2 Alternatives

The Project has included a multi-step environmental review process (see Figure 2-1). This chapter presents the proposed alternatives that were considered during the development of the Project. Each step in the process will be discussed, including:

- The design refinements between the Supplemental Draft EIS and this Supplemental Final EIS
- A summary of the process that led to the Project as defined in the 2016 Final EIS and ROD
- The determination that the Project as envisioned in 2016 would not be able to move forward
- The Route Modification process that identified initial revised alignments for the Project
- Identification and evaluation of additional alignment options subsequent to the Route Modification process which is documented in the Final Route Modification Report and was made available for public review and comment on April 18, 2022. The report is available online at https://metrocouncil.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Route.aspx.
- Identification of a Build Alternative and determination of a Preferred Alternative
- Changes since the publication of the Supplemental Draft EIS

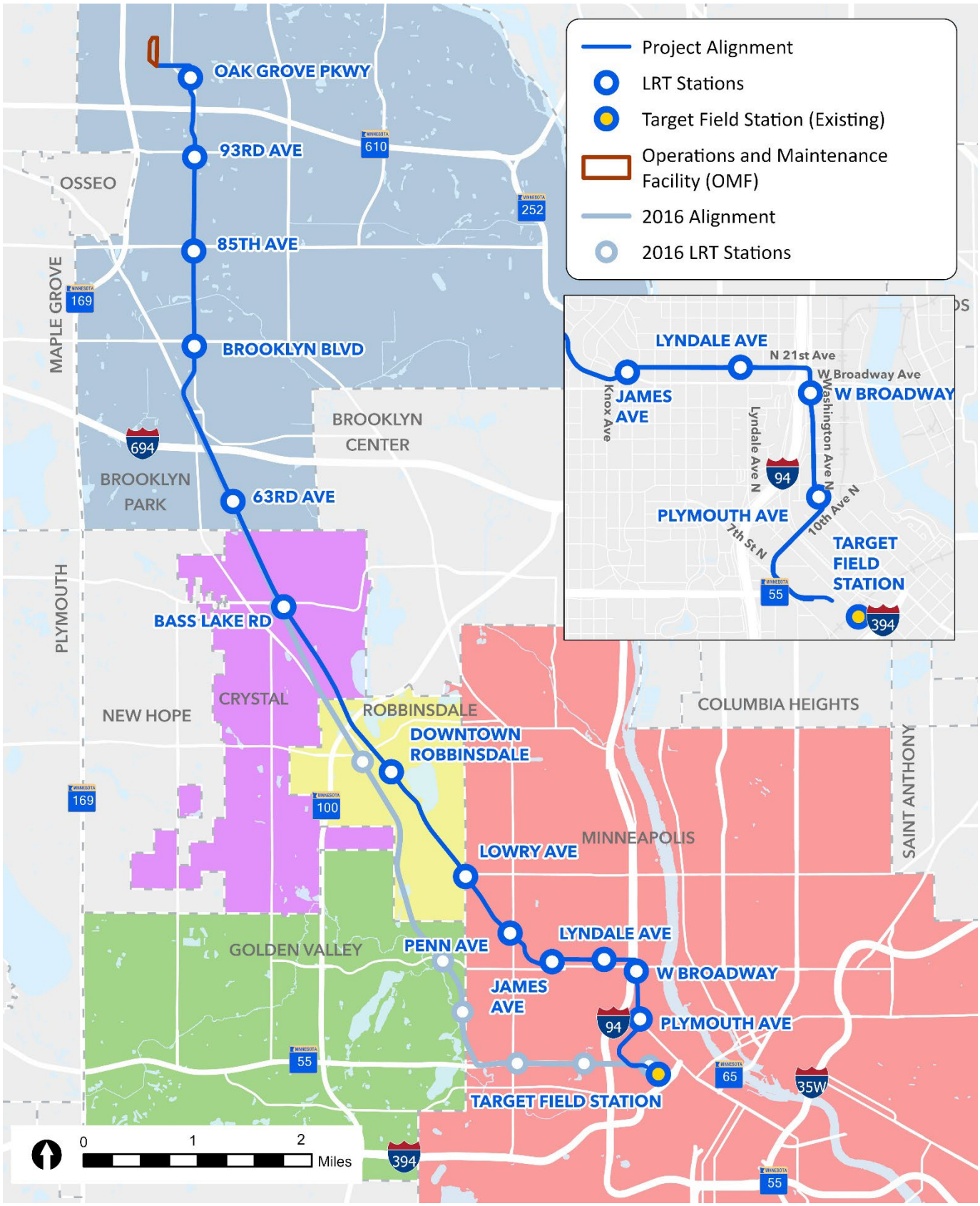
Figure 2-1 Environmental Documentation Process Sequence

The Project published the Supplemental Draft EIS in June 2024 and it is available online at https://metrocouncil.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Publications-And-Resources/Environmental/SDEIS/BLE_SDEIS_Chapter-2-Alternatives.aspx. Chapter 2 of the Supplemental Draft EIS presents more detailed discussion of steps 1-5 listed above.

2.1 Changes Since the Final EIS and ROD Publication (2016)

The Project completed the environmental review process by publishing a Final EIS and ROD for the 2016 Alignment. Since that time, a Project Alignment was identified to avoid using freight rail carrier right-of-way because of the inability to reach an agreement with its owner (BNSF). Figure 2-2 shows the Build Alternative compared to the 2016 Alignment.

Figure 2-2 Project Alignments: 2016 Alignment and Build Alternative Project Alignment



2.2 Previous Studies and Environmental Review

This section summarizes the decision-making process for selecting alternatives analyzed in earlier studies and the 2016 Alignment evaluated in the 2016 Final EIS. The Project area has been previously studied in regional system studies, corridor studies, and site-specific studies. Many alignments and modes for the Project have been considered and evaluated, including BRT and commuter rail. An AA process (2010), followed by a Scoping process (2012) and Draft EIS (2014), laid the foundation for developing an LRT alignment. FTA as the lead federal agency and the Council as the local lead agency published a Final EIS[1] and issued a ROD[2] in 2016. The Council issued a Determination of Adequacy pursuant to MEPA the same year. After several years of unsuccessful negotiations with the freight rail company, in August 2020, the Council and Hennepin County issued a joint statement[3] to advance the Project without using freight rail right-of-way. The Council and Hennepin County took this opportunity to revisit and modify the 2016 Alignment while maintaining as much of the 2016 Alignment as possible. More details about earlier studies and the 2016 Alignment are presented in Chapter 2, Section 2.2 of the Supplemental Draft EIS.[4]

