Recommended Corridor Plan

Metro Transit is planning improvements to the Route 6 corridor with the METRO E Line, an arterial bus rapid transit (BRT) service. The E Line will substantially replace Route 6 in Minneapolis and Edina, connecting Southdale Transit Center with downtown Minneapolis and the University of Minnesota and running primarily on France Avenue, Hennepin Avenue, 4th Street, and University Avenue. Arterial BRT brings better amenities, faster service, and a more comfortable ride. The E Line project is currently in the planning phase. The E Line is scheduled for construction beginning in 2024.

We are currently seeking feedback on recommended E Line station locations. We are seeking comments through April 8, 2022.

There are several ways to comment on the plan:

- Review the plan and comment online at metrotransit.org/e-line-project
- Email comments to ELine@metrotransit.org
- Call Customer Relations at 612-373-3333

Following the conclusion of the recommended E Line Corridor Plan comment period, Metro Transit will review final comments received and begin the final Metropolitan Council approval process. Council approval of the E Line will be sought in spring 2022.

To stay in touch, sign up for the E Line project updates at the project website: metrotransit.org/e-line-project.

Executive Summary

Corridor Overview

The METRO E Line is a planned arterial bus rapid transit (BRT) line that will upgrade and substantially replace Route 6, one of Metro Transit's highest ridership routes. The 13.3-mile E Line is proposed to operate primarily along France Avenue, Hennepin Avenue, 4th Street, and University Avenue from Southdale Transit Center in Edina to the METRO Green Line Westgate Station in Minneapolis.

This plan has been developed with baseline data from years prior to 2020. Therefore, changes in transit service, ridership, or overall traffic patterns resulting from the COVID-19 pandemic have not been used as a baseline for recommendations in this draft plan.

Metro Transit research in 2020-2021 shows that Route 6 continues to provide important service throughout the pandemic, remaining one of the highest ridership bus routes in the region. Additionally, ridership on bus rapid transit lines within the Metro Transit system has declined less than all other transit service types as a percentage of pre-COVID-19 ridership, indicating the resiliency of this type of service within the system.

Stations

The E Line will stop at 34 locations along the route, with stops placed about 0.4 miles apart on average (two to three stops per mile) to balance speed and access. E Line stations will be designed to provide faster and more efficient service, along with amenities that foster an improved customer experience.

Figure 1: E Line Corridor Overview

After this plan is approved by the Metropolitan Council, this document will guide the detailed design of stations by confirming **station intersections** and **platform locations** at those intersections. Other characteristics will be finalized through detailed engineering.

Service

E Line service would run every 10 minutes, seven days a week during the day and most of the evening. Local Route 6 service is currently planned to remain running every 20 minutes from Minnesota Drive and France Avenue to downtown Minneapolis via Southdale Transit Center and Xerxes. Route 6 is not planned to run on 39th Street, France Avenue, or Wooddale Avenue following the start of E Line service.

Bus Priority Treatments

In order to help meet project goals for faster transit service, bus priority treatments are being evaluated along the E Line corridor. These treatments include modifications to traffic signal timing and implementation of transit signal priority (TSP) and bus queue jumps so that people on buses spend less time stopped at signals or in traffic. Metro Transit intends to work with its partners to implement TSP as part of the E Line project. Signals along the corridor will be evaluated and considered during the design phase of the project for implementation.

The recommended corridor plan also includes analysis and priorities for bus-only lanes on key segments of the corridor. Some of these improvements are being considered in coordination with other street projects, and others may potentially be implemented through Metro Transit's Speed & Reliability program, independent of planned E Line construction in 2024-2025.

Plan process/engagement summary

Metro Transit released a draft version of the E Line Corridor Plan for public comment on September 20, 2021. The draft plan release was communicated via print and digital communications including postcards, flyers at bus stops and on buses, limited in-person conversations, partnerships and meetings with community organizations and neighborhood groups, shared promotion by partner agencies, emails to subscribers and Rider Alerts, and targeted social media posts.

Metro Transit received 561 individual survey responses and emails providing feedback on the draft corridor plan. Revisions to the plan based on this feedback are summarized below.

This recommended corridor plan is being circulated for additional public review and comment. Following the public comment period, Metro Transit will review final comments and bring a final plan to the Metropolitan Council for approval in spring 2022.

Revisions in the recommended corridor plan

This recommended E Line Corridor Plan includes several revisions based on feedback received on the draft plan. Substantial revisions to the draft plan are denoted in gray shading throughout this document. More information about each revision is included in the linked section of the plan document. Revisions are summarized below.

Changes to three station locations:

- University & Berry: The northbound (terminal) platform is recommended to shift from on University Avenue west of Emerald Street to on Berry Street north of University Avenue following the left turn off University Avenue. No change is recommended to the southbound platform.
- Upton & 43rd Street: The southbound platform is recommended to shift from the farside

(southwest corner) of the intersection of Upton Avenue and 43rd Street to the nearside (northwest) of the intersection. No change is recommended to the southbound platform
- 44th Street & Zenith: The station location is recommended to move from the intersection of 44th Street and Zenith Avenue to 44th Street and Abbott Avenue. The northbound and southbound platforms are both recommended to be located on the nearside (northeast and southwest corners) of the intersection.

Additional analysis at several other stations

Additional alternatives were analyzed at the following station locations, but no changes are recommended:

- Hennepin/1st Avenue & 2nd Street NE
- Sheridan & 39th Street
- France & 47th Street
- France & 50th Street

Expanded discussion of bus-only lane priorities

The recommended plan includes expanded information on bus lane priorities, including segments that should be considered for evaluation and implementation of bus-only lanes and other bus priority treatments along the E Line alignment.

Table of Contents

I. Introduction 1
- Corridor Overview 1
- Purpose and Need for Improved Transit in the Corridor 2
- E Line Project Goals 3
- What is Arterial BRT? 4
- Project Implementation & Timeline 10

II. E Line Planning Process 12
- Past E Line Planning 12
- Technical Advisory Committee 13
- Planning Process 13

IV. Service 17
- Considerations 17
- Proposed E Line Service 17
- Proposed Local Service in the Corridor 17

V. Stations 19
- What was considered at each location? 19
- Stations by Location 25
- University & Berry 32
- University & Malcolm 35
- University & 27th Avenue 38
- University & 23rd Avenue 41
- University/4th Street & U of M Rec. Center/Ridder Arena 44
- University/4th Street & 15th Avenue 45
- University/4th Street & 10th/11th Avenue 46
- University/4th Street & 6th Avenue 47
- University/4th Street & Central 48
- Hennepin/1st Avenue & 2nd Street NE 49
- Hennepin & Gateway 53
- Hennepin Avenue Downtown Stations 54
- Hennepin & Spruce/Laurel 55
- Hennepin & Groveland 56
- Hennepin & Franklin 59
- Hennepin & 25th Street 60
- Uptown Transit Station 61

Hennepin & 33rd Street 62
Hennepin & 36th Street 63
Richfield Road & Bde Maka Ska South 64
Sheridan & 39th Street 67
Upton & 43rd Street 70
44th Street & Abbott 80
France & 44th Street 83
France & 47th Street 86
France & 50th Street 93
France & 54th Street 100
France & 58th Street 103
France & 62nd Street 106
65th Street & Fairview Southdale Hospital 109
Southdale Transit Center 112
VI. Bus Priority Treatments 113
How can the E Line move people faster? 113
Appendix A: Draft Corridor Plan Comment Summary A1
Summary A1
Key Themes A4
Appendix B: Agency Comments B1

I. Introduction

Corridor Overview

The METRO E Line is a planned arterial bus rapid transit (BRT) line that will upgrade and substantially replace Route 6, one of Metro Transit's highest ridership routes. From north to south, the E Line is proposed to operate along a 13.3-mile-long corridor from the METRO Green Line Westgate Station in Minneapolis to Southdale Transit Center in Edina primarily via 4th Street, University Avenue, Hennepin Avenue, and France Avenue (Figure 2). The E Line corridor connects to many important community destinations and other major transit routes, including multiple existing and planned METRO light rail and BRT lines.

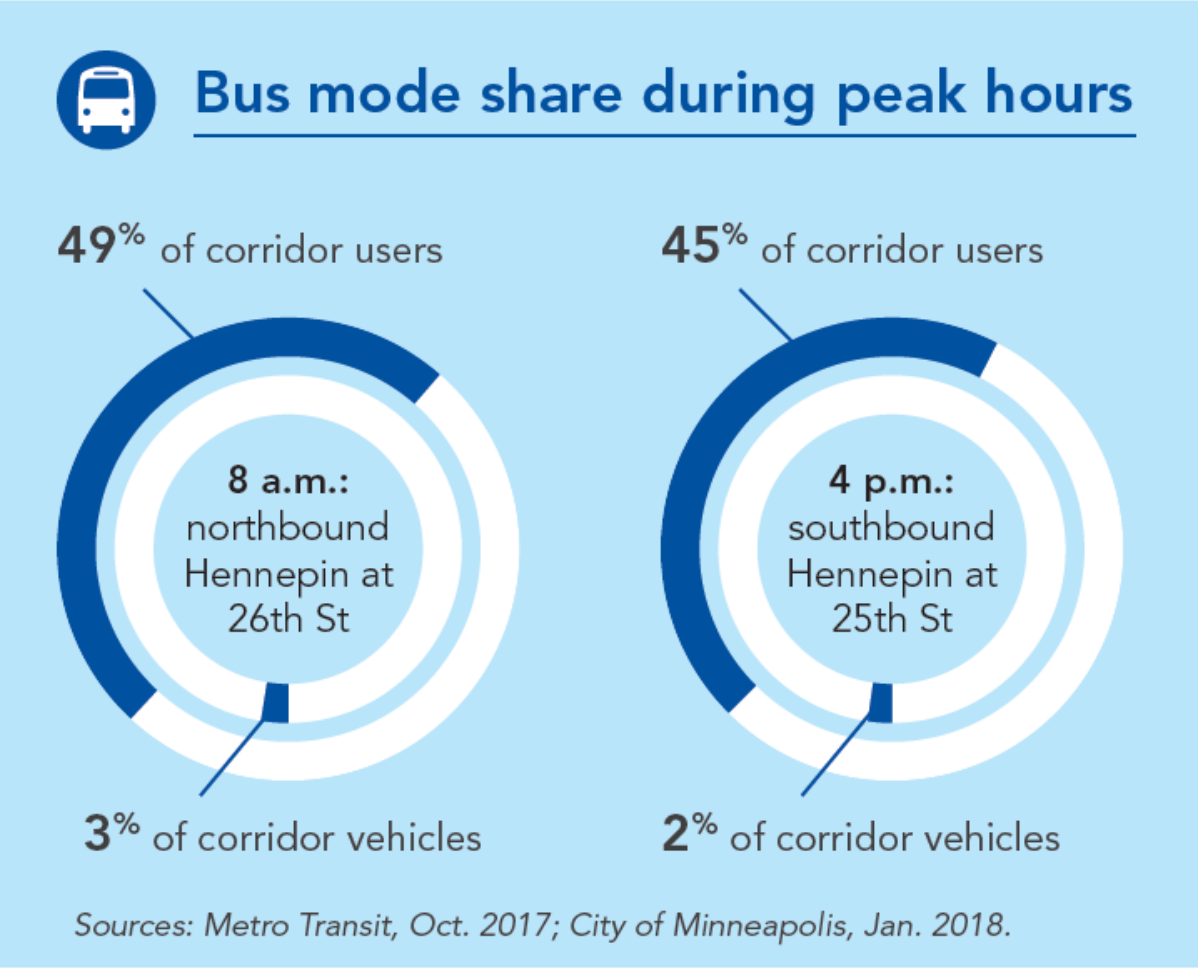
Figure 2: E Line Corridor Overview

Purpose and Need for Improved Transit in the Corridor

In 2019, customers took more than 8,000 rides on Route 6 each weekday, making it one of the busiest bus routes in the region. In some places along the corridor, buses carry approximately 49 percent of people traveling northbound and 45 percent of people travelling southbound by vehicle on parts of Hennepin Avenue but make up just 2 to 3 percent of vehicle traffic (Figure 3).

But Hennepin Avenue is also one of the slowest transit corridors in the region. During peak periods, buses regularly slow to average speeds of 8 miles per hour. Frequent stops, lines of customers waiting to board, and red lights mean that buses are moving less than half the time. These delays are greatest during time periods when transit ridership is highest and when volumes of auto traffic are highest, highlighting a need to reduce the amount of time that buses are stopped while customers enter and exit the vehicle along with a need to reduce the amount of time that buses are stopped due to general traffic.

Figure 3: Transit users and buses as a percentage of total corridor users and vehicles



This plan has been developed with baseline data from years prior to 2020. Therefore, changes in transit service, ridership, or overall traffic patterns resulting from the COVID-19 pandemic have not been used as a baseline for recommendations in this draft plan.

Route 6 continues to provide important service throughout the pandemic, remaining one of the highest ridership bus routes in the region in 2020-2021. Across the Metro Transit system, and in a trend mirrored across the country, frequent, all-day service supporting a variety of trip purposes has retained relatively high levels of ridership during the pandemic. The characteristics that make the Route 6 corridor a good candidate for BRT investment have also made the corridor a continued strong performer across the COVID-19 pandemic.

The purpose of the E Line is to provide faster, more reliable, and more attractive bus service along a north-south corridor between St. Paul, Minneapolis, and Edina. The need for the project can be summarized by two key challenges: (1) slow and unreliable transit service and (2) passenger facilities inadequate for the high volume of people using them (Figure 4).

Figure 4: Existing Route 6 passenger facilities

E Line Project Goals

The goals of the E Line project are to:

- provide faster, more reliable transit trip times in the Route 6 corridor
- improve transit experience at stops and on vehicles
- expand equitable access to destinations
- provide efficient connections to the existing and planned transit network

What is Arterial BRT?

Arterial BRT is a package of transit enhancements that produces a faster trip and an improved experience for customers in the Twin Cities' busiest corridors. It runs on urban corridors in mixed traffic.

The E Line will be the fifth operational line within the Twin Cities region's arterial BRT system.

- The A Line on Snelling Avenue and Ford Parkway began service in June of 2016
- The C Line on Penn Avenue began service in June of 2019
- The D Line on Chicago and Fremont avenues is scheduled to open in late 2022
- The B Line is planned for construction to start in 2023
- Construction on the E Line is scheduled to begin in 2024

Every planned arterial BRT corridor is unique in street design and surrounding land use. As a result, each line balances flexibility with implementation strategies with core arterial BRT characteristics.

High-Quality Stations Every Half Mile

Arterial BRT provides faster and more efficient service, and station and bus amenities that foster an improved customer experience. See Figure 5 for the design and features of arterial BRT stations in the Twin Cities. Section IV also provides more information on important station characteristics.

Figure 5: Arterial BRT station features

- Curb bump outs / curb extensions

    » Where arterial BRT runs in general traffic, stations are typically built with bump outs (also called curb extensions or bus bulbs) where feasible (Figure 6). Today, many existing local bus stops are located out of a thru-lane of traffic in right-turn lanes or in a curbside parking lane, causing delay for buses merging back into traffic. Curb bump outs at station platforms eliminate delay-inducing merging movements. They also provide extra space for station amenities and pedestrians on existing sidewalks. Additionally, to facilitate near-level boarding, curb heights will be increased to nine inches from the standard six where possible.

Figure 6: Curb bumpout

- Off-board fare payment

    » Like on other METRO lines, customers will pay fares prior to boarding the bus. Ticket vending machines and fare card validators will be located at each station (Figure 7). Off-board fare payment expedites the boarding process and significantly decreases dwell time at stations, allowing buses to stop briefly in the travel lane rather than pull over. Fare payment will be enforced through random on-board inspections by Metro Transit police.

Figure 7: Off-board ticket vending machines and fare card validators

- Shelters
  - » Shelters provide weather protection while customers wait for the bus (Figure 8). Standard arterial BRT shelters feature on-demand heaters, seating, and integrated lighting. Shelters range from 12 to 36 feet long, depending on site conditions and ridership. A concrete foundation increases protection from the elements and establishes more permanence compared to standard shelters.

Figure 8: Arterial BRT shelter

- Information
    - » Detailed transit information is provided in a variety of formats to offer clear direction and increase customer confidence in trip status. Each station includes a pylon marker with a real-time NexTrip sign and a printed panel with timetable, maps, and connection information (Figure 9).

Figure 9: Pylon marker with real-time NexTrip information

- Furnishings and other improvements
    - » Several station components will enhance customer safety and comfort, including security cameras and emergency telephones and adequate clear zone for boarding and alighting through any bus door. Benches, trash and recycling containers, and bike parking will be available for customer use (Figure 10).

Figure 10: Example station enhancements

Frequent and Faster Service

- Limited stops and increased frequency
  - » Arterial BRT stations are spaced approximately every half mile, focusing on places where the greatest numbers of customers board buses today. Buses can travel significantly faster with more distance between stations, while also allowing for most customers to conveniently walk or roll to stations.
  - » High frequency service increases the convenience of arterial BRT. The E Line will become the primary service in the corridor, running every ten minutes throughout the day and most of the evening, with increased service on nights and weekends compared to the existing Route 6.
  - » Local service on Route 6 is currently planned to run every 20 minutes from Minnesota Drive and France Avenue to downtown Minneapolis via Southdale Transit Center and Xerxes. Route 6 is not planned to run on 39th Street, France Avenue, or Wooddale Avenue following the start of E Line service.
- BRT vehicles
  - » BRT vehicles have distinctive branding to differentiate them from standard buses (Figure 11). E Line buses will be 60-foot articulated vehicles to serve large numbers of riders, with three wide doors to allow customers to enter and exit through all doors of the vehicle. BRT buses have low floors to help facilitate comfortable boarding and alighting for all customers, and seating layouts arranged for more interior circulation space. Buses have accessible ramps for customers using a mobility device.
- Bus priority treatments
  - » Bus priority treatments will be used at key locations to help keep buses moving. These include transit signal priority (TSP), in which buses will be linked to traffic signals to provide more green lights for buses when conditions allow. TSP helps reduce time spent stopped at red lights, a substantial source of bus delay. Bus priority treatments like bus-only lanes can also reduce time that buses spend stopped in traffic. Bus lanes may be implemented in the E Line corridor through other projects.

Figure 11: BRT bus

Project Implementation & Timeline

Anticipated Project Schedule

Planning Phase (2018-2021)

E Line planning has been underway since 2018, with the initiation of the E Line Corridor Study to determine the E Line alignment and concept station locations. The planning phase will conclude with the adoption and approval of the final E Line Corridor Plan by the Metropolitan Council, anticipated in winter 2021/22. The approved E Line Corridor Plan will finalize station locations, and key station components to inform the design phase.

Design Phase (2022-2023)

Following Metropolitan Council approval of the final E Line Corridor Plan, engineering and design will begin in 2022 and continue into fall 2023.

Construction Phase (2024-2025)

The E Line is targeted to begin construction in 2024. Construction of some E Line stations will be coordinated with construction activities for other projects and may be built sooner. In other places, the E Line will use existing station facilities.

Coordinated Implementation

Several stations on the E Line will be developed in coordination with planned projects throughout the corridor, as summarized below.

University Avenue and 4th Street SE Roadway Improvements Project

The University Avenue and 4th Street SE Roadway Improvements Project is led by Hennepin County and planned to begin construction in 2023. This project is considering design options for improving bike and pedestrian facilities and access to transit. Proposed E Line station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/universityandfourth

The following stations are within this project segment:

- University/4th & U of M Rec. Center/Ridder Arena
- University/4th & 15th Avenue
- University/4th & 10th/11th Avenue

Hennepin Avenue and 1st Avenue Roadway Improvements Project

The Hennepin Avenue and 1st Avenue Roadway Improvements Project is led by Hennepin County and planned to begin construction in 2023 or 2024. This project is considering design options for improving bike and pedestrian facilities and access to transit. Proposed E Line station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/hennepin-and-first

The following station is within this project segment:

- Hennepin/1st Avenue & 2nd Street SE

Hennepin Avenue Downtown Reconstruction Project

The Hennepin Avenue Downtown Reconstruction Project is led by the City of Minneapolis and is currently under construction. This project is implementing a protected bikeway, improved pedestrian facilities and BRT-ready enhanced transit stops. These locations will be upgraded to BRT stations for E Line service. Additional project details are available at: www.hennepindowntown.com/project-info/

The following stations are within this project segment:

- Hennepin & 3rd/4th Street
- Hennepin & 5th Street
- Hennepin & 7th/8th Street
- Hennepin & 10th/11th Street

Hennepin Avenue South Reconstruction Project

The Hennepin Avenue South Reconstruction Project is led by the City of Minneapolis and planned to begin construction in 2024. This project is considering designs to improve bicycle and pedestrian facilities, improve access to transit, and expand existing bus-only lanes. Additional project details are available at: www.minneapolismn.gov/government/projects/hennepin-ave-s/

The following stations are within this project segment:

- Hennepin & Franklin Avenue
- Hennepin & 25th Street
- Uptown Transit Station

II. E Line Planning Process

Past E Line Planning

2012: Arterial Transitway Corridors Study

In 2012, Metro Transit completed the Arterial Transitway Corridors Study (ATCS), which developed the arterial BRT concept and identified 11 urban corridors with high-ridership bus routes for implementation of arterial BRT. The ATCS presented the basic components of how arterial BRT would operate in the Twin Cities and offered initial concept-level station locations, ridership estimates, and costs for the eleven lines, including a Hennepin Avenue corridor.

As shown in Figure 12**,** the Hennepin Avenue corridor identified in the ATCS ran along Hennepin Avenue and Lake Street from downtown Minneapolis to the future METRO Green Line West Lake Street Station. The study determined that the Hennepin Avenue corridor performed well on the technical evaluation criteria, but that additional planning was needed to better develop the arterial BRT and connecting bus service concept in the corridor.

Figure 12: ATCS Hennepin Avenue Corridor

2016: METRO E Line Identification

In 2016, Metro Transit prepared an updated corridor readiness screening to determine the next corridors for arterial BRT implementation and begin securing federal funds for these lines. From this effort, the B Line (Lake Street/Marshall Avenue) and E Line were selected as the next two corridors for arterial BRT implementation.

2016-2018: Early Project Coordination

E Line planning has included coordination with other planned infrastructure projects throughout the corridor led by the City of Minneapolis, Hennepin County, and MnDOT. In some cases, coordination between projects was initiated several years ago to ensure compatibility and reduce potential construction impacts.

2018-2019: E Line Corridor Study

The E Line Corridor Study was completed to better develop the arterial BRT and connecting bus service concept identified for the corridor in 2012. The study evaluated corridor alignment and terminal alternatives resulting in the selection of the final E Line alignment. The Corridor Study also identified concept station locations and connecting local bus service plans for when the E Line begins operation.

In January 2020, the Metropolitan Council adopted the recommended E Line alignment.

Technical Advisory Committee

The Technical Advisory Committee (TAC) consists of interagency partners advising the project on planning issues throughout the corridor. The TAC was convened beginning in 2018 with the E Line Corridor Study and has been meeting regularly since then. The TAC provided input and support on the development of the E Line alignment and concept station locations in the study. The proposed station and platform locations included this Draft Corridor Plan were made in coordination with the TAC.

Participating TAC agencies include:

- Minnesota Department of Transportation (MnDOT)
- Hennepin County
- Ramsey County
- City of Minneapolis
- City of Saint Paul
- City of Edina
- Minneapolis Park and Recreation Board
- University of Minnesota

Planning Process

E Line Corridor Study: Alignment and Concept Station Locations

The E Line planning phase began in 2018 with the E Line Corridor Study. The study evaluated corridor alignment and terminal location alternatives and selected the final E Line alignment, adopted by the Metropolitan Council in January 2020. This process consisted of a variety of outreach and engagement activities. Feedback received during these engagements helped inform the concept station location and alignment recommendations.

Open Houses

Open houses were scheduled at key milestones throughout the E Line planning process to share information about the project and engage stakeholders on key planning issues. Project staff were available to answer questions and discuss site-specific concerns along the corridor.

Open houses were held at three points in the planning process so far:

1. December 2018: Two open houses were held to kick-off the E Line Corridor study and get public feedback on the E Line alignment alternatives under consideration.
2. May 2019: Three open houses were held to share and receive feedback on a narrowed-down set of E Line alignment options and concept station locations.
3. November 2019: Two open houses were held to share the recommended E Line alignment, concept station locations, and connecting local bus service.

Engagement with Community Groups

Throughout the E Line planning process, E Line staff attended or hosted community events, participated in bus ride-alongs and stop pop-ups, and connected with community members and riders to help inform the planning process and preliminary recommendations for the E Line.

Community Advisory Committee

Throughout 2018 and 2019, 15 community members participated in the committee and advised the project management team on the recommendation of the E Line alignment, concept station locations, and concept connecting local bus service plans. Members were selected to ensure representation from each part of the study area, that the committee reflects the demographic makeup of the corridor, and include residents, students, businesses and Route 6 riders.

Surveys

As part of the engagement around preliminary project recommendations, a survey and interactive map, available in both digital and paper form, were presented to the community through a variety of engagement methods. This survey work addressed key questions around routing, concept station locations, and underlying service with strong support for the proposed routing, stations and service.

Communications and Publications

Metro Transit distributed project information through a variety of media. An email newsletter was created to deliver project news to interested stakeholders. Targeted social media posts promoted E Line developments and opportunities for comment to specific geographic locations.

E Line Corridor Plan: Station and Platform Locations

Following the completion of that study, planning work began to refine and review of early station location recommendations and identify specific planning issues. The contents of this plan were developed by Metro Transit staff throughout 2020 and 2021 with inputs and feedback received from a Technical Advisory Committee and through community outreach and engagement activities.

Draft E Line Corridor Plan Review

Metro Transit staff engaged riders and community members around the draft E Line Corridor Plan for public feedback in fall 2021. A public comment period was held Sept. 20–Oct. 31, 2021.

Due to the ongoing COVID-19 pandemic, most engagement was conducted virtually. Individual station plans were available to view online, and a comment survey form and project email address was also made available for the public to submit comments.

The draft plan release was communicated via print and digital communications including postcards, flyers at bus stops and on buses, limited in-person conversations, partnerships and meetings with community organizations and neighborhood groups, shared promotion by partner agencies, Rider Alerts and emails to Metro Transit subscribers, and targeted social media posts.

The survey included two primary questions, intended to solicit feedback on individual station locations and the Draft Corridor Plan overall. These questions are listed below:

- What are your comments about the proposed station plan at this location (for example: location of station or platform placement at the intersection)? [Select stations from dropdown menu]
- What are your general comments about the E Line corridor plan?

Metro Transit received 561 individual survey responses and emails providing feedback on the draft corridor plan. Revisions to the plan based on this feedback are summarized below.

Recommended E Line Corridor Plan Process

After the conclusion of the draft E Line Corridor Plan process, the draft document was revised based on feedback received and ongoing interagency coordination. Major plan revisions are summarized below.

This recommended corridor plan is being circulated for public review and comment. Following the 30-day public comment period, Metro Transit will review final comments and bring a final plan to the Metropolitan Council for approval in spring 2022.

Revisions in the recommended corridor plan

This recommended E Line Corridor Plan includes several revisions based on feedback received on the draft plan. Substantial revisions to the draft plan are denoted in gray shading throughout this document. More information about each revision is included in the linked section of the plan document. Revisions are summarized below.

Changes to three station locations:

- University & Berry: The northbound (terminal) platform is recommended to shift from on University Avenue west of Emerald Street to on Berry Street north of University Avenue following the left turn off University Avenue. No change is recommended to the southbound platform.
- Upton & 43rd Street: The southbound platform is recommended to shift from the farside (southwest corner) of the intersection of Upton Avenue and 43rd Street to the nearside (northwest) of the intersection. No change is recommended to the southbound platform
- 44th Street & Zenith: The station location is recommended to move from the intersection of 44th Street and Zenith Avenue to 44th Street and Abbott Avenue. The northbound and southbound platforms are both recommended to be located on the nearside (northeast and southwest corners) of the intersection.

Additional analysis at several other stations

Additional alternatives were analyzed at the following station locations, but no changes are recommended:

- Hennepin/1st Avenue & 2nd Street NE
- Sheridan & 39th Street
- France & 47th Street
- France & 50th Street

Expanded discussion of recommended bus-only lanes

The recommended plan includes expanded information on bus lane priorities, including segments that should be considered for evaluation and implementation of bus-only lanes and other bus priority treatments along the E Line alignment.

IV. Service

Considerations

A key goal of the E Line is to provide faster and more reliable transit service than existing Route 6 service. Balancing speed and access through wider stop spacing and alignment changes can result in localized changes in access as stops may be moved or consolidated. Other services that operate within the corridor also require evaluation as part of an overall assessment of how arterial BRT implementation will change transit service.

As recommendations for alignment and station locations have taken shape, Metro Transit has also evaluated the overall mix of bus service within the corridor. Key factors considered in this analysis included ridership and trip patterns along existing bus routes and branches, pedestrian access, demographics (riders with more mobility challenges or fewer transportation options), and operational cost and efficiency.

Proposed E Line Service

The E Line is planned to run every 10 minutes, seven days a week during the day and most of the evening, substantially replacing Route 6 as the primary service in the corridor. On average, E Line stops would be placed about 0.4 miles apart (two to three stops per mile) to balance speed and access. 82 percent of existing Route 6 riders would be able to catch the E Line within 1/8 mile of their current bus stop.

The exact E Line schedule, including hours of service and transitions from 10-minute service during the core of the day into later evening service, will be developed closer to E Line opening day.

Proposed Local Service in the Corridor

Local Route 6 service is proposed to remain running every 20 minutes from Minnesota Drive and France Avenue to downtown Minneapolis via Southdale Transit Center and Xerxes. Route 6 is not planned to run on 39th Street, France Avenue, or Wooddale Avenue following the start of E Line service. See *Figure 13* for a map of the E Line with proposed Route 6.

Route 12 is proposed to be replaced by the E Line along Hennepin Avenue from Uptown Transit Station to downtown Minneapolis.

Other local routes also serve parts of the E Line corridor, including routes 2, 4, 17, and 23. Limited-stop Routes 113 and 114, which provide service to the University of Minnesota, also serve portions of the corridor. No changes are currently planned to those routes in connection with the E Line.

Final service plans, including frequency and termini for local bus service along the E Line corridor, will be developed later in project development as the E Line nears implementation and as recovery from the COVID-19 pandemic continues. Key considerations will include public feedback, operating budget/staffing constraints, ridership patterns, redevelopment/land use patterns, and anticipated transit travel times based on bus priority treatments.

Figure 13: E Line and proposed Route 6

V. Stations

This section contains recommended locations for each station on the E Line corridor.

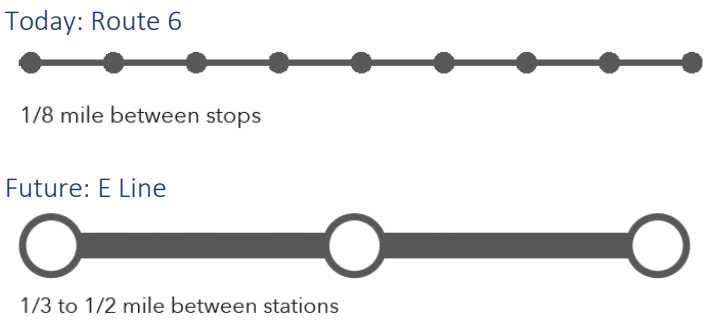
After corridor plan approval, this document will guide the detailed design of stations by confirming **station intersections** and **platform locations** at those intersections. Other characteristics will be finalized through detailed engineering.

What was considered at each location?

Station Location Considerations

A key objective of arterial BRT is to offer faster trips for more people along the corridor. Faster trips depend in part upon the strategic placement of stations spaced more widely than existing Route 6 bus stops. The existing Route 6 stops approximately every 1/8 of a mile. On average, E Line stops would be placed about 0.4 miles apart (two to three stops per mile) to balance speed and access. This increase in station spacing distance is anticipated to help E Line service operate about 20 percent faster than the existing Route 6, when combined with other improvements. Serving today's customers well and maximizing future ridership along the corridor depends upon station locations serving substantial numbers of passengers without significantly affecting pedestrian access. With the stations included in this plan, 82 percent of existing Route 6 riders would be able to catch the E Line within 1/8 mile of their current bus stop.

Figure 14: Arterial BRT and local service stop spacing after E Line implementation



Station location inputs include, but are not limited to:

- Targeted half-mile station spacing, on average
- Existing transit ridership at current bus stops
- Connections to other transit lines
- Community input and feedback
- Existing land uses
- Street design (e.g., roadway cross-section, bicycle/pedestrian facilities, driveways, medians, etc.)
- Available right-of-way

Platform Location Considerations

Each BRT **station** is made up of two **platforms**—one for each direction the bus travels. Platforms can usually either be placed **nearside** or **farside** of an intersection. A nearside station platform is located just before a roadway intersection. A farside platform is located just after a roadway intersection (Figure 15). Farside platforms are usually preferred because they help support faster bus service. As a result, E Line platforms will be placed farside whenever possible.

Figure 15: Farside platform example

Farside platforms are beneficial because they reduce conflicts between right-turning vehicles and stopped transit vehicles common at nearside stop locations. Farside stations also maximize transit signal priority effectiveness by allowing a bus to activate its priority call to the signal, progress through the intersection, and stop at the farside platform. This reduces delay in scenarios more common to nearside locations when a bus is required to stop twice before moving through an intersection: once to unload and load passengers at the platform itself and again for a red traffic signal after leaving the platform.

The preferred E Line platform location is on the farside of intersections. However, not all platforms are sited farside. Site-specific conditions that may limit farside platforms include:

- Existing roadway access points or driveways
- Right-of-way constraints
- Surrounding land uses

Additionally, nearside platforms may be preferred in limited cases based on signal timing or certain bus priority treatments, or at four-way stop-controlled intersections.

Other Considerations

Shelter Size

Preliminary shelter sizes are shown for each planned station to illustrate at a conceptual level how the shelter will fit into each location.

Except in limited cases near the end of the line, all arterial BRT stations are equipped with shelters, as described in Section I. A key variable at each station is shelter size: small, medium, or large shelter structures. Basic shelter dimensions are:

Small shelter: 12 feet long by 5 feet wide by 9 feet high
Medium shelter: 24 feet long by 5 feet wide by 9-12 feet high
Large shelter: 36 feet long by 5 feet wide by 9-12 feet high

The primary consideration in determining shelter sizes at each platform is projected ridership across the day and at peak times (specifically, the number of waiting customers at a single stop) for all routes serving the station.

Specific site conditions may also influence the size of the shelter planned for each location. Shelter size will ultimately be determined through detailed site engineering in the design phase.

See Figures 16-18 for example images of small, medium, and large arterial BRT shelters.

Figure 16: Small shelter on the A Line, Snelling & Dayton station

Figure 17: Medium shelter on the A Line, Snelling & County Road B station

Figure 18: Large shelter on the A Line, Snelling & University station

Curb Extensions / Bumpouts

For each station in this plan, a conceptual design is included to illustrate how the station platforms will fit into the street. In many cases, curb extensions are illustrated. These are preliminary ideas for how the stations will fit into the surrounding environment that will be refined and finalized through detailed engineering.

Many existing local bus stops are located in curbside parking lanes or right-turn lanes, causing delay for buses merging back into traffic. Platform bumpouts are considered at locations where the area against the curb is currently used for on-street parking or in some cases, turn lanes, to eliminate delay-inducing merging movements. They also provide extra space for station amenities without crowding sidewalks. This is illustrated in Figure 19. Bicycle facilities can also influence whether a bumpout is proposed.

Bumpouts improve overall bus operations by:

- Eliminating the need for buses to merge in and out of traffic to access stations
- Providing space for clear and accessible all-door boarding, shelters, and station amenities
- Minimizing conflicts between waiting bus passengers and pedestrians using the sidewalk

Bumpouts can also potentially reduce overall bus stop zone length, which may allow on-street parking spaces to be added in space previously used for bus movements.

At locations where bumpout platforms are not considered due to lane configurations or absence of on-street parking, the platforms will be adjacent to the existing curbside travel lane without moving the curb.

Under both bumpout and non-bumpout/curbside platform conditions, buses will generally stop in the travel lane to eliminate the need to merge into traffic when leaving stations.

Figure 19: Typical current bus stop versus bumpout / curb extension

Today, buses stop outside of the through lane with little space for customer amenities. Merging back into traffic causes delay.

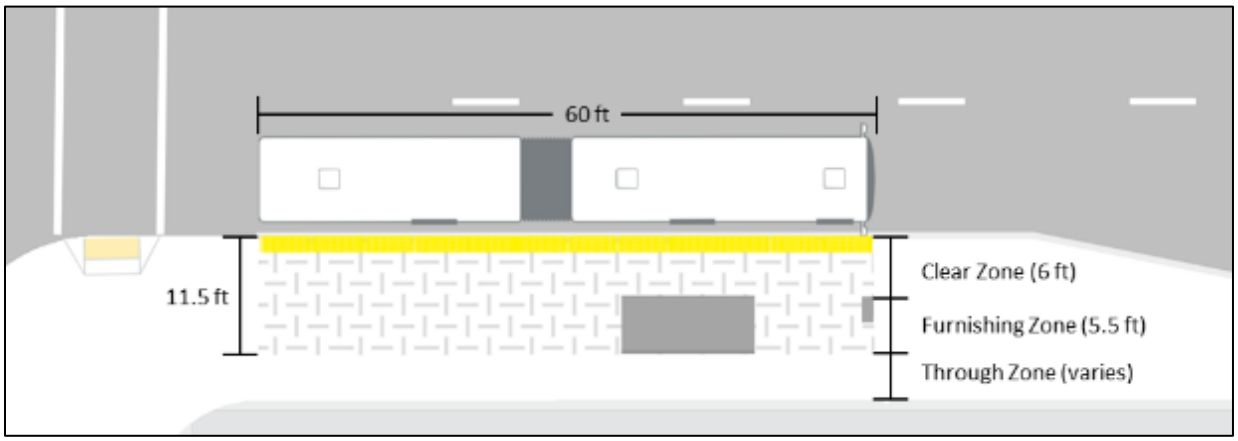
Curb bumpouts provide space for station amenities and pedestrians.

Platform Length, Width, and Height

Typical dimensions for E Line platforms are shown in Figure 20. Generally, E Line platforms will be designed for a standard length of 60 feet. A 60-foot platform length can fully accommodate all doors of a 60-foot articulated bus planned for the E Line. Certain constrained conditions, like existing access points and driveways, might prevent a full 60-foot-long platform from being constructed; however, these situations are avoided wherever possible. In some places, stations may be designed at a longer length to accommodate more than one stopped bus. Platform lengths will be finalized during design.

E Line platforms will generally be designed for a standard width of 11.5 feet. This width can accommodate a 6-foot-wide clear zone behind the curb and 5.5-foot-wide furnishing zone to accommodate BRT station elements including the shelter, pylon marker, and other amenities. The clear zone is generally provided independent from a through zone behind the platform. However, certain constrained conditions, like narrow distances between the curb and a building face might prevent a full 11.5-foot-wide platform from being constructed in addition to an independent through zone. In these cases, the through zone and clear zone may be combined. Platform widths will be finalized during design.

Figure 20: Typical E Line Platform Dimensions



Platforms will be designed with a standard of nine-inch curb height to facilitate "near-level boarding." Near-level boarding substantially reduces the distance between the curb and the floor of the bus, easing vehicle access for passengers with low mobility and enabling faster boarding and alighting of all passengers. Near-level boarding does not eliminate the need for ramps to be deployed to assist passengers using mobility devices. Curb heights of nine inches or lower are compatible with all bus models. Curb heights for specific E Line platforms will be finalized during design.

