Recommended Station Plan

Comments on this recommended *D Line Station Plan* can be submitted to dline@metrotransit.org through June 8, 2018.

This document identifies D Line station locations recommended by Metro Transit staff for public comment and Metropolitan Council consideration. It is a revision of the draft *D Line Station Plan* published on February 5, 2018 and considers comments submitted during the 30-day comment period that concluded on March 6, 2018. See Section II (Planning Process) for a summary of revisions within the recommended *D Line Station Plan*.

After the conclusion of the recommended *D Line Station Plan* comment period on June 8, 2018, Metro Transit will review final comments received and begin the final Metropolitan Council approval process. Council approval of the *D Line Station Plan* will be sought in summer 2018.

To stay in touch with project updates, you can sign up for the D Line newsletter here and at the project website at metrotransit.org/d-line-project.

D LINE STATION PLAN: TABLE OF CONTENTS

I. INTRODUCTION

This document establishes the recommended station plan for the D Line rapid bus project, focusing on the planned station and platform locations at the intersection and intersection corner level. See Figure 1 for the recommended D Line station locations.

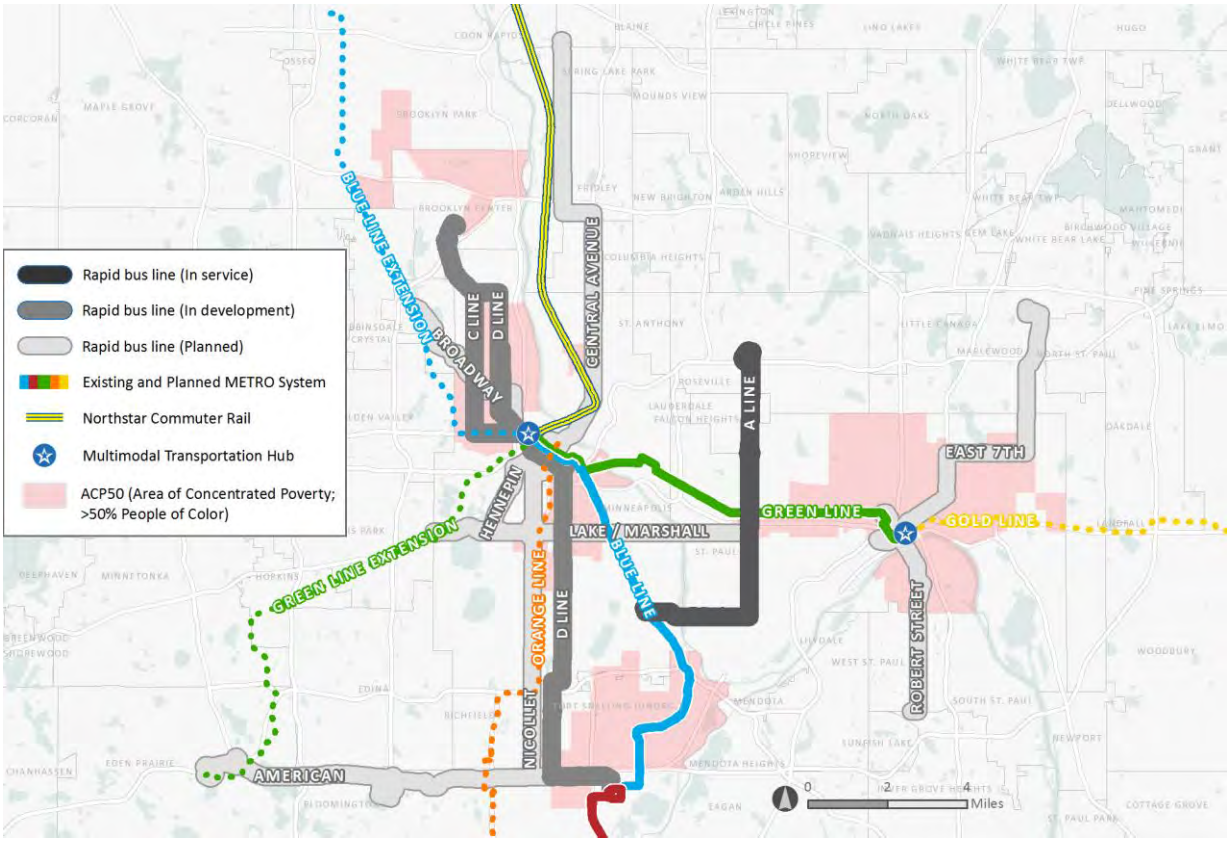
Figure 1: Recommended D Line station concept map

The D Line is a planned rapid bus line that will upgrade and substantially replace Route 5, Metro Transit's highest ridership bus route. The D Line corridor stretches approximately 18 miles from the Brooklyn Center Transit Center to the Mall of America Transit Center, serving Fremont/Emerson Avenues in north Minneapolis, 7th/8th Streets in downtown Minneapolis, Chicago Avenue and Portland Avenue in south Minneapolis, Portland Avenue in Richfield, and American Boulevard in Bloomington.

Rapid bus (also called arterial bus rapid transit, or BRT) is a package of transit enhancements that produces a faster trip and an improved experience for customers in the Twin Cities' busiest bus corridors. It runs on urban corridors in mixed traffic.

The D Line will be the third operational line within the Twin Cities region's rapid bus system. The A Line on Snelling Avenue and Ford Parkway began service in June of 2016; the C Line on Penn Avenue is targeted to begin service in 2019.

Figure 2: Planned rapid bus network



Rapid Bus Overview

Rapid bus is designed to provide an improved customer experience with faster and more frequent trips when compared to existing local service. This experience is delivered through a package of improvements that includes enhanced customer facilities and greater operational efficiency.