2.3 Route Modification Process

In the Route Modification process, the Council and Hennepin County established a multifaceted engagement program to arrive at a community-supported alignment. Disinvestment and transportation decisions made more than 60 years ago have disproportionately impacted communities along the Project, and those impacts are still felt today. The Council and Hennepin County listened deeply to the communities in the Project area that would both reap the benefits of the Project and could potentially suffer some adverse effects. Additional details about past harms are presented in the Supplemental Draft EIS Chapter 1, Section 1.4.4 and Supplemental Draft EIS Chapter 7, Section 7.2.2.3. It was in this context that the Council and Hennepin County set out to establish trust in the decision-making process through a multifaceted engagement strategy. The process included:

- Refinement of Project goals
- Active involvement of Project advisory committees and community engagement cohorts who were conduits to the community and key to decision-making
- Hundreds of engagement events reaching thousands of people in the communities that have experienced past harms (referred to as disadvantaged communities)
- Rigorous analysis of several principal routes and numerous station and alignment options

The initial policy recommendations and ongoing engagement efforts are summarized in Chapters 7 and 9 of the Supplemental Draft EIS and the Supplemental Final EIS.

Supplemental Draft EIS Chapter 2, Section 2.3 describes the Route Modification process which identified and assessed alignment and design option locations and other potential transportation improvements, as well as community feedback received from the Route Modification process. Additional details were presented in the Supplemental Draft EIS Chapter 2 Sections described below:

- ***Supplemental Draft EIS Chapter 2, Section 2.3.1*** describes the Project principles and goals as shown in Figure 2-2 Project Principles in that document.
- ***Supplemental Draft EIS Chapter 2, Section 2.3.2*** describes the community engagement process and Figure 2-3 shows the decision-making framework for advancing the Project in that document.
- ***Supplemental Draft EIS Chapter 2, Section 2.3.3*** discusses the 2020–2022 Route Modification process, which identified revised alignments for the Project based on a primary decision to follow CR 81 (sometimes referred to as Bottineau Blvd or CSAH 81 in other documents), which parallels BNSF right-of-way for a portion of the Project Alignment. Changes to the proposed alignments are summarized in Table 2-1 and shown in Figure 2-4 in that document.
- ***Supplemental Draft EIS Chapter 2, Section 2.3.4*** Evaluation of Alignment and Design Options (2023) presents details on the evaluation of the alignment and design options considered. Table 2-2 provides an

overview of the alignment and design options that were evaluated. Chapter 2, Section 2.3.4.1 identifies which alignment and design options would be carried forward as the Build Alternative.

Table 2-1 Summary of Proposed Alignments by Area: Route Modification Process (2020–2022)

Area	Level of Change	Description
City of Brooklyn Park: Oak Grove Pkwy to 73rd Ave N	None	The Project Alignment has not changed from the 2016 Alignment.
Cities of Brooklyn Park and Crystal: 73rd Ave N to TH 100	Low–medium	The Project Alignment along CR 81 parallels the 2016 Alignment but is shifted slightly to the east of the 2016 Alignment.
City of Robbinsdale: TH 100 to W Broadway Ave	Medium–high	The Project Alignment along CR 81 remains parallel to the 2016 Alignment, but the distance ranges from 1,000 to 4,000 feet east of the 2016 Alignment.
City of Minneapolis: W Broadway Ave to Target Field Station	High	Instead of following the freight rail carrier right-of-way, the Project Alignment would directly serve North Minneapolis along either Lowry Ave and Washington Ave or W Broadway Ave and Lyndale Ave N.

The process confirmed the 2016 Alignment in the City of Brooklyn Park, using W Broadway Ave from Oak Grove Pkwy to 73rd Ave and including stations at Oak Grove, 93rd Ave, 85th Ave, and Brooklyn Blvd; recommended CR 81 between 73rd Ave in the City of Brooklyn Park to the intersection of CR 81 and W Broadway Ave, including stations at 63rd Ave and Bass Lake Rd in the City of Crystal and a station at North Memorial Hospital in the City of Robbinsdale; recommended W Broadway Ave from CR 81 to Lyndale Ave N through North Minneapolis. This includes a design option along N 21st Ave from Irving Ave N to Lyndale Ave N, one block to the north of W Broadway Ave; recommended Lyndale Ave N to 7th St or Olson Memorial Hwy, eventually terminating at the existing Target Field Station in Downtown Minneapolis.

Additionally, Appendix A-2 presents the Project alignment and design option locations that were considered during the development of the Supplemental Draft EIS and discusses the process through which the alignment and design option locations were developed. Additional details are presented as described below:

- ***Appendix A-2 Chapter 2, Section 2.1*** presents the Route Modification Process (2020–2022) and the Design Decision Process (2023).
- ***Appendix A-2 Chapter 2, Section 2.2*** presents alignments and design options considered in the Supplemental Draft EIS, including one Project Alignment that included four alignment options in the City of Minneapolis were advanced from the Route Modification process and Design Decision Process for further study. Additionally, design option locations in the Cities of Crystal, Robbinsdale, and Minneapolis are also described in this section.
- ***Appendix A-2 Chapter 2, Section 2.3*** presents elements of the alignment and design option locations compared to the 2016 alignment focused on notable differences between each alignment option in the City of Minneapolis.
- ***Appendix A-2 Chapter 2, Section 2.4*** presents an analysis of the transportation, community and social, and physical and environmental impacts for each alignment and design option considered to inform which option should be advanced to the Build Alternative. Refer to summary Tables A2-6 and A2-7 for side-by-side comparisons of impacts by alignment option in the City of Minneapolis.

Table 2-2 Evaluation of Alignment and Design Option Locations (2023)

Location (City)	Alignment and Design Option Locations Considered
Brooklyn Park	Integrating W Broadway Ave (CR 103/130) and associated roadway reconstruction into the Project definition
Crystal	CR 81/Bass Lake Rd intersection design: at-grade or grade separated
Crystal	CR 81 lane configuration
Robbinsdale	Downtown Robbinsdale Station location
Robbinsdale	Downtown Robbinsdale park-and-ride location
Robbinsdale	Lowry Ave Station at-grade or elevated
Minneapolis	Track routing on E Lyndale Ave N/TH 55 or N 7th St
Minneapolis	Track routing on Lyndale Ave N or east side of I-94
Minneapolis	Track routing on W Broadway Ave or N 21st Ave approximately between Knox Ave N and Lyndale Ave N or I-94
Minneapolis	East side of I-94 location: adjacent to I-94 right-of-way or along N Washington Ave and N 10th Ave

In the City of Robbinsdale two locations for the Downtown Robbinsdale Station were considered. The north of 40th Ave N and south of 40th Ave N Station locations are close to the U.S. Bank park-and-ride site and were being carried forward for further analysis as part of the Build Alternative in the Supplemental Draft EIS.

