

2 Alternatives Considered

This chapter provides a description of the design adjustments to LRT 3A and LRT 3A-1 developed since publication of the *Southwest Transitway Draft Environmental Impact Statement* (Draft EIS) in October 2012. As identified in the Draft EIS, LRT 3A and LRT 3A-1 include an LRT alignment traveling between Mitchell Road in Eden Prairie and downtown Minneapolis. LRT 3A and LRT 3A-1 provide service between Eden Prairie, Minnetonka, Hopkins, Edina, St. Louis Park, and Minneapolis by way of Technology Drive in Eden Prairie, through the Golden Triangle/Opus areas, to Hennepin County Regional Railroad Authority (HCRRA) property through Hopkins and St. Louis Park, then along the Kenilworth Corridor through Minneapolis to Royalston Station and connecting to Target Field Station. Adjustments to the design of LRT 3A and 3A-1 incorporated by the Council after publication of the Draft EIS—where the adjustments could result in new significant impacts not addressed in the Draft EIS—are the subject of this Supplemental Draft EIS. This chapter includes the following sections:

- 2.1 Project Overview
- 2.2 Alternatives Analysis and Draft Environmental Impact Statement
- 2.3 Design Adjustments Considered Following the Draft Environmental Impact Statement
- 2.4 Design Adjustment Process
- 2.5 Locally Preferred Alternative Adjustments Evaluated in this Supplemental Draft Environmental Impact Statement
- 2.6 Locally Requested Capital Investments

2.1 Project Overview

The proposed action is an approximately 16-mile 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 2.1-1). See Section 2.5 for a general overview of the proposed project and for a more detailed description of the proposed project in the three areas that are the focus of this Supplemental Draft EIS.

The following subsections provide a description of the federal, state, and local jurisdictions that are participating on the project and a brief description of the project's prior phases of work.

2.1.1 Project Participating Agencies

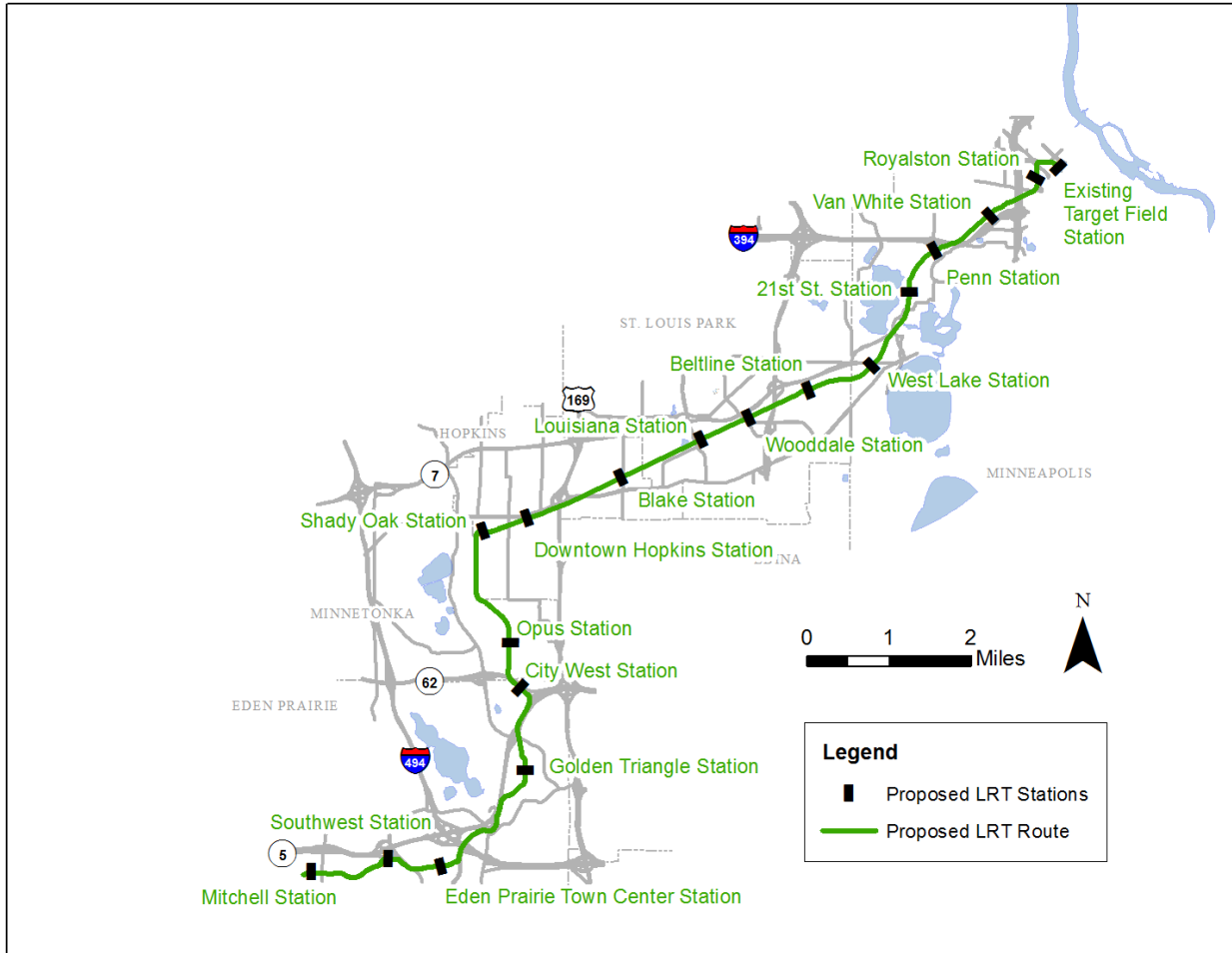
The FTA, as the project's lead federal agency, will ensure that the project completes its federal environmental review process and documentation in compliance with the National Environmental Policy Act of 1969 (NEPA) and related laws. FTA invited the federal Surface Transportation Board¹ (STB) and the United States Army Corps of Engineers² (USACE) to become Cooperating Agencies, in accordance with Title 40 of the Code of Federal Regulations (40 CFR 1508.5). As documented in the Draft EIS, the STB agreed to become a Cooperating Agency in August 2012 because several alternatives under evaluation at the time would have required STB approval to be implemented. Subsequent to the publication of the Draft EIS, as identified in Section 2.5, the freight rail modifications to be incorporated into the proposed action can be implemented without STB approval. As such, FTA and the STB agreed that STB would participate in the project's NEPA

¹ The STB is responsible for ensuring compliance with NEPA and related laws for cases affecting freight rail commerce filed with the agency as per Ex Parte No. 55 [Sub-No. 22 A], (*Implementation of Environmental Laws*, 7 I.C.C 2nd 807, effective September 29, 1991).

² The USACE is responsible for implementing NEPA and related laws and Section 404 of the Clean Water Act (CWA).

process as a Participating Agency. The USACE agreed to become a Cooperating Agency in July 2013.³ (See Appendix E, Agency Coordination Letters, of this Supplemental Draft EIS for documentation related to the two agencies' current status.)

EXHIBIT 2.1-1
Proposed Southwest LRT Alignment



8/2014

To streamline environmental permitting, FTA and USACE are implementing a merger process between the NEPA and Clean Water Act (CWA) Section 404 permitting processes (referred to as the “NEPA/404 merger process” or “merger process”). This merger process enables coordination between FTA and USACE during preparation of the EIS, which allows the USACE to satisfy the requirements of NEPA and the CWA concurrently. The NEPA/404 merger process is structured around four sequential concurrence points at key milestones during project development: (1) Project Purpose and Need, (2) Array of Alternatives and Alternatives Carried Forward, (3) Identification of the Selected Alternative, and (4) Design Phase Impact Mitigation. FTA and USACE agreement at these milestones will facilitate the issuance of a CWA Section 404 permit. Within the third milestone of the merger process, the USACE identifies the Least Environmentally Damaging and Practicable Alternative (LEDPA) from among those that meet the USACE’s overall project purpose to determine whether the preferred alternative is likely to be permissible under the CWA.

³ The roles and responsibilities of cooperating and participating agencies are similar, but cooperating agencies have a higher degree of authority, responsibility, and involvement in the environmental review process. A distinguishing feature of a cooperating agency is that the CEQ regulations (40 CFR § 1506.3) permit a cooperating agency to "adopt without recirculation of the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied." This provision is particularly important to permitting agencies, such as the U.S. Army Corps of Engineers, who, as cooperating agencies, routinely adopt USDOT environmental documents.

The USACE must determine whether the Southwest LRT project complies with the Clean Water Act Section 404(b)(1) Guidelines (Guidelines) (40 CFR Part 320). The Guidelines specifically require that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences” (40 CFR § 230.10(a)). Per the Guidelines, a practicable alternative is defined as available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose.

On December 20, 2012, the USACE commented on the project’s Draft EIS (see Appendix E). Within those comments, the USACE noted the following: 1) a suggested overall project purpose for the 404 permit process of “to provide high-capacity transit service in the Southwest Transitway study area,” which is reflected in Chapter 1 of the this Supplemental Draft EIS; 2) “the Corps concurs with the array of alternatives considered for this project as well as the alternatives that were carried forward in the DEIS;” and 3) “as proposed [in the Draft EIS] the chosen LPA, alternative LRT 3A, would not qualify as the LEDPA..., which as proposed would be alternative LRT 3A-1 (co-location).” In response to the USACE’s comment on the LEDPA, and in compliance with CWA requirements for the analysis of practicable alternatives that would avoid or minimize wetland impacts, the Council included both relocation and co-location designs as it developed and evaluated potential design adjustments for the LPA, utilizing the process described in Sections 2.3 and 2.4 of this Supplemental Draft EIS. The results of those design adjustments are documented in the NEPA/404 Merger Process – Southwest LRT Concurrence Points Package, which was submitted to the USACE by the Council on May 5, 2014 (Council, May 2014). The Concurrence Points Package notes the following: “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 based on USACE’s identification of LRT 3A-1 as the LEDPA. As previously noted, the USACE, based on its review of the May 2014 Concurrence Package, again made the preliminary determination that LRT 3A-1 remains the project’s LEDPA.

For the project’s AA and Draft EIS, HCRRA served as the project’s local lead agency; upon the close of the Draft EIS comment period on December 31, 2012, the Council assumed responsibility from HCRRA as the local lead agency for continuation of the environmental process.⁴ At that time, the project’s name was changed from the Southwest Transitway Project to the Southwest Light Rail Transit (METRO Green Line Extension) Project (Southwest LRT). The Council also continued activities related to FTA’s Project Development process (formerly referred to as Preliminary Engineering), including the development, evaluation, and identification of design adjustments to LRT 3A and LRT 3A-1 based on comments received on the Draft EIS.⁵ The Council is also responsible for expanding the level of engineering needed on the LPA to prepare the Final EIS and to complete the Project Development process.

The Council is working closely with the following state and local agencies and jurisdictions as part of the development process for the project: the Minnesota Department of Transportation (MnDOT); Hennepin County; HCRRA; and the cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, Edina, and Minneapolis. The project has several advisory committees providing input from policymakers, government entities, community groups, businesses, and residents. These committees are described in Chapter 4 of this Supplemental Draft EIS.

⁴ Under the Minnesota Environmental Policy Act of 1973 (MEPA), HCRRA was designated the Regional Governmental Unit (RGU) prior to December 31, 2012, and the Council was designated the RGU after December 31, 2012. Under the authority of Minnesota Statutes 116D.04, RGU responsibilities for the project include the status as defined under the Minnesota Environmental Policy Act of 1973. Responsibilities of the RGU include determinations of whether an EIS or an Environmental Assessment Worksheet is needed for a project and for the preparation of those documents if they are required.

⁵ Under MAP-21, the process that FTA uses to manages its Capital Investment Grant (CIG) Program funding process for projects like new light rail lines involves three steps: Project Development; Engineering; and Construction. Project Development generally entails completion of the project’s environmental processes and preparation of conceptual and preliminary engineering documents. See the following FTA webpage for additional information about the CIG Program funding process and the Project Development phase: <http://www.fta.dot.gov/12304.html>.

The proposed action is included in the *2040 Transportation Policy Plan*, the region's long-range transportation plan; Hennepin County's *2030 Transportation System Plan*, which is part of the Hennepin County *2030 Comprehensive Plan*; and the comprehensive and transportation plans of the local municipalities in the project vicinity.

2.1.2 Project Background

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. In 2005, building on prior planning efforts (see Section 2.1.1 of the Draft EIS), HCRRA initiated the Southwest Transitway Alternatives Analysis (AA) process, which compared the benefits, costs, and impacts of a range of transit alternatives (modes and routes) to identify which alternative(s) would best meet the needs of the communities as expressed in the AA's Purpose and Need Statement. Section 2.1.1 of the Draft EIS provides a description of the alternatives that were developed, the results of the analysis, and the alternatives that were dismissed and carried forward for further study. The range of alternatives considered included enhanced bus, bus rapid transit, and light rail, including a range of potential alignments for bus rapid transit and light rail.

The results of the AA laid the foundation for the project's development and evaluation of alternatives under NEPA, which was initiated in September 2008 when FTA and HCRRA issued their notice of intent to publish an EIS for the Southwest Transitway Project. The project's scoping process began with FTA and HCRRA's proposal to study the alternatives resulting from the AA within a federal and state EIS. During the scoping process, HCRRA solicited public and agency comments on the range of alternatives to be studied in the EIS. As a result of comments received and additional design development and analysis, HCRRA and FTA modified the range of alternatives to be studied further in the project's Draft EIS. A description of the project's scoping process and results is provided in Section 2.1.2 of the Draft EIS.

In May 2010, the project's AA process was completed with the identification of the LPA and incorporation of the LPA into the 2030 Transportation Policy Plan by the Council. Section 2.1.3 of the Draft EIS provides an overview of the alternatives that were considered within the LPA selection process, how they were evaluated, and the rationale for the identification of the LPA. LRT 3A was identified as the LPA based on the AA's assessment of four evaluation categories: planning compatibility; performance; implementation factors; and critical environmental resources. In summary, HCRRA and the Council found that LRT 3A would best meet the AA's Purpose and Need Statement, as expressed by the goals of improving mobility, providing a cost-effective and efficient travel option, preserving the environment, protecting quality of life and supporting economic development.

The LPA was incorporated within two of the seven alternatives evaluated in the Draft EIS, as described in Section 2.2 of this Supplemental Draft EIS (i.e., LRT 3A and LRT 3A-1). After publication of the Draft EIS, the Council undertook a process to develop and evaluate potential adjustments to LRT 3A and LRT 3A-1 based on comments received on the Draft EIS. The range of adjustments considered and the measures used by the Council to evaluate them are described in Section 2.3 and 2.4 of this Supplemental Draft EIS.

2.2 Alternatives Analysis and Draft Environmental Impact Statement

This section provides brief summaries of the Southwest LRT Project's AA phase and preparation and publication of its Draft EIS. Additional detail on the AA and Draft EIS scoping phases can be found in Section 2.1 of both the Draft EIS and this Supplemental Draft EIS. Section 2.3 of the Draft EIS provides a description of the alternatives evaluated within the Draft EIS.

HCRRA initiated an AA of the Southwest Corridor in 2005 and completed the *Southwest Transitway Alternatives Analysis Report* in 2007. In that study, multiple transportation modes and alignments were evaluated against detailed performance criteria, including ridership, community impacts, environmental impacts, and cost. On May 26, 2010, based on the technical documentation produced by the AA and on an extensive public and agency review and comment process, the Council adopted the project's LPA (known at the time as Alternative 3A) and included the adopted LPA as part of the amendment to the 2030 Transportation Policy Plan. The adopted LPA included LRT as the preferred mode with the following alignment from west to east: from Mitchell Road in Eden Prairie, through the Golden Triangle and Opus

employment concentrations in Eden Prairie and Minnetonka, using HCRRA-owned rights-of-way through Hopkins, St. Louis Park, and Minneapolis to downtown Minneapolis, where it would ultimately become through-routed with the planned Central Corridor LRT.

The project proceeded under HCRRA in September 2008 with publication of the federal Notice of Intent to Prepare an EIS (FTA, 2008b) and the state Notice of EIS Preparation (Minnesota Environmental Quality Board, 2008). HCRRA began development of NEPA and MEPA documentation with a scoping process, including publication of the *Southwest Transitway Scoping Summary Report* in January 2009 (HCRRA, 2009)⁶. The NEPA and MEPA scoping process resulted in the refinement of alternatives for consideration, concluding that five LRT alternatives would be examined in the Draft EIS, along with the Enhanced Bus and No Build alternatives. On May 26, 2010, prior to the completion of the Draft EIS and based on an extensive alternatives analysis and public involvement process, the Metropolitan Council (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.

After completion of scoping and identification of the LPA, the Federal Transit Administration (FTA) determined that the project's Draft EIS should address whether to: (1) relocate Twin Cities & Western (TC&W) freight trains currently operating along the Canadian Pacific (CP)-owned Bass Lake Spur and the HCRRA-owned Cedar Lake Junction (locally referred to as the Kenilworth Corridor and referred to as such throughout this Supplemental Draft EIS) to the CP-owned MN&S Spur and BNSF-owned Wayzata Subdivision (included in LRT 1A, LRT 3A, LRT 3C-1, and LRT 3C-2, and referred to as "relocation"); or (2) continue to operate the TC&W freight trains along the Bass Lake Spur and Kenilworth Corridor alongside the proposed light rail alignment and stations (included in No Build Alternative, Enhanced Bus Alternative, and LRT 3A-1, and referred to as "co-location").

The Draft EIS was subsequently published on October 12, 2012, and the public comment period concluded on December 31, 2012. The Draft EIS examined seven alternatives, including the No Build Alternative, the Enhanced Bus Alternative, and five light rail transit (LRT) alternatives (LRT 1A, LRT 3A, LRT 3A-1, LRT 3C-1, and LRT 3C-2). These seven alternatives are described in Section 2.3 of the Draft EIS and briefly described below. The LRT build alternatives are illustrated on Exhibit 2.2-1 of this Supplemental Draft EIS and Section 2.3 of the Draft EIS provides additional detail, in particular, the LRT Build Alternatives are described in Section 2.3.3 of the Draft EIS:

- **The No Build Alternative**, required under the NEPA and MEPA processes, would provide planned and programmed transit facilities and operations identified in the region's fiscally constrained transportation plan (see Section 2.3.1 of the Draft EIS). In summary, the No Build Alternative would provide additional express and local bus service on existing facilities, including operation on the regional network of bus shoulder lanes.
- **The Enhanced Bus Alternative** would provide additional express routes, new limited-stop service, and enhanced bus facilities in Hopkins. Under the Enhanced Bus Alternative, combined bus stops and park-and-ride lots would be located in the vicinity of the intersection of Mitchell Road and Highway 212 and at the existing SouthWest Transit Center. These facilities would be connected to downtown Minneapolis via two new limited-stop bus lines and two existing SouthWest Transit express bus lines. The Enhanced Bus Alternative is described in Section 2.3.2 of the Draft EIS, which includes a description of the alternative's bus service plan and routes.
- **LRT 1A** would include a double-tracked light rail line between Minneapolis and Eden Prairie, generally within HCRRA-owned right-of-way. This alternative would require relocation of existing freight rail

⁶ On September 25, 2012, the HCRRA amended the Southwest Transitway *Southwest Scoping Summary Report* (which serves as the Scoping Decision Document under MEPA) to include the impacts of relocating freight rail for the four build alternatives and including a collocation alternative where freight rail, light rail and the commuter bike trail collocate, share a common corridor, between Louisiana Avenue and Penn Avenue. 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 Monitor* on October 15, 2012.

operations from a portion of the Bass Lake Spur and the entire Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision. New right-of-way would be required near Penn Avenue to serve the Van White and Royalston stations in Minneapolis before connecting into the METRO Blue Line corridor in downtown Minneapolis and interlining with other LRT service. This alternative would include 14 new light rail stations.

- **LRT 3A**, which included the LPA, would result in a double-tracked light rail line between Minneapolis and Eden Prairie. This alternative would require relocation of existing freight rail operations from a portion of the Bass Lake Spur and the entire Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision. Seventeen light rail stations were included as part of this alternative. Under this alternative, the proposed light rail alignment would run through the Golden Triangle and Opus employment areas in Eden Prairie. In St. Louis Park and Hopkins, the alignment would use HCRRA's Southwest LRT Trail. In Minneapolis, the alignment would use space within the Kenilworth Corridor. Near Penn Avenue, the alternative would require new light rail right-of-way to serve the Van White and Royalston stations in Minneapolis before connecting with the METRO Blue Line in downtown Minneapolis.
- **LRT 3A-1**, which included the same light rail service improvements as LRT 3A, was developed to examine the implications of co-locating the existing freight rail service and multiple-use path with the proposed light rail alignment and stations. LRT 3A-1 includes the same light rail alignment and stations that comprise LRT 3A; however, freight rail service currently operating in the Bass Lake Spur and Kenilworth Corridor would not be relocated.
- **LRT 3C-1** would include a double-tracked LRT line between Minneapolis and Eden Prairie, connecting 20 proposed light rail stations. This alternative would run through the Golden Triangle and Opus employment areas in Eden Prairie. In St. Louis Park and Hopkins, the alignment would use HCRRA's right-of-way. In Minneapolis, the light rail alignment would use space within the Midtown Corridor. The proposed light rail alignment would provide connections to the METRO Blue Line at 5th Street in downtown Minneapolis but would not interline with another LRT line. This alternative would require relocation of existing freight rail operations from a portion of the Bass Lake Spur and the entire Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision.
- **LRT 3C-2** would duplicate the alignment and station locations of LRT 3C-1, differing only in the westernmost entry to downtown Minneapolis. Multiple north-south links were considered to connect the Midtown Segment of LRT 3C-2 with downtown Minneapolis, including Park and Portland avenues. Under LRT 3C-2, the light rail alignment would interline with the METRO Blue Line in downtown Minneapolis. This alternative would require relocation of existing freight rail operations from a portion of the Bass Lake Spur and the entire Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision.











The potential environmental impacts of these seven alternatives were evaluated in the Draft EIS and LRT 3A was identified as the LPA.⁷ HCRRA and FTA conducted a public comment period on the Draft EIS, which extended from October 12 to December 31, 2012, and included three public hearings. All substantial comments received on the Draft EIS during that comment period will be reported and responded to in the project's Final EIS.

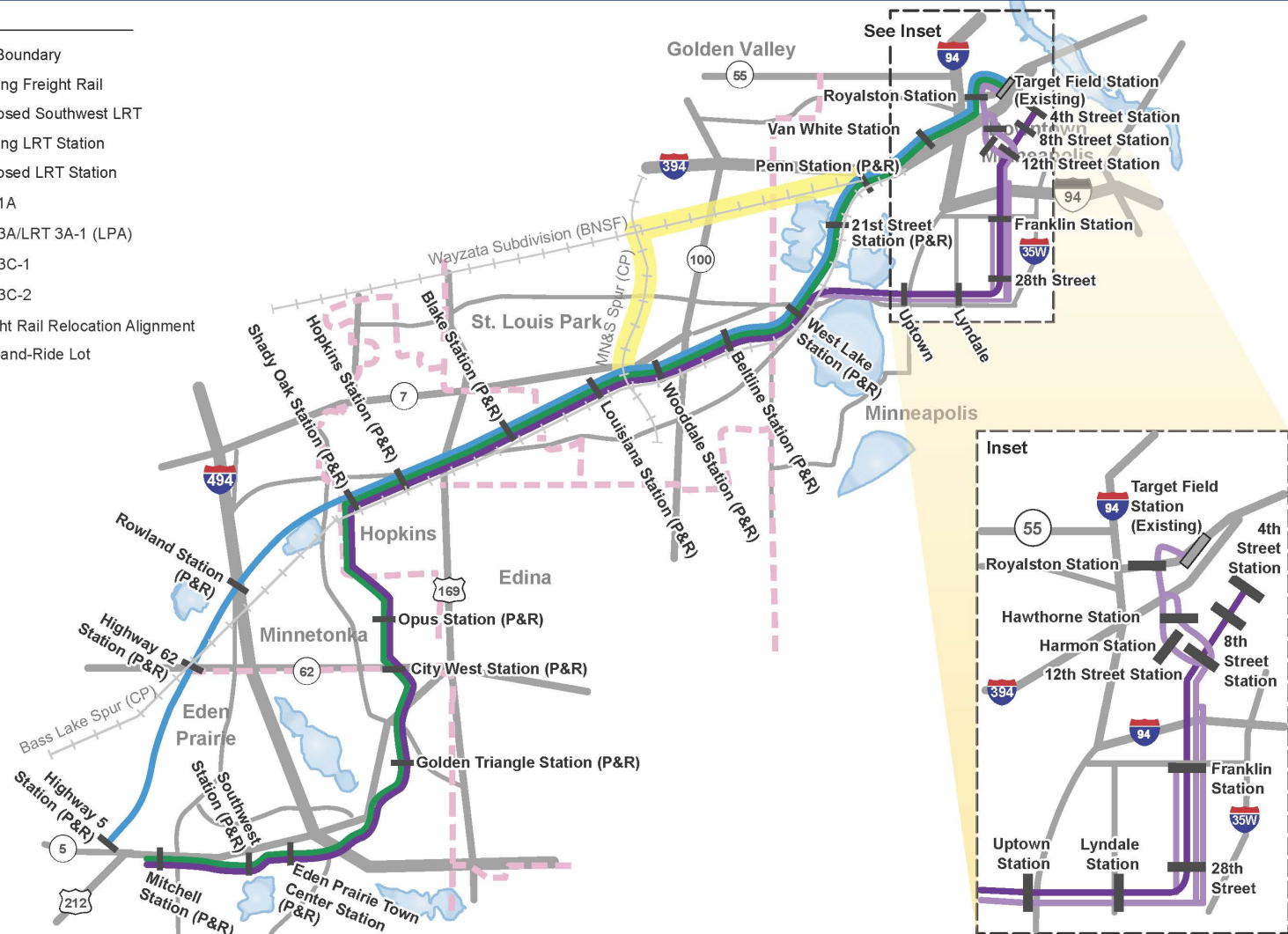
⁷ In the Draft EIS, the transit improvements included in LRT 3A and LRT 3A-1 are coupled with the proposed relocation or co-location of TC&W freight trains currently operating along the Bass Lake Spur and the Cedar Lake Junction (locally referred to as the Kenilworth Corridor). LRT 3A includes the proposed relocation of TC&W trains to the MN&S Spur and Wayzata Subdivision, while LRT 3A-1 includes the continued operations of TC&W freight trains currently operating along the Bass Lake Spur and Kenilworth Corridor. While the Draft EIS notes that LRT 3A-1 is identical to LRT 3A in the transit service it would provide (see page ES-23 and Chapter 2 of the Draft EIS), it only identifies LRT 3A as the LPA (see pages 2-31 and 2-41 of the Draft EIS for examples). The LPA is a subset of both LRT 3A and LRT 3A-1 of the Draft EIS; therefore, this Supplemental Draft EIS clarifies that the project's LPA is included within both LRT 3A and LRT 3A-1.

