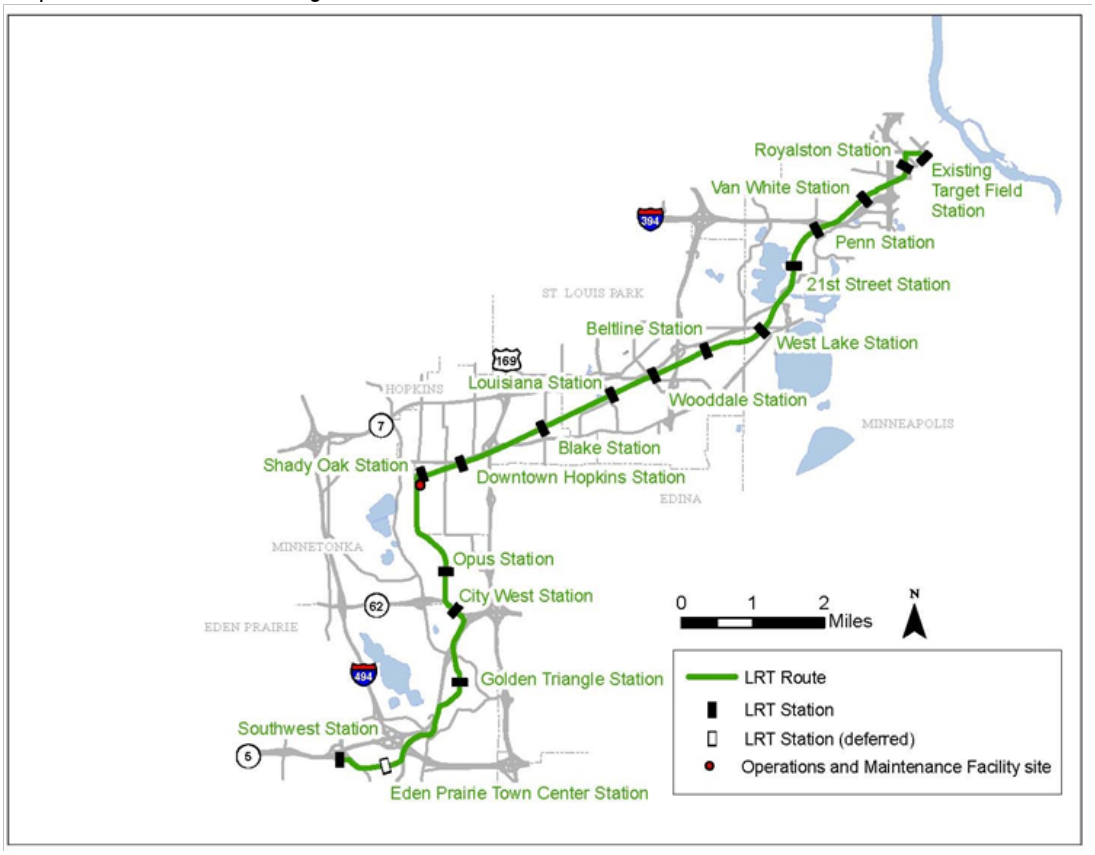
Final Environmental Impact Statement (EIS) Executive Summary

1. WHAT IS THE SOUTHWEST LRT (METRO GREEN LINE EXTENSION) PROJECT?

The Southwest Light Rail Transit (LRT) (METRO Green Line Extension) Project is approximately 14.5 miles of new double-track LRT proposed extension of the METRO Green Line (Central Corridor LRT), which will operate from downtown Minneapolis through the communities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, passing in close proximity to Edina (see Exhibit ES-1). The proposed alignment includes the following features:

- 16 new stations[1] (including the Eden Prairie Town Center Station that is deferred for construction at a later date)
- Approximately 2,500 additional park-and-ride spaces at nine lots
- Accommodations for passenger drop-off facilities
- Bicycle and pedestrian access
- New or restructured local bus routes connecting stations to nearby residential, commercial, and educational destinations
- One Operations & Maintenance Facility located in the City of Hopkins, Minnesota

EXHIBIT ES-1
Proposed Southwest LRT Alignment



[1] See the Project Nomenclature for a listing of the station names used in this Final EIS, compared to the official station names adopted by the Council on February 24, 2016. In particular, following are four of the station names used in the Final EIS, compared to their official names, respectively: Royalston Station = Royalston Avenue/Farmers Market Station; Van White Station = Bassett Creek Valley Station; Penn Station = Bryn Mawr Station; and 21st Street Station = West 21st Street Station.

Under the Project's Locally Preferred Alternative (LPA), major activity centers between Eden Prairie and St. Paul would be accessible by a one-seat ride. These activity centers include the Eden Prairie Center regional mall, UnitedHealth Group campuses, the Opus/Golden Triangle employment area, Park Nicollet Methodist Hospital, the Minneapolis Chain of Lakes, downtown Minneapolis, the University of Minnesota, the State Capitol area, and downtown St. Paul. Passengers would be able to connect to the greater METRO system, including METRO Blue Line (Hiawatha LRT), METRO Orange Line (I-35W Bus Rapid Transit [BRT]), Northstar Commuter Rail, METRO Red Line (Cedar Ave BRT) via METRO Blue Line, and the planned METRO Blue Line Extension (Bottineau LRT). The Metropolitan Council (Council) is the Federal Transit Administration (FTA) grantee. The Council will be the owner-operator of the completed Southwest LRT Line.

2. WHAT IS THE PURPOSE AND NEED FOR THE PROPOSED PROJECT?

The Purpose and Need provides the foundation for the proposed Project (see Chapter 1 of the Final Environmental Impact Statement [EIS]). The Purposes of the proposed Southwest LRT Project are summarized below:

- Improve access and mobility to the jobs and activity centers in the Minneapolis central business district and the expanding southwest suburban employment centers
- Provide a competitive, cost-effective travel option to attract choice riders to the transit system, in an area of the region experiencing congested roadway connections between corridor cities and downtown Minneapolis
- Be part of an efficient system of integrated regional transitways serving the Twin Cities

The Need for the Project is summarized as follows: Since the late 1980s, the Council has identified that the Southwest Corridor warrants a high level of transit investment to respond to increasing travel demand in this highly congested area of the region. This area of the Twin Cities experiences daily congestion on the roadway network, speed and use limitations within shoulder bus operations, and capacity constraints in downtown Minneapolis. Four primary factors make the Southwest LRT Project important for people who live and work in the southwest metropolitan area: (1) declining mobility; (2) limited competitive, reliable transit options for choice riders and people who rely on public transportation, including reverse-commute riders; (3) the need to maintain a balanced and economically competitive multimodal freight system; and (4) regional and local plans calling for investment in additional LRT projects in the region. These four need factors are discussed in Sections 1.5 through 1.8 of the Final EIS, respectively.

3. WHO ARE THE PROJECT'S LEAD AGENCIES AND SPONSORS?

The FTA is the federal lead agency for the Project. The Council is the 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 EIS and its public comment period, which concluded in December 2012.

4. WHO ARE THE PROJECT'S COOPERATING AGENCIES AND WHAT ROLE DOES A COOPERATING AGENCY PLAY?

The United States Army Corps of Engineers (USACE) is the federal cooperating agency 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 Code of Federal Regulations [CFR] Part 1508.5). The USACE is responsible for implementing the National Environmental Policy Act of 1969 (NEPA[2]) and related laws and Section 404 of the Clean Water Act. A distinguishing feature of a cooperating agency is that the Council on Environmental Quality regulations (40 CFR Part 1506.3(c)) 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."

[2] National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. Section 4332

5. WHAT JURISDICTIONS ARE PARTICIPATING IN THE PROJECT?

Local jurisdictions that are participating in the Project include Hennepin County, the cities of Eden Prairie, Minnetonka, Edina, Hopkins, St. Louis Park, and Minneapolis, and the State of Minnesota. Chapter 9 of the Final EIS provides more detail about the Project's participating agencies and agency coordination.

6. WHAT DOES THE SCOPING REPORT CONTAIN FOR THE PROJECT AND WHEN WAS IT RELEASED?

In September 2008, HCRRA and FTA published the Project's federal *Notice of Intent to Prepare an EIS* (FTA, 2008b) and state Notice of EIS Preparation (Minnesota Environmental Quality Board, 2008). HCRRA began development of NEPA and Minnesota Environmental Policy Act (MEPA[3]) documentation with the Project's Scoping Process, including publication of the *Southwest Transitway Scoping Summary Report* in January 2009 (Scoping Report. HCRRA, 2009). The Scoping Report describes the 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 1A, LRT 3A, LRT 3C, and the Enhanced Bus Alternative, all of which were advanced into the Draft EIS for further study (two variations of LRT 3C were ultimately defined and evaluated within the Draft EIS, LRT 3C-1 and LRT 3C-2). The Scoping Report also describes the source and evaluation of other alternatives that were proposed by others during the Scoping Period, from September 8 through November 7, 2008, but that were not advanced into the Draft EIS for further study.

On May 26, 2010, prior to the completion of the Draft EIS and based on an extensive alternatives analysis and public involvement process, the Council adopted the Project's LPA as recommended by HCRRA and included it as part of the 2030 Transportation Policy Plan. The identified LPA is LRT constructed and operating on the Kenilworth-Opus-Golden Triangle alignment, referred to at the time as Alternative LRT 3A.

As noted in Section 2.1.2.1 of the Draft EIS, at the time the Southwest Transitway Scoping Summary Report was published in January 2009, the relocation of freight trains onto the MN&S Spur and Wayzata Subdivision was considered a separate, disconnected action from the Southwest Transitway Project and would, therefore, be outside the scope of the Southwest Transitway Draft EIS (see Section 5.3 of the Southwest Transitway Scoping Summary Report). In September 2011, within its letter authorizing the Project to enter Preliminary Engineering, FTA directed that the EIS should analyze the impacts of relocating Twin Cities and Western Railway Company (TC&W) freight trains onto the MN&S Spur and Wayzata Subdivision coupled with the LPA (LRT 3A) and that any proposed freight rail relocation should be considered part of the Project's scope and budget, regardless of the funding source, to comply with segmentation concerns under NEPA. In addition, as part of the NEPA process, FTA requested that an alternative be included that would co-locate freight rail and LRT operations in the Kenilworth Corridor in the Draft EIS (LRT 3A-1). Based on this direction from FTA, on September 25, 2012, HCRRA amended the Southwest Transitway Scoping Summary Report (which serves as the Scoping Decision Document under MEPA) to include the impacts of relocating freight rail for each of the build alternatives (LRT 1A, LRT 3A, LRT 3C-1, and LRT 3C-2), and for a co-location alternative where freight rail, light rail and the commuter bike trail co-locate from Louisiana Avenue to Penn Avenue (LRT 3A-1). The amendment was authorized with approval of Board Action Request 12-HCRRA-0049. Notice of the amendment to the scoping report was issued in the Environmental Quality Board (EQB) Monitor on October 15, 2012. See Section 2.2 of the Final EIS for additional information on the Project's Alternatives Analysis and EIS Scoping Process.

7. WHY DID THE PRROJECT CHANGE TO CO-LOCATE THE FREIGHT RAIL AND LIGHT RAIL IN THE KENILWORTH CORRIDOR?

The Final EIS describes the process the Council used to develop and evaluate design adjustments since completion of the Draft EIS, including potential freight rail modifications that were evaluated in the Supplemental Draft EIS. The Draft EIS evaluated two alternatives for incorporating freight rail modifications into the LPA. Under LRT 3A, TC&W freight trains currently operating on a portion of the Bass Lake Spur and

[3] Minnesota Statutes, section 116D.04 and 116D.045 and the administrative rules adopted by the EQB as Minnesota Rules, chapter 4410, parts 4410.0200 to 4410.7070

in the Kenilworth Corridor would be rerouted to the MN&S Spur and Wayzata Subdivisions. Under LRT 3A-1, TC&W freight trains would continue to operate in the Bass Lake Spur and Kenilworth Corridor. LRT 3A and LRT 3A-1 are also referred to in the Draft EIS as freight rail "relocation" and "co-location," respectively. As noted in the Draft EIS and Supplemental Draft EIS, LRT 3A and LRT 3A-1 would provide the same transit service, with differing freight rail options, therefore the LPA is incorporated within both LRT 3A and LRT 3A-1.

After the close of the Draft EIS public comment period, the Council and FTA reviewed the comments received on the Draft EIS. Of note was the U.S. Army Corps of Engineers (USACE) designation of LRT 3A-1 (co-location) as the least environmentally damaging practicable alternative. As a result of that designation, the FTA and Council were required to consider the co-location alternative in greater detail to satisfy the requirements under the Clean Water Act (CWA). The USACE is a cooperating agency under NEPA for the Project and must determine whether the Project complies with the CWA Section 404(b)(1) (Guidelines). The USACE stated "as proposed [in the Draft EIS] the chosen LPA, alternative LRT 3A, would not qualify as the least environmentally damaging practicable alternative, which as proposed would be alternative LRT 3A-1 (co-location)."

In addition, TC&W, the freight carrier operating on the existing freight rail line within the co-location segment of the Kenilworth Corridor, expressed concern that LRT 3A (freight rail relocation) would likely result in increased costs for TC&W to operate its trains to and from shippers in greater Minnesota and result in operational issues related to track alignments, and therefore TC&W and its shippers were opposed to LRT 3A as presented in the Draft EIS. TC&W is a private freight rail operator with operating rights within the Kenilworth Corridor, granted by a Trackage Rights Agreement (TRA) executed in 1998. As described in Section 5 of the TRA, terminating or vacating the freight rail service along the Kenilworth Corridor requires agreements by either TC&W or the Canadian Pacific (Soo Line), or after a new connection between the current operating route of TC&W and the MN&S Spur becomes operational, or at such time as other feasible alternative(s) satisfactory to TC&W become available and operational.

Based on the comments received on the Draft EIS and through meetings with the public, businesses, municipalities, and other groups, the Council initiated a process to develop adjustments to the Project's design. The design adjustment process included a four-step process to develop and evaluate adjustments to LRT 3A and LRT 3A-1 directly related to the following: (1) whether TC&W freight trains currently operating along the Kenilworth Corridor should be rerouted to sections of the MN&S Spur and Wayzata Subdivision; or (2) whether the TC&W freight trains should continue to operate along the Bass Lake Spur and Kenilworth Corridor as they currently do. Following is a brief description of the process used to develop and evaluate adjustments to LRT 3A and LRT 3A-1 (see Section 2.2 and Appendix F of the Final EIS for additional detail):

- The first step evaluation included the development of a relatively wide range of adjustments to the light rail improvements and freight rail-related modifications under the two freight rail operating scenarios (relocation and co-location), focusing on meeting key design parameters, while avoiding or minimizing adverse impacts and minimizing Project costs. Based on comments received from the public, stakeholders, and participating agencies and on various evaluation measures, the potential design adjustments were narrowed to one freight rail relocation and two co-location adjustments.
- The second step evaluation included a detailed analysis of the potential adjustments identified in the first step evaluation, narrowing to one design adjustment under each of the two freight rail operating scenarios (relocation and co-location).
- The third step evaluation included the refinement of the two second step design adjustments, addressing public and agency comments, followed by a detailed assessment of the tradeoffs between the two potential adjustments remaining after the second-step evaluation. As a result of the third step evaluation, the Freight Rail Relocation Brunswick Central design adjustment was dismissed from further study and the Shallow LRT Tunnel – Over Kenilworth Lagoon adjustment was advanced into the fourth step evaluation (see Exhibit 2.3-9).

