



2 Alternatives

This chapter presents the proposed alternatives that were considered during the development of the Project. Each step in the process will be discussed, including:

1. A summary of the process that led to the Project as defined in the 2016 Final EIS and ROD
2. The determination that the Project as envisioned in 2016 would not be able to move forward
3. The Route Modification process that identified initial revised alignments for the Project
4. Identification and evaluation of additional alignment options subsequent to the Route Modification process
5. Identification of a Build Alternative

As noted in Chapter 1, 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). This Supplemental Draft EIS evaluates a Build Alternative and a No-Build Alternative for baseline comparison purposes to understand the Project impacts and benefits.

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

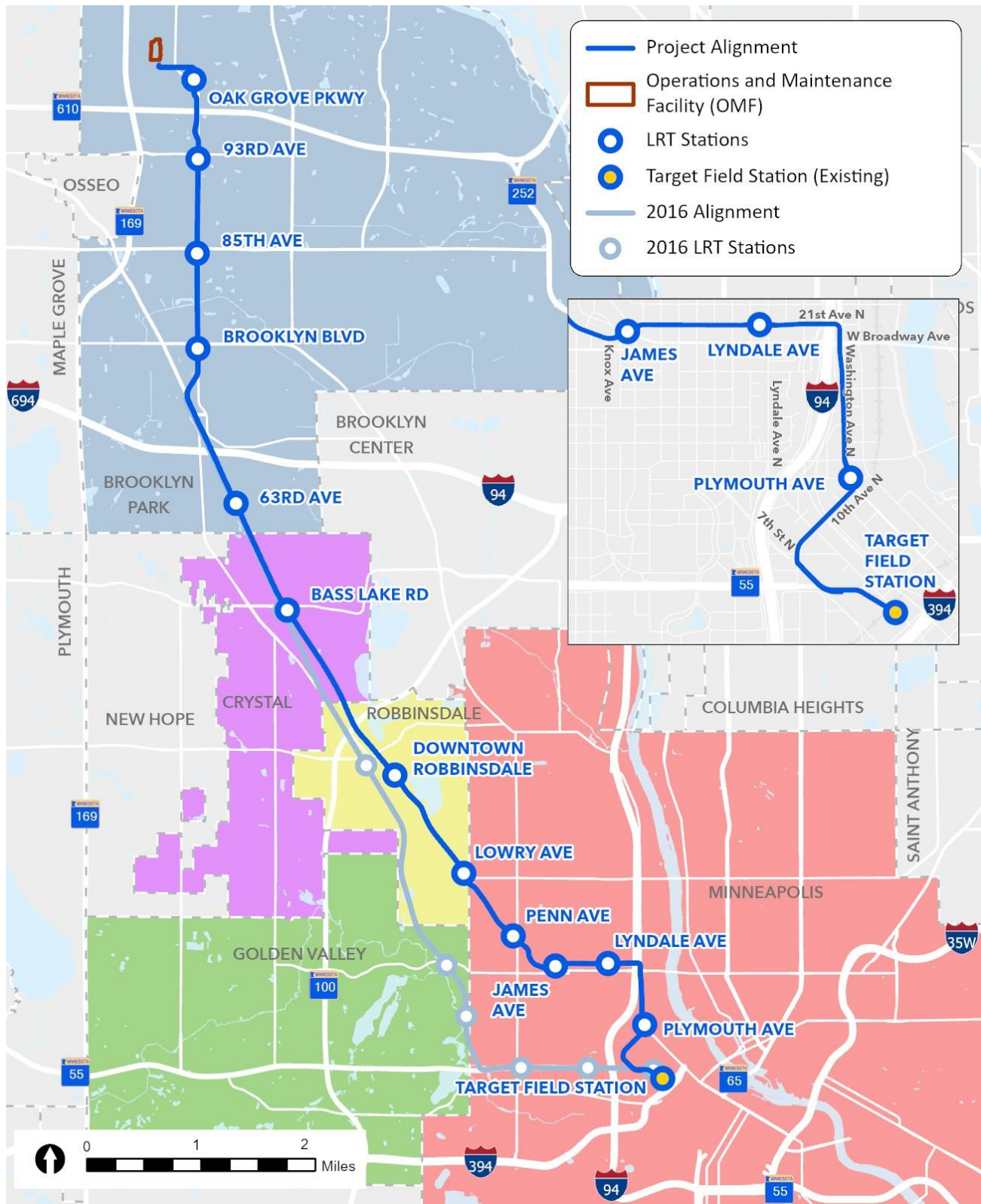
This chapter updates the discussion in the 2016 Final EIS about alternatives and includes the following sections:

- **Section 2.2** summarizes the decision-making process for selecting alternatives analyzed in earlier studies and the 2016 Alignment selected in the Final EIS. Section 2.2 also 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.
- **Section 2.3** presents the route and design decision process, in which the different alignment and design option locations and other potential transportation improvements were identified and assessed based on community feedback received from the Route Modification process. This process resulted in the selection of the Build Alternative.
- **Section 2.4** describes the No-Build and Build Alternatives, including the Project Alignment, station locations and quantity, track type (side-running or center-running), an Operations and Maintenance Facility (OMF), ancillary facilities, and service and operating characteristics.

Figure 2-1 shows the Build Alternative compared to the 2016 Alignment.



Figure 2-1 Build Alternative Compared to 2016 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.

2.2.1 Earlier Studies

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 extending from Downtown Minneapolis to the northwest, serving North Minneapolis and nearby suburbs, and terminating in the City of Brooklyn Park. The Draft EIS recommended LRT rather than BRT as the mode because the BRT has lower ridership, limited vehicle capacity, fewer passengers per revenue hour, and greater impact to general roadway traffic compared to LRT. These earlier studies and environmental review processes were summarized in the 2016 Final EIS.¹

2.2.2 2016 Alignment

FTA as the federal lead agency and the Council as the local lead agency published a Final EIS² and ROD³ in 2016. The Council issued a Determination of Adequacy pursuant to MEPA the same year. The 2016 Alignment project description was as follows:

The alignment extended approximately 13 miles from downtown Minneapolis to the northwest serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The alignment included 11 new stations, approximately 1,670 additional park-and-ride spaces at four new lots, accommodations for passenger drop-off facilities, and bicycle and pedestrian access, new or restructured local bus routes connecting stations to nearby residential, commercial, and educational land uses, and one Operations and Maintenance Facility (OMF) located in the City of Brooklyn Park, Minnesota.⁴

Approximately eight miles of the 2016 Alignment were co-located within freight rail carrier right-of-way. A freight rail carrier is a private rail company with individual property rights that generally supersede county or state rights to convert private property into a project for public use (condemnation). Negotiations to secure necessary right-of-way and commitments to allow construction of the Project in the freight rail carrier right-of-way continued over several years. Significant effort and resources, including offering to purchase the railway, were spent at the local, regional, State, and federal levels to attempt to obtain required approvals from the freight rail carrier.