In response to feedback from the City of Minneapolis, the City of Robbinsdale, and the Minneapolis Park and Recreation Board, the Project redesigned an elevated station to an at-grade track and LRT station for the Lowry Ave Station south of Lowry Ave and Oakdale Ave at CR 81, which would better serve both cities. The LRT guideway would be at-grade between the northbound and southbound CR 81 bridges, with Lowry Ave/Oakdale Ave and CR 81 intersection grade-separated above the guideway. The LRT guideway will also be grade separated from Theodore Wirth Pkwy/Victory Memorial Dr. An at-grade LRT station includes geometric modifications to the road system including realignment of a portion of Theodore Wirth Pkwy and reconstruction of the CR 81 bridges. The at-grade station would provide enhanced access to the surrounding park and better integrate with the surrounding community compared to an elevated station.

2.3.1 City of Minneapolis

Several alignment and design option locations were considered in the City of Minneapolis as listed below. Refer to the Supplemental Draft EIS Chapter 2, Section 2.3.4.1 for expanded discussion.

- Lowry Ave Station at-grade to serve the Cities of Minneapolis and Robbinsdale
- One station or two stations between Knox Ave N and I-94 (applied to either the W Broadway Ave or the N 21st Ave alignment options)
- Lyndale Ave N or the East of I-94 alignments
- N 21st Ave alignment option or W Broadway Ave alignment option
- Under the East of I-94 alignment, two sub-options: adjacent to I-94 or Washington Ave/10th Ave

2.4 Alternatives Considered in this Supplemental Final EIS

The Route Modification and design decision processes led to the selection of a Build Alternative that was studied and identified in the Supplemental Draft EIS as the Preferred Alternative. A public comment period for the Supplemental Draft EIS and stakeholder input led to the refinement of the Build Alternative studied in this Supplemental Final EIS. A No-Build Alternative was also included in the Supplemental Draft EIS to allow for a more complete understanding of impacts and benefits of the Project and is carried forward in this Supplemental Final EIS.

2.4.1 No-Build Alternative

The Supplemental Draft EIS No-Build Alternative reflects existing conditions and committed improvements to the regional transit network for the horizon year of 2045. The No-Build Alternative does not include construction and operation of the Project. Based on the Council's *2040 TPP*, major transportation improvements assumed under the No-Build Alternative include the following:

- Pedestrian facilities, including sidewalks, trails, crosswalks, and pedestrian bridges
- Roadway and bikeway segments
- Bicycle facilities, including trails, on-street and off-street bike lanes, and shared traffic streets
- TH 65 and 3rd Ave S bridge rehabilitation over the Mississippi River in the City of Minneapolis
- TH 252 freeway conversion/I-94 from TH 610 to Dowling Ave with E-ZPass lanes in the Cities of Brooklyn Park and Minneapolis

The adopted regional *2040 TPP* includes several improvements in its fully funded transit scenario. This includes the currently operating METRO C Line and METRO D Line. The plan assumes modest changes to transit service in the Project area, particularly the arterial BRT lines, including the METRO H Line serving Downtown Minneapolis, and bus service changes related to the opening of METRO Green Line Extension.

2.4.2 Build Alternative

Table 2-3 presents a description of the Build Alternative organized by each of the four Project cities (Brooklyn Park, Crystal, Robbinsdale, and Minneapolis).

2.4.3 Build Alternative Changes Since the Publication of the Supplemental Draft EIS

The Supplemental Draft EIS was developed based on approximately 15 percent design. This section summarizes changes since the publication of the Supplemental Draft EIS.

Locating the Downtown Robbinsdale Station north of 40th Ave N (rather than south of the 40th Ave N intersection) provides closer connection to the U.S. Bank park-and-ride site and provides easier access to Downtown Robbinsdale.

An LRT station was added at W Broadway Ave in the City of Minneapolis based on stakeholder support for access and development opportunities in North Minneapolis between I-94 and the Mississippi River and enhance connections to existing and planned bus routes.

Lowry Ave Station was shifted approximately 50 feet to the north. Theodore Wirth Pkwy/Victory Memorial Dr was lowered to avoid an at-grade crossing of the LRT tracks, and Lowry Ave N was elevated to avoid an at-grade crossing of the LRT tracks and connect on structure at a signalized intersection with CR 81 and Oakdale Ave N (see additional discussion below).

The design basis of this Supplemental Final EIS includes refinements coordinated with stakeholders, including cities and to be responsive to comments received, and the impacts resulting from those refinements are presented in this Supplemental Final EIS. Engineering design in ongoing and has advanced from 15 percent to 30 percent. For light rail transit projects, Minnesota law requires that the Council send the physical design components of the preliminary design plans to the effected cities and county for their review. The cities and county must vote to either approve the physical design components of the LRT in their city (e.g., track and station locations) or disapprove and offer a design amendment. This process is often referred to as municipal consent. The Council has worked closely with the Cities of Brooklyn Park, Crystal, Robbinsdale, and Minneapolis during design development to collaborate on designs and resolve issues to streamline the municipal consent process.

The Metropolitan Council, the Hennepin County Regional Railroad Authority (HCRRA), Hennepin County, and the Project cities held public hearings and received comments on the physical design components of the preliminary design plans during the municipal consent process, as set out in Minn. Stat. § 473.3994. After reviewing the plans

and receiving comments, Hennepin County and the Project cities voted to approve the plans. The design that included at-grade, gated crossings at Theodore Wirth Pkwy/Victory Memorial Dr and Lowry Ave was adopted by the cities along the Project corridor. The City of Minneapolis, the City of Robbinsdale, and the Minneapolis Park and Recreation Board (MPRB) asked that the Project continue to study alternative options that will maintain parkway continuity with no gated crossing. North Memorial Hospital also expressed concerns about emergency vehicles potentially being delayed by gated traffic stops at the intersection of Lowry Ave and LRT tracks. In response, the Council, in collaboration with stakeholders and municipal partners, studied nine different station area concepts to address the comments received. A consensus emerged in favor of a design that separates the LRT tracks from vehicle traffic and trails while maintaining an at-grade station.