- The fourth step evaluation involved three primary components: (1) preparation of an independent study that identified the MN&S North design adjustment for further evaluation; (2) development and evaluation of Shallow Cut-and-Cover Tunnel design variations; and (3) identification of additional design adjustments reflected in a memorandum of understanding between the Council and the City of Minneapolis.

In October 2013, as directed by the Chair of the Metropolitan Council, in coordination with Minnesota Governor Mark Dayton, the Council commissioned an independent study to conduct a review of existing and potential freight rail relocation alternatives. The independent study evaluated eight previously identified freight rail route options, two additional concepts developed by the Council, and one additional concept developed by the firm commissioned to conduct the study. None of the design options were found to be satisfactory by TC&W from an operational or safety standpoint (refer to Appendix F of the Final EIS for additional information and Appendix D for how to access the independent study). The results of the study were incorporated into the fourth step of the evaluation process discussed above. In addition, abandonment and discontinuance of rail lines is governed by federal statute (49 U.S.C. § 10903), and neither the FTA nor the Council have authority over freight rail service in the Kenilworth Corridor on a temporary or permanent basis. The TRA gives TC&W and Canadian Pacific Railway (CP) the right to transport freight cargo over the Kenilworth Corridor, without restriction as to the type of freight cargo. In light of the broad statutory preemptions enacted by the US Congress in the Interstate Commerce Commission Termination Act of 1995, 49 U.S.C. § 10501(b) and the Federal Rail Safety Act, 49 U.S. C. §§ 20101-20153, the Council, HCRRA, the City of Minneapolis, the State, and FTA cannot compel TC&W to relocate their operations. The co-location alternative selected by the Council accordingly does not result in any change to current rail operations.

Based on the analysis, committee recommendations, and public comments received during the process, the Council adopted in April 2014 freight rail co-location and the Shallow LRT Tunnel – Over Kenilworth Lagoon alignment (i.e., LRT 3A-1 – co-location) as part of the LPA. A Supplemental Draft EIS was developed to further evaluate these adjustments made to LRT 3A-1. Relative to the other options considered, the Shallow LRT Tunnel – Over Kenilworth Lagoon design adjustment would best balance costs, benefits, and environmental impacts, and best meet the Project's Purpose and Need. See Section 8.4 for a description of the determination that the LPA with freight rail retained in the Kenilworth Corridor (LRT 3A-1) would be the Project's environmentally preferred alternative, rather than the LPA with the relocation of freight rail (LRT 3A).

As a result of this design adjustment process, the USACE stated "The project scope as identified by the Council on April 9, 2014, which would retain existing freight rail service in the Kenilworth Corridor, is consistent with USACE's comment letter from December 20, 2012, stating that LRT 3A-1, which would also have retained existing freight rail service in the Kenilworth Corridor, meets the USACE project purpose and has the least amount of impact to aquatic resources . . ." (page 5). LRT 3A-1 was advanced, in part, based on USACE's identification of LRT 3A-1 as the LEDPA.

In addition to the evaluation process described above, Governor Dayton requested that the Council review a range of lower cost transit options, including the No Build Alternative, Enhanced Bus, and Bus Rapid Transit (BRT) Alternatives (see http://metrocouncil.org/getdoc/73777f40-2fd1-48c8-af49-a62531e581c2/Presentation.aspx). In summary, the CMC reviewed the analysis of lower cost transit options and dismissed these alternatives, as they do not meet the Project's Purpose and Need. The prior evaluation of these alternatives is also documented in Section 2.2 of the Final EIS, which provides the rationale for why the Enhanced Bus and BRT alternatives were previously dismissed from further study.

In summary, with the changes made during the design adjustment process and in comparison to freight rail relocation (LRT 3A), freight rail co-location (LRT 3A-1) would:

- result in less harm to Section 4(f) protected properties;
- maintain regional freight rail connectivity;
- minimize reconstruction of freight rail tracks and construction-related disruptions;

- avoid diminishing the potential for transit oriented development around light rail stations located in the vicinity of freight rail tracks;
- avoid the displacement of any residents or businesses in the Kenilworth Corridor due to Project construction;
- include bicycle and pedestrian improvements that would provide connections between light rail stations and their surrounding neighborhoods; and,
- minimize the displacement of wetlands and satisfy the concerns of the USACE.

Based on the steps taken and process followed to identify LRT 3A-1 as the environmentally preferred alternative, the Final EIS does not include a detailed analysis on the impacts from the relocation of freight rail, as part of LRT 3A, for the following environmental categories as identified in comment letters:

- Land use
- Economic activity
- Neighborhoods and community
- Acquisitions and displacements
- Cultural resources
- Parks, recreation areas and open spaces
- Visual quality
- Geology and groundwater
- Water resources (i.e., wetlands, stormwater, and floodplains)
- Ecosystems
- Air quality
- Noise
- Vibration
- Hazardous and contaminated materials
- Electro-magnetic interference and utilities
- Energy
- Transit
- Roadways and traffic
- Parking
- Pedestrian and bicycle
- Safety and security

8. WHAT DESIGN ADJUSTMENTS WERE MADE AFTER PUBLICATION OF THE SUPPLEMENTAL DRAFT EIS?

Since the completion of the Supplemental Draft EIS in 2015, the Council advanced the level of design detail for the Project. This additional level of design detail resulted in better understanding of the proposed Project's impacts, and avoidance, minimization, and mitigation measures. Reflecting the advanced level of design, the Council released a revised Project cost estimate that exceeded prior cost estimates. The Council's CMC and Project staff developed and evaluated a variety of options to reduce Project costs in consultation with the Project's local participating jurisdictions. In July 2015, the Council reviewed those options and adopted design adjustments by identifying reductions to the Project's scope. The reductions in the Project's scope included: the elimination of the Mitchell Station (which was identified as an option in the Supplemental Draft EIS) and deferral of the Eden Prairie Town Center Station (that is deferred for construction at a later date); the reduction of five new light rail vehicles; the reduction of park-and-ride capacity from 3,834 spaces to 2,487 spaces; the reduction in the size of the proposed Hopkins OMF (with future expansion capacity on-site); elimination of station artwork; and reductions in landscaping and off-platform station furnishings.

9. WHAT ALTERNATIVES ARE ADDRESSED IN THE FINAL EIS?

This Final EIS evaluates the Project and the No Build Alternative:

- **Project.** The proposed Project includes both the **LPA** (based on LRT 3A-1, co-location) and **Locally Requested Capital Investments** (LRCIs). The LPA is approximately 14.5 miles of new double track proposed as an extension of the METRO Green Line (Central Corridor LRT) that will allow for the co-location of freight rail and light rail in the Kenilworth Corridor (i.e., LRT 3A-1). The proposed alignment includes 16 new light rail stations (including the Eden Prairie Town Center Station that is deferred for construction at a later date), approximately 2,500 additional park-and-ride spaces, accommodations for passenger drop-off, and bicycle and pedestrian access, as well as new or restructured local bus route connection stations to nearby residential, commercial, and education destinations. The LRCIs include proposed projects related to roadway, streetscape/landscape/aesthetic improvements, pedestrian/bicycle improvements, utilities, and guideway profile to be funded by local jurisdictions.
- **No Build Alternative.** The No Build Alternative represents future conditions without the 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 (adopted January 2015), except for the Southwest LRT Project LPA. 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 Project. NEPA and MEPA processes also require consideration of the No Build Alternative.

Mobility issues and high-capacity transit improvements in the corridor extending southwest from downtown Minneapolis have been evaluated by the Council and HCRRA since the mid-1980s. The Final EIS also includes a summary of the alternatives previously studied. The Project is a product of the following key environmental and planning efforts for high-capacity transit in the Southwest Corridor: Southwest Transitway Alternatives Analysis; Draft EIS; Supplemental Draft EIS; and design adjustments since publication of the Supplemental Draft EIS.

10. HOW IS THE PROJECT AFFECTING FREIGHT RAIL FACILITIES AND OPERATIONS?

Based on adjustments that the Council identified in April and July 2014, the Project includes LRT 3A-1 which includes the continued operation of TC&W freight trains along the Bass Lake Spur and Kenilworth Corridor (i.e., "co-location"). The following modifications to the existing freight rail alignment will be made to accommodate the introduction of light rail in the Bass Lake Spur and Kenilworth Corridor.

- Beginning just east of Excelsior Boulevard in Hopkins and extending to east of Beltline Boulevard (approximately 17,400 feet), the existing freight rail tracks will be shifted north approximately 45 feet, allowing the proposed light rail alignment to be located south of the freight rail tracks (thereby providing better station connections to local activity centers).
- To facilitate the shift of the existing freight rail tracks, the Council intends to purchase the 6.8-mile Bass Lake Spur from CP Railway.
- A portion of the northern leg of the existing Skunk Hollow switching wye between the Bass Lake Spur and Oxford Street will be removed and replaced with a new "Southerly Connection" between the Bass Lake Spur and the MN&S Spur (see Question #13 for additional information on the Southerly Connection).
- Relatively minor adjustments to and reconstruction of the freight tracks east of Beltline Boulevard to west of Cedar Lake Parkway will be made.
- Existing freight tracks will be moved up to approximately 40 feet north, from north of Cedar Lake Parkway to south of Burnham Road (approximately 2,100 feet).
- The removal of approximately 13,600 feet of freight rail siding track along the Bass Lake Spur.

While these adjustments will change the geometry of the freight rail alignment for the movement of freight rail between the Bass Lake Spur and the MN&S Spur, they will not result in substantial long-term impacts to freight rail operations.

11. WHY IS FREIGHT RAIL IN THE KENILWORTH CORRIDOR INCLUDED AS AN EXISTING CONDITION FOR THE ANALYSIS COMPLETED FOR THE LRT PROJECT?

All analyses for the Final EIS were conducted using the current existing conditions or a "no-action alternative" (commonly referred to as the No Build Alternative) as the baseline from which to measure potential impacts (see *Forty Most Asked Questions Concerning CEQ's NEPA Regulations* [Council on Environmental Quality, 1981]). The purpose of a baseline condition (or the No Build alternative) assessment under NEPA is to provide policymakers, agencies, and the public a benchmark against which to measure the environmental consequences of the proposed Project.

The Project's No Build Alternative includes the existing freight rail service and facilities within the Kenilworth Corridor. This Project does not control the future disposition of existing freight rail operations within the Kenilworth Corridor. Freight rail service in the Kenilworth Corridor can only be terminated or vacated by the freight rail operators holding the trackage rights to operate in this segment—CP and TC&W. In addition, there are no public plans or policy documents stating the future removal of freight rail service in the Kenilworth Corridor. Freight rail has been in operation in the Kenilworth Corridor for nearly 20 years. Arbitrarily removing an existing condition from the No Build without any substantiation would introduce a faulty analysis framework. Freight rail operations within the Kenilworth Corridor are subject to many factors, including Surface Transportation Board regulations that govern freight rail commerce and local, regional, and national market forces that effect freight rail operations and facility development, both of which are outside of the scope of influence of the Project. The Project definition does not include freight rail operations in the Kenilworth Corridor as a condition of the Project, since freight rail operation is analyzed under the No Build baseline. Furthermore, the permanency of freight rail operations in the Kenilworth Corridor is outside the scope of this Project. The Project is making minor infrastructure modifications to freight rail for very limited areas, mainly to facilitate the movement of light rail transit.

12. HOW IS SAFETY BEING ADDRESSED WHERE FREIGHT RAIL AND LRT WILL BE CO-LOCATED DURING OPERATIONS AND CONSTRUCTION?

Safety where freight rail and light rail will be co-located adjacent to each other is being addressed in multiple ways, both during operations and during construction:

Operations. Between the proposed Shady Oak Station in Hopkins and the existing Target Field Station in Minneapolis, portions of the proposed light rail alignment will be located within a combination of three active existing freight rail lines and the light rail alignment will generally be located parallel to the existing freight railroad corridors (described and illustrated in Section 4.4.3).

The Council will implement the Project's *Safety and Security Management Plan* (Council, 2014) and the Metro *Light Rail Transit Design Criteria* (Council, 2015), to provide and maintain safety and security during operation of the Project within the vicinity of existing freight rail service. The *Design Criteria*, 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). In addition, corridor protection barriers (commonly referred to as "crash walls") will be placed between the freight rail and light rail tracks. Corridor protection barriers are thick walls placed between freight rail and light rail tracks where: (1) either light rail or freight rail will be elevated above the adjacent tracks, or (2) the clearance between the centerline of the light rail tracks and the centerline of the freight tracks will be less than 25 feet. In addition, where clearance between the centerline of the at-grade light rail tracks and the centerline of the at-grade freight tracks is less than 50 feet, intrusion detection for possible freight derailment will be installed, where appropriate.

Where the light rail alignment will be 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 Code, this right-of-way configuration allows for contact wire height above rails as low as 16 feet for normal operation, and lower where required to clear vertical obstructions. To maximize the separation between the light rail catenary and the freight corridor, a typical normal design contact wire height for the LRT is 18 feet 6 inches.

The Council's *Operations Emergency Management Plan* for light rail was developed to assist in identifying, responding to, and resolving emergency situations in an efficient, controlled, and coordinated manner for the Project. The Operations Emergency Management Plan 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, in compliance with the *Safety and Security Management Plan.* The emergency preparedness exercise plan identifies emergency preparedness exercises, which will be carried out by the LRT Fire Life Safety and Security Committee (FLSSC). In advance of operation of the Project, a number of drills will be planned, conducted, and documented in the emergency preparedness exercise plan. Emergency preparedness training exercises will be designed to address areas such as rail equipment familiarization, situational awareness, passenger evacuation, coordination of functions, communications, and hands-on instruction. The LRT FLSSC will coordinate training exercises with the Council and the freight railroad owners and operators, as appropriate. During normal revenue service, the LRT FLSSC will coordinate training exercises with the Council and freight rail operators, as appropriate, to evaluate emergency preparedness. The exact nature of emergency preparedness exercises will be developed in coordination with the LRT FLSSC prior to construction and could include one tabletop and one full-scale emergency preparedness exercise annually.

While the Project will provide for the continuation of freight rail operations within the Kenilworth Corridor with relatively minor adjustments to freight rail facilities and operations, freight rail operations, including oversight of freight rail cargo, is outside of the scope and Purpose of this Project and outside of the jurisdiction of the Council and FTA. Further TC&W, is a private freight rail operator with the legal right to transport freight within the Kenilworth Corridor, granted by a Trackage Rights Agreement executed in 1998. Regulation over the operations and related communications from TC&W to emergency responders are outside of the jurisdiction of the Council and FTA. Regulation of railroad safety is within the jurisdiction of the Federal Railroad Agency (FRA). Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division of FRA administers a safety program that oversees the movement of hazardous materials the Nation's rail transportation system, including shipments transported to and from international organizations. The US DOT announced its Final Rule to Strengthen Safe Transportation of Flammable Liquids by Rail. The final rule, developed by the Pipeline and Hazardous Materials Safety Administration (PHMSA) and FRA, in coordination with Canada, focuses on safety improvements that are designed to prevent accidents, mitigate consequences in the event of an accident, and support emergency response.

Construction. As part of the Project, construction activities will occur close to active freight rail corridors. The Council will develop and implement a freight rail operations coordination plan that will be based on, and coordinated with, the Project's construction documents. During the Project's construction, the Council will continue to work closely with the railways concerning railway coordination. The Council will adopt and use the safety and construction specifications and standards of the Class 1 Railways: CP and BNSF Railway for the Project when construction is adjacent to or on freight railways' rights-of-way, in addition to all applicable Occupational Safety and Health Administration 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 will be required to have completed and possess valid FRA Rule 214 Roadway Worker Training Certification, e-RAILSAFE, and BNSF Contractor Orientation Training. Railway flaggers will be used to control freight train movements through construction limits. Qualified inspectors will 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.