After several years of unsuccessful negotiations with the freight rail company, in August 2020, the Council and Hennepin County issued a joint statement⁵ to advance the Project without using freight rail carrier right-of-way. The Council and Hennepin County took this opportunity to revisit and modify the 2016 Alignment with the goals outlined below while maintaining as much of the 2016 Alignment as possible.

2.3 Route Modification Process

The Council and Hennepin County established a regionally unprecedented engagement program with the intent of achieving equity in the transportation decision-making process in the Route Modification process. An overarching goal was to arrive at a community-supported alignment through deep listening to the communities in the Project area who would reap both benefits and likely adverse effects of the new transit service. Transportation decisions made more than 60 years ago devastated the communities along the Project, and those impacts are still felt today. 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:

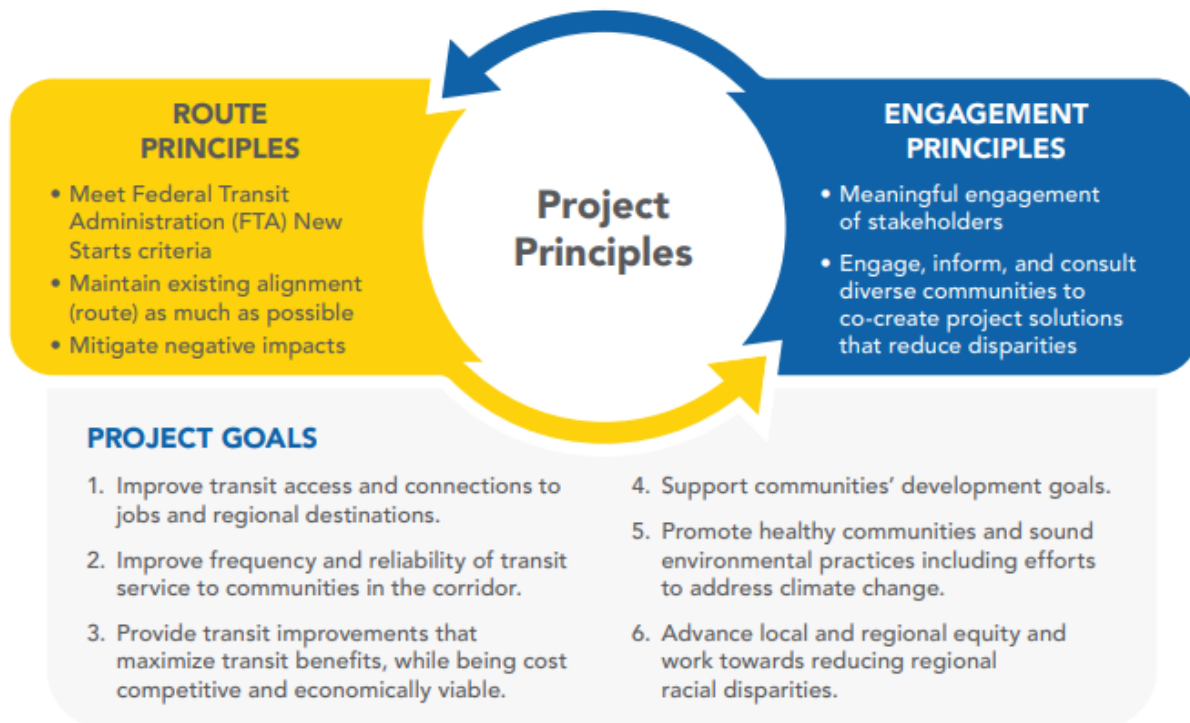
- Refinement of Project goals to reflect the commitment to advance equity
- Active involvement of Project advisory committees and community engagement cohorts who were conduits to the community and key to decision-making
- Hundreds of engagement events in disadvantaged communities that reached thousands of BIPOC and low-income people
- Rigorous analysis of several principal routes and numerous station and alignment options

The Project goals and a description of the engagement strategy are provided below, followed by a summary of the comparative evaluation of alignment options. Subsequent to this Route Modification process, the Council and Hennepin County developed and analyzed additional options to address community feedback and rigorously explored alignment options in Downtown Minneapolis in a design decision process, which is summarized in Section 2.3 and described in more detail in Appendix A-2.

2.3.1 Project Principles and Goals

A set of Project principles, developed in collaboration with community members, guided the Project scope and analysis of alternative alignments and design options. These Project principles (see Figure 2-2) were foundational in the Route Modification decision-making process and supported continued exploration of LRT as a mode. As part of the commitment to a community-driven process, engagement principles were also adopted to guide how to move the Project forward. Central to these engagement principles were conducting outreach and decision-making on a timeline that best worked for the community, allowing time for meaningful engagement, and developing deeper relationships with underrepresented groups.

Figure 2-2 Project Principles





One of the major concerns raised by community members during the development of the Project principles was displacement of residents and businesses (particularly BIPOC and low-income individuals) with construction of an LRT extension. The Anti-Displacement Work Group, led by the University of Minnesota’s Center for Urban and Regional Affairs (CURA) in partnership with Hennepin County and the Council, was formed to address these concerns. The work group’s 26 members include residents and business owners in the Project area, people with lived experience of displacement, and people from the philanthropic community and government agencies. The initial policy recommendations and ongoing engagement efforts are summarized in Chapter 7.

The following Project goals were developed as a part of the overall Route Modification process and incorporated into the Project evaluation criteria:

- Improve transit access and connections to jobs and regional destinations
- Improve frequency and reliability of transit service to communities in the Project area
- Provide transit improvements that maximize transit benefits while being cost-competitive and economically viable
- Support communities’ development goals
- Promote healthy communities and sound environmental practices including efforts to address climate change
- Advance local and regional equity and work toward reducing regional racial disparities

These Project goals align with the 2016 Project goals, with an additional goal of advancing equity and reducing regional racial disparities.