To achieve this grade separation, the Project will reconstruct two bridges, modify one bridge, and construct two new bridges at the intersection of Bottineau Boulevard, Lowry Ave and Theodore Wirth Pkwy/Victory Memorial Dr. Figure 2-3 presents the Lowry Ave Station design from the Supplemental Draft EIS and municipal consent process, and Figure 2-4 presents the changes to the surrounding roadway infrastructure without at-grade crossings of the LRT tracks. Conceptual engineering drawings for the Project reflecting approximately 30 percent design are included in Appendix A-E of this Supplemental Final EIS.

Figure 2-3 Municipal Consent Draft Design for the Lowry Ave Station

Figure 2-4 Grade-Separated Roadway Draft Design for the Lowry Ave Station

Table 2-3 Project Description by Project City

City	Alignment	Stations	Other Features
Brooklyn Park	Center running along W Broadway Ave (CR 103) from north of TH 610 to about 73rd Ave N, then transitioning to the median of CR 81	■ Oak Grove Pkwy ■ 93rd Ave N ■ 85th Ave N ■ Brooklyn Blvd ■ 63rd Ave N	■ OMF north of Oak Grove Pkwy Station ■ Park-and-ride facility at Oak Grove Pkwy Station ■ Bridge from W Broadway Ave to CR 81 ■ Pedestrian bridge at 63rd Ave N Station
Crystal	Center running along CR 81	■ Bass Lake Rd	■ Interchange at Bass Lake Rd with four through lanes ■ Park-and-ride facility adjacent to station
Robbinsdale	Center running along CR 81	■ Downtown Robbinsdale ■ Lowry Ave (this station serves the Cities of Robbinsdale and Minneapolis)	■ Park-and-ride facility in Downtown Robbinsdale (U.S. Bank site) ■ Relocated Robbinsdale Transit Center ■ Reconstruction of CR 81/Lowry Ave intersection ■ Removal and reconstruction of one of three bridges over existing Lowry Ave and construction of two new bridges and an at grade signalized intersection with CR 81 for Lowry Ave N and Oakdale Ave N
Minneapolis	■ Center running along West Broadway Ave between Lowry Ave and Knox Ave N ■ Transitions to N 21st Ave east of Knox Ave N; tracks on the south side of N 21st Ave ■ Crosses I-94 on a new N 21st Ave bridge ■ Turns south to be center running along Washington Ave ■ Turns southwest to follow 10th Ave, then turns southeast on 7th Ave to Target Field Station	■ Lowry Ave (this station serves the Cities of Robbinsdale and Minneapolis) ■ Penn Ave ■ James Ave ■ Lyndale Ave ■ W Broadway ■ Plymouth Ave	■ See Robbinsdale, above, for Lowry Ave Station features ■ Reconstruction of W Broadway Ave between Knox Ave N and Lyndale Ave N ■ Enhanced pedestrian and bicycle accommodations along cross streets connecting W Broadway Ave and N 21st Ave ■ New bridge connecting N 21st Ave across I-94 ■ Transit/pedestrian/bicycle mall on 10th Ave between Washington Ave and N 5th St ■ Pedestrian/bicycle mall on N 21st Ave between I-94 and James Ave N

2.4.3.1 City of Brooklyn Park

In the City of Brooklyn Park, the northern portion of the Project Alignment and the OMF are unchanged from the 2016 Alignment. The northern portion of the Project Alignment is in the median of CR 103 north of 73rd Ave N. North of TH 610 the Project Alignment is center running. The Project Alignment would be center running on W Broadway Ave (CR 103) from Oak Grove Pkwy to 73rd Ave N in the City of Brooklyn Park. As a result of coordination with the City of Brooklyn Park stakeholders and the community, additional roadway improvements are now included in the Project to facilitate construction efficiencies. Table 2-4 provides more detail about roadway project locations, types of projects, and what has changed since the 2016 Final EIS. Additional detail is available in Appendix A-E.

South of 73rd Ave N, the Project Alignment has slightly changed from the 2016 Alignment and is now proposed as a median running on CR 81 with a flyover bridge over the northbound lanes of CR 81 and W Broadway Ave (CR 103). The Project would include five LRT stations in Brooklyn Park, located at Oak Grove Pkwy, 93rd Ave N, 85th Ave N, Brooklyn Blvd, and 63rd Ave N. The 63rd Ave N Station would be north of 63rd Ave N with the existing park-and-ride facility in the northwest quadrant of the intersection. A pedestrian bridge connecting the park-and-ride to the LRT station is included.

Table 2-4 Roadway Projects in the City of Brooklyn Park

Roadway Project Location	Roadway Project Type	Included in 2016 Final EIS?
W Broadway Ave (CR 103) from TH 610 to Winnetka Ave N	Reconstruction and expansion	Yes
Winnetka Ave N	Realignment and reconstruction	Yes
Oak Grove Pkwy (for station and OMF)	Realignment and reconstruction	Yes
101st Ave N	Realignment and reconstruction	Yes
Rhode Island Ave	Construct new road	Yes
99th Ave N	Construct new road	Yes
W Broadway Ave (CR 103) from north of 70th Ave N to 94th Ave N	Reconstruction and expansion	No
93rd Ave N (CR 30) from east of Xylon Ave N to east of Louisiana Ave N	Reconstruction	No
85th Ave N (CR 109) from west of Maplebrook Pkwy N to College Pkwy	Reconstruction	No
Brooklyn Blvd (CR 152) approximately 600 feet west and east of W Broadway Ave to the first parking lot entrances	Reconstruction	No
Jolly Lane	Dead-ended in a cul-de-sac north of the Alignment and connected to W Broadway Ave via a new road at 75th Ave N	No

2.4.3.2 City of Crystal

In the City of Crystal, the Project Alignment shifted from BNSF right-of-way to CR 81. The Project Alignment within the median on CR 81 is evaluated from 62nd Ave N (the border between Cities of Brooklyn Park and Crystal) to 47th Ave N. Reconstruction of CR 81 to generally four lanes from 62nd Ave N to 47th Ave N would be included, with a grade-separated intersection at Bass Lake Rd, as shown in Figure 2-5. The Project in the City of Crystal would include one LRT station with a center platform located at-grade south of Bass Lake Rd between the northbound and southbound travel lanes of CR 81. The Bass Lake Rd Station is at a similar location to the 2016 Alignment; however, it would be moved from the freight rail right-of-way to the median of CR 81.

