temporary occupancy of Three Rivers Park to construct the OMF.
	Mitigation Measures	**Construction-Phase (Short-Term):** ■ Develop and implement the Construction Mitigation Plan and a Construction Communication Plan. Specific mitigation measures included in the Construction Communication Plan will be site-specific and may include: • Issuing construction updates and posting them to the proposed BLRT Extension project website • Providing advance notice of roadway closures, driveway closures and utility shutoffs • Conducting public meetings • Establishing a 24-hour construction hotline • Preparing materials with applicable construction • Addressing property access issues • Assigning staff to serve as liaisons between the public and contractors during construction ■ Develop and implement a construction staging plan, which will be reviewed with the appropriate jurisdictions and railroads. Components of the staging plan include traffic management plans and a detailed construction timeline ■ Restoration and as applicable, enhancement of affected proposed BLRT Extension project area park facilities

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Displacement of Residents and Businesses (Section 4.3)	Operating-Phase (Long-Term) Direct Impacts	■ Acquisitions of 292 parcels • 14 total acquisitions, 278 partial acquisitions • About 46.7 acres of permanent easement, and 28.9 acres of temporary easement ■ Displacement of 10 businesses; no displacements of residential, industrial, or public land uses
	Operating-Phase (Long-Term) Indirect Impacts	■ New station-area development could result in displacements of existing uses, limited by zoning and comprehensive plans
	Construction-Phase (Short-Term) Impacts	■ 28.9 acres of temporary easements
	Mitigation Measures	■ Non-residential displacements (to be conducted in accordance with the provisions of the Uniform Relocation Act and Minnesota Statute 117): • Relocation advisory services • Minimum 90 days written notice to vacate prior to requiring possession ■ Reimbursement for moving and reestablishment expenses
Cultural Resources (Section 4.4)	Adverse Effects	■ Adverse effect on the Wayman AME Church, Floyd B. Olson Memorial Statue, Osseo Branch Historic District, Homewood Historic District, Theodore Wirth Segment of the Grand Rounds Historic District, and the West Broadway Avenue Residential Historic District ■ No adverse effect (with implementation of mitigation measures) on Sumner Branch Library, Labor Lyceum, Sacred Heart Catholic Church, Robbinsdale Waterworks, and Hennepin County Library – Robbinsdale Branch
	Mitigation Measures	■ Implement Section 106 Memorandum of Agreement measures that will include the following mitigation measures: • Design the proposed BLRT Extension project to the Secretary of the Interior's Standard for the Treatment of Historic Properties for the Minneapolis-Golden Valley segment, and the Robbinsdale segment • Consult with MnHPO and the MOA concurring parties on the proposed BLRT Extension project design in the segments listed above • Pre-construction design review at the 30-percent, 60-percent, 90-percent, and 100-percent phases • Development of a Construction Protection Plan • Implementation of noise mitigation measures for the Sacred Heart Catholic Church, Hennepin County Library-Robbinsdale Branch, and West Broadway Avenue Residential Historic District • National Register of Historic Places nomination forms for Floyd B. Olson Memorial Statue and Wayman AME Church • Interpretation of historic properties • Historic property treatment plans

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Visual/Aesthetics (Section 4.5)	Operating-Phase (Long-Term) Direct Impacts	■ Adverse impacts to higher-quality visual features in the following settings: • View to west toward Penn Avenue, from center Olson Memorial Highway median • View to east-southeast toward Olson Memorial Highway bridge over the BNSF rail corridor, from Wirth Park Trail • Boulevard and median trees along Olson Memorial Highway west of I-94 • View to west toward proposed Plymouth Avenue Station and bridge, from Plymouth Avenue North and Washburn Avenue North • View to south toward existing BNSF tracks and proposed LRT tracks, from Plymouth Avenue North bridge • View to north toward proposed Plymouth Avenue Station, from Plymouth Avenue bridge • View to southeast toward proposed Plymouth Avenue Station and bridge, from Theodore Wirth Regional Park Chalet • View to northeast toward Bassett Creek and proposed Golden Valley Road Station, from Theodore Wirth Regional Park Golf Course • View to west toward proposed Golden Valley Road Station, from Golden Valley Road and Theodore Wirth Parkway • View to west toward proposed Golden Valley Road Station, from Theodore Wirth Parkway at Golden Valley Road • Theodore Wirth Regional Park and Golf Course • Bassett Creek and Bassett Creek Lagoons • Sochacki Park and South Halifax Park • View to east toward proposed Robbinsdale Station, from 42nd Avenue • View to southeast toward proposed wall and fence, from adjacent residential alley • View to southeast toward proposed Bass Lake Road Station and pedestrian bridge, from Bottineau Boulevard • View to northwest toward proposed Bass Lake Road Station and pedestrian bridge, from southeast quadrant of the Bass Lake Road/Bottineau Boulevard intersection • View to northeast toward proposed Bass Lake Road pedestrian bridge, from southwest quadrant of the Bass Lake Road/Bottineau Boulevard intersection • Bass Lake Road pedestrian overpass • Green boulevard on west side of West Broadway Avenue between 47th Avenue and TH 100 • Residential neighborhood between Bass Lake Road and 63rd Avenue • View to south toward proposed 63rd Avenue Station, from trail adjacent to Bottineau Boulevard • View to southeast toward proposed 63rd Avenue Station, from adjacent neighborhood west of 63rd Avenue • View to north toward proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard at 71st Avenue • View to north toward proposed 73rd Avenue/Bottineau Boulevard bridge, from southeast corner of Bottineau Boulevard and 71st Avenue • View to south toward proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard at 73rd Avenue • View to southwest toward proposed OMF, from Rush Creek Regional Trail • 63rd Avenue park-and-ride • 73rd Avenue/Bottineau Boulevard bridge

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
		• OMF • Rush Creek Regional Trail
	Operating-Phase (Long-Term) Indirect Impacts	■ Induced development around the transit stations would likely change the views of the area; a new building that does not fit in with the existing character could be seen as a negative impact
	Construction-Phase (Short-Term) Impacts	■ Construction-phase (short-term) impacts would be associated with construction staging areas, concrete and form installation, removal of some of the existing vegetation, lights and glare from construction areas, and generation of dust and debris in the proposed BLRT Extension project area
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Follow design guidelines for key proposed BLRT Extension project elements ■ Design and implement landscaping at appropriate locations throughout the proposed BLRT Extension project corridor ■ Minimize operational lighting at night (while maintaining safety/security of LRT facilities) ■ Provide visual screening as appropriate for certain proposed BLRT Extension project facilities **Construction-Phase (Short-Term):** ■ Minimize visual disruption from construction activities, including minimizing light disturbance ■ Restore areas disturbed during construction
Economic Effects (Section 4.6)	Operating-Phase (Long-Term) Direct Impacts	■ Loss of tax revenues caused by right-of-way acquisition would be a recurring loss on an annual basis, partially offset by increases in other tax revenues
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ None identified
	Mitigation Measures	■ No mitigation required