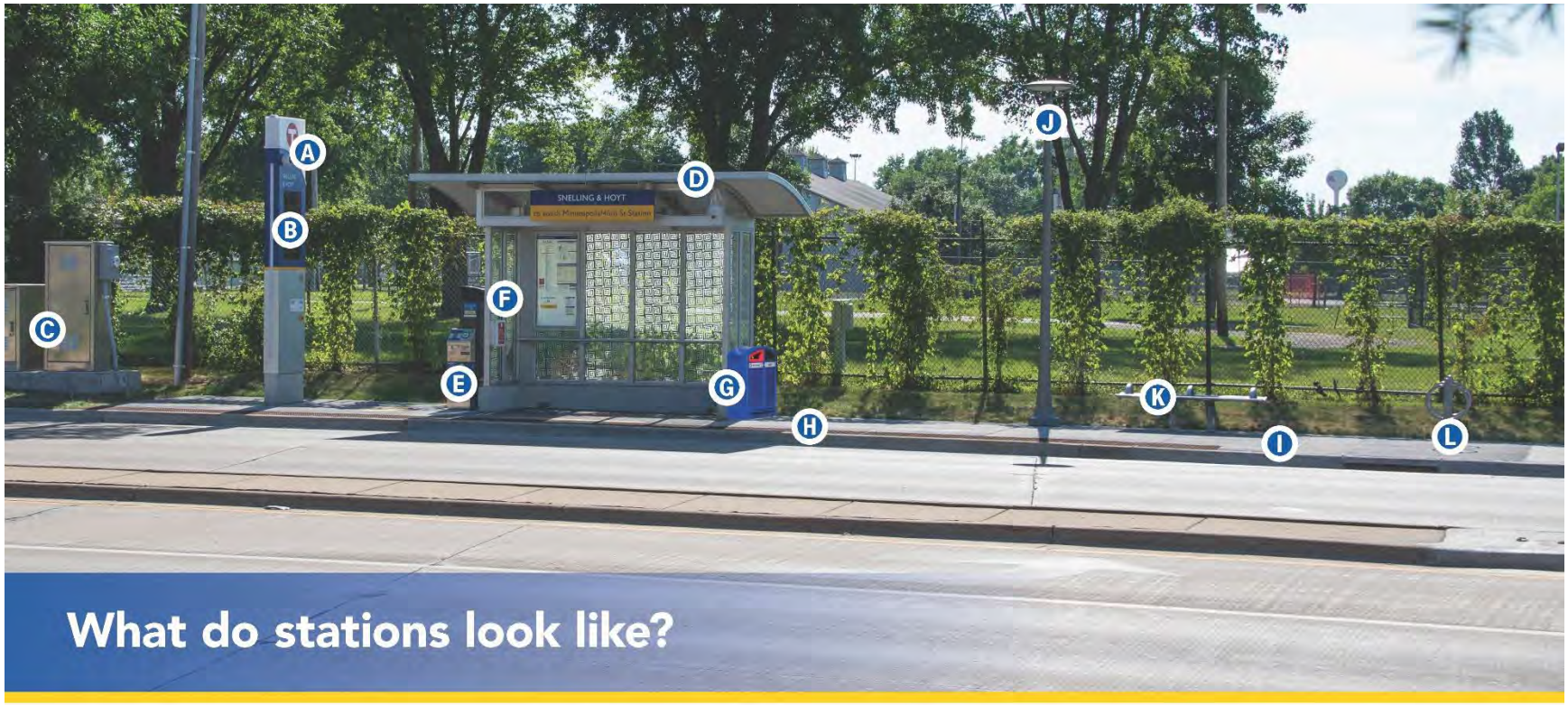
Every planned rapid bus corridor is unique in street design and surrounding land use. As a result, each line balances flexibility with implementation strategies with core rapid bus characteristics. The following characteristics of rapid bus will be implemented to the extent possible given the context and unique aspects of each planned station along the corridor.

Station Features

Rapid bus brings a light-rail quality experience to bus corridors by providing faster and more efficient service, and station and bus amenities that foster an improved customer experience. See Figure 3 for additional information on the design and features of rapid bus stations in the Twin Cities. Section IV (Station Characteristics) also provides more information on important station characteristics. General information is provided below.

- Curb bumpouts / curb extensions
    - Rapid bus runs in general traffic, with bumpouts (also called curb extensions or bus bulbs) at stations where feasible. 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 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.
- Off-board fare payment
    - Like on the A Line and light rail, customers will pay fares prior to boarding the bus. Ticket vending machines and fare card validators will be located at each station. 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.
- Shelters
    - Shelters provide weather protection while customers wait for the bus. Standard rapid bus shelters feature on-demand heaters and integrated lighting, as well as emergency telephones. Shelters range from 12 to 36 feet long, depending on site conditions and ridership. A concrete foundation increases protection from the elements and helps establish more permanence compared to standard shelters.
- 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 landmark sign with a real-time dynamic display and a printed panel with timetable, maps, and connection information.
- Furnishings and other improvements
    - Several station components will enhance customer safety and comfort, including security cameras and telephones and adequate clear zone for boarding and alighting through any bus door. Benches, trash receptacles, and bike racks will be available for customer use.

Figure 3: Rapid bus station features



What do stations look like?

- **A** **Pylon markers** help riders identify stations from a distance.
- **B** **Real-time NexTrip displays** provide bus information, and on-demand **annunciators** speak this information for people with low vision.
- **C** **Utility boxes** near station areas house necessary communications and electrical equipment.
- **D** **Shelters** provide weather protection and feature on-demand **heaters** and integrated **lighting**. Shelter sizes will vary based on customer demand (small shown here).
- **E** **Ticket machines** and **fare card validators** collect all payment before customers board the bus.
- **F** **Emergency telephones** provide a direct connection to Metro Transit security. Stations also feature **security cameras**.
- **G** Stations feature **trash and recycling** containers.
- **H** Platform edges are marked with a cast-iron **textured warning strip** to keep passengers safely away from the curb while the bus approaches. Many stations also feature **raised curbs** for easier boarding.
- **I** **Platform areas** are distinguished by a dark gray concrete pattern.
- **J** Some stations have sidewalk-level **light fixtures** to provide a safe, well-lit environment. Fixtures will match existing lights in the surrounding area.
- **K** **Benches** at stations provide a place to sit.
- **L** Stations have **bike parking loops.**