EXHIBIT 2.2-1


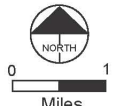

LRT Build Alternatives Evaluated in the Draft EIS

LEGEND

-  City Boundary
-  Existing Freight Rail
-  Proposed Southwest LRT
-  Existing LRT Station
-  Proposed LRT Station
-  LRT 1A
-  LRT 3A/LRT 3A-1 (LPA)
-  LRT 3C-1
-  LRT 3C-2
-  Freight Rail Relocation Alignment
- (P&R) Park-and-Ride Lot



Source: Southwest Transitway Draft Environmental Impact Statement, Oct 2012

	<p>Southwest LRT Supplemental Draft EIS LRT Build Alternatives Evaluated in the Draft EIS</p>	<p>Exhibit 2.2-1</p>		
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2.3 Design Adjustments Considered Following the Draft Environmental Impact Statement

Subsequent to the close of the public comment period on the Draft EIS on December 31, 2012, the Council assumed responsibility in moving the project forward through the Project Development phase, which includes further engineering, and design work. At the conclusion of the Draft EIS public comment period, the Council implemented a process of developing and evaluating adjustments to LRT 3A and LRT 3A-1⁸, including associated freight rail modifications, based on public and agency comments received on the Draft EIS. The project team also solicited feedback from the public, businesses, cities, Hennepin County, the state, and others during a series of public and advisory committee meetings and developed recommended adjustments to LRT 3A and LRT 3A-1.

This section provides an overview of the range of design adjustments to LRT 3A and LRT 3A-1 made by the Council after publication of the Draft EIS that could result in new significant impacts not addressed in the Draft EIS in the following three areas: the Eden Prairie Segment (Section 2.3.1), the proposed Hopkins OMF (Section 2.3.2), and the St. Louis Park/Minneapolis Segment (Section 2.3.3). This section also includes summaries of the evaluation measures considered by the Council when it identified the design adjustments to LRT 3A and LRT 3A-1. Section 2.4 of this Supplemental Draft EIS provides a general description of the process used by the Council to identify its adjustments to LRT 3A and LRT 3A-1, which included various participating agencies, committees, and public review and comment. Chapter 4 provides additional detail on the agency coordination and public involvement activities related to the LRT 3A and LRT 3A-1 design adjustment process. Section 2.5 of this Supplemental Draft EIS provides a definition of the LPA resulting from the design adjustment process, focusing on the Eden Prairie Segment, the Hopkins OMF site, and the St. Louis Park/Minneapolis Segment.

2.3.1 Eden Prairie Segment

This section provides a summary of the design adjustments to LRT 3A and LRT 3A-1 in the Eden Prairie Segment that were developed and evaluated after publication of the Draft EIS. This section first provides background information on the light rail and related improvements in the segment that were evaluated in the Draft EIS. Second, this section provides a description of the range of design adjustments to LRT 3A and LRT 3A-1 considered by the Council within the Eden Prairie Segment and how those potential design adjustments were evaluated.

2.3.1.1 Background

Four of the five light rail build alternatives evaluated in the Draft EIS (LRT 3A, LRT 3A-1, LRT 3C-1, and LRT 3C-2) included common proposed light rail and related improvements in Eden Prairie. Those alternatives, shown on Exhibit 2.2-1 and described in Section 2.2 of this Supplemental Draft EIS, included the following:

- **LRT Alignment:** The light rail alignment proposed within the Draft EIS within the Eden Prairie Segment extended east from a terminus just west of Mitchell Road, staying south of Highway 212 to the Southwest Station (cohabitated with the existing SouthWest Transit Center), and continuing east along Technology Drive to the intersection of Flying Cloud Drive and I-494.
- **LRT Stations:** The Draft EIS evaluated three proposed light rail stations in the Eden Prairie Segment, from west to east: (1) Mitchell Station, west of Mitchell Road and south of Highway 212, (2) Southwest Station, within the existing SouthWest Transit Center, and (3) Eden Prairie Town Center Station, on the south side of Technology Drive between Prairie Center and Flying Cloud drives.
- **LRT Park-and-ride Lots:** The Draft EIS proposed three park-and-ride lots within Eden Prairie: 400 surface and 400 structure spaces at Mitchell Station, 400 structured spaces at Southwest Station, and 650 structured spaces at Eden Prairie Town Center Station.

⁸ See Section 2.4 of this Supplemental Draft EIS for a description of the design adjustment process and Section 2.5 for a description of the design adjustments evaluated within that process. Appendix F summarizes the process and measures used to evaluate the design adjustments described in Section 2.5.

During the Draft EIS public comment period, the City of Eden Prairie asked the Council to investigate the feasibility of a more centrally located and walkable Eden Prairie Town Center Station that would provide better opportunities for transit-oriented development and redevelopment. The City noted that a station within walking distance of the Eden Prairie Center (a regional shopping mall) would help meet the City's long-term economic development goals and provide higher ridership due to its proximity to concentrations of existing and future employment and commercial activity centers. For similar reasons, the City also asked the Council to evaluate a location for the Mitchell Station that would be located south along Technology Drive, somewhere between Mitchell and Wallace Roads, additionally noting that this location for a park-and-ride lot may be better positioned to intercept automobile traffic coming from the west.

2.3.1.2 Design Adjustments Considered in the Eden Prairie Segment

Project staff developed a wide range of design adjustments to LRT 3A and LRT 3A-1 intended to address comments received by the project from the City of Eden Prairie (see Section 2.5.1.1) and others on the Draft EIS, and to help avoid or minimize adverse impacts, increase transit ridership and reduce project costs, while meeting the project's Purpose and Need (see Chapter 1 of this Supplemental Draft EIS).

To meet those objectives, project staff implemented a three-step process for the Eden Prairie Segment to develop, evaluate, and receive stakeholder comment on a wide range of potential design adjustments to LRT 3A and LRT 3A-1. Further, the stepwise process included a series of meetings with project staff, City of Eden Prairie and Hennepin County staff, and other stakeholders. The process also included presentations to and input from the TPAC, CAC, and BAC and presentations to and recommendations from the CMC (see Section 2.4 and Chapter 4 of this Supplemental Draft EIS for additional detail). In addition, the process included public meetings and open houses for the public to receive information and comment on the various design adjustments under consideration. The results of the analysis within this three-step process, along with the committee recommendations and public comments received, informed the Council in April 2014 to identify the adjustments to this segment of LRT 3A and LRT 3A-1 that are evaluated further in this Supplemental Draft EIS.

A. First-Step Evaluation

In the first step of evaluating the alignment adjustment process, project staff developed, reviewed, and discussed a wide range of potential adjustments to LRT 3A and LRT 3A-1 with affected jurisdictions and the TPAC. The first step of evaluation divided the Eden Prairie Segment into four general subsegments, with each having between six and eight potential light rail alignment-related adjustments developed and evaluated (see Exhibit 2.3-1):⁹

- The western terminus to Prairie Center Drive (with eight potential adjustments)
- Prairie Center Drive between Southwest Station and Singletree Lane (with six potential adjustments)
- Prairie Center Drive to I-494 (with seven potential adjustments)
- East of I-494 (with six potential adjustments)

This range of design adjustments included consideration of an OMF site in part on the City of Eden Prairie's existing maintenance facility garage site, which is located along Technology Drive west of Mitchell Road. Some configurations of potential adjustments would have combined the OMF site in Eden Prairie with the Mitchell Station and park-and-ride lot.

During the first step of evaluation, the potential alignment adjustments were analyzed for possible impacts to right-of-way, automobile and truck traffic, on- and off-street parking supply, and wetlands and other environmental resources. This initial analysis focused on adjustments to the proposed light rail alignment, station locations, and park-and-ride lots. As a result of the first step of analysis, between three and five alignment adjustments within each subsegment advanced into the second step of the evaluation.

⁹ Some potential design adjustments spanned two or more subsegments, while others were confined to one subsegment. The proposed light rail alignment and stations for the LPA as evaluated in LRT 3A and LRT 3A-1 of the Draft EIS were included and evaluated within each of the four subsegments and are accounted for within the number of adjustments in each subsegment.

EXHIBIT 2.3-1
 Step 1 and 2 Subsegments and Design Adjustments Considered, Eden Prairie Segment

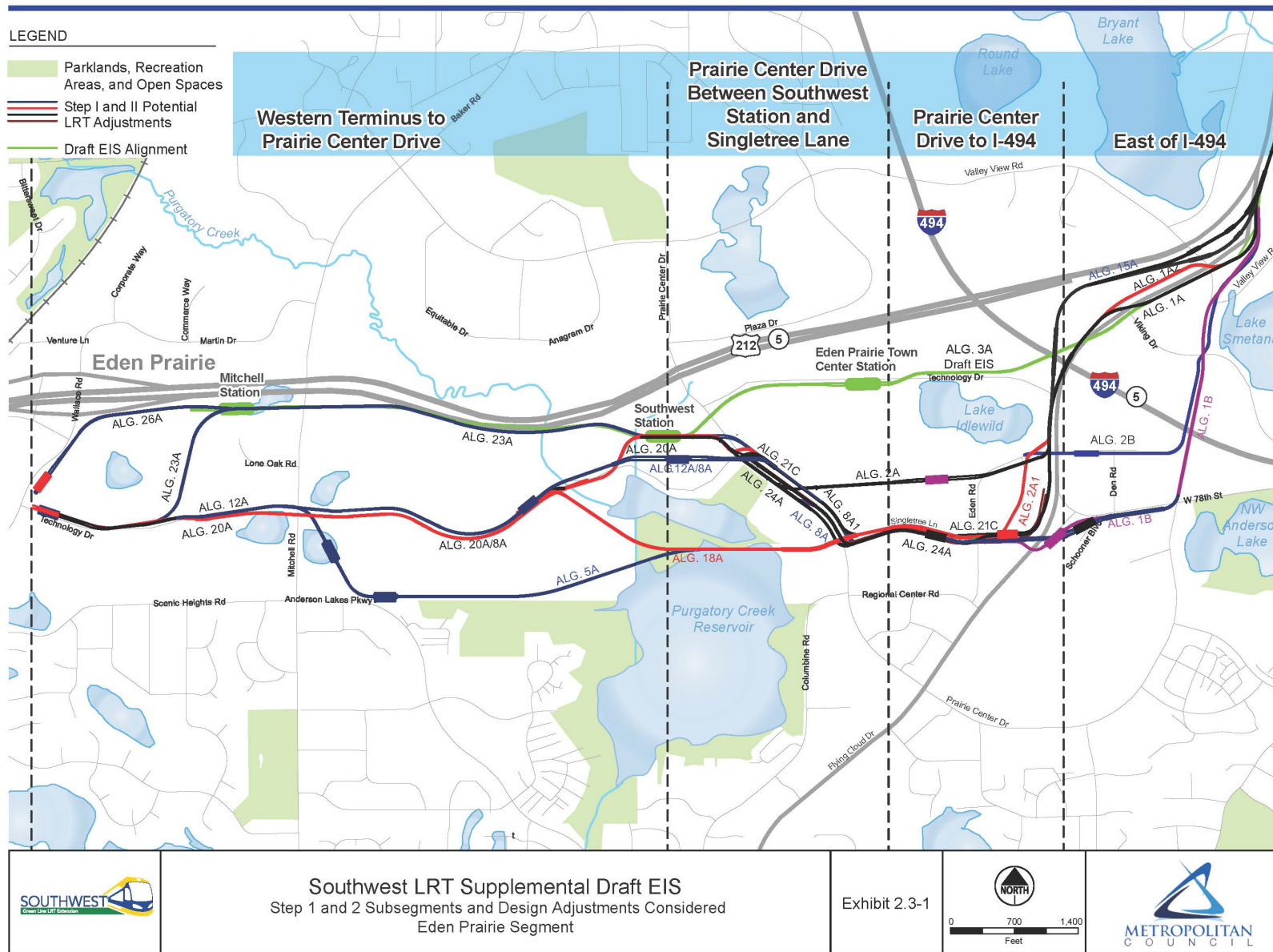


Table F.3-3 in Appendix F provides a summary of the measures used to evaluate the potential first step of adjustments to LRT 3A and LRT 3A-1. Table 2.3-1 notes which design adjustments were advanced into the second step for additional evaluation.

TABLE 2.3-1
Eden Prairie Steps 1 and 2 Subsegments and Design Adjustments Considered

Subsegment ^a /Adjustment #	First Step	Second Step	Third Step Name (Supplemental Draft EIS Status)
Western Terminus to Prairie Center Drive			
3A	Retained	Dismissed	
12A	Dismissed		
5A	Dismissed		
20A	Retained	Retained	Technology Drive (retained)
18A	Dismissed		
8A	Dismissed		
23A	Retained	Retained	Highway 212 (dismissed)
26A	Retained	Dismissed	
Prairie Center Drive between Southwest Station and Singletree Lane			
3A	Retained	Dismissed	
24A	Retained	Retained	Singletree Lane ^b (dismissed)
21C	Dismissed		
2A	Retained	Retained	Comprehensive Plan ^b (retained)
8A	Retained	Dismissed	
8A1	Retained	Dismissed	
Prairie Center Drive to I-494			
3A	Retained	Dismissed	
2A	Retained	Retained	Comprehensive Plan ^b (retained)
21C	Dismissed		
24A	Retained	Retained	Singletree Lane ^b (dismissed)
1B	Dismissed		
2A1	Dismissed		
2B	Dismissed		
East of I-494			
3A	Retained	Dismissed	
1A	Retained	Dismissed	
1A2	Retained	Retained	Retained
1B	Dismissed		
2B	Dismissed		
15A	Dismissed		

^a The Steps 1 and 2 Western Terminus to Prairie Center Drive subsegment is equivalent to the Step 3 West subsegment. The other Steps 1 and 2 subsegments are equivalent to the Step 3 East subsegment.

^b Steps 1 and 2 adjustments 2A and 24A in the Prairie Center Drive and Prairie Center Drive to I-494 subsegments were combined to form the Step 3 Comprehensive Plan and Singletree Lane alignment adjustments, respectively.

Source: The Council, January 2014. See Exhibit 2.3-1 for an illustration of the design adjustments referenced in this table.

B. Second-Step Evaluation

The second step of evaluating alignment adjustments in the Eden Prairie Segment included an in-depth traffic investigation, an assessment of property acquisitions and on- and off-street parking displacements, and input from local businesses and the public. Based on the second step of analysis and evaluation, the project team identified four proposed alignment adjustments in the Eden Prairie Segment to be further considered in the third step of evaluation. Table F.3-4 in Appendix F provides a summary of the measures used to evaluate the potential second-step adjustments to LRT 3A and LRT 3A-1, noting the four design adjustments that were advanced into the third step for additional evaluation.

C. Third-Step Evaluation

For the third step of analysis, the Eden Prairie Segment was divided into two subsegments that were different from the subsegments used in the first two steps: West (west of the existing SouthWest Transit Center) and East (east of the existing SouthWest Transit Center). Two potential alignment adjustments were evaluated in each of the two subsegments. Either West alignment could be paired with either East adjustment (resulting in four possible combinations): Technology Drive and Highway 212 alignment adjustments in the West subsegment and the Singletree Lane and Comprehensive Plan alignments in the East subsegment, shown on Exhibit 2.3-2. Each alignment adjustment had two or more variations, addressing possible station locations, roadway treatments, park-and-ride lot locations, and accommodation of an OMF. None of the third-step alignment adjustments was evaluated in the Draft EIS, although the proposed location of the Southwest Station would be in a similar location as proposed in the Draft EIS and in the third step of design adjustments. The third step of evaluation addressed a range of measures related to cost, transit travel times and ridership, wetland, floodplain, existing land use near proposed station areas, and various other measures.

D. Conclusion

Table F.3-5 in Appendix F provides a summary of the criteria and measures used to evaluate the potential third step of adjustments to LRT 3A and LRT 3A-1. Based on the analysis summarized in this section and documented in Appendix F and through the agency coordination and public involvement process described in Section 2.4, the Council identified the following adjustments to be incorporated into LRT 3A and LRT 3A-1:

- Combined with both the Comprehensive Plan and Singletree Lane alignments. Retaining the Technology Drive alignment in the West subsegment, which moves the western terminus station from immediately south of Highway 212 west of Mitchell Road to immediately south of Technology Drive west of Mitchell Road
- Retain the Comprehensive Plan alignment adjustment in the East subsegment and dismissing the Singletree Lane alignment adjustment

In summary, in the West subsegment, the Technology Drive alignment would provide better placement of the Mitchell Station relative to existing and planned development. In the East subsegment, relative to the Singletree alignment, the Comprehensive Plan alignment adjustment would result in fewer potential traffic conflicts and fewer property acquisitions and business displacements.

LRT 3A and LRT 3A-1, as evaluated in this Supplemental Draft EIS, reflects the inclusion of the project's western terminus at Mitchell Station by way of Technology Drive and the Comprehensive Plan alignment (see Section 2.5.1 and Exhibit 2.5-2). Other potential design adjustments developed and evaluated in this section were removed from further study.

2.3.2 Operations and Maintenance Facility Location

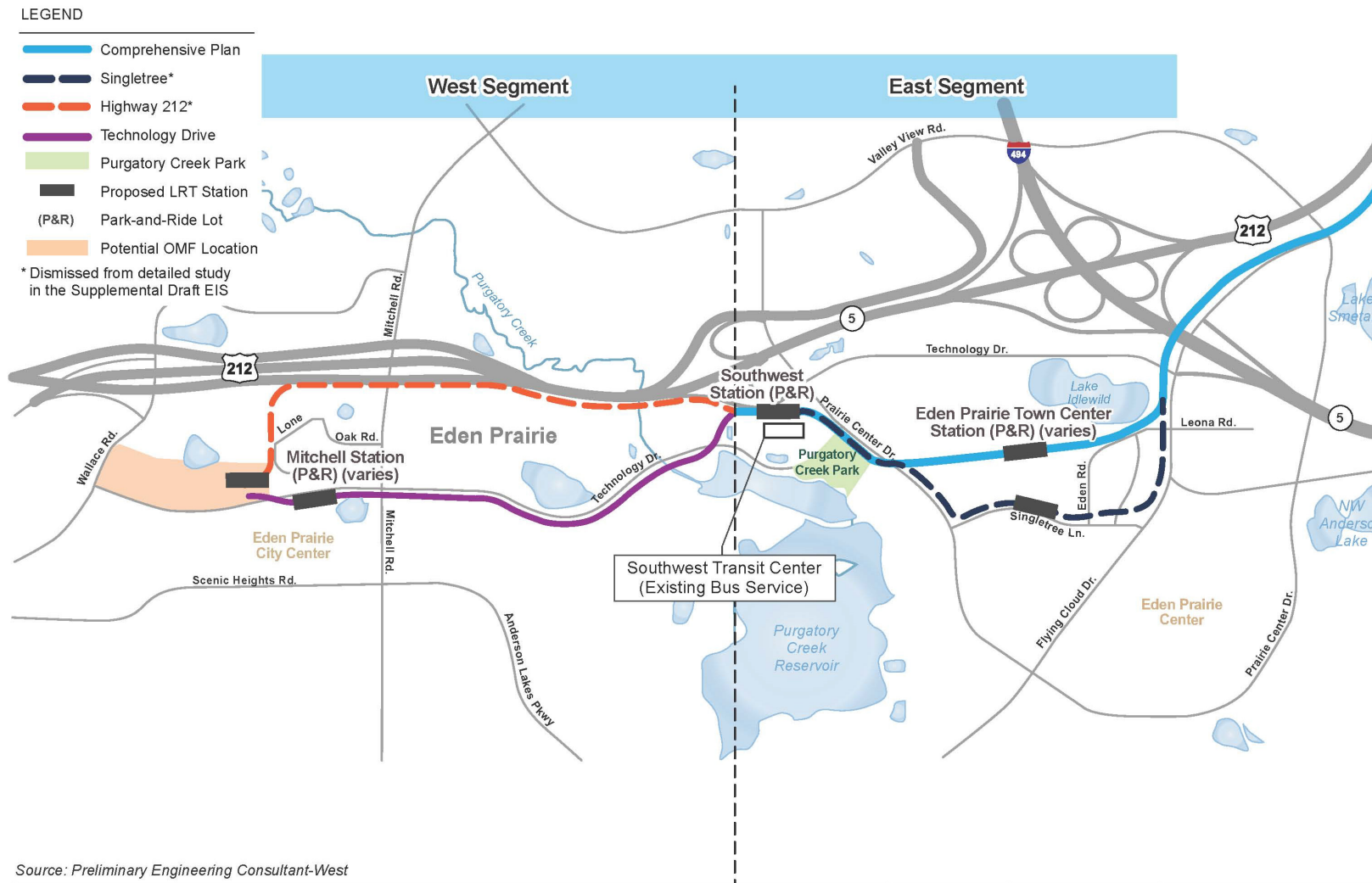
This section provides a summary of the range of potential OMF sites that were developed and evaluated after publication of the Draft EIS. This section first provides background information on OMF sites that were addressed for the Draft EIS and provides a description of the wide range of OMF sites considered after the Draft EIS and how those potential OMF sites were evaluated. The *Draft Operations and Maintenance Facility Site Selection TI # 23* (AECOM/Kimley-Horn and Associates, 2013) provides additional detail on the evaluation of OMF sites that occurred following the Draft EIS.

2.3.2.1 Background


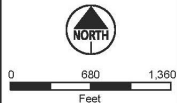

As noted in the Draft EIS, the light rail alternatives would need an OMF for light vehicle maintenance, running repairs for the light rail vehicles, and storage of vehicles not in service. In general, light rail vehicles would be cleaned and repaired daily inside and outside, and the vehicles would be inspected and serviced to ensure operational safety and reliability. Features and functions needed at the OMF are identified in Section 2.3.3.9 of the Draft EIS. The OMF would be designed and configured to store 30 light rail vehicles, sufficient to support Southwest LRT operations. Positioning an OMF in an efficient location along the

EXHIBIT 2.3-2

Third Step LRT Alignment Adjustments Evaluated in the Supplemental Draft EIS, Eden Prairie Segment



Source: Preliminary Engineering Consultant-West

	<p>Southwest LRT Supplemental Draft EIS Third Step LRT Alignment Adjustments Evaluated in the Supplemental Draft EIS Eden Prairie Segment</p>	<p>Exhibit 2.3-2</p>	 
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proposed rail line is important in minimizing nonrevenue mileage traveled by trains, providing operator access, and providing for adjustments to train lengths during different periods of the day.

The following OMF site characteristics were used in the Draft EIS evaluation (see Appendix H of the Draft EIS):

- Approximately 10- to 15-acre site to store at least 30 light rail vehicles, with the ability to expand to accommodate up to 36 vehicles, and to conduct maintenance activities
- Rectangular shape, generally three times longer than wide
- Ability to move trains into and out of both ends of the facility
- Adjacent to a straight and relatively flat section (a grade equal to or less than 1 percent) of mainline track to accommodate turnouts and crossovers
- Good roadway access for equipment and employees

In addition, the Draft EIS identified the following preferred characteristics of an OMF:

- Compatibility with adjacent current and planned land uses
- Land zoned industrial, light industrial, or both
- Undeveloped property to minimize acquisition and relocation costs
- Public land
- Preferred location near one end of line to minimize deadheading of empty vehicles

The Draft EIS identified 14 sites that satisfied the project's requirements for an OMF. Of those 14 sites, four were carried forward into the Draft EIS for more detailed study. Appendix H (Part 1) of the Draft EIS summarizes the evaluation of the 14 OMF sites and the identification of four sites for inclusion in the Draft EIS. Section 2.3.3.9 of the Draft EIS contains brief descriptions of the four sites evaluated; these sites are numbered west to east in this Supplemental Draft EIS: EP-1, EP-2, EP-3, and M-4. The locations of these four potential sites are illustrated on Exhibit 2.3-3. The Draft EIS did not identify a preferred OMF site.

2.3.2.2 Operations and Maintenance Facility Sites Considered after Publication of the Draft Environmental Impact Statement

Following publication of the Draft EIS, the Council determined that selecting the proposed project's OMF site—one that accommodates its functional and spatial needs and is compatible with surrounding uses—would require additional site identification and evaluation to build upon and complement the studies conducted during the Draft EIS phase.

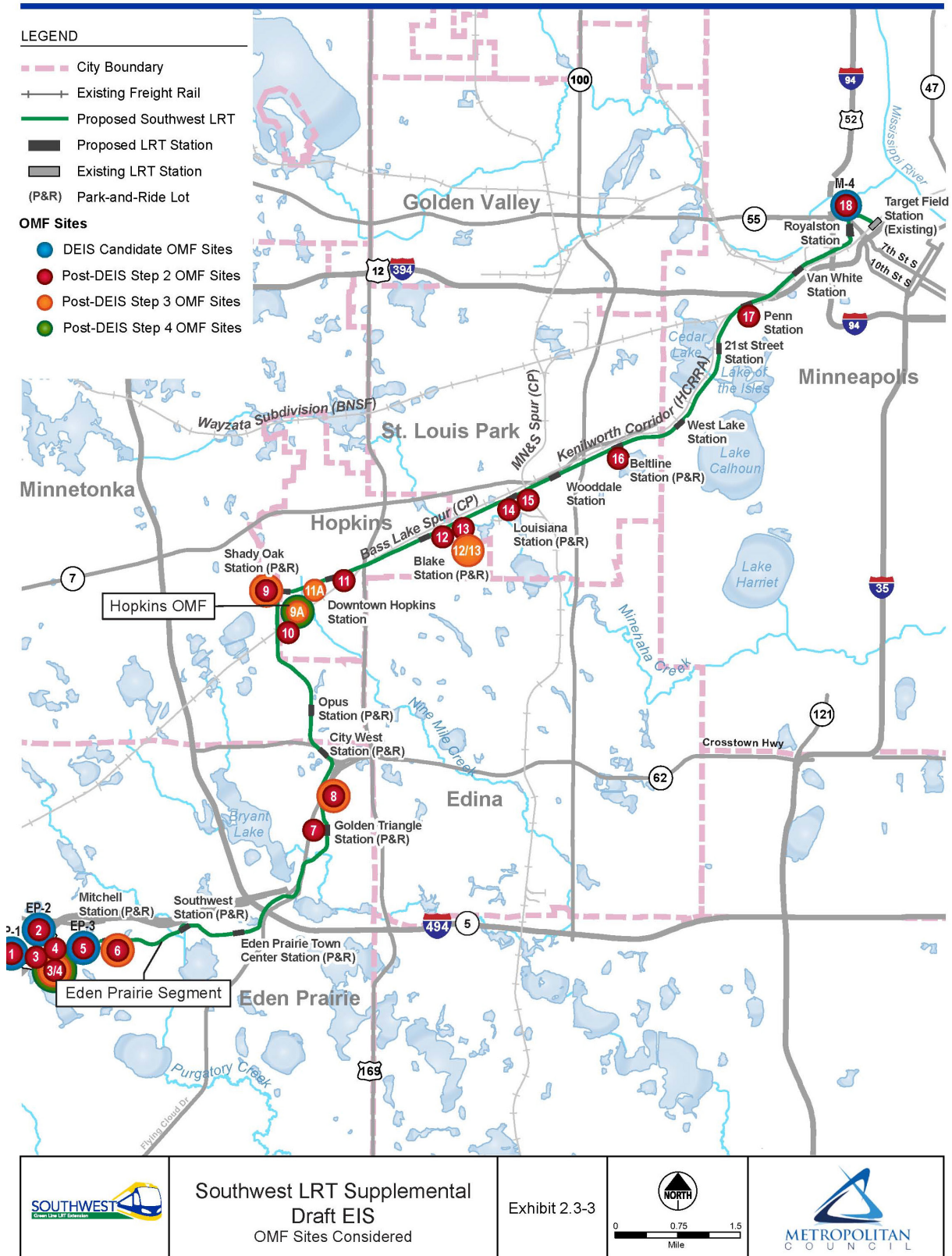
The project team used a four-step process to identify and evaluate the expanded range of OMF sites. The process entailed the following steps of development and evaluation:

- **First-Step Evaluation.** A preliminary site evaluation, narrowing potential sites from approximately 30 to 18.
- **Second-Step Evaluation.** A detailed assessment based on 13 criteria, narrowing from 18 to seven OMF sites.
- **Third-Step Evaluation.** An operational analysis and public and jurisdiction review and input, narrowing from seven to two sites.
- **Fourth-Step Evaluation.** A detailed assessment and public and jurisdictional review of two sites.