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Safety and Security (Section 4.7)	Operating-Phase (Long-Term) Direct Impacts	■ Adherence to transitway design guidelines and the oversight of security personnel would result in no adverse impacts related to safety and security
	Operating-Phase (Long-Term) Indirect Impacts	■ Increased development densities around transit stations could place greater demands on safety and security personnel and systems
	Construction-Phase (Short-Term) Impacts	■ Construction activities would result in temporary increased congestion along adjacent roads as a result of temporary lane and road closures, shifts in roadway alignments, and detours that could affect access and response times for emergency service providers
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Metro Transit will provide security at and around the transit stations ■ Transit rider, pedestrian, and bicycle safety features will be incorporated into design and maintained and enforced over time ■ Conform to FTA's Rail Fixed Guideway Systems; State Safety Oversight Program for Safety and Security Guidance for Recipients with Major Capital Projects (Circular C 5800.1), covered under 49 CFR Part 633 – Project Management Oversight ■ Conform to the State of Minnesota rail safety regulations that went into effect in July 2014 as part of MN Chapter 312 ■ Implement the proposed BLRT Extension project's *Safety and Security Management Plan* (*SSMP*) and the Metro Light Rail Transit Design Criteria to avoid potential safety issues at new light rail stations, including emergency equipment and appropriate lighting for public areas ■ Install fencing where substantial grade changes exist adjacent to sidewalks, trails, and side platform areas, and between the light rail alignment or freight rail alignment when adjacent to a trail or sidewalk, to prevent pedestrian and bicycle encroachment on light rail tracks and accidental falls from station platforms ■ Design at-grade LRT crossings of sidewalks and trails per the Metro Light Rail Transit Design Criteria to include flashing light signals with an audible warning to notify pedestrians of a train's arrival and detectable warnings and signs ■ Design shared freight rail and light rail crossings to meet FRA requirements for at-grade crossings, including requirements for train horn Quiet Zones as described in the Train Horn Quiet Zone Final Rule (49 CFR Part 222), where applicable ■ Maintain emergency vehicle access to areas within the vicinity of the proposed BLRT Extension project ■ Coordinate with affected emergency service providers providing the light rail operating schedule and identification of alternative crossing routes ■ Design LRT facilities within the vicinity of freight rail facilities in accordance with the Metro Light Rail Transit Design Criteria which includes design standards and specifications to provide security and/or enhance safety, such as safeguards to prevent derailments, emergency guardrails, and corridor protection barriers

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
		■ Install intrusion detection for possible freight derailment, and corridor protection, where LRT is jointly operating with freight rail ■ Include safeguards in the catenary system for the proposed BLRT Extension project to help minimize the possibility of sparking occurring in the overhead catenary wires ■ Metro Transit will regularly inspect pantographs for grooves along the pantograph's carbon strip (as it does on its existing light rail lines), which could cause arcing ■ Where the light rail alignment is adjacent to a freight rail alignment, the light rail alignment will be primarily on segregated right-of-way, in accordance with the National Electric Safety guidelines ■ Plan, schedule, conduct, and evaluate at least one tabletop and one full-scale emergency preparedness exercise annually ■ In advance of operation of the proposed BLRT Extension project, a number of drills will be planned, conducted, and documented in an emergency preparedness exercise plan
		Construction-Phase (Short-Term): ■ Develop and implement a Construction Mitigation Plan, which includes a construction staging plan and a Construction Communications Plan Coordinate with emergency service providers on required detour routes and lane closures to minimize increases in travel and response times; maintain required access during established periods or keep one lane of traffic open on main arterials as described in the Construction Mitigation Plan ■ Maintain federal OSHA and Minnesota OSHA standards for safety of construction site personnel to minimize and/or avoid injury to construction workers ■ Contractors will prepare a proposed BLRT Extension project safety and health program along with a site-specific safety plan to ensure that, while on the work site and construction activities, contractor and subcontractor personnel comply with the specified safety practices, codes, and regulations as described in the proposed BLRT Extension project's *SSMP* ■ Develop and implement freight rail operation coordination plans to facilitate coordination between the proposed BLRT Extension project and the affected freight railroads during construction activities affecting freight rail operations

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Utilities (Section 5.1)	Operating-Phase (Long-Term) Direct Impacts	■ Protective measures from stray current might be needed for some underground utilities; no other long-term impacts identified
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Minor utility service disruptions would occur throughout construction to facilitate utility relocations ■ Potential unintentional damage causing service disruptions could occur during construction
	Mitigation Measures	**Construction-Phase (Short-Term):** ■ Relocate all conflicting utilities to avoid utility impacts to and to maintain utility service, in accordance with the proposed BLRT Extension project Utility Relocation and Management Plan ■ Include measures to minimize stray current and reduce amount of corrosion due to stray current ■ Prior to construction, determine necessary improvements to the electrical transmission systems along the corridor through consultation with Xcel Energy; necessary improvements would likely involve upgrading existing transmission facilities ■ Utility location excavations and pre-construction surveys will be performed ■ Utility contractors will be required to notify affected businesses and residences of any planned disruption of service due to construction activities; temporary service will be provided as appropriate ■ If previously unidentified lines are encountered, work will be discontinued, and appropriate utility companies and agencies will be contacted to identify the line(s); businesses and residents will be notified before line(s) are disturbed ■ Any wells, known or discovered during construction, within the proposed permanent right-of-way will be abandoned and sealed according to state and local regulations ■ Wells outside, but near, the proposed BLRT Extension project right-of-way will be avoided ■ For those locations where impacts to wells would interfere with the necessary supply of potable water or with monitoring groundwater conditions at a site, well replacement or other water supply provisions will be considered ■ Minnesota Department of Health guidance will be used to evaluate the feasibility of stormwater infiltration practices located in vulnerable Wellhead Protection Areas ■ Temporary dewatering during construction could require Minnesota Department of Natural Resources (DNR) groundwater appropriation permits

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Floodplains (Section 5.2)	Operating-Phase (Long-Term) Direct Impacts	■ Two floodplain areas would be affected by the construction of the proposed BLRT Extension project: • Bassett Creek: 16,800 cubic yards • Grimes Pond: 200 cubic yards
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ No temporary construction-phase (short-term) impacts to floodways or floodplains are anticipated since long-term floodplain mitigation sites would be constructed in advance of any filling in existing floodplains
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Develop appropriate plans and obtain applicable permits for floodplains, as well as implement best management practices (BMPs) ■ Bassett Creek Floodplain: • A floodplain mitigation area has been identified in Theodore Wirth Regional Park between the Bassett Creek main stem and the proposed BLRT and BNSF rail corridor • Mitigation will include excavating adjacent ground below the elevation of the Bassett Creek 100-year floodplain to provide compensatory floodplain storage for the fill placed in the floodplain ■ Grimes Pond Floodplain: • Some excavation of adjacent ground below the Grimes Pond 100-year floodplain elevation will provide compensatory floodplain storage for the fill placed in the floodplain • Impacts to floodplains associated with Grimes Pond were reduced with a design that elevates the LRT tracks on a structure rather than on an embankment
Wetlands and Other Aquatic Resources (Section 5.3)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project would impact about 13.19 acres of wetlands, about 9.96 acres of permanent impact and about 3.23 acres of temporary impact. About 4.16 acres of impacted wetlands under USACE jurisdiction (pursuant to Section 404 of the Clean Water Act) require compensatory mitigation. About 6.28 acres of the impacted wetlands under WCA jurisdiction require compensatory mitigation (note that some of the impacted wetlands are under both USACE and WCA jurisdiction). • Seasonally flooded basin (Type 1) ○ Total wetland impacts: 6.59 acres ○ WCA jurisdictional impacts requiring compensatory mitigation: 4.28 acres ○ USACE jurisdictional impacts requiring compensatory mitigation: 2.52 acres • Deep marsh (Type 4) ○ Total wetland impacts: 2.49 acres ○ WCA jurisdictional impacts requiring compensatory mitigation: 0.1 acre ○ USACE jurisdictional impacts requiring compensatory mitigation: 1.01 acres

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations

		• Open water (Type 5)
		  ○ Total wetland impacts: 3.61 acres
		  ○ WCA jurisdictional impacts requiring compensatory mitigation: 1.69 acres
		  ○ USACE jurisdictional impacts requiring compensatory mitigation: 0.42 acre
		• Shrub-carr (Type 6)
		  ○ Total wetland impacts: 0.50 acre
		  ○ WCA jurisdictional impacts requiring compensatory mitigation: 0.21 acre
		  ○ USACE jurisdictional impacts requiring compensatory mitigation: 0.21 acre
		■ A portion of Bassett Creek, a stream reach of 450 feet total length near the Plymouth Avenue bridge would be relocated to accommodate the proposed BLRT Extension project.