13. WILL THE REPLACEMENT OF THE SKUNK HOLLOW SWITCHING WYE PROVIDE FOR FREIGHT RAIL SERVICE THROUGH SOUTHERN AREAS OF THE CITY OF ST. LOUIS PARK?

As part of the proposed freight rail modifications in the Bass Lake Spur, the Project will sever the connection to and require the removal of the northern branch of the existing Skunk Hollow switching wye. The

switching wye currently allows for freight train movements between the Bass Lake Spur and the MN&S Spur. In addition, the southern branch of the existing switching wye provides access to a customer which is currently serviced by TC&W freight rail operations. The existing function of the northern branch of the Skunk Hollow switching wye will be replaced with the new "Southerly Connection," which will allow TC&W trains continued access between the Bass Lake Spur eastbound to the southbound MN&S Spur and the reverse. The Project will not affect the southern branch of the Skunk Hollow switching wye and will not change access to the existing TC&W customer it serves.

The proposed Southerly Connection will not change access to existing freight rail markets nor will it open access to new freight rail markets. However, the elimination of the northern branch of the existing Skunk Hollow switching wye and replacement with a new Southerly Connection will likely improve freight rail travel times for switching movements between the Bass Lake Spur and the MN&S, resulting in operational efficiencies for freight rail operators. As a result of these operational efficiencies, the Project could contribute indirectly to increases in the frequency and/or length of freight trains traveling along the MN&S Spur to the south of the Southerly Connection, which could result in indirect impacts on the human environment. These potential changes in the frequency and/or length of trains as a result of the Southerly Connection are not included in the Final EIS analyses, as freight rail operations are outside of the jurisdiction of the FTA and the Council and because the information needed to evaluate related impacts to the human environment is unavailable and unobtainable in accordance with 40 CFR Part 1502.22 and Minnesota Statutes 4410.2500. See Section 4.4 of the Final EIS for more information.

14. WHAT ARE THE ENVIRONMENTAL IMPACTS TO THE GRAND ROUNDS HISTORIC DISTRICT AND THE KENILWORTH LAGOON?

The Grand Rounds Historic District (GRHD), which is approximately 52 miles in length, consists of a variety of parks, parkways, lakes, golf courses, waterfalls, planned and natural gardens, and creek and river views. There are ten contributing elements to the GRHD that are within the Project's historic area of potential effect and were surveyed and evaluated as part of the process completed under Section 106 of the National Historic Preservation Act. Table ES-1 summarizes how the Project would affect those contributing elements of the GRHD and the GRHD itself. As noted in the table, there will be an adverse effect on the Kenilworth Lagoon as a result of the Project, and thus there will also be an adverse effect on the GRHD. Further, the other nine contributing elements of the GRHD will be affected by the Project, but that effect will not be adverse (based in part on implementation of avoidance measures specified in the Section 106 Memorandum of Agreement (MOA), which is included in Appendix H).

Table ES-1
Contributing Elements to the Grand Rounds Historic District

Property Name	Effect Finding
GRHD	Adverse Effect
Kenilworth Lagoon	Adverse Effect
Cedar Lake	No Adverse Effect
Cedar Lake Parkway	No Adverse Effect
Lake of the Isles	No Adverse Effect
Lake of the Isles Parkway	No Adverse Effect
Park Board Bridge No. 4 / Bridge L5729	No Adverse Effect
Kenwood Parkway	No Adverse Effect
Kenwood Park	No Adverse Effect
Lake Calhoun	No Adverse Effect
Kenwood Water Tower	No Adverse Effect

Source: *Section 106 Assessment of Effects for Historic Properties*; Council, 2015.

In summary, the Project will adversely affect the Kenilworth Lagoon and the GRHD in the following ways (see Section 3.5 and Appendix H for additional detail):

1. **Visual Character and Setting.** The Project will adversely affect the property's visual character and setting through the introduction of the new light rail bridge and reconstruction of the existing trail and freight rail bridges across the waterway and removal of vegetation along the banks of the waterway. In particular, there will be a reduction in the amount of light that reaches the lagoon where the new bridges will be located and the wider combined structure width across the lagoon will adversely affect the user's experience when traveling through the lagoon.
2. **Noise.** Without mitigation, the Project will result in noise from light rail operations that would result in a Moderate noise impact to portions of the Kenilworth Lagoon (as per FTA's noise guidelines).

Measures are specified in the Section 106 MOA to avoid, minimize, and mitigate effects to the GRHD and its contributing elements, including the Kenilworth Lagoon. Those measures include designing Project elements within and in the vicinity of the GRHD in accordance with the Secretary of Interior's (SOI) Standards, continuing consultation on the design of these elements with the Minnesota Historic Preservation Office (MnHPO) and other consulting parties, and the implementation of a Construction Protection Plan (CPP). Following is a list of specific mitigation measures specified in the Section 106 MOA that address the adverse effect on the Kenilworth Lagoon and the GRHD:

- Install a parapet wall and rail damper on the light rail bridge over the waterway to mitigate the moderate noise impact at the Kenilworth Lagoon.
- Rehabilitate/Reconstruct Works Progress Administration (WPA) Rustic Style Retaining walls to minimize and mitigate adverse effects.
- Design Project elements within and adjacent to the Grand Rounds Historic District in accordance with the Secretary of the Interior's (SOI's) *Standards for the Treatment of Historic Properties* (36 CFR Part 68), to be reviewed by the MnHPO and consulting parties, to further minimize adverse effects.
- Develop a Construction Protection Plan (CPP) detailing the measures to be implemented during Project construction to avoid adverse effects.
- Prepare guidance for future preservation activities within the portion of the GRHD: Canal System, including adjacent parkland, extending from the north end of Lake Calhoun to the east end of Cedar Lake, and including the entirety of the Lake of the Isles Park and Kenilworth Lagoon elements. The plans will be prepared in accordance with the following: the Secretary of the Interior's (SOI's) *Standards for the Treatment of Historic Properties* (36 CFR Part 68); the SOI's *Standards for Preservation Planning*; and the National Park System's *Guidelines for the Treatment of Cultural Landscapes*, and Preservation Briefs, and Preservation Tech Notes.

15. WHAT ARE THE ENVIRONMENTAL IMPACTS OF LRT IN THE KENILWORTH CORRIDOR?

Light rail construction in the Kenilworth Corridor has the potential to cause environmental impacts including disruptive noise levels and visual impacts (the construction of the new bridges will require noticeable clearing of trees and other vegetation). Potential temporary 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). There will be utility impacts 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 closures, detours, and temporary facilities built around obstructions. Impacts to identified architecture/history and archaeological properties from construction have been identified as part of the Section 106 process. As documented in the Project's Section 106 MOA (Appendix H), the Kenilworth Channel/Lagoon will be temporarily closed and detoured during construction. Best Management Practices (BMPs) will be developed and implemented during removal of the existing bridges and construction of the

new bridges across the Kenilworth Channel/Lagoon, which is both a Section 106 and Section 4(f) protected property (see Section 3.5 and Chapter 6 of the Final EIS for more information on the Project's Section 106 and Section 4(f) analyses and determinations). Table ES-2 summarizes the mitigation measures for each environmental and transportation category that will be implemented in the Kenilworth Corridor to address the operational and construction impacts (see the corresponding sections of Chapters 3 and 4 for a more detailed description of the mitigation measures).

Table ES-2
Summary of Mitigation Measures in the Kenilworth Corridor, by Environmental and Transportation Category[a]

Environmental/Transportation Category	Mitigation Measure
3.1 Land Use; 3.3 Neighborhood and Community	• Implement a Construction Mitigation Plan, which includes a construction staging plan and a Construction Communication Plan (components of the staging plan include traffic management plans and a construction timeline)
3.2 Economic Activity	• When acquiring property from a property owner, pay damages if the value of the property is decreased in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
3.4 Acquisitions and Displacements	• Compensate businesses or persons displaced from a property in accordance with provisions of the Uniform Relocation Act and MN Stat. 117. Provide relocation benefits under the provisions of the Uniform Relocation Act and MN Stat. 117.
3.5 Cultural Resources	• Implement the agreed terms of the Section 106 Memorandum of Agreement
3.6 Parks and Recreation	• Develop and implement a Construction Communication Plan that includes coordination with park owners, advance notice of construction activities, and highlight road, sidewalk, and trail closures, and detour routes • Restore areas and features of parks and recreation areas altered or disturbed due to construction activities to original conditions or better in coordination with the jurisdictional owner
3.7 Visual Quality and Aesthetics	• Follow design guidelines for key structures throughout the proposed light rail alignment found in the Council's *Visual Quality Guidelines for Key Structures* • Design and implement landscaping into design at appropriate locations to address identified visual impacts, within available landscape budget and balancing other priorities for landscaping (e.g., surface water quality, habitat preservation, species of concern)
3.8 Geology and Groundwater	• Prepare a groundwater management plan before construction to address collection, storage and disposal of surface water runoff and pumped groundwater following construction of the Project, and consider concerns about placement of stormwater handling facilities in or near wellhead protection areas. Include monitoring, which will be used to assess excessive groundwater infiltration and to prioritize any potential repairs to the waterproofing systems. • Develop and implement a monitoring plan that provides means for detecting the settlement of buildings, roads, or parking areas • Prepare a groundwater management plan that will include required groundwater monitoring and management practices during construction • Seal and abandon all water or monitor wells or boreholes installed as part of soil and groundwater investigation
3.9 Surface Water Resources	• Design stormwater management facilities to provide stormwater treatment in compliance with NPDES requirements
3.10 Ecosystems	• Incorporate native landscaping into the Project's design, where applicable and appropriate • Reseed and restore habitat that is temporarily disturbed during construction, where appropriate, upon construction completion
3.12 Noise	• Employ BMPs to minimize noise project-wide, including use of wheel skirts (panels over the wheels) to reduce wheel/rail noise and continuously welded rail to eliminate gaps in the tracks that generate additional noise; conduct wheel truing to keep wheels smooth and round and rail grinding to remove corrugations; and apply lubrication if/where needed - Locate noise generating elements (e.g., crossovers) away from sensitive locations, where possible - Construct 2' high parapet wall and rail dampers across Kenilworth Channel - Complete on-site testing to determine if residences meet interior noise level criteria: one residence at Burnham Road North located NW of the channel, three residences at Thomas Ave South • Implement wayside bell at Thomas Avenue South, Sheridan Avenue South, and South Upton Avenue • Prepare a detailed Noise Control Plan for the Project's construction duration

Environmental/Transportation Category	Mitigation Measure
3.13 Vibration	• Implement highly resilient rail fasteners in the tunnel section (2,200 feet) to eliminate ground-borne noise impacts (the fasteners should be designed to provide at least 5 dB of reduction in vibration levels at 80 Hz and higher) • Apply the following measures where feasible to minimize impacts from construction vibration: limit high-vibration activities at night; include limits on vibration in the construction specifications, especially at locations with high-vibration activities; minimize the use of impact and vibratory equipment, where feasible and appropriate; use truck haul routes that minimize exposure to sensitive receptors and minimize damage to surface roadways, where appropriate; perform pre-construction surveys to document the existing conditions of structures in the vicinity of sites where high-vibration construction activities will be performed; if a construction activity has the potential to exceed the damage criteria at a building, the contractor will be required to conduct vibration monitoring and, if the vibration exceeds the limit, the activity must be modified or terminated
3.14 Hazardous and Contaminated Materials	• Conduct mitigation within the Minnesota Pollution Control Agency (MPCA) Brownfield Program regulatory framework and approved RAPs • Implement Response Action Plans, approved by MPCA, to address the risks identified in the Phase I and Phase II environmental site assessments • Prior to the start of construction prepare, and with MPCA approval, a Construction Contingency Plan to address the discovery of unknown contamination • Survey structures on acquired land for the presence of hazardous/regulated materials prior to their demolition or modification • Handle and manage potentially hazardous materials in compliance with applicable regulatory standards and dispose of in accordance with Hazardous Materials Abatement Plans for in-place hazardous/regulated materials, and the Response Action Plan/Construction Contingency Plan for hazardous/regulated materials in the site soils
4.1 Transit	• Follow Federal and local procedures for route modifications or the suspension of transit service, including completing a Title VI analysis and outreach plan to determine how service changes would affect low-income and minority communities and communicate these changes prior to implementation • Implement a Construction Mitigation Plan, which includes a construction staging plan and a Construction Communication Plan (see 3.1)
4.2 Roadways and Traffic	• Comply with applicable state and local regulations related to the roadway closures and the effects of construction activities, including Minnesota Department of Transportation • Contractor compliance with all guidelines established in the Minnesota Manual on Uniform Traffic Control Devices (2015) • Appropriate jurisdiction (Minneapolis) to review construction staging and mitigation documents • Secure required permits • Implement a Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 3.1)
4.4 Freight	• Develop and implement freight rail operation coordination plans - Provide provisions in the construction contract to identify how the contractor will interact with the railroads - Work with affected freight rail owners and operators to sequence construction to minimize effects on freight movements and to identify optimal periods for closing the rail service (including dates and times for stoppages) and reducing speeds • Use flaggers to allow freight rail operations to continue
4.5 Pedestrian and Bicycle	• Implement a Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 3.1)
4.6 Safety and Security	• Implement a Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 3.1)

[a] Mitigation measures for the following environmental categories are not included in the Kenilworth Corridor: Electromagnetic Fields/Electromagnetic Interference (EMF/EMI), energy, and parking.

16. DOES THE PROJECT AFFECT ANY HISTORIC PROPERTIES? IF SO, HOW WILL THE PROJECT MINIMIZE AND MITIGATE THE AFFECTS TO THE HISTORIC PROPERTIES?

FTA has determined that the Project will have No Adverse Effect on 26 historic properties and an Adverse Effect on five historic properties. Due to the Project's adverse effect on these five properties—two archaeological sites (Sites 21HE0436 and 21HE0437)[4]; the Grand Rounds Historic District; the Kenilworth Lagoon as a contributing property to the Grand Rounds Historic District; and the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot— FTA has determined that the undertaking will have an Adverse Effect on historic properties. See Section 3.5.4 and Appendix H of the Final EIS for additional information regarding the Project's impacts on cultural resources.

The Project's measures to resolve adverse effects, including avoidance, minimization, and mitigation measures, are specified in the Project's Section 106 MOA (see Appendix H). Following is a summary of the measures specific in the Section 106 MOA that are applicable to the five adversely affected properties.