A park-and-ride facility would be located west of the Project Alignment approximately one-quarter mile south of Bass Lake Rd with vehicular access from Lakeland Ave N and additional pedestrian access from Bass Lake Rd. The proposed park-and-ride facility would accommodate up to 170 stalls in a surface lot.

Figure 2-5 Grade-Separated Intersection at Bass Lake Rd/CR 81

2.4.3.3 City of Robbinsdale

In the City of Robbinsdale, the Project Alignment shifted from freight rail carrier right-of-way to be center running on CR 81 between 47th Ave N and the transition to W Broadway Ave at the Robbinsdale and Minneapolis city limits. CR 81 would retain its existing four lanes from 47th Ave N to W Broadway Ave through its reconstruction to accommodate the Project. The Project includes two stations serving Robbinsdale: a downtown LRT station and the Lowry Ave Station near its southern border with the City of Minneapolis. The Downtown Robbinsdale Station would be a center platform south of 40th Ave N. A park-and-ride facility would be located at the U.S. Bank site and would be integrated with a bus transit center relocated from Downtown Robbinsdale to include facilities for bus drivers and Metro Transit Police.

2.4.3.4 City of Minneapolis

In the City of Minneapolis, the Project Alignment shifted from the 2016 Alignment in the freight rail carrier right-of-way. The Project Alignment would be center running on W Broadway Ave (CR 81) to Knox Ave N, shift from W Broadway Ave to N 21st Ave, and continue east across I-94 on a new N 21st Ave bridge. The Project Alignment would then turn south and be center running on Washington Ave to 10th Ave N where it changes direction to follow 10th Ave N to N 7th St and transitions to the LRT Target Field Station access structure on the south side of N 6th Ave.

The Project includes six new LRT stations in Minneapolis along with the one existing LRT station at Target Field. The Lowry Ave Station would serve the Cities of Minneapolis and Robbinsdale. The Project would include new LRT stations at Penn Ave N, James Ave, Lyndale Ave N, W Broadway Ave, and Plymouth Ave.

W Broadway Ave would be reconstructed between Knox Ave N and the mid-block of Lyndale Ave N and 5th St N; this roadway reconstruction and the construction of light rail on N 21st Ave would include pedestrian and bicycle improvements on the cross streets to facilitate a better multimodal transportation environment.

Table 2-5 Roadway Projects in the City of Minneapolis

Roadway Project Location	Roadway Project Type	Included in 2016 Final EIS?	Notes
W Broadway Ave from James Ave to midblock between Lyndale Ave N and 5th St N	Reconstruction and improvements	No	Project includes reconstruction of W Broadway Ave to mitigate elimination of vehicular traffic on N 21st Ave and to provide connectivity.
3rd St N connection around North Loop Parking Garage/Redwell/Twin Cities International School/Minneapolis Public Housing Authority	Construct new road and sidewalks	No	Provides improved vehicle access between Washington Ave N and North Loop Parking Garage, Redwell, Twin Cities International School, and Minneapolis Public Housing Authority with 10th Ave N becoming a transit mall.
9th Ave N connection between 4th St N and 5th St N	Construct new road and sidewalks	No	Provides improved vehicle and pedestrian connection for the North Loop neighborhood.
Eastbound W Broadway I-94 ramp to W Broadway Ave	Reconstruction and improvements, new sidewalk additions	No	Reconstruction of eastbound ramp is needed to accommodate new N 21st Ave bridge and mitigate traffic impacts.
10th St N, between 2nd Ave N and Washington Ave N	Reconstruction of road, sanitary sewer	No	Continuation of road and sewer construction between 2nd St N and Washington Ave N to connect to a sanitary sewer on 2nd Ave N.

Roadway Project Location	Roadway Project Type	Included in 2016 Final EIS?	Notes
North-south roadway connections at 4th St N, Lyndale Ave N, Aldrich Ave N, Bryant Ave N, Emerson Ave N, Fremont Ave N, Girard Ave N, Irving Ave N, James Ave N between W Broadway Ave and N 21st Ave	Reconstruction and improvements	No	Improvements to pedestrian and vehicle conditions between the N 21st Ave transit mall and W Broadway Ave. Traffic network impacts will be offset with improved vehicle circulation and pedestrian accessibility.
3rd St N, from 10th Ave N to the existing cul-de-sac	Reconstruction and improvements	No	Addition of this section of road and sidewalk into the project, in order to improve last-mile connections to the Plymouth Ave Station to create local street neighborhood circulation and access to the Twin Cities International School, Avivo shelter, and Minneapolis Public Housing Authority.
2nd St N, between Plymouth Ave N and 10th Ave N	Reconstruction and improvements	No	Reconstruction to occur within existing right-of-way. New bikeway and sidewalk on 2nd Ave N between 10th Ave N and Plymouth to address pedestrian and vehicular connectivity.
2nd St N between 10th St N and Hennepin Ave	Construct new curb-protected bikeway	No	New curb protected bikeway to replace the existing unprotected bikeway on 2nd Ave N between 10th Ave N and Hennepin Ave and improve last mile connectivity to Plymouth Ave Station.
3rd St N from 12th Ave N to Plymouth Ave N	Reconstruction and improvements	No	Design will be limited to existing right-of-way for 3rd St N roadway reconstruction but not include the intersection of Plymouth Ave and 3rd St N. All sewer and water replacement would be completed outside of the Project.
12th Ave N from Washington Ave to I-94 right-of-way	Reconstruction and improvements	No	Road reconstruction to improve last-mile connections to Plymouth Ave Station and connectivity and neighborhood circulation.
18th Ave N from Washington Ave N to 2nd St N	Reconstruction and improvements	No	Reconstruction of road and sidewalk facilities to improve access to W Broadway Station. Design for 18th Ave N reconstruction will be limited to existing right-of-way.