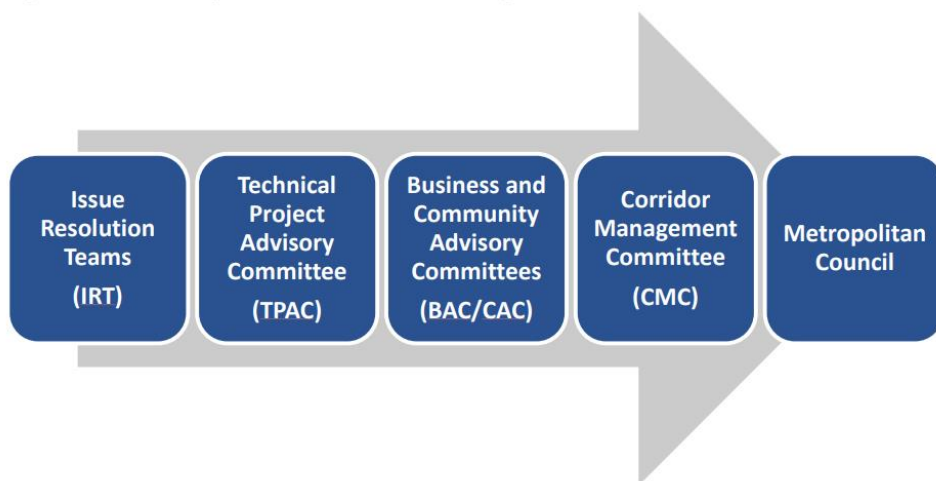
2.3.2 Community Engagement

The engagement process was designed to connect with underrepresented communities and leveraged a community engagement cohort comprising organizations that could best reach BIPOC and low-income communities. This approach was complemented with online and in-person engagement and communications. Since August 2020, engagement efforts included multiple phases that culminated in hundreds of events, connected directly with more than 25,000 people, and collected thousands of comments (see Chapter 9 for additional details about engagement). The Council maintains an online engagement dashboard with all comments,⁶ and engagement reports are available on the Project website.⁷ See Chapter 9 for details about public engagement.

Advisory committees were key to decision-making during the Route Modification and design decision process and continue to be a key avenue through which the Council and Hennepin County receive public input. Project advisory committees enable the project team to receive advice and feedback from policymakers, government entities, community groups, businesses, and the public. Community dialogue and informed decision-making is supported through the work of the CMC, CAC, and BAC. In addition to the advisory committees, the Project staff has also been engaging and continues to seek input from the Issue Resolution Teams (IRT), which is a collaboration between each City (and other partner’s) staff and the Project’s technical team formed to resolve technical Project issues. This collaboration ensures that technical issues are carefully considered in Project development, as shown in Figure 2-3.



Figure 2-3 Decision-Making Framework



The advisory committees convened monthly during the Route Modification and design decision processes to provide guidance on the selection of an alignment that addresses community concerns. The CMC issued a resolution in September 2023 to advance the Build Alternative for detailed evaluation in the NEPA process and continues to meet monthly.

2.3.3 Proposed Modified Alignments Evaluated (2020–2022)

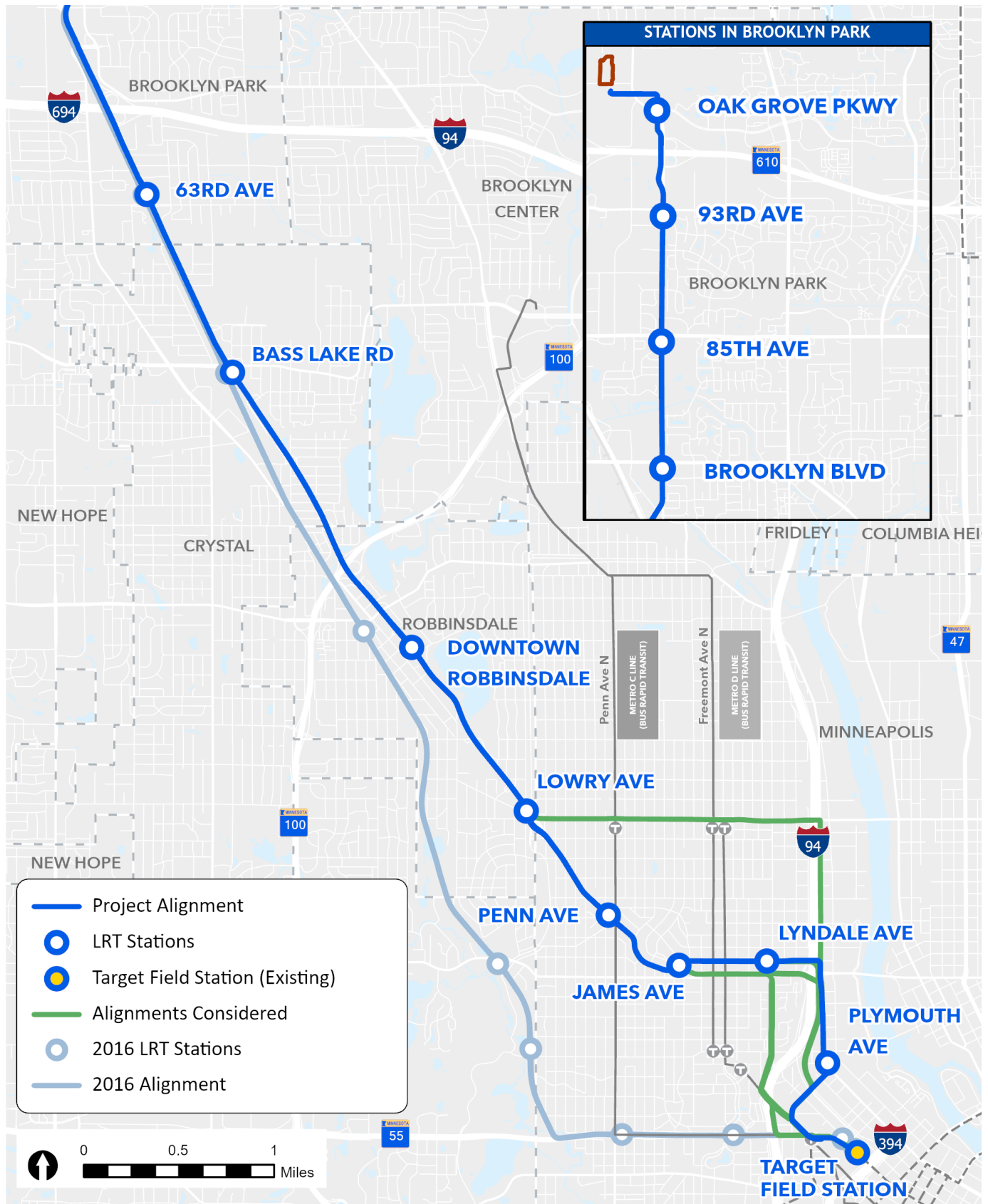
Because the 2016 Alignment from Oak Grove Pkwy to 73rd Ave N in the City of Brooklyn Park avoided use of freight rail carrier rights-of-way, this portion of the 2016 Alignment remains unchanged. Locations where the 2016 Alignment was on freight rail carrier right-of-way required substantial analysis and coordination to identify and evaluate potential alternate alignments, as shown in Table 2-1. Alignments assessed during the Route Modification Process are shown in Figure 2-4.