	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Construction-related wetland impacts typically associated with access roads needed to construct portions of the proposed BLRT Extension project are anticipated to be less than 2.5 acres
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ The OMF was designed to avoid wetland impacts ■ The proposed BLRT Extension project design accommodates the trackage on an elevated structure in the segment that bisects Grimes Pond/North Rice Pond ■ Compensatory wetland mitigation will be accomplished through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable major watersheds and bank service areas. An estimated 12 to 14 acres of compensatory wetland mitigation credit will be required. **Construction-Phase (Short-Term):** ■ Appropriate BMPs will be implemented to protect wetlands and other aquatic resources that are downslope or downstream from areas disturbed as a result of earthmoving ■ Minimization of impact through use of BMPs followed by restoration to pre-construction conditions will be required for wetland areas disturbed during construction ■ Temporary disturbance of WCA-jurisdictional wetlands for longer than 180 days may require additional mitigation

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Geology, Soils, and Topography (Section 5.4)	Operating-Phase (Long-Term) Direct Impacts	■ No operating-phase (long-term) impacts are anticipated as a result of the proposed BLRT Extension project
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Extensive soil correction would be required in areas of poor soils; primarily between Olson Memorial Highway and 36th Avenue ■ Short-term dewatering would be needed for open-trench subsurface work in areas of high groundwater
	Mitigation Measures	**Construction-Phase (Short-Term):** ■ Construction activity will follow appropriate standards and applicable permitting requirements of the Minnesota Pollution Control Agency (MPCA), MnDOT, and Hennepin County for grading and erosion control ■ Dewatering permits, if required, will be obtained from DNR ■ A Spill Prevention, Control and Countermeasures plan developed for the proposed BLRT Extension project by the construction contractor will include measures to avoid impacts to potential karst features ■ For areas of poor soils, the proposed BLRT Extension project design will incorporate geotechnical elements (load transfer platforms and lightweight fill) to provide a stable base for project components and to avoid differential settlement of soils

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Hazardous Materials Contamination (Section 5.5)	Operating-Phase (Long-Term) Direct Impacts	■ None identified
	Operating-Phase (Long-Term) Indirect Impacts	■ Potential for known contaminated sites to be encountered as development/redevelopment occurs
	Construction-Phase (Short-Term) Impacts	■ The Modified Phase I Environmental Site Assessment (ESA) identified 271 parcels, 24 of which have a high potential for contamination and 135 of which have a medium potential in the proposed BLRT Extension project corridor; construction activities in these areas may encounter contaminated soil and/or groundwater ■ Potential spills of regulated materials during construction
	Mitigation Measures	**Construction-Phase (Short-Term):** ■ Conduct a Phase II ESA, in which a subsurface investigation will be conducted and soil and groundwater samples will be collected and then analyzed by a certified laboratory ■ Develop a Response Action Plan (RAP) to address proper handling of contaminated soil and groundwater encountered during construction ■ A Construction Contingency Plan will be developed as part of the RAP that will include proper handling and treating of contaminated soil and/or groundwater that could not be avoided during construction ■ The construction contractor will develop a Spill Prevention, Control and Countermeasures Plan to minimize the impact to surface water or groundwater in the event of a spill ■ Perform assessments for asbestos and other regulated materials prior to demolition of structures; develop a plan for management of asbestos and regulated materials

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Noise (Section 5.6)	Operating-Phase (Long-Term) Direct Impacts	■ Without mitigation: • 366 moderate and 618 severe noise impacts ■ With implementation of Quiet Zones: • 176 moderate and 120 severe noise impacts ■ With mitigation, the residual impacts would be: • 5 moderate and 2 severe noise impacts
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Elevated noise levels from construction equipment ■ For residential land use, at-grade track construction noise impacts can extend 120 feet from the construction site ■ If nighttime construction is conducted, noise impacts from at-grade construction can extend 380 feet from the construction site
	Mitigation Measures	**Operation-Phase (Long-Term):** ■ The proposed BLRT Extension project will include the infrastructure required to make all at-grade freight rail and LRT crossings Quiet Zone ready ■ Interior testing to determine appropriate mitigation: • Olson Memorial Highway to Oak Park Avenue North (northbound [NB]) • Oak Park Avenue North to Plymouth Avenue North (NB) • Plymouth Avenue North to 16th Avenue North (NB) • 16th Avenue North to Golden Valley Road (NB) • 34th Avenue North to 36th Avenue North (southbound [SB]) • 42nd Avenue North to MN-100 (NB) ■ Noise barrier: • Golden Valley Road to 26th Avenue North (NB) • 26th Avenue North to 31½ Avenue North (NB) • 31½ Avenue North to 34th Avenue North (NB) • 34th Avenue North to 36th Avenue North (SB) • 36th Avenue North to 38th Avenue North (NB) • 36th Avenue North to 38th Avenue North (SB) • 38th Avenue North to 40½ Avenue North (NB) ■ Noise Barrier and interior testing to determine appropriate mitigation: • 38th Avenue North to 40th Avenue North (SB) ■ Wayside device and noise barrier: • 40½ Avenue North to 42nd Avenue North (NB)

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
		■ Wayside device and interior testing to determine appropriate testing: • 40th Avenue North to 42nd Avenue North (SB) • MN-100 to 47th Avenue North (SB) ■ Wayside device, noise barrier, and interior testing to determine appropriate testing: • MN-100 to 47th Avenue North (NB) • 47th Avenue North to freight tracks (NB) **Construction-Phase (Short-Term):** ■ Contractors will prepare a detailed Noise Control Plan for the proposed BLRT Extension project's construction duration. A noise control engineer or acoustician will work with the contractor to prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction. Key elements of this plan will include: • Contractor's specific equipment types • Schedule and methods of construction • Maximum noise limits for each piece of equipment with certification testing • Prohibitions on certain types of equipment and processes during the nighttime hours without local agency coordination and approved variances • Identification of specific sensitive sites where near construction sites • Methods for determining construction noise levels • Implementation of noise control measures where appropriate • Include a 24-hour construction hotline

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Vibration (Section 5.7)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project would cause 28 vibration impacts at residential land uses
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ With the exception of impact pile driving, the potential for damage would be limited to buildings within 20 feet of construction activities ■ The distance for the potential for damage to buildings from impact pile driving is up to 40 feet.
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ 36th Avenue North to 38th Avenue North: 700-foot-long ballast mat ■ 38th Avenue North to 40½ Avenue North: 300-foot-long ballast mat ■ 47th Avenue North to BNSF freight tracks: 300-foot-long ballast mat **Construction-Phase (Short-Term):** ■ To mitigate vibration impacts from construction activities, the following measures will be applied, where feasible: • Limit high-vibration activities at night • Include limits on vibration in the construction specifications, especially at locations where high-vibration activities would occur • Minimize the use of impact and vibratory equipment, where possible and appropriate • Use truck haul routes that minimize exposure to sensitive receptors and minimize damage to roadway surfaces, where appropriate • Perform pre-construction surveys to document the existing conditions of the structures in the vicinity of sites where high-vibration construction activities would be performed • If a construction activity could exceed the damage criteria at any building, the contractor will be required to conduct vibration monitoring, and, if the vibration exceeds the limit, the activity must be modified or terminated