Metro Transit

Operational Improvements

- Limited stops and increased frequency
    - Rapid bus stations are spaced approximately every half-mile, focusing on upgrading stops to stations where the greatest numbers of customers board buses today. More distance between stations significantly increases overall travel speeds when compared to local bus stop spacing of 1/8 mile (the length of a north-south block in Minneapolis), while also allowing for most customers to access stations comfortably on foot.
    - High frequency service increases the convenience of rapid bus. The D Line will become the primary service in the corridor, running every ten minutes throughout the day with increased service on nights and weekends compared to the existing Route 5.
    - Existing local service on Route 5 will be maintained with reduced frequency generally every 30 minutes to provide continued local service for customers who cannot or choose not to walk to a nearby station.
- Rapid bus vehicles
    - Rapid bus vehicles have distinctive branding to differentiate them from standard buses. D 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. All buses will be low-floor vehicles to help facilitate boarding and alighting for all customers, and buses will have modified seating layouts for more interior circulation space. Accessibility ramps will remain for those customers using a mobility device.
- Transit signal priority (TSP)
    - Buses will be linked to traffic signals throughout the corridor to provide transit signal priority when conditions allow. A TSP system will allow buses to request early green time and/or extended green time to allow movement through the intersection. TSP helps reduce time spent stopped at red lights, a substantial source of bus delay.

Figure 4: D Line articulated bus rendering

Background

While Twin Cities rapid bus has been operating since 2016, origins behind the concept developed in the mid-2000s. In 2008, the Metropolitan Council's *2030 Transit Master Study*[1] identified high-ridership arterial corridors that could potentially foster transitways with high-quality bus or rail service. The study noted that constrained right-of-way availability and substantial community impacts precluded the possibility of bus or rail service in dedicated travel lanes on many of these corridors. However, it was demonstrated that faster and more frequent service along these corridors could substantially increase ridership.

The 2009 update to the Metropolitan Council's *2030 Transportation Policy Plan*[2] (TPP) further identified nine specific arterial corridors for additional study of rapid bus. These nine corridors and two additional routes formed the foundation for 2012's *Arterial Transitway Corridors Study*[3] (ATCS). The ATCS presented the basic components of how rapid bus would operate in the Twin Cities and offered initial concept-level station locations, ridership estimates, and costs for the eleven lines.

Chicago Avenue was one of the original corridors identified in the *2030 Transit Master Study* for further study of arterial rapid bus. During ATCS development in 2011 and 2012, concerns about transit coverage northwest of downtown Minneapolis, a high-service area included in Route 5 but not considered for rapid bus, prompted the recommendation of extending the proposed Chicago Avenue line through north Minneapolis on Emerson-Fremont Avenues. The ATCS concluded that the extended corridor could operate more efficiently than a standalone Chicago Avenue corridor, because implementing rapid bus service over the entire length of Route 5 would better replace duplicative local bus service. The final ATCS report recommended that the line and particularly this extension be further studied prior to implementation. An ATCS addendum[4], which incorporated the extended corridor, was released in January 2013.

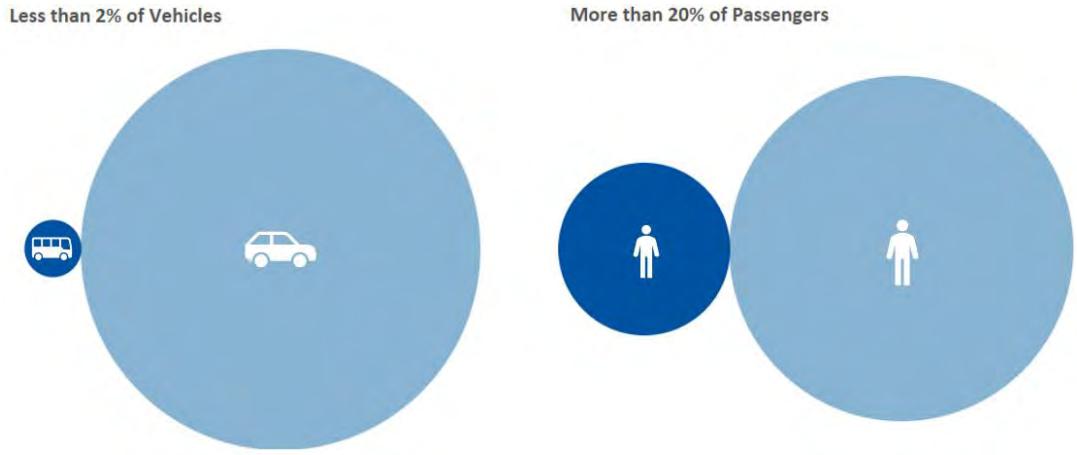
The addition of Emerson-Fremont Avenues to the Chicago Avenue corridor positioned it as the highest-scoring corridor in a technical evaluation, and Metro Transit recommended implementation in the near term. Subsequently, the 2030 TPP was amended in May of 2013 to include the extended corridor. The D Line was further solidified as a planned transitway within the *2040 Transportation Policy Plan*[5], adopted in 2015.

Purpose and Need

The Chicago-Emerson/Fremont (Route 5) corridor needs additional transit capacity. With average daily ridership of about 15,500 rides per weekday in 2016, Route 5 consistently ranks as Metro Transit's top performing local bus route. It also ranks among the top five routes for passengers per in-service-hour, a measure of productivity that indicates a high level of usage for the existing transit service on the Chicago-Emerson/Fremont corridor.

[1] More information at: https://metrocouncil.org/METC/files/cc/ccc84f33-a760-4c3b-84d7-3140425ec352.pdf
[2] More information at: https://metrocouncil.org/Transportation/Planning/Transportation-Policy-Plan/Previous-2030-Policy-Plan.aspx
[3] More information at: https://www.metrotransit.org/abrt-study
[4] More information at: https://www.metrotransit.org/abrt-study
[5] More information at: https://metrocouncil.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan-(1)/The-Adopted-2040-TPP-(1).aspx

Figure 5: Vehicle and Passenger Movement through Route 5 Corridor



System-wide bus ridership has dropped over the past few years, and Route 5 is no exception despite being the busiest local route in the system. The exception to this pattern is the A Line, which opened in June 2016. Over its first year of operation, the corridor saw consistent daily ridership increases of over 30 percent. After crossing the one-year mark, daily ridership on the route averages five to ten percent higher than the previous year, when the A Line was already operating.