Throughout the OMF development and evaluation process, the project team coordinated with the project's business, community, and technical committees and with the general public to obtain a wide range of stakeholder views on the OMF sites (see Section 2.4 and Chapter 4 for additional detail). Exhibit 2.3-3 illustrates the potential OMF sites evaluated through this four-step process.

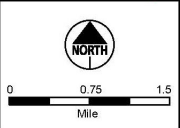
EXHIBIT 2.3-3

OMF Sites Considered



Southwest LRT Supplemental Draft EIS
OMF Sites Considered

Exhibit 2.3-3



A. First-Step Evaluation

As the first step in expanding upon the OMF site search conducted for the Draft EIS, the project team conducted a preliminary site identification process. Within that process, project staff reviewed aerial photographs to understand land use patterns, parcels, the physical context, and potential environmental concerns for parcels adjacent to the proposed light rail alignments. This desktop analysis was followed by field surveys to examine candidate locations based upon parcel proximity to the proposed light rail alignment and available parcel size. As a result of this analysis, the project team identified approximately 30 first-step sites that warranted more detailed review and evaluation, including the four sites evaluated in the Draft EIS.

Concurrent with the preliminary site identification process, the project team worked with Metro Transit rail operations staff to develop a Space Needs Program for the OMFs. The Space Needs Program, which established the approximate size of the OMF building needed to accommodate its major functions (rail operations, materials management, rail maintenance, and facilities maintenance), served as the foundation for the project team to develop the initial site selection criteria. The criteria used during the first-step evaluation were similar to those used for the Draft EIS, as follows:

- Site of 10 to 15 acres
- Regular geometric parcel shape and flat
- Efficient light rail train movement to and from the site
- Good roadway access to the site
- Compatible with adjacent land use

The first step of evaluation resulted in identification of 18 candidate sites to be developed and evaluated further in the second step, which included portions of the sites studied in the Draft EIS. The first-step sites are numbered sequentially west to east, as sites 1 to 18, and their general locations are illustrated on Exhibit 2.3-3. Site EP-1 became site 1; a portion of EP-2 is included in site 2; a portion of EP-3 became site 5; and M-4 became site 18. The measures used to evaluate the first-step OMF sites are summarized in Table F.4-1 in Appendix F. The process used to identify the 18 sites and the evaluation criteria were shared with the TPAC, CAC, BAC, CMC, and Metro Transit operations and maintenance staff for their review and input.

B. Second-Step Evaluation

To further evaluate the 18 second-step candidate sites, more detailed evaluation criteria were developed addressing four operational characteristics and nine site characteristics, listed in Table 2.3-2. As part of the second step of evaluation, the project team visited each site; reviewed community comprehensive plans, zoning codes, and county property records; and obtained information about onsite soils and subsurface conditions. Based on this research, the project team and Metro Transit staff used the criteria to qualitatively rate the second-step candidate sites. The evaluation of the sites was reviewed with corridor jurisdictions through the TPAC, CAC, BAC, and CMC.

Initially, the 18 second-step sites were narrowed to seven sites based on the 13 criteria listed in Table 2.3-2 and the evaluation measures included in Table F.4-2 in Appendix F. Members of the project team met with staff from the Cities of Eden Prairie, Minnetonka, Hopkins, and St. Louis Park to discuss the OMF evaluation process and the seven most highly rated sites.

In April 2013, the seven OMF sites were presented to TPAC, which includes the staff from cities along the proposed light rail alignment. TPAC representatives from Hopkins and Minnetonka requested the project team evaluate two additional OMF sites that were not previously evaluated: 9A and 11A, both in Hopkins, bringing the number of OMF sites under consideration to nine. The project team evaluated the two sites proposed using the criteria outlined in Table 2.3-2, and both sites ranked as high as the seven other remaining sites. Based upon more detailed analysis, the project team then combined sites 3 and 4, as well as sites 12 and 13, to better meet OMF spatial requirements and to provide more area for buffering at the edges of the site, bringing the number of sites back to seven.

TABLE 2.3-2

Operational and Site Criteria Used to Evaluate the Second-Step Operations and Maintenance Facility Sites

Criterion	Description
1. Site Configuration	OMF site's usable size and geometric characteristics with regards to its ability to accommodate buildings and trackage for optimum yard operational efficiency.
2. Alignment Proximity/Connectivity	OMF site's physical distance and operational interface to the proposed LRT mainline.
3. Alignment Location	OMF site's geometric relationship to the proposed LRT mainline and its impact on rail system operational efficiency.
4. Site Access	Ease of extending local and regional roadway access.
5. Neighborhood Compatibility	Site edge conditions and their sensitivity to OMF functions and operations.
6. Transit-oriented Development/ Mixed-use Impact/Economic Development	Minimize impact by OMF layout on transit-oriented development, mixed-use opportunities, and future use consistent with the goals of the Southwest LRT Project.
7. Zoning/Land Use	Compatibility of OMF's industrial use with existing land use guiding and zoning designation.
8. Site and Facilities Cost	Cost and schedule implications of site preparation (grading, geotechnical, demolition, remediation, utilities) for required OMF buildings and trackage.
9. Real Estate Acquisition	Cost and ease of acquiring OMF site parcels.
10. Relocation Cost	Cost and ease of relocating existing uses as a part of site acquisition.
11. Environmental Impact	Ease in addressing mitigation measures related to wetlands, woodlands, and contamination.
12. Cultural Resources	Ease in addressing mitigation measures related to historical and cultural resources.
13. Stormwater Management	Ease of meeting requirements and provisions needed to meet stormwater permitting.

C. Third-Step Evaluation

The project team prepared conceptual layout plans for each of the seven third-step OMF sites listed in Table 2.3-3. The conceptual plans also examined the relationship to adjacent edges, setbacks, environmentally sensitive areas, and remnant space within the OMF site available for redevelopment. The project team presented the seven OMF sites at three public open houses on May 13 (Eden Prairie), May 15 (St. Louis Park), and May 22, 2013 (Hopkins/Minnetonka).

TABLE 2.3-3

Third-Step Sites for the Operations and Maintenance Facility

Site Number	Name (City)
3/4	City Garage West/East (Eden Prairie)
6	Mitchell East (Eden Prairie)
8	Shady Oak/Flying Cloud (Eden Prairie)
9	K-Tel (Minnetonka)
9A	K-Tel East (Hopkins)
11A	Eleventh Avenue West (Hopkins)
12/13	Excelsior West/East (Hopkins/St. Louis Park)

Within the third step of evaluation, the project team analyzed the operational performance of the seven remaining OMF sites in greater detail based on conceptual site layouts, compliance with current land use planning and zoning, preliminary costing, and a preliminary assessment of potential environmental impacts. Based on the evaluation of the seven third-step sites (Table F.4-3 in Appendix F) and on public and committee input discussed in Chapter 4, the project team identified OMF sites 3/4 (Eden Prairie) and 9A (Hopkins) for further detailed consideration. In summary, these two potential OMF sites had the least conflict with either existing or adjacent land uses and planned development. A few sites were eliminated due to environmental factors, limitations in operations, and higher costs of construction elements. Still other sites posed potential conflict with transit-oriented development due to existing land uses adjacent to proposed light rail stations.

D. Fourth-Step Evaluation

The project's fourth step of evaluation of potential OMF sites focused on two potential sites: Site 3/4 in Eden Prairie and Site 9A in Hopkins.

Eden Prairie Site 3/4

The Eden Prairie 3/4 site is an approximately 20-acre parcel between Technology Drive on the south, Highway 5 on the north, Mitchell Road on the east, and Wallace Road to the west (see Exhibit 2.3-3). Wallace Road and Mitchell Road would provide regional access from Highway 5. The proposed OMF site would be comprised of four parcels. On the east half of the site, a large wetland abuts a building owned by the Eaton Corporation. The west half of the site includes the city's maintenance facility, and the northeast quadrant at the intersection of Wallace Road and Technology is leased by Metro Machine & Engineering. The project team considered three conceptual site layouts for the Eden Prairie OMF, because two light rail alignment adjustments and three different access possibilities were also under consideration in the Eden Prairie Segment. Exhibits F-4 to F-6 in Appendix F illustrate the three conceptual site layouts for the Eden Prairie OMF.

Hopkins Site 9A

The Hopkins 9A site is an approximately 15-acre parcel between the CP Railroad on the south, 5th Street South (K-Tel Drive) on the north, 15th Avenue South on the east, and the proposed LRT mainline on the west (see Exhibit 2.5-3). Sixteenth Avenue South runs through the middle of the site and connects to 15th Avenue South via 6th Street South. Regional access would be provided by 5th Street, 11th Avenue, Excelsior Boulevard to the north, and Highway 169 to the east. Two small constructed ponds and surrounding wetlands are located at the south end of the site adjacent to the railroad. The Hopkins OMF site would be located about 1,000 feet south of the proposed Shady Oak Station and closely adjacent to the proposed light rail alignment, about midway between downtown Minneapolis and Eden Prairie.

The OMF 9A site would be comprised from eight parcels: one undeveloped lot and seven properties with office/warehouse uses or light manufacturing and assembly. Development on parcels adjacent to the Hopkins site includes office/industrial to the north, the Hopkins landfill south of the CP tracks, office/industrial/distribution to the east across 15th Avenue, and industrial/distribution to the west beyond the proposed LRT mainline.

The development of conceptual layout plans led to one layout design for the Hopkins OMF site due to the shape and parcels, as well as its connection to the adjacent proposed light rail alignment. Fifth Street and 15th Avenue would remain in place, and access from the OMF to the LRT mainline would occur at 5th Street. Under the conceptual layout design, the proposed OMF would be located along the west edge of the site adjacent to the proposed light rail mainline. As a result of that layout, there would likely be a portion of the site to the east that would remain unused as part of the OMF. Because the eastern side of the site has relatively few buildings and other improvements, if there were any excess property remaining after construction that the Council and the FTA chose to dispose of, this land could potentially accommodate new industrial development (see Section 3.1.2.2 of this Supplemental Draft EIS for additional information on how the project could address the disposition of unused portions of parcels acquired by the project).

E. Conclusion

Based on the analysis summarized in Section 2.3.2.2.D and Table F.4-4 in Appendix F, and through the process described in Sections 2.4 and this section, the Council identified the Hopkins OMF 9A as the OMF to be incorporated into the project. A key advantage of the Hopkins OMF is the improved out-of-service operations and operating cost savings due to its relatively central location on the proposed light rail line (about midway between downtown Minneapolis and Eden Prairie), compared to the Eden Prairie OMF 3/4, which would be located west of the light rail line's western terminus.

The LPA, as evaluated in this Supplemental Draft EIS, reflects the inclusion of the Hopkins OMF 9A. Other potential OMF sites developed and evaluated in this section were dismissed from further study.

2.3.3 St. Louis Park/Minneapolis Segment

This section provides a summary of the design adjustments to LRT 3A and LRT 3A-1 in the St. Louis Park/Minneapolis Segment that were developed and evaluated after publication of the Draft EIS. Section 2.3.3.1 provides background information on the light rail-related improvements and freight rail modifications in the segment, which were addressed in the Draft EIS. Section 2.3.3.2 provides a description of the range of design adjustments to the project considered by the Council within the St. Louis Park/Minneapolis Segment and a summary of how those potential design adjustments were evaluated.

2.3.3.1 Background

As previously noted, the Draft EIS evaluated two alternatives that combined the LPA and freight rail modifications in the area within the St. Louis Park/Minneapolis Segment: LRT 3A and LRT 3A-1. As defined in the Draft EIS, both LRT 3A and LRT 3A-1 encompass the LPA, which includes a proposed light rail alignment, stations, park-and-ride lots, and related roadway, bicycle, and pedestrian improvements. As defined in the Draft EIS, the primary difference between LRT 3A and LRT 3A-1 is how freight rail modifications would be incorporated into the LPA.

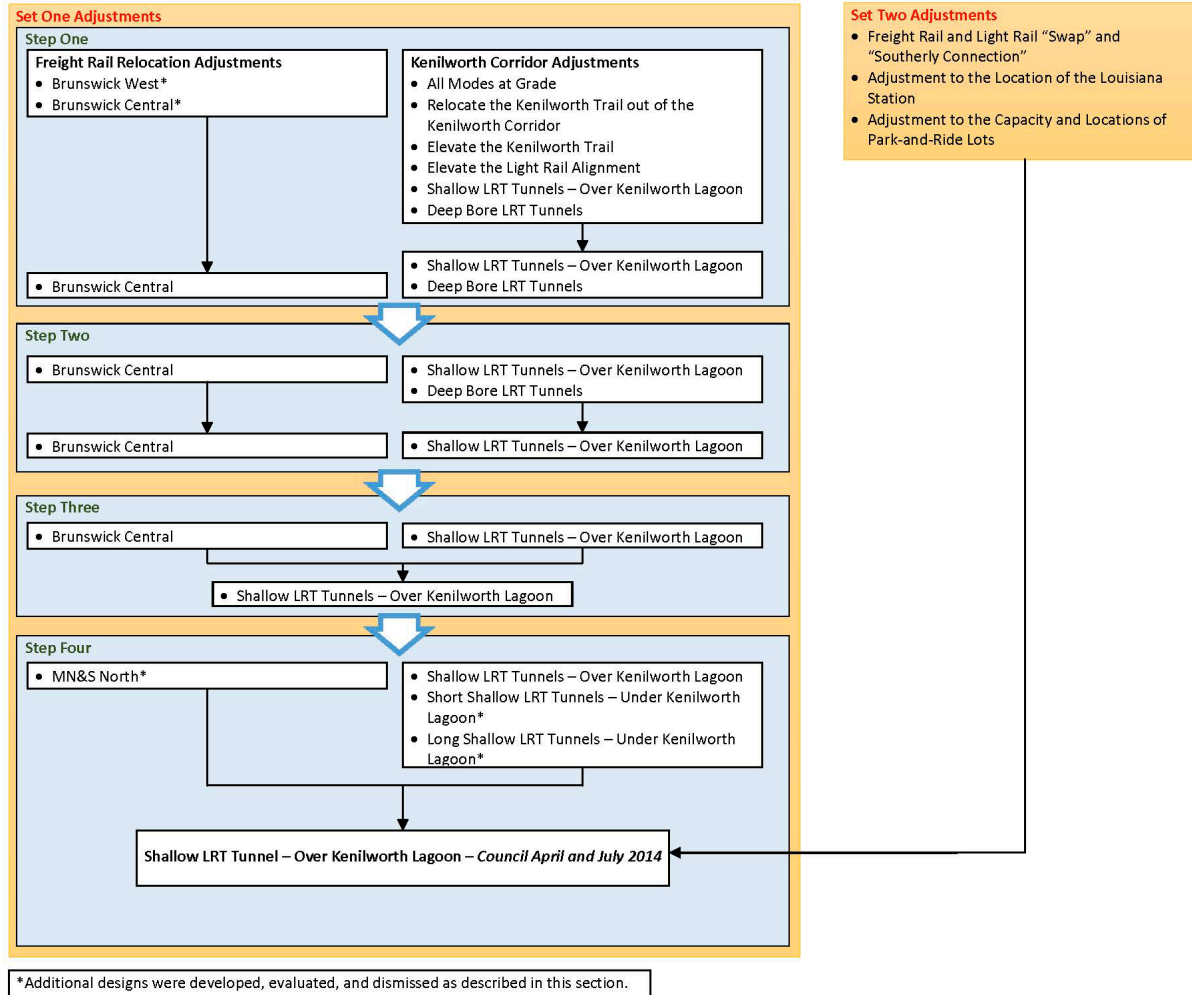
Following is a brief summary of the common proposed light rail-related improvements and differing freight rail modifications included in the Draft EIS under LRT 3A and LRT 3A-1. Sections 2.2.1.3 and 2.2.3 of the Draft EIS provide additional information.

- **Light Rail-Related Improvements.** Within the Draft EIS, LRT 3A and LRT 3A-1 included a proposed light rail alignment, stations, park-and-ride lots, and related roadway, bicycle, and pedestrian improvements. Those improvements are described in Section 2.3 of the Draft EIS under LRT 3A and LRT 3A-1 and are summarized in Section 2.2 of this Supplemental Draft EIS. The Draft EIS LPA in the St. Louis Park/Minneapolis Segment included six light rail stations and six surface park-and-ride lots, with a total capacity of 650 spaces, as summarized in Table 2.5-1 and illustrated on Exhibit 2.2-1. In general under LRT 3A, the light rail alignment would have been located primarily at-grade, north of the existing freight rail alignment and trail for the section west of the Kenilworth Corridor and north of the trail in the Kenilworth Corridor, with freight rail relocated to the MN&S Spur and Wayzata Subdivision in St. Louis Park and removed east of the MN&S Spur. Under LRT 3A-1, the light rail alignment would be located in the same location west of the MN&S Spur, with a light rail bridge over the freight tracks between the MN&S Spur and Wooddale Station, which would locate the light rail tracks south of the freight rail tracks. Within the Kenilworth Corridor, light rail would be located primarily at-grade south of the existing freight rail alignment and north of the existing trail. The trail would be located south of the light rail line, east of Wooddale Avenue South.
- **Freight Rail-Related Improvements.** The Draft EIS evaluated two ways in which freight rail modifications would be incorporated into the LPA. Under LRT 3A, TC&W freight trains currently operating along the Kenilworth Corridor would be rerouted to the MN&S Spur and Wayzata Subdivisions; or, under LRT 3A-1, the TC&W freight trains would continue to operate along the Bass Lake Spur and Kenilworth Corridor. LRT 3A and LRT 3A-1 are also referred to in the Draft EIS as “relocation” and “co-location,” respectively, and are shown on Exhibit 2.2-1.

2.3.3.2 Design Adjustments Considered in the St. Louis Park/Minneapolis Segment

After the Draft EIS public comment period, the development and evaluation of adjustments to LRT 3A and LRT 3A-1 in the St. Louis Park/Minneapolis Segment was undertaken by the Council. That process is briefly described in Section 2.3 and 2.4 of this Supplemental Draft EIS. The following figure illustrates how that process was applied to the St. Louis Park/Minneapolis Segment, noting the design adjustments developed and evaluated during the process.

St. Louis Park/Minneapolis Segment Design Adjustment Process and Adjustments Considered



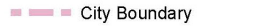
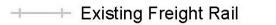
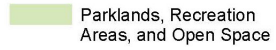
In this segment, the project team developed and evaluated two sets of potential adjustments to LRT 3A and LRT 3A-1:

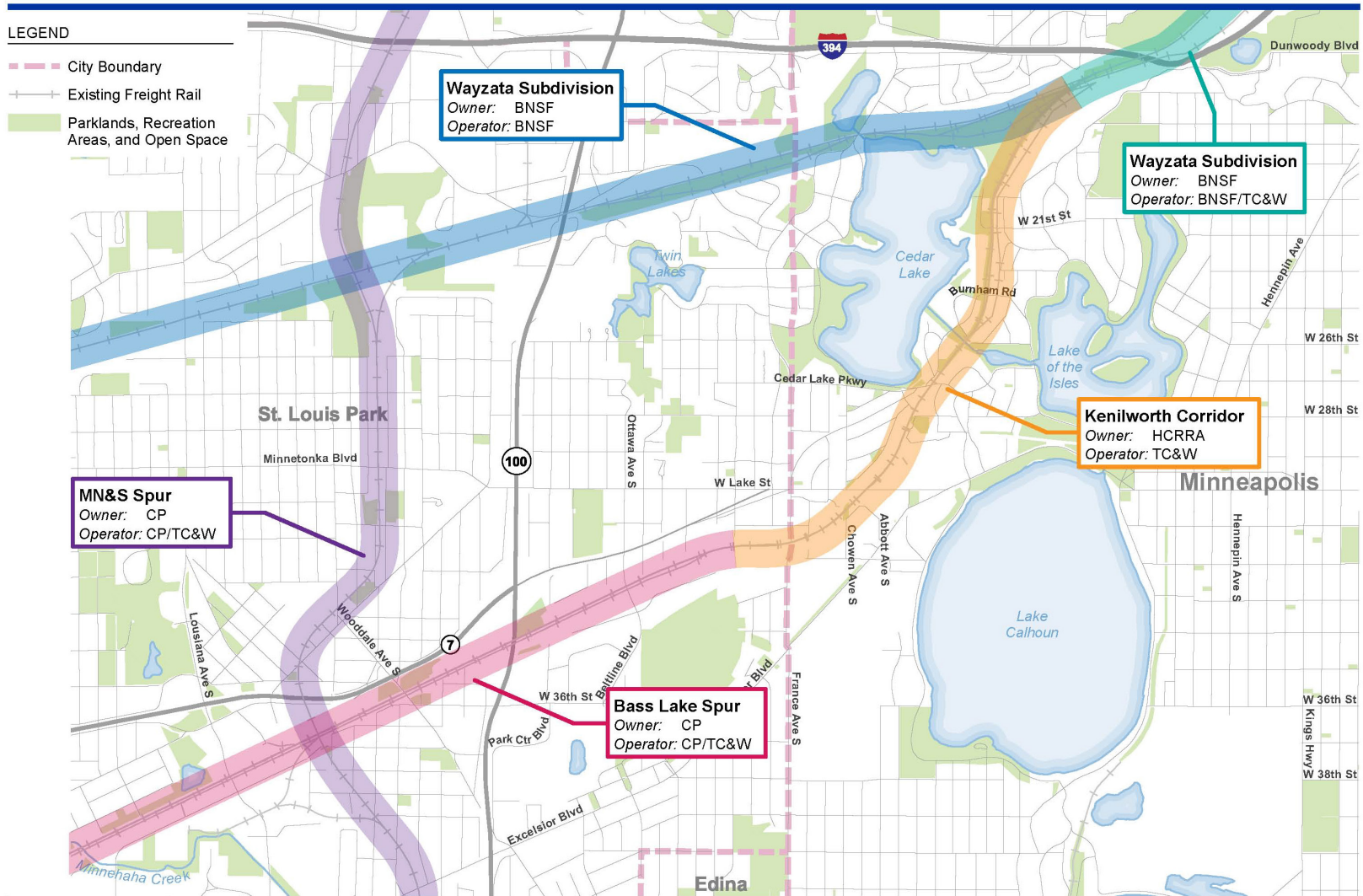
- **Set 1 Adjustments.** The first set of potential adjustments for the St. Louis Park/Minneapolis Segment focused on the question of whether the project should include: (1) the relocation of TC&W freight trains currently operating along the Bass Lake Spur and Kenilworth Corridor to sections of the MN&S Spur and Wayzata Subdivision (LRT 3A); or (2) the continued operation of TC&W freight trains along the Bass Lake Spur and Kenilworth Corridor (LRT 3A-1). See Exhibit 2.3-4 for an illustration of the freight rail owners and operators within the project vicinity.
- **Set 2 Adjustments.** The second set of potential adjustments for the St. Louis Park/Minneapolis Segment focused on other potential adjustments to light rail-related improvements that would occur throughout the segment, which would affect freight rail modifications but would not entail relocation of freight rail service outside of the Kenilworth Corridor.

The project team closely coordinated the development and evaluation of these two sets of potential adjustments to LRT 3A and LRT 3A-1 in the St. Louis Park/Minneapolis Segment. The resulting design adjustments and freight rail modifications identified by the Council in April 2014 and July 2014 reflect a unified set of adjustments to the project, as described in Section 2.5 of this Supplemental Draft EIS. That unified set of adjustments forms the basis for the evaluation of potential environmental impacts addressed in Chapter 3 of this Supplemental Draft EIS.

EXHIBIT 2.3-4

Existing Freight Rail Owners and Operators

- LEGEND**
-  City Boundary
 -  Existing Freight Rail
 -  Parklands, Recreation Areas, and Open Space



	<p>Southwest LRT Supplemental Draft EIS Existing Freight Rail Owners and Operators</p>	<p>Exhibit 2.3-4</p>		
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A. Set 1 Design Adjustments

After the close of the Draft EIS public comment period, the Council undertook a four-step process to develop and evaluate Set 1 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 (termed “freight rail relocation adjustments”); or (2) whether the TC&W freight trains should continue to operate along the Bass Lake Spur and Kenilworth Corridor as they currently do (termed “Kenilworth Corridor adjustments”).

The following four steps were used for evaluation of the Set 1 Adjustments (this section provides a more detailed description of each of these steps, and Appendix F of this Supplemental Draft EIS provides a description of the evaluation process and measures used by the project throughout the four-step process):

- **First-Step Evaluation.** 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, focusing on meeting key design parameters, while avoiding or minimizing adverse impacts and minimizing project costs. The resulting adjustments were then presented to the public, stakeholders and participating agencies for review and comment. Based on comments received from the public, stakeholders, and participating agencies and on the evaluation measures summarized in Tables F.5-3 and F.5-4 in Appendix F of this Supplemental Draft EIS, the design adjustments were narrowed to one freight rail relocation and two Kenilworth Corridor adjustments.
- **Second-Step Evaluation.** 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. This evaluation included public and agency review of and comment on the second-step findings (see Table F.5-5 of Appendix F of this Supplemental Draft EIS for a summary of the Second-Step evaluation measures).
- **Third-Step Evaluation.** 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, and identification of one design adjustment to advance into the fourth-step evaluation (see Table F.5-6 of Appendix F of this Supplemental Draft EIS for a summary of the Third-Step evaluation measures).
- **Fourth-Step Evaluation.** The Fourth Step evaluation consisted of three components:
 - An independent engineering analysis that (1) evaluated potential freight rail relocation adjustments that were developed or identified in prior studies and (2) developed and evaluated a new design adjustment that would relocate existing freight rail service from the Kenilworth Corridor (this new design adjustment (MN&S North) was compared to the freight rail relocation design adjustment (Brunswick Central) advanced from the third-step evaluation)
 - The development and evaluation of two variations of the design adjustment advanced from the third-step evaluation (these two new designs (Short Shallow LRT Tunnel – Under Kenilworth Lagoon and Long Shallow LRT Tunnel – Under Kenilworth Lagoon), suggested by a local jurisdiction, were compared to the design adjustment advanced from the third-step evaluation)
 - Identification by the Council of design adjustments incorporated into LRT 3A-1 to reduce capital costs (by eliminating the northern of two proposed tunnels in the Kenilworth Corridor) and to incorporate a variety of bicycle and pedestrian improvements.

Table 2.3-4 identifies the design adjustments developed and evaluated within each of the four steps, including identification of their status at the completion of each step. Following is a more detailed description of each step and the design adjustments developed and evaluated within each step.

TABLE 2.3-4

Set 1 Design Adjustments Developed and Evaluated in the St. Louis Park/Minneapolis Segment, by Step

Step	Adjustment Type	Design Adjustments	Status ^a
1	Freight Rail Relocation	Brunswick West	Dismissed
		Brunswick Central	Retained
	Kenilworth Corridor	All Modes at-grade	Dismissed
		Relocate the Kenilworth Trail out of the Kenilworth Corridor	Dismissed
		Elevate the Kenilworth Trail	Dismissed
		Elevate the Light Rail Alignment	Dismissed
		Shallow LRT Tunnels – Over Kenilworth Lagoon ^b	Retained
Deep Bore LRT Tunnels	Retained		
2	Freight Rail Relocation	Brunswick Central	Retained
	Kenilworth Corridor	Shallow LRT Tunnels – Over Kenilworth Lagoon ^b	Retained
		Deep Bore LRT Tunnels	Dismissed
3	Freight Rail Relocation	Brunswick Central	Dismissed
	Kenilworth Corridor	Shallow LRT Tunnels – Over Kenilworth Lagoon ^b	Retained
4	Freight Rail Relocation	MN&S North ^c	Dismissed
	Kenilworth Corridor	Shallow LRT Tunnels – Over Kenilworth Lagoon ^b	Retained ^d
		Short Shallow LRT Tunnel – Under Kenilworth Lagoon ^e	Dismissed
		Long Shallow LRT Tunnel – Under Kenilworth Lagoon ^e	Dismissed

^a Status as of completion of the step.