Near-level boarding is not "level boarding," where platforms are located at the same level and height as the floor of the bus, at approximately 14 inches. Light rail platforms within the Twin Cities are an example of level-boarding platforms. Level-boarding platforms are not being considered for the E Line due to engineering considerations and the space constraints of the corridor; ramping up to a 14-inch curb from a 6-inch sidewalk requires a prohibitively large area. Level boarding also requires that buses slow down considerably upon approaching stations, which can significantly negate the travel time savings benefit that arterial BRT may provide.

Stations by Location

The following section contains individual station plans for each of the E Line stations. The plans communicate two core station components: the station intersection and the location of platforms within that intersection. Other preliminary design details are provided for additional context but are conceptual and will be finalized during the design phase.

The individual station plans are organized north to south beginning at the METRO Green Line Westgate Station and continuing to Southdale Transit Center. Note that this list includes stations with finalized locations based on planning, design, and/or construction of other projects. These stations do not include station plan illustrations, but descriptions are provided for information.

The plan identifies 34 stations over the 13.3-mile corridor. Figures 21-26 summarize the proposed station locations at the corridor-wide level, illustrating existing Route 6 ridership, planned station spacing, and connecting bus service.

Stations in bold have been updated from the draft plan.

University & Berry

University & Malcolm

University & 27th Avenue

University & 23rd Avenue

University/4th Street & U of M Rec Center/Ridder Arena*

University/4th Street & 15th Avenue*

University/4th Street & 10th/11th Avenue*

University/4th Street & 6th Avenue*

University/4th Street & Central*

Hennepin/1st Avenue & 2nd Street NE*

Hennepin & Gateway*

Hennepin & 3rd/4th Street*

Hennepin & 5th Street*

Hennepin & 7th/8th Street*

Hennepin &10th/11th Street*

Hennepin & Spruce/Laurel

Hennepin & Groveland

Hennepin & Franklin*

Hennepin & 25th Street*

Uptown Transit Station*

Hennepin & 33rd Street*

Hennepin & 36th Street*

Richfield Rd & Bde Maka Ska South

Sheridan & 39th Street

Upton & 43rd Street

44th Street & Abbott

France & 44th Street

France & 47th Street

France & 50th Street

France & 54th Street

France & 58th Street

France & 62nd Street

65th Street & Fairview Southdale Hospital

Southdale Transit Center

* Denotes a station area that has been or will be developed in coordination with other projects led by partner agencies.

Figure 21: Planned E Line stations and 2019 Route 6 ridership, northern section

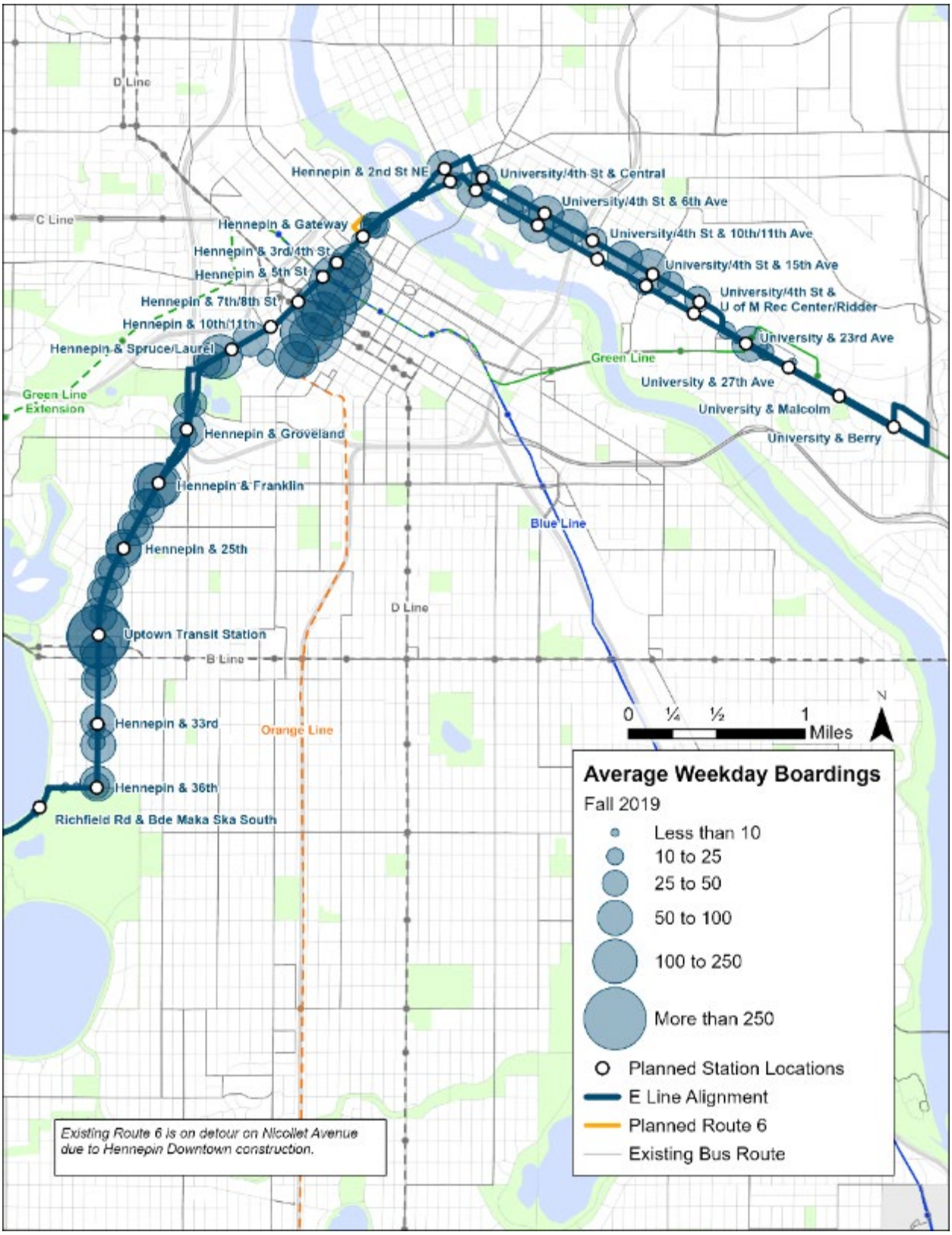


Figure 22: Planned E Line stations and 2019 Route 6 ridership, southern section

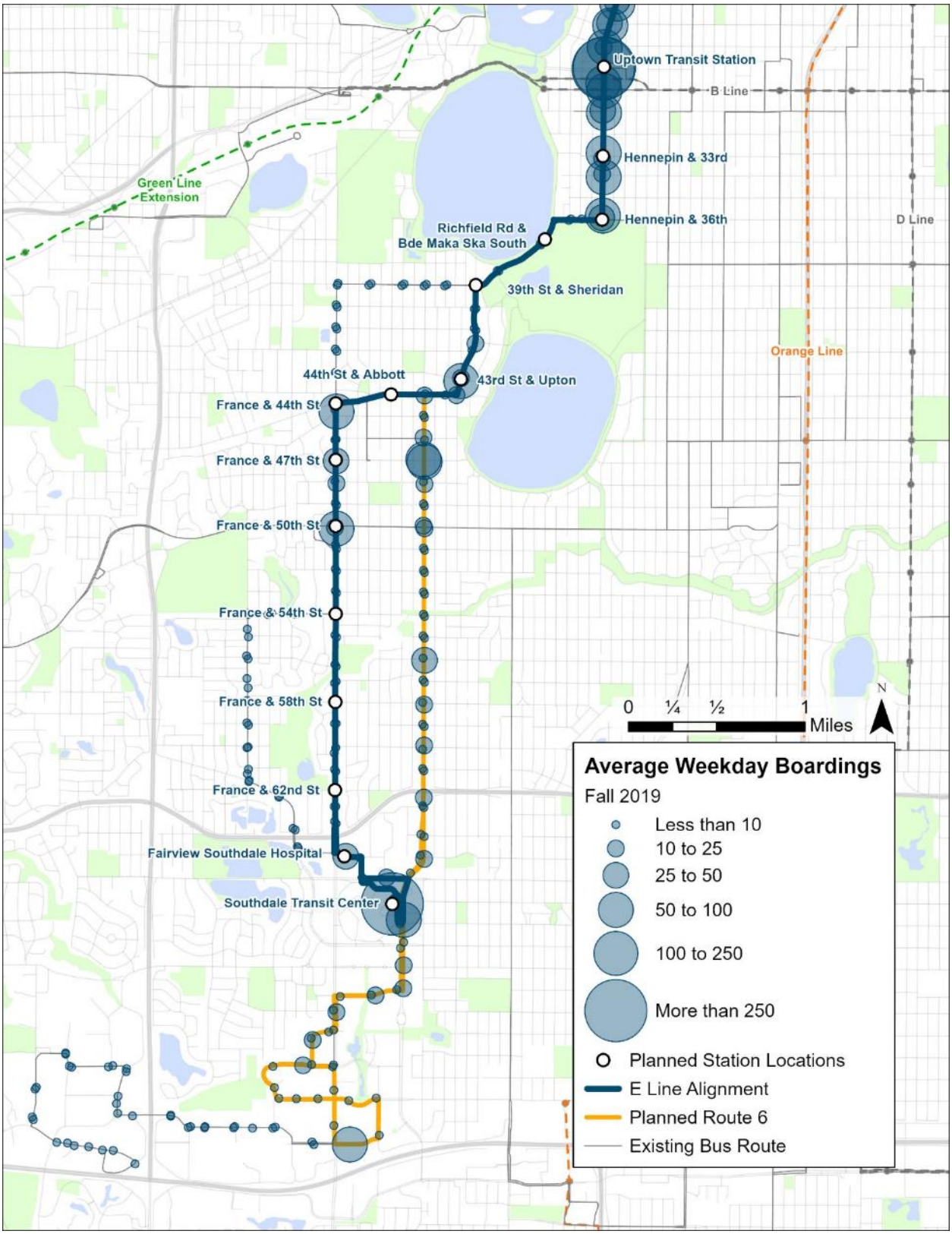


Figure 23: Planned E Line stations and station spacing, northern section

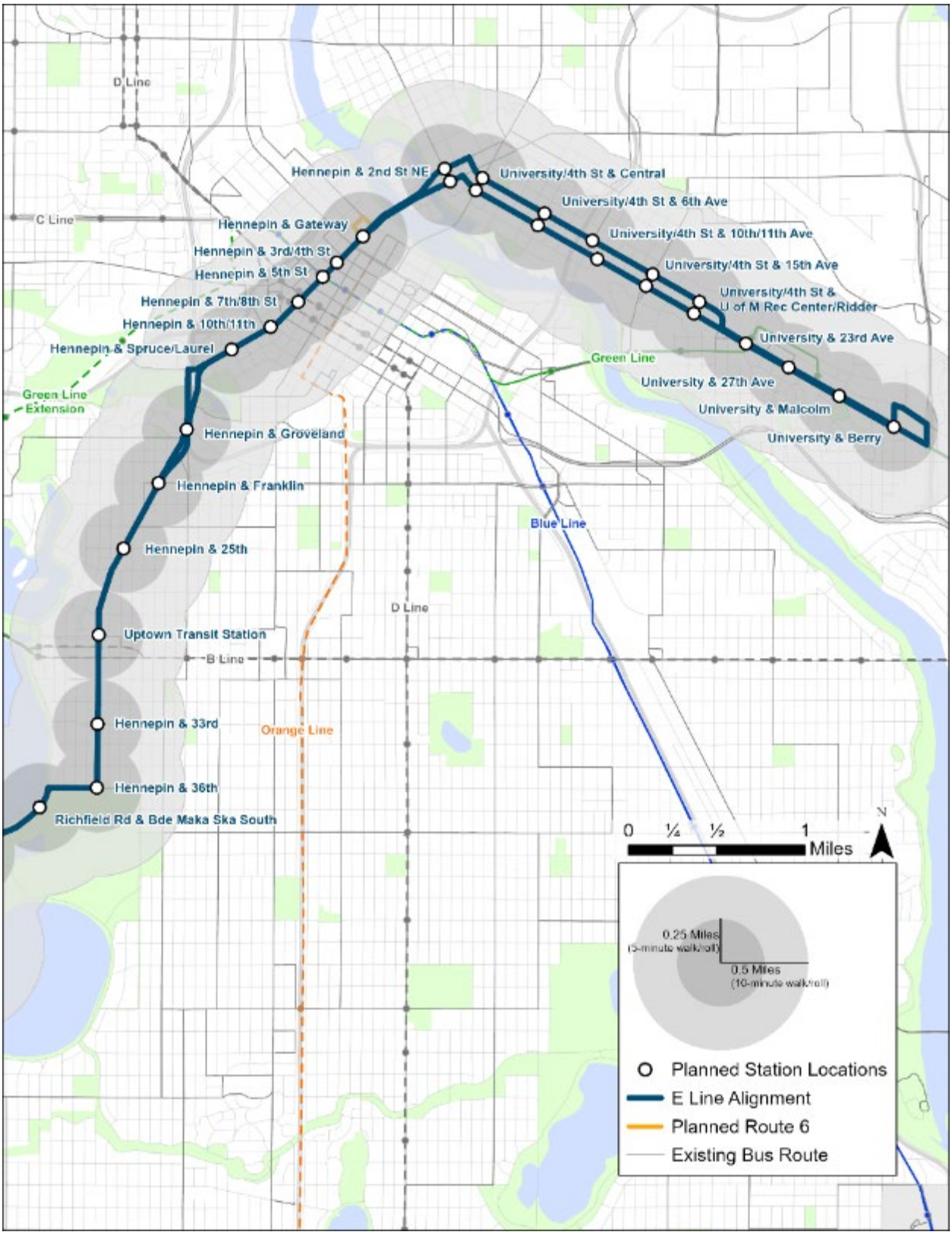


Figure 24: Planned E Line stations and station spacing, southern section

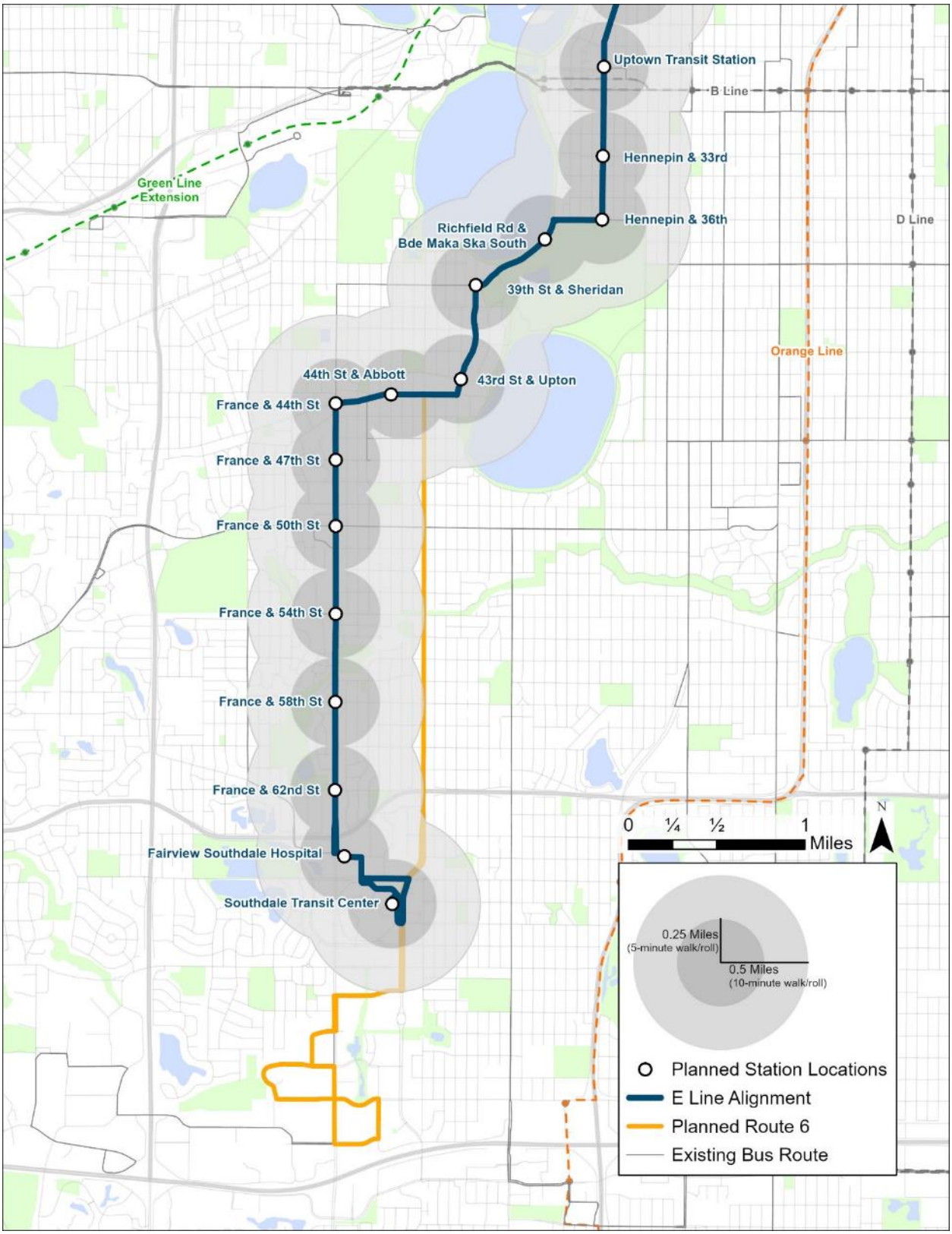
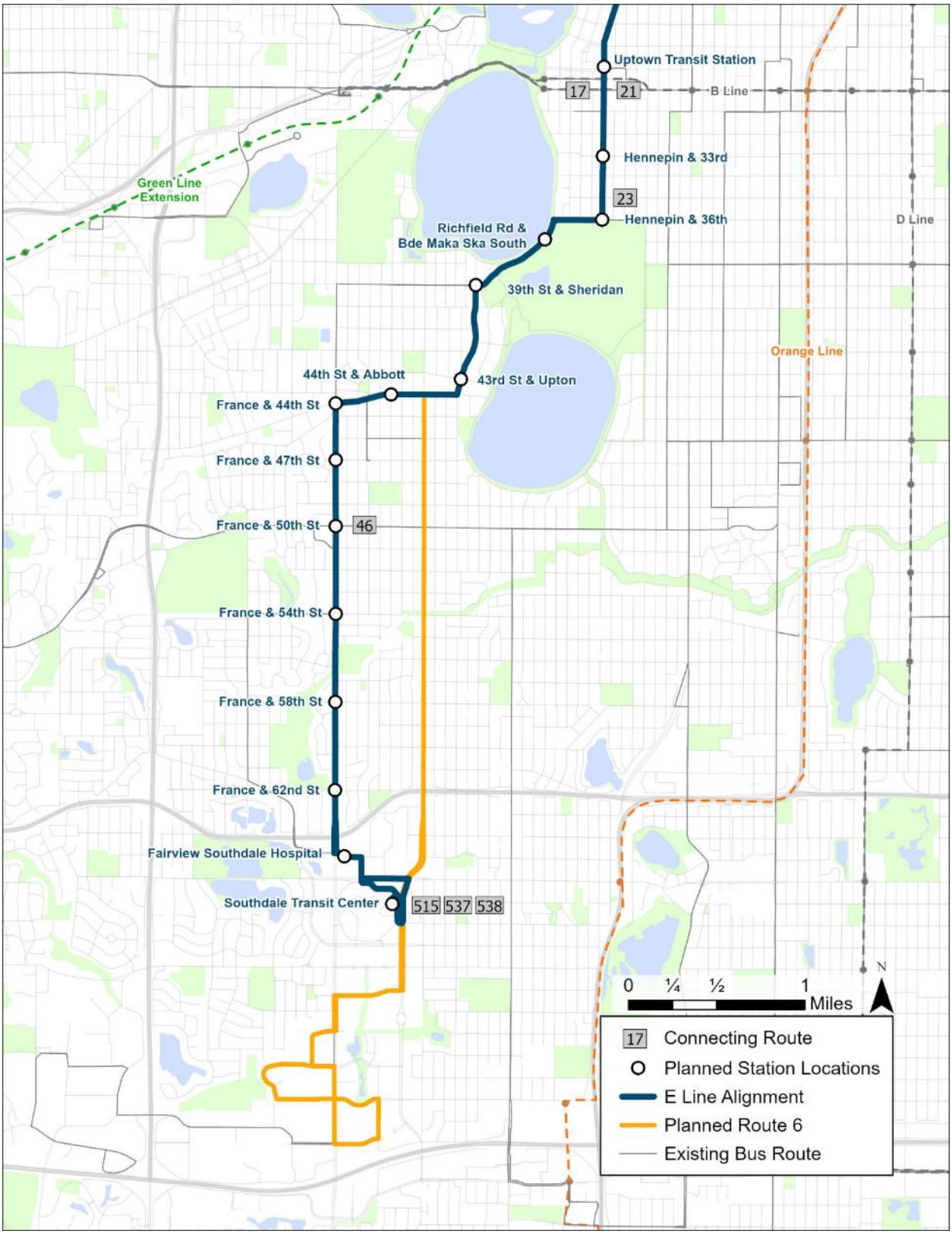


Figure 25:Planned E Line stations and connecting bus routes, northern section

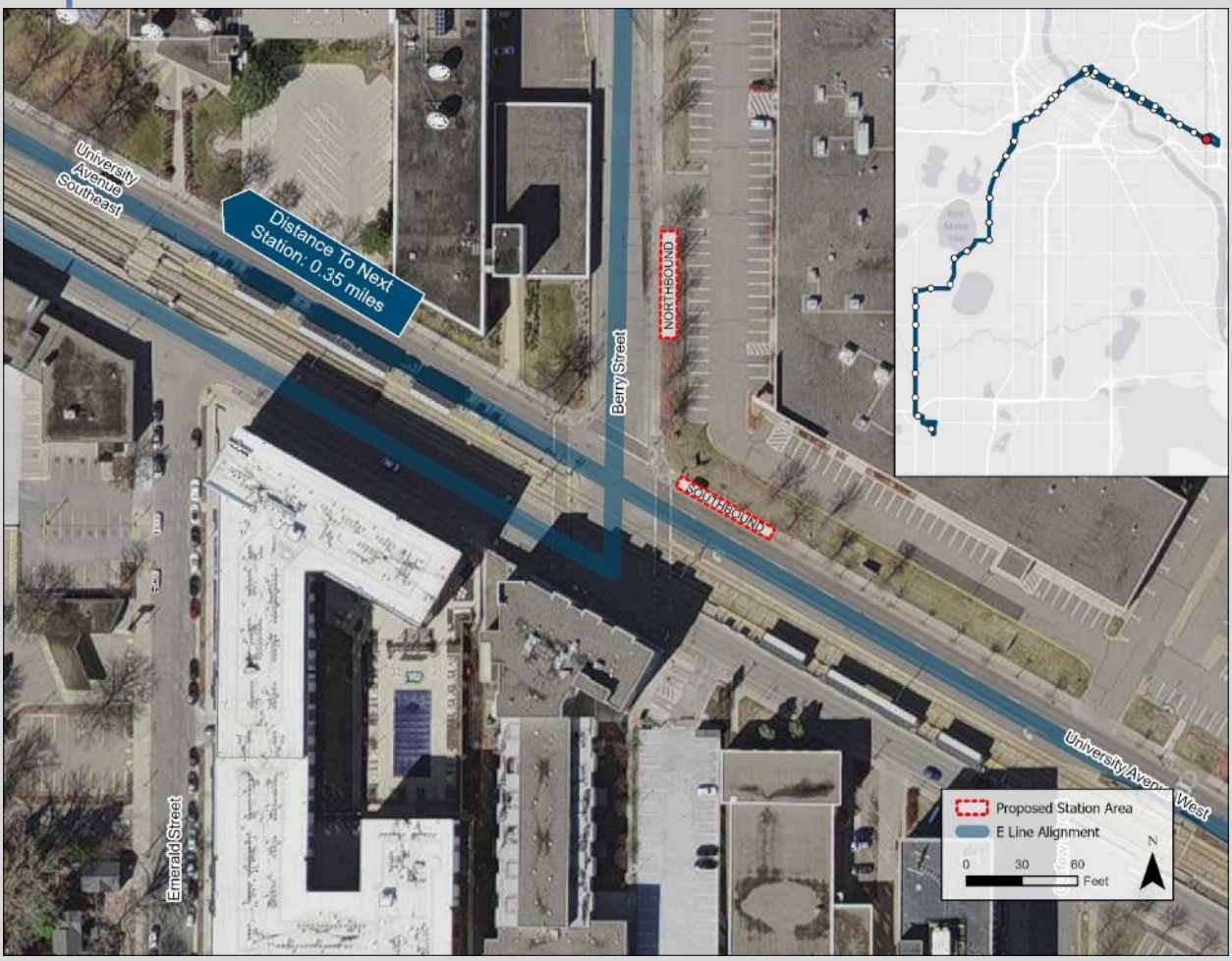
Figure 26: Planned E Line stations and connecting bus routes, southern section



University & Berry

This station is the northern terminal for the E Line, and offers connections to Route 30, Route 63, and the METRO Green Line.

Proposed Station Location

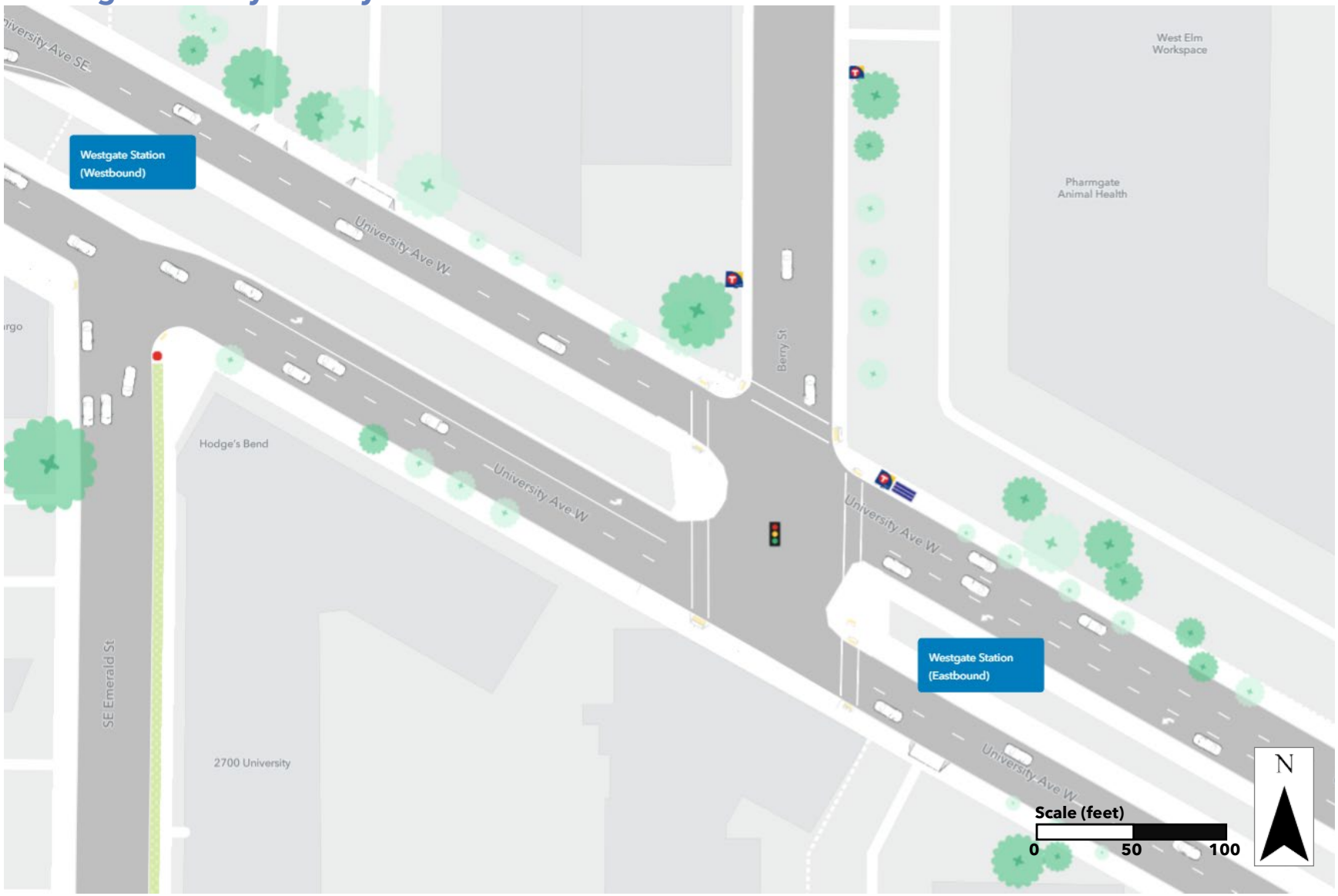


Changes based on draft plan feedback

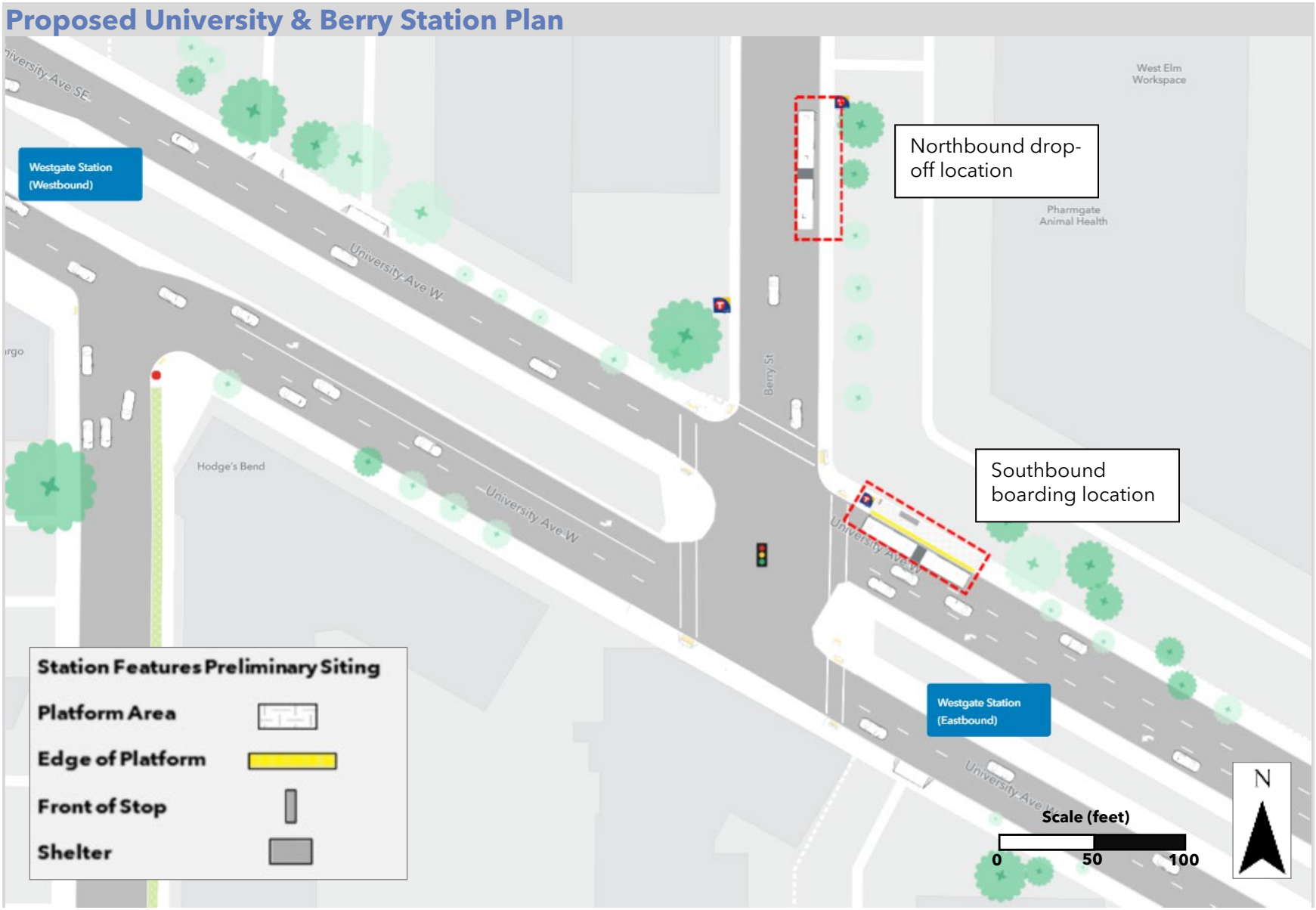
In the draft corridor plan, the northbound terminal platform at University & Berry was shown on University Avenue west of Emerald Street. The recommended platform location is now shown on Berry Street north of University Avenue. Minimal improvements will be made at this platform location, as it is the last northbound platform and will serve only people getting off the bus.

This change will enable more convenient connections between the E Line and the METRO Green Line at Westgate Station and Route 30 and Route 63 and support safer pedestrian access to the platform. This change aligns with public feedback and comments provided by agency partners.

Existing University & Berry Station Area



Proposed University & Berry Station Plan



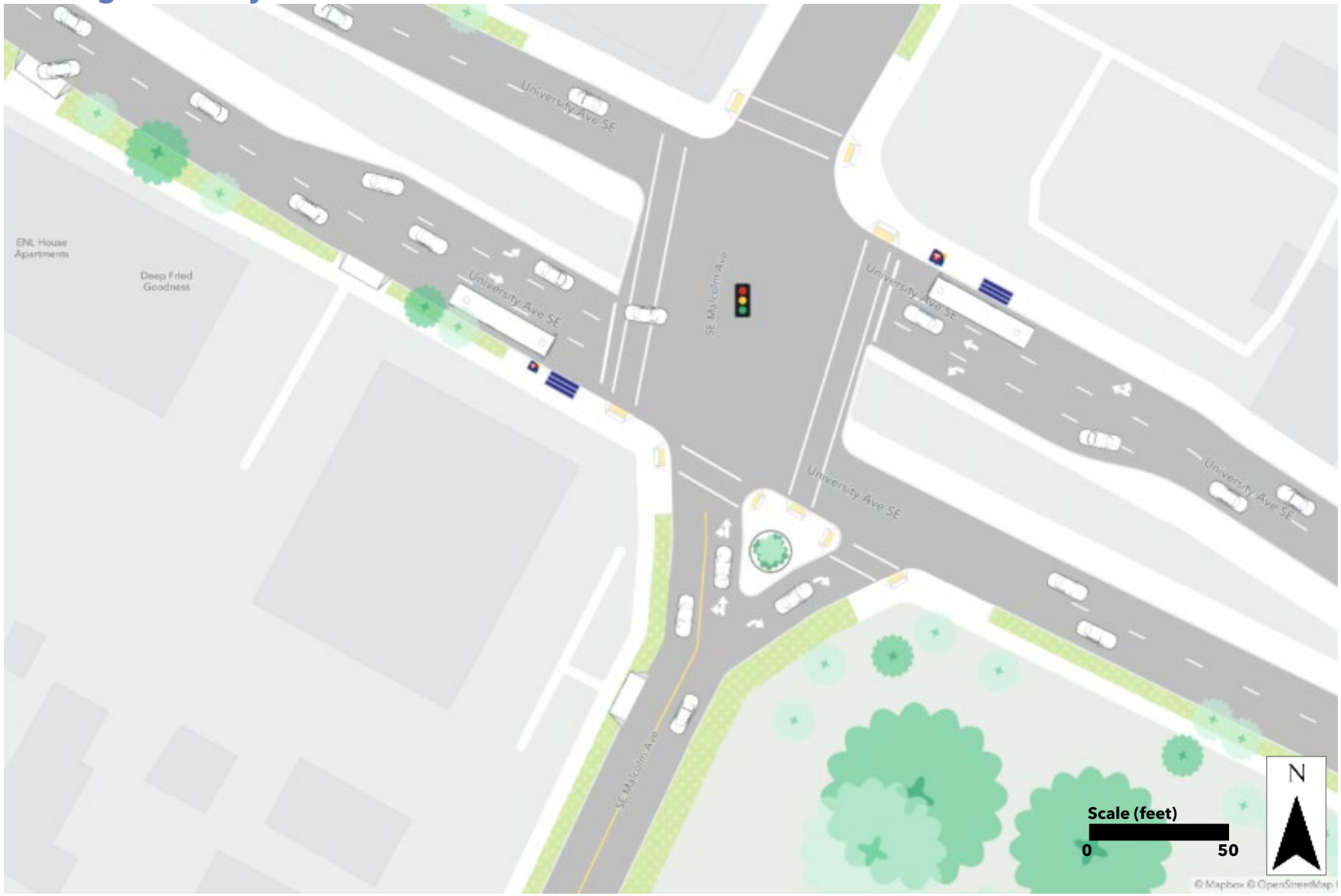
University & Malcolm

Proposed Station Location

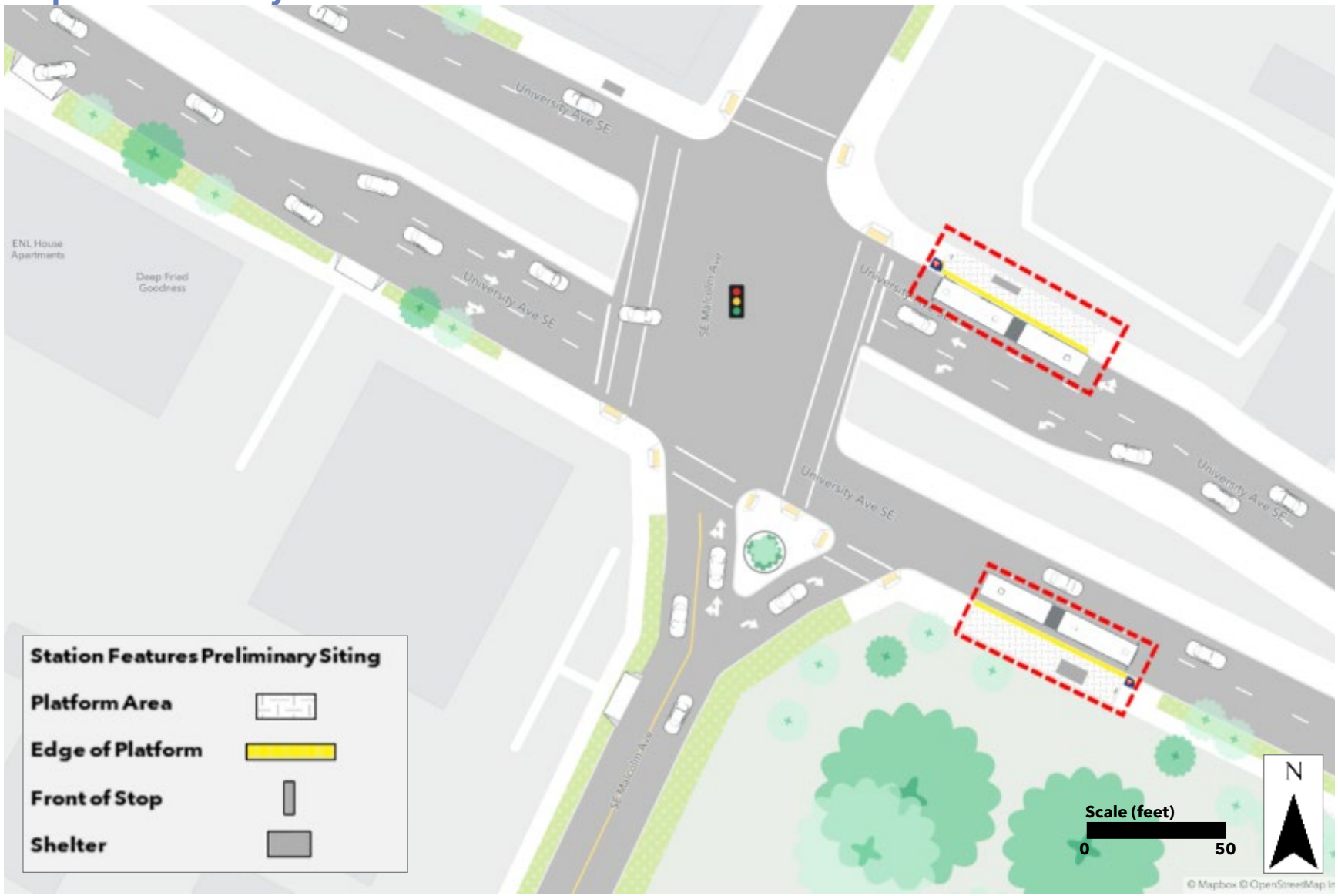
Other station locations considered: University & 29th Avenue

A single station at University & 29th Avenue was considered instead of the University & Malcolm and University & 27th Avenue stations. While a 29th Avenue would facilitate connections at the METRO Green Line Prospect Park Station, the next stop to the south would have been about 0.8 mile away, greater than the typical guidelines of about a half mile between stations. The E Line will make Green Line connections at Westgate and Stadium Village stations.