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Biological Environment (Wildlife Habitat and Endangered Species) (Section 5.8)	Operating-Phase (Long-Term) Direct Impacts	**Threatened and Endangered Species:** ■ "No Effect" on the Higgins eye pearlymussel and the Snuffbox mussel ■ "May Affect, Incidental Take Not Prohibited" on the northern long-eared bat (NLEB) ■ With adherence to DNR guidelines, no impacts to the Blanding's turtle are anticipated **Migratory Birds:** ■ With implementation of acceptable measures to minimize impacts, no impacts are anticipated from the proposed BLRT Extension project to species covered under the Migratory Bird Treaty Act (MBTA) **Habitat:** ■ The proposed BLRT Extension project would involve constructing physical barriers that could restrict the crossing of portions of the corridor by wildlife ■ Disturbed soils within the limits of disturbance could create conditions where infestation of noxious and invasive species can increase ■ Clearing of approximately 28 acres of forested lands
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Construction-related physical and noise disturbances could temporarily disrupt wildlife habitat use; no effects on threatened and endangered species or migratory birds anticipated
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Identify opportunities, where practicable, to facilitate wildlife crossings of the corridor through enhanced culvert crossings or other appropriate designs ■ Threatened and Endangered Species, Migratory Birds: • None required ■ Habitat: • Infestations of noxious and invasive species can be controlled throughout the operating phase of the proposed BLRT Extension project through spot-spraying appropriate herbicides and the development and adherence to a vegetation management plan • Mitigation for tree impacts within the limits of disturbance (LOD) of the proposed BLRT Extension project will be based on relevant city ordinances • Mitigation for unavoidable impacts to aquatic habitat will be accomplished through a combination of on-site wetland mitigation and purchasing suitable wetland credits from an established wetland mitigation bank • Mitigation for unavoidable impacts to notable terrestrial habitat will be accomplished through tree plantings in and around Theodore Wirth Regional Park and a few selected areas throughout the LOD of the proposed BLRT Extension project, as well as vegetation restoration in temporarily disturbed areas

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
		• Where effective and feasible, suitable wildlife crossings will be accommodated within proposed culverts to allow some wildlife species to cross from one side of the proposed BLRT Extension project/freight rail tracks to the other **Construction-Phase (Short-Term):** ■ To minimize wildlife habitat impacts, the proposed BLRT Extension project will use a bridge to cross Grimes Pond and ponds north of Golden Valley Road; pre-treat storm BMPs; on-site mitigation areas will be designed that will minimize impacts to forested areas and existing aquatic resources ■ Threatened and Endangered Species • Seasonal restrictions are placed on tree removal that is less than 0.25 mile from a known hibernacula entrance or less than 150 feet from a known maternity roost tree. • Implement DNR recommendations to avoid direct impacts to the Blanding's turtle ■ Migratory birds: • Bald eagle nest surveys will be conducted during the final design of the proposed BLRT Extension project to determine whether any nests are present at that time; if so, the standard guidelines will be followed, which include limiting construction activity within at least 330 feet from the nesting site, and limiting clearing of vegetation within 660 feet of the nest site during the nesting season (late January to July) • In compliance with the MBTA, perform bridge work before May 15 or after September 1 ■ Habitat: • Temporary construction access roads and construction staging areas will be restored to the pre-construction grade and replanted with suitable vegetation • Tree impacts in the proposed BLRT Extension project LOD will be minimized to the extent practicable

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Water Quality and Stormwater (Section 5.9)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project would cause an 83-percent increase in the impervious area within the LOD of the proposed BLRT Extension project
	Operating-Phase (Long-Term) Indirect Impacts	■ New development may increase impervious surface area adjacent to the proposed BLRT Extension project
	Construction-Phase (Short-Term) Impacts	■ Construction activities would disturb soils and cause runoff that could erode slopes and drainageways, form gullies, and deposit sediment in storm drain systems and receiving waterbodies; these effects could destabilize slopes and reduce water quality if temporary BMPs, required through the permitting process, are not in place prior to a storm event
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Long-term mitigation measures will include designing and constructing permanent BMPs, such as detention and infiltration facilities, which will control and treat stormwater runoff caused by an increase in impervious surfaces as a result of the proposed BLRT Extension project **Construction-Phase (Short-Term):** ■ A National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit from MPCA will be required, and the NPDES Construction Stormwater Permit application must be submitted to MPCA at least 30 days prior to the start of construction ■ A Stormwater Pollution Prevention Plan, which must be submitted at the time of the permit application, will be developed and implemented during construction ■ Short-term mitigation measures will include developing erosion- and sediment-control plans to control runoff and reduce erosion and sedimentation during construction, and limiting the amount of sediment carried into lakes, streams, wetlands, and rivers by stormwater runoff

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Air Quality/ Greenhouse Gas Emissions (Section 5.10)	Operating-Phase (Long-Term) Direct Impacts	■ No impacts anticipated; annual regional vehicle-miles traveled with the proposed BLRT Extension project would be essentially the same as with the No-Build Alternative ■ No violations of air quality standards are predicted
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ During construction, traffic volumes and operations on roads in the proposed BLRT Extension project would be impacted resulting in traffic detours to parallel roads and temporarily increase in emissions and concentrations of air pollutants near homes and businesses ■ Construction equipment powered by fossil fuels emits the same air pollutants as highway vehicles ■ Exposed earthen materials can also produce increased particulate matter when they are moved or disturbed by wind ■ Construction-phase greenhouse gas emissions estimated at 21,191 metric tons of carbon dioxide (CO_2) equivalents per year over a three year period
	Mitigation Measures	**Construction-Phase (Short-Term):** ■ Where applicable and prudent, implement US Environmental Protection Agency (EPA)-recommended measures to reduce short-term construction impacts to air quality ■ BMPs will be implemented during construction to control dust, including: • Minimize land disturbance during site preparation • Use watering trucks to minimize dust • Cover trucks while hauling soil/debris off site or transferring materials. • Stabilize dirt piles if they are not removed immediately • Use dust suppressants on unpaved areas • Minimize unnecessary vehicle and machinery idling • Revegetate any disturbed land post-construction ■ Traffic-control measures will be developed in subsequent stages of the proposed BLRT Extension project to address detours and the flow of traffic
Energy (Section 5.11)	Operating-Phase (Long-Term) Direct Impacts	■ None identified
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Compared to the energy consumption of the entire Twin Cities Metropolitan Area, the construction of the proposed BLRT Extension project would not have a substantial impact on regional energy consumption
	Mitigation Measures	■ No mitigation has been identified or recommended