^b The shallow tunnels would be constructed using a cut-and-cover technique.

^c The MN&S North design adjustment was developed and evaluated as an element of the independent engineering analysis.

^d The Shallow LRT Tunnels – Over Kenilworth Lagoon option, which included two proposed light rail tunnels (one south and one north of the Kenilworth Lagoon), was modified by the Council on July 9, 2014, to eliminate the northern light rail tunnel and to make other related design modifications.

^e In February 2014, the Minneapolis Parks and Recreation Board requested that the Council evaluate a design adjustment that would connect the two Shallow LRT Tunnels with a cut-and-cover constructed tunnel segment under the Kenilworth Lagoon, rather than a bridge over the lagoon. In response, the Short and Long Shallow LRT Tunnel – Under Kenilworth Lagoon design adjustments were developed and evaluated as a part of the fourth-step of evaluation (see Appendix F for additional detail). In addition, project staff developed variations of the Short and Long Shallow LRT Tunnel – Under Kenilworth Lagoon design adjustments to determine if the northern and southern cut-and-cover LRT tunnel segments could be connected under the Kenilworth Lagoon via a bored tunnel segment, rather than via a cut-and-cover constructed tunnel segment. In effect, these variations would be a combination of two cut-and-cover-constructed tunnel segments connected with a bored-constructed tunnel segment under the Kenilworth Lagoon. These two combination variations were dismissed from further study due to: complex construction considerations inherent in utilizing two tunnel construction techniques within a constrained physical environment; additional schedule delays related to mobilizing the two tunnel construction techniques; substantially higher capital costs relative to other design adjustments under consideration; potential additional property acquisitions that could be required to accommodate a southern bored-tunnel staging area; and reconstruction of the existing freight rail and trail bridges across the lagoon and the related adverse impacts during construction would not be avoided.

First-Step Evaluation

The first-step evaluation process for the Set 1 Design Adjustments in the St. Louis Park/Minneapolis Segment included the development and analysis of potential adjustments to both the existing freight rail lines and/or to the proposed light rail alignment and related improvements. However, the range of adjustments from the two efforts differ substantially: (1) the freight rail relocation adjustments focus almost exclusively on changes to the proposed freight rail alignment; and (2) the Kenilworth Corridor adjustments primarily focus on potential changes to the proposed light rail improvements within the Kenilworth Corridor. In addition to ensuring that the project continues to meet its Purpose and Need, as outlined in Chapter 1 of this Supplemental Draft EIS, both of these efforts had the same overall objectives: (1) develop potential adjustments that meet the current freight rail operator's operational and safety requirements; (2) minimize adverse impacts to the project's surrounding environment, including avoiding or minimizing property acquisitions; and (3) minimize capital and operating costs.

The design adjustment process for the Set 1 Adjustments also included discussions with the affected railroad companies, including an examination of their existing operations and an assessment of freight rail alignment conditions between the Highway 169/Highway 62 interchange in the west to Cedar Lake Junction in the east.

The potential freight rail relocation adjustments developed and considered involved a range of significant changes to the freight rail modifications envisioned under LRT 3A (as described in Section 2.3.3 of the Draft EIS). The design adjustments developed primarily focused on changes to the potential freight rail connection between the Bass Lake and MN&S spurs and, to a lesser degree, to the potential freight rail connection between the MN&S Spur and the Wayzata Subdivision.

Conversely, the Kenilworth Corridor adjustments developed focused primarily on the development and evaluation of a range of significant changes to the proposed light rail alignment within the Kenilworth Corridor, compared to those proposed under LRT 3A-1 of the Draft EIS.

The first step of the evaluation process for Set 1 Adjustments resulted in the development and evaluation of the following potential design adjustments (see Exhibits 2.3-5 to 2.3-7):

- **Set 1 Freight Rail Relocation Adjustments**

- Brunswick West – the relocation of freight rail to the MN&S Spur and Wayzata Subdivision primarily above grade and on new right-of-way between Bass Lake Spur and 33rd Street
- Brunswick Central – the relocation of freight rail to the MN&S Spur and Wayzata Subdivision primarily above grade, slightly east of the Brunswick West alignment between Bass Lake Spur and 33rd Street

- **Set 1 Kenilworth Corridor Adjustments**

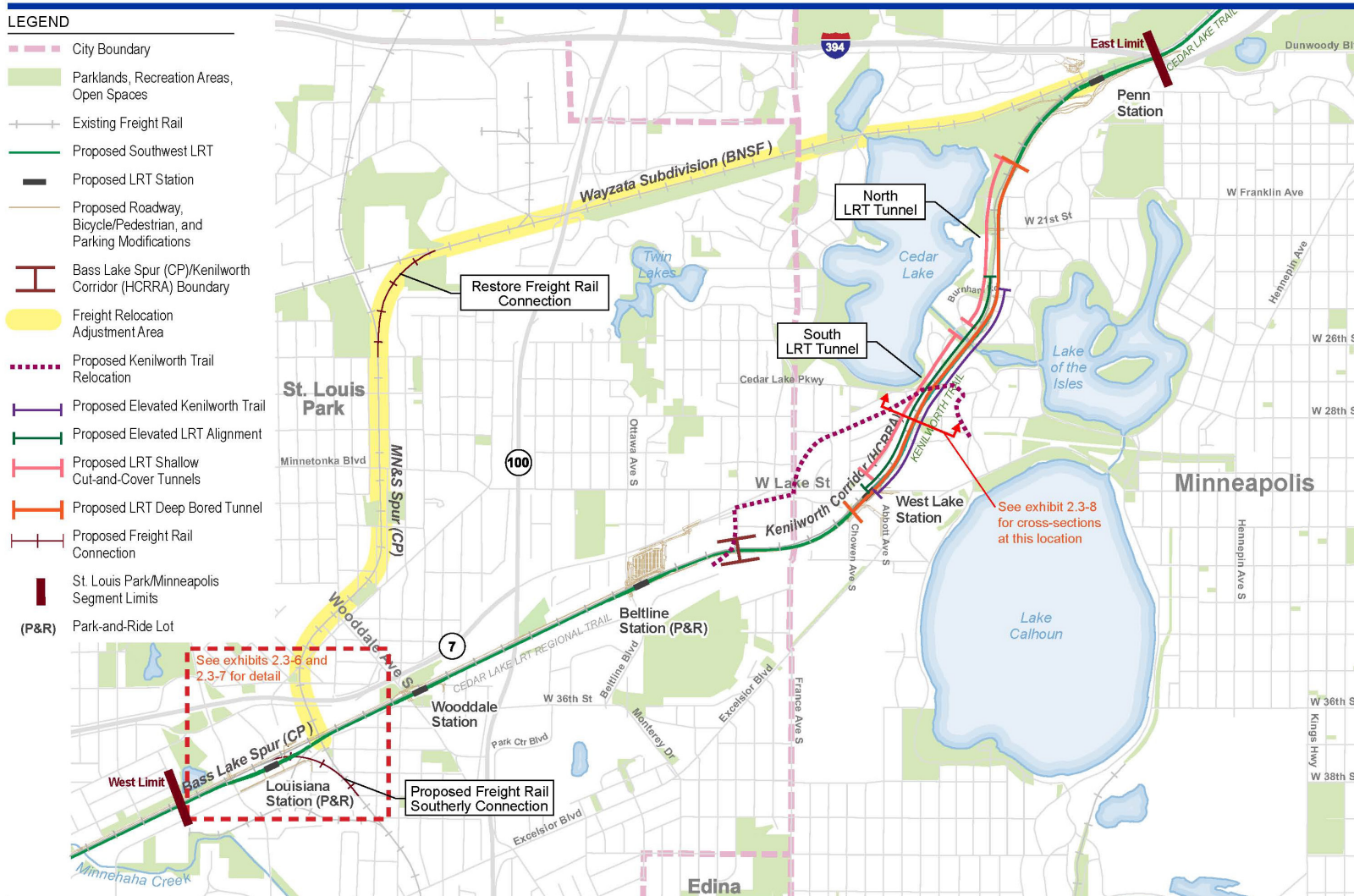
- All Modes at-grade—light rail, freight rail, and trails at-grade through Kenilworth Corridor
- Relocate the Kenilworth Trail out of the Kenilworth Corridor—the relocation of the Kenilworth Trail between the Midtown Greenway and Cedar Lake Parkway
- Elevate the Kenilworth Trail—the placement of the Kenilworth trail on structure above the light rail alignment, east of the West Lake Street bridge to north side of Burnham Road bridge
- Elevate the Light Rail Alignment—the placement of proposed light rail alignment on an elevated structure in the Kenilworth Corridor, east of the West Lake Street bridge to north side of Burnham Road bridge
- Place the Light Rail Alignment in Shallow Cut-and-Cover Tunnels—the placement of the proposed light rail alignment within two cut-and-cover tunnels (the south tunnel segment between north of the West Lake Street bridge and south of the Kenilworth Lagoon; the north tunnel segment between north of the Kenilworth Lagoon and approximately 1,000 feet north of 21st Street) and a light rail bridge over the Kenilworth Lagoon between the two tunnels
- Place the Light Rail Alignment in Deep Bore Tunnels—the placement of the proposed light rail alignment within twin bored tunnels between west of West Lake Station and approximately 1,000 feet north of 21st Street, with West Lake Station below grade

Set 1 Freight Rail Relocation Adjustments Considered in the First-Step Evaluation

During the Draft EIS public comment period, individuals, organizations, and jurisdictions expressed concerns with the proposed freight rail track connection in St. Louis Park that would allow for the relocation of freight rail out of the Kenilworth Corridor. In particular, TC&W, the existing freight rail operator in the Kenilworth Corridor, raised safety and operational concerns with the horizontal and vertical curvature of the proposed new connection between the Bass Lake Spur and the MN&S Spur, as well as insufficient lengths of straight track, based on their design standards for operating up to 120-car-unit trains. TC&W also noted that the proposed routing of their freight trains from the Bass Lake Spur and the Kenilworth Corridor to the MN&S Spur and the Wayzata Subdivision could adversely affect the railroad's operational costs due to track geometry, increased track distances, and operating environments.

EXHIBIT 2.3-5






Areas of Potential Light Rail and Freight Rail-Related Adjustments, St. Louis Park/Minneapolis Segment

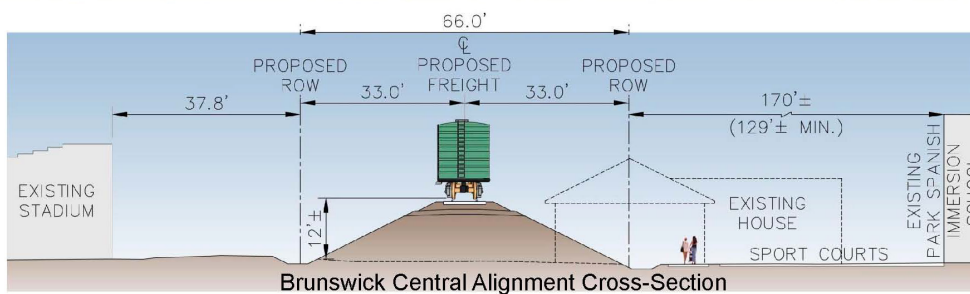


	<p>Southwest LRT Supplemental Draft EIS Areas of Potential Light Rail and Freight Rail-Related Adjustments St. Louis Park/Minneapolis Segment</p>	<p>Exhibit 2.3-5</p>		
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EXHIBIT 2.3-6
Brunswick Central Freight Rail Relocation Adjustments

LEGEND

-  Proposed Brunswick Central Freight Rail Relocation Alignment
-  Existing Freight Rail
-  Proposed Removal of Freight Rail
-  Proposed Southwest LRT
-  Cross Section Location




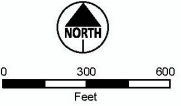

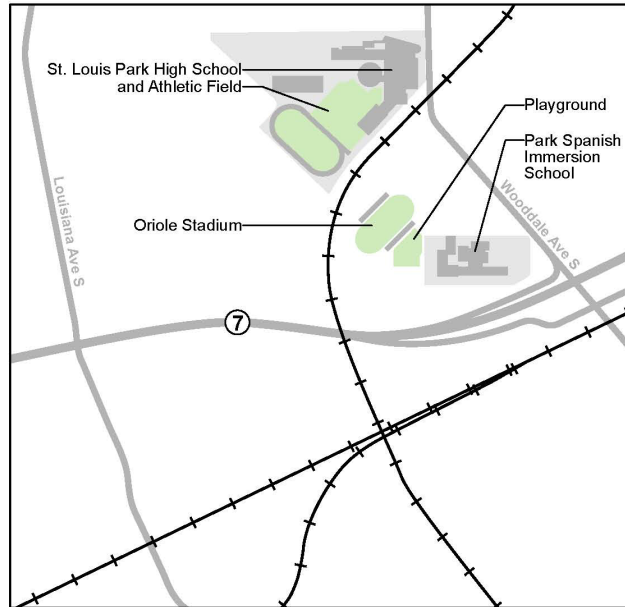
	<p>Southwest LRT Supplemental Draft EIS Brunswick Central Freight Rail Relocation Adjustments</p>	<p>Exhibit 2.3-6</p>		
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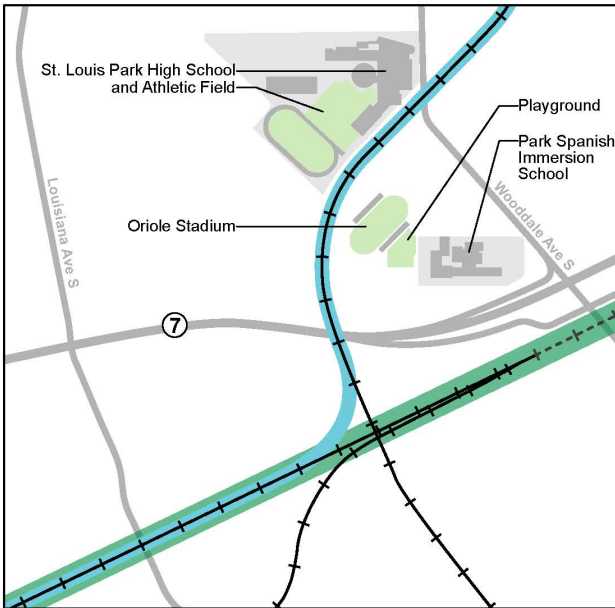
EXHIBIT 2.3-7
Draft EIS and Brunswick West Freight Rail Relocation Adjustments

LEGEND

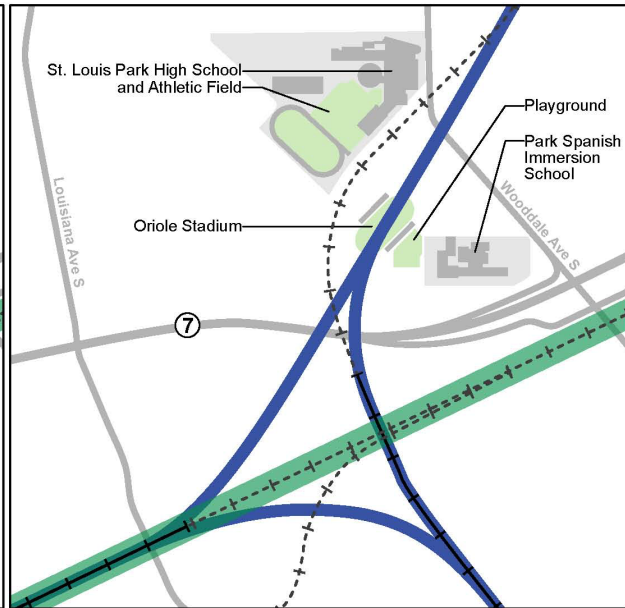
-  Proposed Draft EIS Freight Rail Relocation Alignment
-  Proposed Brunswick West Freight Rail Relocation Alignment
-  Existing Freight Rail
-  Proposed Removal of Freight Rail
-  Proposed Southwest LRT




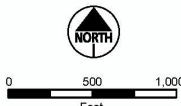

Existing Freight Rail Alignment



Draft EIS Relocation Design



Proposed Brunswick West Alignment

	<p>Southwest LRT Supplemental Draft EIS Draft EIS and Brunswick West Freight Rail Relocation Adjustments</p>	<p>Exhibit 2.3-7</p>		
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Based on those and other comments received on the Draft EIS, the project team developed a variety of design adjustments to allow for the relocation of freight rail service while balancing two primary objectives: design the connection to meet the safety and operational design standards of the affected railroads; and maintain the adjusted freight rail alignment within the existing right-of-way as much as possible. This effort focused on adjustments to the potential freight rail connection between the Bass Lake and MN&S spurs and adjustments to the track alignment along the MN&S Spur to the reconstructed connection to the Wayzata Subdivision. The adjustments developed for the potential freight rail connection were termed Brunswick Central and Brunswick West (see Exhibits 2.3-6 and 2.3-7):¹⁰

- **Brunswick West.** The Brunswick West freight rail relocation adjustment would provide a freight rail connection between the Bass Lake and MN&S spurs that would meet the freight rail operators' design and safety standards for horizontal and vertical track curvature. The vertical profile of this alignment would require the light rail track to be elevated between the Bass Lake Spur and approximately 33rd Street. However, the design adjustment would require full or partial acquisition of approximately 46 residential, business, or public properties; construction of freight rail bridge structures; lowering of the south frontage road at Highway 7; and reconfiguration of several local roads that would be severed due to the adjusted freight rail alignment. The Brunswick West freight rail relocation adjustment would realign and re-establish the MN&S tracks between the Bass Lake Spur and 33rd Street on a new freight rail right-of-way. The alignment would also include realignment of the MN&S Spur to the south of the Bass Lake Spur. It also would displace Oriole Stadium, which serves as St. Louis Park High School's football field and as a community recreation facility and most likely would meet the qualifications for a Section 4(f)-protected property. The Brunswick West alignment would also close through access at Walker Street/Library Lane and would realign Lake Street from Walker Street to Dakota Avenue. It would also require additional roadway modifications to continue to provide vehicular access to the high school's athletic field. The modified freight rail alignment would generally meet up with the existing MN&S Spur alignment east of Brunswick Avenue South, in the vicinity of West 32nd Street, with relatively minor modifications to the existing tracks. Those modifications would be to the elevation of the existing freight rail tracks to accommodate the connection between the new and existing alignment. Finally, there would be a restored freight rail connection made between the MN&S Spur and the Wayzata Subdivision, as illustrated in Appendix G, Conceptual Engineering Drawings, of the Draft EIS.
- **Brunswick Central.** The Brunswick Central freight rail relocation adjustment was developed to minimize impacts to commercial, residential, and public properties associated with the Brunswick West alignment. This design adjustment would shift the existing MN&S rail tracks to the east, south of Highway 7, replacing the current freight rail bridge over the Bass Lake Spur and realigning the MN&S Spur between Bass Lake Spur and 33rd Street on new railroad right-of-way. Under the Brunswick Central design adjustment, the potential freight rail connection would be elevated to minimize the number of vertical curves and vertical grade changes and flatten horizontal curves needed to meet the railroad operator's operational and safety requirements. This design adjustment would require full or partial acquisition of approximately 32 residential, business, or public properties; two new structures over Highway 7; and a new freight rail structure over the MN&S Spur. Both Highway 7 and the frontage road would be lowered approximately five feet to provide the required vertical bridge clearance over Highway 7. This design adjustment would result in relocating the Park Spanish Immersion School playground, a property that would likely meet the qualifications for protection under Section 4(f). Under this design adjustment, all freight rail street crossings would be grade-separated, except for an at-grade crossing at 28th Street. Underpasses would allow the Spanish Immersion School to retain access to Oriole Field and would provide vehicle, bicycle, and pedestrian access at other locations where the freight alignment would be elevated on retained fill (which is the construction of retaining walls to support fill where tracks are raised above existing grade). New freight rail bridges would be constructed over, Wooddale Avenue, 34th Street, and Lake Street. The modified freight rail alignment

¹⁰ Additional freight rail design adjustments, including those that would keep the freight rail alignment at-grade, were also developed during the first step, but they were dismissed from consideration due to railroad safety, operational, and economic concerns.

would generally meet up with the existing MN&S Spur alignment east of Brunswick Avenue South, in the vicinity of West 32nd Street, with relatively minor modifications to the existing tracks. Those modifications would be to the elevation of the existing freight rail tracks to accommodate the connection between the new and existing alignment. Finally, there would be a restored freight rail connection made between the MN&S Spur and the Wayzata Subdivision, as illustrated in Appendix G, Conceptual Engineering Drawings, of the Draft EIS.

Appendix F of this Supplemental Draft EIS provides a description of the development and evaluation of design adjustments after publication of the Draft EIS, including the criteria and evaluation measures used to evaluate these freight rail relocation adjustments (see Table F.5-3 in Appendix F).

Set 1 Kenilworth Corridor Adjustments Considered in the First-Step Evaluation

Concurrent with the potential freight rail relocation adjustment process, the project team reviewed comments submitted on the Draft EIS and advanced design activities to identify adjustments that would allow freight rail to continue operations in the Kenilworth Corridor.

As described in the Draft EIS, under LRT 3A-1, TC&W trains would not have been rerouted from the Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision. Instead, the proposed double-tracked light rail alignment would be located adjacent to the existing Bass Lake Spur until entering the Kenilworth Corridor, where the light rail alignment would run parallel to the current single freight rail track and the Kenilworth Trail. Based on the conceptual design at the time, the Draft EIS analysis reflected a 94-foot cross section for LRT 3A-1 in the Kenilworth Corridor. Because of the limited width of the existing HCRRA-owned Kenilworth Corridor right-of-way at several locations, LRT 3A-1 would have resulted in the acquisition of approximately 55 residential and two commercial properties. Responding to a wide variety of comments on the Draft EIS, the project team developed and evaluated a range of design adjustments to the LRT 3A-1 that would allow for freight rail service to be retained within the Kenilworth Corridor along with the proposed light rail alignment and related improvements.

The project team developed and evaluated five potential design adjustments in addition to advancing the conceptual design of LRT 3A-1 from the Draft EIS that would have placed the freight rail, light rail, and trail alignments at-grade throughout the Kenilworth Corridor.¹¹ The six potential design adjustments developed and evaluated for the Kenilworth Corridor, that would retain freight rail within the corridor, are briefly described below, and are illustrated on Exhibits 2.3-5 and 2.3-8 of this Supplemental Draft EIS:

- **All Modes at-Grade.** As previously noted, the conceptual design of LRT 3A-1 in the Draft EIS would have placed the existing freight rail and Kenilworth Trail alignments and the proposed light rail alignment at-grade within the Kenilworth Corridor. The cross section of this design was adjusted based on additional information from the railroad operator¹² and on consideration of the potential acquisition of BNSF-owned right-of-way located immediately west of the Kenilworth Corridor. The adjusted typical cross section for this placing all modes at-grade within the Kenilworth Corridor would require 81 feet of right-of-way and would have required full acquisition of approximately 26 residential properties.
- **Relocate the Kenilworth Trail out of the Kenilworth Corridor.** This potential adjustment would generally require a typical cross-section width of approximately 61 feet for the existing freight and proposed light rail alignments. In summary, this design adjustment would avoid full residential property acquisitions but would likely require some partial property acquisitions and the construction of a new trail route from Inglewood Avenue South to Cedar Lake Parkway, including trail overpass structures over Highway 25 and France Avenue.

¹¹ A single-track light rail alignment within the most constrained sections of the Kenilworth Corridor was considered and dismissed due to unacceptable constraints that it would place on operating light rail service in the Southwest and Central corridors.

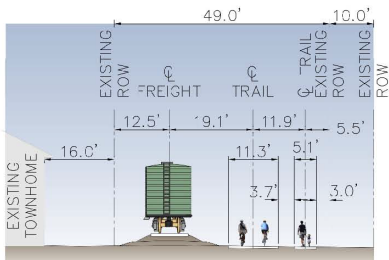
¹² These adjustments were unable to achieve a 25-foot clearance envelope between the centerline of the freight track and the right-of-way line. TC&W reviewed their existing operating clearance envelope within the Kenilworth Corridor, which is a minimum of 12 feet. TC&W has indicated that the existing operating clearance is acceptable.

- **Elevate the Kenilworth Trail.** This potential adjustment generally requires a typical cross-section width of approximately 61 feet. The trail structure would be south of and parallel to the existing right-of-way north of West Lake Street and south of Burnham Road. At these locations, the trail would be elevated on retained fill, transitioning to bridge structure across the freight rail and light rail alignments. The trail would be elevated approximately 30 feet above grade, with a 20-foot-wide trail surface supported by eight-foot-wide piers. This option would not require any full residential property acquisitions, but it would require the construction of an elevated trail structure, including an ADA-accessible connection to Cedar Lake Parkway.
- **Elevate the Light Rail Alignment.** This potential adjustment would require a typical cross section of approximately 59 feet. The proposed light rail structure would be approximately 3,000 feet long with 10-foot-wide bridge piers. Generally, the light rail structure would be located between the Midtown Greenway and Burnham Road and would be approximately 35 feet high. This design adjustment would not result in any full residential property acquisitions.
- **Shallow LRT Tunnels – Over Kenilworth Lagoon.** This potential adjustment would result in a typical cross section of approximately 62 feet for the at-grade freight rail and trail alignments where the double-tracked light rail alignment would be within the two tunnels. The two light rail tunnels would generally be within the Kenilworth Corridor (with some relatively minor exceptions, illustrated in Appendix G, Conceptual Engineering Drawings. In general, the tunnels would be under the reconstructed Kenilworth Trail (Exhibit 2.3-8 illustrates a typical cross section), about 25 feet deep (at track level). The south light rail tunnel would extend approximately 2,200 feet from just north of West Lake Street to approximately 400 feet south of the Kenilworth Lagoon, which is a constructed channel connecting Lake of the Isles to Cedar Lake. The light rail alignment would rise back to grade to cross the lagoon on a new bridge with approximately the same vertical clearance over the lagoon as is provided today under the existing freight rail and bicycle/pedestrian trail bridges. After crossing the lagoon, the light rail alignment would descend and enter the north tunnel approximately 600 feet north of the lagoon. The north light rail tunnel would extend for approximately 2,500 feet, rising back to the surface approximately 1,000 feet north of 21st Street. Due to the relatively high cost of a tunnel station construction and the relatively low ridership projected at the proposed 21st Street Station, the design refinement eliminated the station. Each end of the two tunnels would include portal areas that would span approximately 300 to 500 feet, which would provide for the transition between the at-grade and tunnel alignments. Fencing and other facilities would protect the tunnel portals from unauthorized entry. This design adjustment would not result in any full residential property acquisitions.
- **Deep Bore LRT Tunnels.** Under this potential design adjustment, a portion of the proposed light rail alignment in the Kenilworth Corridor would be in two parallel tunnels that would be approximately 30 to 50 feet deep. The two parallel tunnels would be constructed using boring machines and each tunnel would be approximately 5,900 feet long. The tunnels' south portal would be north of West Lake Street and the north portal would be approximately 1,000 feet north of 21st Street. Each of the two light rail tunnels would be approximately 20 feet in diameter, with the depth of cover ranging from 30 feet at the West Lake Station to approximately 50 feet where the tunnels would cross under the Kenilworth Lagoon (at track level). This potential design adjustment would require a typical cross section in the Kenilworth Corridor of 59 feet to accommodate the at-grade freight rail and trail alignments where the light rail alignment would be within the two parallel tunnels. The deep bore tunnel would also require an underground station at West Lake Street,¹³ as well as reconstruction of the existing West Lake Street bridge over the Kenilworth Corridor and the approaches to the bridge (generally between Market Plaza

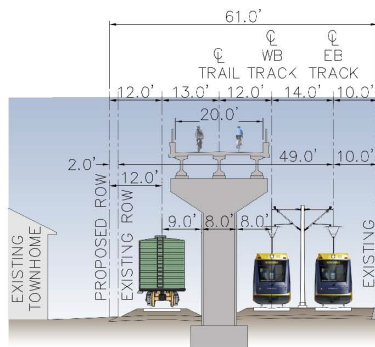
¹³ Under the Deep Bore LRT Tunnels adjustment, an at-grade station at West Lake Street would require the tunnel portal to be located north of the West Lake Street bridge, which would result in the acquisition and displacement of residential properties in this area.