Existing University & Malcolm Station Area

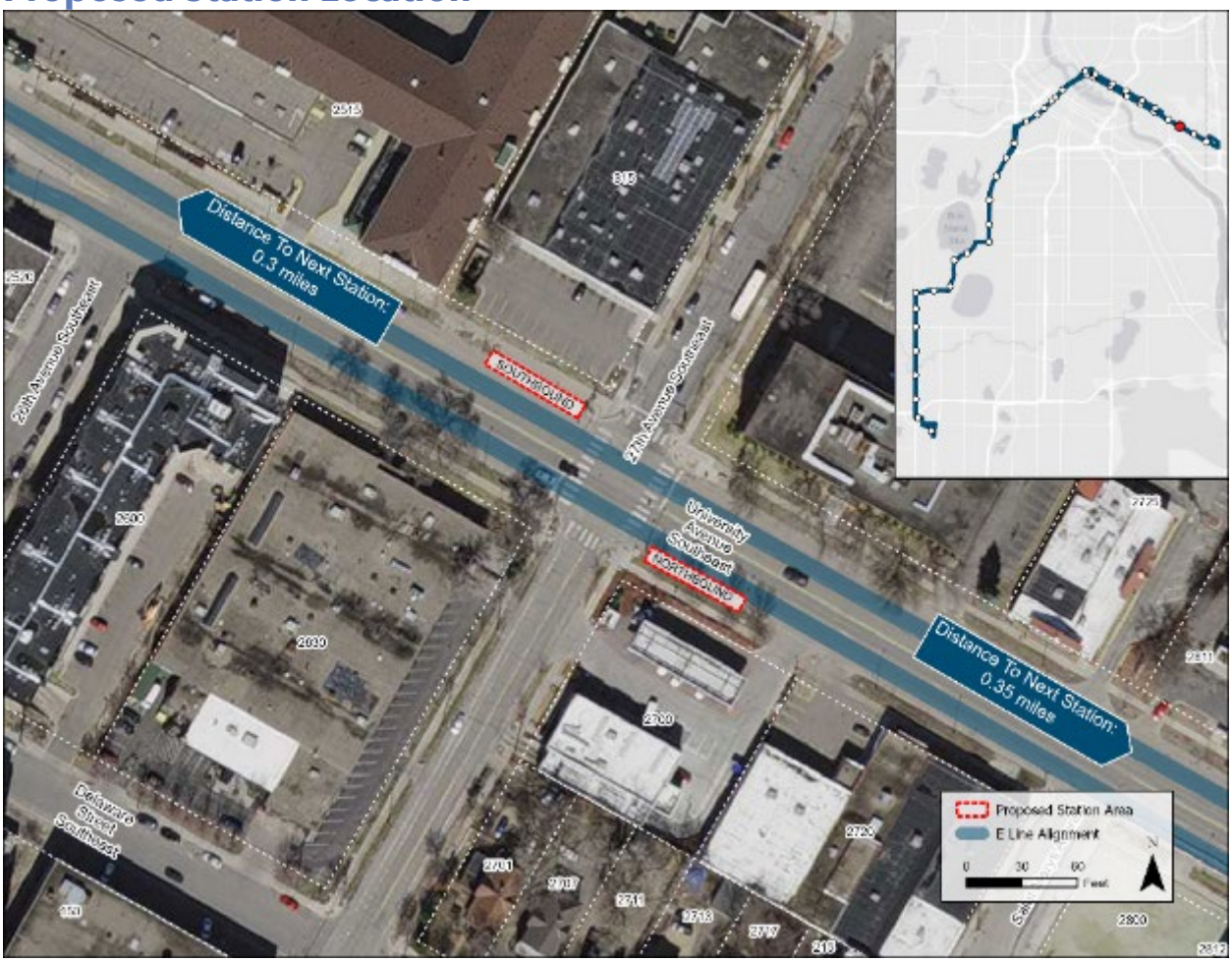


Proposed University & Malcolm Station Plan



University & 27th Avenue

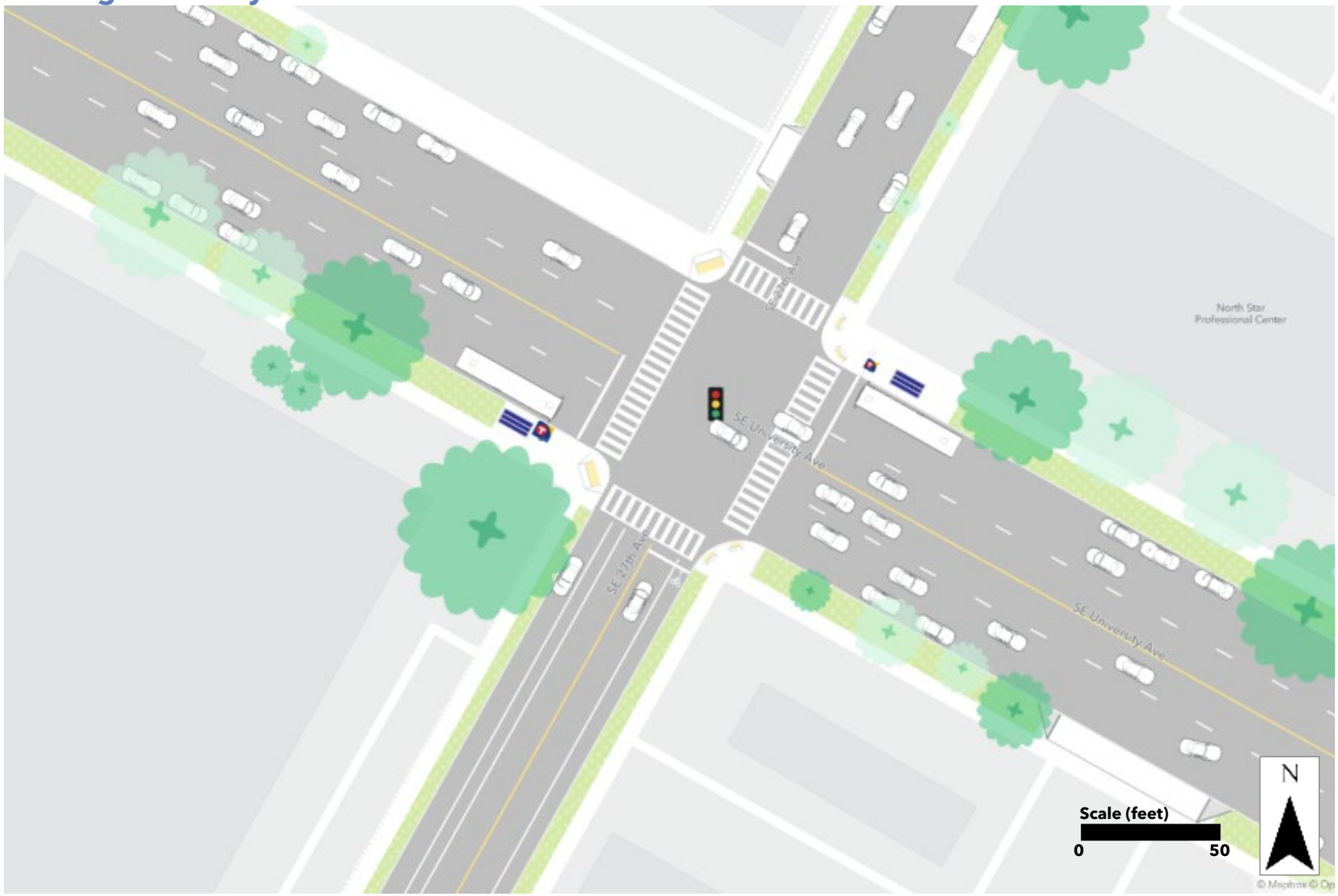
Proposed Station Location



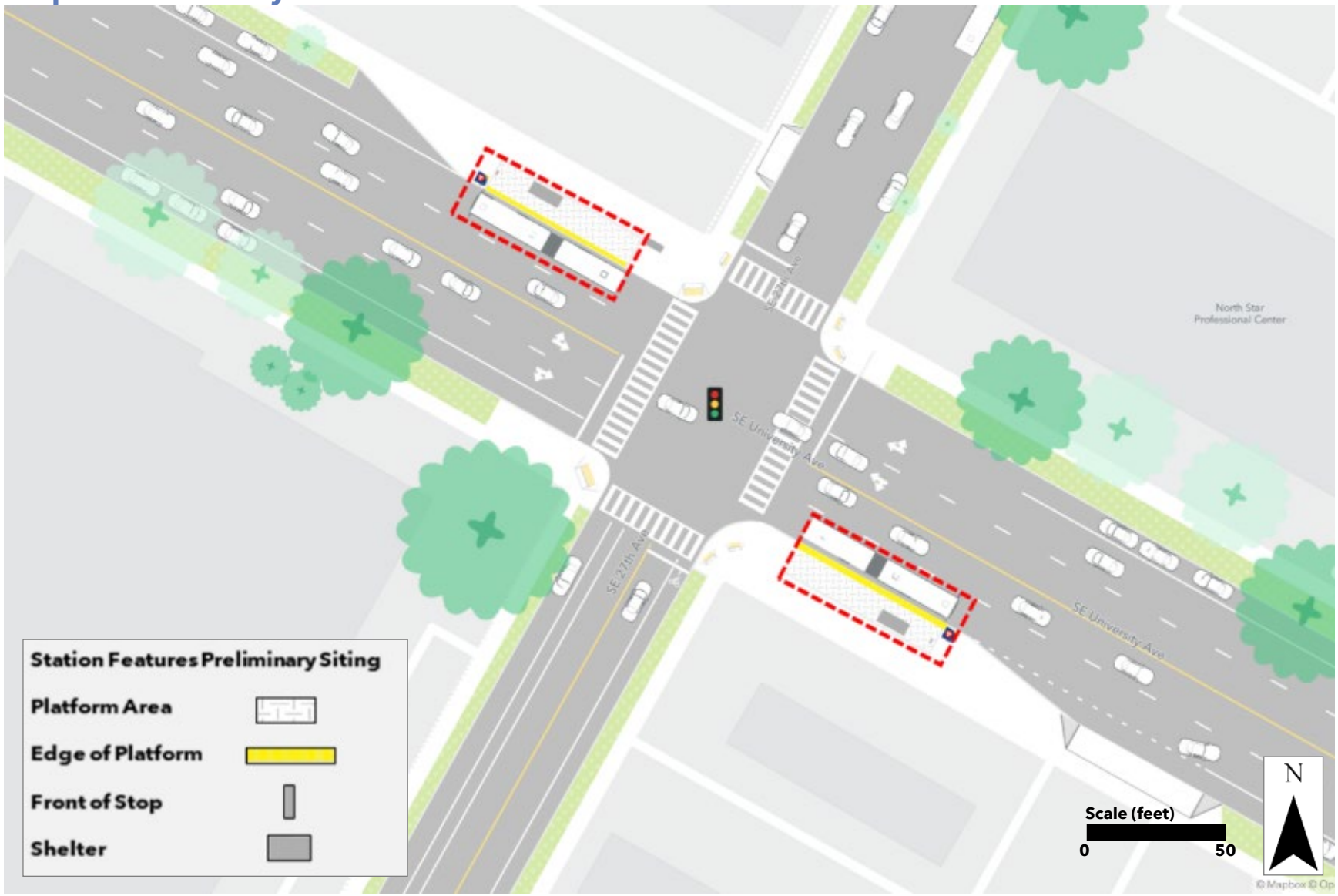
Other station locations considered: University & 29th

A single station at University & 29th was considered instead of the University & Malcolm and University & 27th Avenue stations. While a 29th Avenue would facilitate connections at the METRO Green Line Prospect Park Station, the next stop to the south would have been about 0.8 mile away, greater than the typical guidelines of about a half mile between stations. The E Line will make Green Line connections at Westgate and Stadium Village stations.

Existing University & 27th Avenue Station Area



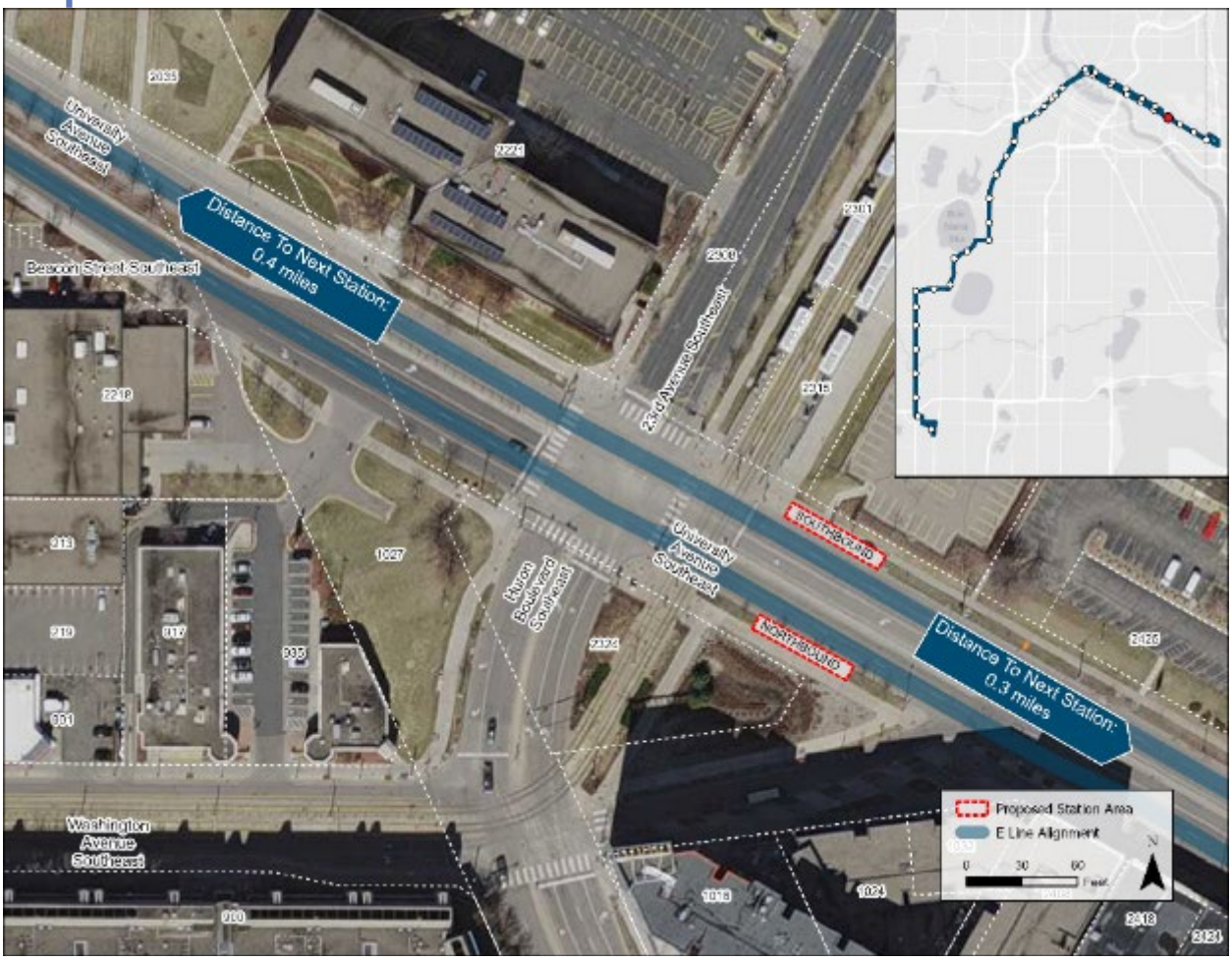
Proposed University & 27th Avenue Station Plan



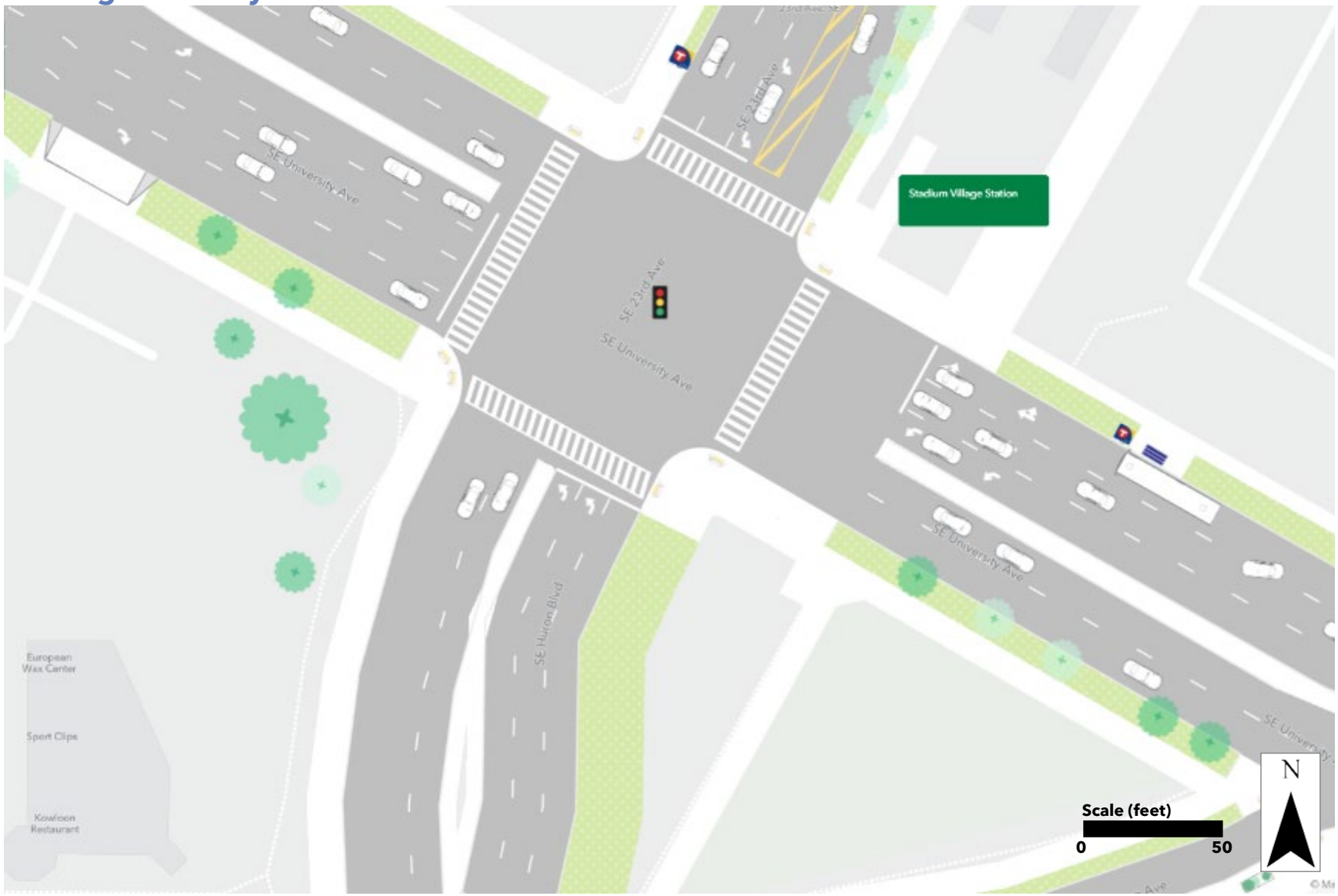
University & 23rd Avenue

This station offers connections to the METRO Green Line.

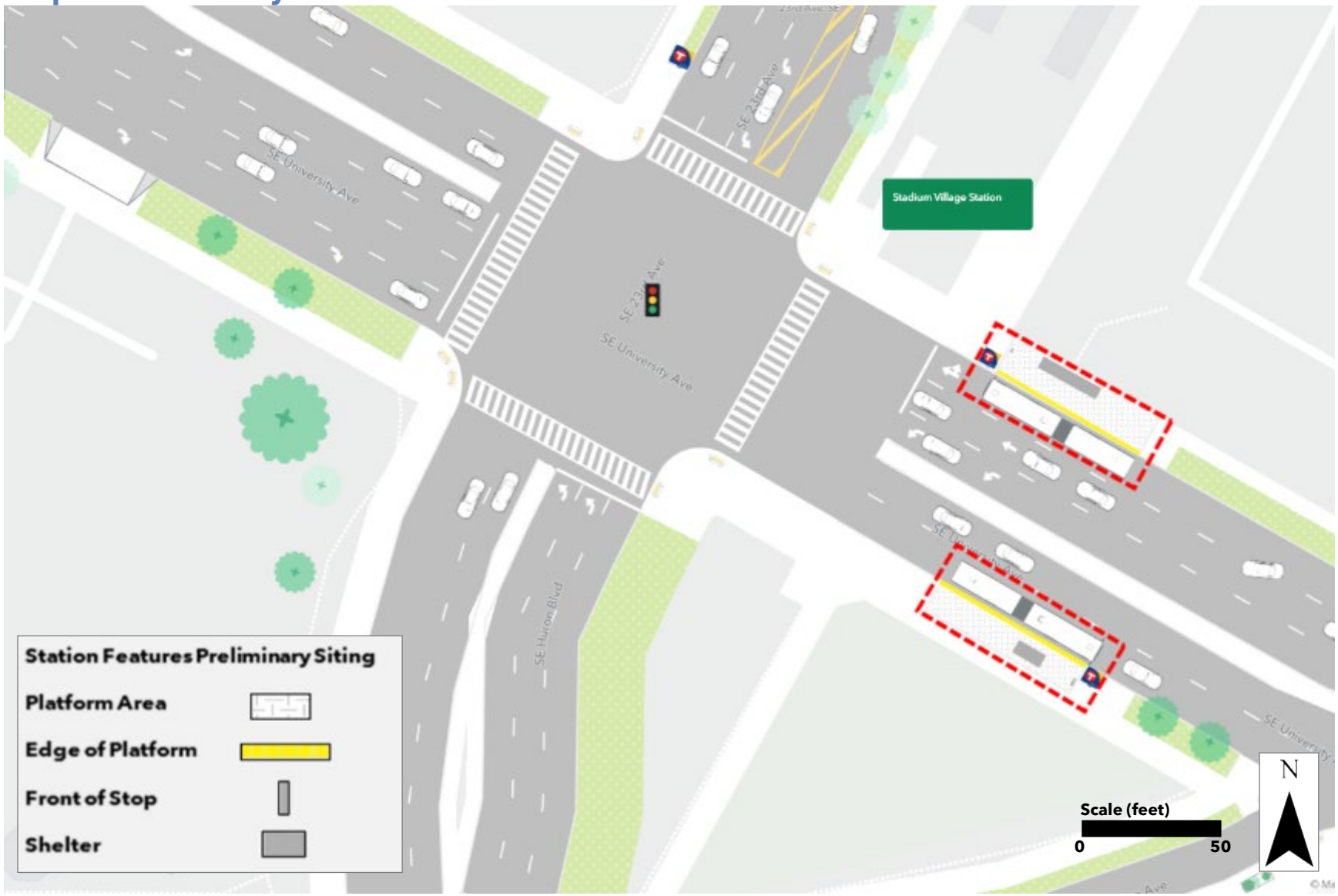
Proposed Station Location



Existing University & 23rd Avenue Station Area



Proposed University & 23rd Avenue Station Plan



University/4th Street & U of M Rec. Center/Ridder Arena

This station offers connections to Route 2, Route 121, Route 122, and Route 123. This is one of several stations being planned and designed in coordination with the University Avenue and 4th Street SE Roadway Improvements project led by Hennepin County, planned to begin construction in 2023. This project is considering design options for improving bike and pedestrian facilities and access to transit. The details of proposed station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/universityandfourth

Proposed Station Location

University/4th Street & 15th Avenue

This station offers connections to Route 2, Route 3, Route 121, Route 122, and Route 123. This is one of several stations being planned and designed in coordination with the University Avenue and 4th Street SE Roadway Improvements project led by Hennepin County, planned to begin construction in 2023. This project is considering design options for improving bike and pedestrian facilities and access to transit. The details of proposed station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/universityandfourth

Proposed Station Location

University/4th Street & 10th/11th Avenue

This station offers connections to Route 2, Route 122, and Route 123. This is one of several stations being planned and designed in coordination with the University Avenue and 4th Street SE Roadway Improvements project led by Hennepin County, planned to begin construction in 2023. This project is considering design options for improving bike and pedestrian facilities and access to transit. The details of proposed station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/universityandfourth

Proposed Station Location

University/4th Street & 6th Avenue

This station offers connections to multiple commuter and express routes. This segment of University & 4th has been identified by the City of Minneapolis and MnDOT for the implementation of a protected bikeway. No project is currently identified for this segment; however, an E Line station is not intended to preclude the development of a future protected bikeway. Additional project coordination with the City and MnDOT during E Line engineering is needed to develop details for the proposed station plan at this location.

Proposed Station Location

University/4th Street & Central

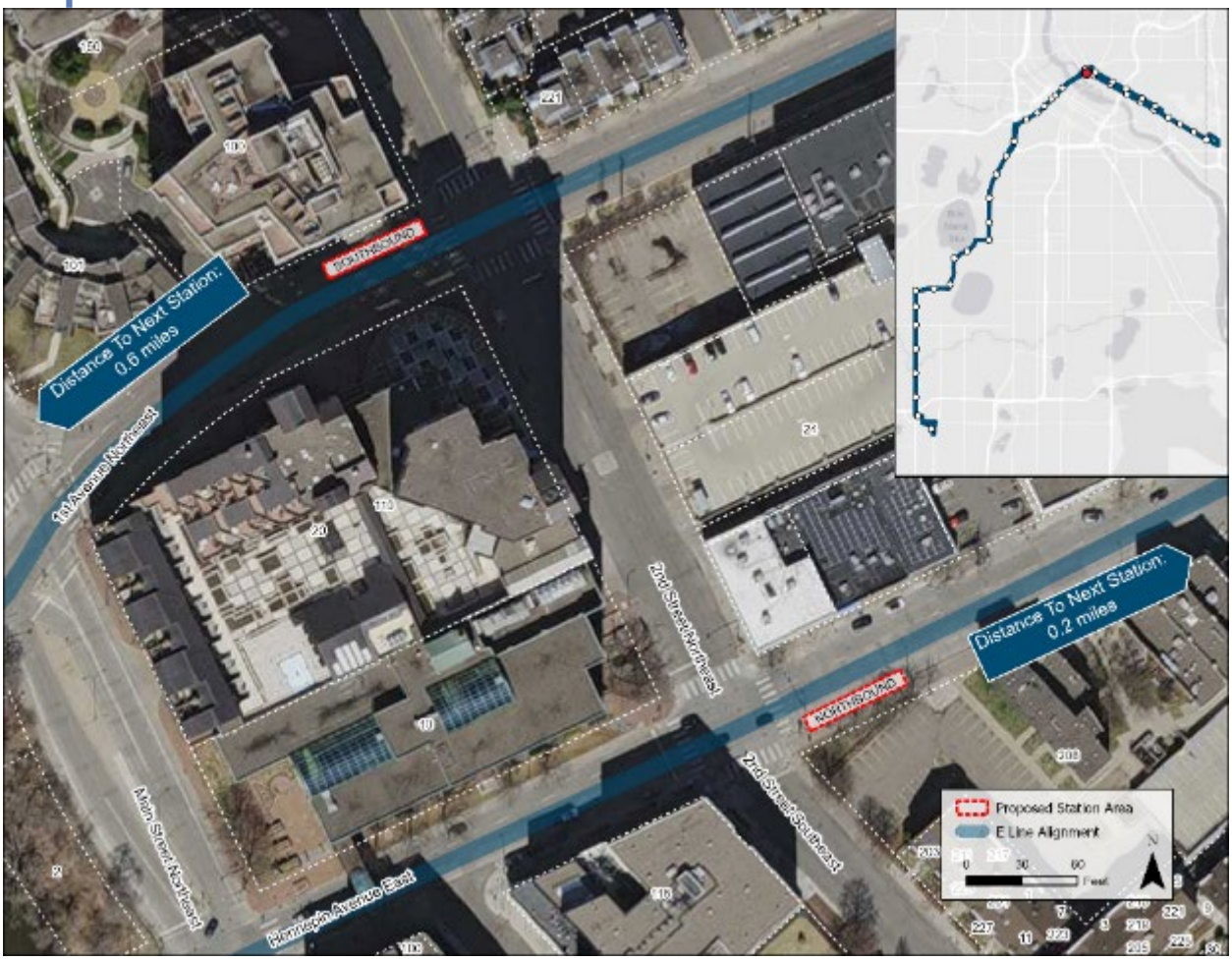
This station offers connections to Route 10, Route 17, Route 25, and multiple commuter and express routes. This station will also offer a connection to the future METRO F Line on Central Avenue. This segment of University & 4th has been identified by the City of Minneapolis and MnDOT for the implementation of a protected bikeway. No project is currently identified for this segment; however, an E Line station is not intended to preclude the development of a future protected bikeway. Additional project coordination with the City and MnDOT during E Line engineering is needed to develop details for the proposed station plan at this location.

Proposed Station Location

Hennepin/1st Avenue & 2nd Street NE

This station offers connections to Route 4, Route 11, Route 61, Route 141, and Route 824. This station is being planned and designed in coordination with the Hennepin Avenue and 1st Avenue Roadway Improvements project led by Hennepin County, planned to begin construction in 2023 or 2024. This project is considering design options for improving bike and pedestrian facilities and access to transit. The details of proposed station plans are being developed in coordination with this project. Additional project details are available at: www.hennepin.us/hennepin-and-first

Proposed Station Location



Other station locations considered: Nicollet Island

An alternative station location was considered at Nicollet Island. Based on surrounding land uses, population and employment density, and existing and potential ridership, the location at 2nd Street NE is recommended.

Additional analysis based on draft plan feedback

Based on public feedback received on the draft corridor plan, citing concerns about sidewalk width, traffic and bus operations, and parking and loading zone loss, additional locations for the southbound platform were analyzed at the following locations:

- Baseline Location: 1st Ave NE and 2nd St NE farside
- Alternative A: 1st Ave NE and 2nd St NE nearside
- Alternative B: 1st Ave NE and University Ave farside
- Alternative C: 1st Ave NE and University Ave nearside

Figure 27: 1st Ave & 2nd Street NE southbound alternatives

Alternative C on 1st Ave SE and University Ave nearside was not carried forward because the platform would conflict with the right turn lane northbound onto University Avenue. This is a high volume right turn lane that will remain in place with the Hennepin and 1st Roadway Improvement Project.

Alternatives A and B were compared with the baseline platform location on additional factors shown in Table 1.

Table 1: Additional analysis of 1st Avenue & 2nd Street NE southbound platform alternatives

Key to symbols	Green = Preferred	Yellow = Not Preferred	Orange = Undesirable

	Factor	Baseline	Alternative A	Alternative B
	Safe pedestrian crossings	Encourages crossing at intersection	Encourages crossing at intersection	Encourages crossing at intersection
	Access to destinations	Balances access to commercial center with access to De La Salle High School	Closer access to commercial center with longer distance from De La Salle High School	Closer access to commercial center with longer distance from De La Salle High School
	Meets guidelines for station spacing	Station between 1/4-1/2 mile to previous station	Station between 1/4-1/2 mile to previous station	Station closer than 1/4 mile to previous station
	Available effective right-of-way/ pedestrian space	Space available to meet needed widths BRT platform, bicycle facility, and pedestrian space.	Space not available to meet needed widths for BRT platform, bicycle facility, and pedestrian space.	Space not available to meet needed widths for BRT platform, bicycle facility, and pedestrian space.
	Speed and reliability	Farside platform location at signalized intersection reduces likelihood of stopping at red light	Nearside platform location at signalized intersection increases likelihood of stopping at red light	Farside platform location at signalized intersection reduces likelihood of stopping at red light
Concerns identified by station neighbors	On-street parking and loading	0 parking spaces removed due to platform; existing loading zone may be accommodated on 2nd Street NE	0 spaces removed	0 spaces removed
	Storefront or residential visibility	Limited potential effect on residential visibility	Some potential effect on residential visibility	Some potential effect on residential visibility
	Trees and other public amenities	2 trees potentially disturbed; design will consider preservation and/or replacement	No trees potentially disturbed, potential disruption to private landscaping	No trees potentially disturbed, potential disruption to private landscaping
	Interference with right turn only lane onto Main Street	No conflict. Right turn lane is removed in Hennepin/1st roadway plans	No conflict. Right turn lane is removed in Hennepin/1st roadway plans	No conflict. Right turn lane is removed in Hennepin/1st roadway plans
	Recommendation	Retain platform in recommended plan	Do not advance	Do not advance

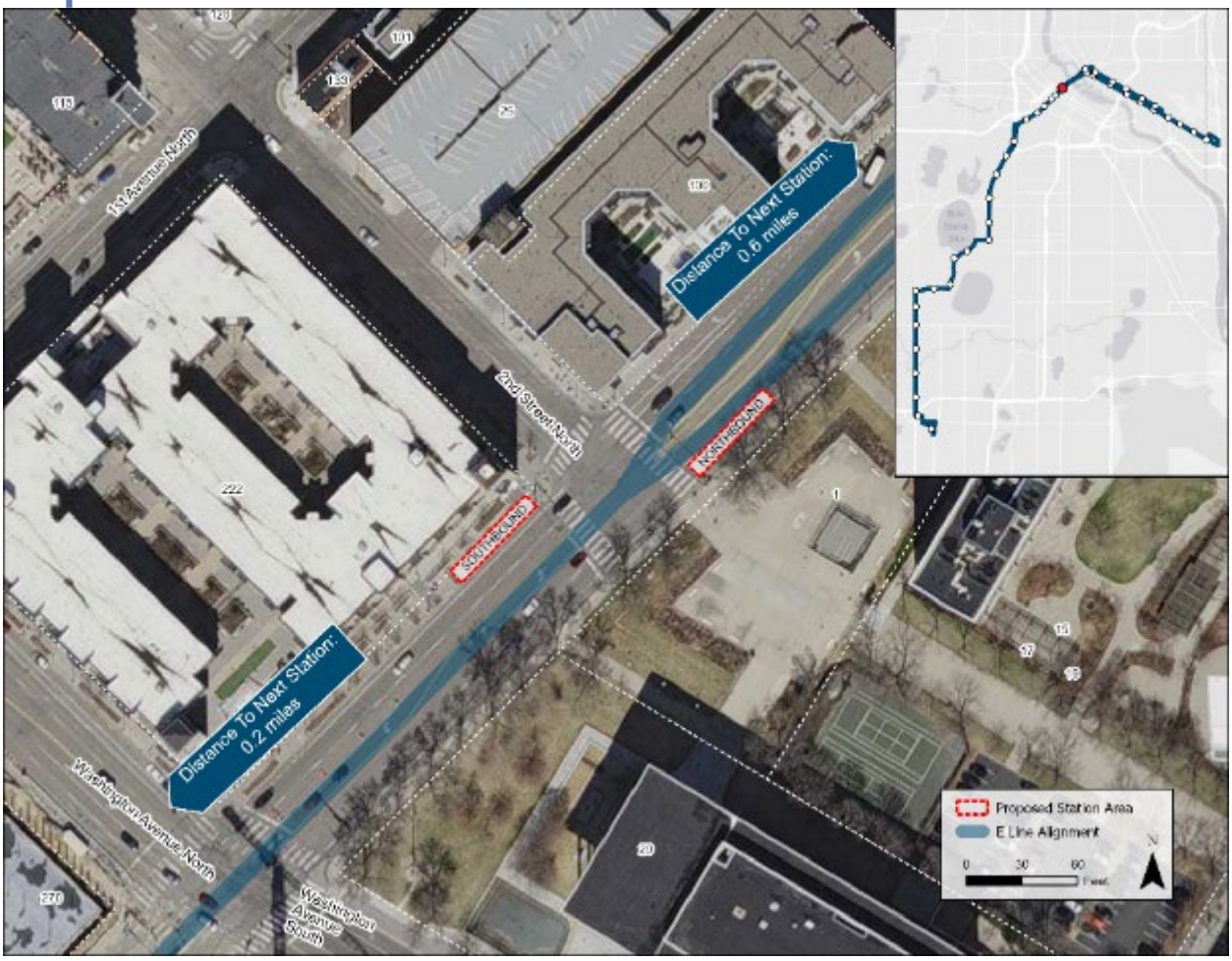
The baseline location at 1st Avenue & 2nd Street NE provides the most balanced access to people and destinations in this part of the E Line corridor. Effective right-of-way and pedestrian space are limited on the block between 2nd Street NE and University Avenue. Siting the station on that block would result in substandard platform, bikeway, and pedestrian space behind the platform. Additionally, Alternatives A and B would result in greater

potential visibility effects than the baseline, as the shelter and pylon would be placed closer to street- and garden-level residential entryways and frontage. Based on these considerations, no change is recommended to the platform location at this station.

Hennepin & Gateway

This station offers connections to Route 4, Route 6, Route 11, Route 61, and multiple commuter and express routes. This segment of Hennepin Avenue has been identified by the City of Minneapolis and Hennepin County as a targeted corridor for the implementation of a protected bikeway. No project is currently identified for this segment; however, an E Line station is not intended to preclude the development of a future protected bikeway. Additional project coordination with the City and Hennepin County during E Line engineering is needed to develop details for the proposed station plan at this location.