With implementation of D Line rapid bus, the Route 5 corridor could see similar results. Speeds along Route 5 are currently slow. During peak hours, it can take more than 45 minutes to travel about eight miles from the Brooklyn Center Transit Center to downtown Minneapolis, and another 45 minutes to travel about 10 miles from downtown to the Mall of America in Bloomington. Additionally, Route 5 has below-average on-time performance, averaging under eighty percent so far in 2017, and often ranking in the bottom quarter of local routes in the system. Operational changes, like transit signal priority, off-board payment, and fewer and more dispersed stations, would all significantly reduce travel time and improve on-time performance.

Figure 6: Route 5 average weekday ridership, 2014-2017

Year	Quarter	Average Weekday Ridership
2014	First	16,900
2014	Second	18,400
2014	Third	18,000
2014	Fourth	18,800
2015	First	16,600
2015	Second	17,400
2015	Third	16,800
2015	Fourth	16,500
2016	First	15,800
2016	Second	15,800
2016	Third	15,200
2016	Fourth	15,200
2017	First	14,700
2017	Second	14,700
2017	Third	13,900

The purpose of the D Line is to enhance transit service and facilities along the Route 5 corridor with increased service frequency, faster speeds, and a more comfortable customer experience without substantially altering the existing roadway.

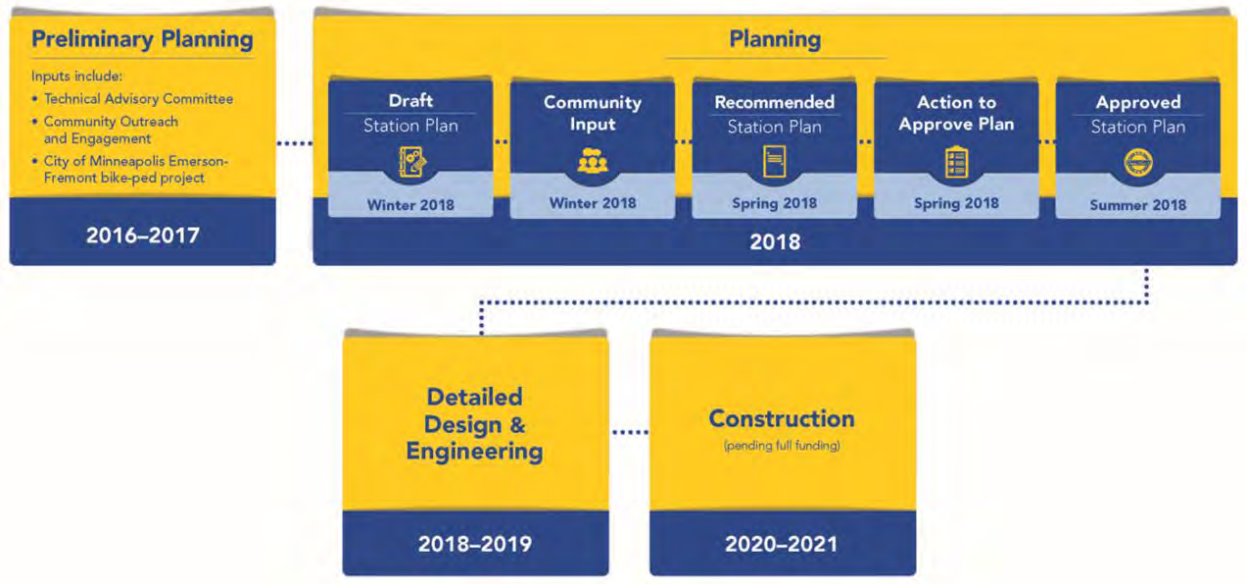
II. PLANNING PROCESS

Rapid bus on the Chicago-Emerson/Fremont corridor was prioritized for implementation by adoption into the amended *2030 Transportation Policy Plan*[6] in 2013 and the *2040 Transportation Policy Plan*[7] in 2015. Since that time, Metro Transit has implemented a D Line planning process that includes a mix of interagency coordination, data analysis and review, and community outreach and engagement.

The planning process will continue into 2018 as the *D Line Station Plan* moves through a public review process before final approval by the Metropolitan Council. Final approval of a *D Line Station Plan* is planned for the summer of 2018.

The main objective of the *D Line Station Plan* is to confirm station and platform locations at the intersection and intersection quadrant level. The approved document will guide the project's design phase. The planning phase will conclude with the Metropolitan Council's approval of the final *D Line Station Plan*. See Figure 7 below for more project development process information.

Figure 7: Project development process



The following sections highlight key components of the D Line planning phase.

Initial Review

An important part of the D Line planning phase included the review of a variety of materials to help identify early station location recommendations and areas with particularly challenging planning issues. Project staff considered previous planning in the Arterial Transitway Corridors Study[8], ridership data, the

[6] More information at: https://metrocouncil.org/Transportation/Planning/Transportation-Policy-Plan/2030-Transportation-Policy-Plan-(1).aspx
[7] More information at: https://metrocouncil.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan-(1)/The-Adopted-2040-TPP-(1).aspx
[8] More information at: https://www.metrotransit.org/abrt-study

existing transit network, and roadway design to identify locations or corridor segments requiring further review.

This early internal review helped focus the planning process on key considerations and station location issues that the public and agency partners could influence. These unresolved locations became the focus for additional planning review with agency partners and the public.

Project Coordination

An important part of the D Line planning phase has included coordination with other planned infrastructure projects throughout the corridor being built by partner agencies like Hennepin County or the City of Minneapolis. See Section III (Project Implementation & Timeline) for more information on coordination with specific projects.