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Cumulative Effects Assessment (Section 6.3)	Operating-Phase (Long-Term) Direct Impacts	■ The proposed BLRT Extension project in combination with the reasonably foreseeable future actions, including the West Broadway Avenue Reconstruction project, would increase overall transportation demand. ■ The combination of the roadway improvements and the proposed BLRT Extension project would draw additional vehicle traffic associated with passengers accessing the proposed BLRT Extension project stations ■ Reasonably foreseeable future actions would likely increase the density and intensity of development in the proposed BLRT Extension project corridor ■ The proposed BLRT Extension project in combination with the reasonably foreseeable future actions could change the character of neighborhoods by increasing mixed use development in the form of increased residential and commercial densities consistent with transit-oriented development in the cumulative effects study area ■ Additional transportation investments in the proposed BLRT Extension corridor to service induced development, in combination with the reasonably foreseeable future actions, could lead to the acquisition of right-of-way and the relocation of residents and businesses ■ Induced development associated with the proposed BLRT Extension project, in combination with the reasonably foreseeable future actions, could cumulatively diminish the integrity of a historic property's or district's location, feeling, or association ■ Induced development associated with the proposed BLRT Extension project and additional transportation facilities in combination with the reasonably foreseeable future actions could change the views in neighborhoods ■ Induced development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions and natural population growth would likely place a greater demand on parks and open spaces and result in a cumulative effect ■ Increased development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions could require more service personnel and could cumulatively strain local providers' capacity to deliver services ■ The continued development of transit and transportation facilities in the proposed BLRT Extension project area over time, combined with future actions and natural population growth, could cumulatively add to the demands on law enforcement and security providers, potentially affecting staffing levels and budgets over the long term ■ Continued development of transit and transportation facilities in the proposed BLRT Extension project area over time, could cumulatively affect hydrology, floodplains, and wetlands if BMPs are not implemented. ■ Continued development of transit and transportation facilities in the proposed BLRT Extension project area over time, will contribute to the remediation of hazardous materials sites ■ Future actions other than the proposed BLRT Extension project have the potential to adversely affect noise in the cumulative effects study area ■ Future actions other than the proposed BLRT Extension project have the potential to adversely affect parks, recreation and open space in the cumulative effects study area

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ None anticipated
	Mitigation Measures	■ Cumulative transportation effects identified are consistent with the comprehensive plans of the communities affected, as well as with county and regional plans; no mitigation is required ■ Potential cumulative effects on land use are compatible with the corridor cities' comprehensive plans and plans for the region, which state the agencies' desire for transit to alleviate traffic and congestion; no mitigation is required ■ The types of community character, services, and facility cumulative effects identified are typically consistent with and governed by applicable land-use plans; no mitigation is required ■ Although cumulative effects could occur from the acquisition and displacement of residents and businesses, induced development, along with available housing in the proposed BLRT Extension project corridor, would likely create more jobs and housing opportunities than what would be lost; no mitigation is required ■ All cumulative effects on cultural resources are subject to the protections and regulations of Section 106; committed mitigation has been documented in the Section 106 Memorandum of Agreement ■ Induced development and resulting visual impacts would be regulated through applicable municipal codes; no additional mitigation is required ■ The Council and the municipalities in the proposed BLRT Extension project corridor have plans to expand and enhance parks and open spaces in the area to meet the demands of population growth; no additional mitigation is required

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Environmental Justice Finding (Section 7.5)	Operating-Phase (Long-Term) Direct Impacts	■ No disproportionately high and adverse impacts on environmental justice (EJ) populations: • Transit • Parks and Recreation • Visual/Aesthetics • Noise • Indirect Economic Impacts ■ The result of the displacements of the five businesses listed below would have the potential for disproportionately high and adverse effects on EJ populations in the communities currently served by the businesses: • Northside Oriental Market • American Furniture Mart • Unified Staffing, Inc. (tenant of Schrader Building) • Hart Custom Homes (owner and tenant of Schrader Building) • Brianna's Hair Studio (tenant of Schrader Building)
	Operating-Phase (Long-Term) Indirect Impacts	■ None anticipated
	Construction-Phase (Short-Term) Impacts	■ No disproportionately high and adverse impacts on EJ populations
	Mitigation Measures	■ The Council will identify relocation sites by working with the business owners through the right-of-way acquisition process ■ Relocation sites shall be considered based on the business owners' preferences to retain their client base and/or continue to serve a similar population ■ Relocation expenses shall be provided consistent with state and federal requirements ■ Continue outreach efforts to EJ populations during the engineering, construction, and start of operations for the proposed BLRT Extension project

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Section 4(f)/6(f) Evaluation (Chapter 8)	Operating-Phase (Long-Term) Direct Impacts	■ 2.1 acres of permanent easement from Theodore Wirth Regional Park ■ 0.01 acre of permanent easement from Glenview Terrace Park ■ 0.7 acre of permanent easement from Theodore Wirth Parkway; a contributing element of the Grand Rounds Historic District. ■ 43 acres of permanent easement from the Osseo Branch, St. Paul, Minneapolis & Manitoba Railway Historic District ■ Section 6(f) conversion of 5.6 acres of Sochacki Park: Sochacki Management Unit
	Operating-Phase (Long-Term) Indirect Impacts	■ Introduction of the Plymouth Avenue and Golden Valley Road stations may increase visits to Theodore Wirth Regional Park ■ Addition of new trail connections may increase bicycle and pedestrian traffic in the Theodore Wirth Regional Park/Sochacki Park area
	Construction-Phase (Short-Term) Impacts	■ 9.2 acres of temporary easement from Theodore Wirth Regional Park ■ 0.25 acre of temporary easement from Glenview Terrace Park ■ 0.57 acre of temporary easement from Sochacki Park: Mary Hills Management Unit ■ 5.6 acres of temporary easement from Sochacki Park: Sochacki Management Unit ■ 0.7 acre of temporary easement from South Halifax Park ■ 0.1 acre of temporary easement from Becker Park ■ 1.1 acres of temporary easement from the park property adjacent to Rush Creek Regional Trail
	Mitigation Measures	**Operating-Phase (Long-Term):** ■ Provision of replacement Section 6(f) property of equal value and recreational usefulness ■ Enhancements to Theodore Wirth Regional Park • Relocation of the trail adjacent to Bassett Creek to a location outside of BNSF right-of-way • Construction of a stair from Plymouth Avenue down to a new bridge over Bassett Creek to enhance trail connections • Construction of a new trail connection between Theodore Wirth Parkway and the trail in Sochacki Park: Mary Hills Management Unit • Construction of a trailhead incorporated into the Golden Valley Road Station park-and-ride • Reconstruction of the Theodore Wirth Parkway bridge over the BNSF rail corridor (bridge is owned by the Minneapolis Park and Recreation Board) • Reconstruction of the Theodore Wirth Parkway/Golden Valley Road intersection in a manner that will enhance pedestrian and bicycle traffic safety • Coordination on design elements (stations, retaining walls) to minimize visual effects

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
		■ Enhancements to Sochacki Park: Sochacki Management Unit • Removal of existing vegetation • Removal and disposal of surface rubble in the restoration zone • Addition of clean fill and topsoil in the restoration zone • Development and implementation of a revegetation plan; includes potential thickening of vegetative buffer between the proposed BLRT Extension project and the main park area • Shore restoration and plantings at south edge of North Rice Lake • Restoration of paved interior road • Removal/replacement of northern parking lot • Reconstruction/expansion of the interior paved parking lot • Clearing, revegetation, and fencing of an area to be used as an off-leash dog area • Providing utility services to a site adjacent to interior parking lot for future development of a bathroom/storm shelter/drinking fountain • Ground preparation for a future education shelter • Construction of a water education platform on North Rice Lake • Redevelopment of a 10-foot paved trail through the length of the park ■ Construction of an off-road trail connection from the southern terminus of Sochacki Park; Mary Hills Management Unit to Theodore Wirth Regional Park, passing under Golden Valley Road **Construction-Phase (Short-Term):** ■ Restoration of temporarily disturbed park property to pre-construction or better condition