Proposed Station Location



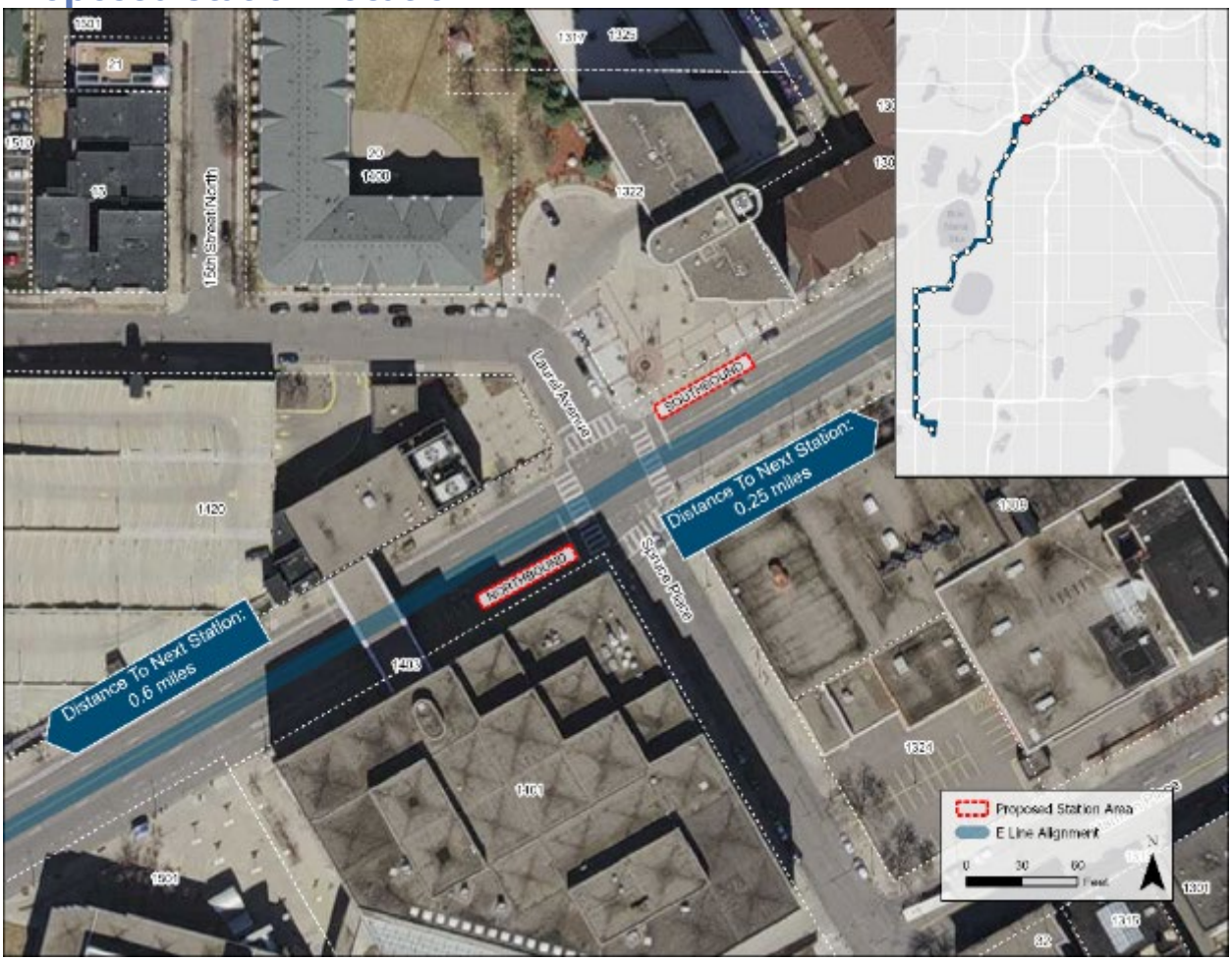
Hennepin Avenue Downtown Stations

These stations offer connections to all downtown local and commuter and express routes. Planning and design of these stations has been coordinated with the Hennepin Avenue Downtown Reconstruction project led by the City of Minneapolis, currently under construction. This project is implementing a protected bikeway, improved pedestrian facilities, and BRT-ready enhanced transit stops. These locations will be upgraded to BRT stations with signage and station equipment when E Line service begins. Additional project details are available at: www.hennepindowntown.com/project-info/

Hennepin & Spruce/Laurel

This station offers connections to Route 4, Route 6, and Route 141. The City of Minneapolis is leading two projects in this area: a pedestrian improvement project planned for 2022 construction and an upgraded Hennepin/Dunwoody Bikeway, planned for construction in 2024. The details of proposed E Line station platforms are being developed in coordination with these projects.

Proposed Station Location

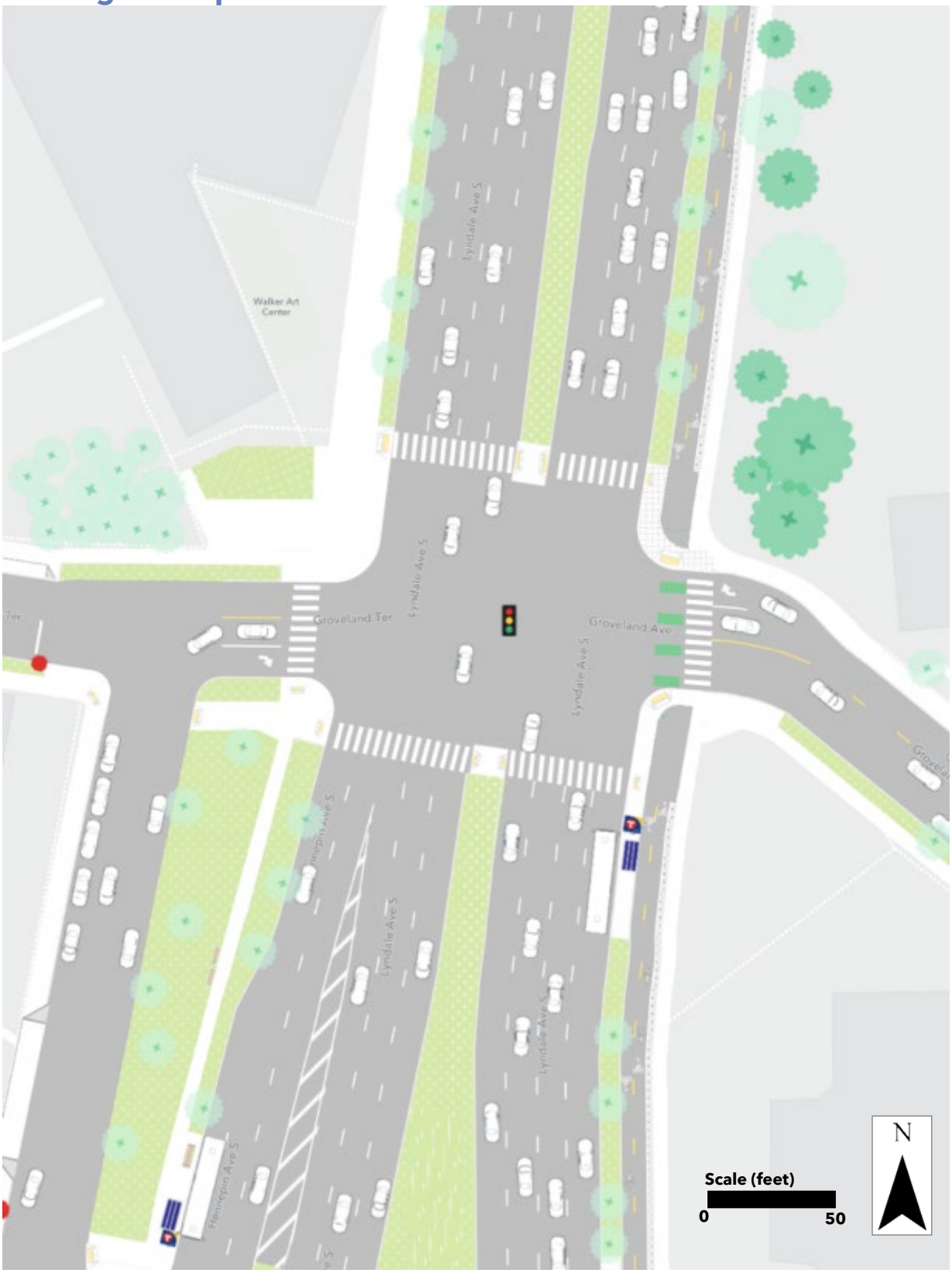


Hennepin & Groveland

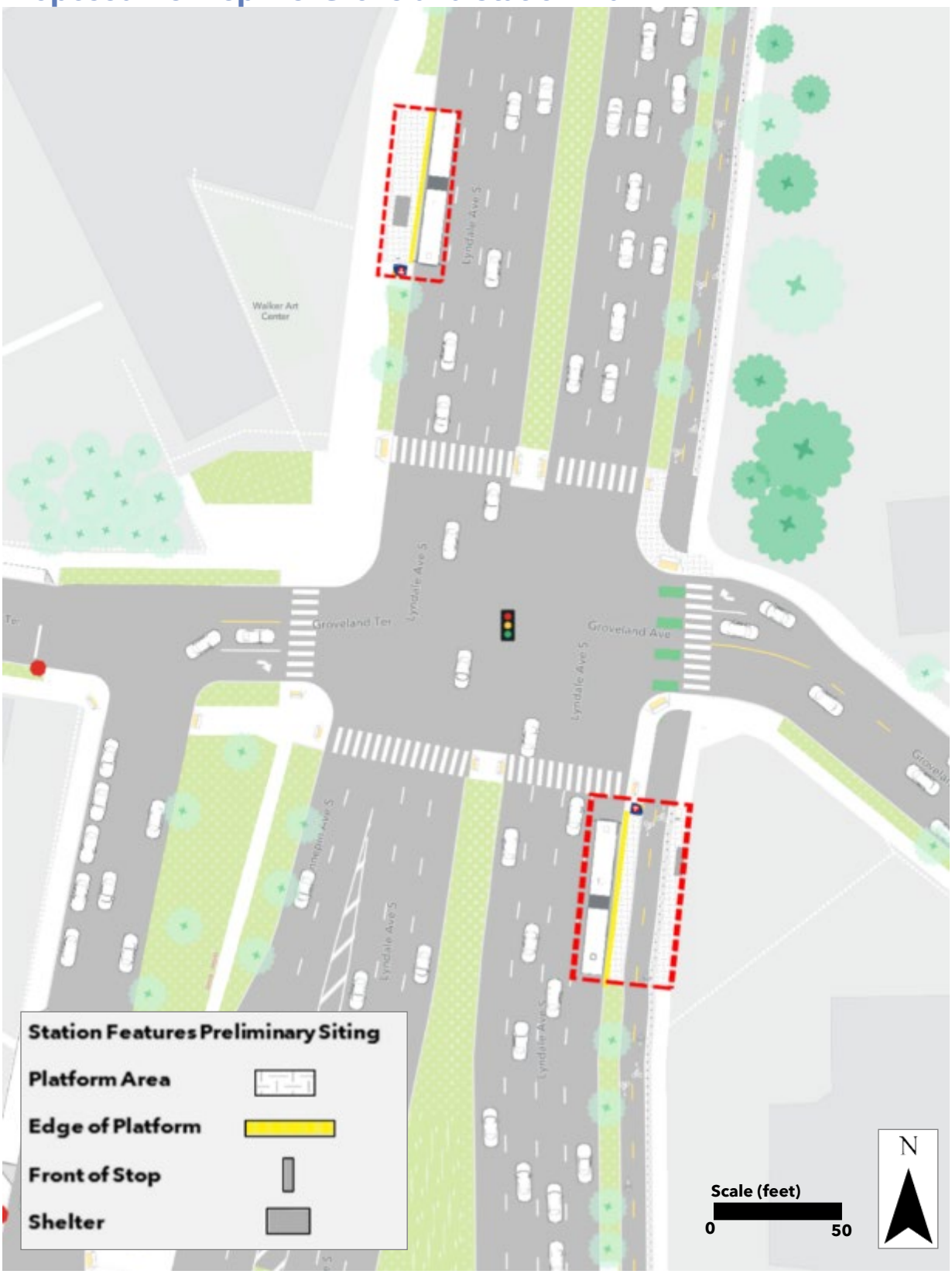
This station offers connections to Route 4 and Route 25. Future design should consider options for minimizing conflicts between transit riders, pedestrians, and bicyclists at this location.

Proposed Station Location

Existing Hennepin & Groveland Station Area



Proposed Hennepin & Groveland Station Plan



Hennepin & Franklin

This station offers connections to Route 2. This is one of several stations within the Hennepin Avenue South Reconstruction project area. This project is being led by the City of Minneapolis and is planned to begin construction in 2024. This project is considering designs to improve bicycle and pedestrian facilities, improve access to transit, and expand existing bus-only lanes. The details of proposed E Line station platforms are being developed in coordination with this project. Additional project details are available at: www.minneapolismn.gov/government/projects/hennepin-ave-s/

Proposed Station Location

Hennepin & 25th Street

This station offers connections to Route 17. This is one of several stations within the Hennepin Avenue South Reconstruction project area. This project is being led by the City of Minneapolis and is planned to begin construction in 2024. This project is considering designs to improve bicycle and pedestrian facilities, improve access to transit, and expand existing bus-only lanes. The details of proposed E Line station platforms are being developed in coordination with this project. Additional project details are available at: www.minneapolismn.gov/government/projects/hennepin-ave-s/

Proposed Station Location

Uptown Transit Station

This station offers connections to Route 17, Route 21, Route 23, Route 612, and the planned METRO B Line. This is one of several stations within the Hennepin Avenue South Reconstruction project area. This project is being led by the City of Minneapolis and is planned to begin construction in 2024. This project is considering designs to improve bicycle and pedestrian facilities, improve access to transit, and expand existing bus-only lanes. The details of proposed E Line station platforms are being developed in coordination with this project. Additional project details are available at:
www.minneapolismn.gov/government/projects/hennepin-ave-s/

Proposed Station Location

Hennepin & 33rd Street

This station offers connections to Route 23. In 2018, Hennepin Avenue was rebuilt between Lake Street and 36th Street. Metro Transit worked with the City of Minneapolis to design bus stops at 33rd Street and 36th Street that would be large enough to accommodate future BRT platforms on the E Line. Adding a BRT station at Hennepin & 33rd Street will still require underground and surface-level construction, but the final layout of the street is not anticipated to significantly change from existing conditions.

Proposed Station Location

Hennepin & 36th Street

This station offers connections to Route 23. In 2018, Hennepin Avenue was rebuilt between Lake Street and 36th Street. Metro Transit worked with the City of Minneapolis to design bus stops at 33rd Street and 36th Street that would be large enough to accommodate future BRT platforms on the E Line. Adding a BRT station at Hennepin & 36th Street will still require underground and surface-level construction, but the final layout of the street is not anticipated to significantly change from existing conditions.

Proposed Station Location

Richfield Road & Bde Maka Ska South

The City of Minneapolis plans to install sidewalks on Richfield Road in 2025, improving pedestrian safety and access to the station.

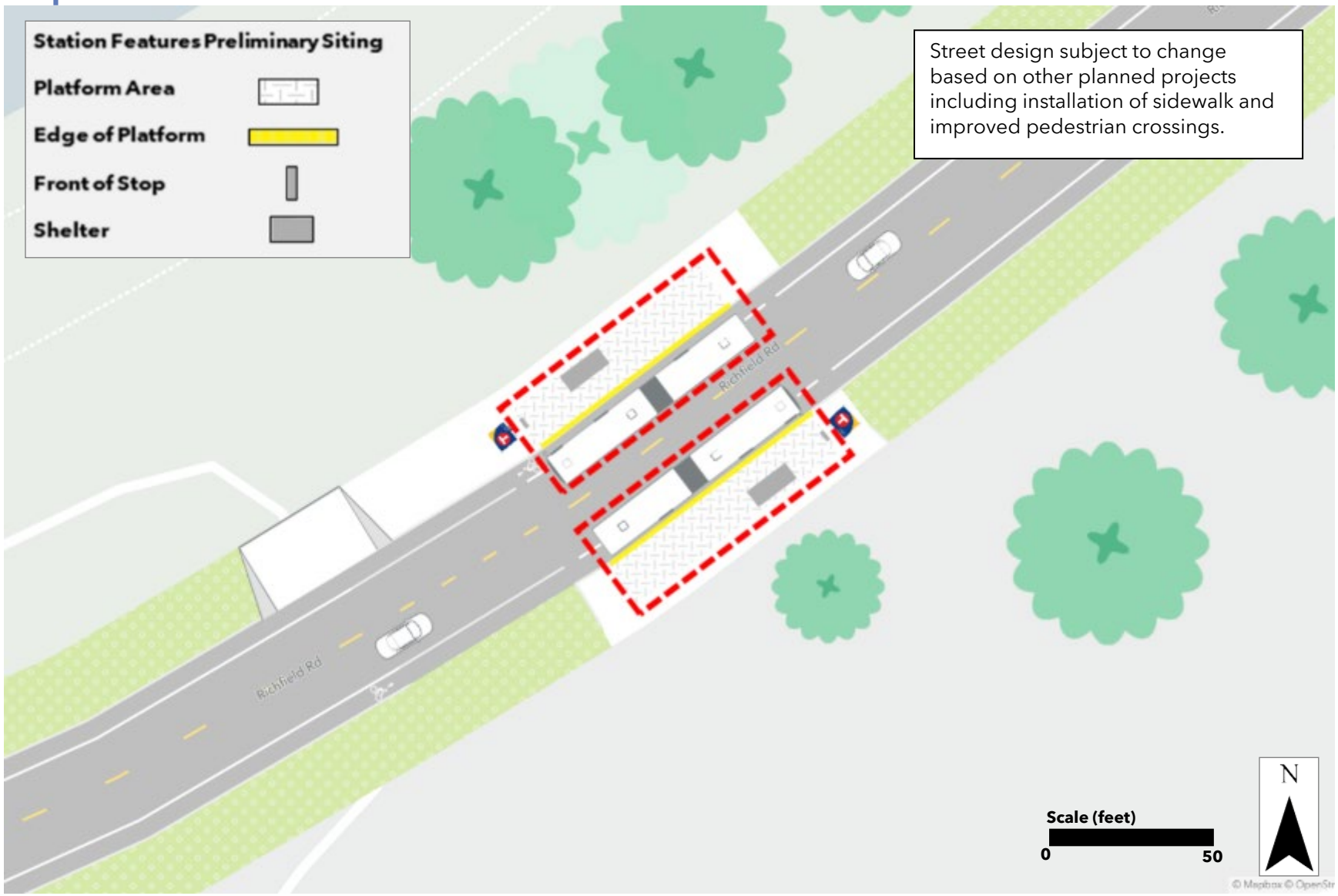
Proposed Station Location

Other station locations considered: Richfield Road & Trolley Stop

An alternative station location was considered at Richfield Road & Trolley Stop, at the location of the existing Route 6 bus stop. Due to the high potential for possible impacts to historical and archaeological resources in this area, this location is no longer under consideration.

Existing Richfield Road & Bde Maka Ska South Station Area

Proposed Richfield Road & Bde Maka Ska South Station Plan



Sheridan & 39th Street

Proposed Station Location

Other station locations considered: Richfield Rd & Bde Maka Ska Parkway

An alternative station location was considered at Richfield Rd & Bde Maka Ska Parkway. However, this station location would provide significantly less neighborhood access to the E Line and serve fewer people and jobs.

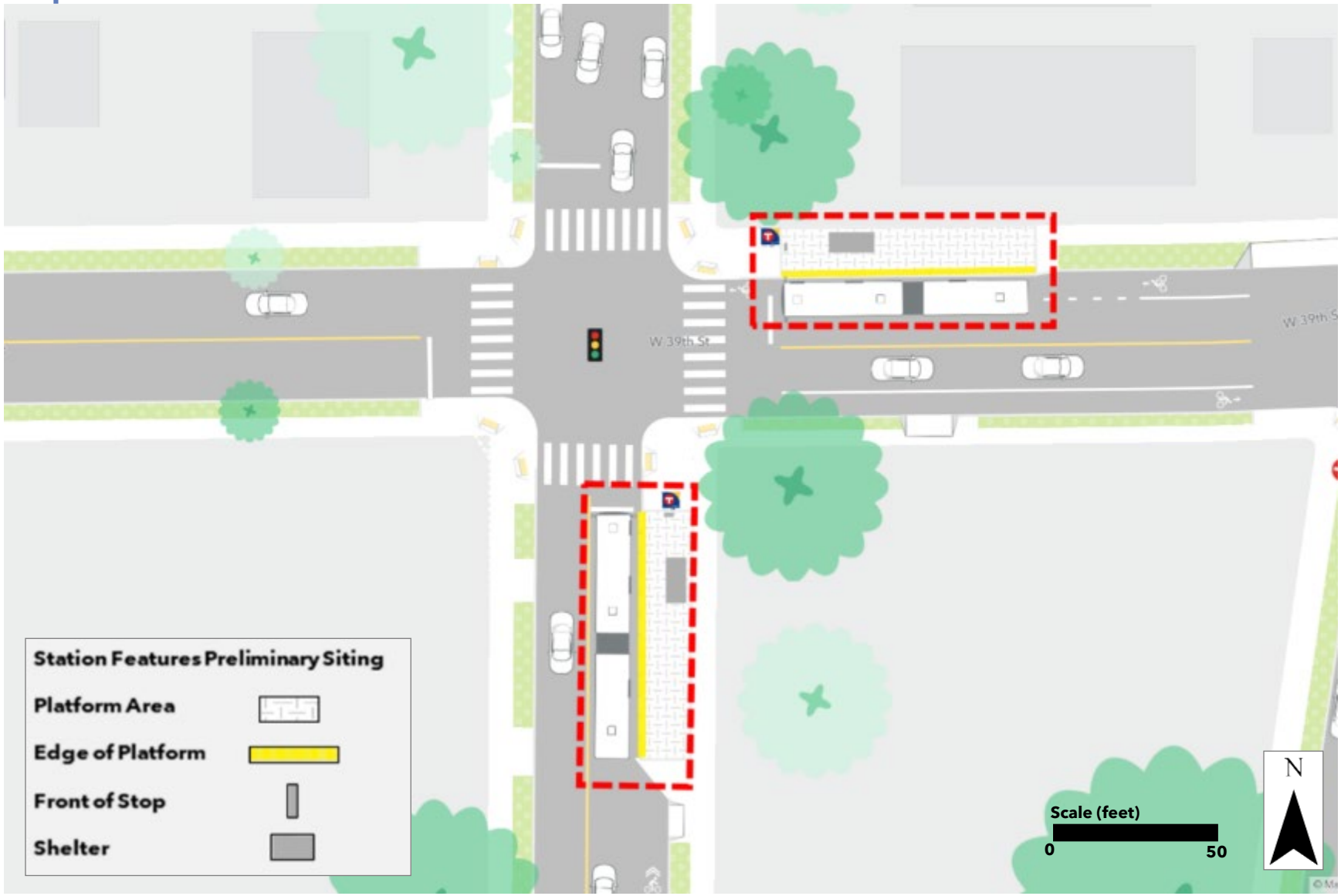
Additional analysis based on draft plan feedback

In response to feedback, an additional location was analyzed for the northbound platform location on 39th Street east of Sheridan Avenue, around the corner from the recommended northbound platform.

This site is narrow and widening the sidewalk with a bumpout is not feasible given that all street space is occupied by bike lanes and vehicle lanes. Siting the station on 39th would result in substandard platform width and constrained pedestrian space. For this reason, no change is recommended at this station location.

Existing Sheridan & 39th Street Station Area

Proposed Sheridan & 39th Street Station Plan



Upton & 43rd Street

Proposed Station Location

Changes based on draft plan feedback

In the draft corridor plan, the southbound platform at Upton & 43rd Street was shown on the farside (southwest corner) of the intersection. The recommended southbound platform location is now shown on the nearside (northwest corner) of this intersection.

No change is recommended to the northbound platform location.

In conjunction with the E Line, the City of Minneapolis is considering implementing safety improvements at this intersection, including additional bumpouts.

Metro Transit received 197 comments on this station location, 46% of the total station-specific comments on the draft corridor plan and significantly more than any other proposed station location. Of the comments received on this location, 87 (44%) opposed or requested changes to the proposed station, 94 (48%) supported the proposed station as shown, and 16 were neutral.

Key themes in support included improved transit service and convenient access to the Linden Hills commercial district, improved customer waiting facilities, and improved speed and reliability of service. Key themes in opposition included concern about loss of on-street

parking spaces, concern about the number of trees potentially disturbed, overall impacts on the character of the neighborhood, and bus and traffic operations.

The change to the recommended southbound platform location will reduce the overall reduction in on-street parking at this location from 7-8 spaces to 3 spaces, reduce the number of trees potentially disturbed from 7-8 to 4, and reduce potential effects on storefront visibility while maintaining convenient access to the commercial center.

There are approximately 260 on-street parking spaces within a 2-3-minute walk of Upton & 43rd Street. The three parking spaces affected by the E Line project as recommended in this plan is equal to about 1% of nearby on-street parking. There are also significant off-street parking resources in the Linden Hills area today.

More information is included below on additional platform alternatives analyzed.

Northbound platform

- Baseline Location: Upton Ave and 43rd Street farside
- Alternative A: 44th St and Upton Ave nearside
- Alternative B: Upton Ave and 44th St farside
- Alternative C: Upton Ave and 43rd St nearside
- Alternative D: Sheridan Ave and 43rd/42nd St midblock

Figure 28: Upton & 43rd Street northbound alternatives

Northbound Alternatives A and B were not carried forward because platform construction is not feasible at these locations. The existing sidewalk and boulevard are too narrow to accommodate a platform within the existing curb line and expanding the platform with a bumpout is not feasible due to intersection constraints.

Northbound Alternative D was not carried forward because of the steep uphill grade at this platform location.

The remaining northbound Alternative C was compared with the baseline platform location on additional factors shown in Table 2.

Table 2: Additional analysis of Upton & 43rd Avenue northbound platform alternatives

Key to symbols	Green = Preferred	Yellow = Not Preferred	Orange = Undesirable

	Factor	Baseline	Alternative C
	Safe pedestrian crossings	Encourages crossing at intersection	Encourages crossing at intersection
	Access to destinations	Station serves commercial center directly with convenient access to destinations	Station serves commercial center directly with convenient access to destinations
	Meets guidelines for station spacing	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space.	Right-of-way available for standard BRT platform and pedestrian space.
	Speed and reliability	Farside platform location at signalized intersection reduces likelihood of stopping at red light	Nearside platform location at signalized intersection increases likelihood of stopping at red light
Concerns identified by station neighbors	On-street parking	3 total on-street parking spaces removed including parking added at existing bus stop location to be closed	1-2 total on-street parking spaces removed
Concerns identified by station neighbors	Storefront or residential visibility	No or limited potential effect on storefront visibility	Some potential effect on storefront visibility (existing shelter location)
Concerns identified by station neighbors	Trees and other public amenities	4 trees potentially disturbed; design will consider preservation and/or replacement Existing benches potentially removed; design will consider replacement	2-3 trees potentially disturbed; design will consider preservation and/or replacement
	Recommendation	Retain platform in recommended plan	Do not advance

Compared to the Baseline Location, Alternative C would likely have a greater effect on storefront visibility and would slightly worsen E Line speed and reliability. The Baseline Location and Alternative C are comparable on other concerns identified by station neighbors. Alternative C would likely remove one fewer parking space and disturb or remove one fewer existing tree. Potential sightline impacts on the driveway will be addressed during the design phase of the project. Based on these considerations, no change is recommended to the northbound platform location.

Figure 29 and Figure 30 below a provide comparison between the existing condition and a rendering of the proposed BRT platform at the recommended location.

Figure 29: Upton & 43rd Street recommended northbound platform location - existing

Figure 30: Upton & 43rd Street recommended northbound platform location – proposed

Southbound platform

- Baseline Location: Upton Ave and 43rd St farside
- Alternative A: Sheridan Ave and 43rd/42nd St midblock
- Alternative B: Upton Ave and 43rd St nearside
- Alternative C: Upton Ave and 44th St nearside

Figure 31: Upton & 43rd Street southbound alternatives

Southbound Alternative C was not carried forward because platform construction is not feasible at this location. The existing sidewalk and boulevard are too narrow to accommodate a platform within the existing curb line and expanding the sidewalk with a bumpout is not feasible due to intersection constraints. Additionally, there is a steep uphill grade at this platform location.

The remaining southbound alternatives were compared with the baseline platform location on additional factors shown in Table 3.

Table 3: Additional analysis of Upton & 43rd Street southbound platform alternatives

	Key to symbols	Green = Preferred	Yellow = Not Preferred	Orange = Undesirable
	Factor	**Baseline**	**Alternative A**	**Alternative B**
	Safe pedestrian crossings	Encourages crossing at intersection	Encourages mid-block crossing	Encourages crossing at intersection
	Access to destinations	Station serves commercial center directly with convenient access to destinations	Station is offset from commercial center with less convenient access to destinations	Station serves commercial center directly with convenient access to destinations
	Station spacing	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform Would require significant regrading of boulevard space	Right-of-way available for standard BRT platform and pedestrian space
	Speed and reliability	Farside platform location at signalized intersection reduces likelihood of stopping at red light	Midblock platform location preceding signalized intersection increases likelihood of stopping at red light	Nearside platform location at signalized intersection increases likelihood of stopping at red light
Concerns identified by station neighbors	On-street parking	3-4 total parking spaces removed	0 total parking spaces removed	0 total parking spaces removed
	Storefront or residential visibility	Some potential effect on storefront visibility	No or limited potential effect on storefront visibility	No or limited potential effect on storefront visibility
	Trees and other public amenities	3-4 trees potentially disturbed; design will consider preservation and/or replacement	0 trees potentially disturbed	0 trees potentially disturbed
	Recommendation	Acceptable location	Do not advance	Advance platform in recommended plan

Alternatives A and B respond similarly on the concerns identified by station neighbors, having the same impact on on-street parking, storefront visibility, and trees and public amenities. Alternative A would encourage mid-block pedestrian crossings, require significant regrading and a new retaining wall to account for steep grades away from the roadway, and

offer less convenient transit access to the Linden Hills commercial area. Each alternative would slightly worsen E Line speed and reliability compared to the baseline.

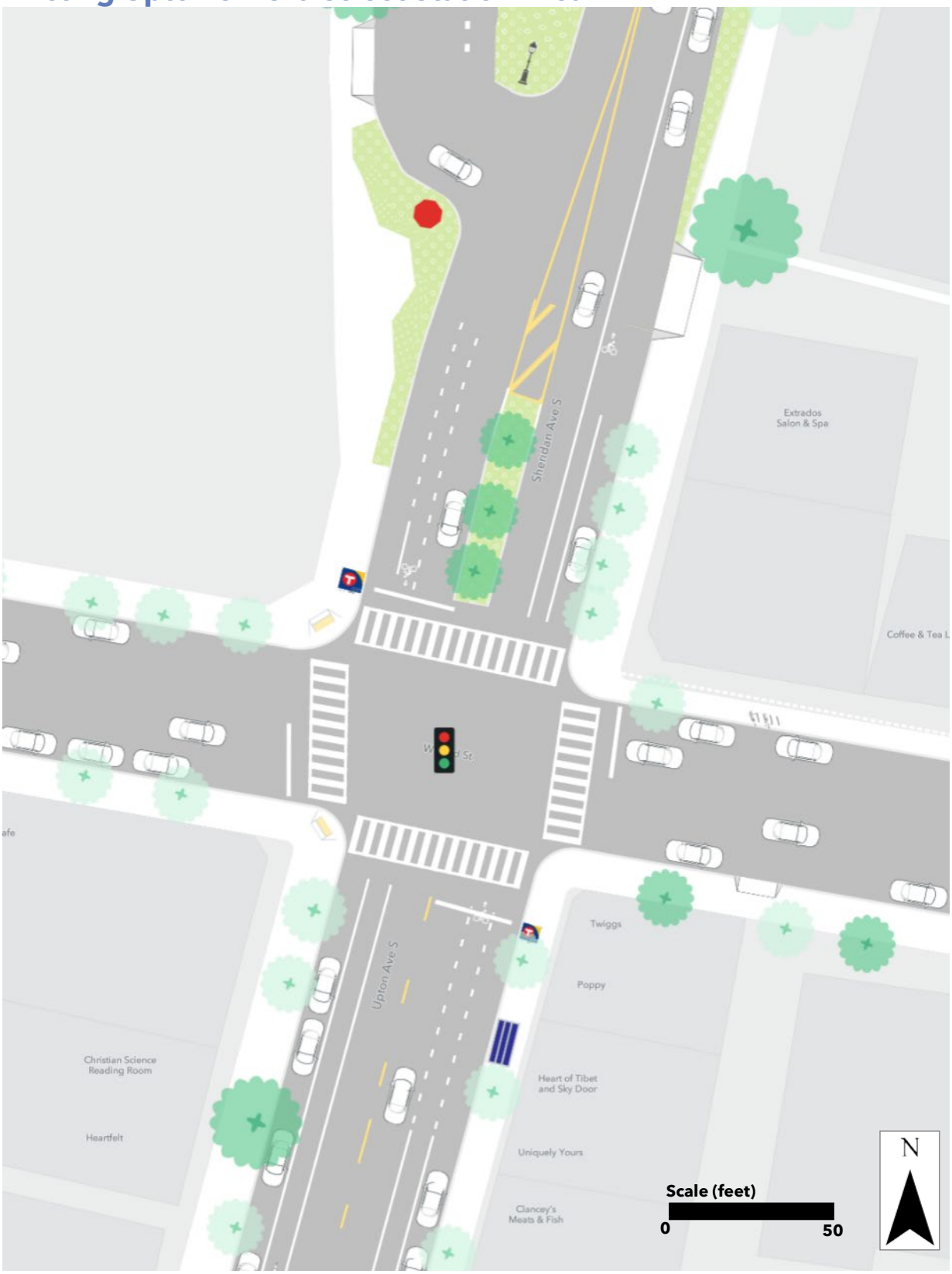
While the Baseline Location remains an acceptable platform location, due to the better performance on concerns identified by station neighbors, Alternative B is recommended as the platform location to advance in the recommended corridor plan.

Figure 32 and Figure 33 below a provide comparison between the existing condition and a rendering of the proposed BRT platform at the recommended location.

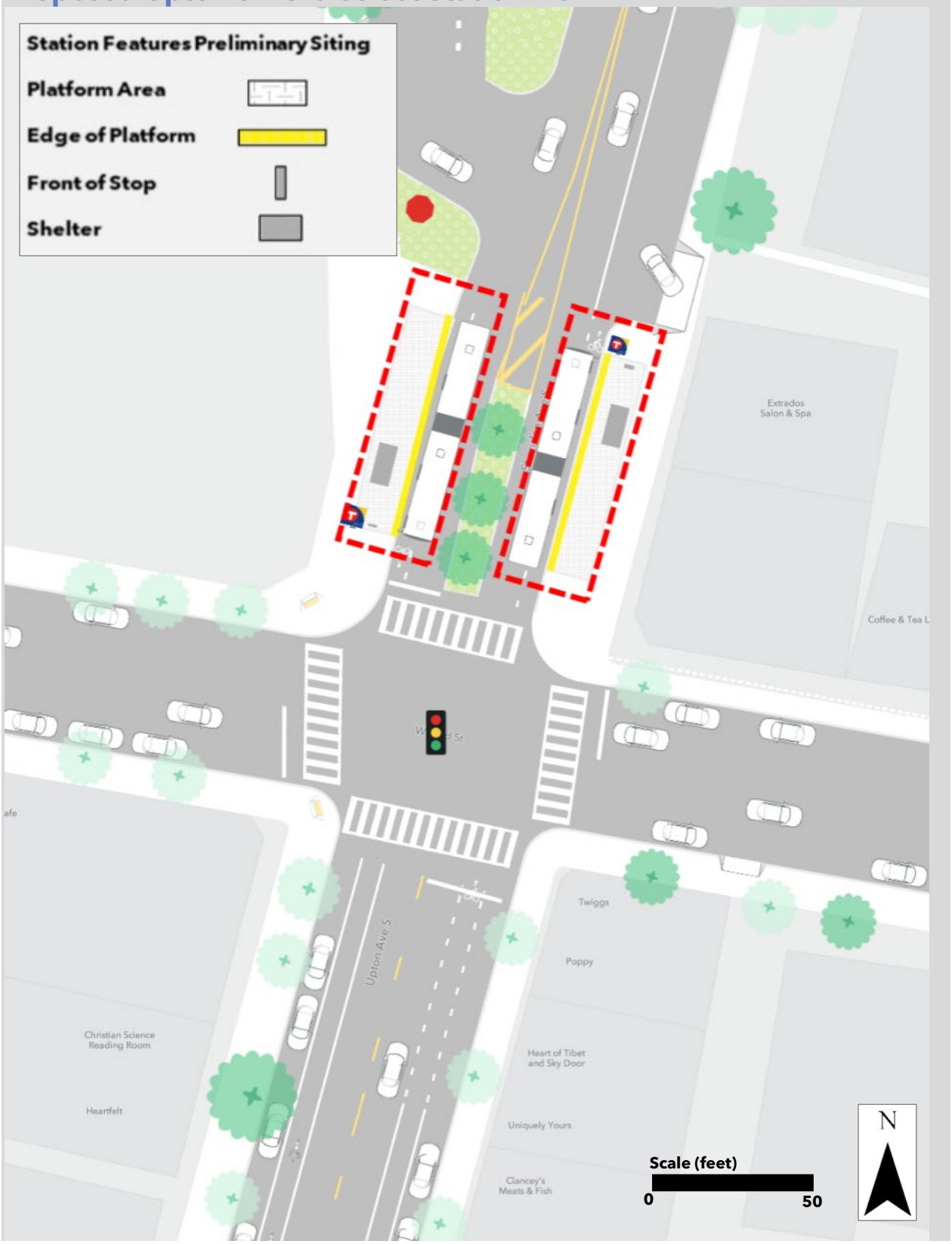
Figure 32: Upton & 43rd Street recommended southbound platform location - existing

Figure 33: Upton & 43rd Street recommended northbound platform location - proposed

Existing Upton & 43rd Street Station Area



Proposed Upton & 43rd Street Station Plan



44th Street & Abbott

Proposed Station Location

Other station locations considered: 44th St & Beard Ave

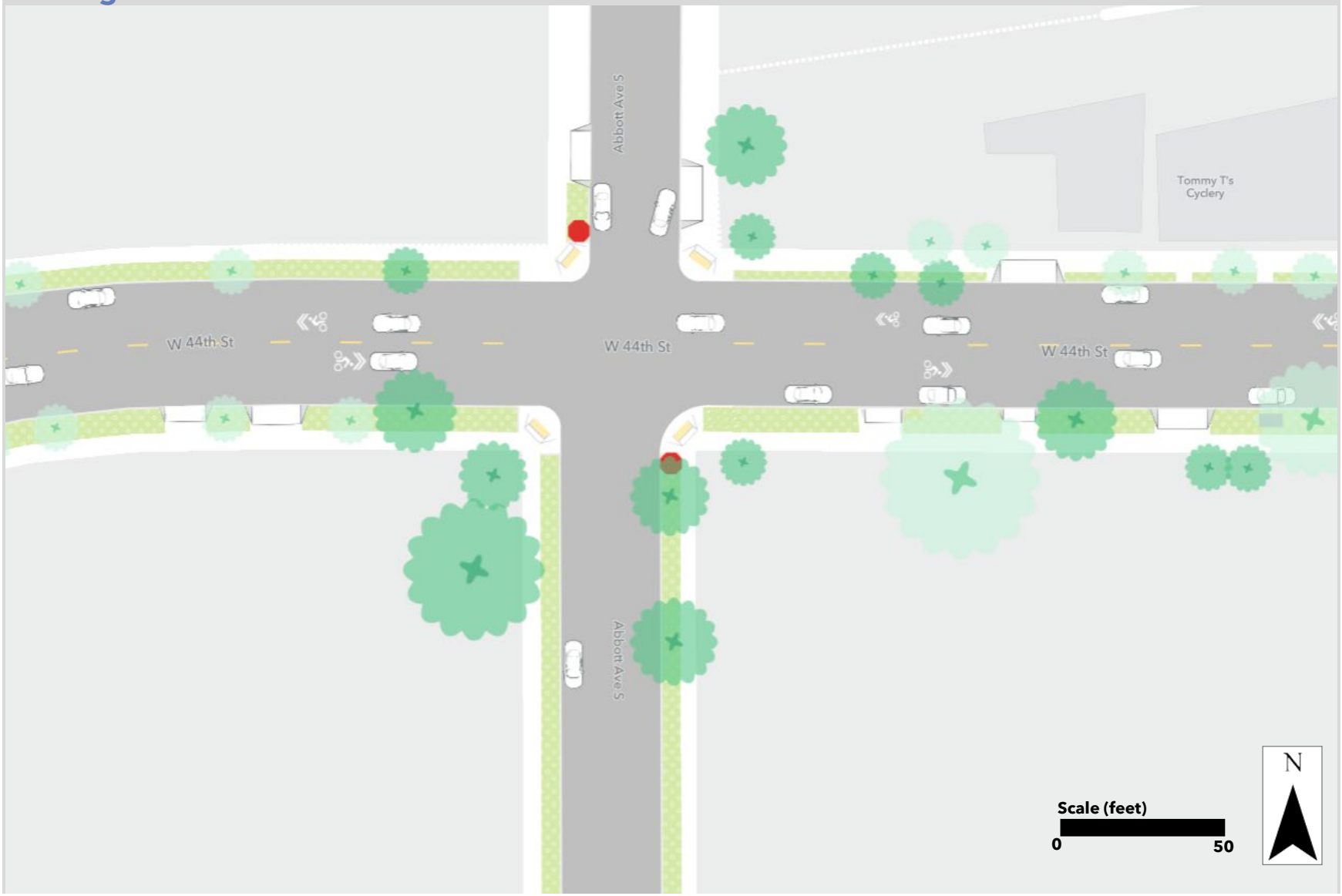
Alternative station locations were considered at Beard Avenue. However, this location would be spaced too close to the planned station at France & 44th Street, making it less effective at providing neighborhood access to the E Line.