EXHIBIT 2.3-8

Kenilworth Corridor Adjustments Considered

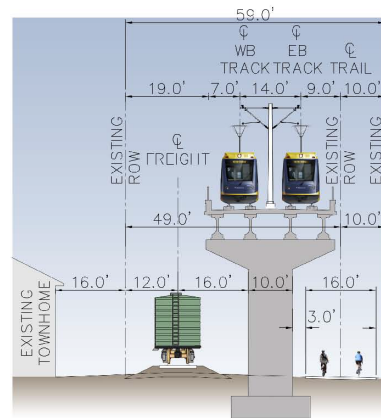


Existing



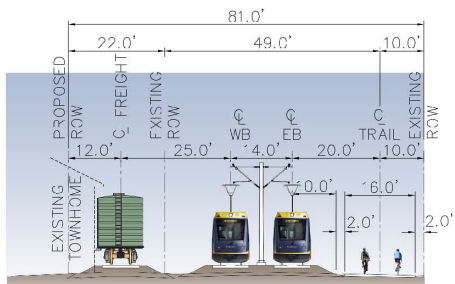
Elevate the Kenilworth Trail

TOTAL AERIAL TRAIL LENGTH = 4,900'

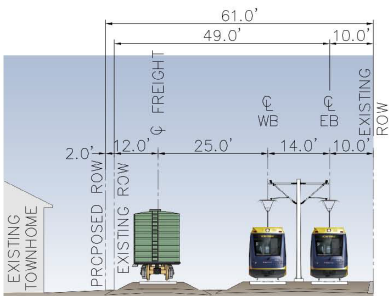


Elevate the Light Rail Alignment

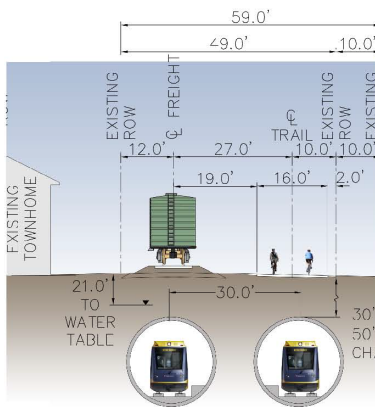
TOTAL AERIAL LRT LENGTH = 4,200'



Conceptual Design from the Draft EIS (All Modes At-Grade)



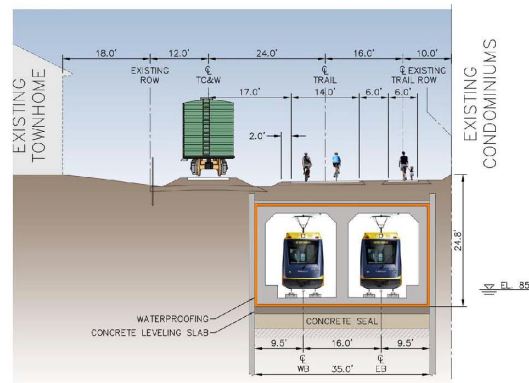
Relocate the Kenilworth Trail out of the Kenilworth Corridor (see Exhibit 2.3-3 for trail relocation route)



Place LRT in Deep Bored Tunnels

TOTAL TUNNEL LENGTH = 6,400'
BORED TUNNEL LENGTH = 4,100'

30' TYPICAL 50' MAX UNDER CHANNEL



Place LRT in Shallow Cut-and-Cover Tunnel



Southwest LRT Supplemental Draft EIS
Kenilworth Corridor Adjustments Considered

Exhibit 2.3-8



and Drew Avenue South).¹⁴ Due to the relatively high cost of a tunnel station construction and the relatively low ridership projected at the proposed 21st Street Station, this design refinement would eliminate the 21st Street Station.¹⁵ This potential design adjustment would not require any full residential property acquisitions.

Conclusion of the First-Step Evaluation

During the first step of evaluation, the Council held public open houses during July 2013 to present the design adjustments developed to date and to receive comments on those potential adjustments. Primary concerns raised through that process included noise, visual effects on adjacent residences, and narrower distances between residential properties and proposed rail or light rail tracks. The design adjustments developed during the first-step evaluation were also reviewed by the CAC and BAC and were presented to the St. Louis Park and Minneapolis city councils and to the St. Louis Park School Board.

Based on the evaluation measures prepared for the first-step evaluation, provided in Tables F.5-3 and F.5-4 in Appendix F, the public and agency comments received and the committee recommendations made, the range of potential freight rail relocation and Kenilworth Corridor adjustments were narrowed to the following for further study in the second-step evaluation:

- Freight Rail Relocation with Brunswick Central Alignment Adjustment
- Kenilworth Corridor Shallow LRT Tunnels
- Kenilworth Corridor Deep Bore LRT Tunnel

Second-Step Evaluation

Relatively minor changes were made to the potential design adjustments in the St. Louis Park/Minneapolis Segment during the second-step evaluation. For example, additional design detail was added or modified, in response to questions or requests from jurisdictions, to meet a specific design requirement or to avoid or minimize an identified adverse environmental impact. Additional elements were included in the designs, such as additional pedestrian access points under the Brunswick Central adjustment, and minor modifications to the location of crash walls between the proposed freight rail and light rail alignments and fencing details at the tunnel portals were added to the tunnel alignments.

The Council used the criteria and the measures reported in Table F.5-5 in Appendix F to evaluate the three potential freight rail-related design adjustments to LRT 3A and LRT 3A-1. Based on the evaluation measures prepared for the second-step evaluation, the Deep Bore LRT Tunnel adjustment was dropped from the third-step evaluation, as recommended by the CMC. In summary, the Deep Bore LRT Tunnel adjustment was dismissed from further study based upon the following:

- Highest capital costs, which would likely be economically infeasible at the regional level.
- Demolition and reconstruction of the existing West Lake Street bridge over the Kenilworth Corridor and approach spans to the bridge, generally between Market Plaza and Chowen Avenue South, which would require the closure of West Lake Street bridge and approach spans to the bridge for approximately 12 to 18 months, resulting in rerouting of approximately 26,500 vehicle trips per average weekday.
- Walk access time to and from West Lake Station, which would be the highest ridership station, would increase by approximately one minute due to additional time to access below ground station, resulting in reduced transit ridership at that station.

¹⁴ Due to various constraints (such as existing development on either side of the roadway and the conflict of existing bridge piers in relationship to the proposed tunnel), West Lake Street, generally between Market Plaza and Chowen Avenue South, would be closed to through traffic for approximately 12 to 18 months to allow for demolition of the existing bridge and approaches and for construction of the new bridge and approaches.

¹⁵ The tunnels would be bored within the HCRRA and BNSF right-of-way at the Kenilworth Lagoon and the existing freight rail and trail bridges across the lagoon would need to be replaced because the existing wood bridge piers would likely extend into the tunneling area. Because the existing bridge piers are wood and there are no as-build construction drawings available, it would be difficult to determine precisely how deep the existing piers extend under the lagoon. However, even if they do not extend in the bored tunnel construction area, the piers would be susceptible to settlement during tunnel construction due to soil conditions at the site.

- Increased operating and maintenance costs associated with an underground West Lake Station.
- Longer and deeper transition areas with retaining walls between the proposed at-grade light rail alignment and the two tunnel portals, which would lead to additional adverse impacts to visual quality and aesthetics in the Kenilworth Corridor.
- Reconstruction of the existing freight rail and light rail bridges across the Kenilworth Lagoon and the adverse effects of those construction activities would not be avoided.
- Potential risk of settlement to existing buildings and other structures immediately adjacent to the deep bore tunnels.

Third-Step Evaluation

The third step of evaluation involved the detailed comparison of the Freight Rail Relocation Brunswick Central and the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustments. Based on a recommendation adopted by the CMC in October 2013, the analysis concluded that the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustments would provide the best balance of costs, benefits, and environmental impacts, compared to the Freight Rail Relocation Brunswick Central adjustments. In summary, the advantage of the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment is that it would avoid the various adverse impacts associated with the Freight Rail Relocation Brunswick Central design, including: additional capital costs; the full acquisition of approximately 32 residential, commercial, and institutional parcels; the use of the Park Spanish Immersion School playground; and the adverse visual, neighborhood, and community cohesion impacts resulting from the construction of berms and structures associated with the modified freight rail alignment in the vicinity of St. Louis Park High School. By comparison, the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment would not result in the full acquisition of any residential, commercial, or institutional properties or displacement of residences or commercial/institutional buildings, or uses. The third-step evaluation measures are summarized in Table F.5-6 in Appendix F. 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 Tunnels – Over Kenilworth Lagoon adjustment was advanced into the fourth-step evaluation (see Exhibit 2.3-9).¹⁶

Fourth-Step Evaluation

The fourth step of evaluation was initiated in October 2013 and involved three primary components: (1) preparation of the independently-prepared *SWLRT Engineering Evaluation of Freight Rail Relocation Alternatives* (TranSystems, 2014),¹⁷ which identified the MN&S North design adjustment for further evaluation; (2) the development and evaluation of variations of the Shallow Cut-and-Cover Tunnels design

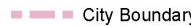







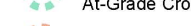
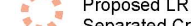
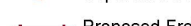



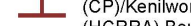
¹⁶ The findings reached in the third step evaluation addressed issues raised with LRT 3A-1 identified in the Draft EIS's evaluation of alternatives, which preliminarily found that LRT 3A-1 would "fail to rise to the environmentally preferred alternative" (see Chapter 11 of the Draft EIS – p. 11-12). As a result of the light rail design adjustments to LRT 3A and LRT 3A-1 described in this section, the LPA with the retention of freight rail 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). In particular, compared to the relocation of freight rail, the LPA with the co-location of freight rail and light rail in the Kenilworth Corridor would: 1) result in less harm to Section 4(f) protected properties (compared to the displacement of the Park Spanish Immersion School playground with freight rail relocation); 2) include the southerly connection replacing the Skunk Hollow switching wye that would facilitate freight rail movements; 3) minimize the reconstruction of freight rail tracks and related adverse impacts; 4) include design refinements that would help avoid diminishing the potential for transit oriented development around light rail stations that would be in close proximity of freight rail tracks; 5) provide safe and convenient pedestrian crossings of freight rail tracks at the proposed Wooddale, Beltline, and 21st Street stations; 6) avoid the displacement of any residences or businesses in the St. Louis Park/Minneapolis Segment (compared to the full acquisition of approximately 32 residential, commercial, and institutional parcels under freight rail relocation); 7) include bicycle and pedestrian improvements and the study of potential traffic-related improvements that would improve access to light rail stations and across the light rail and freight rail alignment in the Kenilworth Corridor (compared to the construction of a berm for the freight rail alignment in St. Louis Park that would tend to divide a residential and commercial neighborhood); and 8) would permanently displace approximately six fewer acres of wetland.

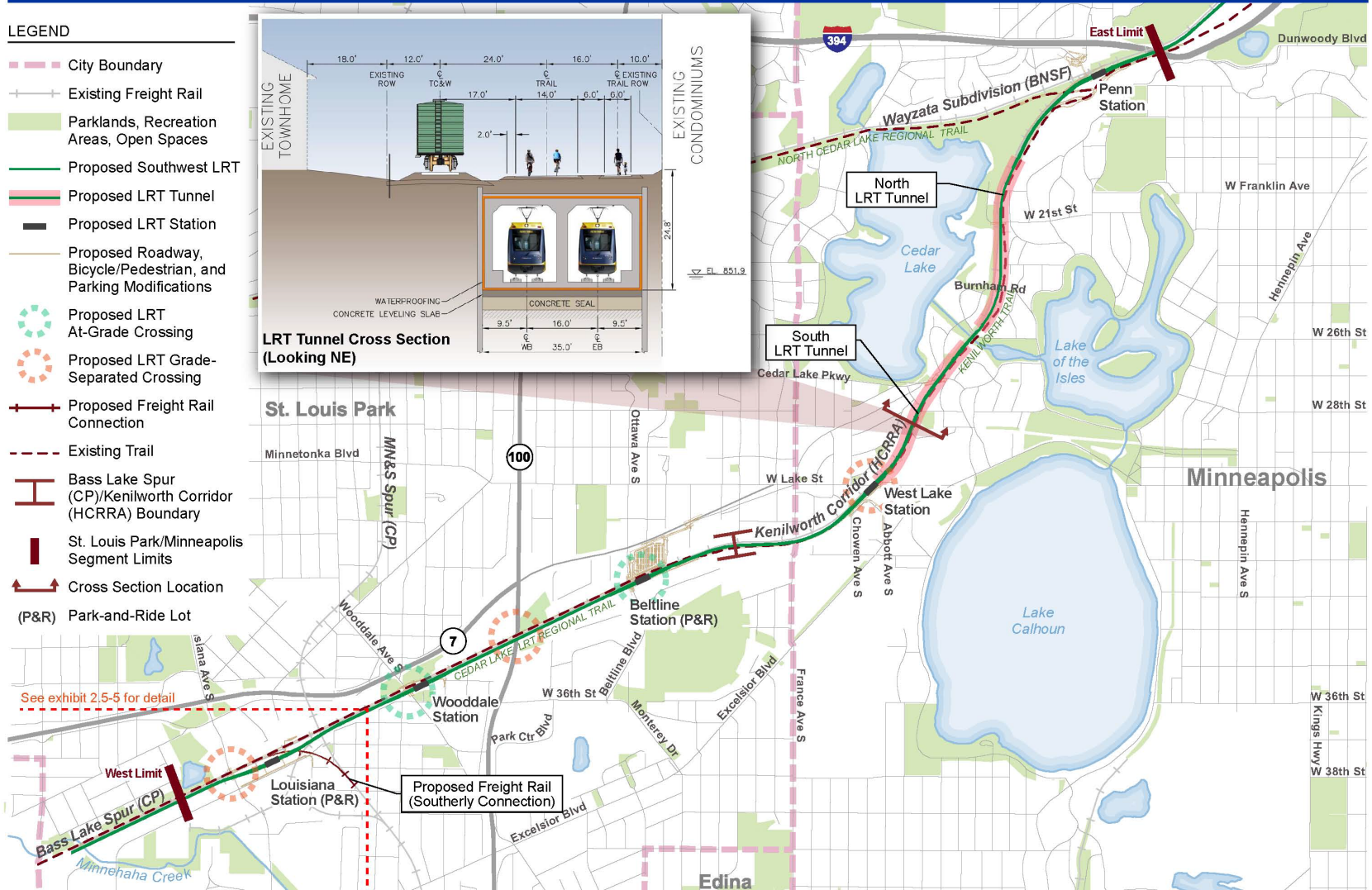
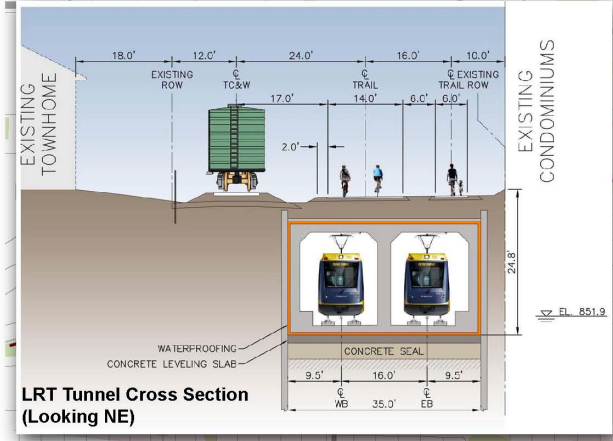
¹⁷ The report was funded by the Council and the Council submitted comments on the draft report during its public comment period. However, the report was independently prepared by TranSystems and the Council did not have editorial control over the report. See Appendix D for details on how to access the final report.

EXHIBIT 2.3-9

Shallow LRT Tunnels – Over Kenilworth Lagoon Design Adjustments, St. Louis Park/Minneapolis Segment

LEGEND

-  City Boundary
-  Existing Freight Rail
-  Parklands, Recreation Areas, Open Spaces
-  Proposed Southwest LRT
-  Proposed LRT Tunnel
-  Proposed LRT Station
-  Proposed Roadway, Bicycle/Pedestrian, and Parking Modifications
-  Proposed LRT At-Grade Crossing
-  Proposed LRT Grade-Separated Crossing
-  Proposed Freight Rail Connection
-  Existing Trail
-  Bass Lake Spur (CP)/Kenilworth Corridor (HCRRA) Boundary
-  St. Louis Park/Minneapolis Segment Limits
-  Cross Section Location
-  (P&R) Park-and-Ride Lot



	<p>Southwest LRT Supplemental Draft EIS Shallow LRT Tunnels – Over Kenilworth Lagoon Design Adjustments St. Louis Park/Minneapolis Segment</p>	<p>Exhibit 2.3-9</p>		
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adjustment; and (3) additional design adjustments reflected in a memorandum of understanding between the Council and the City of Minneapolis (Council and City, 2014 – see Appendix D, Sources and References Cited, for instructions on how to access the executed memorandum). Following is a description of the design concepts considered in the fourth-step evaluation and a summary of how they were evaluated by the Council.

Independent Engineering Evaluation of Freight Rail Relocation

The first component of the fourth step of evaluation was the independent study commissioned by the Council to provide an analysis of prior freight rail relocation designs that would provide for the rerouting of TC&W freight rail trains out of the Kenilworth Corridor and identification of new design adjustments or concepts.¹⁸ In particular, the study, which was performed by TranSystems, consisted of an analysis of the technical, safety, and operational considerations of eight options that would allow for the rerouting of TC&W freight trains that were developed in prior freight rail studies and two additional concepts developed by the Southwest LRT Project Office (SPO) during the first step of the four-step evaluation process. The scope of the analysis generally covered the following: identification of operational cost drivers; identification of community and other impacts; and assessment of possible operational adjustments.

In summary, the independent report made the following recommendations:

1. The study finds that five of the freight rail relocation options evaluated are “fatally flawed” for a variety of reasons, primarily related to an assessment showing that the affected freight rail operators would not find them acceptable due to economic, operations, or safety concerns. As such, the report does not recommend any additional study of those five options.
2. In addition, the independent report does not recommend further study of two other freight rail options that it evaluated, primarily due to significant impediments to their implementation. The final report finds that, while the Brunswick Central alignment was acceptable to the affected freight rail operator from an operational, economic, and safety perspective, it was dismissed from further study (in step three of the evaluation) due to its wide range of adverse impacts. The final report also finds that an option termed the MN&S South, which would connect the Bass Lake Spur south to the MN&S Spur, might be able to be designed to meet engineering standards, but that it “would face severe obstacles with respect to property acquisition and permitting...” (TranSystems, 2014; page 34).
3. The independent study by TranSystems also resulted in the identification of an additional freight rail relocation alignment in the vicinity of St. Louis Park High School that could potentially accommodate the relocation of freight rail from the Kenilworth Corridor to the MN&S Spur and the Wayzata Subdivision. The report recommends that this design adjustment receive further consideration by the Council. This freight rail modification design adjustment, which has many similarities to other options previously developed and considered by the Council, was termed the MN&S North design adjustment (see Exhibit 2.3-10).

Following is a description of the MN&S North design adjustment:¹⁹


- **MN&S North.** The MN&S North freight rail relocation adjustment was developed to avoid or minimize the adverse impacts of the elevated and straightened freight rail alignment between Highway 7 and 34th Street and the adverse impacts to commercial, residential, and public properties associated with the Brunswick Central design adjustments. The MN&S North design adjustment would maintain the existing MN&S rail tracks south of Highway 7, including the current freight rail bridge over the Bass Lake Spur to a connection with the existing alignment between Library Lane and Dakota Avenue. Under the MN&S North design, the potential freight rail connection between the Bass Lake Spur and the MN&S Spur would begin with an elevated grade on bridge structure on the Bass Lake Spur west of Louisiana Avenue, with the freight rail alignment continuing east on bridge

¹⁸ The Council also commissioned an independent review of the project’s prior groundwater studies in the Kenilworth Corridor related to the Shallow LRT Tunnels adjustments, documented in the *Southwest Light Rail Transit: Kenilworth Shallow LRT Tunnels Water Resources Evaluation* (Burns & McDonnell, 2014). See Appendix D for a link to the final report.


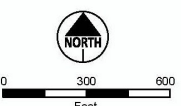

¹⁹ The *Conclusion* at the end of this section and Table F.5-7 in Appendix F summarizes the Council’s evaluation of the MN&S North design adjustment.

EXHIBIT 2.3-10
MN&S North Freight Rail Relocation Adjustments

LEGEND

-  Proposed MN&S North Freight Rail Relocation Alignment
-  Existing Freight Rail
-  Proposed Removal of Freight Rail
-  Proposed Southwest LRT



	<p>Southwest LRT Supplemental Draft EIS MN&S North Freight Rail Relocation Adjustments</p>	<p>Exhibit 2.3-10</p>		
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structure over the west corner of the Xcel Substation and across Highway 7, matching existing grades at Library Lane and connecting to the existing MN&S between Library Lane and Dakota Avenue. Approximately 800 feet of tangent (i.e., straight) track would be provided between two reversing curves located between the Bass Lake Spur and the existing MN&S. This design adjustment would require full or partial acquisition of approximately 20 residential, business, or public properties and a new structure over Louisiana Avenue and Highway 7. Both Highway 7 and the south frontage road would be lowered to provide the required vertical bridge clearances under the freight rail bridge. This design adjustment would result in undetermined impacts to the Xcel Substation property and facilities. Under this design adjustment, existing at-grade freight rail street crossings would be closed at Walker Street, West Lake Street, 28th Street, and 29th Street. Existing at-grade freight rail crossings at Library Lane and Dakota Avenue would be maintained and a new freight rail bridge would be constructed over 27th Street, with 27th Street becoming a through street. In general, the modified freight rail alignment would connect to the existing MN&S Spur alignment between Library Lane and Dakota Avenue, with relatively minor modifications to the existing freight rail tracks to the north. Those modifications would be made to adjust the profile of the existing freight rail tracks to flatten grades south and north of the existing Minnetonka Boulevard freight rail bridge. Underpasses and overpasses across the freight rail alignment would provide vehicle, bicycle, and pedestrian access at locations where the freight alignment would be elevated (which would entail the construction of retaining walls to support fill where tracks would be raised above existing grade). Finally, there would be a restored freight rail connection constructed between the MN&S Spur and the Wayzata Subdivision, as illustrated in Appendix G, Conceptual Engineering Drawings, of the Draft EIS.

Preparation of the independent report and the development and evaluation of the MN&S North design adjustment utilized an extensive public involvement process that included:²⁰

- Availability of the documents online
- Town hall meetings on January 7 and 9, 2014
- Public review and comment period for the draft report that spanned from January 30 to March 12, 2014;
- Studies discussed and reviewed by:
 - BAC (at February 26, 2014 meeting),
 - CAC (at February 27 and March 27, 2014 meetings), and
 - CMC (at February 5 and 20; March 12 and 26, 2014 meetings);
- Town hall meetings on February 10 and 12, 2014, to discuss and take comment on the draft reports; and
- Release of the final report on March 21, 2014, which addressed comments received on the draft report.

Shallow LRT Tunnels – Over Kenilworth Lagoon Variations

At the request of the Minneapolis Parks and Recreation Board (MPRB) in February 2014, the Council developed and evaluated two variations of the Shallow LRT Tunnels – Over Kenilworth Lagoon design adjustment as a part of the fourth step of evaluation in the St. Louis Park/Minneapolis Segment. As previously described in this section, the Shallow LRT Tunnels – Over Kenilworth Lagoon design adjustment would have the light rail alignment cross the Kenilworth Lagoon on a new bridge, located between the freight rail and trail alignments, connecting the two light rail tunnels. The MPRB asked the Council to develop and evaluate a variation of the design adjustment that would continue the tunnels under the Kenilworth Lagoon, thus avoiding some of the project's long-term impacts to the Kenilworth Lagoon that could result from the new light rail bridge across the lagoon. In response, the Council developed and evaluated two additional design adjustments: (1) Long Shallow LRT Tunnel – Under Kenilworth Lagoon; and (2) Short Shallow LRT Tunnel – Under Kenilworth Lagoon. Under these two design adjustments, construction of the tunnel under the Kenilworth Lagoon would be achieved through utilization of the cut-and-cover technique.²¹

²⁰This public review and comment process was also used for the *Kenilworth Shallow LRT Tunnels Water Resources Evaluation* (Burns & McDonnell; March 2014).

²¹ A variation of the Short and Long LRT Tunnel – Under Kenilworth Lagoon adjustments that would have bored a deep LRT tunnel under the Kenilworth Lagoon (rather than use the cut-and-cover construction technique) was also developed; however, it was dismissed from further study due to complex construction considerations (e.g., the existing freight and trail

Following are descriptions of those two design adjustments:

- **Short Shallow LRT Tunnel – Under Kenilworth Lagoon.** This potential design adjustment would result in a typical cross section of approximately 62 feet for the at-grade freight rail and trail alignments where the double-tracked light rail alignment would be within one tunnel. The light rail tunnel would generally be within the Kenilworth Corridor, with some relatively minor exceptions (see Exhibit 2.3-11). Except at the two tunnel portals and in the vicinity of the Kenilworth Lagoon, the light rail tunnel would be under the reconstructed Kenilworth Trail, about 25-feet deep, from existing ground elevation to light rail track level (similar to the Shallow LRT Cut-and-Cover Tunnels adjustment illustrated on Exhibit 2.3-9). The light rail tunnel would extend approximately 3,100 feet from just north of West Lake Street to approximately 400 feet north of the Kenilworth Lagoon. Beneath the lagoon, the tunnel would descend to about 45-feet deep, from existing freight and trail bridge elevation to LRT track level. A portal area at each end of the tunnel would span approximately 300 feet, which would provide for the transition between the at-grade and tunnel alignment. Fencing and other facilities would protect the tunnel portals from unauthorized entry. This design adjustment would not result in any full residential property acquisitions and the proposed 21st Street Station would be retained at-grade.
- **Long Shallow LRT Tunnel – Under Kenilworth Lagoon.** This potential design adjustment would result in a typical cross section of approximately 62 feet for the at-grade freight rail and trail alignments where the double-tracked light rail alignment would be within one tunnel. The light rail tunnel would generally be within the Kenilworth Corridor, with some relatively minor exceptions (see Exhibit 2.3-12). Except at the two tunnel portals and in the vicinity of the Kenilworth Lagoon, the tunnel would be under the reconstructed Kenilworth Trail, about 25-feet deep, from existing ground elevation to light rail track level (similar to the Shallow LRT Cut-and-Cover Tunnels adjustment illustrated on Exhibit 2.3-9). The light rail tunnel would extend approximately 5,800 feet between just north of West Lake Street and approximately 1,000 feet north of 21st Street. Beneath the lagoon, the tunnel would descend to about 45-feet deep, from existing freight and trail bridge elevation to LRT track level. A portal area at each end of the tunnel would span approximately 300 feet, which would provide for the transition between the at-grade and tunnel alignment. Fencing and other facilities would protect the tunnel portals from unauthorized entry. This design adjustment would not result in any full residential property acquisitions.