Roadway Project Location	Roadway Project Type	Included in 2016 Final EIS?	Notes
8th Ave N, including the intersection of 8th Ave N and 5th St N	Construct new road and bikeway, reconstruction and improvements	No	Construction of new 8th Ave N connection between 4th St N and 5th St N to mitigate connectivity and traffic impacts due to conversion of 10th Ave N to a transit mall. Project includes full intersection reconstruction and Americans with Disabilities Act (ADA) improvements, and a curb height protected bike intersection with an 8th Ave N connection.
James Ave N between W Broadway Ave and Golden Valley Road	Construction of curb-level bikeway	No	Provide station connectivity and access to North Commons through continuation of James Ave bikeway between James Ave Station and Golden Valley Road to improve bike network connectivity, last mile neighborhood connections to James Ave Station.
Northern side of W Broadway/Queen Ave N intersection	Bikeway improvements	No	Sharrows will be added to Queen Ave to continue the bikeway at W Broadway Ave to improve bike facilities
22nd Ave N/Washington Ave N/I-94 on ramp intersection	Signal replacement	No	Replacement of traffic signal one block north of project alignment to facilitate improved traffic flow under project conditions.
Intersection of Washington Ave N and 8th Ave N	Sidewalk reconstruction and improvements	No	Construction of new pedestrian curb bump outs to improve pedestrian safety to mitigate for changes in the roadway network.

2.4.4 Elements of the Build Alternative and 2016 Alignment

Elements of the Build Alternative including key bridge structures that would be constructed are listed in Table 2-6 in comparison to the 2016 Alignment. The locations of the proposed bridge structures are shown in Figure 2-6. The features below are based on the Council's assumptions associated with the level of engineering conducted for the Project to-date (August 2024).

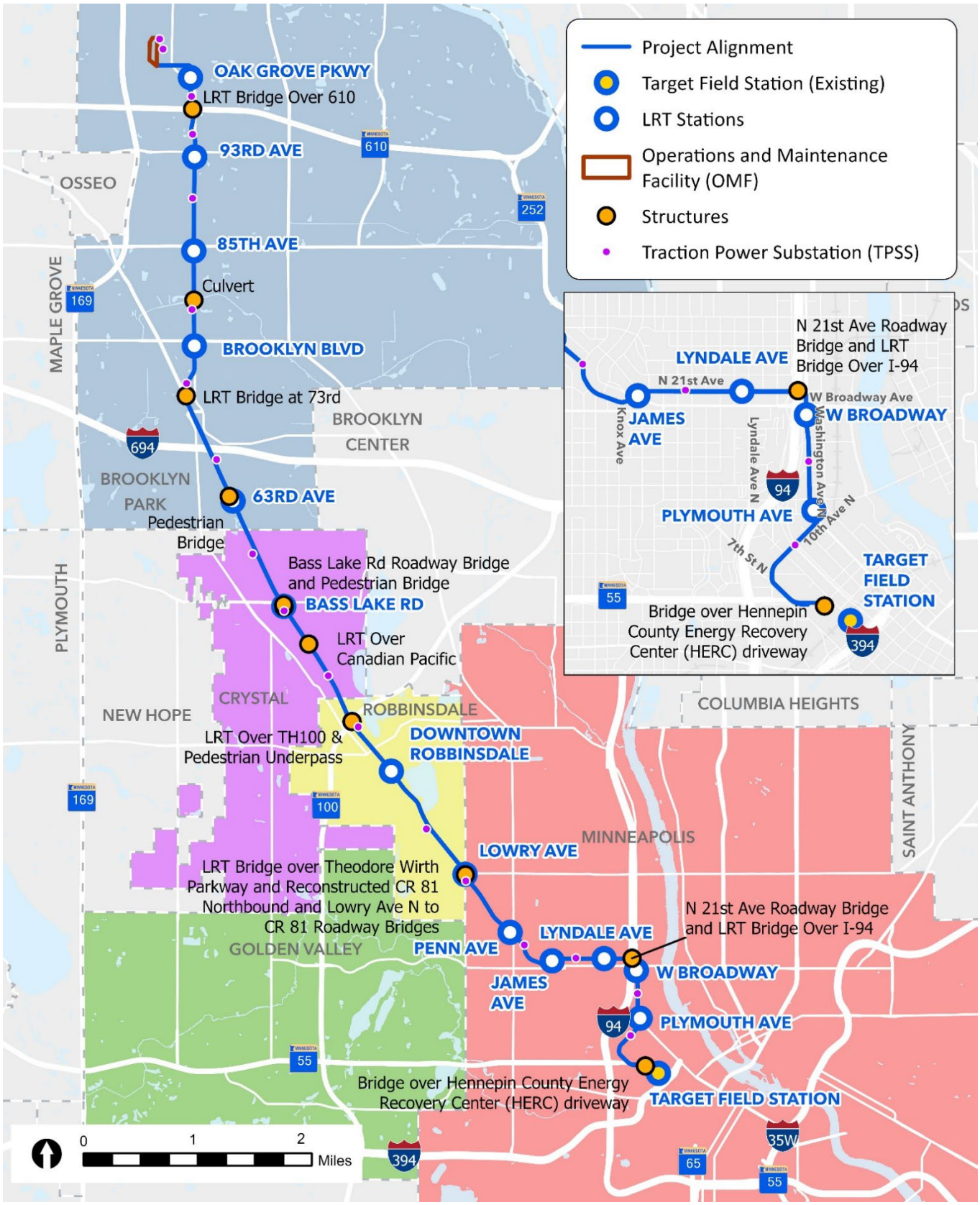
Table 2-6 Elements of the 2016 Alignment and Build Alternative

Feature	2016 Alignment	Build Alternative
Level of engineering design	15%	30%
Northern terminus	City of Brooklyn Park	City of Brooklyn Park
Southern terminus	Target Field Station	Target Field Station
Length (miles)[a]	13.49	13.4
Daily boardings (total)[b]	18,600 (STOPS) – Year 2035 26,859 (Regional Model in 2016 Final EIS)	12,000–13,700 (STOPS) – Year 2045
LRT stations[c]	**11 new stations** ■ Oak Grove Pkwy[e] ■ 93rd Ave N ■ 85th Ave N ■ Brooklyn Blvd ■ 63rd Ave N ■ Bass Lake Rd ■ Robbinsdale ■ Golden Valley Rd ■ Plymouth Ave/TWRP ■ Penn Ave ■ Van White Blvd	**13 new stations** ■ Oak Grove Pkwy[e] ■ 93rd Ave N ■ 85th Ave N ■ Brooklyn Blvd ■ 63rd Ave N[d] ■ Bass Lake Rd[d] ■ Downtown Robbinsdale[d] ■ Lowry Ave ■ Penn Ave ■ James Ave ■ Lyndale Ave ■ W Broadway ■ Plymouth Ave (on Washington Ave)
Key bridge structures	**7 new LRT bridges:** ■ TH 610 ■ 73rd Ave N/CR 81 ■ 36th ■ CP rail ■ TH 100 ■ Grimes Pond ■ Golden Valley Rd ponds ■ Hennepin County Energy Recovery Center (HERC) driveway[f] **5 reconstructed roadway bridges:** ■ Golden Valley Rd ■ Theodore Wirth Pkwy ■ Plymouth Ave ■ Olson Memorial Hwy over BNSF rail **Modification to existing bridges:** ■ I-94 over BNSF rail ■ Olson Memorial Hwy over I-94 **Pedestrian bridge:** ■ CR 81 at Bass Lake Rd	**7 new LRT bridges:** ■ TH 610 ■ 73rd Ave N flyover over CR 81 ■ CP rail ■ TH 100 ■ Theodore Wirth Pkwy ■ N 21st Ave over I-94 (Metro Transit) (LRT/roadway/bike/ped facility) ■ Bridge over HERC driveway **4 new roadway bridges:** ■ Bass Lake Rd ■ N 21st Ave over I-94 (MnDOT) ■ Lowry Ave N to CR 81 ■ Reconstructed CR 81 northbound **2 new/upgraded pedestrian bridge and underpass:** ■ 63rd Ave N Station pedestrian bridge over BNSF and southbound CR 81 ■ CR 81 pedestrian underpass