- ***Architecture/History Properties***
  - Install a parapet wall and rail damper on LRT bridge over waterway to mitigate the moderate noise impact at the Kenilworth Lagoon (see Section 3.12)
  - Rehabilitate/Reconstruct Works Progress Administration Rustic Style Retaining Walls to minimize and mitigate the direct physical and indirect visual adverse effects on the Grand Rounds Historic District, including the Kenilworth Lagoon
  - Design Project elements within and adjacent to the Grand Rounds Historic District in accordance with the SOI's Standards (36 CRF 68), to be reviewed by the MnHPO and consulting parties, to further minimize the direct physical and indirect visual adverse effects
  - Develop a Construction Protection Plan detailing measures to be implemented during Project construction to avoid direct physical and indirect adverse effects
  - Prepare guidance for future preservation activities within the portion of the Grand Rounds Historic District: Canal System, including adjacent parkland, extending from the north end of Lake Calhoun to the east end of Cedar Lake, and including the entirety of the Lake of the Isles Park and Kenilworth Lagoon elements to mitigate the direct physical and indirect visual adverse effects to the Grand Rounds Historic District
  - Revised the Project design to relocate the crossover location near the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot 3,420 feet west along the alignment to allow the noise wall to shift at least 240 feet west, and avoid adverse visual effect
  - Revised the Project design to relocate the signal bungalow near the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot to the alternate crossover location to further avoid adverse visual effects (complete)
- ***Archaeological Resources***
  - Conduct a Phase III Archaeological Data Recovery of Sites 21HE0436 and 21HE0437
  - Incorporate into the design of the Royalston Station interpretation of the sites, based on the results of the Phase II investigations and allowing for the incorporation of any additional information from the Phase III data recovery
  - Develop an interpretative plan for the interpretation in conformance with the Standards and Practices for Interpretive Planning from the National Association for Interpretation and Creating Outdoor Trail Signage technical leaflets

[4] These archaeological properties are considered sensitive historic resources under Section 304 of the NHPA, as amended. In accordance with Section 304, information on these sensitive historic resources may cause a significant invasion of privacy and/or put the resources at risk to harm and is not included in this document. Names, locations, and areas of significance of archaeological sites are not disclosed to help preserve these sensitive resources.

17. WILL THE PROJECT USE ANY SECTION 4(f) PROPERTIES? IF SO, HOW WILL THE PROJECT MINIMIZE HARM TO THOSE PROPERTIES?

The Project will result in a non-*de minimis* use of the Kenilworth Lagoon/Grand Rounds Historic District historic Section 4(f) property and there is no feasible and prudent alternative that would avoid a use of this historic resource. In addition, FTA has determined in accordance with 23 CFR Part 774.17 that all possible planning to minimize harm has been conducted and implemented through the completion of the project's Section 106 process and through the anticipated execution of the Section 106 Memorandum of Agreement (see Appendix H). Further, FTA and the Council have determined that the Project is the alternative that would result in the least overall harm to the Kenilworth Lagoon/Grand Rounds Historic District. Table ES-3 includes FTA's final Section 4(f) use determinations for the Southwest LRT Project LPA.

TABLE ES-3
Summary of Section 4(f) Property Uses[a]

Section 4(f) Property	Property Type	Official with Jurisdiction	Non-*de minimis* Use	*De minimis* Impact	Temporary Occupancy: No Use
Purgatory Creek Park	Park	City of Eden Prairie			•
Unnamed Open Space B	Park	City of Minnetonka		•	
Opus Development Area Trail Network	Park	City of Minnetonka		•	
Minikahda Club	Historic	MnHPO			•
Cedar Lake Parkway/Grand Rounds Historic District[b]	Historic	MnHPO			•
Kenilworth Lagoon/Grand Rounds Historic District[c]	Historic	MnHPO	•		
Kenilworth Channel/Lagoon (as an element of the Minneapolis Chain of Lakes Regional Park)	Park	MPRB		•	
Cedar Lake Park	Park	MPRB			•
Bryn Mawr Meadows Park	Park	MPRB		•	
St. Paul, Minneapolis & Manitoba Railroad Historic District	Historic	MnHPO		•	

[a] See Chapter 6 of the Final EIS for definitions of the potential types of Section 4(f) uses.

[b] Cedar Lake Parkway is a contributing element of Grand Rounds Historic District. FTA has made a Section 106 determination of no adverse effect to Cedar Lake Parkway.

[c] Kenilworth Lagoon is a contributing element of Grand Rounds Historic District. FTA has made a Section 106 determination of adverse effect to Kenilworth Lagoon historic property and Grand Rounds Historic District.

Note: MnHPO = Minnesota Historic Preservation Office; MPRB = Minneapolis Park and Recreation Board.

FTA and the Council have made efforts to help avoid, minimize, and mitigate impacts to all Section 4(f) properties in the Project study area, including participation in various Section 4(f) coordination meetings throughout the process (see Appendix I for the notes and materials from these meetings). All of the Section 4(f) determinations noted in Table ES-2 were concurred upon in writing by the applicable officials with jurisdiction after consideration of measures to minimize harm. A summary of the measures to minimize harm associated with each of the affected Section 4(f) properties includes coordination with local cities and agencies during construction to help avoid and minimize effects on recreational activities, detour routes that will provide continued bicycle and pedestrian access to and from the park resources, and properties that will be maintained in their current condition or better.

18. WHAT NOISE AND VIBRATION IMPACTS WERE IDENTIFIED AND HOW WILL THEY BE MITIGATED?

The FTA guidance manual, *Transit Noise and Vibration Impact Assessment* (FTA, 2006), is the primary source for the 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 3.12, included the following steps:

- Identify noise-sensitive land uses in the corridor using aerial photography, GIS data and field surveys, typically within 300 feet of the alignment.
- Measure existing noise levels in the corridor near sensitive receptors, including all sources of noise in the area.
- Forecast future Project noise levels from transit operations, using Project preliminary engineering plans and information on speeds, headways, track type, vehicle type, and grade-crossing operations. The Project 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 Project noise levels can be found in Appendix K of the Final EIS.
- Assess the impact of the Project by comparing the projected future noise levels with existing noise levels using the FTA noise impact criteria.
- Identify mitigation at locations where projected future noise levels exceed the FTA impact criteria.

Consistent with the FTA guidance, the existing noise measurements taken for the Project, and included in the Draft EIS, Supplemental Draft EIS and Final EIS, include existing noise from freight trains operating in the Kenilworth Corridor. Those noise measurements were used to establish the existing noise levels for the respective analyses. The projected noise impacts from the Project also reflect freight rail trains and the proposed light rail trains in the locations where they will be located. For example, if the Project will move the location of existing freight rail tracks, the noise impact analysis for the Project will reflect the proposed new location of the freight rail tracks. Information regarding the existing noise measurements is contained in Appendix K of the Final EIS, including a memorandum describing the inclusion of freight rail in the Draft EIS noise analysis.

The analysis of long-term direct and indirect noise impacts found that, without mitigation, there would be 237 dwelling units where moderate noise impacts would occur and 558 dwelling units where the noise impacts would be severe. A majority of the noise impacts without mitigation would be related to light rail vehicle horn soundings at at-grade crossings in the corridor. However, the Project will implement mitigation measures to avoid and minimize noise impacts. Overall, the majority of the noise impacts from the Project will be eliminated through the use of mitigation measures, such as noise walls, rail quiet zones, or wayside bells. After mitigation, there will be moderate residual noise impacts[5] on 59 dwelling units at four locations.

The vibration assessment included the following steps:

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

[5] These residual Moderate noise impacts do not warrant mitigation under the Council's noise guidelines included in the Regional Transitway Guidelines. See Section 3.12 of the Final EIS for additional information.

The Project will not result in vibration impacts for any residential or institutional land uses. The Project would, however, result in 54 ground-borne noise impacts for residential land uses without mitigation. These impacts would be directly adjacent to and south of the proposed light rail tunnel in the Kenilworth Corridor. The Council will use highly resilient rail fasteners in the proposed light rail tunnel as mitigation, which will eliminate the ground-borne noise impacts for residential land uses.

A general assessment of freight vibration was also conducted where the freight tracks will be shifted closer to sensitive receptors to provide room for the LRT tracks in portions of the Kenilworth Corridor. The results of the assessment indicated that there would be no vibration impacts from freight trains due to the shift in freight tracks, due primarily to the low speeds of the freight trains. More information regarding the freight vibration assessment can be found in Appendix K.

19. WILL WETLANDS BE DISPLACED BY THE PROJECT? IF SO, HOW WILL THEY BE MITIGATED?

Wetlands are regulated at the federal level by the U.S. Environmental Protection Agency and the USACE under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbor Act. The USACE is responsible for issuing a permit for the placement of dredged or fill material into any waters that are regulated by the CWA and/or the Rivers and Harbor Act. Wetlands are also regulated at the state level by the Minnesota Department of Natural Resources under MN Rule 6115 and by the Minnesota Board of Water and Soil Resources under the Minnesota Wetland Conservation Act (WCA). Designated Local Government Units are responsible for making regulatory decisions regarding impacts to wetlands that are regulated by the WCA. In addition, some local jurisdictions maintain ordinances that incorporate additional wetland requirements beyond those specified in the WCA.

Implementation of the Project will have long-term and short-term impacts on wetlands. In summary, these impacts include 4.70 acres of long-term impacts on WCA-regulated wetlands and 1.83 acres on CWA-regulated wetlands (20 wetlands, 10 of which are regulated by both the WCA and CWA, three of which are regulated only by the WCA and seven of which are regulated only by the CWA); and 3.83 acres of short-term impacts on WCA-regulated wetlands and 7.53 acres on CWA-regulated wetlands (18 wetlands, 13 of which are regulated by both the WCA and CWA and five of which are regulated only by the CWA). Table ES-3 summarizes the potential long-term and short-term impacts of the Project on wetlands. Wetlands affected by the Project would be mitigated as follows:

- The Council will purchase the wetland mitigation bank credits required under the forthcoming WCA and CWA Section 404 permits. Wetland mitigation banks credits will be purchased from established and approved wetland bank accounts located in major watershed 33 (Minnesota River-Shakopee)/USACE bank service area 9, in accordance with the applicable USACE, WCA, and Local Government Unit siting priority requirements, prior to the construction of the Project.
- Wetland areas affected on a temporary basis during construction will be restored as required by WCA and CWA permits. The Project will purchase wetland mitigation bank credits for CWA regulated short-term impacts lasting longer than 180 days.

20. WHAT ARE THE ENVIRONMENTAL EFFECTS OF THE PROJECT AND HOW WILL THEY BE MITIGATED?

Table ES-4 summarizes the potential long-term and short-term impacts of the Project and mitigation measures. These anticipated impacts include direct, indirect, and cumulative impacts. Refer to chapters 3 and 4 of the Final EIS for additional information on impacts and mitigation measures.

TABLE ES-4
Summary of Impacts, Commitments, and Mitigation Measures by Environmental and Transportation Category

Category		Summary of Impacts and Mitigations
Environmental Categories[a]		
3.1 Land Use	Long-term Direct Impacts	• Direct conversion of approximately 144 acres of privately owned industrial, commercial, and residential land, publicly and privately owned parks and open space, publicly owned rights-of-way (i.e., HCRRA), and privately owned railroad rights-of-way (i.e., Canadian Pacific Railway and BNSF Railway) to public transportation-related use (refer to Table 3.1-5 for more information) • No adverse impacts due to no changes in overall land use characteristics within the vicinity of the Project
	Long-term Indirect Impacts	• Potential increased intensity and/or advanced timing of development surrounding proposed light rail station areas • No adverse impacts
	Short-term Impacts	• Temporary changes to property access during construction or temporary conversion of land to a transportation use for construction staging and other construction activities • Temporary easements on 134 acres effecting 178 parcels of land that include industrial, commercial, railroad, residential, and public land uses
	Commitments	None
	Mitigation Measures	Short-term: • Develop and implement a Construction Mitigation Plan and a Construction Communication Plan that will address short-term impacts to land use related to temporary construction easements and other construction activities; strategies may include: - Issue construction updates and post them on the 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 • 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 construction timeline.
3.2 Economic Activity	Long-term Direct Impacts	Employment: • Beneficial effects: - $34.5 million (2015 dollars) in local annual wages and salaries, resulting in 172 long-term jobs in the local economy • No adverse impacts to regional employment due to the projected increase in transit workers Property Tax Revenue: • Permanent removal of acquired private parcels from the property tax base of affected cities and corresponding reduction in property tax revenue from those parcels Existing Business and Development/Redevelopment: • Changes in local traffic patterns and the number of available off-street and on-street parking spots, resulting in a loss of overall parking for some businesses and a related loss in revenue • Removal of land acquired by the Project from the inventory of available land for potential development/redevelopment Freight Rail Owners and Operators: • No adverse impacts to freight rail owners and operators based on modifications by the Project

Category		Summary of Impacts and Mitigations
	Long-term Indirect Impacts	Employment: • Beneficial effects: - Potential creation of new jobs as employees gain easier access to businesses, residential housing units, and other facilities, providing a net benefit to the local economy • No adverse impacts due to new jobs created in the region as employees gain easier access to businesses Property Tax Revenue: • Beneficial effects: - Potential increase in property tax revenue for local jurisdictions related to increases in development/redevelopment • No adverse impacts to property tax revenue due to the transit oriented development potential surrounding the stations Existing Business and Development/Redevelopment: • Beneficial effects: - Likely increased property values in areas surrounding proposed light rail stations - Likely increase in development/redevelopment in the areas surrounding light rail stations • Potential impacts that could reduce value of an area ("nuisance effects") • No adverse effects to existing business and development/redevelopment due to improved accessibility which expand workforce and retail access
	Short-term Impacts	Employment: • Beneficial effects: - Construction spending associated with the Project will result in an estimated $1.3 billion in overall economic activity (year-of-expenditure dollars) over the construction period • Potential lost revenues for businesses due to temporary reduction of parking stalls, traffic congestion, reduced access, and increased noise, dust, and perceived changes in visual quality Property Tax Revenue: • No adverse impacts because the temporary occupancies and easements are not expected to result in displacement of businesses or residents Existing Businesses: • Potential increases in noise levels, dust, traffic congestion, visual changes, and increased difficulty accessing property for existing businesses Freight Rail Owners and Operators: • Slower freight rail operations during construction may occur and short periods of freight stoppage required to make some modifications to the freight rail track
	Commitments	Long-Term: • Pursue with the City of St. Louis Park the joint development opportunity at the proposed Beltline Station that could increase property tax revenues • Coordinate changes to freight rail tracks, sidings, or other facilities with the freight railroad owner and operator • Onsite flaggers to manage freight rail traffic during construction
	Mitigation Measures	Long-Term: Existing Businesses and Development/Redevelopment Effects • When acquiring property from a property owner, pay damages if the value of the property is decreased in accordance with the Uniform Act Short-term: Existing Businesses and Development/Redevelopment Effects • Develop and implement a Construction Mitigation Plan, Construction Communication Plan and construction staging plan (see 3.1)

Category		Summary of Impacts and Mitigations
		Freight Rail Owners and Operators: • Develop and implement freight rail operation coordination plans to mitigate short-term impacts to freight rail operations related to construction activities • Work with affected freight rail owners and operators to provide provisions in the construction contract to identify how the contractor will interact with the railroads • Work with affected freight rail owners and operators to sequence construction to minimize effects on freight movements and to identify optimal periods for closing the rail service and reducing speeds • Determine dates and times for all stoppages through coordination with the railroad owners and operators
3.3 Neighborhood and Community	Long-term Direct Impacts	Access to Community Facilities: • Some roadway modifications within the general vicinity of community facilities, but access to these facilities will be maintained and the Project will provide improve transit access to these facilities • No adverse impacts Community Character: • Some changes in noise/vibration and visual character adjacent to the Project and some property acquisition, but these changes will be confined to limited areas • No adverse impacts Community Cohesion: • Some changes in the local roadway, pedestrian, and bicycle networks will occur, but existing roadway and sidewalk/trail connectivity and access will be maintained or improved • No adverse impacts
	Long-Term Indirect Impacts	• Potential property conversion surrounding proposed station areas, including private and public development and/or redevelopment that could affect supply of and demand for off-street and on-street parking around station areas • No adverse impacts on community facilities, community character, or community cohesion
	Short-Term Impacts	Access to Community Facilities: • Temporary changes to roadways, including intersections modifications, and trail and sidewalk detours for routes which provide access to community facilities Community Character: • Construction impacts, such as increased levels of noise, vibration, and dust, may temporarily affect neighborhood character at times of heavy construction • Presence of large construction equipment may be perceived as visually disruptive Community Cohesion • Potential increases in noise levels, dust, and traffic congestion, including increased automobile and truck traffic through residential neighborhoods
	Commitments	None
	Mitigation Measures	Short-term: • Develop and implement the Construction Mitigation Plan, Construction Communication Plan and construction staging plan (see 3.1)
3.4 Acquisitions and Displacements	Long-term Direct Impacts	• Partial acquisition of 159 parcels (totaling 133.5 acres) and full acquisition of 36 parcels (totaling 64 acres) • Relocation of up to 72 businesses that currently operate on or use 20 of the parcels to be acquired
	Long-term Indirect Impacts	• Potential for increased development and redevelopment in areas surrounding station areas that could indirectly lead to acquisitions and displacements
	Short-term Impacts	• Temporary easements on 134 acres effecting 178 parcels of land that include industrial, commercial, railroad, residential, and public land uses