Identified Design Adjustments – April 2014

Based on the analysis prepared, committee recommendations, and public comments received during the four-step process described in this section, the Council identified in April 2014 the design adjustments to be incorporated into the project: the Shallow LRT Tunnels – Over Kenilworth Lagoon (see Exhibit 2.3-9).²² In doing so, the MN&S North, the Short Shallow LRT Tunnel – Under Kenilworth Lagoon and the Long Shallow LRT Tunnel – Under Kenilworth Lagoon design adjustments were dismissed from further study (see Table 2.3-4). The Council found that, relative to the other options considered, the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment would provide the best balance of costs, benefits, and environmental impacts, and in doing so found that it would best meet the project's Purpose and Need (see Chapter 1).

Following is a description of the benefits of the Shallow LRT Tunnels – Over Kenilworth Lagoon design adjustment, compared to the other design adjustments developed and evaluated in the step four evaluation.

- **Shallow LRT Tunnels – Over Kenilworth Lagoon and MN&S North Adjustments.** Table F.5-7 in Appendix F provides a summary of the evaluation measures considered by the Council as it compared the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment to the MN&S North adjustments. First, the MN&S North adjustments were opposed by the affected freight rail operator (TC&W), primarily based on safety and operational concerns, including three reversing curves in the proposed freight rail

bridges over the lagoon would still need to be replaced and the new bridges would need to be designed to accommodate the tunnels), schedule delays, substantially higher capital costs, and potential additional property acquisitions.

²² See Appendix F for additional information on the process and measures used to identify the design adjustments to be incorporated into the LPA.

alignment that would be especially problematic (the operator did not express similar concerns about the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment). In addition, the advantage of the Shallow LRT Tunnels – Over Kenilworth Lagoon, relative to the MN&S North adjustment, is that it would avoid: the potential displacement of approximately six residences and seven businesses and the acquisition of some St. Louis Park High School property; additional cost increases due to project delay of approximately \$45 to \$50 million; closure of local streets; and extension of the project's construction schedule by up to two years.²³

- **Shallow LRT Tunnels – Over Kenilworth Lagoon; Short Shallow LRT Tunnel – Under Kenilworth Lagoon; and Long Shallow LRT Tunnel – Under Kenilworth Lagoon Adjustments.** Table F.5-8 in Appendix F provides a summary of the evaluation measures considered by the Council as it compared the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment to the two variations. In summary, the advantage of the Shallow LRT Tunnels – Over Kenilworth Lagoon adjustment, relative to the Short Shallow LRT Tunnel – Under Kenilworth Lagoon and the Long Shallow LRT Tunnel – Under Kenilworth Lagoon adjustments, is that it would: avoid closure of recreational traffic on the Kenilworth Lagoon for approximately one additional year; reduce short-term impacts to the Kenilworth Lagoon during construction, including the disruption of existing habitat within and adjacent to the Lagoon and closure of fish passage between Lake of the Isles and Cedar Lake during construction of the tunnel under the Lagoon; reduce long-term impacts to the Kenilworth Lagoon due to its reconstruction; avoid additional construction costs of \$30 to \$85 million and additional costs due to project delay of \$45 to \$90 million; and avoid extension of the project's construction schedule by up to one year.

Additional Design Adjustments – July 2014

In July 2014, the Council and the City of Minneapolis proposed a set of additional adjustments to the design of the Shallow LRT Tunnels – Over Kenilworth Lagoon option. The proposed additional design adjustments were outlined in a memorandum of understanding between the Council and the City (Council and City, 2014b). (See Appendix D, Sources and References Cited, for instructions on how to access the subsequently executed memorandum.) In summary, the proposed additional design adjustments were intended to: (1) reduce project capital costs by eliminating the northern of the two proposed light rail tunnels in the Kenilworth Corridor (including the re-establishment of the proposed at-grade light rail station at West 21st Street) and (2) incorporate into the project a variety of bicycle and pedestrian improvements associated with proposed light rail stations in the City of Minneapolis.

On July 9, 2014, the CMC voted to recommend the additional design adjustments and, considering the recommendation from the CMC, the Council voted to approve the additional design adjustments proposed in the memorandum between the Council and the City of Minneapolis.

The proposed project, as evaluated in this Supplemental Draft EIS, reflects LRT 3A-1, including the Shallow LRT Tunnel – Over Kenilworth Lagoon and the other light rail-related improvements and freight rail modifications described in this section as identified by the Council on April 9, 2014, and amended on July 9, 2014 (see Section 2.5, Exhibit 2.5-4, and Appendix G, Conceptual Engineering Drawings). Other potential light rail-related improvements and freight rail modifications developed and evaluated in this section were removed from further study.

²³ Approximately one year of the anticipated delay is for the pursuit of an adverse abandonment with the STB for existing freight rail service on the CP-owned Bass Lake Spur, east of the MN&S Spur, and the HCRRA-owned Kenilworth Corridor. The outcome and actual duration of this process would remain uncertain until conclusion of the process. Approval by STB could require TC&W and CP to cease freight rail operations in the Kenilworth Corridor and relocate those operations from the current location.

EXHIBIT 2.3-11














Short Shallow Cut-and-Cover Tunnel – Under Kenilworth Lagoon

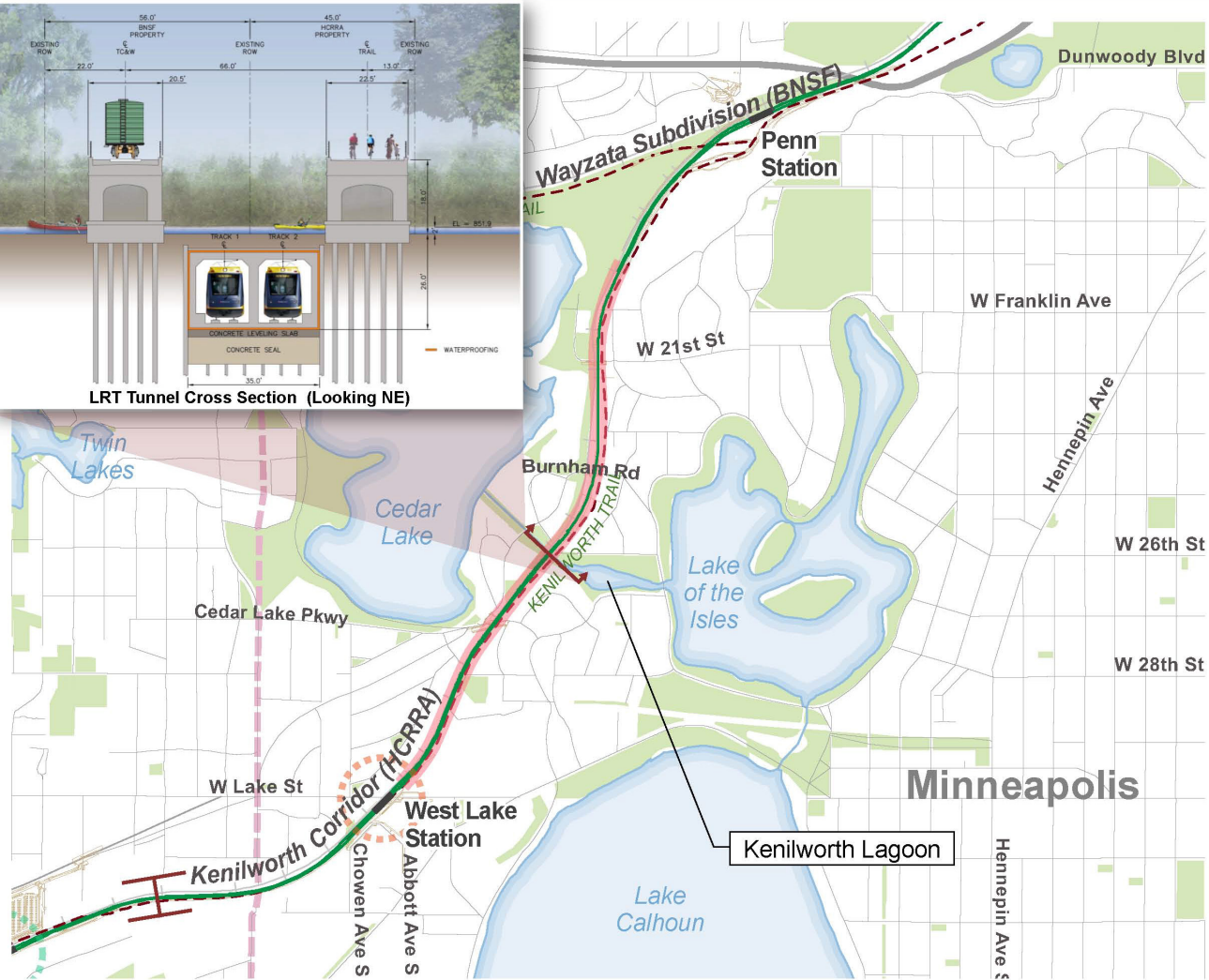
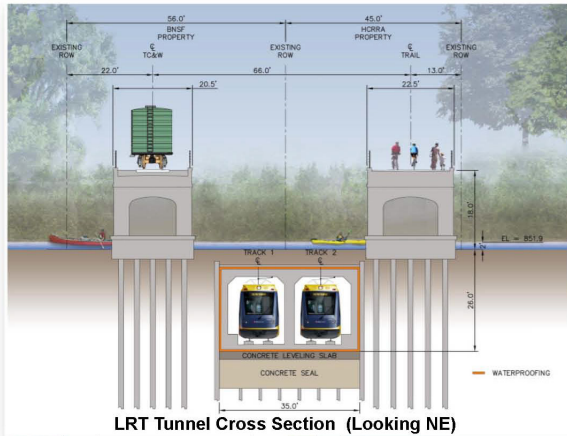


EXHIBIT 2.3-12

Long Shallow Cut-and-Cover Tunnel – Under Kenilworth Lagoon

LEGEND

-  City Boundary
-  Existing Freight Rail
-  Parklands, Recreation Areas, and Open Spaces
-  Proposed Southwest LRT
-  Proposed LRT Tunnel
-  Proposed LRT Station
-  Proposed Roadway, Bicycle/Pedestrian, and Parking Modifications
-  Proposed LRT At-Grade Crossing
-  Proposed LRT Grade-Separated Crossing
-  Proposed Freight Rail Connection
-  Existing Trail
-  Bass Lake Spur (CP)/Kenilworth Corridor (HCRRA) Boundary
-  Cross Section Location (P&R) Park-and-Ride Lot



	<p>Southwest LRT Supplemental Draft EIS Long Shallow Cut-and-Cover Tunnel – Under Kenilworth Lagoon</p>	<p>Exhibit 2.3-12</p>		
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B. Set 2 Design Adjustments

Following is a summary of the Set 2 Adjustments made to LRT 3A-1. As previously noted in Section 2.3.3.2 of this Supplemental Draft EIS, these design adjustments, which were approved by the Council in April 2014, were developed and evaluated in a process that paralleled the Set 1 Design Adjustment process. Further, these Set 2 Adjustments and the Set 1 Adjustments have been fully integrated into the revised LRT 3A-1, and they form the basis of the environmental analysis in this Supplemental Draft EIS for the St. Louis Park/Minneapolis Segment.

- **The Freight Rail and Light Rail “Swap” and “Southerly Connection.”** In coordination with the cities and affected railroad owners, the project developed and evaluated a design adjustment (i.e., the freight rail and light rail “Swap”) that would place the proposed Blake, Louisiana, and Wooddale stations south of a portion of the existing CP freight line (under the Draft EIS conceptual design, those stations would have been located north of the existing CP freight line). The intent of the adjustment is to situate those proposed light rail stations closer to primary existing activity centers and potential development/redevelopment sites, which are predominantly south of the existing freight line. The design adjustment would generally place the proposed light rail alignment and stations within the current freight rail right-of-way, and the freight rail alignment would be moved approximately 45 feet north onto right-of-way currently owned by HCRRA (purchased as future light rail right-of-way and where light rail would have been under the conceptual design of LRT 3A and LRT 3A-1 within Draft EIS). In addition, the Cedar Lake LRT Trail, which is a permitted temporary use within the HCRRA-owned right-of-way north of the existing freight rail alignment, would be reconstructed further north within that same right-of-way, staying north of the repositioned freight rail alignment. The design adjustment, illustrated on Exhibit 2.5-5, would include a grade-separated crossing of the proposed light rail alignment over the existing freight rail alignment immediately east of Excelsior Boulevard to permit the freight rail and light rail alignments to swap locations in the corridor. The adjustment also would require the elimination of the northern branch of the Skunk Hollow switching wye and its replacement with the “Southerly Connection” (allowing TC&W trains continued access between the Bass Lake Spur eastbound to the southbound MN&S Spur and the reverse), also illustrated on Exhibit 2.5-5. The Swap would also require the modification of the Cedar Lake LRT Trail at several locations, although continuity of and connections to the trail would be maintained. Further, this would result in the closure of approximately 11,771 feet of freight rail siding track segments, generally between the Downtown Hopkins Station and east of Beltline Boulevard. The Council incorporated the Swap design modification into the proposed project in April 2014 because the potential land use and economic development benefits and improved transit access to existing activity centers outweighed its additional cost and adverse environmental impacts, such as the additional moderate visual impacts of the new light rail overcrossing of the freight rail alignment in St. Louis Park.
- **Adjustment to the Location of Louisiana Station.** At the request of the City of St. Louis Park, the project team developed a range of potential design adjustments that would place the proposed Louisiana Station further south than it would have been under the conceptual design of LRT 3A and LRT 3A-1 in the Draft EIS, based on the freight and light rail swap previously discussed. The objective of these proposed design adjustments was to bring the light rail station further south, closer to activity centers North of Excelsior Boulevard. Two general design adjustments were developed and evaluated. The first would place the light rail station approximately halfway between the location of the existing freight rail tracks and Oxford Street. The second would use the north leg of the Skunk Hollow switching wye (to be abandoned and replaced with the Southerly Connection under the freight and light rail swap) to place the Louisiana Station approximately 300 feet north of Louisiana Circle. The second potential design adjustment would also have resulted in abandonment of the south leg of the Skunk Hollow switching wye and relocation of the Robert B. Hill Company salt facility at the end of the switching wye because it would no longer have freight rail access. The Council incorporated the first design refinement into the proposed project in April 2014, because of its relatively lower costs and property acquisition needs compared to the second design refinement and because of the potential development and redevelopment benefits of placing a light rail station closer to Oxford Street.

- **Adjustment to the Capacity and Locations of Park-and-Ride Lots.** Based on the City of Minneapolis' comments on the Draft EIS, the project team developed design adjustments that would change the proposed location and capacities of park-and-ride lots in the area included within the St. Louis Park/Minneapolis Segment. In particular, the City asked that proposed surface park-and-ride lots be removed from the stations within the City of Minneapolis. Concurrently, to help ensure park-and-ride lot capacity to meet the forecast demand, the project team also developed and evaluated options for increased capacity at the Beltline Station because of its relatively direct automobile access to and from Highway 100 (via Highway 7, Highway 25 and West Lake Street). As a result of the proposed design adjustment, the number of park-and-ride lots in the segment would be reduced from six to two, while the park-and-ride capacity would increase from 650 to 810 spaces (see Table 2.5-1), relative to the conceptual design of LRT 3A and LRT 3A-1 in the Draft EIS (see Section 2.3.3 of the Draft EIS). The Council incorporated the design adjustment into LRT 3A-1 because of the generally improved access between regional highways and proposed park-and-ride lot locations.
- **Bicycle, Pedestrian, and Bus Access Improvements at West Lake and Penn Stations.** Based on the City of Minneapolis' comments on the Draft EIS, the project team developed and evaluated adjustments to the proposed bicycle, pedestrian, and bus facilities at West Lake and Penn stations. The adjustments developed include the addition of vertical circulation connecting the West Lake Station and the West Lake Street bridge and on-street bus transfer facilities on West Lake Street. The adjustments also include grade-separated bicycle and pedestrian connections and improved kiss-and-ride facilities at the Penn Station. The Council incorporated the design adjustment into LRT 3A-1 in April and July 2014 due to the relatively high level of projected ridership at the two stations and the improved access that the adjustments would provide to walk-on and bus-transfer riders. See Appendix G, Conceptual Engineering Drawings, for additional detail.

2.4 Design Adjustment Process

This section summarizes the process used by the Council to identify design adjustments to LRT 3A and LRT 3A-1 since the end of the Draft EIS public comment period on December 31, 2012. The project team developed and evaluated the design adjustments in response to comments submitted on the Draft EIS, including proposed adjustments to: accommodate local goals and objectives; improve the performance of the proposed light rail extension; reduce project costs; and avoid or minimize the project's adverse environmental impacts.

The design adjustment process implemented since completion of the Draft EIS was supported by the project's Technical Project Advisory Committee (TPAC), which is composed of staff from MnDOT, the Council's Metro Transit Operations Division and affected local jurisdictions. Elected officials of the corridor cities and Hennepin County, MnDOT, and the Council, and a representative from the project's Community Advisory Committee (CAC) serve on the project's Corridor Management Committee (CMC), which advises the Council on project-related issues. Agency coordination is described in more detail in Chapter 4 of this Supplemental Draft EIS.

The project's ongoing engagement and communication with the affected public has been a fundamental element of planning for the Southwest LRT Project, including the design adjustment process implemented since completion of the Draft EIS public comment period. Community representatives serve on the project's Business Advisory Committee (BAC) and CAC, which provide input and recommendations to the CMC, including design adjustments developed and evaluated since publication of the Draft EIS. Since early 2013, the Council held approximately 20 public open houses and community meetings (see Table 4.4-1 in this Supplemental Draft EIS) and provided dozens of presentations at the request of various groups throughout the project corridor. Meetings with the public have been tailored to present information and solicit feedback on specific project issues. Chapter 4 of this Supplemental Draft EIS provides additional detail on the project's public involvement process and activities since the end of the Draft EIS public comment period, and it provides additional information on the makeup of the CAC and BAC.

On March 31, 2014, Council staff released a draft recommendation of the design adjustments to be incorporated into the proposed project. Following receipt of public comment on those recommendations at

its meeting on April 2, 2014, the CMC adopted a resolution recommending the design adjustments to be incorporated into the proposed project's scope and budget. On April 9, 2014, the Council identified the adjustments to be incorporated into the proposed project. The Council's action was based on its consideration of the technical analysis of the range of potential design adjustments to the proposed project, as summarized in Section 2.3 of this Supplemental Draft EIS. The Council also considered comments received from the public, agencies, jurisdictions, and committees within the project's public involvement and agency coordination activities since the close of the Draft EIS public comment period, as summarized in Chapter 4 of this Supplemental Draft EIS, including public testimony received at its meeting on April 9, 2014. On July 9, 2014, the CMC considered additional design adjustments within the City of Minneapolis that were proposed in a memorandum of understanding between the Council and the City of Minneapolis. (See Appendix D, Sources and References Cited, for instructions on how to access the executed memorandum.) The CMC endorsed the additional proposed design adjustments, which the Council subsequently approved on July 9, 2014 (Council and City, 2014b).

These design adjustments to LRT 3A and LRT 3A-1 were screened by FTA and the Council to determine whether they individually or collectively warranted evaluation in terms of social, environmental, economic, and transportation impacts under NEPA. The project team, in coordination with FTA staff, reviewed each of the design adjustments to identify any substantive changes to LRT 3A and LRT 3A-1 not addressed in the Draft EIS. The review was based on NEPA and MEPA environmental review procedures to determine whether project adjustments were substantial enough to warrant detailed study in this Supplemental Draft EIS (40 CFR 1502.9(c) and Minn. R. 4410.3000, subparts 3 and 5, respectively). During this process, the design adjustments were reviewed and screened based on the following questions:

- Do the design adjustments under evaluation introduce new alternatives not identified in the Draft EIS that meet the project's purpose and need?
- Would the design adjustments likely cause new significant adverse impacts not disclosed in the Draft EIS?

Based on this assessment of adjustments made to LRT 3A and LRT 3A-1 since publication of the Draft EIS, FTA and the Council determined that there were no new reasonable alternatives identified through the design adjustment process that would meet the project's Purpose and Need (see Chapter 1 of this Supplemental Draft EIS). However, because of the potential for new significant adverse impacts in the Eden Prairie Segment, the Hopkins OMF, and the St. Louis Park/Minneapolis Segment that were not addressed in the Draft EIS, FTA and the Council also determined that the proposed adjustments in these areas should be evaluated in a Supplemental Draft EIS. Adjustments to LRT 3A and LRT 3A-1 made since completion of the Draft EIS that did not meet these criteria will be addressed in the Final EIS.

In addition, project staff considered whether substantive corrections or updates were needed to the methods used to prepare the analyses presented in the Draft EIS. Those that have been updated for this Supplemental Draft EIS are described in Section 3.1.

2.5 Locally Preferred Alternative Adjustments Evaluated in this Supplemental Draft Environmental Impact Statement

This section describes proposed adjustments to LRT 3A and LRT 3A-1 in the three areas evaluated within this Supplemental Draft EIS: the Eden Prairie Segment, the Hopkins OMF site, and the St. Louis Park/Minneapolis Segment. The two segments and the Hopkins OMF site are shown on Exhibit 2.5-1 as part of the proposed approximate 16-mile Southwest LRT Project.

As described in Section 2.3 of this Supplemental Draft EIS, the LPA is included within LRT 3A and LRT 3A-1 of the Draft EIS, with the difference between these two alternatives being the "relocation" or "co-location" of TC&W trains currently operating in the Bass Lake Spur and Kenilworth Corridor. In April and July 2014, based on the design adjustment process, technical analysis, and agency and public involvement process described in this chapter, the Council identified adjustments to the LPA throughout the approximate 16-mile proposed project based on the following:

- The transit elements included in LRT 3A and LRT 3A-1 as described in the Draft EIS and adjusted as described in this Supplemental Draft EIS
- The freight rail modifications of LRT 3A-1 (i.e., retention of freight rail service in the Kenilworth Corridor, termed “co-location” in the Draft EIS, with freight rail modifications described in this Supplemental Draft EIS)

The approximate 16-mile LPA includes the proposed light rail alignment, 17 new stations, additional park-and-ride spaces, an OMF, and ancillary facilities (such as signal systems and substations). The proposed LPA light rail improvements in the Eden Prairie Segment, the Hopkins OMF site, and the St. Louis Park/Minneapolis Segment are described in Sections 2.5.1, 2.5.2, and 2.5.3, respectively, and are illustrated in Appendix G, Conceptual Engineering Drawings. Appendix F provides a description of the process and measures used during the design adjustment process. Sections 2.3.3.5 through 2.3.3.7 of the Draft EIS also provide additional detail on the proposed light rail improvements, such as typical drawings of the light rail alignment cross sections, traction power substations, and traffic and train control facilities.

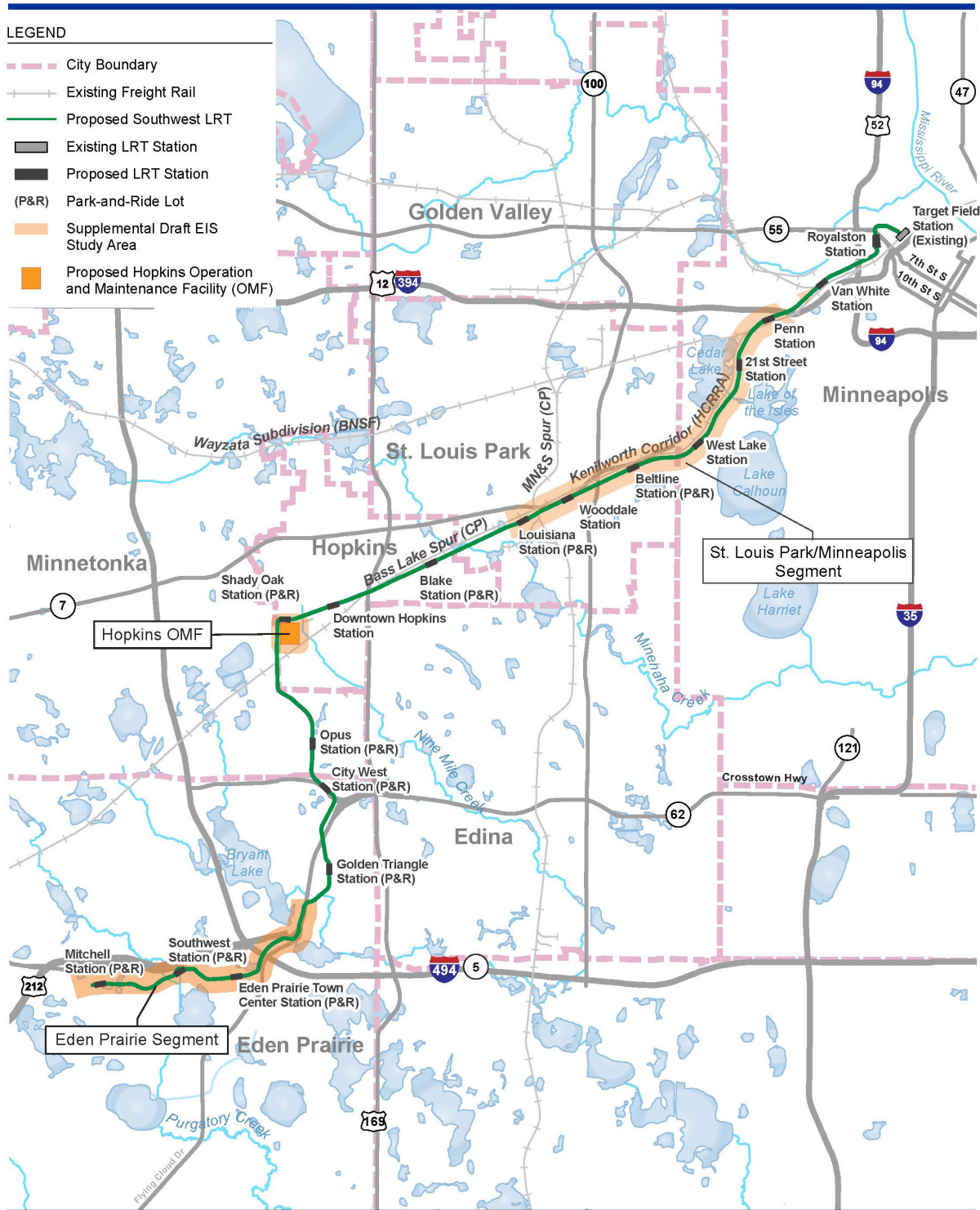
The LPA also includes light rail-related bus, roadway, and bicycle/pedestrian improvements and retainment of freight rail in its current location with proposed modifications. Proposed bus improvements to facilitate connections to light rail stations include some or all of the following: new or changes to existing bus routes; new or modifications to existing bus stops and platforms; and new or relocated bus shelters and other amenities. Proposed roadway improvements include changes to local streets to accommodate the light rail alignment, access to park-and-ride lots and drop-off points, and at-grade crossings. Proposed bicycle/pedestrian improvements include changes to trails, sidewalks, and other bicycle and pedestrian facilities to accommodate the light rail alignment and to provide safe and convenient access to light rail stations. Proposed freight rail modifications include the adjustment of freight rail tracks to accommodate the light rail alignment, including modified at-grade street crossings, and modifications to freight rail connections to meet freight rail operating requirements. Proposed improvements included within the LPA in the Eden Prairie Segment, at the Hopkins OMF site, and in the St. Louis Park/Minneapolis Segment are described and illustrated in Sections 2.5.1, 2.5.2, and 2.5.3, respectively, and are illustrated in greater detail in Appendix G, Conceptual Engineering Drawings.