Table ES-3. Summary of Impacts and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Joint Development (Chapter 11)	Operating-Phase (Long-Term) Direct Impacts	■ Transit • Anticipated additional increase in transit use as a result of commercial, office, and residential use ■ Parking • Additional 79 spaces for the retail, medical clinic, and residential mixed-use space ■ Community Facilities and Community Cohesion • Minimal change in the neighborhood's visual character with the addition of the multi-story development ■ Visual Quality and Aesthetics • Addition of the multi-story buildings would affect the visual environment around the Robbinsdale Station area ■ Utilities • Additional changes to utilities are anticipated within and connecting to the Robbinsdale Station Joint Development site
	Operating-Phase (Long-Term) Indirect Impacts	■ None identified
	Construction-Phase (Short-Term) Impacts	■ Utilities: • Additional changes to utilities are anticipated within and connecting to the Robbinsdale Station Joint Development site ■ Construction-related impacts to traffic, parking, and businesses would be anticipated
	Mitigation Measures	■ Mitigation for Construction-Phase effects will include development and implementation of the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan

19. How does the Final EIS address environmental justice compliance?

The environmental justice (EJ) analysis presented in **Chapter 7** of the Final EIS was prepared in compliance with the Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). The guiding principles of environmental justice are to (1) avoid, minimize, or mitigate disproportionately high and adverse impacts on minority and low-income populations; (2) ensure the full and fair participation by all potentially affected communities in decision-making processes; and (3) prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority or low-income populations (collectively referred to as EJ populations).

Chapter 7 of the Final EIS first includes the identification and mapping of minority (by race and ethnicity) populations and low-income populations within the proposed BLRT Extension project area. Second, the Final EIS describes the Council's ongoing efforts to communicate with EJ populations and to help ensure their participation in the decision-making processes. Third, the Final EIS summarizes the analysis of adverse impacts that would result from the proposed BLRT Extension project, determining if those adverse impacts would affect EJ populations, and assessing whether the proposed BLRT Extension project would result in disproportionate and high adverse impacts to EJ populations. Taking into account the adverse impacts on EJ populations, committed mitigation measures, and benefits to EJ populations, FTA and the Council have concluded that the proposed BLRT Extension project as a whole would not result in disproportionately high and adverse impacts to EJ populations.

20. Does the Final EIS include a discussion of potential joint development opportunities?

The Final EIS assesses one potential joint development project that may be implemented with the proposed BLRT Extension project, which is the Robbinsdale Station Joint Development project. That assessment, in **Chapter 11** of the Final EIS, describes the proposed joint development project and how the overall proposed BLRT Extension project's environmental impacts would be different with and without the joint development project.

Under the proposed BLRT Extension project without the Robbinsdale Station Joint Development project, the Robbinsdale Station site would include construction of a 550-space structured park-and-ride facility, a bus stop/layover, and a passenger drop-off area. Under the proposed BLRT Extension project with the Robbinsdale Station Joint Development project, the same features associated with the proposed BLRT Extension project would be developed, but include an additional 79 parking spaces. The additional parking spaces would be located below the mixed-use building, and would be available for medical, residential, and retail users. The proposed Robbinsdale Station Joint Development project would add a multi-story mixed-use retail, medical clinic, and residential space in a liner building surrounding the 550-space park-and-ride. If implemented, the Robbinsdale Station Joint Development project would generate revenue for Metro Transit through legal agreements with private parties.

Additional impacts that would be associated with the proposed BLRT Extension project with the Robbinsdale Station Joint Development project are shown in **Table ES-4**.

Table ES-4. Summary of Impacts from Robbinsdale Station Joint Development Project

Environmental Category[1]	Summary of Impacts[2]
Transit Conditions	Anticipated additional increase in transit use as a result of commercial, office, and residential use.
Freight Rail Conditions	None.
Vehicular Traffic	About 860 new development-generated daily trips were assumed by the station under the proposed BLRT Extension project without the Robbinsdale Station Joint Development project. Since the trips estimated to be generated by the Robbinsdale Station Joint Development project land uses are fewer than the 860 daily trips already included in the proposed BLRT Extension project traffic analysis, no additional trips and no additional infrastructure improvements are expected. A short-term increase in construction traffic and congestion is anticipated with the construction of the Robbinsdale Station Joint Development project.
Pedestrians and Bicyclists	None.
Parking	Additional 79 spaces for the retail, medical clinic, and residential mixed-use space.
Aviation	None.
Land Use Plan Compatibility	None.
Community Facilities/ Community Character and Cohesion	No effect on access to community facilities. A minimal change would occur in the neighborhood's visual character with the addition of the multi-story development. The impact is not anticipated to be substantial.
Displacement of Residences and Businesses	None.
Cultural Resources	None.
Visual/Aesthetics	Addition of the multi-story buildings would affect the visual environment around the Robbinsdale Station area by adding taller and larger structures, though this impact would not be substantial. The impact of the Joint Development facility would be positive, since it would help blend the parking ramp into the visual and architectural scale of Robbinsdale's downtown.
Economic Effects	None.
Safety and Security	None.
Utilities	Additional changes to utilities are anticipated within and connecting to the Robbinsdale Station Joint Development site. No adverse electromagnetic interference impacts are anticipated.
Floodplains	None.
Wetlands and Other Aquatic resources	None.
Geology, Soils, and Topography	None.
Hazardous Materials Contamination	None.
Noise	None.
Vibration	None.

Table ES-4. Summary of Impacts from Robbinsdale Station Joint Development Project

Environmental Category[1]	Summary of Impacts[2]
Biological Environment	None.
Water Quality and Stormwater	None.
Air Quality/Greenhouse Gas Emissions	None.
Energy	None.
Parklands, Recreation Areas, and Open Spaces	None.
Environmental Justice Compliance	No change in the finding for the proposed BLRT Extension project that the proposed BLRT Extension project would not result in disproportionately high and adverse impacts to EJ populations.

[1] The environmental categories are those assessed in **Chapters 3, 4, 5, 7, and 8** of the Final EIS.
[2] Impacts are from the proposed BLRT Extension project with the proposed Robbinsdale Station Joint Development project compared to the proposed BLRT Extension project without the proposed Robbinsdale Station Joint Development project.

21. What is the estimated cost of the proposed BLRT Extension project, and how would it be funded?

The capital cost to fund the proposed BLRT Extension project would be approximately $1,496 million (in year-of-expenditure dollars). The Council anticipates securing federal New Starts funds for 49 percent of the cost of the proposed BLRT Extension project. The remaining 51 percent of the proposed BLRT Extension project cost is proposed to be funded from the following sources: 10 percent from the State of Minnesota; 31 percent from the Counties Transit Improvement Board; and 10 percent from HCRRA.