Changes based on draft plan feedback

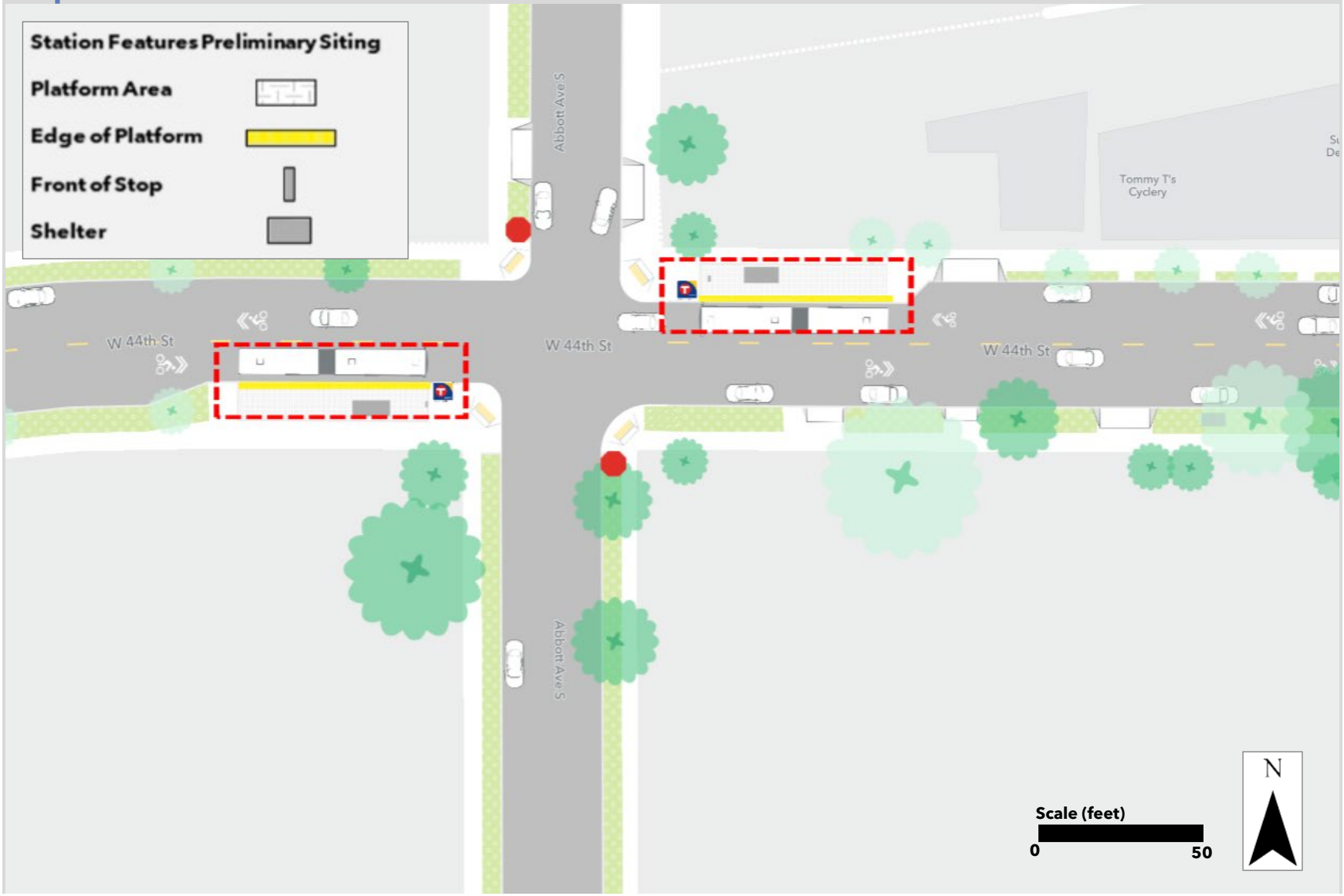
In the draft corridor plan, the station on this segment was located at 44th Street and Zenith Avenue. The recommended station location is now at Abbott Avenue. Both northbound and southbound platforms at this location are located on the nearside of the intersection (on the northeast and southwest corners of the intersection).

This change was identified as a formal request by the City of Minneapolis. It will provide more convenient transit access to the commercial area centered around Beard Avenue, while also providing better access to a new planned residential development on the southwest corner of 44th Street and Abbott. This plan revision locates the station nearer to increased residential density and is locally supported by the City of Minneapolis.

Existing 44th Street & Abbott Station Area



Proposed 44th Street & Abbott Station Plan



France & 44th Street

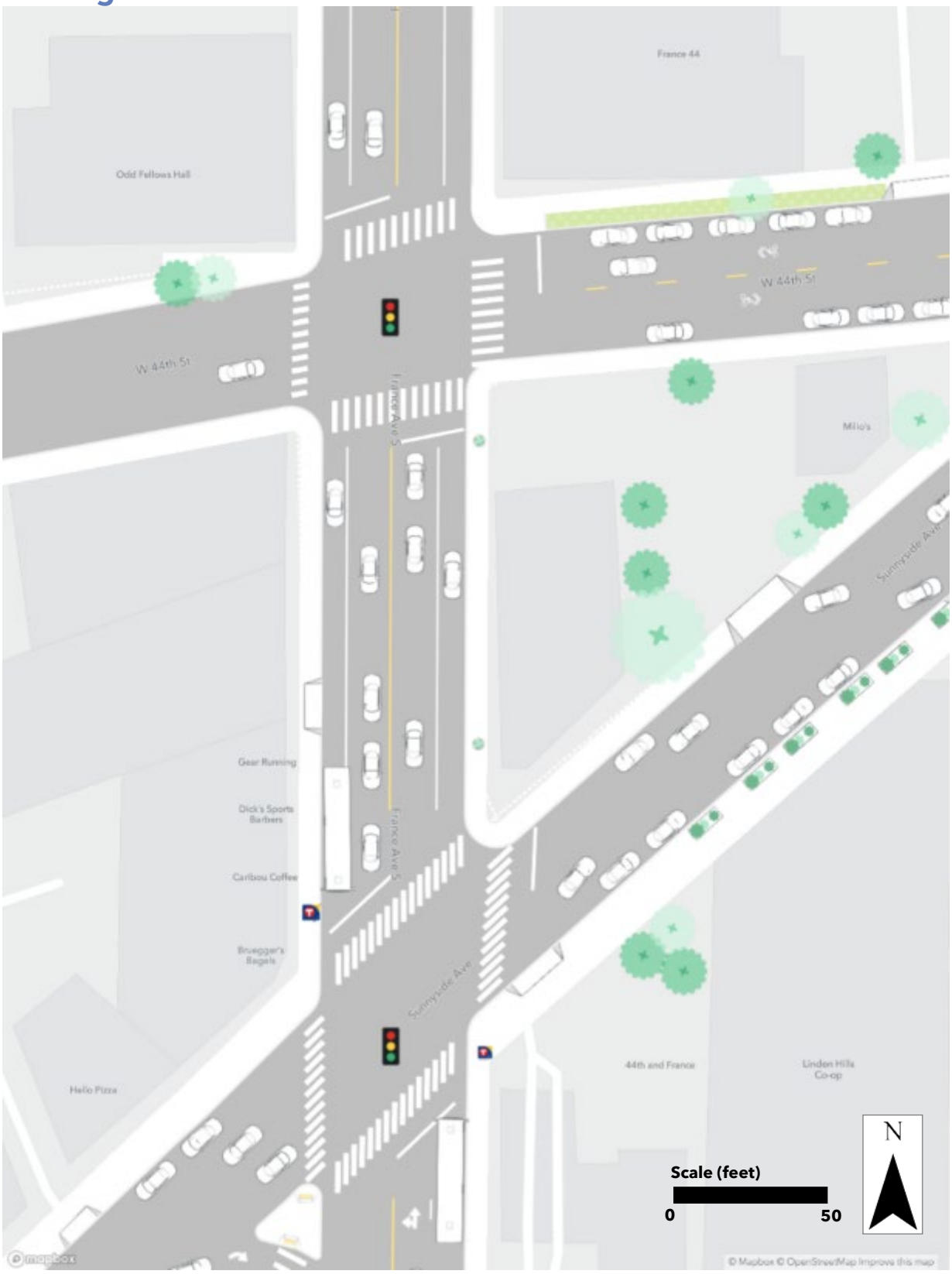
France Avenue from 49th Street to Excelsior Blvd is planned to be restriped in 2023 by Hennepin County. On-street bike lanes are under consideration as part of this project and could affect the design of the northbound platform at this station location.

Proposed Station Location

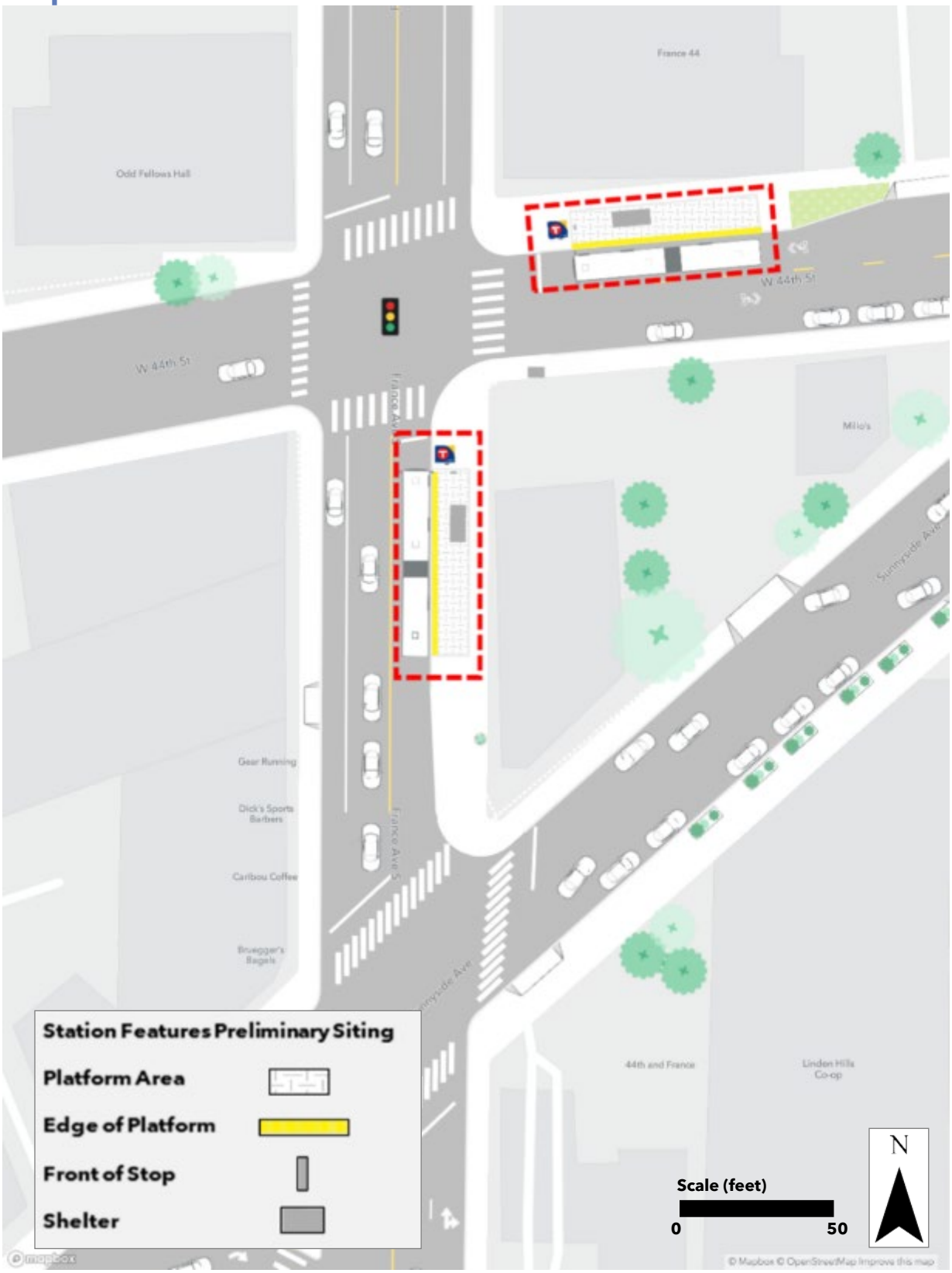
Other station locations considered: France Ave & Sunnyside

An alternative station location was considered at France Ave & Sunnyside. However, this location would be sited too close to the planned station at France Avenue & 47th and provide limited opportunity for siting E Line platform locations that meet minimum space requirements for shelter and boarding areas.

Existing France & 44th Street Station Area



Proposed France & 44th Street Station Plan



France & 47th Street

This station is located at France & 47th Street primarily to provide safe and convenient service to students and staff of Southwest High School. This intersection has been identified as a suitable location for pedestrian safety improvements by Hennepin County, currently planned to be implemented in 2024 with the E Line Project. France Avenue from 49th Street to Excelsior Blvd is planned to be repaved in 2023 by Hennepin County. As part of the pavement work, Hennepin County is exploring potential changes to the existing configuration along France Avenue, including the introduction of dedicated facilities for people biking. At this time, the county's upcoming repaving project is not anticipated to negatively impact the design of platforms at this station location.

Proposed Station Location

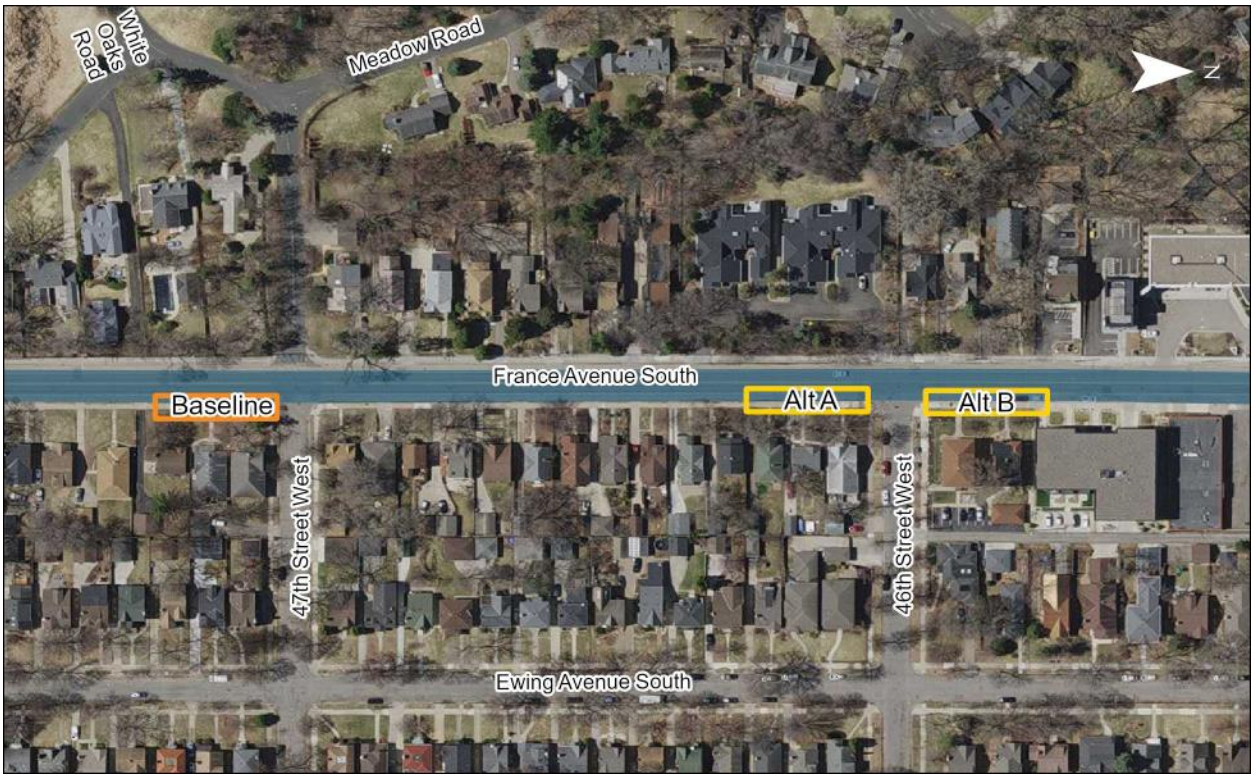
Additional analysis based on draft plan feedback

Based on public feedback received on the draft corridor plan, citing concerns about the potential effects on residential visibility, bus and traffic operations, and loss of on street parking, additional alternatives for the northbound and southbound platform were analyzed. More information is included below.

Northbound platform:
Additional alternatives for the northbound platform location were analyzed at the following locations:

- Baseline Location: France Avenue and 47th Street nearside
- Alternative A: France Avenue and 46th Street nearside
- Alternative B: France Avenue and 46th Street farside

Figure 34: France & 47th Street northbound alternatives



These alternatives were compared with the baseline platform location on the factors shown in Table 4.

Table 4: Additional analysis of France & 47th Street northbound platform alternatives

	Key to symbols	Green = Preferred	Yellow = Not Preferred	Orange = Undesirable
	Factor	Baseline	Alternative A	Alternative B
	Safe pedestrian crossings	Platform is coordinated with upcoming 47th Street Pedestrian Safety Improvement Project	Encourages crossing at uncontrolled intersection	Encourages crossing at uncontrolled intersection
	Traffic operations	Potential impact to 47th street sightlines Traffic analysis shows no added delays or queueing due to BRT	Potential impact to 46th street sightlines	No impact to cross street sightlines
	Access to destinations	Station serves primary stop location for Southwest High School students	Station is not at primary stop location for Southwest High School students	Station is not at primary stop location for Southwest High School students
	Station spacing	Station between 1/4-1/2 mile to neighboring stations	Station closer than 1/4 mile to previous station	Station closer than 1/4 mile to previous station
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space
	Speed and reliability	Platform location at future pedestrian activated intersection, no impact on speed and reliability	Platform location at uncontrolled intersection, no impact on speed and reliability	Platform location at uncontrolled intersection, no impact on speed and reliability
Concerns identified by station neighbors	On-street parking	0 total parking spaces removed	0 total parking spaces removed	1-2 total parking spaces removed including parking added at existing bus stop location to be closed
	Residential visibility	Some potential effect on residential visibility	Some potential effect on residential visibility	Some potential effect on residential visibility
	Recommendation	Retain platform in recommended plan	Do not advance	Do not advance

Compared to the Baseline Location, Alternatives A and B will encourage pedestrian crossing at an uncontrolled intersection, provide less convenient access for Southwest High School students, and be too close to the France & 44th Street station. Each location has some potential effect on visibility in front of residential or store frontage. Alternative B would remove 1-2 total on-street parking spaces.

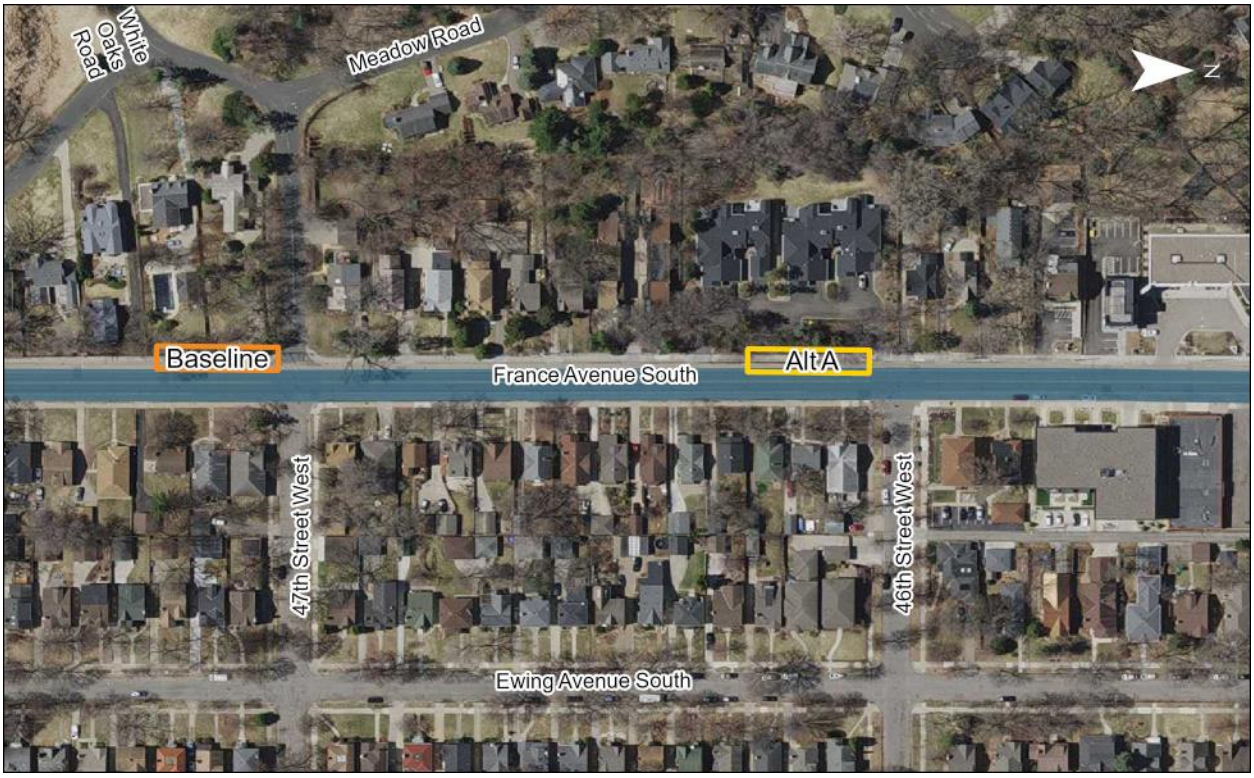
47th Street will have an improved pedestrian crossing following the completion of the 47th Street Pedestrian Improvement Project planned in coordination with Hennepin County, the City of Minneapolis, and the City of Edina. Shifting the platform location away from the Baseline Location would preclude the possibility of coordinating station and safety improvements together with the 47th Street Pedestrian Improvement Project.

Based on these considerations, no change is recommended at this location.

Southbound platform:
An additional alternative for the southbound platform location was analyzed at the following location:

- Baseline Location: France Avenue and 47th Street farside
- Alternative A: France Avenue and 46th Street farside (T intersection)

Figure 35: France & 47th Street southbound alternatives



This alternative was compared with the baseline platform locations on the factors shown in Table 5.

Table 5: Additional analysis of France & 47th Street southbound platform alternatives

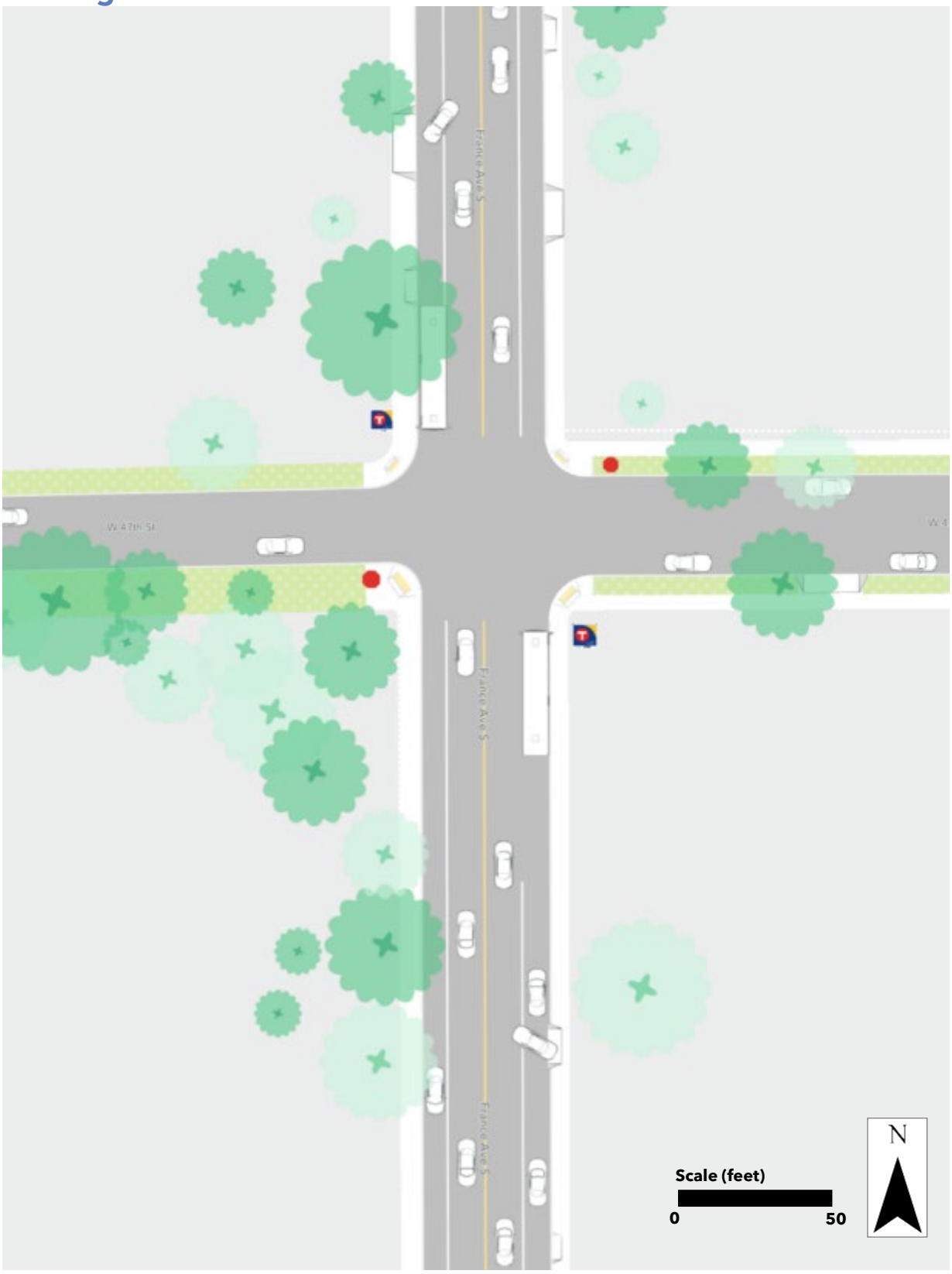
	Key to symbols	Green = Preferred	Yellow = Not Preferred
	Factor	**Baseline**	**Alternative A**
	Safe pedestrian crossings	Platform is coordinated with upcoming 47th Street Pedestrian Safety Improvement Project	Encourages crossing at uncontrolled intersection
	Traffic operations	Traffic analysis shows no added delays or queueing due to BRT	No change anticipated from baseline
	Access to destinations	Station serves primary stop location for Southwest High School students	Station is not at primary stop location for Southwest High School students
	Station spacing	Station between 1/4-1/2 mile to neighboring stations	Station closer than 1/4 mile to previous station
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space
	Speed and reliability	Platform location at future pedestrian activated intersection, no impact on speed and reliability	Platform location at uncontrolled intersection, no impact on speed and reliability
Concerns identified by station neighbors	On-street parking	0 total parking spaces removed; no parking allowed at location	0 total parking spaces removed; no parking allowed at location
Concerns identified by station neighbors	Residential visibility	No or limited potential effect on residential visibility	No or limited potential effect on residential visibility
	Recommendation	Retain platform in recommended plan	Do not advance

Compared to the Baseline Location, Alternative A will encourage pedestrian crossing at an uncontrolled intersection provide less convenient access for Southwest High School students, and be too close to the France & 44th Street station. Each location has no reduction in on-street parking and a similar effect on visibility in front of residential or store frontage.

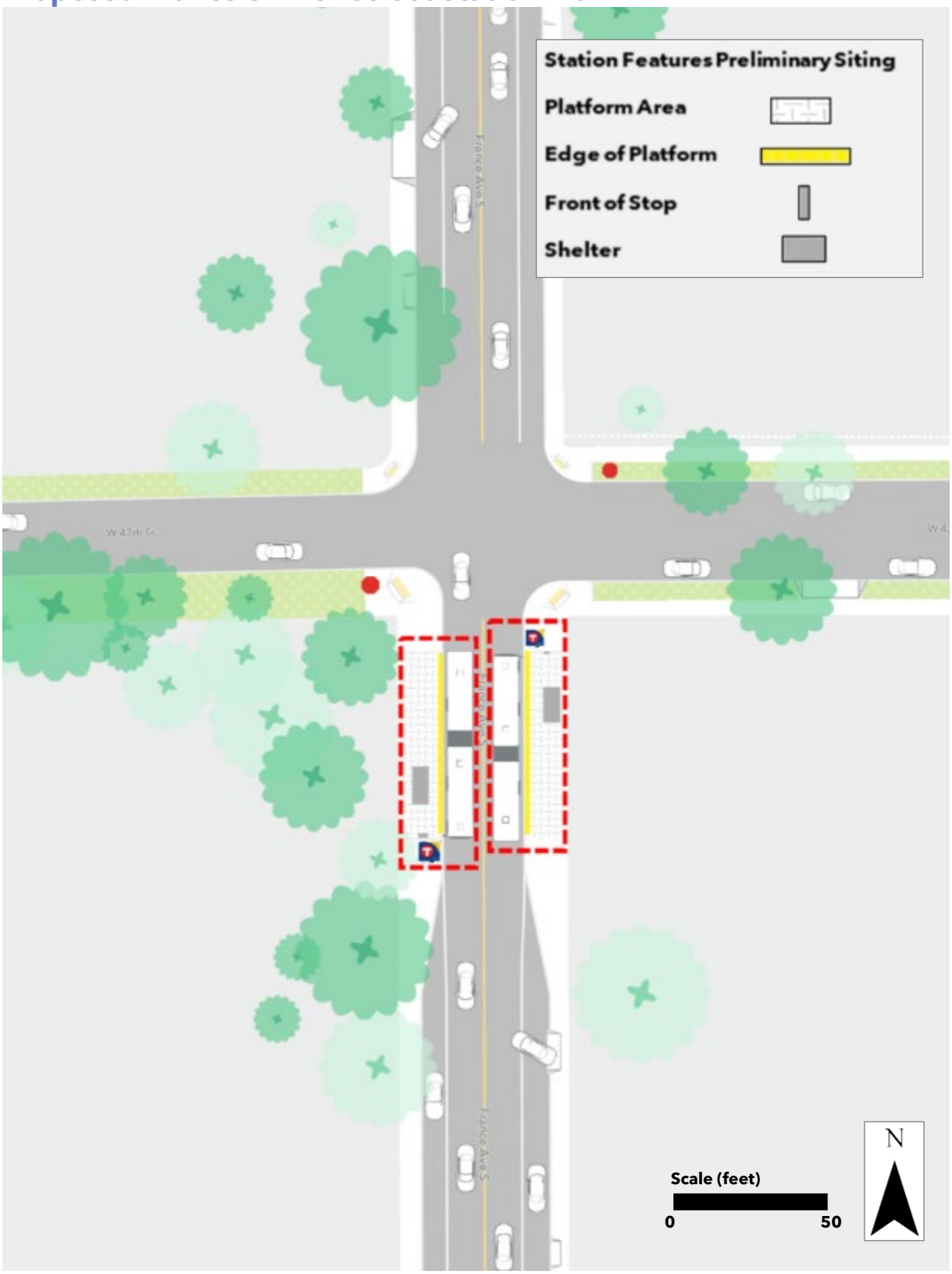
47th Street will have an improved pedestrian crossing following the completion of the 47th Street Pedestrian Improvement Project done in coordination with Hennepin County, the City of Minneapolis, and the City of Edina. Shifting the platform location away from the Baseline Location would preclude the possibility of coordinating with the 47th Street Pedestrian Improvement Project.

Based on these considerations, no change is recommended at this location.

Existing France & 47th Street Station Area



Proposed France & 47th Street Station Plan



France & 50th Street

Proposed Station Location

Additional analysis based on draft plan feedback

Based on public feedback received on the draft corridor plan, citing concerns about the potential loss of parking, bus and traffic operations, potential effects on storefront or residential visibility and potential loss of boulevard trees, additional alternatives for the northbound and southbound platform were analyzed.

Following review, no changes are made to the recommended platform locations. More information is included below.

Northbound platform:

Additional alternatives for the northbound platform location were analyzed at the following locations:

- Baseline Alternative: France Avenue and 50th Street farside
- Alternative A: France Avenue and 51st Street nearside
- Alternative B: France Avenue and 51st Street farside
- Alternative C: France Avenue and 50th Street nearside

Figure 36: France & 50th Street northbound platform alternatives

These alternatives were compared with the baseline platform location on the factors shown in *Table 6*.

Table 6: Additional analysis of France & 50th Street northbound platform alternatives

Key to symbols	Green = Preferred	Yellow = Not Preferred	Orange = Undesirable

	Factor	Baseline	Alternative A	Alternative B	Alternative C
	Safe pedestrian crossings	Encourages crossing at controlled intersection	Encourages crossing at controlled intersection	Encourages crossing at controlled intersection	Encourages crossing at controlled intersection
	Traffic operations	Traffic analysis shows no added delays or queues due to BRT	No anticipated change from baseline	No anticipated change from baseline	Bus and platform would block right turning traffic
	Access to destinations	Station serves commercial center directly with convenient access to destinations	Station is offset from commercial center with less convenient access to destinations	Station is offset from commercial center with less convenient access to destinations	Station serves commercial center directly with convenient access to destinations
	Station spacing	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space
	Speed and reliability	Farside platform location at signalized intersection reduces likelihood of stopping at red	Nearside platform location at signalized intersection increases likelihood of stopping at red	Farside platform location at signalized intersection reduces likelihood of stopping at red	Nearside platform location at signalized intersection increases likelihood of stopping at red
Concerns identified by station neighbors	On-street parking	1-2 total on-street parking spaces removed including parking added at existing bus stop location to be closed	0 total parking spaces removed	1 total on-street parking space removed including parking added at existing bus stop location to be closed	0 total parking spaces removed
Concerns identified by station neighbors	Storefront or residential visibility	No or limited potential effect on storefront visibility	Some potential effect on storefront visibility	Some potential effect on storefront visibility	Some potential effect on storefront visibility
Concerns identified by station neighbors	Trees and other public amenities	2 trees potentially disturbed; design will consider preservation and/or replacement	2 trees potentially disturbed; design will consider preservation and/or replacement	2 trees potentially disturbed; design will consider preservation and/or replacement	3 trees potentially disturbed; design will consider preservation and/or replacement
	Recommendation	Retain platform in recommended plan	Do not advance	Do not advance	Do not advance

Compared to the Baseline Location, the additional alternatives analyzed provide less convenient access to destinations across the 50th & France district and reduced speed and reliability improvements.

Each alternative has similar potential to disturb existing boulevard trees and the Baseline Location has the least potential impact on storefront visibility. The potential reduction in parking is similar across all alternatives, with the Baseline Location limited to 1-2 parking spaces removed. Based on these considerations, no change is recommended to the northbound platform location.

Southbound platform:

- Baseline Alternative: France Avenue and 50th Street farside
- Alternative A: France Avenue and 50th Street nearside
- Alternative B: France Avenue and 51st Street nearside

Figure 37: France & 50th Street southbound alternatives

Southbound Alternative A on France Avenue and 50th Street nearside was not carried forward because platform construction is not feasible without reducing the intersection to a single southbound lane and eliminating the left-turn lane onto eastbound 50th Street. The remaining alternatives were compared with the baseline platform location on the additional factors shown in Table 7.

Table 7: Additional analysis of France & 50th Street southbound alternatives

Key to symbols: Green = Preferred | Yellow = Not Preferred | Orange = Undesirable

	Factor	Baseline	Alternative B
	Safe pedestrian crossings	Encourages crossing at controlled intersection	Encourages crossing at controlled intersection
	Traffic operations	Traffic analysis shows no added delays or queues due to BRT	No change anticipated from baseline
	Access to destinations	Station serves commercial center directly with convenient access to destinations	Station is offset from commercial center with less convenient access to destinations
	Station spacing	Station between 1/4-1/2 mile to neighboring stations	Station between 1/4-1/2 mile to neighboring stations
	Available right-of-way	Right-of-way available for standard BRT platform and pedestrian space	Right-of-way available for standard BRT platform and pedestrian space
	Speed and reliability	Farside platform location at signalized intersection reduces likelihood of stopping at red	Nearside platform location at signalized intersection increases likelihood of stopping at red
Concerns identified by station neighbors	On-street parking	0-2 total on-street parking spaces removed	0 total parking spaces removed
	Storefront or residential visibility	No or limited potential effect on storefront visibility	No or limited potential effect on storefront visibility
	Trees and other public amenities	3 trees potentially disturbed; design will consider preservation and/or replacement	3 trees potentially disturbed; design will consider preservation and/or replacement
	Recommendation	Retain platform in recommended plan	Do not advance

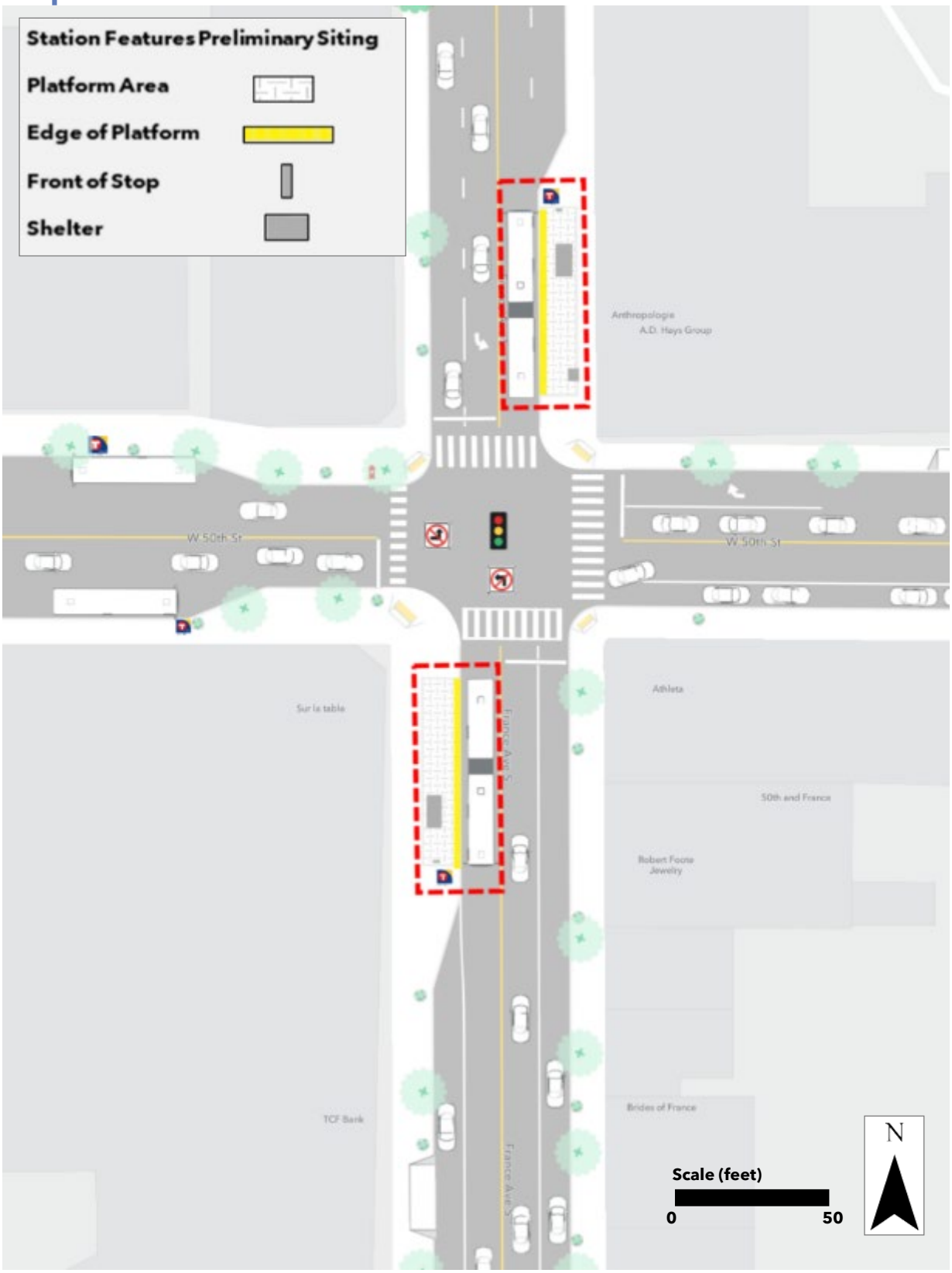
Compared with the Baseline Location, Alternative B has a similar potential effect on trees and other potential amenities and storefront visibility. While Alternative B will remove 0 total parking spaces, the Baseline Location is limited to 0-2 spaces, with the final count to be determined in the design phase of the project.