The current configuration of the LPA in the three areas evaluated in this Supplemental Draft EIS is the result of a local process, as described in Sections 2.3 and 2.4, led by the Council to develop, evaluate, and identify adjustments to the LPA since publication of the Draft EIS. Chapter 3 of this Supplemental Draft EIS provides additional information on environmental consequences for the LPA within these three areas based on adjustments made after the Draft EIS. The segments described in this section correspond to the areas identified by the Council and FTA where adjustments to the LPA made since publication of the Draft EIS could result in additional significant adverse impacts not identified in the Draft EIS. Refer to Section 2.3.3.4 of the Draft EIS for a description and illustration of the segments used in the Draft EIS.

Section 2.3 of the Draft EIS provides an overall description of the LPA, which was included within alternatives LRT 3A and LRT 3A-1. In general, the overall scope of the LPA addressed in this Supplemental Draft EIS remains as it was described in the Draft EIS under LRT 3A and LRT 3A-1: the proposed light rail line would operate from downtown Minneapolis through the southwestern suburban cities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, passing in proximity to the City of Edina. The double-tracked light rail alignment would be primarily at-grade, with some sections of below- and above-grade alignment and a mix of at-grade and grade-separated roadway crossings. As described in the Draft EIS, the proposed project would be an extension of the METRO Green Line (Central Corridor LRT). When completed, the two projects' light rail trains would provide a one-seat ride (with no transfer) between the two corridors. In addition, the Southwest LRT line would be part of an integrated system of transitways, including connections to the METRO Blue Line (Hiawatha) LRT (hereinafter referred to as “the Blue Line”), the Northstar Commuter Rail line, a variety of major bus routes along the alignment, and proposed future transitway and rail lines.

EXHIBIT 2.5-1

Southwest LRT Corridor and Supplemental Draft EIS Study Areas



	<p align="center">Southwest LRT Supplemental Draft EIS Southwest LRT Corridor and Supplemental Draft EIS Study Areas</p>	<p align="center">Exhibit 2.5-1</p>		
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In April and July 2014, the Council adopted adjustments to the LPA throughout the project area. Those adjustments include freight rail modifications incorporated into the LPA that are based on freight rail modifications that were included in LRT 3A-1 in the Draft EIS (i.e., retention of freight rail service in the Kenilworth Corridor).

Section 2.4 provides a description of the criteria that FTA and the Council used to identify the relatively substantial adjustments to the LPA that are addressed in this Supplemental Draft EIS and the other adjustments that will be addressed in the Final EIS. Following is a brief description of the key adjustments to the LPA that were made since publication of the Draft EIS. These adjustments are described in this section and evaluated in Chapter 3:²⁴

- **Eden Prairie Segment.** The proposed light rail alignment and stations in the Eden Prairie Segment have been adjusted south to provide better connections to local activity centers, while avoiding or minimizing adverse impacts (see Section 2.5.1).
- **Hopkins OMF.** The project now includes a proposed OMF in the City of Hopkins. The proposed site is not one of the four potential OMF sites identified in the Draft EIS (see Section 2.5.2).
- **St. Louis Park/Minneapolis Segment.** In the St. Louis Park/Minneapolis Segment, the LPA has been adjusted to include a proposed light rail tunnel in the Kenilworth Corridor; proposed freight rail modifications; and adjustments to the location and capacity of proposed park-and-ride (see Section 2.5.3).

The proposed light rail and bus operating plans for the LPA are summarized in Section 2.3.3.10 of the Draft EIS. One adjustment to the proposed light rail operating plan under the LPA is that light rail trains would generally operate every 10 minutes during peak periods, compared to approximately every 7.5 minutes identified under LRT 3A and LRT 3A-1 in the Draft EIS. The LPA's proposed bus operating plan will be updated as part of the completion of Project Development and will be reflected in the project's Final EIS.

In summary, the remainder of this Supplemental Draft EIS is based on the definition of the LPA adopted by the Council in April and July 2014, as it identified light rail related design adjustments throughout the project length and as it identified freight rail modifications to be incorporated into the LPA. The two segments and the OMF site described and evaluated in this Supplemental Draft EIS are included within the LPA's full project length as identified by the Council in April and July 2014. Table 2.5-1 provides a summary of the LPA's proposed light rail alignment length, stations, and park-and-ride lots as evaluated in the Draft EIS and Supplemental Draft EIS for the Eden Prairie and St. Louis Park/Minneapolis Segments.

Section 2.3 of the Draft EIS also provides a description of the project's No Build Alternative, required under both NEPA and the Minnesota Environmental Policy Act (MEPA). The No Build Alternative has not been adjusted for this Supplemental Draft EIS.

2.5.1 Eden Prairie Segment

The Eden Prairie Segment evaluated in this Supplemental Draft EIS generally extends between just west of the intersection of Technology Drive and Mitchell Road and just east of the intersection of Flying Cloud Drive and Valley View Road, as shown on Exhibit 2.5-2.²⁵ Within this segment, the LPA includes a proposed light rail alignment, three proposed light rail stations, three proposed park-and-ride lots, and various related bus,

²⁴ Section 3.1 provides a summary of the environmental categories that are addressed under each of the three areas evaluated within this Supplemental Draft EIS. It also includes a summary of methods and data used for this Supplemental Draft EIS that have been updated since publication of the Draft EIS.

²⁵ As part of the design and engineering process, the Council developed a design adjustment that would initially implement a western terminus of the proposed light rail line at the Southwest Station. As a result of that western terminus, there would be no light rail alignment west of Southwest Station, no Mitchell Station or park-and-ride lot, and the proposed structured park-and-ride lot at Southwest Station would be increased by approximately 610 spaces. The western terminus would also include additional northbound and southbound through lanes on Prairie Center Drive, generally between Highway 212 and Technology Drive. The design plans for this western terminus would not preclude a later extension of LRT further to the west. The environmental impact analysis of the LPA within Section 3.2 of this Supplemental Draft EIS is based on a western terminus at Mitchell Station, with notes where the implementation of the western terminus at the Southwest Station would potentially increase impacts (i.e., visual and aesthetics, traffic, and transit).

roadway, and bicycle/pedestrian improvements, as described below. The description also notes changes to the proposed light rail-related improvements within the segment since publication of the Draft EIS.²⁶ The general location and configuration of the proposed improvements described below are shown on Exhibit 2.5-2 and are illustrated in greater detail in Appendix G, Conceptual Engineering Drawings.

TABLE 2.5-1

LPA Proposed LRT Alignment Length, Stations, and Park-and-Ride Lots: Draft EIS and Supplemental Draft EIS (within Supplemental Draft EIS Segments)

Proposed LRT Improvements	Eden Prairie Segment		St. Louis Park/Minneapolis Segment	
	Draft EIS ^a	Supplemental Draft EIS ^b	Draft EIS ^a	Supplemental Draft EIS
LRT Alignment Length	2.7 miles	3.0 miles	4.5 miles	4.5 miles
LRT Stations	Mitchell Southwest Eden Prairie Town Center	Mitchell Southwest Eden Prairie Town Center	Louisiana Wooddale Beltline West Lake 21st Street Penn	Louisiana Wooddale Beltline West Lake 21st Street Penn
Park-and-ride Lots (lots/spaces) ^b	Surface: 1/400 ^c Structured: 3/1,450 ^c Total Spaces: 1,850	Surface: 1/160 Structured: 2/1,350 ^d Total Spaces: 1,510	Surface: 6/650 Structured: 0/0 Total Spaces: 650	Surface: 2/810 Structured: 0/0 Total Spaces: 810

^a Based on LRT 3A and LRT 3A-1 of the Draft EIS.

^b As part of the design and engineering process, the Council developed a design adjustment that would initially implement a western terminus of the proposed light rail line at the Southwest Station. As a result of that western terminus, there would be no light rail alignment west of Southwest Station and no Mitchell Station or park-and-ride lot and the proposed structured park-and-ride lot at Southwest Station would be increased by approximately 600 spaces (from 450 spaces to 1,050 spaces).

^c Within the Draft EIS, there would have been 400-space surface and 400-space structured park-and-ride lots at the Mitchell Station, which are accounted for in this table as one surface and one structured lot.

^d Existing surface off-street parking spaces that would be displaced by the proposed structured park-and-ride lots would be replaced within the proposed lots, thus increasing the overall capacity of the structured lots.

Source: Council, 2014; Draft EIS (Section 2.3.3).


Section 2.3.3 of the Draft EIS provides a description of the improvements that were included in the proposed LPA at that time and that are referenced below.

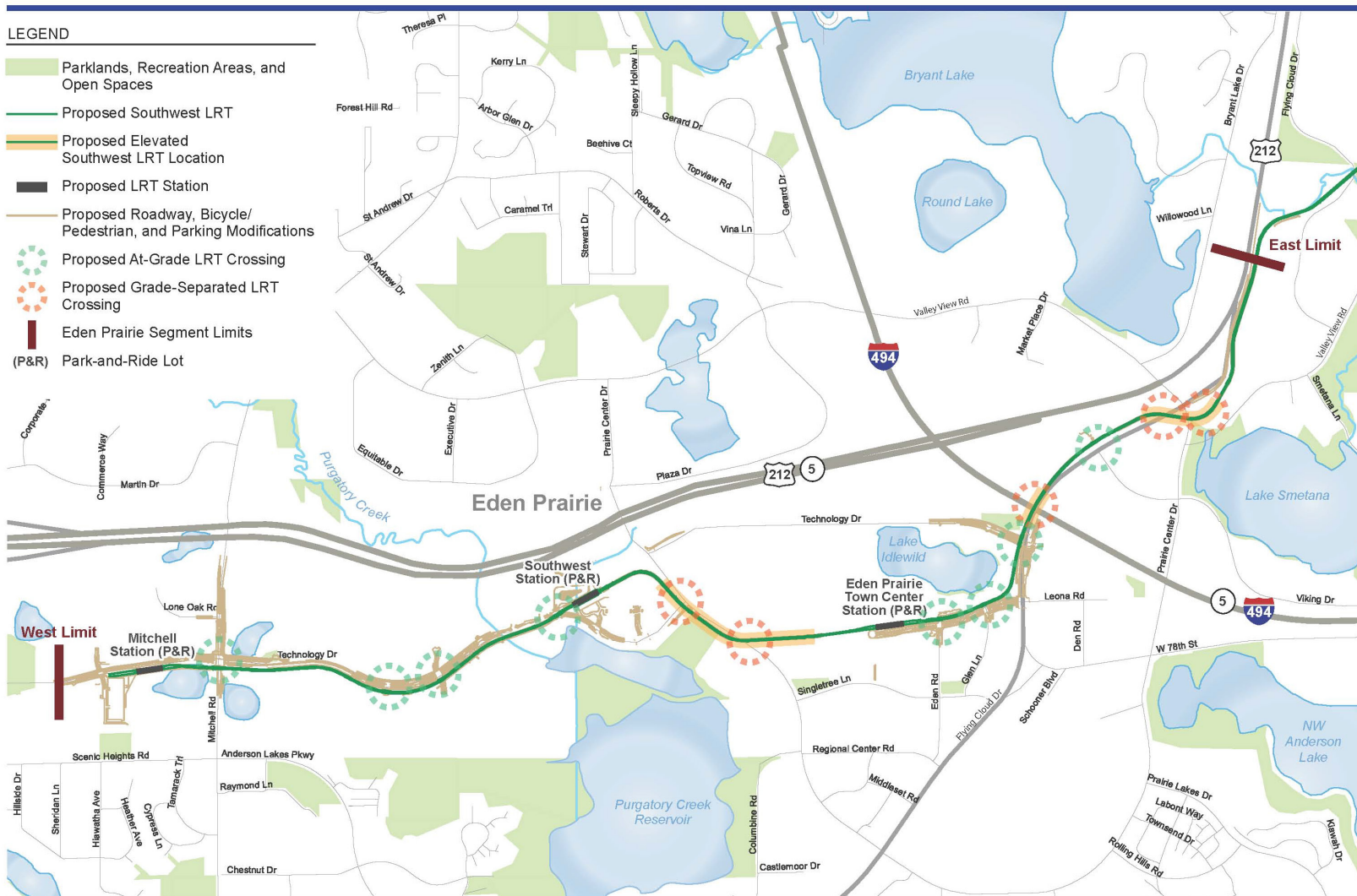
- Light Rail Alignment.** Under the LPA, a new double-tracked light rail alignment in the Eden Prairie Segment would extend from the project’s western terminus on Technology Drive, just west of Mitchell Road, to just east of the intersection of Flying Cloud Drive and Valley View Road where it would align with the light rail alignment described in the Draft EIS for LRT 3A and LRT 3A-1. The proposed light rail alignment under the LPA would include ancillary facilities, such as overhead catenary, substations, signal systems, tail and/or storage tracks, and stormwater facilities. The terminus of the light rail alignment would be located on the south side of Technology Drive, immediately east of the existing main driveway entrance to the Eden Prairie City Center (west of Mitchell Road), rather than in the vicinity of Mitchell Road immediately south of Highway 212, as proposed in the Draft EIS (see Section 2.3.1 for additional detail). From its terminus, the light rail alignment would extend east, crossing Mitchell Road at-grade, staying on the south side of Technology Drive. In the vicinity of the bus-only entrance to the SouthWest Transit Center, the alignment would turn north and cross Technology Drive at-grade. The light rail alignment would turn east and remain at-grade immediately south of Highway 212 and north of the existing SouthWest Transit Center park-and-ride lot. The alignment would continue east before turning south on the west side of Prairie Center Drive, ascending to an elevated structure over Technology Drive. The structured light rail alignment would then turn east and cross over Prairie Center Drive. The alignment would continue east at-grade generally within undeveloped property. Then the light rail alignment would run parallel to and north of a proposed new unnamed east/west roadway and north of Eden Road to its intersection with Flying Cloud Drive, where the light rail alignment would turn north.

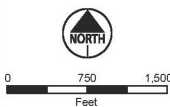

²⁶ Section 3.2 of this Supplemental Draft EIS provides updated information on the anticipated environmental impacts in the Eden Prairie Segment related to the LPA, noting a comparison of impacts as identified in the Draft EIS.

EXHIBIT 2.5-2
Project Overview Eden Prairie Segment

LEGEND

-  Parklands, Recreation Areas, and Open Spaces
-  Proposed Southwest LRT
-  Proposed Elevated Southwest LRT Location
-  Proposed LRT Station
-  Proposed Roadway, Bicycle/ Pedestrian, and Parking Modifications
-  Proposed At-Grade LRT Crossing
-  Proposed Grade-Separated LRT Crossing
-  Eden Prairie Segment Limits
-  (P&R) Park-and-Ride Lot



	<p>Southwest LRT Supplemental Draft EIS Project Overview Eden Prairie Segment</p>	<p>Exhibit 2.5-2</p>		
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The alignment would continue north at-grade on the west side of Flying Cloud Drive before crossing Technology Drive at-grade. The alignment would continue northeast, crossing over I-494 on an elevated structure staying at-grade south of and parallel to Flying Cloud Drive. Approaching Prairie Center Drive, the alignment would start to ascend on retained fill and would cross over the intersection of Flying Cloud and Prairie Center drives on a new structure. The alignment would then continue northeast, returning back to grade, staying east and generally parallel to the on ramp onto Highway 212, where this segment ends. From there, the light rail alignment would continue generally north and then generally east to downtown Minneapolis.

- **Light Rail Stations.** Similar to the Draft EIS, the Eden Prairie Segment includes three proposed light rail stations: Mitchell Station, Southwest Station, and Eden Prairie Town Center Station. The proposed Mitchell Station, which was included in the Draft EIS located immediately south of Highway 212 west of Mitchell Road, would be located on the south side of Technology Drive, west of Mitchell Road. The proposed location of the Southwest Station, immediately west of the existing SouthWest Transit Center structured park-and-ride lot, is relatively unchanged since publication of the Draft EIS. Since publication of the Draft EIS, the proposed location of the Eden Prairie Town Center Station has been adjusted to the south to provide closer access to the activity centers north and south of Singletree Lane.
- **Park-and-ride Lots.** Under the LPA, there would be three park-and-ride lots in the Eden Prairie Segment. Working west to east, the first would be an approximately 900-space structured park-and-ride lot immediately south of the Mitchell Station. The second would be an approximately 450-space structured park-and-ride lot immediately west of the proposed Southwest Station, sharing vehicular connections with the existing SouthWest Transit Center park-and-ride lot. The structured lots would also replace existing off-street parking spaces displaced by the park-and-ride lots, thus increasing their overall capacity. The third would be an approximately 160-space leased lot in the vicinity of the Eden Prairie Town Center Station. The proposed leased lot would be located on an existing parking lot, and its location would be determined through negotiations with property owners during the engineering and construction phases of the project.
- **Bus Improvements.** SouthWest Transit, a transit agency serving Chanhassen, Chaska, Eden Prairie, and downtown Minneapolis, currently provides bus service in to and out of the SouthWest Transit Center. The proposed Southwest Station would be located adjacent to the transit center, which would be moved to the west to accommodate the introduction of the light rail alignment and stations, providing for the continuation of SouthWest Transit's bus operations. Section 2.3.3.10 of the Draft EIS describes the LPA proposed bus service plan for 2030, including proposed modification to bus lines serving the Mitchell and Southwest stations. Changes to the LPA's proposed bus service plan, which would include local and express bus service and potentially local feeder bus service, will be made as Project Development is completed and will be reflected in the project's Final EIS, recognizing that SouthWest Transit would be responsible for determining any changes to its bus service operating out of the SouthWest Transit Center. Under the LPA, there would be bus facilities accommodating transfers between buses and light rail stations at the Southwest and Eden Prairie Town Center stations.
- **Roadway Improvements.** Under the LPA, there would be a variety of roadway improvements within the Eden Prairie Segment, generally to accommodate the proposed light rail alignment or operations or to address potential impacts to roadway and traffic. Key proposed roadway improvements would include: (1) capacity improvements (for example, additional through and/or turn lanes) and lane adjustments to accommodate the light rail alignment on Prairie Center Drive, generally between Highway 212 and Singletree Lane, Mitchell Road at Technology Drive, and Technology Drive generally between Mitchell Road and Purgatory Creek; (2) the construction of a new, unnamed local street that would extend west approximately one block from Eden Road to the Eden Prairie Town Center Station; and (3) modifications to Eden Road to accommodate the proposed at-grade light rail alignment.
- **Bicycle and Pedestrian Improvements.** Under the LPA, there would be a variety of bicycle and pedestrian improvements in the Eden Prairie Segment. In general, those improvements would be made to provide safe and convenient bicycle and pedestrian crossings of the proposed light rail alignment, to

accommodate the proposed light rail and roadway improvements, and/or to provide bicycle and pedestrian connections to the proposed light rail stations. Of note is the proposed new short section of sidewalk that, together with existing parking lots, would provide a paved pedestrian connection between the Eden Prairie Town Center Station and Singletree Lane.

2.5.2 Operations and Maintenance Facility

The LPA for the Southwest LRT Project includes a site for a proposed OMF within the City of Hopkins, referred to as the Hopkins OMF. Exhibit 2.5-3 and Appendix G, Conceptual Engineering Drawings, provide illustrations of the OMF site and a potential layout for the site. The Hopkins OMF site was not included in the Draft EIS, which identified three potential OMF sites in the City of Eden Prairie and one in the City of Minneapolis (see Section 2.3.3.9 of the Draft EIS).

The proposed Hopkins OMF would be within an existing office/warehouse and light manufacturing development. The proposed Hopkins OMF would occupy an approximately 15-acre site between the Canadian Pacific (CP) Railway to the south, 5th Street South (K-Tel Drive) to the north, 15th Avenue South on the east, and the proposed LRT mainline to the west, as shown on Exhibits 2.5-1 and 2.5-3. The Hopkins OMF would be located approximately 1,000 feet south of the proposed Shady Oak Station. The Hopkins OMF would result in the closure of 16th Avenue South, which is in the middle of the proposed site, between K-Tel Drive and 6th Street South. In addition, a cul de sac would be constructed on 6th Street South, immediately east of 16th Avenue South. Automobile and truck access to the OMF site would be provided on the existing roadway network via 5th Street South, K-Tel Drive, and 15th Avenue South. Appendix G, Conceptual Engineering Drawings, provides additional detail. Light rail transit vehicles would access the OMF site via the inbound tracks of the proposed Southwest LRT alignment. One track connection between the OMF and the light rail mainline would cross K-Tel Drive at-grade. Inbound light rail trains would access the site directly from the inbound tracks. Outbound light rail trains would pass the OMF, cross over to the inbound tracks, reverse direction, and enter the OMF site via the inbound tracks.

In general, light maintenance activities and the storage of vehicles not in service would occur within enclosed structures, although some maintenance activities, such as moving vehicles, would occur outside of buildings. Activities on the site would include washing, routine cleaning, routine maintenance, and inspections of the trains; parts storage; and maintenance-related office functions. In general, the OMF site would be in operation 24 hours a day, 365 days a year. The site would include a network of light rail switching track, a 70-space surface parking lot for employees and visitors, storage and maintenance of nonrevenue vehicles, and office space for employees. Heavy maintenance of the project's light rail vehicles, which would include wheel truing and major body repair, would occur at the Franklin Street OMF, which is outside of the project area and which would not need to be expanded to accommodate the project's light rail vehicle fleet.

2.5.3 St. Louis Park/Minneapolis Segment

The St. Louis Park/Minneapolis Segment addressed in this Supplemental Draft EIS generally extends between Louisiana Avenue South in St. Louis Park and I-394 near the junction of the Wayzata Subdivision and the Kenilworth Corridor in Minneapolis. Within this segment, the LPA includes a proposed light rail alignment, six proposed light rail stations, two proposed park-and-ride lots, and various related bus, roadway, and bicycle/pedestrian improvements and freight rail modifications, which are described below and illustrated on Exhibit 2.5-4. The light rail and related improvements and the freight rail modifications for this segment are illustrated in greater detail in Appendix G, Conceptual Engineering Drawings. Section 2.3.3 of the Draft EIS provides a description of the elements included in LRT 3A-1 at that time and that are referenced below.

In summary, the proposed LPA would: (1) construct a light rail alignment within the St. Louis Park/Minneapolis Segment, portions of which would be at-grade, above-grade, or below-grade; (2) provide for continuation of freight rail operations within the Kenilworth Corridor with relatively minor adjustments to freight rail facilities and operations; and (3) reconstruct the multipurpose bicycle and pedestrian trail generally within its current location, with modifications to new trail bridges over freight rail and light rail east of Beltline Station and west of Penn Station to accommodate the new light rail alignment and related

facilities. These and other proposed improvements within this segment, reflecting adjustments made after publication of the Draft EIS, are described in this subsection in greater detail.

As previously noted, the Draft EIS evaluated two freight rail configurations, termed LRT 3A and LRT 3A-1. LRT 3A would relocate TC&W freight trains currently operating along the Bass Lake Spur and the Kenilworth Corridor to the MN&S Spur and Wayzata Subdivision, and LRT 3A-1 would continue operations of TC&W freight trains along the Bass Lake Spur and Kenilworth Corridor. Sections 2.3 and 2.4 of this Supplemental Draft EIS provide an overview of the development and evaluation of freight rail modifications incorporated into the proposed LPA since publication of the Draft EIS. As defined in this Supplemental Draft EIS, the LPA includes the retention of TC&W freight rail service within the Kenilworth Corridor, termed “co-location” in the Draft EIS.

Primary differences in this segment between the light rail-related elements of the LPA described in this section and those described in Section 2.3.3 in the Draft EIS include (generally from west to east):











(1) expansion of the park-and-ride lot at Beltline Station from 500 to 540 spaces; (2) modification of the location of the Louisiana Station, and an expansion of the park-and-ride lot from 100 to 270 spaces; (3) removal of the park-and-ride lots at Wooddale, 21st Street, West Lake, and Penn stations; and (4) placement of the proposed light rail alignment in a tunnel to the west of the Kenilworth Lagoon, which is the constructed waterway that connects Lake of the Isles and Cedar Lake in the Kenilworth Corridor. Following is a summary of the proposed light rail alignment, stations, park-and-ride lots, and related bus, roadway, bicycle/pedestrian, and freight rail modifications that are included within the LPA in the St. Louis Park/Minneapolis Segment:

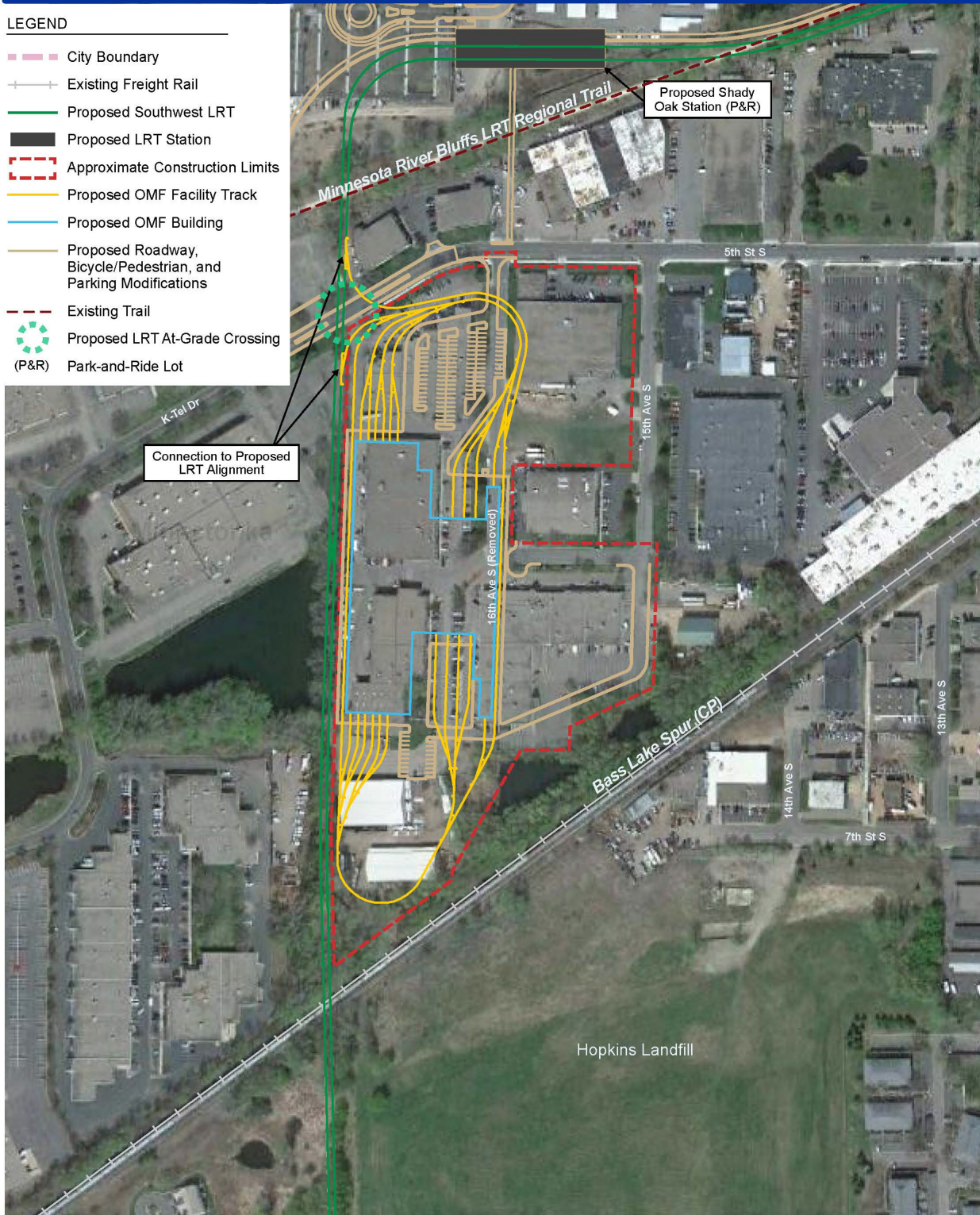
- **LRT Alignment.** Within the St. Louis Park/Minneapolis Segment, the LPA would include a new double-tracked light rail alignment that would extend the length of the segment, as shown on Exhibit 2.5-4. The proposed light rail alignment would be located south of and parallel to freight rail tracks, which would be adjusted northward to accommodate the light rail alignment, as described below. The light rail improvements in this segment would include ancillary facilities, such as overhead catenary, substations, signal systems, and stormwater facilities. Working west to east, the LRT alignment in this segment would cross over Louisiana Avenue South on an elevated structure and would shift slightly to the south to enter the proposed Louisiana Station. Just east of the Louisiana Station, the light rail alignment would cross under the proposed southerly freight rail connection to the MN&S line and the existing MN&S grade-separated crossing. Proceeding east, the LRT alignment would continue at-grade and cross over Highway 100 on a new structure. The alignment would then continue to the east and remain at-grade within the Kenilworth Corridor, crossing under West Lake Street. Immediately north of West Lake Street, the double-tracked light rail alignment would descend into an approximately 25-foot-deep tunnel (at track level), constructed using cut-and-cover construction techniques. The light rail tunnel would begin north of West Lake Street, avoiding the need to reconstruct the existing West Lake Street bridge, and would allow the West Lake Station to be located at-grade (generally at the same grade as the freight rail alignment and bicycle/pedestrian trail). The light rail tunnel would extend approximately 2,200 feet from just north of West Lake Street to approximately 400 feet south of the Kenilworth Lagoon, which is a constructed channel connecting Lake of the Isles to Cedar Lake. The light rail tunnel would be located within the Kenilworth Corridor and would generally be located under the reconstructed Kenilworth Trail, shown on Exhibit 2.5-4 as a cross section. Each end of the tunnel would include a portal spanning approximately 300 to 500 feet, which would provide for the transition between the at-grade and tunnel alignments. Fencing and other safety measures would protect the tunnel portals from unauthorized entry. The light rail alignment would rise back to grade to cross the lagoon on a new bridge with approximately the same vertical clearance over the lagoon as provided today under the existing freight rail and bicycle/pedestrian bridges. The light rail alignment would continue at-grade throughout the remaining eastern portion of the Kenilworth Corridor.