22. How has the public been involved in the process?

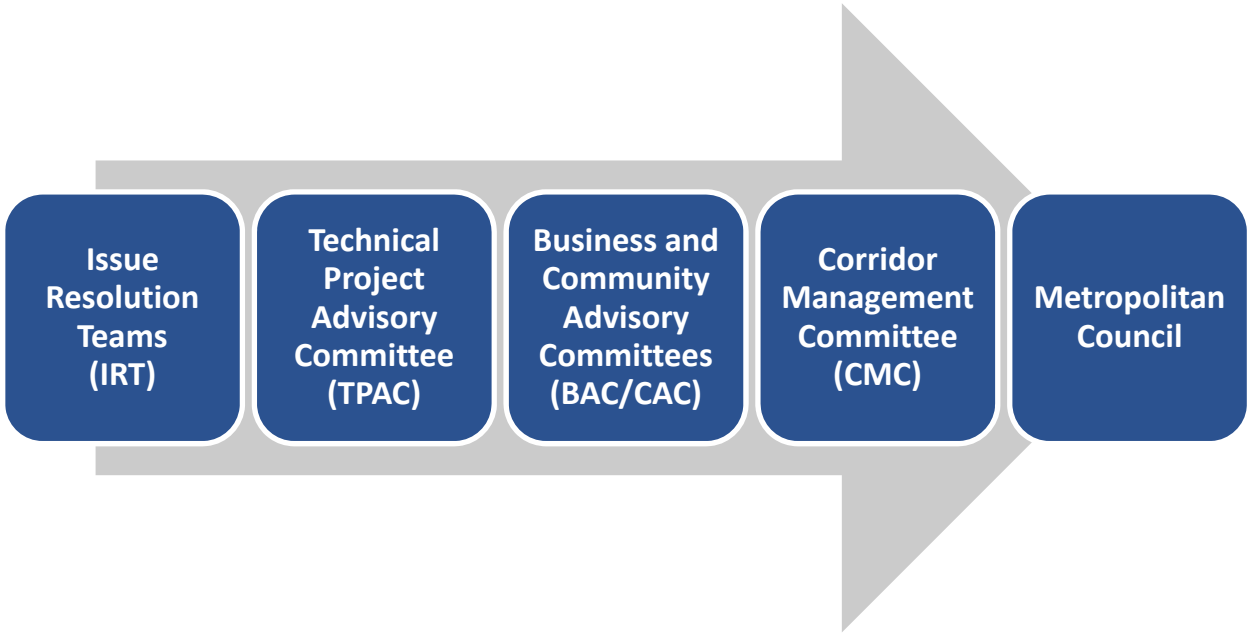
Through the development of the Alternatives Analysis and the Draft EIS, HCRRA led the public involvement efforts. HCRRA maintained a website during development of the Draft EIS and utilized three advisory committees, as well as holding informational meetings and open houses.

For the Final EIS, public involvement activities became the responsibility of the Council.

After publication of the Draft EIS, the Council led the proposed BLRT Extension project's advisory committee process. The Business Advisory Committee, Community Advisory Committee, Corridor Management Committee, and Council meetings were all open to the public. Each community in the corridor had representation on the advisory committees.

Figure ES-2 illustrates the advisory committee process that was used to seek input from project partners, local municipalities, park agencies, and the public. Staff-level technical teams and four advisory committees provided input during key steps in the NEPA process.

Figure ES-2. Advisory Committee Decision-Making Process



The Council developed a website for the proposed BLRT Extension project (www.BlueLineExt.org) as part of the Council website. The website serves as a communications forum and resource to the public, allowing stakeholders to keep informed about the proposed BLRT Extension project history, current activities and data, and upcoming milestones.

The ability to sign up for email updates was made available at public meetings held as part of the outreach process and on the website. The outreach program implemented strategies and techniques to involve low-income and minority citizens and stakeholders. Council staff hosted public events in locations throughout the proposed BLRT Extension project corridor to give the public opportunities to provide input on design efforts and to receive updates and information about proposed BLRT Extension project activities.

In summary, the public outreach program during the NEPA process included a wide range of outreach techniques, including public meetings; open houses; community and business advisory committee meetings; stakeholder and neighborhood meetings; individual and small group briefings; newsletters; a website; development of an "e-list" used to send out newsletters, press releases, and meeting information; social media; print material specific to the proposed BLRT Extension project; door-to-door outreach; and Council staff attendance at community events.

23. How many comments were received on the Draft EIS, and what were the main topics?

A total of 1,252 comments were submitted in the form of letters, emails, public testimony at the public hearings, and comment cards received at the public open houses and public hearings. Comments were received from individuals, businesses, public interest groups, and public agencies, including local communities and regulatory agencies.

The Council summarized the comments and responses as follows:

- Related to the purpose of and need for the proposed BLRT Extension project
  - Several commenters questioned the need for the proposed BLRT Extension project. The Council responded to these types of comments by noting that the purpose and need for the proposed BLRT Extension project had been studied extensively, and that the proposed BLRT Extension project best meets the transportation goals and objectives of the area (e.g., more travel choices, faster travel times, connections to activity centers, supporting economic development) while minimizing project impacts.
- Related to the fiscal effects and schedule
  - Several commenters questioned the cost of the proposed BLRT Extension project, especially when compared to other transportation options such as highways. The Council responded to these types of comments by informing the commenter of the location of cost information in the Draft EIS, demonstrating that the proposed BLRT Extension project meets federal cost criteria for these types of projects, and that one of the key purposes of the proposed BLRT Extension project is to provide a transportation option that is viable for transit-dependent populations.
- Related to NEPA process and public involvement
  - Several commenters stated that not enough time was provided to review the Draft EIS. The Council responded to these types of comments by confirming that the Draft EIS notification of availability and comment period followed the legal requirements.
  - Several commenters stated that they felt public opinion was being ignored. The Council responded to these types of comments by directing commenters to **Chapter 9** of the Draft and Final EIS documents and the website for the proposed BLRT Extension project where a summary of the public outreach events is provided. The Council also noted the community representation on the project committees (Community Advisory Committee, Business Advisory Committee, and Corridor Management Committee), and how public comments were brought forth by community representatives for consideration in the project development process.
- Related to social and economic effects, including economic and business impacts, right-of-way, and safety and security
  - Several comments were received regarding property values; many were concerned that the proposed BLRT Extension project would reduce the value of their homes. The Council responded to these types of comments by noting that a variety of market conditions affect

property values, and that the impacts of a specific LRT project on property values are difficult to conclusively assess. However, a study of property values along the existing METRO Blue Line LRT (formerly known as the Hiawatha LRT) corridor indicated that a general increase in property values occurred beyond that attributable to broader market forces.

- Several comments were received regarding the potential for the proposed BLRT Extension project to split connections within and between communities. The Council responded to these types of comments by directing people to review **Section 4.2** of the Final EIS, which discusses community cohesion. The Council also noted that the pedestrian crossing improvements and trail enhancements that are part of the proposed BLRT Extension project would result in better connections across the corridor and between neighboring communities.
- Several comments were received indicating concern about the loss of homes and/or businesses. The Council responded to these types of comments by indicating that preliminary design efforts have resulted in a significant reduction in acquisitions. The Final EIS documents 14 total acquisitions; 1 residential property and 13 commercial/industrial properties.
- Several comments were received regarding concerns about crime, safety, and security. The Council responded to these types of comments by indicating that **Section 4.7** of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the safety to these groups would be established through conformance with the Council's Safety and Security Management Plan and the Met Transit Security and Emergency Preparedness plan. The proposed BLRT Extension project operations in conformance with these plans would necessarily be closely coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the corridor.
- Comments were received regarding impacts to and benefits for EJ communities (minority and low income populations); many of these focused on a perceived lack of transit service to North Minneapolis. The Council responded to these types of comments by noting how the Van White Memorial Boulevard, Penn Avenue, and Plymouth Avenue stations would serve North Minneapolis communities without the extensive residential and business acquisitions, parking, and traffic impacts of the D2 (Penn Avenue) alignment. The Council also noted that a Bus Rapid Transit line is being developed that would provide additional service to North Minneapolis residents without the extensive social, economic, and environmental impacts of the D2 alignment.