Feature	2016 Alignment	Build Alternative
OMF	In the City of Brooklyn Park at 101st and Xylon	In the City of Brooklyn Park at 101st and Xylon
Traction power substations	17 proposed	18

[a] The length represents the full end-to-end length of the proposed alternatives.
[b] The Council used FTA's Simplified Trips-on-Project Software (STOPS) to develop transit ridership forecasts for the four alignment design options, while the Regional Travel Demand Model was used to generate ridership for the 2016 Alignment. STOPS is a modeling approach used nationwide across transit projects and is considered the industry standard. STOPS uses socioeconomic data to grow existing transit ridership derived from an onboard survey to forecast year levels. For a pre-COVID-19-pandemic model, socioeconomic data from 2018 were used to generate a base year of 2019 and a service year of 2040. For a post-COVID-19-pandemic model, socioeconomic data from 2020 were used to generate a base year of 2022 and 2050 (as representative for the 2045 horizon year). The two-model approach is consistent with FTA's CIG reporting instructions for fiscal year 2025. See Chapter 3 for additional details on methodology. For comparison, the Regional Travel Demand Model used in the 2016 Final EIS assumed a base year of 2014 and a service year of 2035. The updated STOPS inputs reflect increased population and employment growth but a decline in overall ridership, compared to the 2016 Regional Travel Demand Model. Ridership estimates are factored based on FTA Reporting Instructions (April 2024).
[c] Decisions regarding the locations of stations were made consistent with the Council's Regional Transitway Guidelines (www.metrocouncil.org/Transportation/Publications-And-Resources/RegionalTransitwayGuidelines-pdf.aspx).
[d] Proposed station locations where a park-and-ride facility would be provided.
[e] Station located west of W Broadway Ave between Oak Grove Pkwy and Main St. Roadway network would be reconfigured to accommodate the station and parking ramp.
[f] The HERC driveway structure is proposed specifically for the Project and would be an expansion of the structure required for the independent Target Field Station in Downtown Minneapolis.

Figure 2-6 Build Alternative Structures



Note: The Target Field Station bridge is existing, but the Project would connect to it to access Target Field Station.

2.4.4.1 Stations and Park-and-Ride Facilities

Proposed customer drop-off and park-and-ride facilities that would be built as part of the Project are listed in Table 2-7 and shown in Figure 2-7. Park-and-ride facilities would be provided at Oak Grove Pkwy, 63rd Ave N, Bass Lake Rd, and Downtown Robbinsdale. The 63rd Ave N Station and Bass Lake Rd Station (at-grade option) would have pedestrian bridges over CR 81.

The Project includes fewer park-and-ride spaces in Downtown Robbinsdale and Oak Grove Pkwy than presented in the Supplemental Draft EIS due to changes in the Twin Cities region's park-and-ride trip market. From 2019 to 2023, regional park-and-ride use fell 78 percent (source: https://metrocouncil.org/Transportation/System/Transit/Studies/Park-and-Rides.aspx). The Project has adapted to reflect this change but not preclude future expansion if there is a rebound of park-and-ride trips.

Table 2-7 Station Characteristics

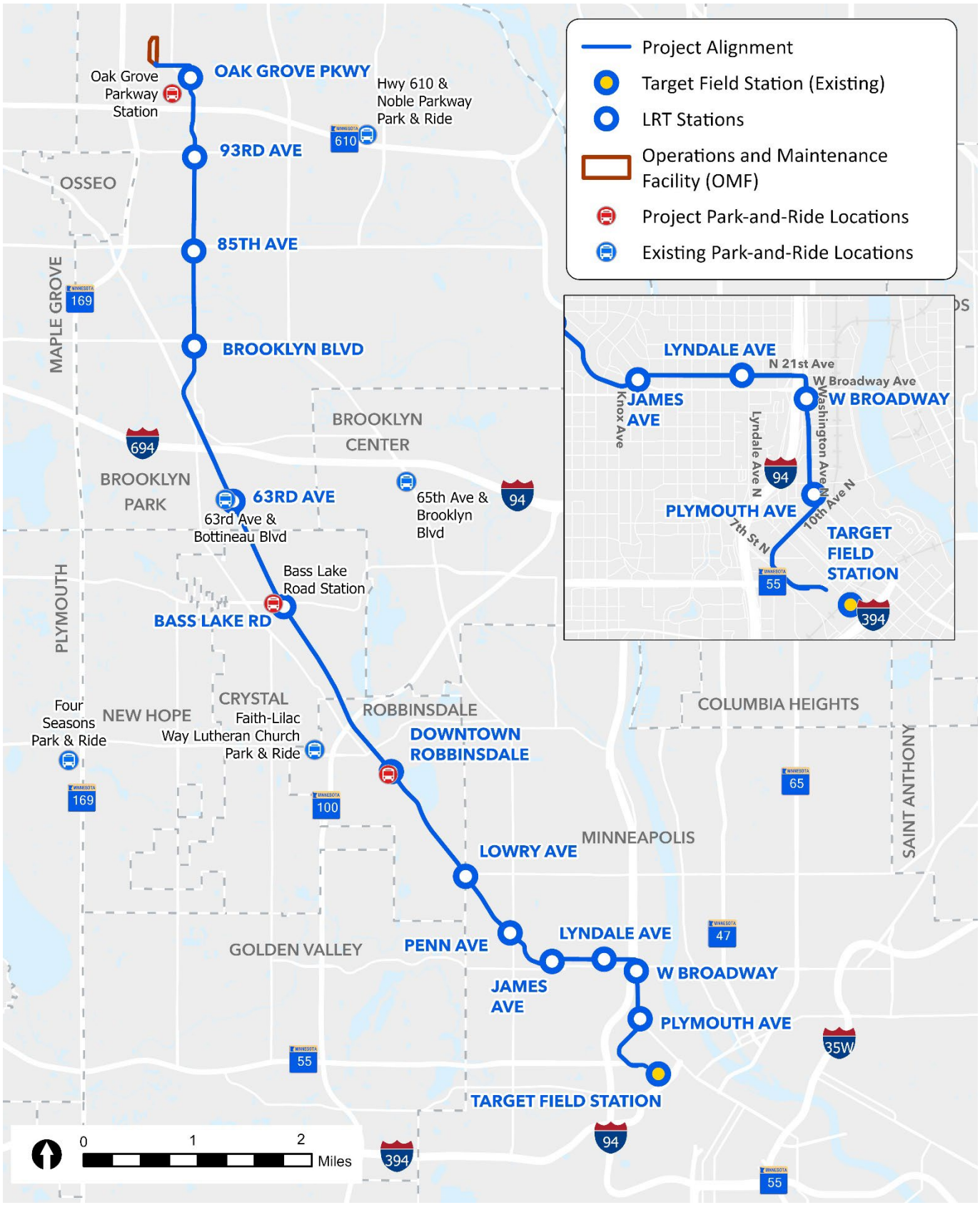
Station	Designated Customer Drop-off	Park-and-Ride Facility
Target Field[a]	N/A	N/A
Plymouth Ave (on Washington Ave)	No	No
Lyndale Ave	No	No
James Ave	No	No
Penn Ave	No	No
Lowry Ave	No	No
Downtown Robbinsdale	Yes	Up to 300 spaces (parking structure)
Bass Lake Rd	Yes	166 spaces (surface lot)
63rd Ave N	Yes	Up to 565 spaces (existing parking structure spaces)
Brooklyn Blvd	Yes	No
85th Ave N	Yes	No
93rd Ave N	Yes	No
Oak Grove Pkwy	Yes	Up to 500 spaces (parking structure)