Category		Summary of Impacts and Mitigations
	Commitments	None
	Mitigation Measures	Long-term and Short-term: • Compensate businesses or persons displaced from a property in accordance with provisions of the Uniform Act and MN Stat. 117. Provide relocation benefits under the provisions of the Uniform Act and Mn Stat. 117.
3.5 Cultural Resources	Adverse Effects	• Adverse effect on the Kenilworth Lagoon and the Grand Rounds Historic District, of which the Kenilworth Lagoon is a contributing element • Adverse effect on the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot (Avoided with measures incorporated into the Project's design and Section 106 MOA) • Adverse effect at two archaeological sites, 21HE0436 and 21HE0437, both of which will be destroyed during the construction of the Project (the term "destroyed" is used in applying 36 CFR 800.5 and the Secretary of the Interior's Standards [36 CFR 68])
	Commitments	• Explored alternative locations for Project elements where adverse effects occur to archaeological resources • Implement Section 106 Memorandum of Agreement measures to avoid/minimize adverse effects
	Mitigation Measures	• Implement a Section 106 MOA that will include the following mitigation measures: - Architecture/History Properties o Install a parapet wall and rail damper on LRT bridge over waterway to mitigate the moderate noise impact at the Kenilworth Lagoon (see Section 3.12) o Rehabilitate/Reconstruct Works Progress Administration Rustic Style Retaining Walls to minimize and mitigate the direct physical and indirect visual adverse effects on the Grand Rounds Historic District, including the Kenilworth Lagoon o Design Project elements within and adjacent to the Grand Rounds Historic District in accordance with the *SOI's Standards (36 CRF 68)*, to be reviewed by the MnHPO and consulting parties, to further minimize the direct physical and indirect visual adverse effects o Develop a Construction Protection Plan detailing measures to be implemented during Project construction to avoid direct physical and indirect adverse effects o Prepare guidance for future preservation activities within the portion of the Grand Rounds Historic District: Canal System, including adjacent parkland, extending from the north end of Lake Calhoun to the east end of Cedar Lake, and including the entirety of the Lake of the Isles Park and Kenilworth Lagoon elements to mitigate the direct physical and indirect visual adverse effects to the Grand Rounds Historic District o Revised the Project design to relocate the crossover location near the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot 3,420 feet west along the alignment to allow the noise wall to shift at least 240 feet west, and avoid adverse visual effect o Revised the Project design to relocate the signal bungalow near the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot to the alternate crossover location to further avoid adverse visual effects (complete) - Archaeological Resources o Conduct a Phase III Archaeological Data Recovery of Sites 21HE0436 and 21HE0437 o Incorporate into the design of the Royalston Station interpretation of the sites, based on the results of the Phase II investigations and allowing for the incorporation of any additional information from the Phase III data recovery o Develop an interpretative plan for the interpretation in conformance with the Standards and Practices for Interpretive Planning from the National Association for Interpretation and Creating Outdoor Trail Signage technical leaflets
3.6 Parks and Recreation	Long-term Direct Impacts	The following parks, recreation areas, and open space properties will incur long-term direct impacts as a result of the Project: • Unnamed Open Space A: Acquisition of entire 2.95-acre open space parcel to accommodate installation of LRT tracks and station platform; trail realignment • Unnamed Open Space B: Acquisition of 2.5 acres to accommodate installation of LRT tracks; trail realignment • Kenilworth Channel/Lagoon: LRT improvements and modifications to the freight rail and trail alignments will occur on approximately 0.3 acre • Cedar Lake Park: New segment of sidewalk to be constructed within the park near East Cedar Beach; realignment of a portion of North Cedar Lake Regional Trail in park

Category		Summary of Impacts and Mitigations
		• Bryn Mawr Meadows Park: Acquisition of 0.4-acre permanent maintenance easement to accommodate replacement trail bridge; modification of trail alignments in the park
	Long-term Indirect Impacts	The following parks, recreation areas, and open spaces will incur long-term indirect impacts as a result of the Project: • Purgatory Creek Park: Changes to visual setting due to installation of elevated LRT line adjacent to park • Nine Mile Creek Conservation Area: Changes to visual setting due to installation of LRT line adjacent to the property • Overpass Skate Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Edgebrook Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Minnehaha Creek Open Space: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Edgebrook Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Jorvig Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Lilac Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Park Siding Park: Changes to visual setting and noise conditions due to installation of LRT line adjacent to park • Kenilworth Channel/Lagoon: Changes to visual setting and noise conditions due to installation of LRT line across the channel • Bryn Mawr Meadows Park: Modification to the park's visual setting due to the replacement trail bridge; improved transit and trail access
	Short-term Impacts	The following parks, recreation areas, and open spaces will incur short-term impacts as a result of the Project: • Purgatory Creek Park: Acquisition of temporary construction easement; temporary changes to access, noise, and visual setting conditions during construction • Nine Mile Creek Conservation Area: Temporary changes to visual setting and noise conditions during construction; potential for construction activities within the parcel • Overpass Skate Park: Temporary changes to visual setting and noise conditions during construction • Minnehaha Creek Open Space: Temporary changes to visual setting and noise conditions during construction • Edgebrook Park: Temporary changes to visual setting and noise conditions during construction • Jorvig Park: Temporary changes to visual setting and noise conditions during construction • Lilac Park: Temporary changes to visual setting and noise conditions during construction • Park Siding Park: Temporary changes to visual setting and noise conditions during construction • Kenilworth Channel/Lagoon: Temporary closure of channel/user detour during construction; temporary changes to access, visual setting and noise conditions during construction • Cedar Lake Park: Acquisition of temporary construction easement to accommodate trail reconstruction within the park • Bryn Mawr Meadows Park: Acquisition of temporary construction easement and temporary Project activities within the park related to construction of replacement bridge and realignment of trails
	Commitments	Long-term: • Kenilworth Channel/Lagoon: Conclude consultation on the design of the proposed bridges prior to construction • Bryn Mawr Meadows Park: - Continue consultation with MPRB to determine realignment of trails within the park prior to construction - Conclude consultation with the MPRB on the design of the proposed new bridge prior to construction Short-term: • Kenilworth Channel/Lagoon: Develop BMPs to be implemented during removal of the existing bridges and construction of the new bridges • Bryn Mawr Meadows Park: Maintain connectivity with temporary trails during construction
	Mitigation Measures	Long-term: • When permanently acquiring property at Bryn Mawr Meadows Park and two open spaces in Minnetonka, provide property owners with compensation in accordance with the Uniform Act

Category		Summary of Impacts and Mitigations
3.7 Visual Quality and Aesthetics		Short-term: • When acquiring property for temporary construction purposes (i.e., temporary easement) at Purgatory Creek Park, Cedar Lake Park, and Bryn Mawr Meadows Park, provide property owners with compensation in accordance with the Uniform Act. Continue efforts to avoid, minimize, and mitigate impacts to Purgatory Creek Park, Nine Mile Creek Conservation Area, two unnamed open spaces in Minnetonka, Overpass Skate Park, Minnehaha Creek Open Space, Edgebrook Park, Jorvig Park, Park Siding Park, Kenilworth Channel/Lagoon, and Bryn Mawr Meadows Park; and develop a Construction Communication Plan that includes coordination with park owners, advance notice of construction activities, and highlight road, sidewalk, and trail closures, and detour routes • Restore areas and features of parks and recreation areas altered or disturbed due to construction activities to original conditions or better in coordination with the jurisdictional owner
	Long-term Direct Impacts	• Six views with a substantial level of visual quality impact, six views with a moderate level of visual quality impact[b]
	Long-term Indirect Impacts	• Potential for the built environment to appear more intensively developed and more urbanized in character due to the potential opportunities for new development, including higher residential densities and, in some cases, new or expanded commercial activities
	Short-term Impacts	• Temporary impacts in portions of all visual analysis units[b] associated with: construction staging areas; concrete and form installation; lights and glare from construction areas; and dust and debris
	Commitments	• Designed stations to have a minimal impact on the surrounding environs. Each of the stations has been designed to be compatible or attractive additions to the surrounding community. • Screen or landscape power stations located in areas of moderate or high visual sensitivity, to be compatible with the surrounding neighborhood character
	Mitigation Measures	Long-term: • Follow design guidelines for key structures throughout the proposed light rail alignment found in the Council's *Visual Quality Guidelines for Key Structures* • Follow exceptions to design guidelines where context sensitive designs have and will be prepared including the proposed light rail structures over Highway 212, I-394, and Highway 100, as well as individual retaining wall and bridge designs at 5th Avenue South and 7th Avenue South, in Hopkins • Design and implement landscaping into design at appropriate locations to address identified visual impacts, within available landscape budget and balancing other priorities for landscaping (e.g., surface water quality, habitat preservation, species of concern), which could include the following: - Retain as much existing vegetation as appropriate to provide shielding for sensitive viewpoints, including techniques such as chaining and mowing without removal of the root systems, and/or tying back large shrubs and trees to provide adequate areas for construction activities - Restore and replant cleared areas in a timely manner, where appropriate, considering such factors as species type, seasonal growing conditions, and other construction-related activities - Place new and replacement trees based on such factors such as helping to provide the maximum screening of views to and from sensitive viewpoints (e.g., adjacent residential areas) or providing street ornamentation, where appropriate - Develop landscape plans for areas adjacent to elevated structures, retaining walls, noise walls, and TPSS sites[c] to achieve such effects as providing partial screening from sensitive viewpoints - Incorporate visual mitigation measures for Section 106-protected resources and Section 4(f)-protected properties as specified in Section 106 Memorandum of Agreement and Final Section 4(f) Evaluation, respectively Short-term: • Follow the Council's design guidelines, to address construction impacts where appropriate and practical; these include: - Locate staging areas in places where their visibility will be minimal and, to the extent required, provide temporary visual screening to limit views into them from nearby residential areas, trails, streets, or other places from which they will be seen by visually sensitive viewers

Category		Summary of Impacts and Mitigations
		- Use construction methods that minimize the need to remove vegetation to accommodate construction activities - Minimize and shielding lighting needed for staging areas or for nighttime construction activities • Restore areas disturbed during construction
3.8 Geology and Groundwater	Long-term Direct Impacts	Geology: • Potential for uneven ground settlement and bearing failure of the building foundations for the light rail alignment, stations, structures, and surface parking lots/parking structures • Cuts and fills to accommodate appropriate light rail track grade, including two light rail tunnels • No adverse impacts Groundwater: • Water collected at the tunnel portals will be routed through a pretreatment system that captures debris and sediments and through an underground infiltration chamber • Water from internal tunnel will be treated, if required, and pumped to the adjacent sanitary sewer systems owned by either the City of Minneapolis or Metropolitan Council Environmental Services
	Long-term Indirect Impacts	Geology: • No adverse impacts due to the existing disturbed soils underlying these areas Groundwater: • Impacts may occur as development activities in the Project's vicinity increase, but those development activities will be held to applicable regulatory standards and requirements
	Short-term Impacts	Geology: • At- or above-grade construction activities will expose sub-soil when topsoil is removed, which will be susceptible to surface-water and wind erosion Groundwater: • Temporary groundwater pumping during construction • Potential for groundwater contamination • Potential that buildings, roadways, and utilities may settle • Potential that pumped groundwater will be discharged to sewer and not recharge shallow aquifer
	Commitments	Long-term/Geology: • Address areas of compressible soils with appropriate design and construction techniques to avoid the potential for settlement and bearing failure of building foundations • No soils will be placed in floodplains or wetlands unless permitted Short-term/Geology: • Develop a stormwater pollution prevention plan as a part of the permitting process • Use wildlife-friendly BMPs to avoid the potential effects of soil erosion when topsoil is removed Long-term/Groundwater: • Tunnels designed to minimize inflow of groundwater through various design features and BMPs Short-Term/Groundwater: • Adhere to permit requirements related to groundwater pumping and discharge from pumping • Employ proper BMPs associated with groundwater removal during construction, to minimize the risk of building settlement • Within Minneapolis, send groundwater discharged to the sanitary sewer system to the treatment plant on the Mississippi River

Category		Summary of Impacts and Mitigations
	Mitigation Measures	Long-term/Groundwater: • Prepare a groundwater management plan, to be approved by MnDNR and applicable local jurisdictions before construction, which will address collection, storage, and disposal of surface water runoff and pumped groundwater following construction of the Project, and consider concerns about placement of stormwater handling facilities in or near wellhead protection areas • Include in the groundwater management plan, particularly within the Kenilworth Corridor, monitoring, which will be used to assess excessive groundwater infiltration and to prioritize any potential repairs to the waterproofing systems Short-term/Groundwater: • Develop and implement a monitoring plan that provides means for detecting the settlement of buildings, roads, or parking areas, so that additional remediation methods could be employed, if necessary • Prepare a groundwater management plan, to be approved by MnDNR and applicable local jurisdictions before construction, which will include required groundwater monitoring and management practices during construction • Seal and abandon all water or monitor wells or boreholes installed as part of soil and groundwater investigation; contractor will notify the Minnesota Department of Health if previously unidentified well are encountered during construction and also retain a licensed well contractor to abandon the well, if necessary
3.9 Surface Water Resources	Long-term Direct Impacts	Wetlands[d]: • Impacts[e] on 20 wetlands regulated under the Minnesota Wetlands Conservation Act (4.70 acres) and/or Clean Water Act (1.83 acres) • Impact to 20 linear feet of Kenilworth Channel Public Waters and Surface Water Quality: • Impacts will result from conversion of undeveloped land and operations and maintenance of the Project • 39.9 acres of new impervious surface • Five new crossings over water bodies • Fill into ditch at Hopkins Operations and Maintenance Facility Floodplains: • Long-term fill within 15 locally regulated floodplains (7,296 cubic yards)
	Long-term Indirect Impacts	Wetlands[d]: • Impacts to wetlands may occur if new development occurs within the proposed station areas Public Waters and Surface Water Quality: • Impacts will occur as commercial, transportation, and industrial activities in the Project's vicinity increase new point and non-point sources of water pollutants Floodplains: • Impacts to floodplains may occur if new development occurs within the proposed station areas
	Short-Term Impacts	Wetlands[d]: • Impacts[f] to 18 wetlands regulated under the Minnesota Wetland Conservation Act (3.83 acres) and/or the Clean Water Act (7.53 acres) • Impact to 60 linear feet of North Fork of Nine Mile Creek • Impact to 100 linear feet of Kenilworth Channel Public Waters and Surface Water Quality: • Increased rates and volumes of sediment-laden runoff during excavation, accidental spills and leaks from construction vehicles and equipment, and removal of riparian vegetation • Sediment and erosion impacts to public waters and surface water quality will occur near stream crossings, where slopes are greater and construction activities occur closer to the public water, and where controls are more difficult to implement and maintain