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.



Figure 2-4 Alignments Assessed in the Route Modification Process (2020–2022)





The Route Modification process is documented in the *Final Route Modification Report*, which was made available for public review and comment on April 18, 2022. 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.

CR 81 in the Cities of Brooklyn Park, Crystal, and Robbinsdale was identified as the most suitable alignment after consideration of Penn Ave, Fremont Ave, and Emerson Ave. These alignments would result in significant property impacts due to inadequate width to support the Project. Trunk Highway (TH) 100 through the City of Golden Valley was also considered; however, it would not serve an area as dense as the CR 81 alignment. Topographic features including Crystal Lake, the Twin Lakes, and the Crystal Airport limit the number of alignment options in this Project area. Considering these factors, the Project principle to maintain the existing route as much as possible, and the location of key destinations to serve with transit (such as North Memorial Hospital), CR 81 was advanced as a recommended alignment.

In North Minneapolis, the recommended W Broadway Ave alignment was compared to an alignment on Lowry Ave N and Washington Ave to reach Downtown Minneapolis. While the Lowry Ave alignment would serve a higher total population through five stations, the W Broadway Ave alignment would serve a higher percentage of low-income and BIPOC populations and zero-vehicle households through three stations on a shorter route. Commercial land uses are concentrated near the proposed alignment on W Broadway Ave, with residential areas to the north and south of these commercial zones. The W Broadway Ave alignment would serve the heart of the West Broadway Business District and more community and regional destinations when compared to the Lowry Ave alignment.

While the *Final Route Modification Report* recommended Lyndale Ave N to 7th St or Olson Memorial Hwy for further study, the Project team had identified 16 options and acknowledged that more detailed evaluation was needed to identify the best route in Downtown Minneapolis.

Completing the cycle of stakeholder engagement for the Route Modification process, a *Route Modification Report Addendum*⁸ was published on June 2, 2022. This addendum addressed public comments received during the comment period of April 18 to May 27, 2022. Subsequently, the Broadway Business and Area Coalition voiced strong opposition to the portion of the alignment between Irving Ave N and Lyndale Ave N on W Broadway Ave. On-street parking in this segment would be removed, and traffic lanes would be reduced. The loss of parking would threaten the health of the businesses whose customers rely on automobiles and convenient parking. In addition, while residents of the Lyn-Park neighborhood expressed general support for the Project, they were opposed to the Lyndale Ave N alignment because of anticipated impacts, including potential noise and vibration impacts, loss of street trees, and adverse effects on community character.

The public and stakeholder feedback prompted the Council to focus on the N 21st Ave alignment and the East of I-94 alignment connecting to Washington Ave for access to Downtown Minneapolis. The public feedback also included recommendations for additional stations and improved station access that were examined during the design decision process.



2.3.4 Evaluation of Alignment and Design Options (2023)

Table 2-2 provides an overview of the alignment and design options that were evaluated during the design decision process. Throughout 2023, alignment and design options under consideration were shared during extensive stakeholder and public engagement, culminating in formal design decisions about preferred options by local municipalities. More information about the alignment and design option development process is provided in Section 2.4, Appendix A2, and Chapter 9 of this document.

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

Location (City)	Alignment and Design Option Locations Under Consideration
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 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

2.3.4.1 Alignment and Design Option Decisions

A series of decisions regarding which alignment and design option would be carried forward as the Build Alternative were made in summer 2023. The decisions are presented below geographically from north to south.

City of Crystal

In the City of Crystal, the grade-separated interchange at Bass Lake Rd was selected to be carried forward because it would provide better through traffic flow and eliminate the conflict of through traffic with bicycle and pedestrian traffic crossing CR 81 to access the Bass Lake Rd Station. While the at-grade option would include a grade-separated pedestrian crossing, there was concern that bicycle and pedestrian traffic would likely still cross at-grade because of the long travel time associated with a grade-separated crossing.

Traffic analysis indicated that future traffic volumes on the existing six-lane CR 81 would generally be accommodated by two lanes in each direction, with auxiliary lanes added on certain segments to accommodate key intersecting locations. A third lane on southbound CR 81 approaching the interchange and TH 100 has been included as part of the Build Alternative because of the high volume of traffic entering onto southbound TH 100 from CR 81. Other lane configurations were also evaluated; see Appendix A-2 for additional information.

City of Robbinsdale

Two park-and-ride locations and one station location were not carried forward for the City of Robbinsdale segment of the Project. The Upper Robin Center (URC) location was dismissed from further consideration partially because of business impacts and relocation requirements. The U.S. Bank park-and-ride site is being carried forward for further review and analysis as part of the Build Alternative because it is in proximity to the preferred station location at 40th Ave N Station locations.



The south of 41st Ave N Station location was not carried forward because it would be a logical station location only if paired with the URC park-and-ride site. With the URC site being dropped from further consideration, the south of 41st Ave N Station location was not preferred.

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 are being carried forward for further analysis as part of the Build Alternative.

In response to feedback from the City of Minneapolis, the City of Robbinsdale, and the Minneapolis Park and Recreation Board, the Project developed an at-grade track and LRT station design for the Lowry Station south of Lowry Ave and Oakdale Ave at CR 81. The LRT guideway would be at-grade between the northbound and southbound CR 81 bridges, with an at-grade LRT crossing of Lowry Ave and Oakdale Ave. An at-grade LRT station includes geometric modifications to the road system including realignment of a portion of Theodore Wirth Pkwy and the approaches to the CR 81 bridges. The interchange would remain functionally similar to the existing conditions. The at-grade station would provide enhanced access to the surrounding park and better integrate with the surrounding community compared to an elevated station.