Emerson-Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

In some cases, coordination between projects was initiated several years ago to ensure compatibility and reduce impacts. Project coordination was a major factor for early station location considerations in north Minneapolis. In 2014, Metro Transit and the City of Minneapolis coordinated planning of the City's Emerson-Fremont Avenues bicycle-pedestrian improvement project[9] and D Line station locations. As a result, substantial D Line planning recommendations in the north Minneapolis area were made earlier compared to other parts of the corridor. See Section III (Project Implementation & Timeline) for more information about coordination with the Emerson-Fremont Avenues bicycle-pedestrian improvements project, including the recommended station locations developed through this coordination.

Planning Issues Review

Specific planning issues and unresolved station locations were considered throughout 2017 with a multi-agency Technical Advisory Committee and a variety of community outreach and engagement activities. This work resulted in the recommendation of station locations presented in this *Station Plan*. See Figure 8 for a concept map identifying unresolved station locations that were the focus of 2017's planning issues review. The station locations resulting from the planning issues review are shown in Figure 1's recommended D Line station concept map.

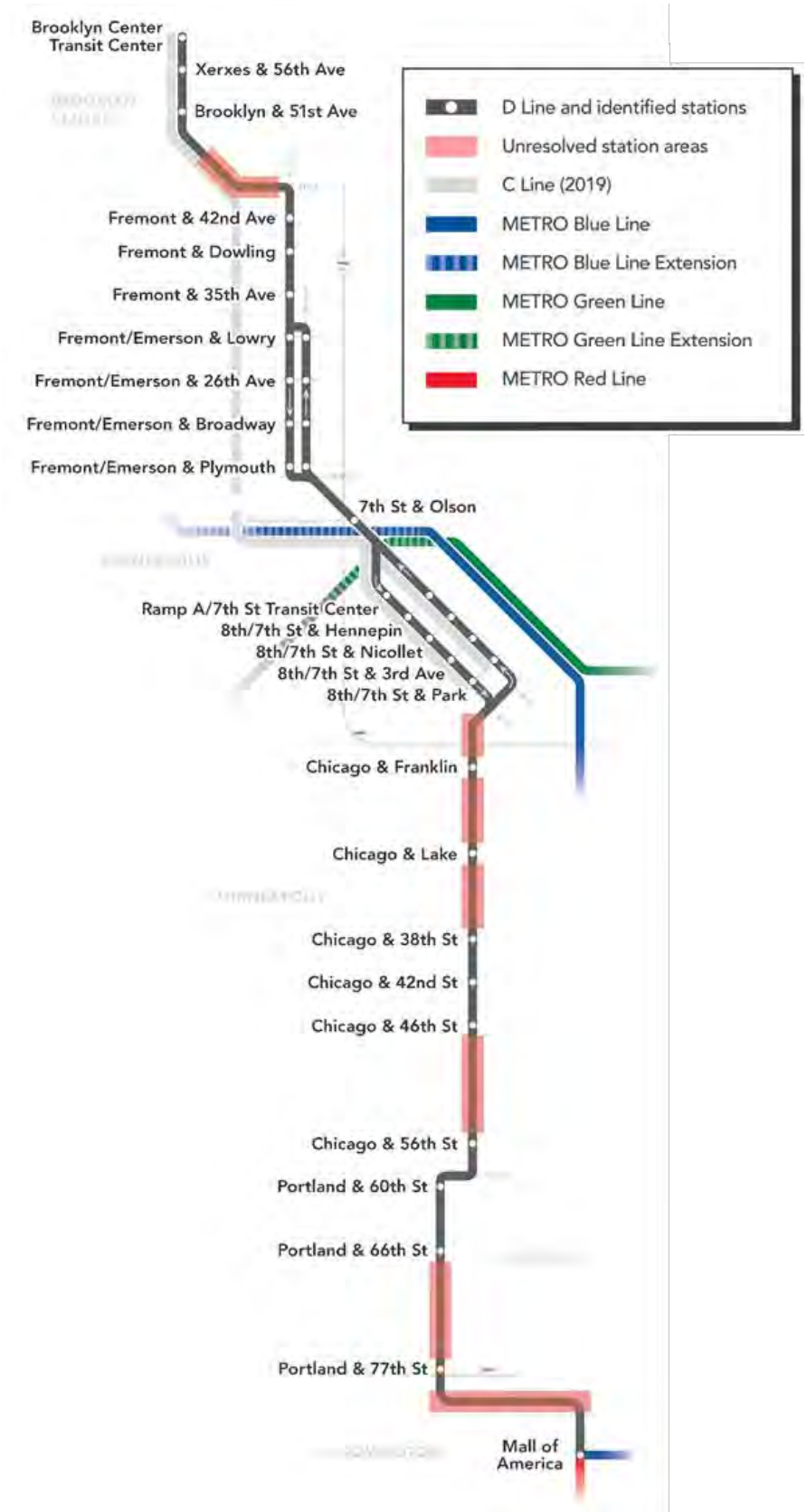
Technical Advisory Committee

The Technical Advisory Committee (TAC) consists of interagency partners advising the project on station location issues throughout the corridor. The TAC met monthly throughout 2017. Station location recommendations in this *Station Plan* were made in coordination with the TAC, which includes:

- Hennepin County
- City of Brooklyn Center
- City of Minneapolis
- City of Richfield
- City of Bloomington
- Minneapolis Park and Recreation Board

[9] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 8: Draft concept map identifying unresolved station areas for 2017 planning review



Community Outreach and Engagement

A variety of outreach and engagement activities occurred throughout 2017 to help inform station location recommendations in this *Station Plan*. Types of activities included:

- Providing information, facilitating conversations, and seeking targeted feedback at neighborhood group meetings
- Tabling to provide information and seek feedback at community events like community festivals or Open Streets events
- Meeting with area businesses to discuss potential D Line station locations
- Surveying customers about the D Line and the Chicago-Lake Transit Center
- Presenting and receiving feedback at transportation committees of local governments

For more information about past meetings and presentations, see the D Line project website[10].