EXHIBIT 2.5-3

Project Overview, Operations and Maintenance Facility, City of Hopkins

LEGEND

-  City Boundary
-  Existing Freight Rail
-  Proposed Southwest LRT
-  Proposed LRT Station
-  Approximate Construction Limits
-  Proposed OMF Facility Track
-  Proposed OMF Building
-  Proposed Roadway, Bicycle/Pedestrian, and Parking Modifications
-  Existing Trail
-  Proposed LRT At-Grade Crossing (P&R) Park-and-Ride Lot




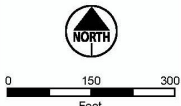

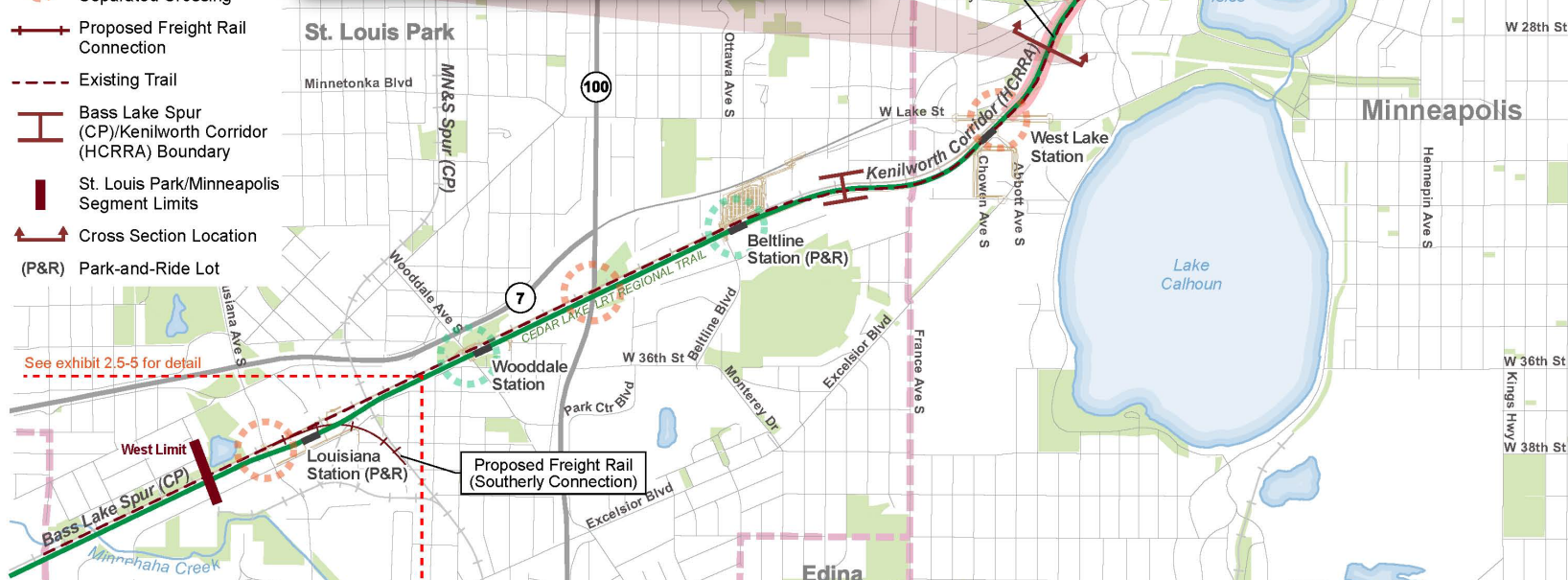
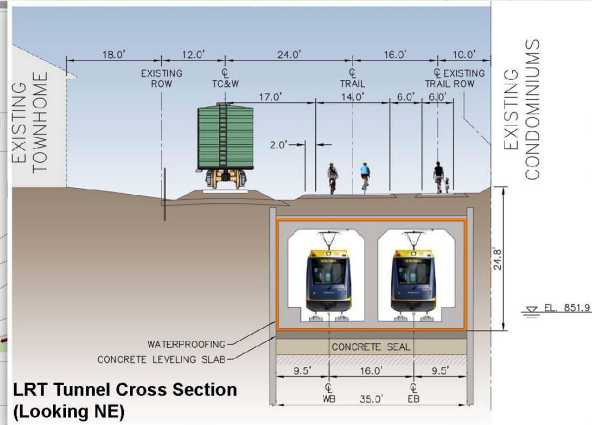
	<p>Southwest LRT Supplemental Draft EIS</p> <p>Project Overview</p> <p>Operations and Maintenance Facility, City of Hopkins</p>	<p>Exhibit 2.5-3</p>		
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EXHIBIT 2.5-4

Project Overview St. Louis Park/Minneapolis Segment

LEGEND

- City Boundary
- Existing Freight Rail
- Parklands, Recreation Areas, Open Spaces
- Proposed Southwest LRT
- Proposed LRT Tunnel
- Proposed LRT Station
- Proposed Roadway, Bicycle/Pedestrian, and Parking Modifications
- Proposed LRT At-Grade Crossing
- Proposed LRT Grade-Separated Crossing
- Proposed Freight Rail Connection
- Existing Trail
- Bass Lake Spur (CP)/Kenilworth Corridor (HCRR) Boundary
- St. Louis Park/Minneapolis Segment Limits
- Cross Section Location
- (P&R) Park-and-Ride Lot



	<p>Southwest LRT Supplemental Draft EIS Project Overview St. Louis Park/Minneapolis Segment</p>	<p>Exhibit 2.5-4</p>		
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- **Light Rail Stations.** Under the LPA, the St. Louis Park/Minneapolis Segment would include six new light rail stations. From southwest to northeast, these proposed stations are Louisiana Station, Wooddale Station, Beltline Station, West Lake Station, 21st Street Station, and Penn Station. Situated within the City of St. Louis Park, the Louisiana, Wooddale, and Beltline stations would be located east of Louisiana Avenue South, Wooddale Avenue South, and Beltline Boulevard, respectively. The proposed location of each of these stations is similar to the location proposed in the Draft EIS, except they would be located on the south side of the existing freight rail tracks and Louisiana Station would now be closer to Oxford Street. As proposed in the Draft EIS, the West Lake Station would be at-grade, approximately 25 feet below and immediately south of West Lake Street, with stairs and elevators connecting the station and the West Lake Street bridge (elevators were not included as proposed station elements in the Draft EIS). There would also be pedestrian access to the station via Chowen Avenue South and Abbott Avenue South, which would also accommodate passenger drop-offs and bus transfers, as well as via West Lake Street. As proposed in the Draft EIS, the at-grade 21st Street Station would be accessed using the local street, bicycle, and pedestrian network. Penn Station would be located immediately south of the I-394/Penn Avenue South interchange. While the proposed location of the Penn Station has not changed substantially since the Draft EIS, improvements associated with it have been adjusted, such as the addition and reconfiguration of pedestrian connections and the addition of a kiss-and-ride facility.
- **Park-and-ride Lots.** Under the LPA, the St. Louis Park/Minneapolis Segment would include the following park-and-ride lots (the proposed capacities and specific sites have been adjusted since publication of the Draft EIS): a 270-space surface lot at Louisiana Station and a 540-space surface lot at the Beltline Station.
- **Bus Improvements.** The specific designs and locations of proposed bus improvements under the LPA have been adjusted since publication of the Draft EIS. Bus stops and other related facilities would be provided at the Louisiana, Wooddale, and Beltline stations. West Lake station would include improvements to South Chowen Avenue, West 31st Street, and Abbott Avenue South that would accommodate bus connections between Excelsior Boulevard and the station, and connections to bus stops on West Lake Street.
- **Roadway Improvements.** Under the LPA, there would be a variety of roadway improvements within the St. Louis Park/Minneapolis Segment, to accommodate the proposed light rail alignment. In general, the location and/or specific design of the proposed roadway improvements have been adjusted since publication of the Draft EIS. The adjustments covered in this Supplemental Draft EIS include the following:
 - Reconstruction and reconfiguration of Oxford Street at Edgewood Avenue to accommodate the construction of the new southerly freight rail connection between the Bass Lake and MN&S spurs
 - Expansion of the Wooddale Avenue crossing from two to four lanes to accommodate relocated freight rail tracks and the two additional at-grade LRT track crossings and two new signalized intersections on Wooddale Avenue at ramps connecting to Highway 7
 - Reconstruction of the Beltline Boulevard crossing to accommodate relocated freight rail tracks and the two additional at-grade light rail track crossings; the addition of a second left-turn lane on the northbound approach to Highway 25; the closure and partial removal of the Highway 25 Service Road east of Beltline Boulevard; the reconstruction of the intersection of Highway 25, Highway 25 Service Road, and Lynn Avenue (to restrict access between Highway 25, Highway 25 Service Road, and Lynn Avenue and to include a new traffic signal); and the addition of a new right-turn lane from eastbound on Highway 25 to the Highway 25 Service Road
 - Reconstruction of the Cedar Lake Parkway to accommodate construction of the light rail tunnel
 - Realignment and widening of Abbott Avenue and Chowen Avenue in the vicinity of the proposed Westlake Station to accommodate a proposed kiss-and-ride facility, bus stops, and bus layover
 - Reconstruction of 21st Street to accommodate an at-grade light rail crossing

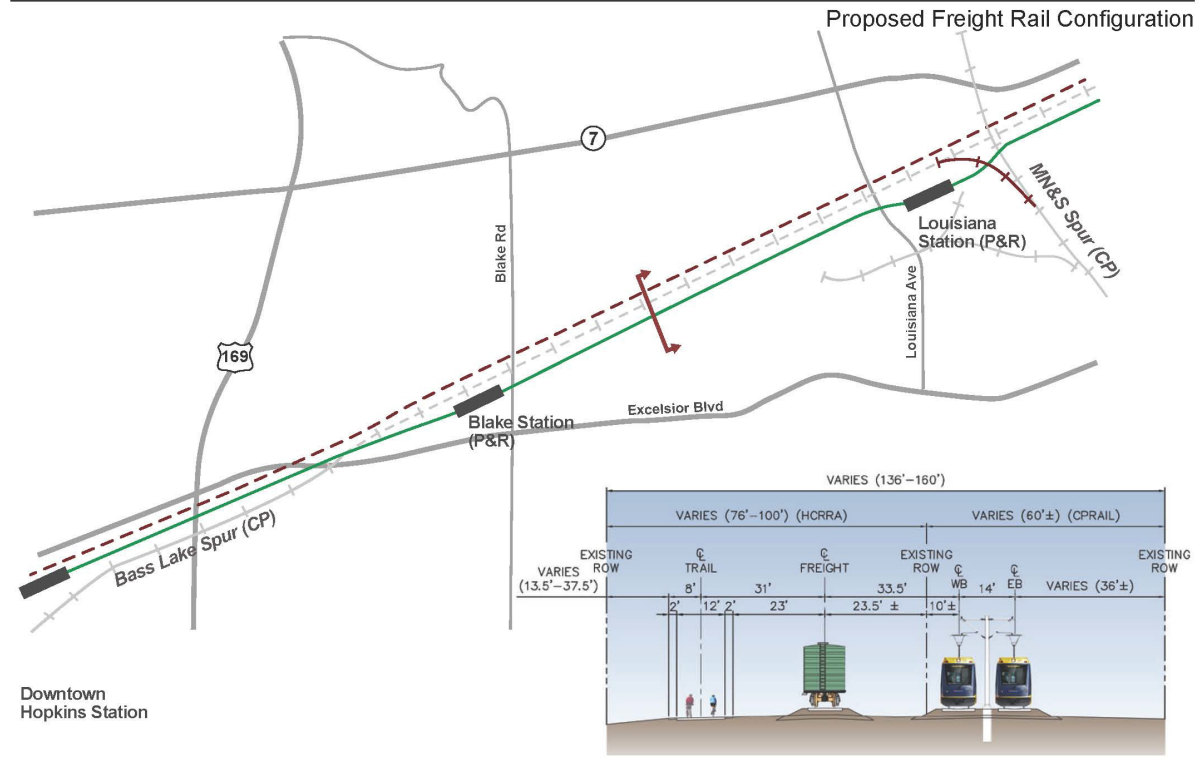
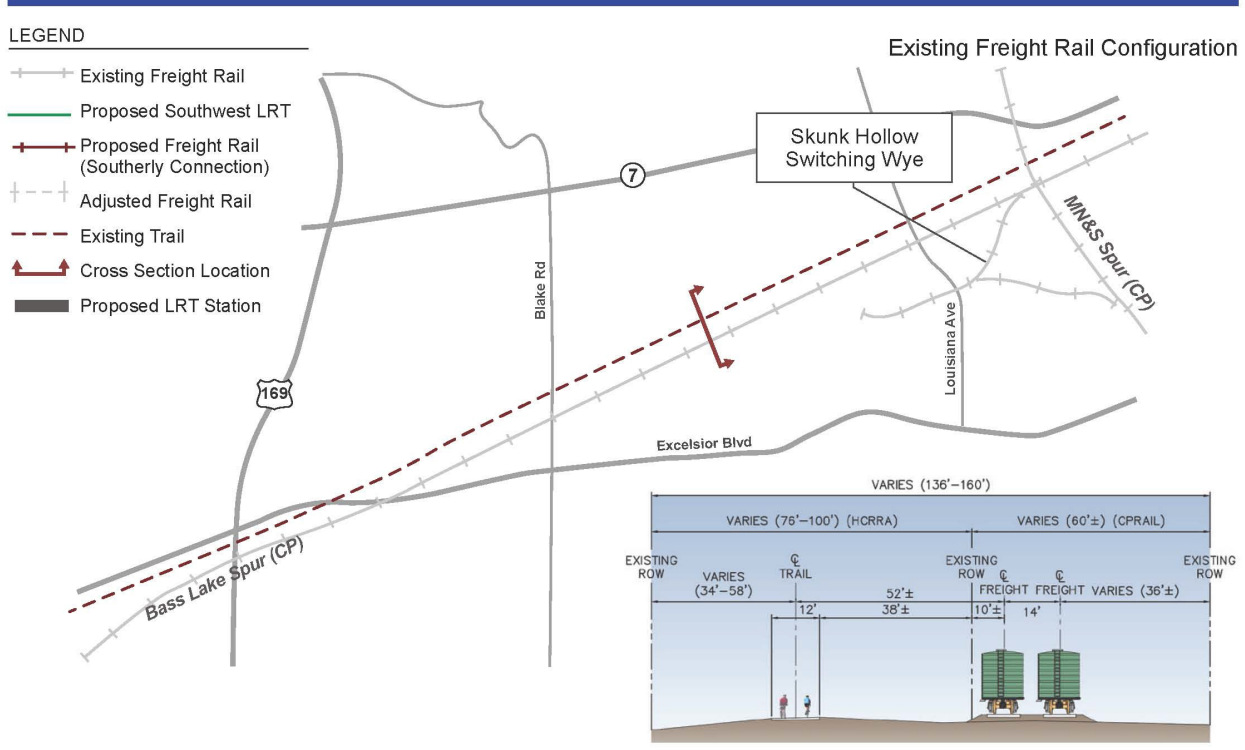
- Reconstruction of Wayzata Boulevard and Penn Avenue near I-394 to accommodate kiss-and-ride facilities and pedestrian connections to Penn station
- **Bicycle and Pedestrian Improvements.** Under the LPA, there would be a variety of bicycle and pedestrian improvements in the St. Louis Park/Minneapolis Segment. In general, those improvements would be made to provide safe and convenient bicycle and pedestrian crossings of the proposed light rail alignment, to reflect proposed roadway improvements, and/or to provide bicycle and pedestrian connections to the proposed light rail stations. These improvements would affect several trails and sidewalks within the vicinity of the proposed project. In particular, a connection between the Cedar Lake Trail and the Louisiana Station would be grade-separated under the realigned freight rail tracks. Cedar Lake Trail would be grade-separated over the proposed light rail alignment east of the Beltline Station, where the trail would transition from being north of to south of the light rail alignment. The existing Kenilworth Trail²⁷ between north of West Lake Street and south of the Kenilworth Lagoon would be reconstructed to accommodate the introduction of the at-grade and tunnel sections of the light rail alignment in the Kenilworth Corridor. In sections where the light rail alignment would be at-grade, including the crossing of the Kenilworth Lagoon, or would be transitioning from an at-grade alignment to the tunnel portals, the trail alignment would generally be southeast of the proposed light rail alignment. Generally, within the segments where the light rail alignment would be within the tunnel, the Kenilworth Trail would be reconstructed above the proposed light rail tunnel. There would be a variety of bicycle and pedestrian improvements in the vicinity of the West Lake and 21st Street stations, intended to improve bicycle and pedestrian safety and access to and from the two stations. The North Cedar Lake Trail would be grade-separated where it would cross over the existing freight rail tracks in the Kenilworth Corridor and the proposed light rail tracks immediately to the east of the freight rail tracks near Penn Station. A grade-separated pedestrian connection over the existing freight rail tracks in the Kenilworth Corridor and the Wayzata Subdivision would connect the proposed Penn Station to a proposed kiss-and-ride facility on South Wayzata Boulevard. In addition, modifications to existing connections to other trails and local streets would be made as needed.
- **Freight Rail Modifications.** Under the LPA, freight rail service would continue to operate in its existing location in the Bass Lake Spur and Kenilworth Corridor with the following general areas of freight rail modifications in the St. Louis Park/Minneapolis Segment (see Exhibits 2.5-4 and 2.5-5):
 - Beginning west of the St. Louis Park/Minneapolis Segment and extending through much of the St. Louis Park/Minneapolis Segment to east of Beltline Boulevard, the existing freight rail tracks (i.e., the Bass Lake Spur, owned by CP) would 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 centers²⁸
 - A portion of the northern leg of the existing Skunk Hollow switching wye between the Bass Lake Spur and Oxford Street would be removed and replaced with a new southerly connection between the Bass Lake Spur and the MN&S Spur (which is also owned by CP) that would cross over the proposed light rail alignment on a structure, which would allow freight trains traveling on the Bass Lake Spur tracks to continue to access the MN&S Spur tracks²⁹

²⁷ The Kenilworth Trail, which extends between the Midtown Greenway and the Cedar Lake Trail, was constructed by the City of Minneapolis and is maintained by the MPRB. The trail is located on HCRRA-owned right-of-way as a temporary use under Permit Agreement 73-31016 between HCRRA and the City of Minneapolis.

²⁸ The existing freight rail tracks are on existing right-of-way owned by CP. In general, the tracks would be relocated approximately 45-feet north onto right-of-way owned by HCRRA. The proposed light rail alignment would be on what is now the CP right-of-way. To accommodate these proposed improvements, there would likely be an exchange of right-of-way between CP and HCRRA, as well as agreements for continuing property ownership of right-of-way for use by light rail. The nature of the exchange and agreements has not been determined. See Section 3.4.2.5 for additional detail.

²⁹ Removal of a portion of the northern leg of the Skunk Hollow switching wye would be required to accommodate the placement of the light rail alignment south of the freight rail alignment on the existing northern switching wye alignment (see Exhibit 2.5-5). The southern leg of the Skunk Hollow switching wye would remain in place, providing the continuation of freight rail service to the Robert B. Hill Company salt facility at the west end of the switching wye.

EXHIBIT 2.5-5
Proposed Freight Rail Modifications



	<p>Southwest LRT Supplemental Draft EIS Proposed Freight Rail Modifications</p>	<p>Exhibit 2.5-5</p>		
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- There would be relatively minor adjustments to and reconstruction of the freight tracks between Beltline Boulevard and Cedar Lake Parkway
- The existing freight tracks would be moved up to approximately 40 feet north between Cedar Lake Parkway and the Burnham Road overpass
- There would be no adjustments or reconstruction of the existing freight alignment between the Burnham Road overpass and Cedar Lake Junction

2.6 Locally Requested Capital Investments

2.6.1 Introduction

The stakeholder cities and County of the Southwest LRT project, including Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Hennepin County have each gone through their respective local planning and decision making processes to identify improvements they propose to be undertaken separate from, but contingent upon, implementation of the Southwest LRT project (hereinafter referred to as Locally Requested Capital Investments [LRCIs]). These proposed activities are not needed to support the base function of the Southwest LRT project, nor do they represent mitigation for any impact of the Southwest LRT project. These proposed activities may be implemented independently by the stakeholder cities at a future date, and are not conditions of the Southwest LRT project. If constructed by the Southwest LRT project contractor, the LRCIs will be included as part of the Southwest LRT project construction bid packages and activities; the construction documents will clearly separate out the LRCI activities and costs from the Southwest LRT project that is proposed to be funded through FTA's Capital Investment Grant (CIG) Program.

The Supplemental Draft EIS outlines the proposed LRCI actions identified by each of the cities and Hennepin County. The preliminary LRCI list was presented to the Corridor Management Committee (CMC) in October 2014 and an updated preliminary list was presented to the Executive Change Control Board (ECCB) in December 2014. Each of the proposed LRCIs that advance through the city and county decision making processes will undergo environmental review and impact evaluation, with results reported in the Final EIS; however, the current list of proposed LRCIs are not anticipated to result in significant adverse impacts.

2.6.2 Proposed Locally Requested Capital Investment Actions

The proposed LRCI actions may be within, adjacent to or outside the Southwest LRT project construction boundaries. The types of LRCI actions are defined as follows:

2.6.2.1 Local Roadway Improvements

The cities of Eden Prairie, Minnetonka and St. Louis Park have identified local roadway improvements to enhance connectivity to the proposed Southwest LRT stations. While the LRT project includes required improvements to access stations, the LRCI activities under this category go beyond the requirements of the Southwest LRT project. Improvements under this category include local roadway underpasses that would extend under the LRT project and roadway extensions from the LRT station area to the existing roadway network that would provide additional connections beyond the requirements for the Southwest LRT project. These improvements are not required for Southwest LRT project, however if funded by the requesting city, would be included as part of the construction of the Southwest LRT project.

2.6.2.2 Streetscape, Landscape and Aesthetic Improvements

In addition to the streetscaping, landscaping and aesthetic treatments included as part of the proposed Southwest LRT project, additional improvements were requested by the cities of Eden Prairie and Hopkins in conjunction with Southwest LRT construction. Improvements under this category include treatments such as decorative lighting along roadways, additional pedestrian lighting beyond requirements of the LRT project, decorative catenary poles, decorative fencing and bridge railings, aesthetic treatments to bridge structures, planter boxes along roadways, and embedded track alongside a roadway. These improvements are not required for the Southwest LRT project, however if funded by the requesting city, would be included as part of the construction of the Southwest LRT project.

2.6.2.3 Local Pedestrian and Bicycle Improvements

In addition to the pedestrian and bicycle connections proposed as part of the Southwest LRT project, the cities of Eden Prairie and St. Louis Park and Hennepin County have identified additional trail and bicycle projects. Improvements under this category include construction of new trail sections to improve connections to existing facilities beyond the requirements of the Southwest LRT project, additional wayfinding signage, bike lane striping and bike boulevard markings, additional parking facilities, storage facilities, self-service bike repair and grade separation of trail crossings. These improvements are not required for the Southwest LRT project, however if funded by the requesting city and/or county, would be included as part of the construction of the Southwest LRT project.

2.6.2.4 Utility Activities

Utility relocations and/or replacements are expected when existing facilities are in conflict with the LRT improvements. These improvements are part of the federally funded CIG Southwest LRT project. However, when improvements extend beyond the limits of the transitway and stations or include upgrading the size and/or capacity of utilities, associated costs will be funded locally. Improvements under this category have been identified by the city Hopkins and Hennepin County, and include burying power lines along existing trail, new water and sanitary sewer to serve future development, providing fiber optic conduit along the length of the corridor, and providing steam line to surrounding land use. These improvements are not required for the Southwest LRT project, however if funded by the requesting city and/or county, would be included as part of the construction of the Southwest LRT project.

2.6.2.5 Guideway Profile Adjustment

The City of Minnetonka has identified an adjustment to the guideway profile to accommodate a future potential infill station at Smetana Road, which at the time of planning will undertake a separate environmental review. This includes additional excavation and retaining structures beyond that required for the Southwest LRT project to accommodate a level area for a potential future station. This potential future infill station is not part of the LRT project, however if funded by the requesting city, the additional excavation and retaining structures to allow for a future infill station would be included as part of the construction of the Southwest LRT Project.

A summary of the proposed LRCIs by defined category is included in Table 2.6-1.

TABLE 2.6-1

General Locally Requested Capital Investment Activities by Requestor and Identification Number

LRCI Category	LRCI Requestor and Identification Number ^a					
	Eden Prairie (LRCI ID #)	Minnetonka (LRCI ID #)	Hopkins (LRCI ID #)	St. Louis Park (LRCI ID #)		Hennepin County (LRCI ID #)
Local Roadway Improvements	X (1, 11)	X (12)		X (17,19, 32)		
Streetscape/Landscape/ Aesthetic Improvements	X (4-10)		X (16)			
Local Pedestrian/Bicycle Improvements	X (2, 3)			X (33)		X (26, 28-30)
Utility Activities			X (14)			X (27)
Guideway Profile Adjustment		X (13)				

^aAppendix F includes a draft LRCI activity table, by LRCI number and local requestor, and accompanying figure for general geographic reference.

2.6.3 Next Steps

The Council will continue to work with each of the cities and Hennepin County in the refinement and development of the LRCIs. Through that process, a final LRCI list will be developed, and the environmental impacts of the proposed LRCIs evaluated, and the findings presented in the Final EIS. The Final EIS will include both the impacts and proposed mitigation, if required for the LRCI. If a LRCI included in the Supplemental Draft EIS does not move forward following further coordination with the cities and Hennepin County, it will not be evaluated as part of the Final EIS.