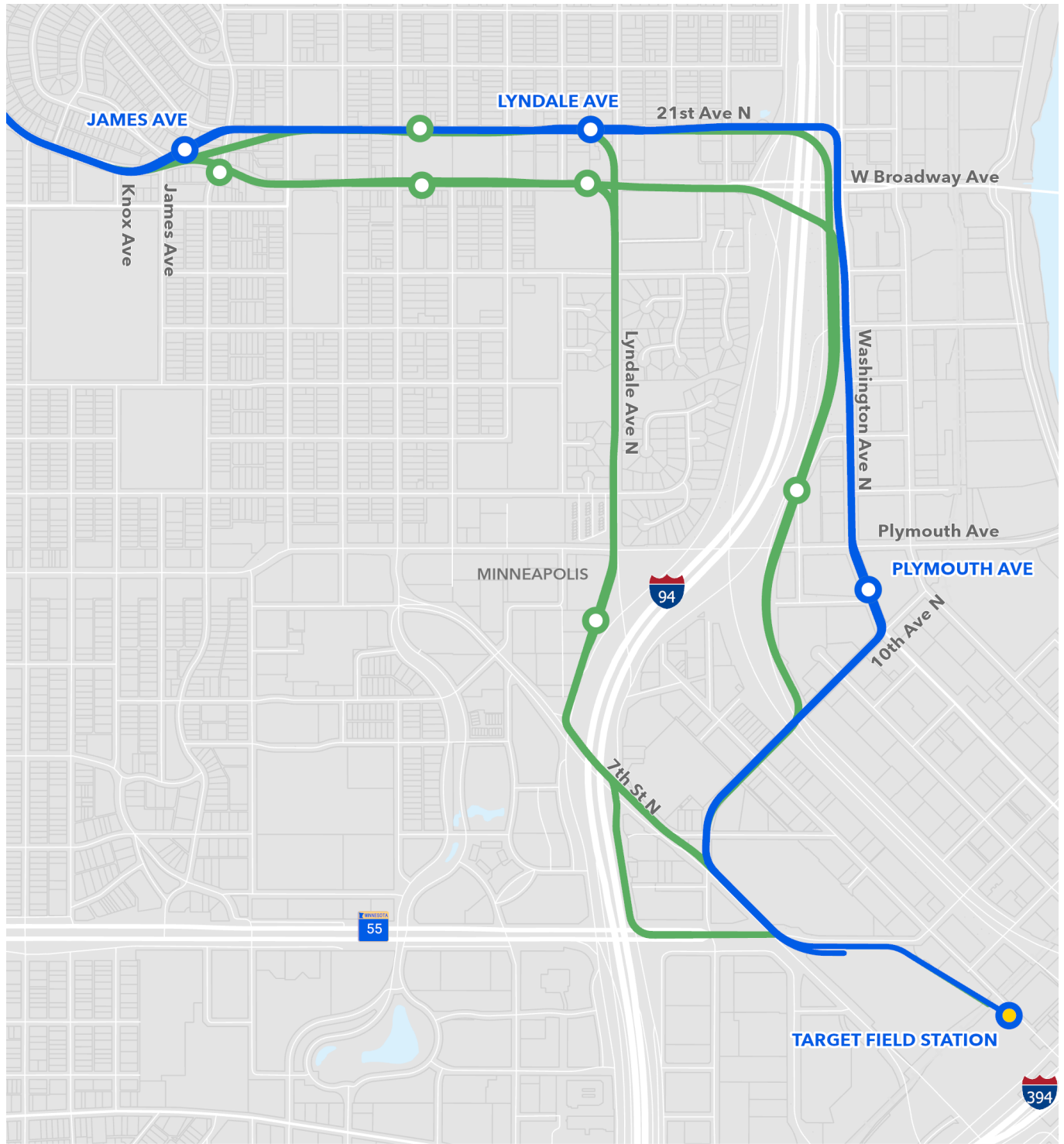
City of Minneapolis

Several alignment and design option locations were considered in the City of Minneapolis (Figure 2-5):

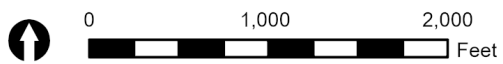
- One station or two stations between Knox Ave N and I-94 (applied to either the W Broadway Ave or the N 21st Ave alignment options)
- Lyndale Ave N or East of I-94 alignments
- N 21st Ave alignment option or W Broadway Ave alignment option
- Under the East of I-94 alignment, two sub-options: adjacent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



Figure 2-5 Alignment Options Considered in the City of Minneapolis



- Project Alignment
- LRT Stations
- Target Field Station (Existing)
- Alignments Considered
- Stations Considered





One or Two Stations Between Knox Ave N and I-94

Based on feedback from City of Minneapolis staff and ridership analysis, it was decided to carry the two-station option forward as part of the Build Alternative. Community feedback indicated a preference for two stations to provide more access for North Minneapolis residents and businesses. A ridership sensitivity analysis indicated that the minor increase in travel time caused by adding the second station would not have a notable impact on overall Project ridership.

Lyndale Ave N or East of I-94

To address the concerns expressed by residents of the Lyn-Park neighborhood, an environmental analysis was prepared indicating that noise impacts would occur from the operation of the LRT, and construction impacts to Hall Park would also need to be addressed. Additionally, based on the census data and outreach efforts, most of the Lyn-Park neighborhood residents are part of environmental justice (EJ) communities. One of the focal points of this Project effort is exploring ways to avoid, minimize, and mitigate for disproportionately high or adverse impacts to EJ communities. Therefore, because of the environmental impacts and community input, the Lyndale Ave N alignment option was not carried forward, and the Build Alternative was proposed using the East of I-94 alignment sub-option.

N 21st Ave and W Broadway Ave

The decision regarding where the Project Alignment should be placed focused on providing the best overall transportation solution for the broader N 21st Ave/W Broadway Ave corridor. The community expressed concerns regarding impacts to businesses along W Broadway Ave, a corridor important to the BIPOC community, with many businesses BIPOC owned or serving EJ communities. The W Broadway Ave alignment would require multiple businesses to be acquired and relocated. In addition to the direct property impacts and loss of parking, the relocation of businesses would change the community character and fabric of the W Broadway Ave business district. The East of I-94 alignment sub-option from W Broadway Ave would result in a substantial increase in traffic congestion at the existing West Broadway bridge approach due to traffic lane reductions and require major reconstruction of the I-94 interchange to accommodate the light rail infrastructure. Major interchange reconstructions require approvals from FHWA through a potentially multiyear Interstate Access Request (IAR) process.