There are about 260 on-street parking spaces within 1/8 mile (a 2–3-minute walk or roll) of France and 50th; the E Line will affect between 1-2% of these. Additionally, there is significant off-street parking available in the business district, with over 1,000 free stalls available in ramps and surface lots, in addition to other significant off-street parking resources. The E Line will significantly enhance transit access to the 50th & France district without impacting parking supply.

Alternative B provides less convenient access to destinations across the 50th & France district and reduced speed and reliability improvements. Based on these considerations, no change is recommended to the northbound platform location.

Existing France & 50th Street Station Area

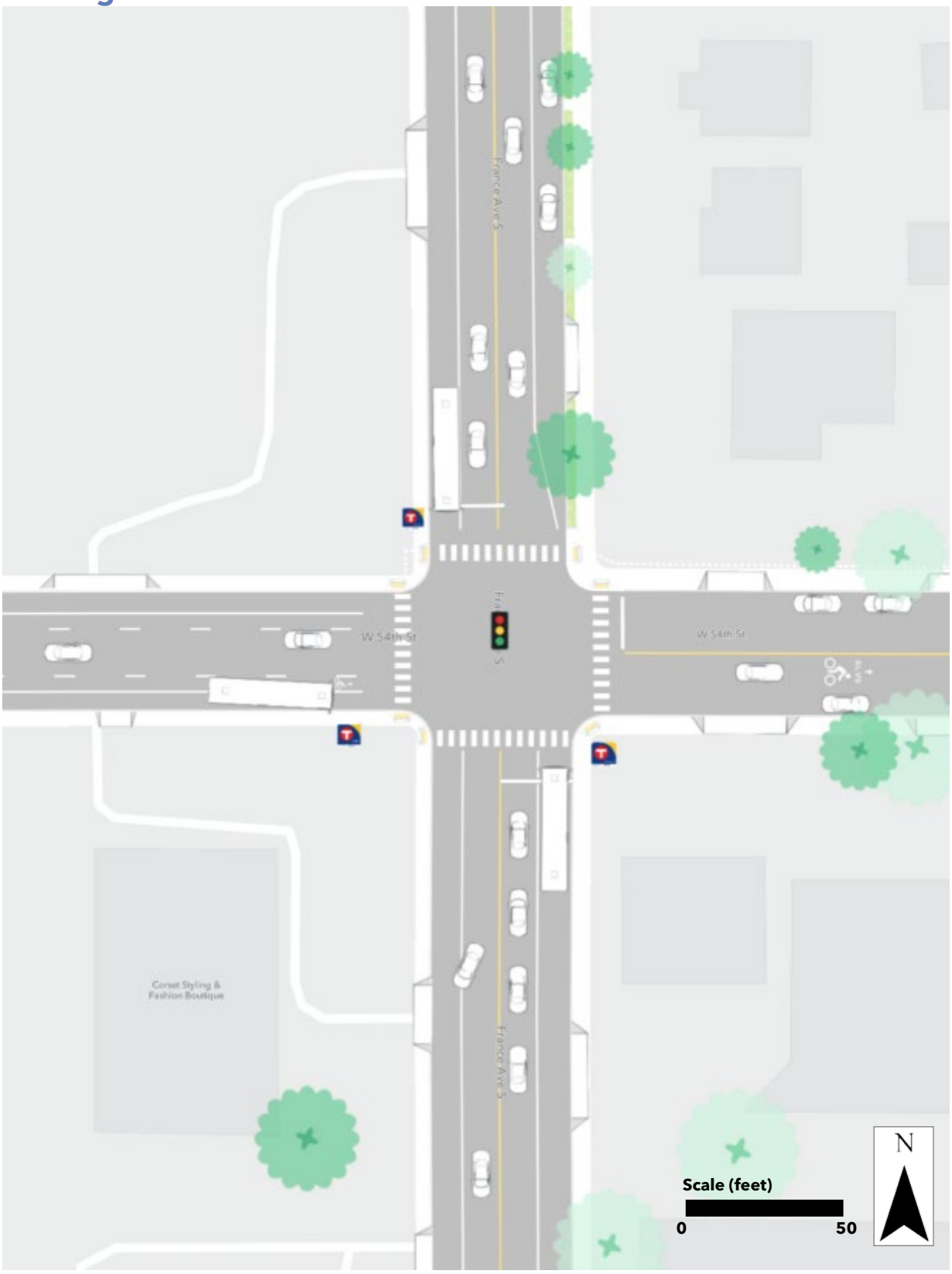
Proposed France & 50th Street Station Plan



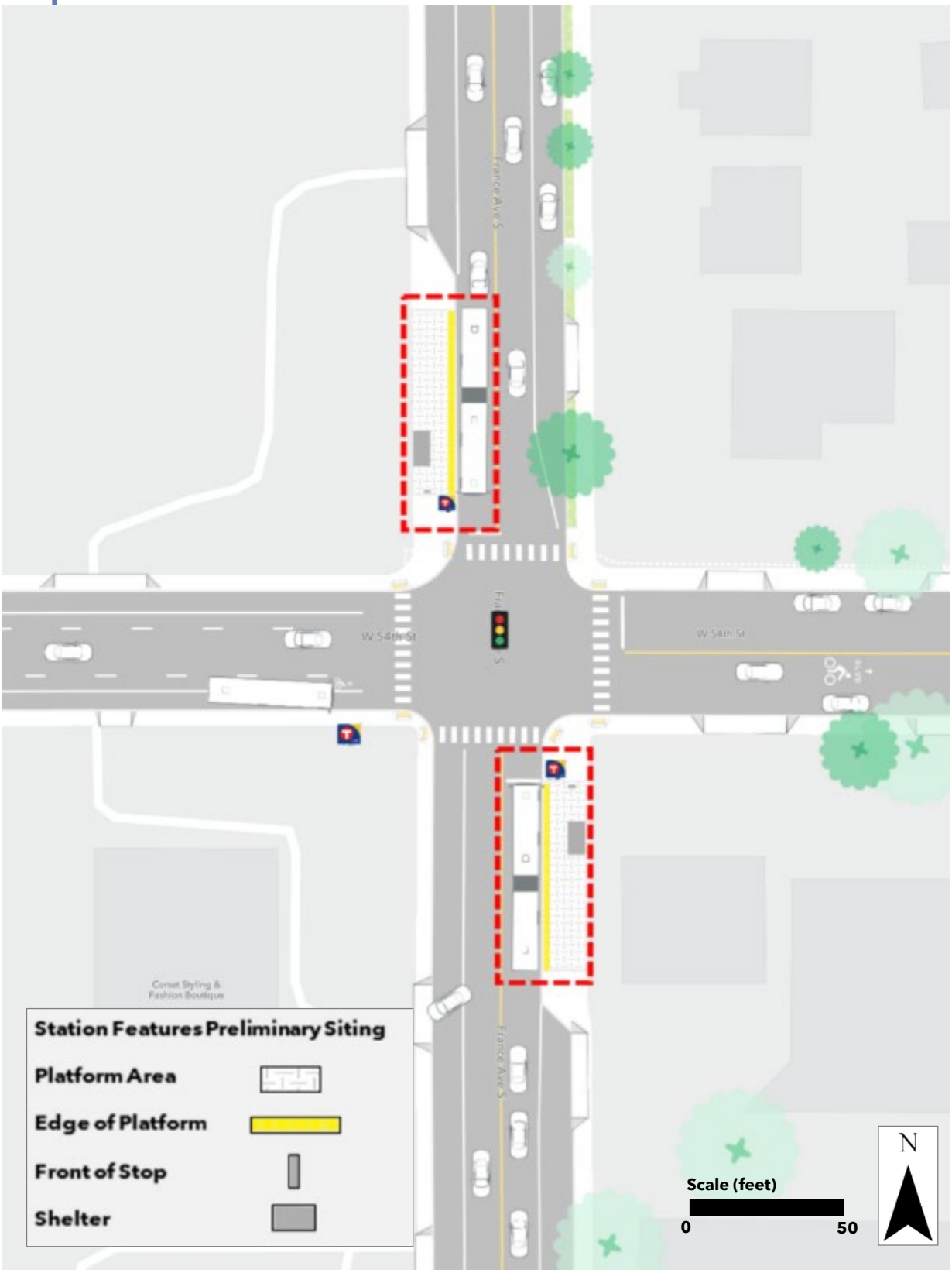
France & 54th Street

Proposed Station Location

Existing France & 54th Street Station Area



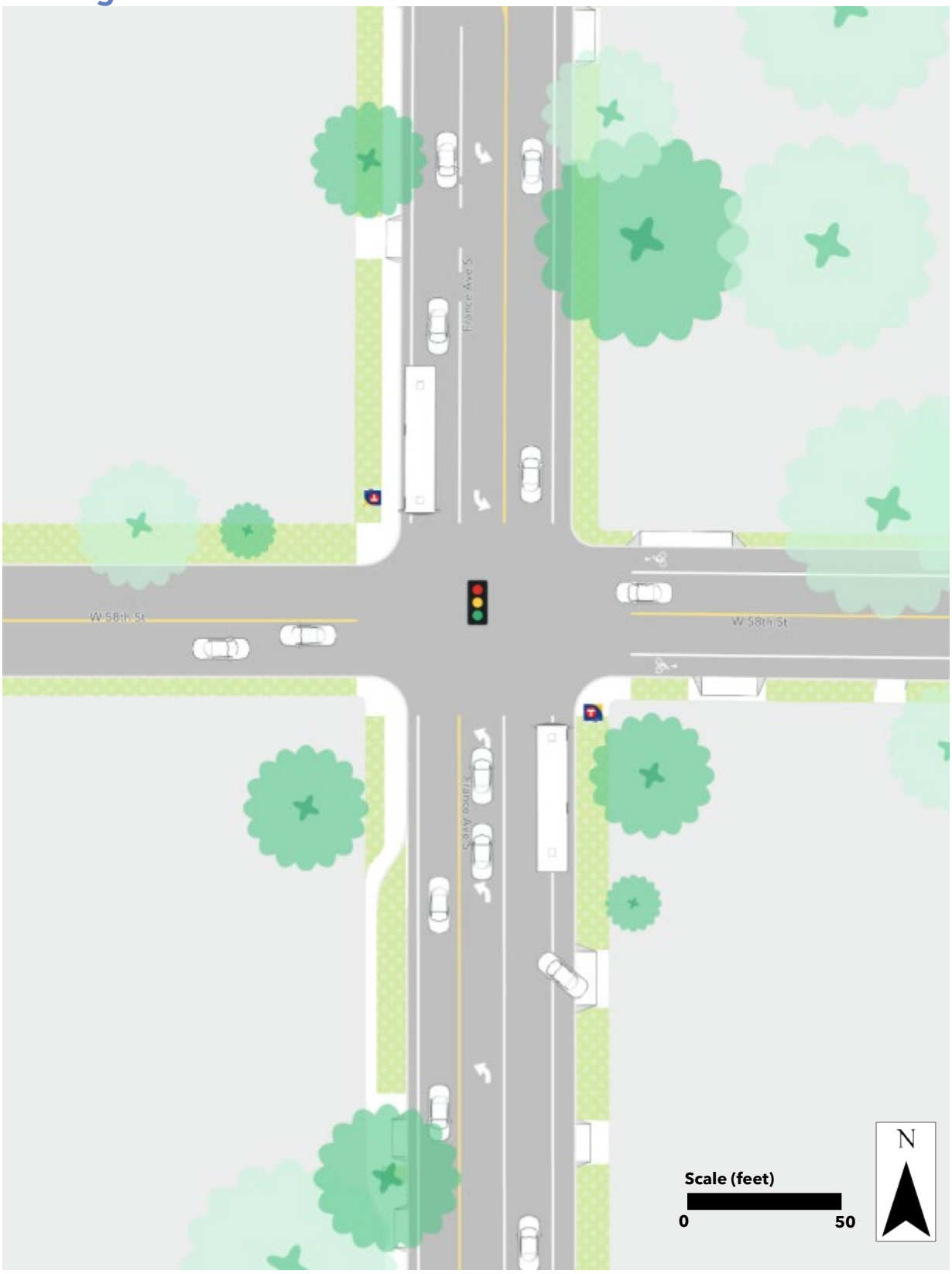
Proposed France & 54th Street Station Plan



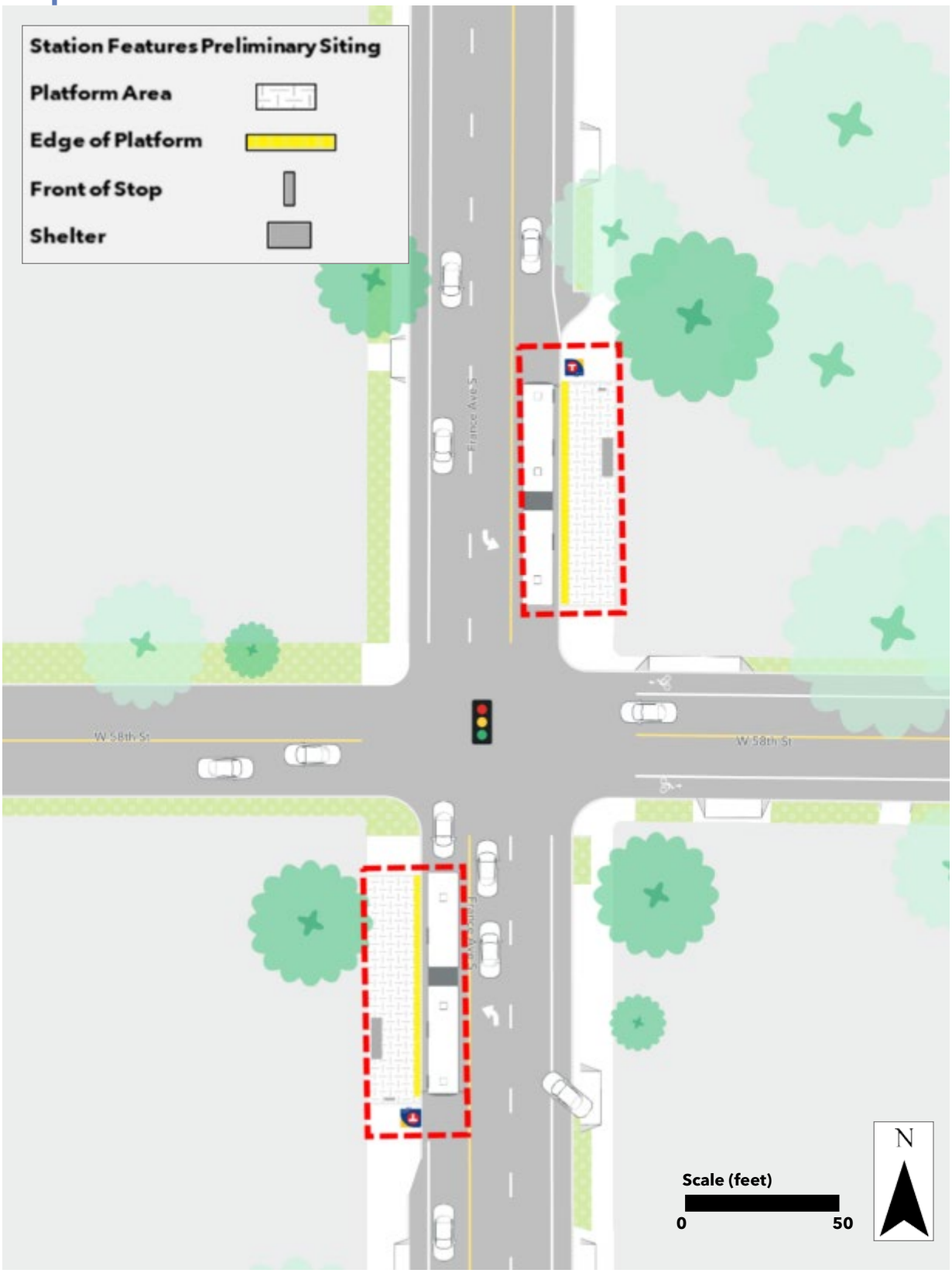
France & 58th Street

Proposed Station Location

Existing France & 58th Street Station Area



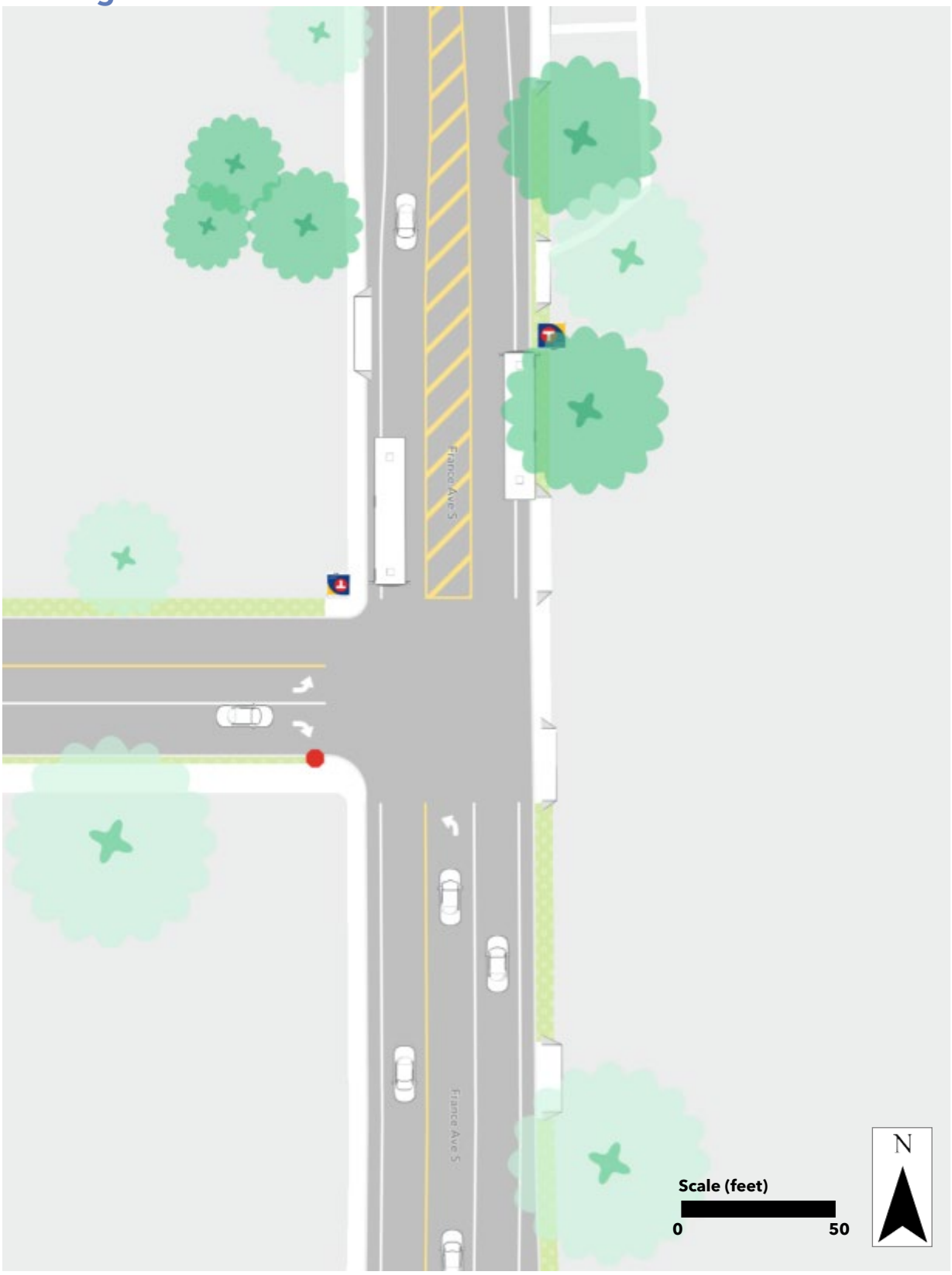
Proposed France & 58th Street Station Plan



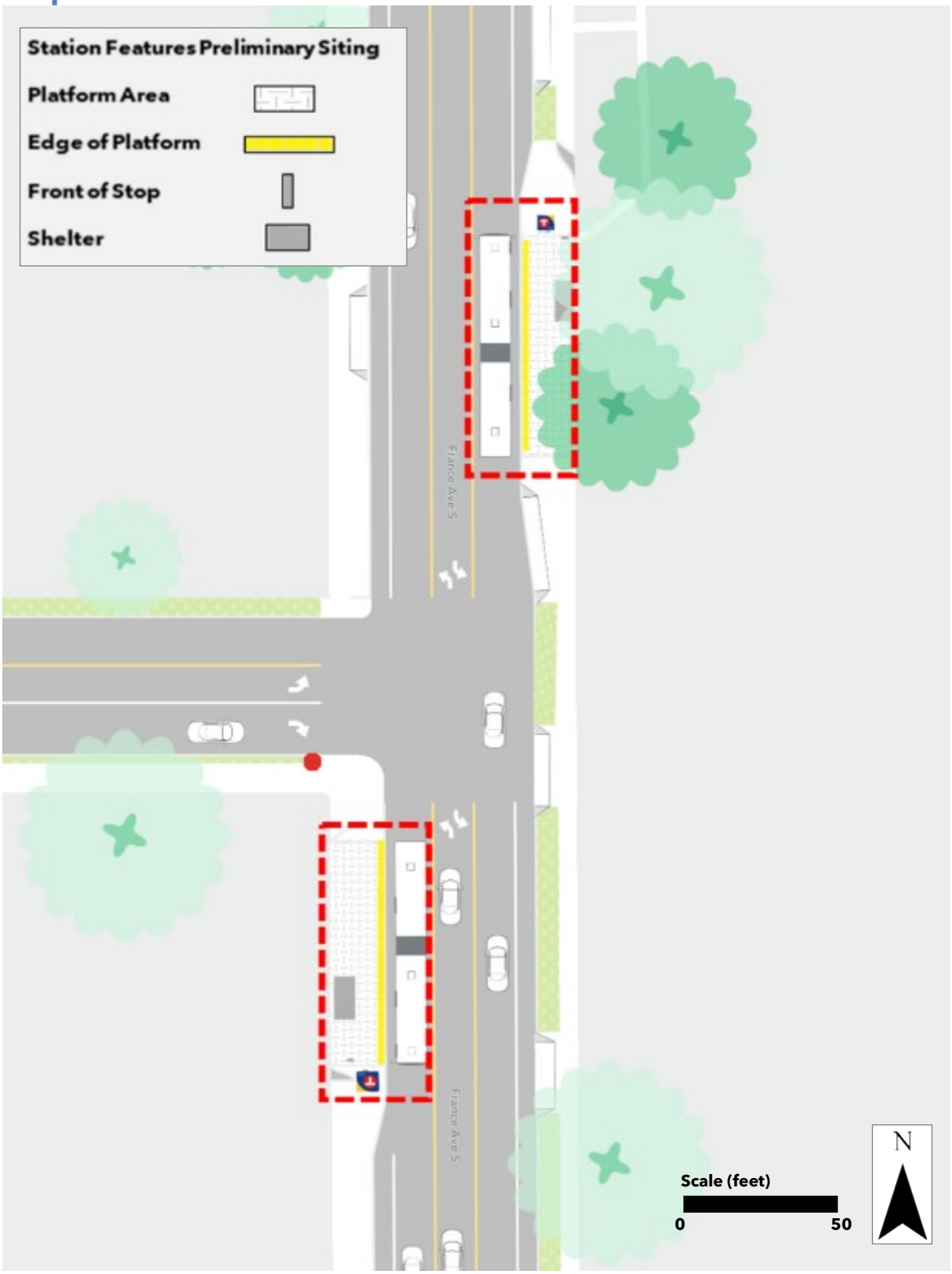
France & 62nd Street

Proposed Station Location

Existing France & 62nd Street Station Area

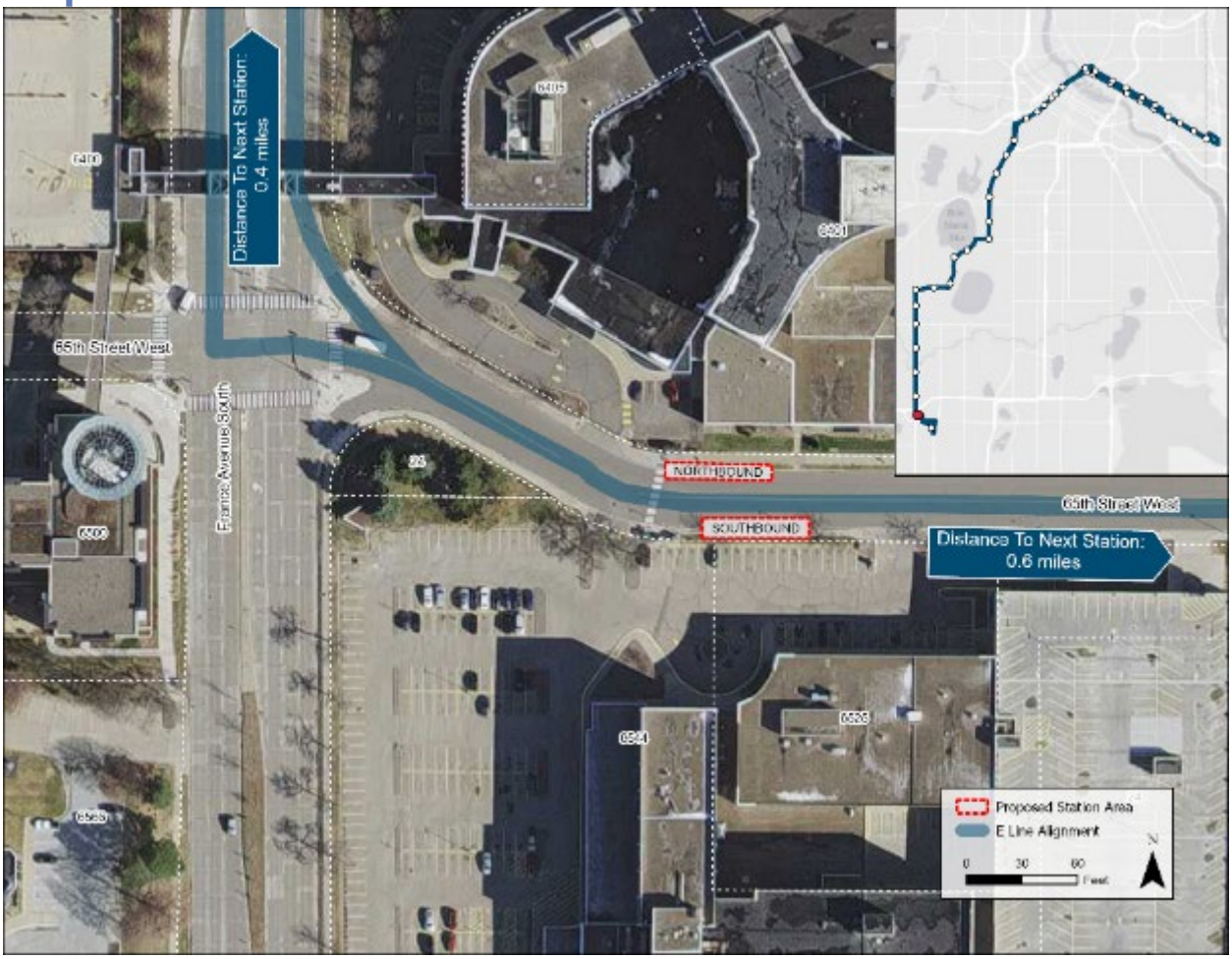


Proposed France & 62nd Street Station Plan

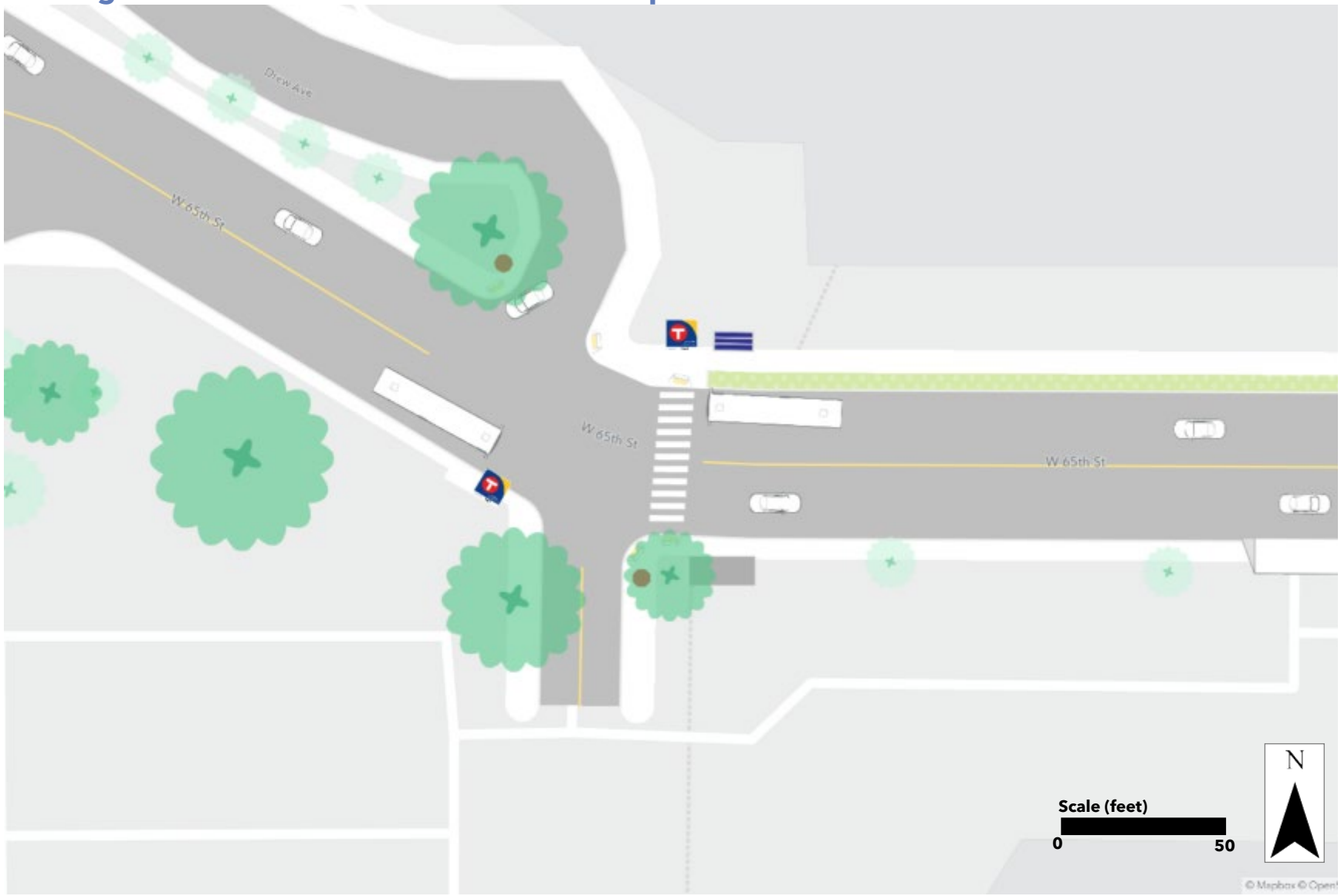


65th Street & Fairview Southdale Hospital

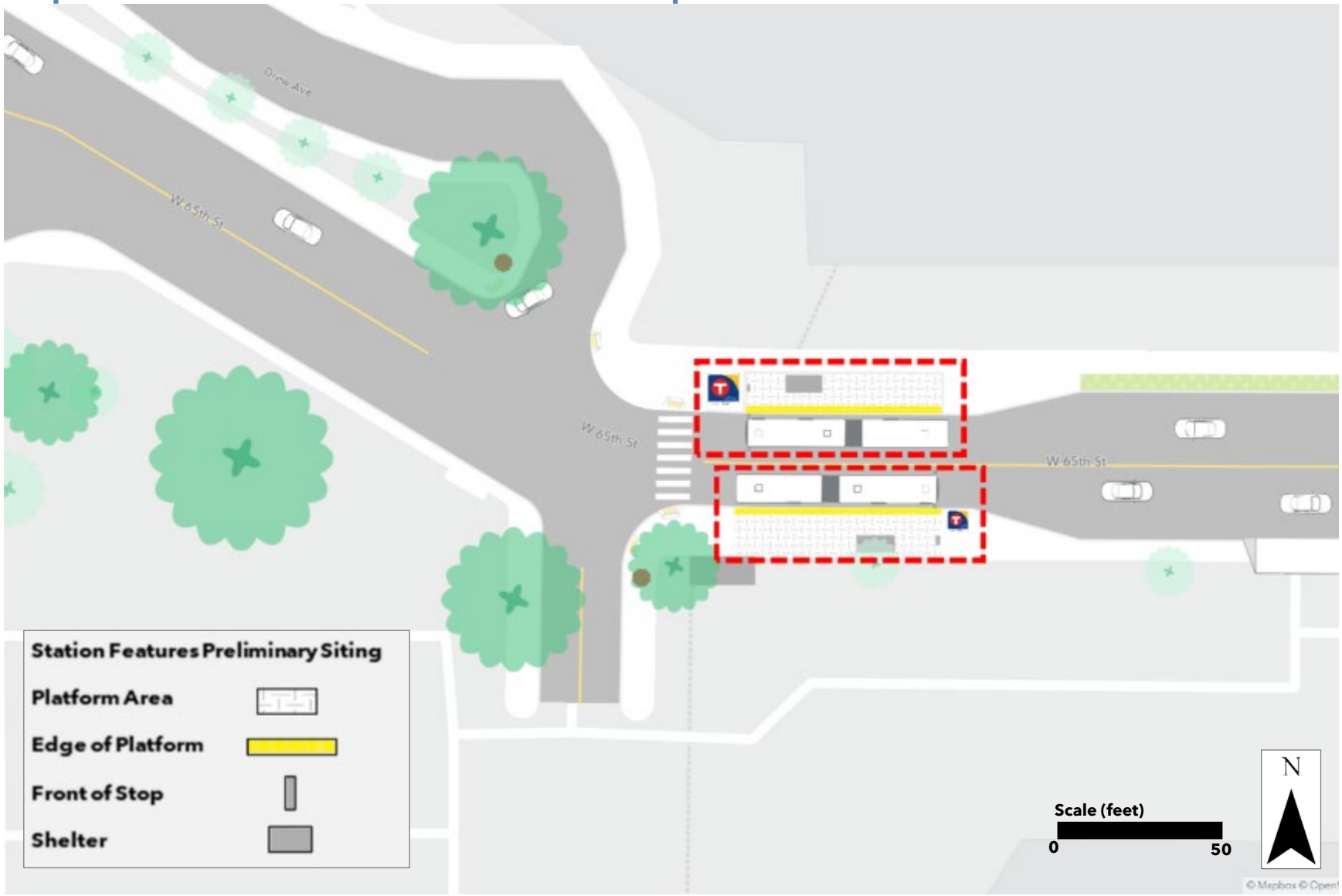
Proposed Station Location



Existing 65th Street & Fairview Southdale Hospital Station Area



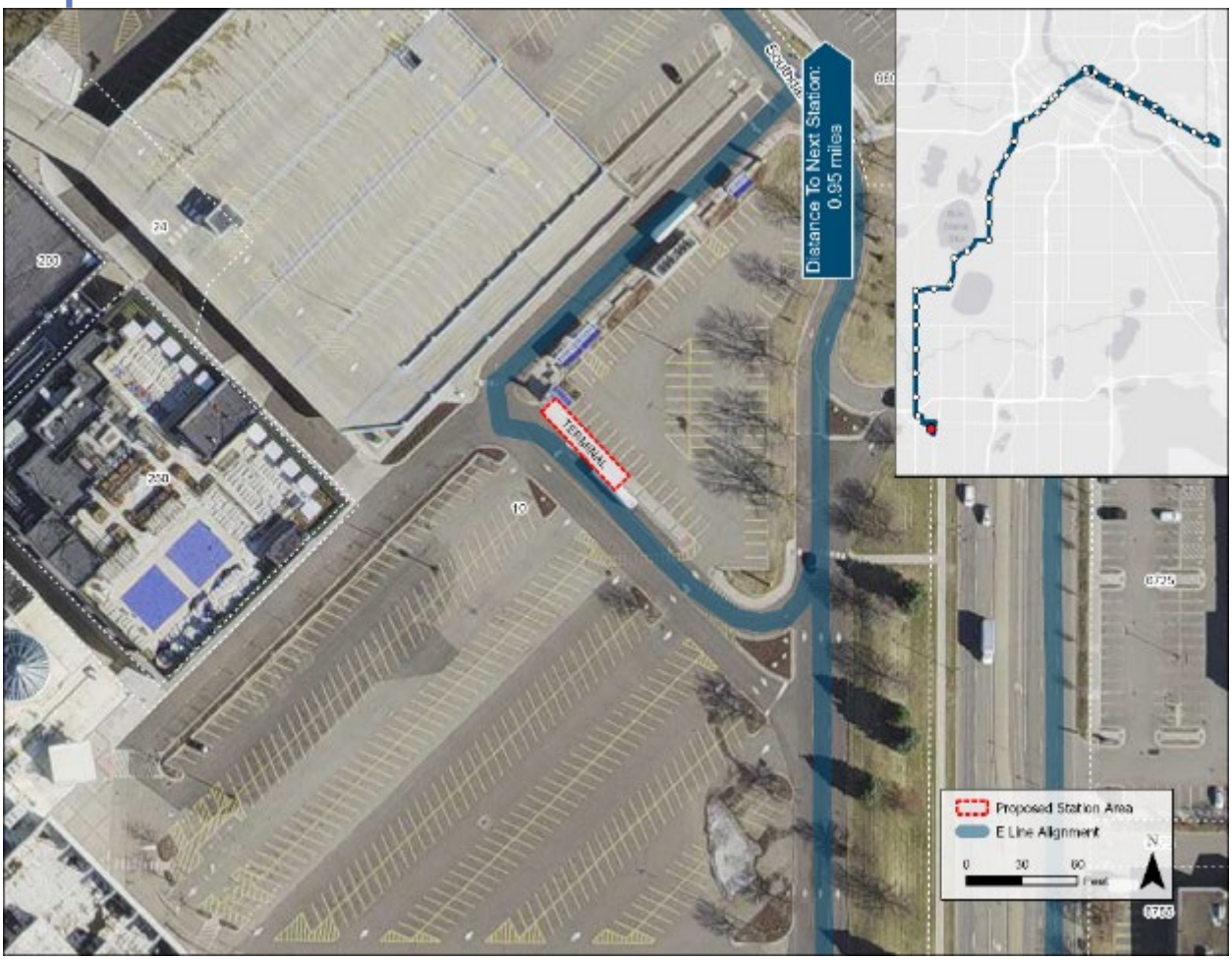
Proposed 65th Street & Fairview Southdale Hospital Station Plan



Southdale Transit Center

This station is the southern terminal for the E Line and offers connections to many local and express bus routes.