[a] Existing LRT station included under the No-Build Alternative definition.

Operations and Maintenance Facility

The OMF would be located at the north end of the Project in the City of Brooklyn Park. The OMF was selected based on its proximity to the end of the line, adequate space for the special trackwork required between the mainline track and the OMF, and adequate property. The OMF would be occupied by a storage and maintenance building that has an area of about 150,000 square feet, surface parking for employees and visitors, trackwork, and open space. The facility would include areas to store, service, and maintain up to 36 light-rail vehicles (LRVs), vehicle washing and cleaning equipment, and office space to accommodate staff who would report for work at the OMF. Due to the addition of W Broadway Station in the City of Minneapolis and the resulting increases in travel times along the Project, the OMF would accommodate two additional LRVs in order to meet operational requirements based on travel time and service planning. In order to house these additional LRVs, the OMF has increased in size by approximately 10,000 square feet compared to the information published in the Supplemental Draft EIS.

Figure 2-7 Project Park-and-Ride Locations



Traction Power Substations

A load flow study determined the number and location of traction power substations (TPSS); however, the limits of disturbance (LOD) for this document are conservative to capture property impacts related to TPSS siting needs. Eighteen TPSSs are proposed for the Project. TPSS sites are located between 0.5 and 1.2 miles apart, and there are two TPSSs proposed at the OMF. TPSS locations are presented on the conceptual engineering drawings in Appendix A-E and are designed to minimize impacts on surrounding properties and resources and to balance safety, reliability, cost, and operational efficiencies. TPSS sites would be about 4,000 square feet and able to accommodate a single-story building about 40 feet long by 20 feet wide and would provide access to the building by Metro Transit maintenance personnel.

Fare-Collection System

The Project would include a self-service, proof-of-payment fare-collection system, consistent with the ticketing structure currently used on the other regional Metro Transit transitways. A proof-of-payment fare-collection system minimizes the right-of-way needed for each station. The fare-collection kiosks would be located at the station platform entrance and would be about 5 feet tall, 3 feet wide, and 2 feet deep.

Trackway

LRVs would operate on standard-gauge rail. The proposed system would be double tracked throughout to provide separate tracks for northbound and southbound trains. Crossovers to allow trains to migrate from the northbound to southbound tracks would be provided at regular intervals for special operations or emergencies; locations are presented on the conceptual engineering drawings in Appendix A-E. LRT tracks in streets would be either ballasted or embedded depending on the location and context of the street.

Vehicles

The conceptual engineering to support the Supplemental Final EIS is based on the following LRV characteristics:

- Articulated train cars could be operated in either direction as a single-unit or multi-unit train.
- Cars would be designed for use with an overhead catenary system (OCS).
- Each car would have 66 seats and capacity for 160 customers (sitting and standing).
- Two- to three-car trains would operate at speeds up to 55 miles per hour (mph), with the average speed of 22 mph accounting for acceleration and deceleration near stations and slower speeds in the dense urban core of the City of Minneapolis.
- Cars would be fully compatible with ADA standards.

Train Control

An operator would occupy each train and have control over acceleration and braking as well as operating the customer doors. Automated systems would inform the operator of various train and transitway operating conditions and would manage traffic signal priority, activation of crossing gates, and track switch operations.

Operating Frequencies

The Supplemental Final EIS evaluation is based on planned service levels of trains operating at 10-minute frequencies for peak weekday operations.

[1] Federal Transit Administration, Metropolitan Council, *METRO Blue Line Light Rail Transit Extension Final Environmental Impact Statement* (Chicago: Federal Transit Administration, 2016), https://metrocouncil.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx.
[2] Federal Transit Administration, *Record of Decision METRO Blue Line Light Rail Transit Extension Project* (Chicago: Federal Transit Administration, 2016), https://metrocouncil.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx.
[3] Metropolitan Council and Hennepin County, *Joint Statement: Project Partners Announce New Direction For Metro Blue Line Extension* (Minneapolis: Metropolitan Council, 2020), https://metrocouncil.org/News-Events/Transportation/Newsletters/Blue-Line-Extension-new-direction-2020.aspx.
[4] https://metrocouncil.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Publications-And-Resources/Environmental/SDEIS/BLE_SDEIS_Chapter-2-Alternatives.aspx.