The alignment on N 21st Ave would convert a lightly traveled roadway on the edge of two residential neighborhoods into a transit mall, where general vehicle traffic would be rerouted to nearby streets and alleyways for local property access. The transit mall would provide a bicycle- and pedestrian-friendly environment and enhanced access to the transit stations. Noise levels would increase at the residential properties that line the north side of N 21st Ave, and the transit mall would change the character of this street.

The East of I-94 alignment sub-option connecting to N 21st Ave would require a flyover bridge to cross I-94. In response to feedback from the City of Minneapolis, MnDOT, and the Federal Highway Administration (FHWA), the Project developed a design layout for a N 21st Ave bridge crossing, which includes the LRT guideway, two-way vehicular traffic that accommodates truck turning movements, and pedestrian and bicycle lanes. To address concerns about a highly visible flyover, the Council developed a concept for a bridge at a similar elevation as the W Broadway Ave bridge. This concept would require modifications at N 21st Ave for the westbound off-ramp of I-94 to W Broadway Ave and trigger the IAR process for ramp modifications.

The Council and Hennepin County weighed the pros and cons of each of these two alignment options, including the results of environmental analysis presented in Appendix A-2. Because the intent of the Project is to provide a major transportation infrastructure investment that supports the economic health of EJ communities, carrying forward an option that avoids impacts to W Broadway Ave businesses was preferred. Therefore, the N 21st Ave alignment was carried forward as part of the Build Alternative. To provide a more complete transportation solution, reconstruction of W Broadway Ave between Knox Ave N and Lyndale Ave N as well as improvements to the cross streets connecting



N 21st Ave and W Broadway Ave would also be included as part of the Build Alternative. This would allow for improved vehicular, bicycle, and pedestrian conditions as well as better connectivity in the area.

Adjacent to I-94 or Washington Ave/10th Ave Sub-option

It was determined that the Washington Ave/10th Ave sub-option station location (on Washington Ave just north of the 10th Ave intersection) is more centrally located and activated and would better serve the North Loop neighborhood. The East of I-94 option that is adjacent to I-94 would result in a more isolated station location that would likely be less effective at serving transit riders and could create safety and security concerns. The Washington Ave/10th Ave sub-option would also provide the opportunity to create a transit mall along 10th Ave and avoid placing LRT tracks adjacent to the Twin Cities International school, which serves EJ communities. This sub-option also avoids the need to reconstruct the ramp from the 3rd/4th St viaduct to westbound I-94. Therefore, the Washington Ave/10th Ave alignment sub-option was carried forward as part of the Build Alternative.

2.4 Alternatives Considered in this Supplemental Draft EIS

The Route Modification and design decision processes led to selection of a Build Alternative for further study in this Supplemental Draft EIS. A No-Build Alternative is also included in the Supplemental Draft EIS to allow for a more complete understanding of impacts and benefits of the Project. Alignment and design option locations that were not incorporated into the Build Alternative are discussed in detail in Appendix A-2.

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:

- 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 and install E-ZPass lanes in the Cities of Brooklyn Park, Brooklyn Center, 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 or feeder service to the METRO Green Line Extension.

2.4.2 Build Alternative

Review and analysis of the alignment and design option locations under consideration, combined with input from Project area residents, businesses, and stakeholder agencies, resulted in the selection of a Build Alternative. Table 2-3 presents a description of the Build Alternative organized by each of the four Project area Cities (Brooklyn Park, Crystal, Robbinsdale, and Minneapolis). Table 2-3 also includes alignment and design option locations evaluated but not carried forward as part of the Build Alternative. Detailed information about these alignment and design option locations is provided in Appendix A-2.



Table 2-3 Build Alternative Description by Project City

City	Alignment	Stations	Other Features	Alignment and Design Options Not Carried Forward in the Build Alternative
Brooklyn Park	Center running along W Broadway Ave from north of TH 610 to about 73rd Ave N, then transitioning to the median of CR 81	<ul style="list-style-type: none"> • Oak Grove Pkwy • 93rd Ave N • 85th Ave N • Brooklyn Blvd • 63rd Ave N 	<ul style="list-style-type: none"> • 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 	None
Crystal	Center running along CR 81	<ul style="list-style-type: none"> • Bass Lake Rd 	<ul style="list-style-type: none"> • Interchange at Bass Lake Rd with four through lanes • Park-and-ride facility adjacent to station 	<ul style="list-style-type: none"> • At-grade intersection of Bass Lake Rd and CR 81 • Five and six through lanes in the interchange configuration and expansion from four to six lanes in certain roadway segments for the at-grade configuration
Robbinsdale	Center running along CR 81	<ul style="list-style-type: none"> • Downtown Robbinsdale (either north or south of 40th Ave N) • Lowry Ave 	<ul style="list-style-type: none"> • Park-and-ride facility in Downtown Robbinsdale (U.S. Bank site) • Relocated Robbinsdale Transit Center 	<ul style="list-style-type: none"> • Downtown Robbinsdale Station: south of 41st Ave N Station • URC park-and-ride site • Elim Church park-and-ride site
Minneapolis	<ul style="list-style-type: none"> • Center running along CR 81 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 	<ul style="list-style-type: none"> • Penn Ave • James Ave • Lyndale Ave • Plymouth Ave 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • LRT tracks on W Broadway Ave between Knox Ave N and I-94 • Single-station option between Knox Ave N and Lyndale Ave N on either N 21st Ave or W Broadway Ave alignment options • Lyndale Ave N LRT alignment between W Broadway Ave and I-94 • Flyover bridge crossings of I-94 • East of I-94 option following eastern edge of I-94 right-of-way • East Lyndale Ave N/Olson Memorial Hwy connection to Target Field Station • Elevated Lowry Station



Additional descriptions of the Build Alternative components in each Project city are provided below.

2.4.2.1 City of Brooklyn Park

In the City of Brooklyn Park, the Project Alignment would remain unchanged from the 2016 Alignment north of 73rd Ave N, operating in the median of CR 103. The location of the LRT on W Broadway Ave and the location of the OMF north of TH 610 would be unchanged from the 2016 Alignment. LRT would be center running and follow 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 Engineering Drawings.

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 stations immediately south of 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 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

2.4.2.2 City of Crystal

In the City of Crystal, the Project Alignment also would shift 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. The station at Bass Lake Rd would remain at a similar location as the 2016 Alignment; however, it would be moved from the freight rail right-of-way to the median of CR 81, with corresponding changes in station access and design.