Proposed Station Location



VI. Bus Priority Treatments

How can the E Line move people faster?

Providing faster, more reliable transit service is a key goal for the E Line project. Under existing conditions, Route 6 buses regularly slow to average speeds below 9 miles per hour during rush hour. Frequent stops, lines of customers waiting to board, and red lights mean that buses are moving less than half the time. Inconsistent travel times and schedule variability means that customers have a hard time planning on the bus and are stuck waiting for late buses. Through a number of planned improvements across the corridor, the E Line is intended to operate about 20 percent faster or better than the existing Route 6.

Standard Arterial BRT Features

The E Line will include a core set of features that will help buses run faster and arrive on time.

Limited stops

Arterial BRT stations are spaced approximately every half mile, focusing on places where the greatest numbers of customers board buses today. Buses can travel significantly faster with more distance between stations, while also allowing for most customers to conveniently walk or roll to stations.

Platform placement

Platforms located on the farside of signalized intersections where feasible allow the bus to move through the intersection before stopping to pick up and drop off passengers, reducing the likelihood of stopping at a red light.

Curb bumpouts

Today, many existing local bus stops are located out of a thru-lane of traffic in right-turn lanes or in a curbside parking lane, causing delay for buses merging back into traffic. Curb bumpouts at station platforms where feasible eliminate delay-inducing merging movements by allowing the bus to stop in the through lane.

Off-board fare payment and all-door boarding

Off-board fare payment speeds up the boarding process and significantly decreases dwell time at stations while customers get on the bus. Because fares are paid at the platform, customers can board any of three doors rather than standing in line to pay their fare at the front door.

Transit signal priority

Transit signal priority (TSP) helps buses more consistently move through intersections by reducing the frequency and time spent stopping at red lights, a substantial source of delay. Buses alert the traffic signal as they approach to extend green time, allowing the bus to get through the intersection. Updating timing of traffic signals to provide more time with a green light for all vehicles is also a tool that can speed transit operations.

TSP is a standard arterial BRT improvement and is assumed to be included at most signalized intersections along the E Line corridor. Metro Transit intends to work with its partners to implement TSP as part of the E Line project. Signals along the corridor will be evaluated and considered during the design phase of the project for implementation.

Queue jump signals

Queue jump signals allow the bus to bypass stopped vehicles at signalized intersections by providing the bus a dedicated green light ahead of the green for general traffic. The bus is able to get ahead of traffic by moving from a dedicated lane or shared right-turn and transit lane.

Queue jump signals should be considered for implementation at intersections with existing space on the right side of the roadway available for the bus to approach the intersection, either from a dedicated transit lane or a shared right-turn lane, and move back into general purpose traffic from the intersection.

Metro Transit intends to work with its partners to explore queue jumps as part of the E Line project. As E Line design details are developed, intersections along the corridor will be evaluated for queue jump implementation.

Bus-Only Lanes

Bus only lanes provide dedicated space for buses to operate out of general-purpose traffic, either all day or part of the day. Bus-only lanes can provide a significant improvement to the speed and reliability of service, as getting stuck in traffic is one of the primary sources for delay for buses. Bus-only lanes implemented on Hennepin Avenue (see Figure 38) have been proven to improve bus speeds and significantly reduce variability. These improvements can make sure that transit customers can count on the bus to arrive when they expect it to and to get them to their destination on time.

The following section outlines Metro Transit priorities for implementation of bus-only lanes along the E Line corridor. Some of these improvements are being considered in coordination with other street projects, and others may potentially be implemented through Metro Transit's Speed & Reliability program, independent of planned E Line construction in 2024-2025.

Figure 38: Bus-only lane on Hennepin Avenue in Minneapolis

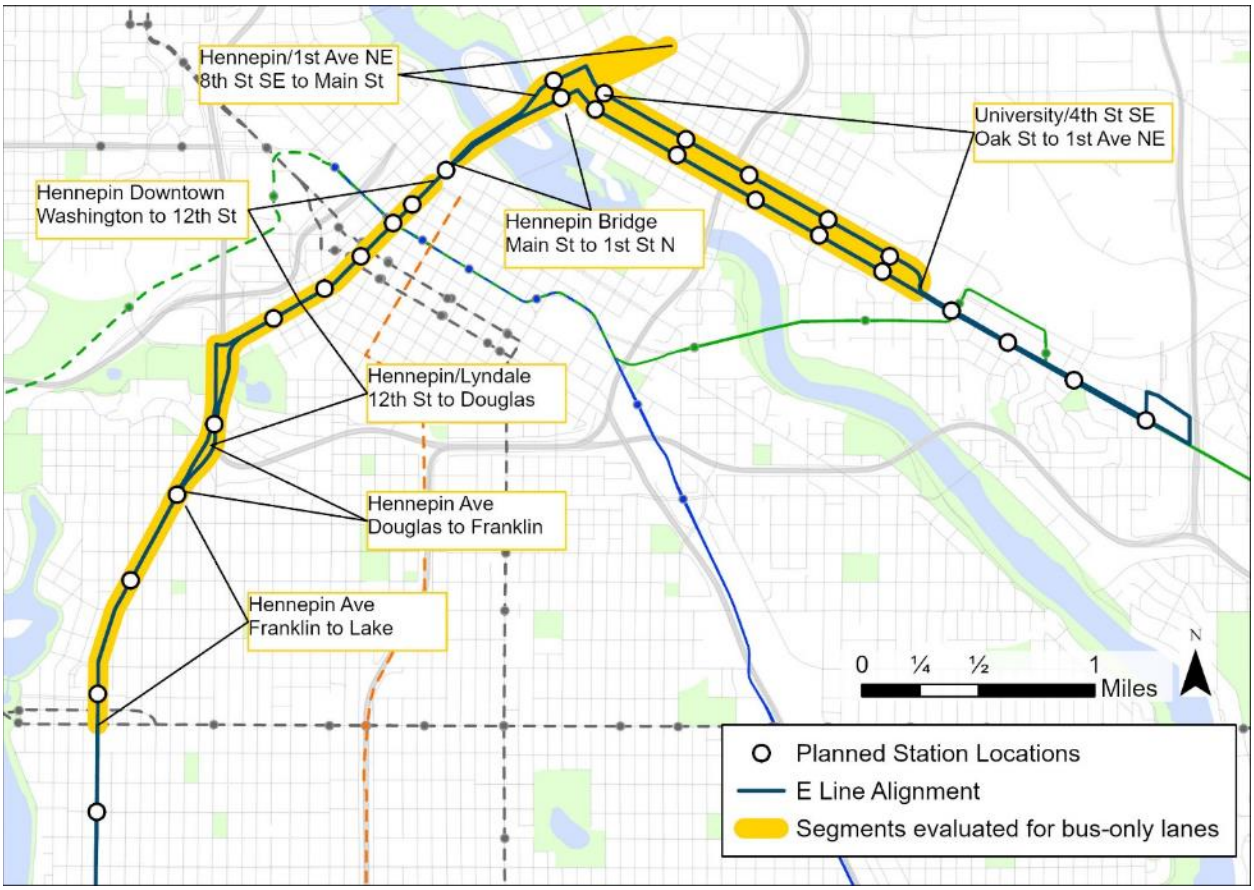
Segments analyzed for bus-only lanes

Metro Transit has analyzed multiple segments along the E Line corridor to better understand where delays to buses and passengers are occurring and identify candidates for implementation of bus-only lanes to reduce delays and improve service. In addition to the E Line, each segment considered would benefit several other local bus routes and delays to those routes are included in this analysis.

The roadway segments are listed below and shown in Figure 39. These segments were considered because they represent the core portion of the E Line where speed and reliability challenges and passenger delays are greatest.

- University Avenue and 4th Street SE from Oak Street to 1st Avenue NE
- Hennepin Avenue and 1st Avenue NE from Main Street to 8th Street SE
- Hennepin Avenue Bridge from Main Street to 1st Street N
- Hennepin Avenue downtown from Washington Avenue to 12th Street
- Hennepin/Lyndale Avenues from 12th Street to Douglas Avenue
- Hennepin Avenue from Douglas Avenue to Franklin Avenue
- Hennepin Avenue from Franklin to Lake Street

Figure 39: Segments analyzed for bus-only lanes



Analysis results

These segments were analyzed based on vehicle and passenger delays occurring in the segments. The analysis considered the following factors:

- Passenger delay: The total amount of time in hours on average per day passengers spent stopped or moving slower than free-flow speed.
- Passenger delay per mile: Passenger delay shown on a per mile basis to compare across segments of different length.
- Delay variability: A comparison of the average deviation of delay to the average of total daily delay. Higher deviation relative to the average total daily delay means unpredictable service for riders.
- Passenger throughput: The average number of passengers per day riding through or getting on or off within the segment.

University Avenue and 4th Street SE from Oak Street to 1st Avenue NE

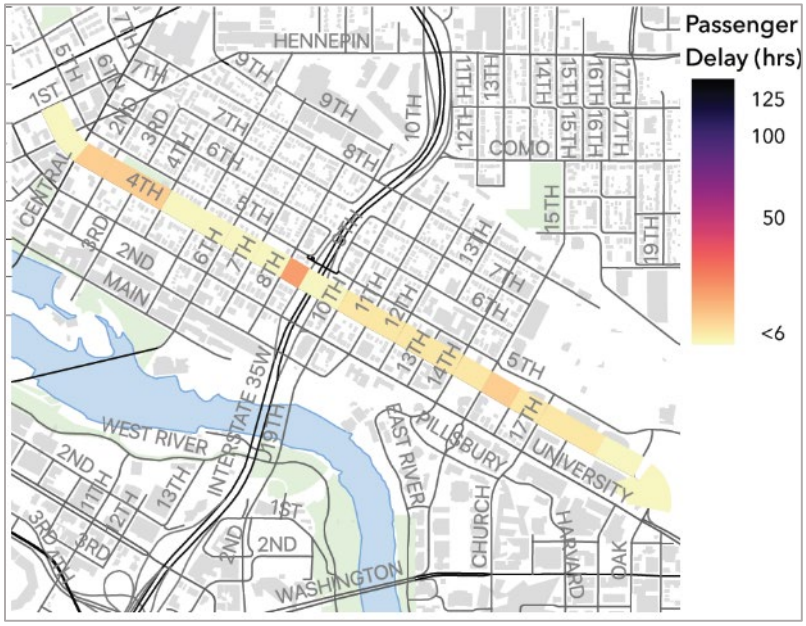
Passenger delay on the segments of University Avenue and 4th Street SE from Oak Street to 1st Avenue NE is evenly distributed across the length of each segment, with some concentration of delays occurring on each segment near the access ramps to I-35W and around the University of Minnesota (See Figure 40 and Figure 41). Some delay is concentrated on 4th Street SE near Central Avenue.

Overall, passenger and vehicle delays on these segments are moderate, due in part to more lower passenger throughput than other segments considered. While these segments have moderate average delay, delay on these segments is highly variable, meaning it is difficult to predict the travel time and arrival time of buses through these segments.

There are two planned roadway improvement projects led by partner agencies along these segments.

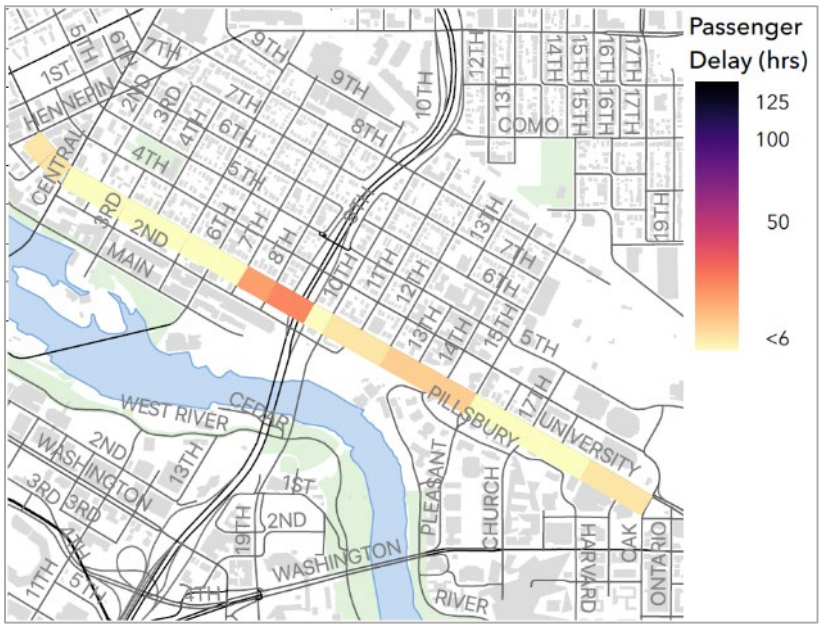
- The University Avenue and 4th Street SE roadway improvement project includes the segments from Oak Street to I-35W and is led by Hennepin County. Construction is planned in 2023 and will include improvements to bike and pedestrian facilities and access to transit. Bus-only lanes were not included for detailed consideration as part of this project.
- The segment of University Avenue and 4th Street SE from I-35W to Central Avenue has been identified by the City of Minneapolis and MnDOT for the implementation of a protected bikeway. No project is currently underway for this segment; however, additional coordination with the City and MnDOT will continue as a project is established.

Figure 40: Delay analysis - 4th Street SE from Oak to 1st Avenue NE



Factor	Value
Passenger Delay (Hrs.)	163
Passenger Delay per mile	93.3
Delay Variability (%)	16
Passenger Throughput (Rides)	2,400

Figure 41: Delay analysis - University Avenue from 1st Avenue NE to Oak



Factor	Value
Passenger Delay (Hrs.)	120
Passenger Delay per mile	70.4
Delay Variability (%)	16
Passenger Throughput (Rides)	2,800

Hennepin Avenue and 1st Avenue NE from Main Street to 8th Street SE

Vehicle and passenger delay on Hennepin and 1st Avenues from Main Street to 8th Street SE are moderate to high (see Figure 42). Delays are evenly distributed across the segment, with highest concentrations of delay on Hennepin between Main Street and 4th Street SE. Passenger volumes in this segment are high, about 4,500 riders per day, due to multiple high-ridership routes.

Variability of delay is also high in this segment, leading to inconsistent travel times and unreliable service.

Hennepin County is leading the Hennepin and 1st Avenue NE Roadway improvement project in this segment from Main Street to 8th Street SE. Construction is planned for 2024 and will include improvements to bike and pedestrian facilities and access to transit. Bus-only lanes are under consideration for this segment in coordination with that project.

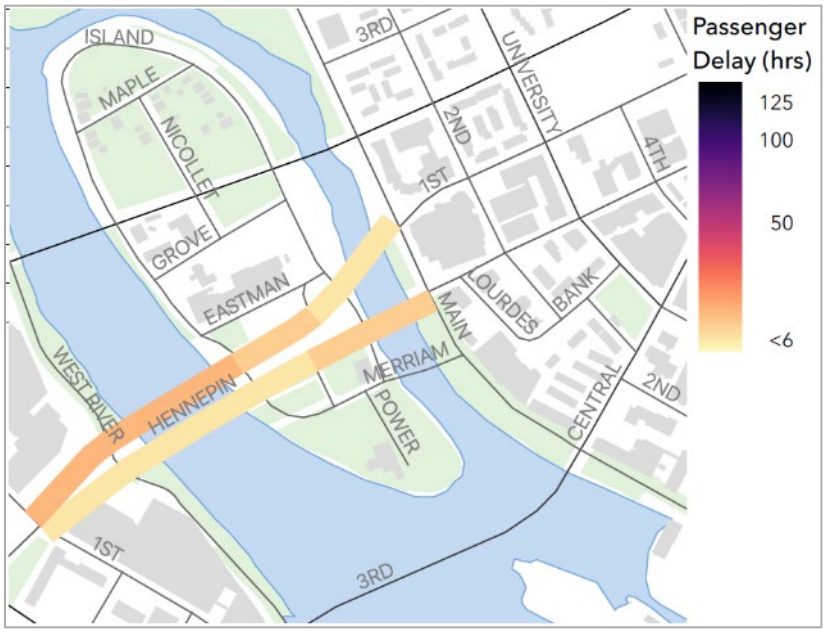
Figure 42: Delay analysis - Hennepin and 1st Avenue from Main St to 8th St

Factor	Value
Passenger Delay (Hrs.)	219
Passenger Delay per mile	190.9
Delay Variability (%)	13
Passenger Throughput (Rides)	4,500

Hennepin Avenue Bridge from Main Street to 1st Street N

The segment along the Hennepin Avenue Bridge from Main Street to 1st Street N in downtown has moderate passenger and vehicle delay throughout the segment, with no significant points of concentration (see Figure 43). Passenger delay on a per mile basis is moderately high. Passenger throughput on this segment is moderately high, with about 3,800 riders per day on average.

Figure 43: Delay analysis - Hennepin Avenue Bridge from Main St to 1st St N



Factor	Value
Passenger Delay (Hrs.)	160
Passenger Delay per mile	119.3
Delay Variability (%)	11
Passenger Throughput (Rides)	3,800

Hennepin Avenue downtown from Washington Avenue to 12th Street

Delays on the segment of Hennepin Avenue downtown from Washington Avenue to 12th Street are very high (see Figure 44). Delay is distributed evenly across the segment, with relatively high delays throughout. Delays in this segment occur in both directions. Delay variability on this segment is low, meaning delays are consistently occurring.

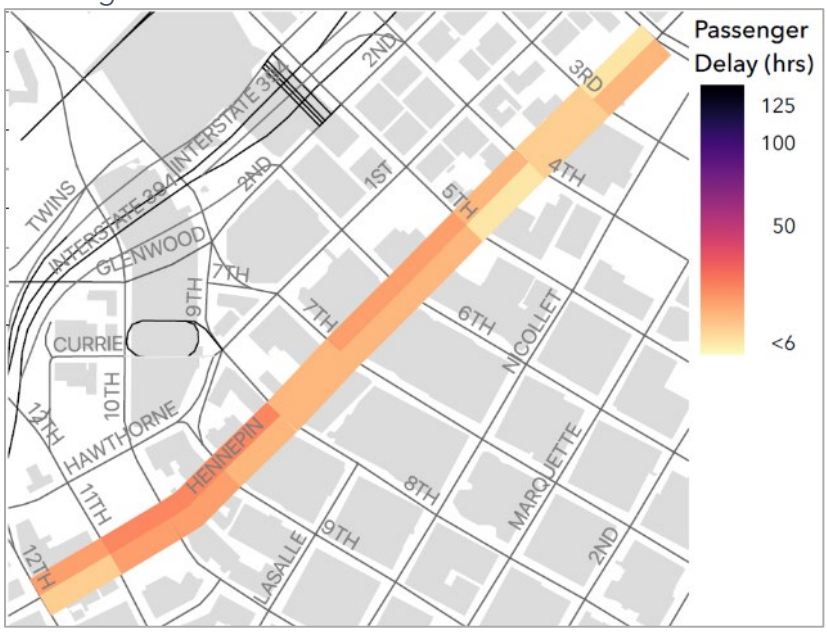
As a major destination and transit corridor, many high-ridership routes operate on this segment of Hennepin Avenue, leading to a very high passenger throughput. About 11,500 riders per day move through this segment.

The City of Minneapolis is leading the Hennepin Avenue Downtown Reconstruction project on this segment, from 12th Street to Washington Avenue. This project includes improvements to pedestrian facilities and protected bikeways, as well as enhanced transit stops that will be used by the E Line. Construction is planned to be complete in 2022.

The recent redesign of this street did not include bus-only lanes. The City of Minneapolis Transportation Action Plan includes a goal to evaluate bus-only lanes in this segment.

Factor	Value
Passenger Delay (Hrs.)	548
Passenger Delay per mile	727.0
Delay Variability (%)	8
Passenger Throughput (Rides)	11,500

Figure 44: Delay analysis - Hennepin downtown from Washington to 12th St



Factor	Value
Passenger Delay (Hrs.)	548
Passenger Delay per mile	727.0
Delay Variability (%)	8
Passenger Throughput (Rides)	11,500

Hennepin/Lyndale Avenues from 12th Street to Douglas Avenue

The segment of Hennepin/Lyndale Avenues from 12th Street to Douglas Avenue experiences significant passenger and vehicle delays (See Figure 45). About 448 hours of passenger delay per day occur on this segment, with about 7,000 riders per day moving through. Passenger delay on this segment is high throughout but is concentrated between 12th Street and Maple Street and along Hennepin Avenue from Maple Street to Vineland Place. Delay is distributed evenly in both directions.

Metro Transit and the City of Minneapolis plan to evaluate the potential for a bus-only lane and/or other transit advantages on Hennepin Avenue between Franklin Avenue and 12th Street South in 2022–2023.

Figure 45: Delay analysis - Hennepin/Lyndale from 12th St to Douglas Ave

Factor	Value
Passenger Delay (Hrs.)	448
Passenger Delay per mile	364.2
Delay Variability (%)	9
Passenger Throughput (Rides)	7,000

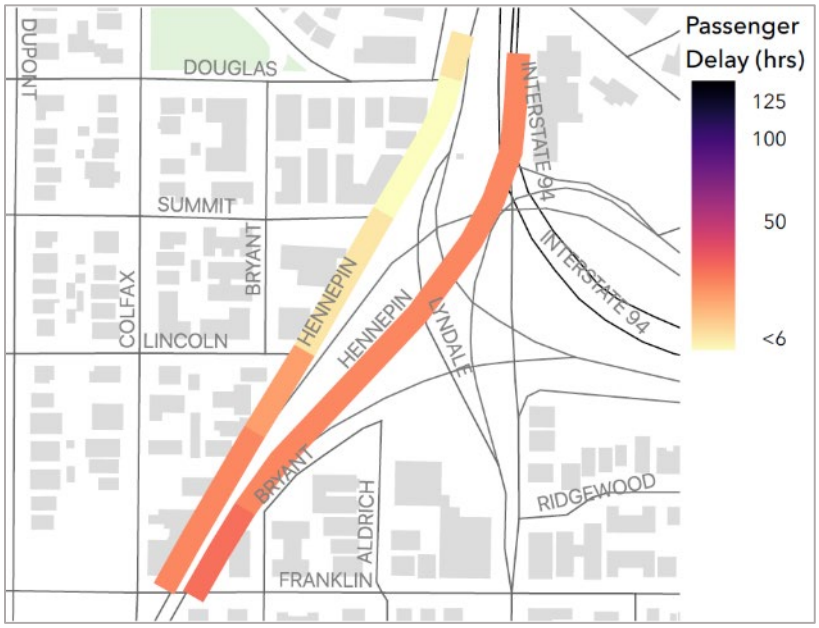
Hennepin Avenue from Douglas Avenue to Franklin Avenue

Passenger and vehicle delay in the segment of Hennepin Avenue from Douglas Avenue to Franklin Avenue is moderate (see Figure 46). Delay in this segment is highly variable, making it difficult to predict travel times and plan trips around bus service. Delay is evenly distributed in both directions, rather than concentrated in a single direction. Passenger throughput on this segment is high, with about 4,100 riders per day moving through this segment on transit.

The southbound portion of this segment on Hennepin Avenue from Douglas Avenue to Franklin Avenue is included in the Hennepin South Reconstruction Project, led by the City of Minneapolis. That project is planned to include improvements to pedestrian and bike facilities and enhanced transit stops which will be used by the E Line. Bus-only lanes are included as a core component of that project.

Metro Transit and the City of Minneapolis plan to evaluate the potential for a bus-only lane and/or other transit advantages on Hennepin Avenue between Franklin Avenue and 12th Street South in 2022–2023, including the northbound portion of this segment.

Figure 46: Delay analysis - Hennepin from Douglas Ave to Franklin Ave



Factor	Value
Passenger Delay (Hrs.)	125
Passenger Delay per mile	196.0
Delay Variability (%)	13
Passenger Throughput (Rides)	4,100

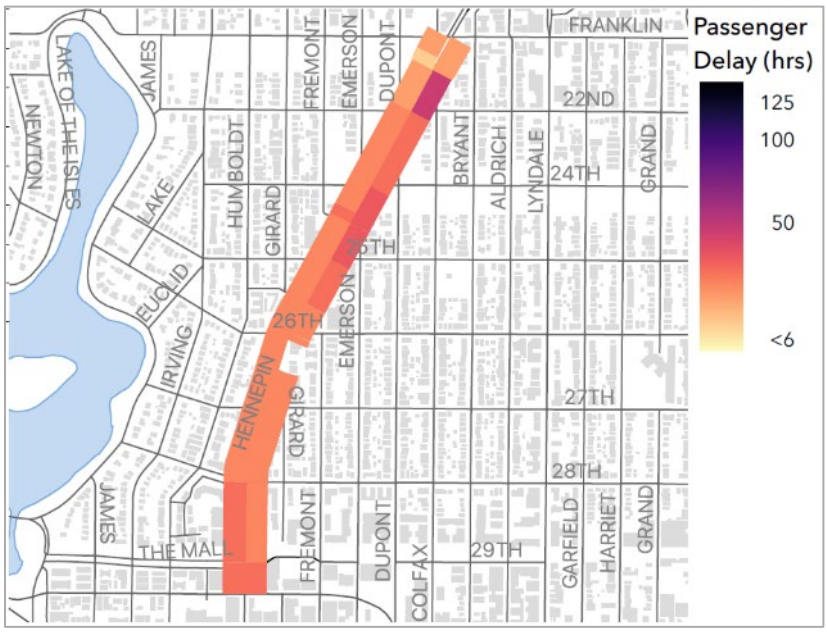
Hennepin Avenue from Franklin to Lake Street

Passenger and vehicle delay on the segment of Hennepin Avenue from Franklin Avenue to Lake Street is very high (see Figure 47). About 540 hours of passenger delay on average occur on this corridor per day. High delays are evenly distributed throughout the corridor, with a concentration on northbound Hennepin Avenue following 22nd Street.

Delay is moderately variable in the segment, leading to inconsistent travel times and bus arrival times. Delay is occurring evenly in both northbound and southbound directions.

This segment is included in the Hennepin South Reconstruction Project, led by the City of Minneapolis. That project is planned to include improvements to pedestrian and bike facilities and enhanced transit stops which will be used by the E Line. Bus-only lanes are included as a core component of that project for the majority of this segment.

Figure 47: Delay analysis - Hennepin from Franklin Ave to Lake St



Factor	Value
Passenger Delay (Hrs.)	540
Passenger Delay per mile	505.6
Delay Variability (%)	12
Passenger Throughput (Rides)	7,200

Priority segments for bus-only lanes

Based on the results of the analysis, segments are grouped into two categories: Segments to implement in the near term and segments to consider for future implementation in the longer-term. See Figure 48 for a map of the priority segments.

Near-term priorities

Near-term priorities include segments that are recommended to be implemented or considered for implementation independent of the E Line project, through Metro Transit's Speed & Reliability program or in conjunction with a coordinated roadway project led by partner agencies.

Priorities for bus-only lanes already under consideration through other projects:

- Hennepin Avenue and 1st Avenue NE from Main Street to 8th Street SE (under consideration for 2023-2024 implementation in Hennepin/1st NE Roadway Improvements Project)
- Hennepin Avenue from Franklin to Lake Street (under consideration for 2024-2025 implementation in Hennepin South reconstruction)

Priorities for bus-only lane implementation independent of E Line construction through Metro Transit's Speed & Reliability program:

- Hennepin Avenue Bridge from Main Street to 1st Street N
- Hennepin/Lyndale Avenues from 12th Street to Douglas Avenue
- Hennepin Avenue from Douglas Avenue to Franklin Avenue

These segments tend to have high passenger and vehicle delays and passenger throughput, meaning implementing bus-only lanes on these segments would maximize the speed and reliability improvement in areas where the most people would benefit. Implementing bus-only lanes on these segments would result in a significant improvement to the efficiency and overall mobility in these segments. Reducing delays experienced on this corridor will result in travel time savings, improved speed and reliability of service, and potential ridership growth and mode shift as transit becomes an even more convenient and reliable travel option on this corridor.

Consider for future implementation

Segments to consider for future implementation in the longer-term are segments that tend to have lower passenger delays throughout the corridor and/or lower person throughput or are on streets that have been recently redesigned without bus lanes. They are corridors that should be considered for future study in partnership with roadway authorities, but may not be immediate priorities for implementation with the E Line project.

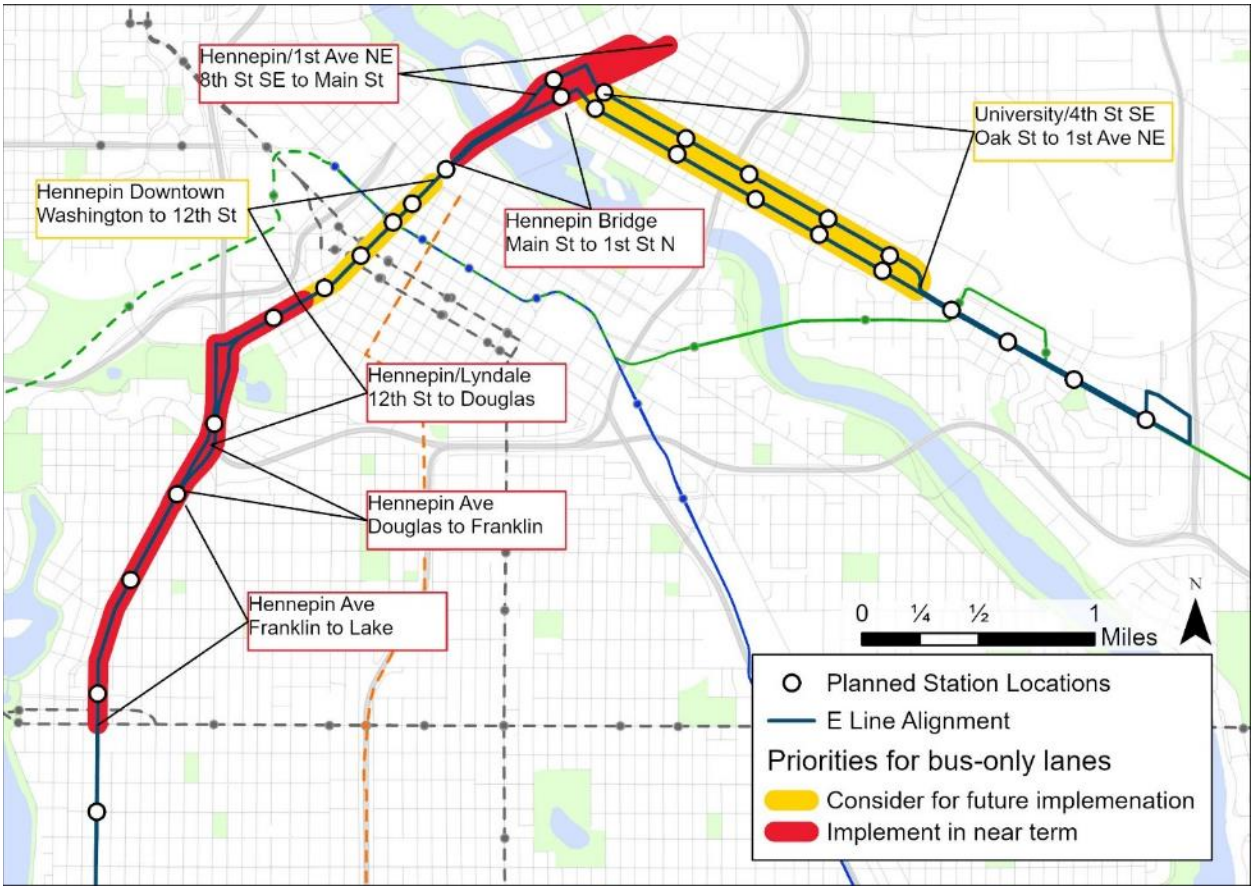
Segments identified to consider for future implementation include:

- Hennepin Avenue downtown from Washington Avenue to 12th Street
- University Avenue from 1st Avenue NE to Oak Street
- 4th Street SE from Oak Street to 1st Avenue NE

As noted above, bus-only lanes are not ruled out in these segments, and they remain good candidates for bus-only lanes. Metro Transit will continue working closely with project

partners and roadway authorities to coordinate, evaluate, and plan the implementation of bus priority treatments within the E Line corridor.

Figure 48: Priority segments for bus only lanes



Appendix A: Draft Corridor Plan Comment Summary

Metro Transit staff engaged riders and community members around the draft E Line Corridor Plan for public feedback in fall 2021. A public comment period was held Sept. 20–Oct. 31, 2021.

Due to the ongoing COVID-19 pandemic, most engagement was conducted virtually. Individual station plans were available to view online, and a comment survey form and project email address was also made available for the public to submit comments.

The draft plan release was communicated via print and digital communications including postcards, flyers at bus stops and on buses, limited in-person conversations, partnerships and meetings with community organizations and neighborhood groups, shared promotion by partner agencies, Rider Alerts and emails to Metro Transit subscribers, and targeted social media posts.

The survey included two primary questions, intended to solicit feedback on individual station locations and the Draft Corridor Plan overall. These questions are listed below:

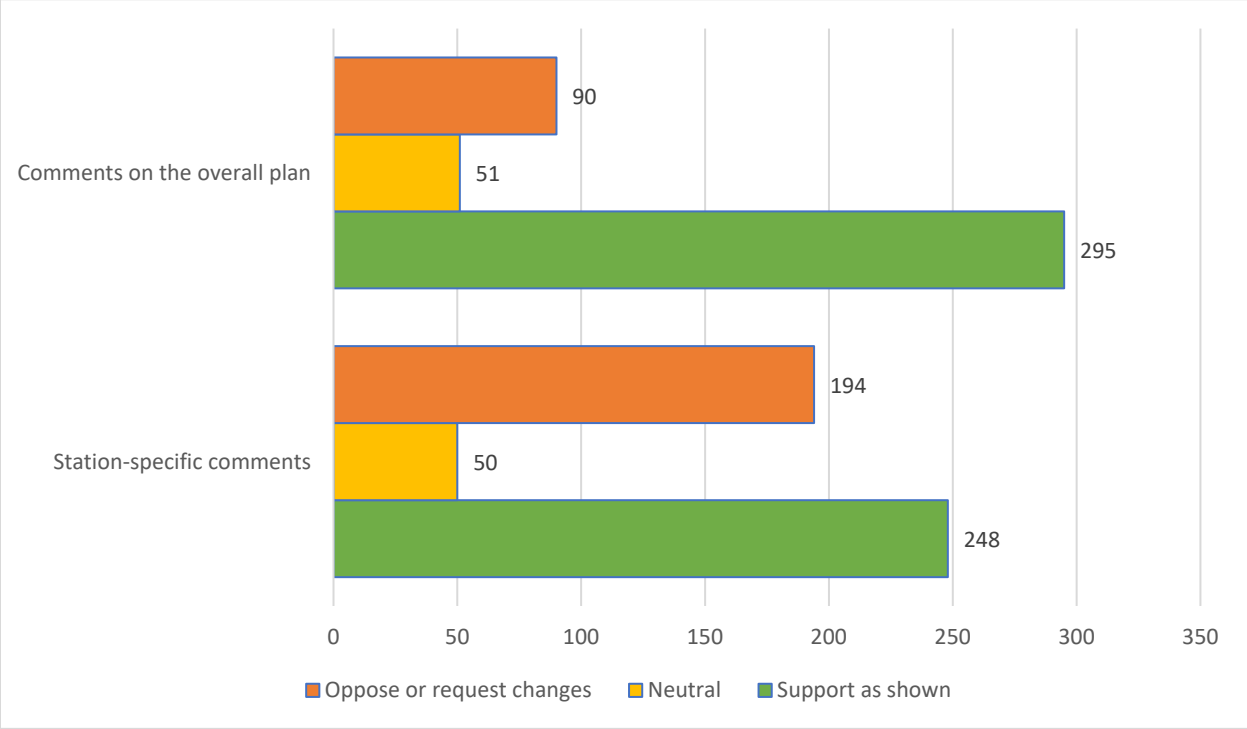
- What are your comments about the proposed station plan at this location (for example: location of station or platform placement at the intersection)? [Select stations from dropdown menu]
- What are your general comments about the E Line corridor plan?

Metro Transit received 561 individual survey responses and emails providing feedback on the draft corridor plan. Revisions to the plan based on this feedback are summarized below.

Summary

Metro Transit received 501 survey responses and 66 emails providing comment on the Draft Corridor Plan. Individual survey responses and emails often included comments on the overall plan in general and comments specific to a single station. The distribution of comments based on sentiment is shown in the graph below.

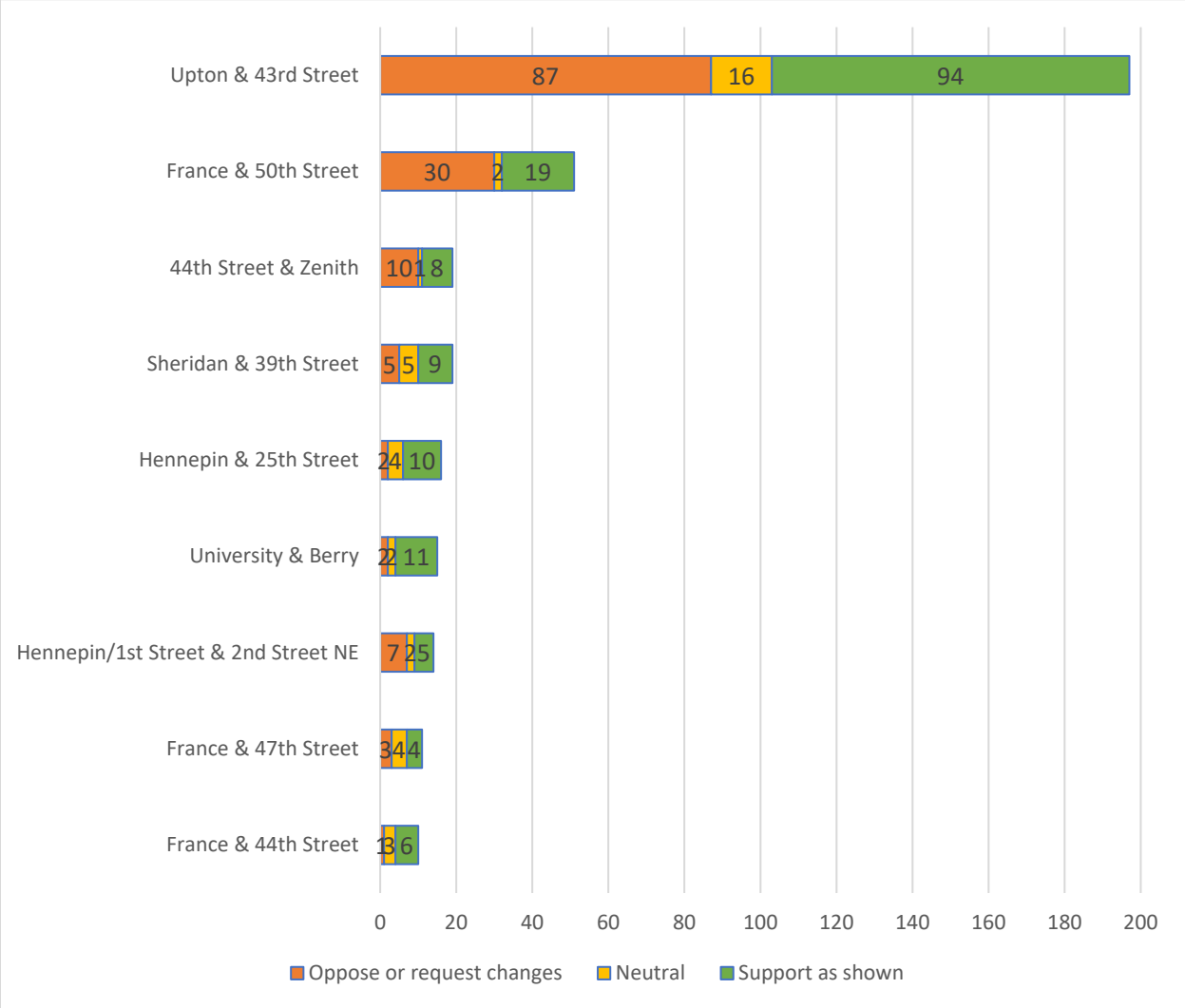
Figure 49: Draft corridor plan comment sentiment



Most comments received on the Draft Corridor Plan in general were in support of the plan as shown. Comments on the overall plan typically refer to the alignment, corridor-wide features like bus-only lanes, or general support or opposition. 295 out of 436 (68%) comments received on the overall plan were in support of the plan as shown and 90 (21%) comments received requested changes or opposed the plan altogether.