D Line Station Plan Process

Draft *D Line Station Plan* Review

A community outreach and engagement process was implemented along with the publication of the draft *D Line Station Plan* to help finalize the document prior to Metropolitan Council approval. Public open houses, on-bus outreach, electronic and print communications, interactive online plan review, and opportunities for one-on-one conversations with Metro Transit staff helped inform recommendations in this revised *D Line Station Plan*. The draft *D Line Station Plan* comment period lasted 30 days after the release of the document. The draft *D Line Station Plan* is available on the D Line project website[11].

Approach to Outreach and Engagement

Recognizing that not every stakeholder participates in project development in the same way, Metro Transit used a variety of activities to reach the broadest audience possible. Activities included open houses, coordination with neighborhood associations, and a newsletter distribution. Social media posts encouraged stakeholders to review the draft *D Line Station Plan* online and provide comments. Metro Transit staff conducted on-bus outreach throughout the comment period, creating an opportunity for customers to learn about and comment on the *D Line Station Plan* directly with staff while traveling on the corridor.

More information on the variety of draft *D Line Station Plan* outreach and engagement activities is described below. Information on meetings and events held throughout D Line project development can be found on the project website.[12]

Open Houses

Open houses were scheduled events for stakeholders to engage with the draft *D Line Station Plan* and provide input on station intersections and platform locations. Project staff was available to answer questions, including site-specific concerns along the corridor. Events at transit centers throughout the

[10] More information at: https://www.metrotransit.org/d-line-meetings
[11] More information at: https://www.metrotransit.org/d-line-library
[12] More information at: https://www.metrotransit.org/d-line-meetings

corridor helped provide additional opportunities for existing Route 5 customers to learn about and comment on the draft *D Line Station Plan*. Metro Transit hosted six scheduled open houses:

- **February 13:** Chicago-Lake Transit Center (Minneapolis)
- **February 15:** City of Richfield Municipal Center (Richfield)
- **February 17:** Mall of America Transit Center (Bloomington)
- **February 21:** North Community High School (Minneapolis
- **February 22:** Wellstone International High School (Minneapolis)
- **March 3:** Brooklyn Center Transit Center (Brooklyn Center)

On-Bus Outreach

Metro Transit staff brought planning materials on Route 5 buses to give more riders an opportunity to comment on the draft *D Line Station Plan*. Materials were distributed to over 150 customers and helped guide conversations with staff about the D Line and proposed station locations. Staff conducted on-bus outreach on five weekdays during the outreach period:

- **February 6:** North of downtown Minneapolis
- **February 9:** South of downtown Minneapolis
- **February 14:** South of downtown Minneapolis
- **February 20:** North of downtown Minneapolis
- **February 28:** North of downtown Minneapolis

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 the draft plan and opportunities for comment to specific geographic locations. Metro Transit also communicated with neighborhood groups about the draft *D Line Station Plan* and the opportunity to comment.

In addition to the Metro Transit materials below, local media also published a variety of stories about the D Line and the draft *Station Plan* promoting the public comment period.

- **February 5:** Distribution of draft *Station Plan* and comment period notification to over 40 community group contacts, including an offer for staff to provide project presentations
- **February 6:** Twitter post promoting comment period for draft *D Line Station Plan*
- **February 6:** D Line article published on Metro Transit's *Rider's Almanac* blog
- **February 12:** Facebook post promoting comment period on draft *D Line Station Plan* and Chicago-Lake Transit Center open house. Post was targeted to south Minneapolis.
- **February 12:** Distribution of D Line newsletter
- **February 13:** Facebook post promoting comment period on draft *D Line Station Plan* and Richfield Municipal Center open house. Post was targeted to Richfield.
- **February 15:** Facebook post promoting comment period on draft *D Line Station Plan* and Mall of America open house. Post was targeted to Bloomington.
- **February 19:** Facebook post promoting comment period on draft *D Line Station Plan* and North Community High School open house. Post was targeted to north Minneapolis

- **February 19:** Facebook post promoting comment period on draft *D Line Station Plan* and Wellstone International High School open house. Post was targeted to south Minneapolis
- **February 19:** Facebook post promoting comment period on draft *D Line Station Plan* and Brooklyn Center Transit Center open house. Post was targeted to Brooklyn Center.

Other

- **February 10:** Tabling at the City of Minneapolis Community Connections event
- **February 12:** Project presentation (information item) to the Metropolitan Council Transportation Committee
- **March 1:** Phillips West Neighborhood Organization community meeting

Recommended *D Line Station Plan* Process

After the conclusion of the draft *D Line Station Plan* process, the draft document was revised after considering public input. The revised document is this recommended *D Line Station Plan*. Major *Station Plan* revisions are summarized below. Following Metropolitan Council authorization to release the document, comments will be accepted through an additional 30-day public comment period.

Revisions within the recommended Station Plan

The recommended *D Line Station Plan* includes three major revisions resulting from the draft *D Line Station Plan* process. More information about each revision is available within the relevant individual station plans in Section V (Station Plans).

- An additional station is recommended at the intersection of 7th Street and Bryant Avenue in north Minneapolis.
- An additional station is recommended at the intersection of Chicago Avenue and 48th Street in south Minneapolis.
- An additional station is recommended at the intersection of Portland Avenue and 70th Street in Richfield.

The three recommended station additions generally reflect public input supporting an increase in rapid bus access. Other considerations included access to commercial nodes, pedestrian conditions, and the Metropolitan Council's regional equity goals.

In addition, the recommended *Station Plan* identifies a long-term coordination opportunity to investigate the potential to incorporate rapid bus platforms within a future Osseo Road reconstruction between Penn Avenue and 49th Avenue in north Minneapolis's Victory neighborhood. A specific year for improvements is unknown at this time. See the 44th Avenue & Penn-Oliver area station plan within Section V (Station Plans) for more information.

See Appendix B and Appendix C for more information about comments submitted during the draft *D Line Station Plan* comment period.

Final *D Line Station Plan* Approval

Final plan revisions will be made after the close of the recommended *D Line Station Plan* comment period. The final *D Line Station Plan* will go before the Metropolitan Council for approval in the summer of 2018. An approved *D Line Station Plan* will finalize station and platform locations before D Line detailed design begins in mid-2018.