Bass Lake Rd and CR 81 Interchange

The Build Alternative would include a grade-separated interchange carrying CR 81 over Bass Lake Rd on an elevated structure (Figure 2-6). During the alignment and design option locations evaluation process, at-grade options for the Bass Lake Rd/CR 81 intersection were developed and evaluated; detailed information about these at-grade options is presented in Appendix A-2. The Bass Lake Rd Station would be located at-grade south of Bass Lake Rd.

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 2-6 Grade-Separated Intersection at Bass Lake Rd/CR 81



2.4.2.3 City of Robbinsdale

In the City of Robbinsdale, the Project Alignment would shift 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. This Supplemental Draft EIS evaluates the proposed options for the downtown Robbinsdale Station either as a center platform south of 40th Ave N or a center platform north of 40th Ave N. A park-and-ride facility would be located at the U.S. Bank site. Additionally, 42nd Ave N is included in the scope of this



Supplemental Draft EIS for evaluating roadway improvements including potential accommodation of a quiet zone–ready intersection at the BNSF crossing.

2.4.2.4 City of Minneapolis

In the City of Minneapolis, the Project Alignment would shift from the 2016 Alignment in freight rail carrier right-of-way to be center running on W Broadway Ave (CR 81). Starting at Knox Ave N, the Project Alignment would shift from W Broadway Ave to N 21st Ave, where it would continue east across I-94 on a new N 21st Ave bridge. The Project Alignment would then head south along Washington Ave to 10th Ave N, follow 10th Ave N to N 7th St, and transition to the LRT Target Field Station access structure on the south side of N 6th Ave. The Project would include a new station located west of Penn Ave N in the City of Minneapolis, stations at James Ave and Lyndale Ave N, and a Plymouth Ave Station on Washington Ave between Plymouth Ave and 10th Ave. W Broadway Ave would also be reconstructed between Knox Ave N and Lyndale Ave 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.

2.4.3 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 2-5 in comparison to the 2016 Alignment. The locations of the proposed bridge structures are shown in Figure 2-7. The features below are based on the Council’s assumptions associated with the level of engineering conducted for the Project to date (August 2023).

Table 2-5 Elements of the 2016 Alignment and Build Alternative

Feature	2016 Alignment	Build Alternative
Level of engineering design	15%	15%
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)	10,000-15,300 (STOPS) – Year 2045
Project stations ^c	11 new stations <ul style="list-style-type: none"> ■ 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 	12 new stations <ul style="list-style-type: none"> ■ 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 ■ Plymouth Ave (on Washington)



Feature	2016 Alignment	Build Alternative
Key bridge structures	<p>7 new LRT bridges:</p> <ul style="list-style-type: none"> ■ TH 610 ■ 73rd Ave N/CR 81 ■ 36th ■ CP rail ■ TH 100 ■ Grimes Pond ■ Golden Valley Rd ponds ■ HERC driveway^f <p>5 reconstructed roadway bridges:</p> <ul style="list-style-type: none"> ■ Golden Valley Rd ■ Theodore Wirth Pkwy ■ Plymouth Ave ■ Olson Memorial Hwy over BNSF rail <p>Modification to existing bridges:</p> <ul style="list-style-type: none"> ■ I-94 over BNSF rail ■ Olson Memorial Hwy over I-94 <p>Pedestrian bridge:</p> <ul style="list-style-type: none"> ■ CR 81 at Bass Lake Rd 	<p>5 new LRT bridges:</p> <ul style="list-style-type: none"> ■ TH 610 ■ 73rd Ave N flyover over CR 81 ■ CP rail ■ TH 100 ■ N 21st Ave over I-94 (LRT/roadway/bike/ped facility) <p>1 new roadway bridge:</p> <ul style="list-style-type: none"> ■ Bass Lake Rd <p>2 new/upgraded pedestrian bridges:</p> <ul style="list-style-type: none"> ■ 63rd Ave N Station ■ CR 81 underpass
OMF site	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	17 estimated ^g

^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.

^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.

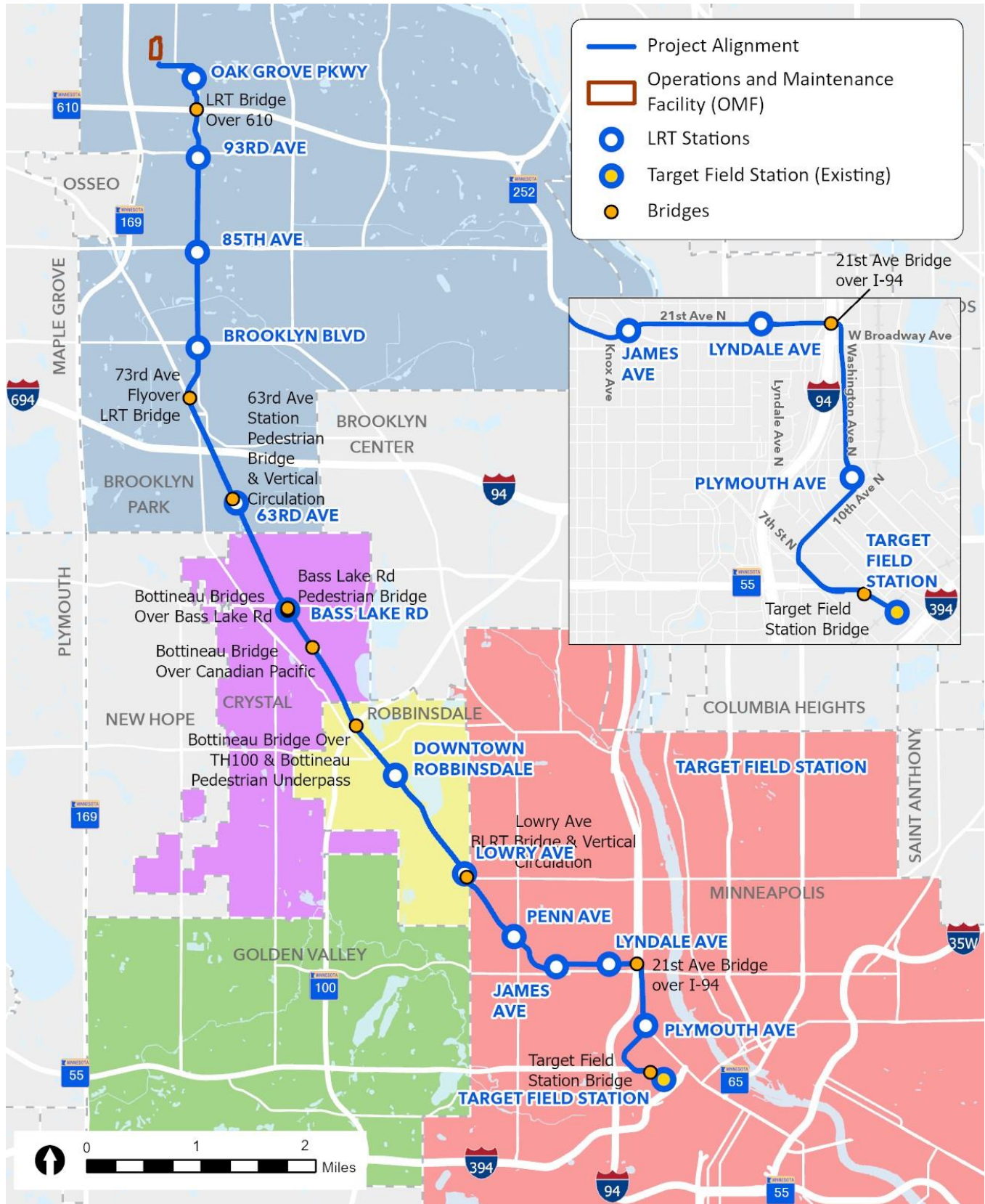
^e Station located west of W Broadway Ave between Oak Grove Pkwy and Main St. Roadway network would be reconfigured to accommodate the station and parking ramp.