Category		Summary of Impacts and Mitigations
		Floodplains: • Temporary fill within floodplains • Loss or disturbance of soils and vegetation at some locations, which will increase the likelihood of temporary erosion and sedimentation in floodplains
	Commitments	Long-term/Wetlands: • Strive to avoid impacts on wetlands through design solutions Short-term/Wetlands: • Avoided and minimized short-term impacts to wetlands through design adjustments • Avoid in-stream construction when possible; install temporary portable dams or cofferdams as required • Implement appropriate wildlife-friendly (e.g. natural materials, no welded webbing) construction BMPs Long-term/Public Waters and Surface Water Quality: • Implement various design features that meet stormwater regulatory requirements including minimizing or eliminating pollutant sources and implementing structural and non-structural BMPs to treat and control runoff Short-term Public Waters and Surface Water Quality: • Develop a stormwater pollution prevention plan that complies with the Construction General Permit • Long-term and Short-term/Floodplains: • Develop appropriate plans and obtain applicable permits for floodplains, as well as implement BMPs
	Mitigation Measures	Long-term/Wetlands: • Purchase the required amount of wetland mitigation bank credits based on the long-term impacts and associated replacement ratios identified in the WCA and CWA Section 404 permit applications Short-term/Wetlands: • Restore wetlands temporarily affected during construction to existing grade, hydrology, and reseed with appropriate native wetland species seed mix, as required by the WCA and CWA; purchase wetland mitigation bank credits for CWA regulated short-term impacts lasting longer than 180 days Long-term/Public Waters and Surface Water Quality: • Design stormwater management facilities, which will be approved by local jurisdictions and through final permitting, to provide stormwater treatment in compliance with NPDES requirements • Short-term/Public Waters and Surface Water Quality: • Design stormwater management facilities to provide stormwater treatment in compliance with NPDES requirements Long-term/Floodplains: • Implement appropriate compensatory storage within or adjacent to the affected waterbody and where it is not feasible to meet this requirement, request a variance from applicable regulatory agency • Short-term/Floodplains: • Remove short-term floodplain fill placed during construction and restore elevations to pre-existing conditions resulting in a no net-loss of flood storage volume
3.10 Ecosystems	Long-Term Direct Impacts	Threatened and Endangered Species: • "No effect" on the Higgins eye (pearly mussel) and Snuffbox mussel, or their associated critical habitats • The Project may affect but is not likely to adversely affect the northern long-eared bat • No element occurrences of the Blanding's turtle within 0.9 mile of the Project's alignment; however, MnDNR determined this species may be adversely affected by the Project Habitat: • Removal, conversion, degradation, or splitting of existing habitat

Category		Summary of Impacts and Mitigations
		• Loss and/or degradation of vegetated areas associated with five land cover types, which could result in a decrease in potential wildlife foraging areas, breeding habitats, and nesting areas • Loss of approximately 60 acres of habitat Migratory Birds: • No adverse impacts as it is likely that regulated migratory bird species have adapted to survive in urban areas and tolerate high levels of human activity given the limited forest or woodland areas present
	Long-Term Indirect Impacts	Threatened and Endangered Species: • Impacts to threatened and endangered species may occur if new development occurs within the proposed station areas Habitat: • Increased disturbance of habitat because of activities associated with the daily operation of the light rail (e.g., noise, lighting, dust), as well as an increase in human activity in or adjacent to habitat areas • Impacts to habitat may occur if new development occurs within the proposed station areas Migratory Birds: • No adverse impacts as it is likely that regulated migratory bird species have adapted to survive in urban areas and tolerate high levels of human activity given the limited forest or woodland areas present
	Short-term Impacts	Threatened and Endangered Species: • No adverse impacts on federal or state listed threatened or endangered species, or critical habitat because impacts are avoided through commitments Habitat: • Temporary loss of vegetated areas associated with five natural land cover types, which could result in short-term loss of habitat • Temporary loss of approximately 23 acres of habitat Migratory Birds: • No adverse impacts because the Project's light rail alignment will be located in a predominantly urban area, and the species of migratory birds that regularly travel throughout or nest within this region are likely familiar with and/or have adapted to dealing with construction activities similar to those associated with construction of the Project
	Commitments	Long-term/Threatened and Endangered Species: • Implement MnDNR recommendations to avoid direct impacts to the Blanding's turtle (for measures see Section 3.10.3.1) Short-term/Threatened and Endangered Species: • Seasonal restriction on removal of trees during the summer northern long-eared bat pup season (June 1 to July 31) at the South Fork Nine Mile Creek • No activities within ¼ mile of a known hibernacula • Implement MnDNR recommendations to avoid impacts to Blanding's turtle as part of the Project's design Long-term/Habitat: • Implemented measures identified during design adjustment process to avoid and minimize long-term fragmentation, degradation and/or loss of habitat Short-term/Habitat: • Include invasive species and noxious weeds management plan in the Project's construction specifications • Implement measures such as fencing to isolate areas of disturbance, minimize amount of trees and vegetation removed as part of and implement measures to protect aquatic habitat Migratory Birds: • Avoid removing nest habitat during primary migratory bird nesting season (May 1 to Aug. 31), where appropriate • Conduct field survey prior to removal of nest habitat during primary bird nesting season (May 1 to Aug. 31) and follow developed protocol should an active nest be encountered

Category		Summary of Impacts and Mitigations
		• Comply with the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Statutes [Stat.] 250), which prohibits taking, possession, or commerce of these species
	Mitigation Measures	Long-term/Habitat: • Incorporate native landscaping into the Project's design, where applicable and appropriate Short-term/Habitat: • Reseed and restore habitat that is temporarily disturbed during construction, where appropriate, upon construction completion
3.11 Air Quality and Greenhouse Gases	Long-term Direct Impacts	• Beneficial effects: - Lower levels of mobile source air toxics emissions in the region, with projected reduction in vehicle travel when passengers switch from driving to light rail • No adverse impacts
	Long-term Indirect Impacts	• Beneficial effects: - Improved traffic conditions on the region's travel network will reduce vehicle emissions and contribute to air quality improvements - Net Greenhouse Gas emissions reduction in the region and beneficial GHG and climate change effects • No adverse impacts
	Short-term Impacts	• Temporary increase in air emissions from project construction • Temporary increase in greenhouse gases from the construction equipment and vehicles • Short-term increases in dust in and around the project area from construction activities
	Commitments	Short-term/Greenhouse Gases: • Implement BMPs, such as energy efficient construction equipment vehicles and limiting equipment and vehicle idling time during construction to reduce greenhouse gas emissions from construction activities Short-term/Air: • Comply with federal and state regulations, including the EPA's emission standards for on-road vehicles and off-road construction equipment, the state air rules in Chapter 7023: Mobile and Indirect Sources, and the applicable MnDOT's Standard Specifications for construction • Implement BMPs to minimize temporary construction emission impacts, including, but not limited to: - Minimization of land disturbance during site preparation - Watering of the construction site - Stabilization of dirt piles if they are not removed immediately - Use dust suppressants on unpaved areas - Covering trucks while hauling soil/debris off-site or transferring materials - Minimization of unnecessary vehicle and machinery idling - Use of energy efficient equipment and vehicles • Implement EPA-recommended measures where applicable (See Section 3.11.3.5 for a detailed list of measures)
	Mitigation Measures	None
3.12 Noise	Long-term Direct Impacts	• Without mitigation: 237 moderate noise impacts (52 buildings) and 558 severe noise impacts (69 buildings) for residential land uses; one moderate noise impact for institutional land uses • With mitigation: 59 moderate noise impacts (22 buildings) for residential land uses[g]
	Long-term Indirect Impacts	• Increased development near new light rail stations will likely result in more people having exposure to the noise produced by light rail vehicles and park-and-ride lots • Increase in transit ridership will likely reduce roadway traffic noise

Category		Summary of Impacts and Mitigations
	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
	Commitments	Short-term: • Require construction equipment used by contractors be properly muffled and in proper working order • Develop a nighttime construction mitigation plan if nighttime construction is deemed necessary • Conduct construction activities during daytime hours, except when required and allowable within local noise ordinance procedures
	Mitigation Measures	Long-term: • Mitigate for severe and moderate impacts, where the existing noise levels exceed 65 dBA Ldn or where there is an increase in noise due to the Project of three dB or greater, where reasonable and feasible, in accordance with the noise mitigation guidelines contained in the Regional Transitway Guidelines (March 2016) • Employ BMPs to minimize noise project-wide, including use of wheel skirts (panels over the wheels) to reduce wheel/rail noise and continuously welded rail to eliminate gaps in the tracks that generate additional noise; conduct wheel truing to keep wheels smooth and round and rail grinding to remove corrugations; and apply lubrication if/where needed • Conduct wheel truing (to keep wheels smooth and round) and rail grinding (to remove corrugations) on a regular basis, and employ lubrication where appropriate and as needed • Locate noise generating elements (e.g., crossovers) away from sensitive locations, where possible • Implement the following mitigation measures for residential and institutional locations: - Provide sound insulation improvements at building nearest LRT track: Residence Inn, Eden Prairie - Construct 8' high noise barrier extending 1,800'; Claremont Apartments, Minnetonka - Implement design elements for quiet zones, where the routine sounding of horns would be eliminated because of safety improvements at at-grade crossings, including modifications to streets, raised median barriers, four quadrant gates, and other improvements designed and implemented by the Project and consistent with quiet zone readiness at the following locations: o Hopkins Plaza Apartments, Hopkins o 7th Avenue, Hopkins o Sonoma Apartment, Hopkins o 6th Avenue, Hopkins o Town Terrace Apartments, Hopkins o Westside Apartments, Hopkins o Creekwood Estates, Hopkins o Railroad Avenue, St. Louis Park o Village in the Park Condos, St. Louis Park o TowerLight, St. Louis Park o 35th Street Apartments, St. Louis Park o Construct 3' high parapet barrier extending 500' on elevated structure over Excelsior Boulevard, Hopkins o Construct 8' to 11' noise barrier extending 760', Railroad Avenue, Hopkins o Construct 2' high parapet wall and rail dampers 300', Kenilworth Channel, Minneapolis o Complete on-site testing to determine if residences meet interior noise level criteria: one residence at Burnham Road North located NW of the channel; three residences at Thomas Ave South • Implement wayside bell at Thomas Avenue South, Sheridan Avenue South, and South Upton Avenue, Minneapolis Short-term: • Contractors will prepare a detailed Noise Control Plan for the 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

Category		Summary of Impacts and Mitigations
		- 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
3.13 Vibration	Long-term Direct Impacts	Vibration: • No vibration impacts for residential or institutional land uses Ground-borne noise: • Without mitigation: 54 units (five buildings) ground-borne noise impacts for residential land uses in the tunnel section south of the Kenilworth Channel, and one ground-borne noise impact at an institutional land use, an audiology clinic • With mitigation: no vibration impacts to residential or institutional land uses
	Long-term Indirect Impacts	• Increased development near new light rail stations will likely result in more people having exposure to vibrations produced by LRT and freight rail
	Short-term Impacts	• Vibration will result from operation of heavy equipment (pile driving, vibratory hammers, hoe rams, vibratory compaction, and loaded trucks) needed to construct bridges, retaining walls, roads, and park-and-ride facilities
	Commitments	Long-term: • Construct a tunnel slab within the Kenilworth Corridor to significantly reduce the number and magnitude of ground-borne noise impacts
	Mitigation Measures	Long-term/Ground-borne noise: • Implement highly resilient rail fasteners in the tunnel section (2,200 feet) to eliminate ground-borne noise impacts (the fasteners should be designed to provide at least 5 dB of reduction in vibration levels at 80 Hz and higher) • Replace the existing vibration isolation elements between the floor of the building and the sound booth at Hearing Care Specialists (audiologist) (the isolation elements should provide at least 10dB of reduction in vibration levels at 80Hz and higher) Short-term/Vibration: • Apply the following measures where feasible to minimize impacts from construction vibration: - Limit Construction Hours: Limit high-vibration activities at night - Construction Specifications: Include limits on vibration in the construction specifications, especially at locations with high-vibration activities - Alternative Construction Methods: Minimize the use of impact and vibratory equipment, where feasible and appropriate - Truck Routes: Use truck haul routes that minimize exposure to sensitive receptors and minimize damage to surface roadways, where appropriate - Pre-Construction Survey: Perform pre-construction surveys to document the existing conditions of structures in the vicinity of sites where high-vibration construction activities will be performed - Vibration Monitoring: If a construction activity has the potential to exceed the damage criteria at a building, the contractor will be required to conduct vibration monitoring and, if the vibration exceeds the limit, the activity must be modified or terminated
3.14 Hazardous and Contaminated Materials	Long-term Direct Impacts	• Beneficial Effect: - Removal of existing hazardous and contaminated soils within the construction area for the Project • No adverse impacts as operation of the light rail vehicles will not generate hazardous materials or regulated wastes and due to the effectiveness of identified avoidance measures (i.e., BMPs for OMF)

Category		Summary of Impacts and Mitigations
	Long-term Indirect Impacts	• Beneficial Effect: - Potential for known hazardous and contaminated material sites to be cleaned up as development/redevelopment occurs • Long-term management of methane-related indirect impacts on the proposed Hopkins OMF site from the Hopkins Sanitary Landfill may be necessary to limit potential worker exposure to methane
	Short-term Impacts	• Earthwork or other disturbance at or in proximity to contaminated areas could mobilize or result in the release of hazardous and contaminated materials • Potential spills of hazardous materials during construction • Discovery of previously undocumented contaminated soil or groundwater contamination encountered during construction • Potential for structures on acquired land to contain contaminated or hazardous materials • Potential exposure of hazardous material to people present within and adjacent to the project construction area
	Commitments	Long-term: • Responsible management and containment of hazardous materials that will be used and stored onsite at the proposed Hopkins OMF • Implement industry BMPs for the collection and disposal of oils, grease, and other waste materials generated during vehicle maintenance and repair activities at the Hopkins OMF • Obtain a Generator License through Hennepin County for the Hopkins OMF and comply with applicable requirements for annual reporting/licensing, storage, shipping, record keeping, emergency planning, and disposal requirements • Develop a SPCC plan to minimize potential long-term effects related to accidental spillage of petroleum products stored at the Hopkins OMF • Tunnels designed to minimize inflow of groundwater through various design features and BMPs preventing hazardous materials or contaminated stormwater from entering groundwater Short-term: • Develop RAPs for remediation in cases where the presence of contamination has been verified through the Phase II ESAs • Follow OSHA guidelines during construction • Prevent public exposure through physical contact with a contaminated material by site access barriers • Use engineering controls and BMPs to avoid spills of hazardous materials during construction; this includes preparation and adherence to a SWPPP and best management practices, to limit and contain releases and spills to minimize the likelihood of soil and groundwater contamination during construction
	Mitigation Measures	Short-term: • Conduct mitigation within the MPCA Brownfield Program regulatory framework and approved RAPs • Implement RAPs, approved by MPCA, to address the risks identified in the Phase I and Phase II environmental site assessments • Prior to the start of construction prepare, and with MPCA approval, prepare a CCP to address the discovery of unknown contamination • Survey structures on acquired land for the presence of hazardous/regulated materials prior to their demolition or modification • Handle and manage potentially hazardous materials in compliance with applicable regulatory standards and dispose of in accordance with an Hazardous Materials Abatement Plans for in-place hazardous/regulated materials, and the RAP/CCP for hazardous/regulated materials in the site soils
3.15 Electromagnetic Fields/ Electromagnetic Interference, and Utilities	Long-term Direct Impacts	• No adverse impacts from electromagnetic fields due to the low levels of exposure to people riding the LRT or in adjacent buildings • No adverse impacts from electromagnetic interference because there are no sensitive receptors in the study area • No adverse impacts on utilities because conflicting utilities will be relocated and services maintained
	Long-term Indirect Impacts	• No adverse impacts from electromagnetic fields or electromagnetic interference and no adverse impacts on utilities