III. PROJECT IMPLEMENTATION & TIMELINE

Anticipated Project Schedule

The D Line process consists of three major components:

- Planning (2016-2018)
- Design (2018-2019)
- Construction (2020-2021, pending funding availability)

Planning Phase (2016-2018)

See Section II (Planning Process) for more information about the D Line planning phase. The D Line planning phase will conclude with the adoption and approval of the final *D Line Station Plan* by the Metropolitan Council, anticipated in the summer of 2018. The approved *D Line Station Plan* will finalize station locations and key station components to inform the design phase.

Design Phase (2018-2019)

Following Metropolitan Council approval of the final *D Line Station Plan*, engineering and design will begin in 2018 and continue into 2019.

Construction Phase (2020-2021)

The D Line is targeted for construction in 2020 and 2021, pending full project funding availability.

Construction and system testing would lead to the beginning of revenue service in 2021 or 2022. This timeline is subject to change.

Coordinated Implementation

The D Line project will continue to be developed in coordination with a variety of planned infrastructure projects throughout the corridor, as summarized below. More project coordination information for individual station locations is available within Section V (Station Plans).

44th Avenue/Webber Parkway reconstruction project (Hennepin County)

Hennepin County is planning to reconstruct 44th Avenue/Webber Parkway between Penn Avenue and Lyndale Avenue and 41st Avenue North.[13] Construction is anticipated to begin in 2020. To minimize disruption, the design and construction of D Line platforms and the 44th Avenue/Webber Parkway reconstruction project will be coordinated to the extent possible.

Coordinated stations:

- 44th Avenue & Penn-Oliver area
- 44th Avenue & Humboldt-Girard area

Emerson-Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

The City of Minneapolis plans to improve bicycle and pedestrian facilities on Emerson-Fremont Avenues in 2018.[14] D Line station locations were coordinated in advance of the city's 2014 application for

[13] More information at: https://www.hennepin.us/residents/transportation/webber44avenue
[14] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Regional Solicitation funding and confirmed in late 2016. Coordination ensures that bicycle-pedestrian improvements will not be impacted by D Line station locations.

Coordinated stations:

- Fremont & 42nd Avenue
- Fremont & Dowling
- Fremont & 35th Avenue
- Emerson-Fremont & Lowry
- Emerson-Fremont & 26th Avenue
- Emerson-Fremont & West Broadway
- Emerson-Fremont & Plymouth

METRO Green Line Extension (Metro Transit) and 7th Street bikeway improvements (City of Minneapolis)

The METRO Green Line Extension project[15] will add a traffic signal at 7th Street and 5th Avenue and bicycle and pedestrian improvements along 7th Street. The City of Minneapolis is a partner in implementing these bike and pedestrian improvements. D Line platform design and construction will be coordinated with the METRO Green Line Extension to the extent possible.

Coordinated stations:

- 7th Street & Bryant
- 7th Street & Olson-5th Avenue

Hennepin Avenue reconstruction project (City of Minneapolis)

The City of Minneapolis plans to reconstruct Hennepin Avenue from Washington Avenue to 12th Street beginning in 2020.[16] The design and construction of the 8th Street & Hennepin platform will be coordinated with this reconstruction project to the extent possible.

Coordinated station:

- 8th Street & Hennepin

Franklin Avenue Highway Safety Improvement Project (Hennepin County)

Hennepin County plans to make safety improvements at the intersection of Chicago Avenue and Franklin Avenue through the MnDOT Highway Safety Improvement Program. The project is currently planned for construction in 2020 or 2021 and will include safety features like curb extensions and signal improvements. Project coordination will reduce construction impacts and result in a more compatible design that accommodates both projects.

Coordinated station:

- Chicago & Franklin

[15] More information at: https://metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT.aspx
[16] More information at: http://www.ci.minneapolis.mn.us/cip/future/WCMSP-172270

46th Street Highway Safety Improvement Project (Hennepin County)

Hennepin County plans to make safety improvements through the MnDOT Highway Safety Improvement Program along 46th Street, including the intersection of Chicago and 46th Street. The project is currently planned for construction in 2019 or 2020 and will include safety features like signal modifications and pedestrian ramp improvements. Coordination will reduce construction impacts and result in a more compatible design that accommodates both projects. The project is currently planned for construction in 2019 or 2020.

Coordinated station:

- Chicago & 46th Street

Portland Avenue bicycle and pedestrian improvements (Hennepin County)

Hennepin County plans to construct pedestrian and bicycle improvements along Portland Avenue between 60th and 66th Streets. Design of the D Line will be coordinated to the extent possible with the Portland Avenue improvements to balance the needs of all roadway users, including transit riders, pedestrians, and bicyclists. Construction of the planned bicycle and pedestrian improvements is planned for 2020.[17]

Coordinated stations:

- Portland & 60th Street
- Portland & 66th Street

Mall of America Transit Center renovation (Metro Transit)

The D Line station will be integrated into the planned Mall of America Transit Center renovation project to be completed in 2019. The transit center will be improved with rapid bus-ready improvements that can be utilized by the D Line.

Coordinated station:

- Mall of America Transit Center

Shared C Line and D Line Stations

The D Line will share several stations in Brooklyn Center and downtown Minneapolis with the C Line[18]. These stations will have been built or made rapid bus-ready by the C Line project in 2018-2019:

- Brooklyn Center Transit Center
- Xerxes & 56th Avenue
- Brooklyn & 51st Avenue
- Ramp A/7th Street Transit Center
- 7th Street & Hennepin
- 7th Street & Nicollet
- 7th Street & 3rd/4th Avenue

[17] More information at: https://metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Solicitation/2016-Submitted-Applications/MULTI-USE-TRAILS-BIKEWAYS/5217HennCoTr.aspx
[18] More information at: https://www.metrotransit.org/c-line-project

- 7th Street & Park Avenue
- 8th Street & Nicollet (to be built in coordination with 8th Street reconstruction, 2019-2020)
- 8th Street & 3rd/4th Avenue (to be built in coordination with 8th Street reconstruction, 2019-2020)
- 8th Street & Park Avenue (to be built in coordination with 8th Street reconstruction, 2019-2020)