^f The Hennepin Energy Recovery Center (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.

^g Seventeen traction power substations are estimated for the four design options. A load flow study will confirm the number and locations in future design phases.



Figure 2-7 Project Structures



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



2.4.3.1 Stations

Proposed customer drop-off and park-and-ride facilities are listed in Table 2-6 and shown in Figure 2-8. 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.

Table 2-6 Station Characteristics

Station	Designated Customer Drop-off	Park-and-Ride Facility
Target Field ^a	N/A	N/A
Plymouth Ave (on Washington)	No	No
Lyndale Ave	No	No
James Ave	No	No
Penn Ave	No	No
Lowry Ave	No	No
Downtown Robbinsdale	Yes	Up to 500 spaces (parking ramp)
Bass Lake Rd	Yes	Up to 170 spaces (surface lot)
63rd Ave N	Yes	Up to 565 spaces (existing ramp spaces)
Brooklyn Blvd	Yes	No
85th Ave N	Yes	No
93rd Ave N	Yes	No
Oak Grove Pkwy	Yes	Up to 850 spaces (parking ramp)

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

Operations and Maintenance Facility

The OMF site would be located at the north end of the Project in the City of Brooklyn Park. The OMF site 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 for the OMF (about 10.4 acres). The OMF site would be occupied by a storage and maintenance building that has an area of about 140,000 square feet, surface parking for employees and visitors, trackwork, and open space. The facility would include areas to store, service, and maintain up to 32 light-rail vehicles (LRVs), vehicle washing and cleaning equipment, and office space to accommodate staff who would report for work at the OMF. The OMF would be equipped to perform daily cleaning and repair activities on the LRVs as they enter and leave revenue service. Scheduled service and maintenance inspections also would be performed in the OMF.

Traction Power Substations

A load flow study will be completed to confirm the number and location of traction power substations (TPSSs); however, the limits of disturbance (LOD) for this document are conservative to capture property impacts related to TPSS siting needs. Seventeen TPSSs are estimated for the Project. The precise location of each TPSS will be refined for incorporation into the Supplemental Final EIS and further refined during the engineering phase of development to minimize impacts to surrounding properties and resources and to balance safety, reliability, cost, and operational efficiencies. TPSS sites, once located, 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. The Council anticipates that most TPSS sites would be located within existing transportation rights-of-way.



Figure 2-8 Project Park-and-Ride Locations





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. Project Alignments 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 Draft 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 mph.
- Cars would be fully compatible with Americans with Disabilities Act (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 Draft EIS evaluation is based on planned service levels of trains operating at 10-minute frequencies for peak weekday operations. As of spring 2024, service frequencies have been reduced, frequencies are anticipated to return to planned service levels. For a complete description of operating frequencies and other operational parameters, see Appendix A-2.

¹ Federal Transit Administration, Metropolitan Council, *METRO Blue Line Light Rail Transit Extension Final Environmental Impact Statement* (Chicago: Federal Transit Administration, 2016), <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx>.

² Federal Transit Administration, Metropolitan Council, *METRO Blue Line Light Rail Transit Extension Final Environmental Impact Statement* (Chicago: Federal Transit Administration, 2016), <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx>.

³ Federal Transit Administration, *Record of Decision METRO Blue Line Light Rail Transit Extension Project* (Chicago: Federal Transit Administration, 2016), <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx>.

⁴ Federal Transit Administration, Metropolitan Council, *METRO Blue Line Light Rail Transit Extension Final Environmental Impact Statement* (Chicago: Federal Transit Administration, 2016), <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Environmental/Final-EIS.aspx>.



- ⁵ Metropolitan Council and Hennepin County, *Joint Statement: Project Partners Announce New Direction For Metro Blue Line Extension* (Minneapolis: Metropolitan Council, 2020), <https://metro council.org/News-Events/Transportation/Newsletters/Blue-Line-Extension-new-direction-2020.aspx>
- ⁶ Metropolitan Council Online Engagement and Public Comment Dashboard (Minneapolis: Metropolitan Council, 2024), <https://app.powerbi.com/view?r=eyJrjoiYmFkMDg5ODQtODEwMC00YTl1LWE2ZTMtNWJhOTcyMTY0ZjRiliwidCI6IjdIMjIwZDMwLTBiNTktNDdINS04YTgxLWE0YTlkOWFmYmRjNCIsImMiOiN9>.
- ⁷ Metropolitan Council Engagement Data (Minneapolis: Metropolitan Council, 2024), <https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Community-Engagement/Reports-and-Comments.aspx>.
- ⁸ Metropolitan Council, *Route Modification Report Addendum* (Saint Paul: Metropolitan Council, 2022), https://metro council.org/Transportation/Projects/Light-Rail-Projects/METRO-Blue-Line-Extension/Publications-And-Resources/Route-Modification-Report/Addendum_BLR-Route-Modification-Report_June2022-F.aspx.