Category		Summary of Impacts and Mitigations
	Short-term Impacts	EMI/EMF: • No adverse impacts Utilities: • Excavation and grading activities, placement of structural foundations and work that requires large-scale equipment could interfere with utilities • Relocating water mains could temporarily affect access to and use of fire hydrants
	Commitments	Long-term/Utilities: • Relocate all conflicting utilities to avoid utility impacts to and to maintain utility service, in accordance with the Southwest LRT 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 transmission systems along the corridor through consultation with Xcel Energy Short-term/Utilities: • Provide temporary utility connections to customers prior to permanent relocation activities • Contact area utility companies and utility agencies to request providing line relocation measures and approval of the proposed alteration of utility lines prior to construction • Notify affected businesses and residences of planned disruption of service due to construction activities • Contact appropriate utility companies and agencies to identify utility lines discovered during construction that were not identified in the contract documents • Coordinate with local and state agencies, as required, to relocate specific utilities outside the project corridor: - Adhere to Minnesota Statute 216B, Public Utilities, which provides terms for which utility companies may operate in public right-of-way - Conform to *MnDOT Utility Accommodation Policy*, which requires public and private utilities to obtain a permit to place utility facilities on trunk highway right-of-way • Review any utility installations on, over, or under railroad property, with railroad(s) and obtain approval(s)
	Mitigation Measures	None
3.16 Energy	Long-term Direct Impacts	• Beneficial effects: - The Project will have an annual regional energy consumption 109 billion Btu lower than the No Build Alternative - Changes due to mode shifts from single-occupant vehicles to transit, reducing energy consumption • No adverse impacts
	Long-term Indirect Impacts	• Beneficial effects: - Changes due to mode shifts from single-occupant vehicles to transit, reducing passenger vehicle miles traveled • Increase in energy consumption from new development and redevelopment • No adverse impacts because new development is typically more energy efficient than existing or less dense development
	Short-term Impacts	• No adverse impacts because energy used for production of raw materials and components for construction will be localized and temporary
	Commitments	• Design the Project to incorporate opportunities to reduce energy consumption into the Project, including: - Follow the State of Minnesota Sustainable Building Guidelines (MSBG-B3) - Use highly efficient LED lighting throughout the Project (street lighting to building lighting) - Maximize use of daylight at OMF, supplemented with lighting control management software - Coordinate with Xcel Energy for efficient OMF heating, cooling, and lighting control systems

Category		Summary of Impacts and Mitigations
		- Use energy recovery units in the OMF - Use a high-efficiency chiller at OMF - Use condensing boilers at OMF - Use closed-cell cooling tower (free winter cooling)
	Mitigation Measures	None
3.17 Cumulative Impacts	Cumulative Effects Assessment	Direct and indirect adverse impacts will be localized and the Project is not anticipated to generate substantial cumulative impacts for the environmental categories evaluated
Transportation Categories[a]		
4.1 Transit	Long-term Direct Impacts	• Changes to Metro Transit or SouthWest Transit facilities and service to accommodate and coordinate with the proposed light rail extension • No adverse impacts
	Long-term Indirect Impacts	• Beneficial effects: - Increase in transit trips - Ridership and operations changes to the existing local bus system - Demand for pedestrian and bicycle access to new light rail stations will increase - Anticipate additional increase in transit ridership due to potential increases in development density or redevelopment in areas surrounding light rail stations • No adverse impacts
	Short-term impacts	• Intermittent impacts to bus operations on routes within the construction area, such as temporary stop relocations or closures, route detours, or suspensions of service on segments of routes operating on streets where light rail facilities are constructed
	Commitments	Short-term: • Reevaluate transit routes and construction plans to minimize disruption to transit service
	Mitigation Measures	Long-term: • Follow Federal and local procedures for route modifications or the suspension of transit service, including completing a Title VI analysis and outreach plan to determine how service changes would affect low-income and minority communities and communicate these changes prior to implementation Short-term: • Develop and implement the Construction Mitigation Plan and a Construction Communication Plan. Strategies may include: - Issue construction updates and post them on the 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 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 • Develop and implement a construction staging plan, which will be reviewed with the appropriate jurisdictions and railroads. Components of a construction staging plan include traffic management plans and a construction timeline.
4.2 Roadways and Traffic	Long-term Direct Impacts	• Physical modifications that will affect local circulation • No adverse impacts

Category		Summary of Impacts and Mitigations
	Long-term Indirect Impacts	• Beneficial effects: – Decrease in auto trips on surrounding roadway network as people switch from auto to transit – Additional vehicle traffic from anticipated new development surrounding the light rail stations • No adverse impacts due to capacity upgrades and improvements in locations that could realize increased traffic generated in station areas
	Short-term Impacts	• Short-term traffic impacts from construction activities such as: - Relocation of existing utilities - Removal of existing surface features within the right-of-way or between the curbs - Excavation and construction of new subsurface features required for the LRT system and adjacent roadways including stormwater drainage systems and various electrical facilities - Construction of new light rail track, stations, electrical power systems, roadways, and bridges - Installation of above ground light rail system operation facilities • Temporary, partial and full closures of existing streets and driveways
	Commitments	Long-term: • Implement roadway and intersection improvements to avoid any new or worsened congested intersections, compared to the No Build Alternative in 2040
	Mitigation Measures	Short-term: • Develop and implement the Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 4.1) • Comply with applicable state and local regulations related to the roadway closures and the effects of construction activities, including MnDOT, Hennepin County, and all municipalities • Contractor compliance with all guidelines established in the Minnesota Manual on Uniform Traffic Control Devices (2015) • Appropriate jurisdictions to review construction staging and mitigation documents • Secure required permits • Contractor to develop traffic control plans based on information identified in the construction documents and the Construction Mitigation Plan. Traffic control plans will be reviewed by appropriate jurisdictions and the Council prior to initiation of construction activities.
4.3 Parking	Long-term Direct Impacts	• Removal of 692 off-street parking spaces at 16 properties • Removal of an existing publicly owned park-and-ride lot (52 spaces) • Addition of 98 on-street parking spaces at five locations • Removal of 252 on-street parking spaces at nine locations • New park-and-ride lots at nine light rail stations, for a combined addition of 2,487 new park-and-ride spaces
	Long-term Indirect Impacts	• Could affect supply of and demand for off-street and on-street parking around station areas as a result of development/redevelopment • Spillover parking could occur at stations where there are no park-and-ride lots planned • Spillover parking could occur in the vicinity of the proposed SouthWest and Beltline Stations
	Short-term Impacts	• Temporary removal of on-street parking spaces to facilitate construction
	Commitments	None
	Mitigation Measures	Long-term: • Compensate business owners for loss of off-street parking spaces, based on the terms of the purchase agreement between the Council and property owner • Complete a Regional Park-and-Ride System Report on an annual basis. As part of this effort, the Council and Metro Transit will collaborate with regional transit partners, local governments, and MnDOT to conduct an annual regional park-and-ride survey, which

Category		Summary of Impacts and Mitigations
		tracks facility use and emerging travel patterns by park-and-ride users across the region to identify the appropriate mitigation, as needed and where feasible. The results of this survey are published in the annual report. • Develop a joint use agreement to share parking with SouthWest Transit for the park-and-ride lot adjacent to the station • Identify suitable replacement locations prior to any displacement of on-street handicap parking spaces or on-street truck loading zones Short-term: • Develop a Construction Mitigation Plan that will address temporary on-street parking loss during the construction of the Project (see 4.1)
4.4 Freight	Long-term Direct Impacts	• Changes to existing freight rail infrastructure, such as shifting the freight mainline up to 45 feet, removing siding track, and reconstruction of existing freight rail bridges • No adverse impacts as there are no substantial changes to freight rail operations
	Long-term Indirect Impacts	• None[h]
	Short-term Impacts	• Impacts to freight rail operations resulting from construction activities along the three freight rail corridors adjacent to the Project, including multiple stoppages
	Commitments	• Develop specifications for the contractor to follow in developing and implementing construction staging and sequencing plans
	Mitigation Measures	Short-term: • Develop and implement freight rail operation coordination plans to facilitate coordination between the Project and the affected freight railroads during construction activities affecting freight rail operations - Provide provisions in construction contract to identify how the contractor will interact with railroads - Work with affected freight rail owners and operators to sequence construction to minimize effects on freight movements and to identify optimal periods for closing the rail service and reducing speeds - Use flaggers to allow freight rail operations to continue
4.5 Bicycle and Pedestrian	Long-term Direct Impacts	• Changes to pedestrian and bicycle facilities including intersection modifications, new station area platform access points, new at-grade sidewalk and trail crossings of LRT tracks, and modifications to trail widths • Additions or modifications of facilities that will have a positive impact on pedestrian and bicycle travel, such as signalization of currently unsignalized roadway intersections, construction of new sidewalks or continuation of existing sidewalks around station areas, and geometry changes to roadways which may result in reduced pedestrian crossing distances • Adverse impacts may include relocation of public trails, trail and station area conflicts, Kenilworth Trail widths, displacement of private trails, and a loss of queuing space for the at-grade LRT and freight crossing near Penn Station
	Long-term Indirect Impacts	• Increase in pedestrian and bicycle activity in the station areas and along the regional trails
	Short-term Impacts	• Changes to pedestrian and bicycle facilities, including intersection modifications, reconstruction of freight rail crossings, and trail and sidewalk detours • Indirect impacts include reduced pedestrian and bicycle volumes on existing facilities
	Commitments	Long-term: • Apply the following to changes to pedestrian and bicycle facilities based on the manuals, standards, and engineering best practices: - Construct ADA-compliant curb ramps and detectable warnings to the latest standard at light rail stations, at-grade crossings of LRT tracks, as well as at roadway intersections that will be modified - Update pedestrian change interval times at signalized intersections to allow additional crossing time; by the appropriate jurisdiction with the assistance from the Council - Conform modifications to roadway geometry and local jurisdiction's changes to signalized intersections to the *Minnesota Manual of Uniform Traffic Control Devices*, 2015 Edition, as appropriate and in coordination with the applicable jurisdiction

Category		Summary of Impacts and Mitigations
		- Provide stairs and ramps to make the pedestrian and bicycle connections possible at the Opus, West Lake, and Penn light rail stations in areas where grades inhibit pedestrian and bicycle access to stations - Follow the recommendations from the AASHTO *Bike Design Guide*, where appropriate - Provide elevators at the West Lake and Penn stations - Replace all existing public regional and local trails relocated by the Project with similar facilities that will provide the same connectivity; in some cases trail relocations include the addition of grade-separation where a trail crosses a roadway under existing conditions • Include wayfinding, regulatory and warning signage, and markings of trail intersections to address conflicting movements at station areas Short-term: • Provide a trail detour route or facility prior to construction activity at locations where existing trails and sidewalks may be obstructed by construction activity. Pedestrian and bicycle facilities will be maintained during construction in one of the following ways: - Trail detour route. A signed route along other trails or roadways that provides a bicycle and pedestrian connection around an obstruction of the existing trail. Bicycle connections could be on another trail or on an existing street (with or without bike lanes). Pedestrian connections could be on another trail or on a sidewalk along an existing street. - Trail detour facility. A temporary trail facility built to re-route bicycle and pedestrian traffic around an obstruction, usually located close to the existing trail. - Sidewalk detour route. A signed route that provides pedestrian access to an area where access currently exists via another nearby sidewalk, frequently on the opposite side of a roadway. Where feasible, these temporary facilities will be as ADA compliant as the existing facilities. • Sidewalk detour facility. A temporary paved facility built to re-route pedestrian traffic in areas where another nearby sidewalk does not exist. Where feasible, these temporary facilities be as ADA compliant as the existing facilities. An exception to the above is an unforeseen safety issue during construction that would obstruct the trail or sidewalk and necessitate an immediate, short term closure. In this case, the trail or sidewalk may be closed and remain closed for five days or less without an available detour route or facility.
	Mitigation Measures	Long-term: • Any measures to address the removal of the trail between Flying Cloud Drive and West 70th Street (e.g., replacement of the trail), will be determined by the property owner as part of the Project's property acquisition process Short-term: • Develop and implement the Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 4.1)
4.6 Safety and Security	Long-term Direct Impacts	• Modifications to existing freight rail facilities, introduction of light rail stations and related facilities, new at-grade LRT crossings of roadways, potential changes to emergency vehicle access and response times, light rail service in the vicinity of freight rail service, and new light rail tunnels. • No adverse impacts based on the incorporation of safety and security-related design and operational elements into the Project.
	Short-term Impacts	• Potential for temporary delays in emergency response resulting from construction activities.
	Commitments	Long-term: • 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 • Coordinate with, as applicable, the State of Minnesota railroad and pipeline safety regulations that went into effect in July 2014 as part of MN Chapter 312 • Implement the 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 near at-grade trail or sidewalk crossing, in station areas, and between light rail and freight rail alignment when adjacent to a trail or sidewalk, where possible • 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

Category		Summary of Impacts and Mitigations
		• 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 Project • Coordinate with affected emergency service providers including identification of alternative crossing routes • Implement safeguards from the Metro *Light Rail Transit Design Criteria* including emergency guardrails • Install intrusion detection for possible freight derailment where clearance between the centerline of the LRT tracks and the centerline of the freight tracks is less than 50 feet • Install corridor protection barriers between freight rail and light rail tracks where clearance between centerlines is less than 25 feet • Include safeguards in the catenary system for the Project to help minimize the possibility of sparking occurring in the overhead catenary wires • Regularly inspect pantographs for grooves along the pantograph's carbon strip, which could cause arcing • Where the light rail alignment will be 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 • Participate in the planning, performance, and evaluation of emergency simulations on the system in coordination with the LRT FLSSC • Implement Metro Light Rail Transit Design Criteria, as well as National Fire Protection Association 130: Standard for Fixed Guideway Transit and Passenger Rail Systems, and Circular C 5800.1, Safety and Security Guidance for Recipients with Major Capital Projects in the shallow tunnel in the Kenilworth Corridor and at Highway 62 to provide security and/or enhanced safety Short-term: • Coordinate with emergency service providers to provide schedule for construction activities and identify detour routes to minimizing delay for emergency response vehicles • 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 Occupational Safety and Health Administration (OSHA) and Minnesota OSHA standards for safety of construction site personnel to minimize and/or avoid injury to construction workers • Contractors will prepare a 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 Project's SSMP • Use construction safeguards, such as horizontal and vertical movement and settlement monitoring for both existing freight rail infrastructure and light rail tunnel in support of excavation • Collect and analyze monitoring data (by construction staff) and coordinate with freight railroad operations staff to verify that safe freight rail operations can be maintained through the construction area at all times • Develop and implement freight rail operation coordination plans to facilitate coordination between the Project and the affected freight railroads during construction activities affecting freight rail operations (see 4.4)
	Mitigation Measures	Short-term: • Develop a Construction Mitigation Plan, Construction Communication Plan, and construction staging plan (see 4.1)

[a] This table summarizes the anticipated impacts and mitigation measures for the Project as identified in the Final EIS. All data in the table are approximate. See the corresponding sections of Chapters 3 and 4 for a more detailed description of the anticipated impacts, and mitigation measures. "Mitigation measures" are specific actions that will be incorporated into the project to address anticipated adverse impacts (see also 40 CFR 1508.20). "Commitments" are general actions that will be incorporated into the project that may not be tied to anticipated adverse impacts, such as the use of best management practices (BMPs) or public outreach strategies. If there are no mitigation measures identified for a specific type of impact area, it means that the avoidance measures identified for that environmental category will avoid any adverse environmental impacts for that category, and therefore, no mitigation measures are warranted.