- Related to environmental effects including water resources, wetlands, species and habitat, air quality, and Section 4(f) properties
  - Several comments were received regarding concerns about impacts to wetland and water resources. The Council responded to these types of comments by indicating that water resource impacts associated with the proposed BLRT Extension project were considered in relation to the extensive residential and business impacts along the D2 (Penn Avenue) alignment. While the proposed BLRT Extension project has greater water resource impacts than the D2 alignment, the proposed BLRT Extension project had fewer overall social, economic, and environmental impacts. In addition, preliminary design efforts on the proposed BLRT Extension project have reduced the amount of water resource impacts from what was reported in the Draft EIS.
  - Several comments were received regarding impacts to wildlife and wildlife habitat. The Council responded to these types of comments by indicating that the proposed BLRT Extension project includes mitigation commitments to address impacts to terrestrial and aquatic habitat. Terrestrial habitat mitigation would be accomplished through revegetation of areas not permanently incorporated into the proposed BLRT Extension project. Aquatic habitat would be mitigated through the creation of wetland mitigation sites and purchase of wetland credits. Wetland mitigation is anticipated to be completed at a 2 (mitigation acreage) to 1 (impact acreage) ratio, so that no net loss of aquatic habitat would occur.
  - Several comments expressed concerns about air quality during LRT construction and operation. The Council responded to these types of comments by noting the construction-phase air quality mitigation measures (avoiding idling of construction equipment, use of water trucks to reduce particulate matter, and similar methods). No operational phase air quality impacts are anticipated.
  - Several comments expressed concerns about impacts to park property adjacent to the proposed BLRT Extension project, especially Theodore Wirth Regional Park and Sochacki Park. The Council responded to these comments by noting how Council staff coordinated closely with staff from the Minneapolis Park and Recreation Board, the Three Rivers Park District, the National Park Service, and the cities along the proposed BLRT Extension project corridor to develop designs that minimized impacts to park property, and to identify opportunities to mitigate impacts to park features or enhance park features. Revegetation, aesthetic design details, and new or improved trail connections were highlighted as examples of mitigation and/or enhancements. In addition, the Section 6(f) conversion of Sochacki Park: Sochacki Management Unit will be further mitigated by finding suitable replacement property, consistent with applicable regulations.
- Related to noise and vibration
  - Several commenters were concerned about the impacts of noise and vibration on homes and other resources along the proposed BLRT Extension project corridor. The Council responded to these types of comments by providing the results of noise and vibration analyses, and the potential mitigation options that would be implemented in specific areas of impact.

- On various alternatives, engineering, and design elements including alignments, the OMF, and station(s)
  - Several comments were received indicating a preference for the D2 (Penn Avenue) alignment over the proposed BLRT Extension project. The Council responded to these comments by highlighting the key factors that were used to make the decision on the proposed BLRT Extension project. These factors were primarily the extent of impacts to homes, businesses, parking, and traffic along Penn Avenue, and the fact that these impacts would be borne primarily by EJ populations.
  - Several comments were received regarding the location of the OMF. The Council responded to these types of comments by reviewing the process by which the OMF alternatives were originally selected, and by highlighting the process by which the current OMF location (101st Avenue) was refined to avoid park and wetland impacts.
  - Several comments were received regarding the need for stations at Plymouth Avenue and/or Golden Valley Road. The Council responded to these types of comments by summarizing the process by which both station locations were evaluated in coordination with project stakeholders, especially the cities of Golden Valley and Minneapolis, and the Minneapolis Park and Recreation Board. The Council noted that the result of this process was the inclusion of both stations in the proposed BLRT Extension project scope by the Corridor Management Committee.
- On transportation system effects
  - Several comments were received regarding the impacts to pedestrian and bicycle traffic, especially along Olson Memorial Highway. The Council responded to these types of comments by highlighting the focused effort of the Council and project stakeholders on developing safe pedestrian and bicycle facilities at and near stations and crossings. Specific to Olson Memorial Highway, the Council indicated that **Chapter 2** of the Final EIS summarizes the process that the Council conducted with the city of Minneapolis on the design of Olson Memorial Highway. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. Americans with Disabilities Act (ADA)-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, and midblock crossings between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.

- Several comments were received regarding concerns about impacts to vehicular traffic at intersections along and adjacent to the proposed LRT corridor. The Council responded to these types of comments by referring to the traffic analysis presented in **Section 3.3** of the Final EIS, and noting that impacts to traffic operations would be mitigated through intersection improvements, and the results were that degradation of traffic operations was not anticipated.

All substantive comments received during the Draft EIS comment period and responses to the comments are provided in **Appendix G** of the Final EIS.

24. Where can I read the Final EIS?

The Final EIS and supporting documentation are available on the Council's website at www.BlueLineExt.org. A printed copy of the Final EIS and supporting documents is available for review during regular business hours at the BLRT Extension Project Office (5514 West Broadway Avenue, Suite 200, Crystal, MN 55428). Printed copies and/or electronic copies will also be available at city halls and libraries in Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park. CDs of the Final EIS will also be sent to interested businesses, individuals, and organizations, when requested.

For additional information on the Final EIS or to request a copy, contact:

Mail: Kathryn O'Brien, Assistant Director, Environmental and Agreements
Metro Transit – BLRT Extension Project Office
5514 West Broadway Avenue, Suite 200
Crystal, MN 55428

OR

Marisol Simon
Regional Administrator
Federal Transit Administration
200 West Adams Street, Suite 320
Chicago, IL 60606

Email: BlueLineExt@metrotransit.org

25. When did the circulation period for the Final EIS start, and when will it end?

The Notice of Availability for the Final EIS was published in the Federal Register on July 15, 2016, and in the Minnesota Environmental Quality Board (EQB) *Monitor* on July 18, 2016. Under MEPA, the Notice of Availability provides for submittal of written comments on the adequacy of the Final EIS for a period of not less than 10 days. The comment period commenced with the Notice of Availably published in the EQB *Monitor* and expires on August 15, 2016. Comments on the adequacy of the Final EIS may be submitted through:

Mail: Kathryn O'Brien, Assistant Director, Environmental and Agreements
Metro Transit – BLRT Extension Project Office
5514 West Broadway Avenue, Suite 200
Crystal, MN 55428

Email: BlueLineExt@metrotransit.org

26. What happens after the close of the Final EIS circulation period?

Following publication of the Final EIS and the circulation period, FTA will prepare and issue the proposed BLRT Extension project's Record of Decision (ROD). The ROD will state FTA's project decision, identify the alternatives considered and selected (including specification of the alternative or alternatives considered to be environmentally preferable), and itemize mitigation commitments. FTA must issue the ROD before federal funding and permits can be approved. All comments will be published on the BLRT Extension project website (www.BlueLineExt.org) and substantive comments and issues will be responded to in the ROD. After publication of the Final EIS, the Council will also issue an Adequacy Determination for the Final EIS in accordance with Minnesota environmental rules (Minn. Administrative Rules 4410.2800). The Council will notify all persons who received a copy of the Final EIS (see **Appendix A** of the Final EIS for the list of recipients) of its adequacy decision within 5 days of the decision, and public notice of the decision will be published in the EQB *Monitor*.

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