Comments on specific station locations might identify specific features of a proposed station location for support or opposition, suggest alternative locations, or raise specific concerns about a particular platform location. 239 out of 454 (53%) comments received on specific station locations were in support of the plan as shown and 165 (36%) comments requested changes or opposed the plan. This distribution varies by individual station location. Stations receiving 10 or more comments are shown on the graph below.

Figure 50: Draft corridor plan comment sentiment; stations receiving 10 or more comments



Two station locations received a significant share of the total station-specific comments: Upton & 43rd Street with 197 comments (46% of station-specific comments) and France & 50th Street with 51 comments (12% of station-specific comments).

In addition to survey responses and emails referring to specific station locations, Metro Transit received a letter signed by residents near the proposed France & 47th Street Station and a letter signed by business and property owners within the Linden Hills C-1 District near the proposed Upton & 43rd Street Station voicing opposition to the proposed stations in each location.

Based on station-specific feedback received on the Draft Corridor Plan, revisions to the following station locations are included in the Recommended Corridor Plan:

- University & Berry: The northbound (terminal) platform is recommended to shift from on University Avenue nearside of Emerald Street to on Berry Street farside of University Avenue following the left turn off University Avenue. No change is recommended to the

southbound platform.
- Upton & 43rd Street: The southbound platform is recommended to shift from farside of the intersection of Upton Avenue and 43rd Street to nearside of the intersection. No change is recommended to the southbound platform
- 44th Street & Zenith: The station location is recommended to move from the intersection of 44th Street and Zenith Avenue to 44th Street and Abbott Avenue. The northbound and southbound platforms would both be located on the nearside of the intersection.

Additional alternatives were analyzed at the following station locations but no changes to these locations are recommended:

- Hennepin/1st Avenue & 2nd Street NE
- Sheridan & 39th Street
- France & 47th Street
- France & 50th Street

Detailed discussion of additional analysis and recommended changes to specific station locations can be found in Section V (Stations).

Key Themes

Many comments addressed similar topics and were grouped together to identify key themes in the response to the Draft Corridor Plan. Many comments addressed multiple topics and were included in each relevant topic count. Key themes are identified below.

Access to destinations

158 comments received expressed support for station locations based on providing improved transit access to key destinations including commercial and retail destinations, schools, and new areas not currently served by Route 6. New transit connections between the Prospect Park neighborhood and the University of Minnesota and Dinkytown area, and connections to commercial areas in south Minneapolis and Edina, including Linden Hills and 50th & France, were frequently referenced.

Comment response:

To ensure that the E Line will best serve transit riders and the community, Metro Transit tries to place BRT stations in locations that will provide the most benefit to people. These locations include existing high ridership bus stops, opportunities to connect to other transit routes, places with high population and job density, commercial and retail areas, and other key destinations including medical services and schools. The E Line alignment and station locations were identified with these factors in mind.

Station spacing

10 comments regarding station spacing requested additional stations spaced closer together. Specific segments requested included Hennepin Avenue between 36th Street and Lake Street, Hennepin Avenue between Lake Street and Franklin, and the Dinkytown area near the University of Minnesota.

8 comments regarding station spacing requested fewer stations with stations spaced farther apart. Specific segments identified include France & 47th Street and downtown Minneapolis.

Comment response:
The Recommended E Line corridor plan does not add any new stations or remove any stations that were included in the Draft Corridor Plan. A key objective of arterial BRT is to offer faster trips for more people along the corridor. Faster trips depend in part upon the strategic placement of stations spaced farther apart than existing Route 6 bus stops. The existing Route 6 stops approximately every 1/8 of a mile. On average, E Line stops would be placed about 0.4 miles apart (two to three stops per mile) to balance speed and access, consistent with BRT station spacing guidelines. With the stations included in this plan, 91% of current Route 6 riders along the E Line alignment will be able to board the E Line at or within one block of their current bus stop.

Bus-only lanes

93 comments were submitted in support of implementing dedicated bus-only lanes on segments of the E Line corridor. The segments of Hennepin Avenue north of Lake Street and in downtown were specifically identified frequently in comments. Key reasons for support included challenges with existing traffic congestion, slow service, and frequent delays. Improving existing transit performance was identified as a key support for implementation of bus only lanes.

Comment response:
Bus-only lanes are currently being considered in several parts of the E Line corridor through other street projects, and others may potentially be implemented through Metro Transit's Speed & Reliability program, independent of planned E Line construction in 2024-2025. The recommended corridor plan includes an expanded analysis of segments that should be considered for bus-only lanes along the E Line.

Priorities for bus-only lanes already under consideration through other projects:

- Hennepin Avenue and 1st Avenue NE from Main Street to 8th Street SE (under consideration for 2023-2024 implementation in Hennepin/1st NE Roadway Improvements Project)
- Hennepin Avenue from Franklin to Lake Street (under consideration for 2024-2025 implementation in Hennepin South reconstruction)

Priorities for bus-only lane implementation independent of E Line construction through Metro Transit's Speed & Reliability program:

- Hennepin Avenue Bridge from Main Street to 1st Street N
- Hennepin/Lyndale Avenues from 12th Street to Douglas Avenue
- Hennepin Avenue from Douglas Avenue to Franklin Avenue

Segments identified to consider for future implementation include:

- Hennepin Avenue downtown from Washington Avenue to 12th Street
- University Avenue from Oak Street to 1st Avenue NE
- 4th Street SE from Oak Street to 1st Avenue NE

Metro Transit continues to work with corridor cities and counties to develop strategic bus priority treatments that will help achieve project goals while addressing other City and County goals.

Improved speed and reliability

58 comments were received that expressed support for planned improvements to speed and reliability that did not reference dedicated bus-only lanes. These comments were primarily in support of locating platforms on the far side of signalized intersections and using transit signal priority.

Comment response:

Metro Transit is working with agency partners to implement transit signal priority at signalized intersections along the E Line alignment. Metro Transit intends to work with its partners to implement TSP and explore queue jumps at signals as part of the E Line project. Signals along the corridor will be evaluated and considered during the design phase of the project for implementation.

Farside platforms at signalized intersections are preferred for BRT operations to improve speed and reliability of service, particularly when paired with transit signal priority to extend the green light for buses. They can reduce certain conflicts between right-turning vehicles and stopped transit vehicles. At uncontrolled or stop sign-controlled intersections, nearside platform placement is typically preferred to minimize the number of times the bus stops.

However, the preferred platform placement is not always feasible or advisable due to site-specific conditions such as existing roadway access points or driveways and right-of-way/waiting space constraints. Where possible, E Line platforms have been located at the preferred platform location to maximize the speed and reliability improvement over existing service, but in some instances this has not been feasible.

Neighborhood character and/or scale of BRT station

92 comments received were related to concerns about the scale of BRT stations and shelters and a disruption to the existing character of the surrounding neighborhood. Comments often referenced concern about the potential for visual disruption and the design of shelters and pylons looking out of place with the existing architecture. Concerns were also raised about shelters potentially blocking the visibility of nearby businesses, disrupting sidewalk seating areas and patios, and being sited in proximity to single-family houses.

Comment response:

The majority of E Line stations are planned to be approximately the same size as standard local bus shelters installed on the corridor today. BRT shelters and pylons are designed for consistency, both for customers and for ease of timely maintenance across the growing system. Consistent station design is important to providing predictable and recognizable BRT service. Determining the appropriate shelter size at station locations is based both on existing and potential ridership at the location as well as site-specific conditions and constraints.

During the design phase, Metro Transit will identify specific placement of BRT shelters and other amenities. Design will consider adjacent land uses and, where applicable, station features will also be configured to minimize effects on uses in the public realm, including existing outdoor seating areas. At many locations, in-lane stops with curb bumpouts will ensure that there is enough space for the station amenities while maintaining enough sidewalk space behind the shelter for comfortable pedestrian movement and access and visibility to storefronts. Additionally, E Line shelters will use clear glass, making it easier to see storefronts behind the shelter.

Where space allows, additional BRT station amenities will be included along the platforms, including pedestrian-scale lighting, benches, bicycle parking, and trees (either retained existing trees or new replacement trees).

Removal of parking

50 comments opposed the potential removal of on-street parking spaces due to the implementation of BRT stations. These comments were concentrated at station locations near business districts including Upton & 43rd Street and France & 50th Street. Concerns noted that the removal of on-street parking spaces directly in front of business could make it more inconvenient and less likely for customers to visit these locations.

Comment response:

Removing a small number of parking spaces in places with significant on- and off-street parking resources for a transit stop enables safe and convenient public transit access to destinations. By providing better access to places by people using transit, the E Line will expand overall access by all modes with a minor impact on access by car.

Implementation of E Line stations will result in a very small reduction of available on-street parking spaces at platform locations, amounting to 1-2% of on-street parking in the business districts at Upton & 43rd Street and France & 50th Street.

Metro Transit is able to limit the total reduction of on-street parking spaces in most locations with the use of curb bumpout platforms. In locations where the BRT platform will be located at a different location than the existing bus stop, Metro Transit will work with agency partners on establishing new parking spaces at the former bus stop location. Metro Transit will also continue to work with agency partners on broader parking management strategies at key locations as appropriate. Final changes to on-street parking will be determined in the engineering process beginning later in 2022.

Removal of trees

39 comments expressed concern or opposed station locations based on the potential removal of existing mature boulevard trees. Concerns commonly cited both the environmental and aesthetic impact of tree loss.

Comment response:

Trees provide many benefits, including providing shade for riders waiting at stops. Metro Transit seeks to minimize impacts to existing trees in designing and building BRT stations. Metro Transit will complete a Tree Impact Survey and document all the trees that will be impacted by E Line construction activities during the project design phase. A Tree Impact memo will be created and communicated that will quantify the appropriate tree impact minimization and mitigation measures. Where possible, platform design will incorporate existing mature trees to avoid removing or damaging trees. Areas identified as a concern for root damage due to soil compaction will be protected prior to construction commencing.

Where direct impacts on existing trees cannot be avoided in platform design, Metro Transit will coordinate with the City of Minneapolis, Minneapolis Park & Recreation Board, and other appropriate parties regarding potential relocation and on-site tree replacement options.

Traffic operations

63 comments referenced concern about the impact of the E Line on traffic operations. Common concerns related to traffic included the length of the E Line buses and navigation

through the roadways on the alignment, buses stopping in the lane of traffic, additional bus trips on specific roadway segments, and station locations interfering with cars at intersections.

Comment response:
The E Line will use 60-foot articulated buses with wider aisles, more seating capacity, and additional doors so more people can get on and off easily. 60-foot buses have been successfully used on the existing Route 6 on occasion and are regularly used on routes running on similar streets throughout Minneapolis and the region.

Transit and traffic operations were a key consideration in making platform placement recommendations. As part of project planning, Metro Transit has completed traffic modeling on key segments of the alignment, working with City and County traffic staff. Modeling shows that adding the recommended E Line stations would not have a significant effect on traffic delays compared to future conditions without the project.

Pedestrian safety

20 comments referenced concern for pedestrian safety near station locations or along the E Line alignment. Topics cited in these comments included ensuring safe pedestrian crossings at stations, particularly at France & 47th Street. Comments also cited a general concern about the E Line alignment travelling through areas with high pedestrian traffic, particularly at Upton & 43rd Street.

Comment response:
Pedestrian safety is a key consideration for recommended platform locations. Most platform locations will include curb bumpouts that will reduce the crossing distance for people walking and rolling. The France & 47th Street station will be designed in coordination with a pedestrian safety improvement project that will further improve the crossing at this location led by City and County project partners. Other pedestrian crossing improvements will be considered during the design phase of the project. Platform locations are located near intersections rather than at midblock locations to encourage the safe crossing of streets at intersections.

Bicycle lane integration and safety

51 comments received were in support of designing stations to accommodate future protected bicycle lanes or to integrate bicycle lanes behind the platform. Comments referenced safety and maneuvering challenges between buses and bicycles at conflict points in front of bus stops.

Comment response:
Metro Transit is coordinating with partner agencies along the corridor to design transit facilities in a way that would not preclude the implementation of bikeways in adopted plans and policies, including the Minneapolis Transportation Action Plan. Several E Line stations are located within coordinated roadway projects that include protected bikeways led by other agencies, including the City of Minneapolis and Hennepin County. These stations are being designed to include separated bikeways behind the BRT platform.

This plan establishes two core station components: the station intersection and the location of platforms within the intersection. The preliminary design concepts in the plan are provided for additional context but are conceptual and will be finalized throughout detailed design. This includes consideration of potential ways to minimize conflicts between buses and

bicyclists, where buses would be stopping within a bike lane (as currently occurs in many instances along the corridor). Metro Transit will work with agency partners to explore design solutions that support safe operations for all roadway users. BRT reduces bus dwell (stop) time due to off-board fare payment and all-door boarding. Therefore, the amount of time in which E Line buses would be stopped in the bike lane would be expected to be shorter than is the case under existing conditions.

E Line alignment

15 comments requested a change to the E Line alignment to shift from a particular street segment. These comments focused primarily on Sheridan Avenue, Upton Avenue, and 44th Street.

11 comments requested an extension to the E Line alignment, either farther east along University Avenue on the north end of the alignment, or south of Southdale Transit Center along France Avenue on the south end of the alignment.

Comment response:

The E Line alignment was finalized and adopted by the Metropolitan Council in January 2020, following a corridor study process in 2018-2019. This study evaluated several routing alternatives for the E Line, ultimately recommending the adopted alignment in part to improve transit service to the important commercial nodes along France Avenue, 44th Street, and Upton & 43rd Street. The study was completed with the close participation of local partners, including the Cities of Minneapolis and Edina, and Hennepin County, and included public engagement throughout the process, including a Community Advisory Committee comprised of community members along the Route 6.

There are no plans at this time to study an extension of the E Line at either end of the alignment. Metro Transit recently completed a 2040 plan for arterial BRT expansion, identifying the next lines for implementation. This forward-looking BRT vision would be updated every five years to respond to changes in land use, ridership, and other factors. The next update would be scheduled to kick off in 2025.

Appendix B: Agency Comments

Metro Transit received formal comments on the draft E Line Corridor Plan from MnDOT, Hennepin County, the City of Minneapolis, the City of Edina, and the Minneapolis Park & Recreation Board. These letters are included in this appendix.

DEPARTMENT OF TRANSPORTATION

Metropolitan District
1500 County Road B-2 West
Roseville, MN 55113

October 26, 2021

Yumi Nagaoka, Outreach Coordinator
Metro Transit
570 6th Ave N
Minneapolis, MN 55411

SUBJECT: E Line BRT Corridor Concept
MnDOT Review #STUDY21-002
34 station locations between Southdale and University Ave at Berry Ave
Control Sections: 8285
Cities of Edina and Minneapolis, Hennepin County

Dear Yumi Nagaoka,

The Minnesota Department of Transportation (MnDOT) has reviewed the draft corridor plan for Metro Transit's proposed E Line bus rapid transit (BRT) service dated September 2021and has the following comments.

Right-of-Way

The proposed BRT service would cross MnDOT right-of-way at four locations:

1) MN 62 (Crosstown Highway) at France Ave;
2) I-94 in the vicinity of Lyndale and Hennepin Aves over the Lowry Tunnel);
3) MN 47 (University Ave SE) and MN 65 (Central Ave) in Minneapolis; and
4) I-35W at University Ave SE.

As the project design moves forward, information should continue to be provided so potential impacts to MnDOT property can be evaluated. Please contact Douglas Nelson, Right-of-Way at 651-234-7583 or Douglas.Nelson@state.mn.us with related questions.

Traffic

MnDOT owns and operates the traffic signals at the MN 62/France Ave intersection listed above. Transit Signal Priority (TSP) at these signals will require a network upgrade, as they are not currently in an admin/access layer. (Signals at the other intersections are owned and operated by City of Minneapolis.) Please contact Eric Lauer-Hunt at Eric.Lauer-Hunt@state.mn.us or 651-234-7875 with related questions.

Coordination with Other MnDOT Projects

MnDOT looks forward to coordination with Metro Transit on the E Line and future pavement and bikeway projects on University Ave and 4th St SE, which are now in the planning stages. Please be in touch with Jason Junge, Metro District Multimodal Planning, at Jason.Junge@state.mn.us or 651-234-7878 with related questions.

Please continue to participate in MnDOT's Hwy 47 and Hwy 65 Planning and Environmental Linkages (PEL) Study Phase 2. The E Line corridor concept shows a potential station location near the

intersection of University and Central Avenues in the southern portion of the PEL Study Area. The future F Line aBRT service will also operate in this area. Please be in touch with David Elvin at David.Elvin@state.mn.us or 651-234-7795 with related questions.

Pedestrian and Bicycle Facilities

MnDOT looks forward to working with Metro Transit on the portion of the project located within MnDOT right of way to ensure current and future pedestrian and bicycle facilities are thoughtfully integrated around station areas and the transit corridor. Please contact Jesse Thornsen, Pedestrian and Bicycle Planning, at 651-234-7788 or jesse.thornsen@state.mn.us with related questions.

Permits

Any temporary work within MnDOT right-of-way to construct stations, communications or power conduits, or other supporting items will require an appropriate permit. All permits are available and should be submitted at: https://olpa.dot.state.mn.us/OLPA/. For questions regarding permit submittal requirements, please contact Buck Craig of MnDOT's Metro District Permits Section at 651-775-0405 (cell) or Buck.Craig@state.mn.us.

Review Submittal Options

MnDOT's goal is to complete reviews within 30 calendar days. Review materials received electronically can be processed more rapidly. Do not submit files via a cloud service or SharePoint link. In order of preference, review materials may be submitted as:

1. Email documents and plans in PDF format to metrodevreviews.dot@state.mn.us. Attachments may not exceed 20 megabytes per email. Documents can be zipped as well. If multiple emails are necessary, number each message.
2. For files over 20 megabytes, upload the PDF file(s) to MnDOT's web transfer client site at: https://mft.dot.state.mn.us. Contact MnDOT Planning development review staff using the same email above for uploading instructions, and send an email listing the file name(s) after the document(s) has/have been uploaded.
3. A flash drive or hard copy can be sent to the address below. Please notify development review staff via the above email if this submittal method is used.

MnDOT
Metro District Planning Section
Development Reviews Coordinator
1500 West County Road B-2
Roseville, MN 55113

You are welcome to contact me at (651) 234-7795 or David.Elvin@state.mn.us with questions.

Sincerely,

David Elvin
Digitally signed by David Elvin
Date: 2021.10.26 07:52:52 -05'00'

David Elvin, ACIP
Principal Planner

Metropolitan District
1500 County Road B-2 West
Roseville, MN 55113

Copy sent via email:

Jason Swenson, Water Resources
Buck Craig, Permits
Douglas Nelson, Right of Way
Eric Lauer-Hunt, Traffic
Jason Junge, Transit
Aaron Tag, Area Engineer
April Crockett, Area Manager
Mackenzie Turner Barger, Ped/Bike
Alex Hogan, Traffic
Jesse Thornsen, Ped/Bike
Lance Schowalter, Design
David Kratz, Planning
Cameron Muhic, Planning
Tod Sherman, Planning
Russell Owen, Metropolitan Council
Kyle O'Donnell Burrows, Metro Transit

HENNEPIN COUNTY
MINNESOTA

November 2, 2021

Katie Roth, Kyle Burrows
Metro Transit E Line Bus Rapid Transit (BRT) project

Re: Hennepin County comments on the E Line BRT Recommended Corridor Plan

Dear Katie Roth, Kyle Burrows:

Hennepin County staff appreciate the opportunity to review and comment on the E Line Bus Rapid Transit (BRT) Recommended Corridor Plan. Since 2018, Hennepin County staff have been actively engaged in coordination of E Line planning with Metro Transit, City of Minneapolis, City of Edina, MnDOT, and the Minneapolis Park and Recreation Board through the project's Technical Advisory Committee. County staff have previously submitted technical comments on the DRAFT Corridor Plan and are generally supportive of the station locations. We look forward to working with our partners to promote accessibility, safety, and mobility through the project development process.

Hennepin County is committed to serving our residents by supporting Metropolitan Council in their continued buildout of the planned arterial BRT system to provide shorter transit times, improved reliability, increased ridership, and expanded mobility for communities along the proposed lines. To demonstrate the county's commitment to the success of the E and B Lines, Hennepin County applied for USDOT's RAISE Program for local scope improvements to complement the BRT projects.

Although Hennepin County has been contributing local funding to past projects to ensure station intersections are fully upgraded to meet current ADA standards and improve safety for all users, the county requests that Metro Transit develop their arterial BRT projects with a scope and matching budget that acknowledges the full range of infrastructure and operational investments necessary to make the transit project complete and successful. Hennepin County's ability to continue to contribute local funding to these projects into the future is not guaranteed. In addition, scoping for future projects should involve county and city partners as early as possible to ensure project success.

The E Line will travel along several county roadways including: University Avenue and 4th Street through the University of Minnesota campus, Hennepin Avenue and 1st Avenue through the St. Anthony Main area in Minneapolis, and France Avenue in Edina serving many regional destinations. County staff will continue to collaborate with our partners on upcoming county projects where space may be reallocated within the right-of-way to address safety and mobility needs of transit riders, bicyclists, and pedestrians, along with the needs of motorists. One of these projects includes pavement preservation for France Avenue between Excelsior Boulevard and 50th Street, currently scheduled for 2023. It may be beneficial

to incorporate this into the E Line scope to minimize disruption along the corridor. In addition, we request that E line designers fully review the safety and mobility needs of all users at non-signalized BRT station locations with priority given to pedestrian crossing safety enhancements. We look forward to on-going coordination.

With our recently approved Climate Action Plan, we are committed to advocating for the buildout of planned transit routes and the development of new routes. We look forward to continued partnership to promote multi-modal transportation options throughout the county with the E Line and other BRT routes.

Sincerely,

Carla Stueve

Carla Stueve, P.E.
Transportation Project Delivery Director and County Engineer

Minneapolis
City of Lakes

Public Works
350 South 5th Street
Minneapolis, MN 55415
Tel 612.673.3000
www.minneapolismn.gov

City of Minneapolis Comments on E Line BRT Draft Corridor Plan

The City of Minneapolis appreciates the opportunity to review and comment on the E Line Draft Corridor Plan. The E Line is proposed to operate along several streets in Minneapolis, including France, Hennepin, 1st, University, and 4th Avenues. This north-south route covers most of Metro Transit Route 6 currently and connects 12 neighborhoods across five wards, while also traveling into St. Paul and Edina. While this draft Corridor Plan supports various goals outlined in the City of Minneapolis' 10-Year Transportation Action Plan (TAP), additional opportunities exist to modify the E Line Draft Corridor Plan to better meet the goals of safety, equity and climate. City staff look forward to working with Metro Transit staff to advance the Final Corridor Plan.

General comments:

- The City of Minneapolis supports the E Line project and the direction identified in the E Line Draft Corridor Plan.

- Vertical elements should be considered for inclusion at certain locations along the corridor in the engineering phase (specifically: Bde Maka Ska, 43rd/Upton, 44th/Zenith, 44th/France, 47th/France, and 50th/France). Sometimes called "hardened centerlines," these tools have been incorporated along the D Line and other corridors as important traffic control devices, ensuring cars do not pass buses as they stop at station locations.

- Addressing safety along the corridor is key and a primary goal for the City of Minneapolis. University, 4th, 1st, and Hennepin Avenues are identified as High Injury Streets in the Vision Zero Action Plan (2020-2022). Transit users walk or roll to stations and making improvements in coordination with the E Line will help achieve the greatest safety gains.

- Minneapolis requests that Metro Transit develop their ABRT projects with a scope and matching budget that acknowledges the full range of infrastructure and operational investment necessary to make the transit project complete and successful. Minneapolis has been contributing local funding to past projects in order to ensure intersections are fully upgraded to meet ADA and improve safety for all users and to implement transit advantages. Minneapolis' ability to continue to contribute local funding to these projects into the future is not guaranteed.

Specific platform locations and station concepts:

University/23rd (Stadium Village LRT station): This signalized intersection is one of the most complicated intersections in the city due to the confluence of the METRO Green Line train traffic and access to the Huron interchange with I-94. Improvements at this intersection will need careful work during the design stage to ensure safe operations for all users.

Hennepin & Gateway: The design must not preclude a future bikeway along Hennepin Avenue; the City will work with Metro Transit and the County to ensure the designs support this future planned bikeway.

Hennepin & Groveland: The City will work with Metro Transit to address a potential clear zone conflict between the signal and the northbound shelter.

Richfield Road & Bde Maka Ska: The design must not preclude a future sidewalk along Richfield Road; the City will work with Metro Transit to ensure the designs support this future planned sidewalk.

44th & Zenith: Minneapolis recommends relocating this station to Abbott, one block to the west. Some combination of near side and far side stops could be deployed. Staff will work with Metro Transit during the process leading up to the Recommended Corridor Plan to determine the preferred locations for the north bound and south bound platforms.

As the project moves into the design phase, City will coordinate pedestrian and ADA infrastructure needs at each station intersection.

Green Infrastructure:

The City of Minneapolis is working with Metro Transit to integrate green infrastructure (GI) elements into the E Line project in order to combat climate change and create a more resilient city, support environmental and racial justice, address urban heat island impacts, improve water quality, and improve the public realm.

Bus priority treatments:

The City of Minneapolis is collaborating with regional partners to evaluate potential transit advantages at various locations along the corridor. For example, Minneapolis worked with Metro Transit to deploy bus only lanes on Hennepin Avenue between Franklin Avenue and Lake Street in south Minneapolis in 2019. The TAP (see Transit action 2.3) indicates that bus only lanes and/or other transit advantages should be considered on the following segments along the E Line:

- Hennepin Avenue between Washington Ave South and 12th Street South
  - As noted below, the reconstruction of Hennepin Ave is nearly complete and will improve safety, access to transit, and the walking and bicycling experience. After the project is complete it will be evaluated before considering changes to its design and operation.
- Hennepin Avenue between Franklin Ave and 12th Street South
  - Bus-only lanes and transit priority tools will continue to be evaluated in conjunction with E Line project development.
- University Avenue/4th St SE from Hennepin/1st Ave NE to eastern city boundary
  - Similar to the Hennepin Downtown project, this project will build the BRT platform stations since the project will already be adjusting curb lines. This construction coordination minimizes disruption to the public by avoiding additional curb realignment when the BRT project is implemented. New signals capable of providing transit signal priority are also being provided through this work. Additional transit advantages, which are outside the scope of the University Ave/4th St SE project, will be evaluated as part of E Line development, and are not precluded by this project.

The City remains committed to partnering with Metro Transit and Hennepin County to evaluate the potential to implement bus-only lanes to support the speed and reliability of the E Line.

The City supports providing additional valuable transit advantages such as transit signal priority (TSP) and queue jumps at locations in addition to those listed above, where feasible. For example, the Hennepin/Lyndale commons near I-94 is seen as a bottleneck area and should be targeted for improvements in bus travel time. These priority treatments will be planned for when developing the E Line corridor plan. The Draft Corridor Plan outlines the suite of options available in a BRT project but currently does not specify where along the E Line these are targeted for deployment.

Related projects:

There are several projects advancing at different locations along the corridor. The Draft Corridor Plan does not go into detail about the conditions and station locations being implemented under those projects but it should do so as design plans progress.

University and 4th Bikeway

This project, being led by Hennepin County, will construct protected bicycle facilities on University and 4th Avenues between I-35W and Oak Street SE. The City supports the County project to construct a two-way curb-protected bikeway on University Avenue SE and a one-way curb-protected bikeway on 4th Street SE. The City will remain engaged as this project advances and will coordinate the timing of project development and construction to promote inclusion of transit priority treatments along these corridors.

Hennepin and 1st Improvements

This project, being led by Hennepin County, will provide accessibility and mobility improvements for people walking, biking, and rolling on Hennepin and 1st Avenues between Main Street and 8th Street. The City will continue to collaborate with the County on this project and potential impacts to the E Line. The City will remain engaged as this project advances and will coordinate the timing of project development and construction to promote inclusion of transit priority treatments along these corridors.

Hennepin Downtown Reconstruction

Hennepin Avenue through downtown Minneapolis is currently under construction with an anticipated completion of late 2022. E Line improvements have been incorporated into the design of this federally funded project.

Hennepin South Reconstruction

Hennepin Avenue from Lake Street to Douglas Avenue is a City-led reconstruction planned to begin in 2024. A recommended layout is anticipated in 2022. E Line stations and transit signal priority equipment are planned to be built at the same time as the street reconstruction project. Both design options under consideration include bus-only lanes as a critical design feature.

Hennepin-Dunwoody Protected Bikeway

This project, being led by the City of Minneapolis, will provide accessibility and mobility improvements for people walking, biking, and rolling on Hennepin Avenue and Dunwoody Boulevard between the Cedar Lake Trail and 12th Street. The City will continue to collaborate with Metro Transit on this project and potential impacts to the E Line. The City will remain engaged as this project advances and will coordinate the timing of project development and construction to promote inclusion of transit priority treatments along these corridors.

Hennepin Ave HSIP

This project, being led by the City of Minneapolis, will construct intersection safety improvements for people walking, biking, and rolling on Hennepin Avenue at 13th Street and Spruce Place. The City will continue to collaborate with Metro Transit on this project and potential impacts to the E Line. The City will remain engaged as this project advances and will coordinate the timing of project development and construction to promote inclusion of transit priority treatments along these corridors.

Additional staff comments:

The City of Minneapolis is committed to partnering with Metro Transit on the E Line BRT, as evidenced by its participation on the Technical Advisory Committee and through its coordinated effort with the several other projects in development along this critical corridor in Minneapolis. The City will collaborate with Metro Transit on refinements in the plan as a result of ongoing public comment, which to date has included comments related to the localized importance of parking, tree loss and replacement, changes to underlying bus service, neighborhood design, and improving the speed and reliability of transit. The City looks forward to further coordination and support through final design of the E Line BRT through 2023.

STAFF REPORT

Date: August 31, 2021

To: Kyle Burrows, E Line BRT Project Team

From: Andrew Scipioni, Transportation Planner

Subject: E Line BRT Draft Corridor Plan Municipal Comments

This memo outlines staff comments to the draft corridor plan for Metro Transit's E Line bus rapid transit service project.

Proposed Station Location	Comments
France Avenue/ West 44th Street	The proposed northbound station would remove 5-6 on-street parking stalls on France Avenue between Sunnyside Avenue and West 44th Street (adjacent to dp Hue's corporate office at 4405 France Avenue). The proposed southbound station would remove 4-5 on-street parking stalls on West 44th Street east of France Avenue (adjacent to France 44 Wine and Spirits at 4315 France Avenue). Parking in this area is currently restricted to one-hour, 9 a.m. to 12 a.m. The City supports implementing the following safety and accessibility features as part of station construction; • Installing Accessibly Pedestrian Signals (APS) at France Avenue and West 44th Street. • Replacing the pedestrian curb ramps on the northeast and southeast corners to comply with the Americans with Disabilities Act (ADA) regulations. • Replacing current painted crosswalks with high-visibility thermoplastic crosswalks. • Implementing leading pedestrian intervals (LPIs) at France Avenue and West 44th Street.

France Avenue/ West 47th Street	The proposed northbound station would remove 4-5 on-street parking stalls on France Avenue south of West 47th Street (adjacent to 4701, 4707 and 4709 France Avenue). The proposed southbound station would remove 4-5 on-street parking stalls on France Avenue south of West 47th Street (adjacent to 4703 and 4701 Meadow Road). Parking in this area is currently restricted to one-hour, 9 a.m. to 12 a.m. daily. The City supports implementing the following safety and accessibility features as part of station construction; • Pedestrian improvements as supported by Hennepin County's recent crossing study (including but not limited to ADA-compliant pedestrian curb ramps, curb extensions, refuge median, marked crosswalk, or rapid rectangular flashing beacons). • Consideration for treatments to reduce/restrict vehicles passing buses using the oncoming travel lane.
France Avenue/ West 50th Street	The proposed northbound station would remove 1-2 on-street parking stalls on France Avenue north of West 50th Street (adjacent to the Edina Realty building at 4999 France Avenue). Most of this area is currently restricted because of its proximity to the intersection and an adjacent fire hydrant; the northern-most portion is restricted to one-hour, 8 a.m. to 4 p.m. The proposed southbound station would remove one on-street parking stall on France Avenue south of West 50th Street (adjacent to Sur La Table at 5000 France Avenue). Most of this area is a transition zone for southbound on-street parking. The City supports implementing the following safety and accessibility features as part of station construction; • Installing Accessibly Pedestrian Signals (APS) at France Avenue and West 50th Street. • Replacing the pedestrian curb ramps on the northeast and southeast corners to comply with the Americans with Disabilities Act (ADA) regulations. • Replacing current painted crosswalks with high-visibility thermoplastic crosswalks. • Implementing leading pedestrian intervals (LPIs) at France Avenue and West 50th Street.

France Avenue/ West 54th Street	The proposed northbound station would remove 4-5 on-street parking stalls on France Avenue south of West 54th Street (adjacent to Speedway gas station at 5401 France Avenue). The proposed southbound station would remove 4-5 on-street parking stalls on France Avenue north of West 54th Street (adjacent to Edina Tire & Auto at 5354 France Avenue). The City supports implementing the following safety and accessibility features as part of station construction; • Installing Accessibly Pedestrian Signals (APS) at France Avenue and West 54th Street. • Replacing the pedestrian curb ramps on the northeast corner to comply with the Americans with Disabilities Act (ADA) regulations. • Replacing current painted crosswalks with high-visibility thermoplastic crosswalks. • Implementing leading pedestrian intervals (LPIs) at France Avenue and West 54th Street. • Consideration for treatments to reduce/restrict vehicles passing buses using the oncoming travel lane.
France Avenue/ West 58th Street	The proposed northbound station would remove 4-5 on-street parking stalls on France Avenue north of West 58th Street (adjacent to 5733 France Avenue). The proposed southbound station would remove 4-5 on-street parking stalls on France Avenue south of West 58th Street (adjacent to 3901 West 58th Street). The City supports implementing the following safety and accessibility features as part of station construction; • Installing high-visibility thermoplastic crosswalks. • Implementing leading pedestrian intervals (LPIs) at France Avenue and West 58th Street. • Consideration for treatments to reduce/restrict vehicles passing buses using the oncoming travel lane.

France Avenue/ West 62nd Street	The proposed northbound station would remove 4-5 on-street parking stalls on France Avenue north of West 62nd Street (adjacent to 6125 and 6129 France Avenue) and would require closing the south driveway access to 6125 France Avenue. The proposed southbound station would remove 4-5 on-street parking stalls on France Avenue south of West 62nd Street (adjacent to 6200 France Avenue). The City supports implementing the following safety and accessibility features as part of station construction; • Pedestrian improvements including, but not limited to; ADA-compliant pedestrian curb ramps, curb extensions, refuge median, marked crosswalks, or rapid rectangular flashing beacons. • Consideration for treatments to reduce/restrict vehicles passing buses using the oncoming travel lane.
West 65th Street/ M Health Fairview Southdale Hospital	The proposed northbound and southbound stations would not impact on-street parking availability on West 65th Street as on-street parking is currently prohibited. The City supports implementing the following safety and accessibility features as part of station construction; • Pedestrian improvements including, but not limited to; curb extensions, marked crosswalk, or rapid rectangular flashing beacons.
Southdale Transit Center	The City supports enhanced amenities at this location (e.g., larger shelters, benches, trash and recycling containers, bike racks) given the high volume of transit riders who board here.

Minneapolis
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October 29th, 2021

Kyle Burrows, Senior Planner
Metro Transit, BRT Projects
560 Sixth Avenue North
Minneapolis, MN 55411

Dear Mr. Burrows,

The Minneapolis Park and Recreation Board (MPRB) extends a thanks to you and the project team for the ongoing coordination with the MPRB on the E Line project through our involvement on the TAC since 2019. MPRB has also joined additional meetings with Metro Transit and the city to discuss stops adjacent to parkland. In general, MPRB is supportive of regional transit systems and the improved connectivity across our region and to our park system. MPRB welcomes this opportunity to comment on the current plan.

At this initial planning stage, we have some specific comments regarding the proposed Richfield Road & Bde Maka Ska South station, located between Bde Maka Ska and Lake Harriet. We see this stop as vital in connecting visitors to the Minneapolis Chain of Lakes Regional Park to quick and regular service that Bus Rapid Transit can provide. MPRB has outlined some additional information, questions, and concerns that have arisen from internal conversations based on the limited information that has been shared about this location to date:

- This area was master planned in the Bde Maka Ska-Harriet Master Plan as part of the "S Calhoun/Bde Maka Ska and William Berry Focus Area" in Chapter 8, pages 140-147 (Appendix i-viii). MPRB staff requests that Metro Transit use the guidance in the master plan to inform planning for the proposed transit stop and surrounding improvements.

○ The master plan identifies that the portion of parkland adjacent to the proposed station is "one of the quieter places around the two lakes". How will the new station impact noise and pollution at this location?

- On the north side of Richfield Road, there are several mature oak trees. Future sidewalk alignment must preserve these trees, including adequate protection of the root systems during construction.
- Questions were raised by staff about the extent that the MPRB parking lot will be used as parking for folks taking BRT.
- MPRB recognizes that many park visitors already park at the parking lot to the north of Richfield Road and cross at unmarked crossings to access park amenities to the south of Richfield Road. What new connections and crossings will be needed near the station to ensure park and transit users on foot or bike have safe and convenient access to amenities?

○ The MPRB master plan gives direction to add a marked crossing across Richfield Road at the parking lot, and MPRB staff recognize that the addition of a BRT station at this location may require additional changes to the proposed crossings within the master plan.

Thank you for this opportunity to comment. We welcome future conversations and documentation that may mitigate our concerns or questions. Again, thank you for your thoughtful work on this project and ongoing coordination with MPRB. We look forward to continuing to work with you as the project progresses.

Sincerely,

Emma Pachuta
Senior Planner
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Minneapolis Park and Recreation board