[b] 19 viewpoints were selected for assessment within six visual analysis units. The six visual analysis units and the exhibits on which they are mapped include Eden Prairie (Exhibit J-1), North Eden Prairie/Minnetonka/South Hopkins (Exhibit J 6), Hopkins (Exhibit J-9), St. Louis Park (Exhibit J-12), Kenilworth Corridor (Exhibit J 17), and Minneapolis Downtown Fringe (Exhibit J-24).

[c] A traction power substation (TPSS) is an electrical substation that converts electric power from the form provided by the electrical power industry for public utility service to an appropriate voltage, current type, and frequency to supply railways, trams (streetcars), or trolleybuses with traction current.

[d] The term "wetland" is used to describe any regulated aquatic resource, including streams. See Section 3.9 for additional information.

[e] Long-term direct impacts on wetlands regulated under the Minnesota Wetlands Conservation Act are generally defined as impacts not fully restored within six months, and long-term direct impacts to wetlands regulated under the Clean Water Act are generally defined as impacts that are not fully restored.

[f] Short-term impacts on wetlands under the Minnesota Wetlands Conservation Act are generally defined as impacts that will be fully restored within six months, and short-term impacts to wetlands regulated under the Clean Water Act are generally defined as impacts that will be fully restored.

[g] If the noise mitigation guidelines, as contained in the Regional Transitway Guidelines (March 2016) (see Appendix D), are found to not meet reasonable criterion or if property owner(s) does not approve sound insulation, the Project will result in additional residual noise impacts. Noise mitigation measures include the implementation of quiet zones in some areas where the light rail alignment will be adjacent to freight rail. 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 by the 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 Project may result in additional residual noise impacts. See Section 3.12 and Table 3.12-7 for additional information.

[h] See Section 4.4.4.2 for a description of unavailable and unobtainable information on the effect that the proposed Southerly Connection could have on freight rail operations.

Notes: Data are approximate. ADA = Americans with Disabilities Act; AASHTO = American Association of State Highway and Transportation Officials; APE = area of potential effects; BMP = best management practice; CWA = Clean Water Act, CCP = Construction Contingency Plan; CFR = Code of Federal Regulations; EIS = Environmental Impact Statement; dB = decibels; dBA = A-weighted decibels; EPA = U.S. Environmental Protection Agency; FLSSC = Fire Life Safety and Security Committee; FRA = Federal Railroad Administration; HCRRA = Hennepin County Regional Railroad Authority; LOS = level of service; CFR = Code of Federal Regulations; LRT = light rail transit; LRV = light rail vehicle; MOA = Memorandum of Agreement; MnDOT = Minnesota Department of Transportation; MnDNR = Minnesota Department of Natural Resources; MnHPO = Minnesota Historic Preservation Office; MPCA = Minnesota Pollution Control Agency; MPRB = Minneapolis Park and Recreation Board; MN&S = Minneapolis, Northfield, and Southern Railway; OMF = Operation and Maintenance Facility; OSHA = Occupational Safety and Health Administration; RAP = Response Action Plan; SOI's Standards = Secretary of the Interior's Standards for the Treatment of Historic Properties; SPCC = Spill Prevention, Control, and Countermeasure; SSMP = Safety and Security Management Plan; SWPPP = Stormwater Pollution Prevention Plan; T&E = threatened and endangered; TPSS = traction power substation; TC&W = Twin Cities and Western Railway Company, USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service; U.S.C. = United States Code; Uniform Relocation Act = Uniform Relocation Assistance and Real Property Acquisition Policies Act; WCA = Minnesota Wetlands Conservation Act of 1991.

Source: Council, 2015.

21. HOW DOES THE FINAL EIS ADDRESS ENVIRONMENTAL JUSTICE COMPLIANCE?

The environmental justice (EJ) analysis presented in Chapter 5 of this 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 5 of this Final EIS first includes the identification and mapping of minority (by race and ethnicity) populations and low-income populations within the 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 Project's decision making processes. Third, the Final EIS summarizes the analysis of adverse impacts that will result from the Project, determining if those adverse impacts would affect EJ populations, and assessing whether the 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, the FTA and Council have concluded that the Project as a whole would not result in disproportionately high and adverse impacts to EJ populations.

22. DOES THE PROJECT INCLUDE ANY JOINT DEVELOPMENT OPPORTUNITIES?

The Final EIS assesses one potential joint development project that may be implemented with the Project, which is the Beltline Station joint development project. That assessment, in Chapter 10 of the Final EIS, describes the proposed joint development project and how the overall Project's environmental impacts would be different without and with the joint development project.

Under the proposed Southwest LRT Project without the Beltline Station joint development project, the Beltline Station in St. Louis Park would include a 268-space surface park-and-ride facility, a bus stop/layover and a passenger drop-off area to be constructed on the east side of Beltline Boulevard in the area between the Beltline Station platform on the south and County Road 25 on the north. Under the proposed Southwest LRT Project with the proposed Beltline Station joint development project, the site directly adjacent to the light rail station would include multistory retail, office, and residential buildings. The site would also include a 540-space park-and-ride lot in a structured parking lot (10 stories). Other parking spaces in the structured parking lot would be available to commercial, office, and retail users of the proposed joint development site. Should the final mix of retail, office, and residential uses occupying the site warrant it, the Beltline Station joint development project would also include the addition of a westbound left-turn lane on Park Glen Road at Beltline Boulevard. A mix of local public and private funds would be used to construct the mix of retail, office, and residential improvements that would occupy the site, as well as the potential additional lane on Park Glen Road.

Additional impacts that would be associated with the Southwest LRT Project with the Beltline Station joint development project include the additional acquisition of 3.15 acres of land; additional multistory buildings that would affect the visual environment around the proposed Beltline Station; approximately 540 additional average weekday transit boardings in 2040 and a reduction in the risk of spill-over parking in the vicinity of the proposed station due to the increased park-and-ride lot capacity at the proposed Beltline Station; and an increase in vehicle trips to and from the joint development project site.

23. WHAT ARE THE PROJECT'S ESTIMATED COSTS AND FUNDING STRATEGY?

The capital cost to fund the Project (both LPA and LRCIs) would be approximately $1,820 million (in year-of-expenditure dollars). The LPA is estimated to cost approximately $1,791 million (year of expenditure dollars), and the LRCIs are anticipated to cost approximately $29.3 million (year of expenditure dollars). The region anticipates securing federal New Starts funds for 50 percent of the cost of the LPA. The remaining 50 percent of the LPA cost is proposed to be funded from the following sources: 9.2 percent from the State of Minnesota; 27.7 percent from the Counties Transit Improvement Board; 9.2 percent from HCRRA; 3.7 percent from additional local contributions; and 0.2 percent from Federal Surface Transportation

Program funds. LRCIs would be funded separately from the LPA. The funding sources for LRCI costs, which could be federal non-New Starts or local sources, are the responsibility of the LRCI sponsors. LRCI sponsors have committed funds for design and environmental activities. Following the opening of construction bids, LRCI sponsors will need to commit funds for construction if they wish to proceed with implementing the LRCIs. In year-of-expenditure dollars, annual operating and maintenance costs for the Project in 2040 are estimated to be approximately $83.1 million higher than under the No Build Alternative, increasing from approximately $1,309.0 million to $1,392.1 million.

24. HOW HAS THE PUBLIC BEEN INVOLVED IN THE PROJECT?

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 Supplemental Draft EIS and the Final EIS, public involvement activities became the responsibility of the Council.

After publication of the Draft EIS, the Council led the 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.

Exhibit ES-2 illustrates the Southwest LRT Project's advisory committee process. Four advisory committees worked with Council staff to provide input during key steps in the NEPA process.

EXHIBIT ES-2
Southwest LRT Project Advisory Committee Process

The Council developed a Project website (www.swlrt.org), as part of the Council website. The Council's Southwest LRT Project website serves as a communications forum and resource to the public, allowing stakeholders to keep informed about 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 Project outreach process and on the Project website. The outreach program implemented strategies and techniques to involve low-income and minority citizens and stakeholders in the Southwest Corridor. Council staff hosted public events in locations throughout the Southwest Corridor to give the public opportunities to provide input on Project design efforts and to receive updates and information about 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 Project website; development of an "e-list" used to send out newsletters, press releases, and meeting information; social media; Project-specific print material; door-to-door outreach; a Project mobile office; and Project staff attendance at community events.

25. WHAT COMMENTS WERE RECEIVED ON THE DRAFT EIS?

A total of 997 comments were submitted, in the form of letters, e-mails, public testimony at the public hearings, and comment cards received at the public open houses and public hearings (see Section 9.1 of the Final EIS for more information on public involvement). Comments were received from individuals, businesses, public interest groups, and public agencies, including local communities and regulatory agencies.

In general, comments in support of the Project noted enhanced transit service, accessibility, and lower transit travel times. Comments opposed to the Project cited cost, concerns about property values and other impacts of the Project. Comments were submitted regarding the following categories: concerns about proposed changes in the Kenilworth Corridor, a proposed bridge over Cedar Lake Parkway, a proposed park and ride lot near the 21st Street Station, impacts to historic and park resources, noise impacts from LRT operations and vibration impacts during construction, and mitigation for residential and commercial properties. Comments were also submitted about the western portion of the alignment in Eden Prairie and included: property acquisition concerns, potential traffic impacts, impacts to loss of parking and effects on business operations, and potential property acquisitions.

Many comments received were related to the location of freight rail relative to the Project. Numerous comments were received opposing freight rail co-location in the Kenilworth Corridor as well as opposing the rerouting of freight rail into St. Louis Park.

Other comments focused on design elements and environmental issues. Specific design issues that generated numerous comments include:

- Support for tunnel or trench in Kenilworth Corridor
- Preferences regarding the location of specific stations, the OMF, etc.
- Alignment adjustment comments, including adjustments in Eden Prairie
- Preference for other Draft EIS Alternatives

Environmental issues that generated numerous comments included:

- Concerns about noise and vibration impacts from LRT, as well as from potentially relocated freight rail operation
- Neighborhood and Community impact concerns over Project implementation
- Concern about acquisitions and displacements, impacts to residents and businesses
- Concerns about maintaining park-like settings and potential impacts on visual quality and impacts from noise for many park resources along the corridor including Cedar Lake Parkway, Purgatory Creek Park, and trails
- Comments on environmental justice, including the need to more thoroughly study impacts from freight rail relocation
- Economic Impacts, including concerns over impacts to freight rail owners and operators resulting from re-route
- Requests for additional analyses on water resources within the study area, including more accurate wetland determinations

All substantive comments received during the Draft EIS comment period and responses to the comments are in Appendix L of this Final EIS.

The Final EIS documents and responds to all substantive comments received on the Draft EIS during their respective public comment periods. See Appendix L.3 of the Final EIS for responses to Draft EIS comments.

26. WHAT COMMENTS WERE RECEIVED ON THE SUPPLEMENTAL DRAFT EIS?

A total of 206 comments were received during the public comment period for the Supplemental Draft EIS. Comments were submitted in the following formats: emails; testimony at the public hearings held on June 16, 17, and 18, 2015; comment cards; and letters. Comments were submitted by the general public, community organizations, elected officials, governmental and regulatory agencies, businesses, and non-profit organizations. The most frequent topics of public comments were noise; vibration; safety and security; general opposition to freight rail co-location; and the AA/NEPA process.

For purposes of responding to the Supplemental EIS comments, the Council organized comments into major themes, including comments received:

- Concerns about safety in the Kenilworth Corridor with freight and LRT co-located
- Project elements, including Engineering of the alignment, stations in the Kenilworth Corridor area
- Project costs and effectiveness
- NEPA process; the scoping process, freight rail as existing condition
- Replacement of the Skunk Hollow Switching Wye with the Southerly Connection (between Bass Lake Spur and the MN& Spur)

Many comments were related to the design adjustments to the LPA within the Kenilworth Corridor. Environmental issues generated numerous comments from individuals as well as community and neighborhood organizations.

FTA and the Council received a variety of comments, many of which expressed concerns related to the safety and security of LRT construction. Operations of LRT within close vicinity to freight in the Kenilworth Corridor, and safety concerns related to hazardous freight rail cargo within the Kenilworth Corridor, and safety of roadway, trail, and sidewalk crossings at 21st Street West accounted for many of the comments received. Comments were submitted expressing concern about visual impacts to the park and historic resources in the Kenilworth Corridor, noise impacts to the Kenwood community, and vibration impacts from LRT tunnel construction. There were comments asking about the rationale for incorporating freight rail co-location into the Project.

Comments expressing concerns about the potential impacts related to replacement of the Skunk Hollow Switching Wye with the Southerly Connection between the Bass Lake Spur and the MN&S Spur were received. A number of comments stated that freight rail operations should not be considered an existing condition and should be excluded from the baseline data.

The Final EIS documents and responds to all substantive comments received on the Supplemental Draft EIS during their respective public comment periods. See Appendix M.4 for responses to the Supplemental Draft EIS comments.

27. HOW CAN I OBTAIN A COPY OF THE FINAL EIS?

The Final EIS and supporting documentation are available on the Project website (www.swlrt.org). A printed copy of the Final EIS and supporting documents are available for review during regular business hours at the Southwest LRT Project Office (6465 Wayzata Boulevard, Suite 500, St. Louis Park, MN 55426) during regular business hours. Printed copies and/or electronic copies will also be available at city halls and libraries in Eden Prairie, Hopkins, Minneapolis, Minnetonka, and St. Louis Park. CDs of the Final EIS will also be sent to interested businesses, individuals, and organizations, when requested.

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

- Mail: Nani Jacobson, Assistant Director, Environmental and Agreements
  Metro Transit – Southwest LRT Project Office
  6465 Wayzata Boulevard, Suite 500
  St. Louis Park, MN 55426

  OR

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

- Email: swlrt@metrotransit.org

28. WHEN DID THE COMMENT 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 May 13, 2016, and in the *EQB Monitor* on May 16, 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 ten (10) days. Comments on the adequacy of the Final EIS are being accepted through June 13, 2016. Comments on the adequacy of the Final EIS may be submitted through:

Mail: Nani Jacobson, Assistant Director, Environmental and Agreements
Metro Transit – Southwest LRT Project Office
6465 Wayzata Boulevard, Suite 500
St. Louis Park, MN 55426
Email: swlrt@metrotransit.org

29. WHAT HAPPENS AFTER THE CLOSE OF THE FINAL EIS COMMENT PERIOD?

Following publication of the Final EIS and the written comment period, the FTA will prepare and issue the 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. The ROD must be issued by FTA before federal funding and permits can be approved. All comments will be published on the project website (www.swlrt.org) and comments and issues will be responded to in the Project's 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 five days of the decision, and public notice of the decision will be published in the *EQB Monitor*.

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