IV. STATION CHARACTERISTICS

Several major considerations influence the design of a rapid bus station, including:

- Intersection location of station (including station spacing)
- Platform location
- Shelter size
- Curb location
- Platform length

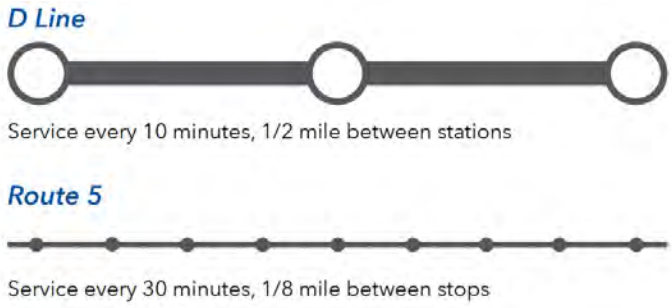
Additional background information guiding station decisions is below. These considerations played a central role in developing each station plan within Section V (Station Plans).

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

Station location: Why this intersection?

A key objective of rapid bus 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 5 bus stops. Spacing stations on average every half mile is a foundational consideration in station planning. The existing Route 5 stops approximately every 1/8-mile. This increase in station spacing distance is anticipated to help D Line service operate about 20 percent faster than the existing Route 5, 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 adding significant walk distance.

Figure 9: Rapid bus and local service stop spacing after D Line implementation



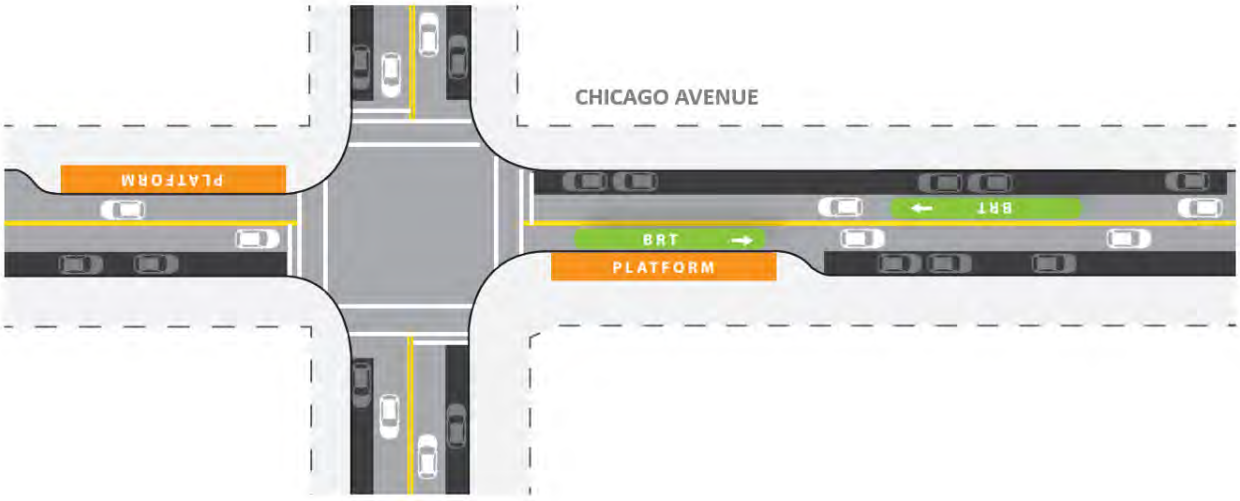
Station location inputs include, but not limited to:

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

Platform location: Nearside or farside of the intersection?

A nearside station platform is located just before a roadway intersection. A farside platform is located just after a roadway intersection. Rapid bus operations benefit more from farside platforms. As a result, D Line platforms will be placed farside whenever possible.

Figure 10: 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 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 D Line platform location is on the farside of intersections. However, not all platforms are sited farside. Site-specific conditions that may prevent implementation of farside platforms include:

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

Shelter size: Small, medium, large?

Rapid bus stations are equipped with more features than a typical bus shelter to allow for a more comfortable customer experience. Station features will incorporate many elements found at light rail stations, but in a more compact setting adaptable to site-specific conditions. Standard station features include shelters with heat and lighting, security features like a camera and phone, real-time bus arrival information, trash receptacles, and printed maps. A key variable at each station is shelter size: small, medium, or large shelter structures. Basic shelter dimensions are:

- Small shelter: 12’ (length) x 5’ (width) x 9’ (height);
- Medium shelter: 24’ x 5’ x 9’-12’; and
- Large shelter: 36’ x 5’ x 9’-12’.

The primary consideration in determining shelter sizes at each platform is existing ridership across the day and at peak times (specifically, the number of boardings) for all routes serving the current location/bus stop. More boardings at an existing stop warrant a larger shelter, with shelters sized to accommodate peak demand based on daily ridership and all-door boarding on three-door, 60-foot buses.

The general boarding guidelines for different shelter sizes are:

- Small shelter: Fewer than 50 boardings per day
- Medium shelter: Between 50 and 200 boardings per day
- Large shelter: More than 200 boardings per day

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 11-13 for images of small, medium, and large rapid bus shelters.

Figure 11: Small shelter on the A Line, Snelling & Dayton station

Figure 12: Medium shelter on the A Line, Snelling & County Road B station

Figure 13: Large shelter on the A Line, Snelling & University station

Curb Bumpouts/Curb Extensions: Will the curb at station platforms be extended?

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. The presence and design of any bicycle facility adjacent to a potential platform can also influence the feasibility of a bumpout. Many existing local bus stops are located in curbside parking lanes or right-turn lanes, causing delay for buses merging back into traffic.

A bumpout platform is a section of widened sidewalk extended from the existing roadway curb to the edge of a through-lane for the length of the platform to provide space for shelters and other station furnishings and allow for a clear boarding area along the curb. Beyond the platform length, this curb extension transitions back to the typical sidewalk width. This is illustrated in Figure 14.

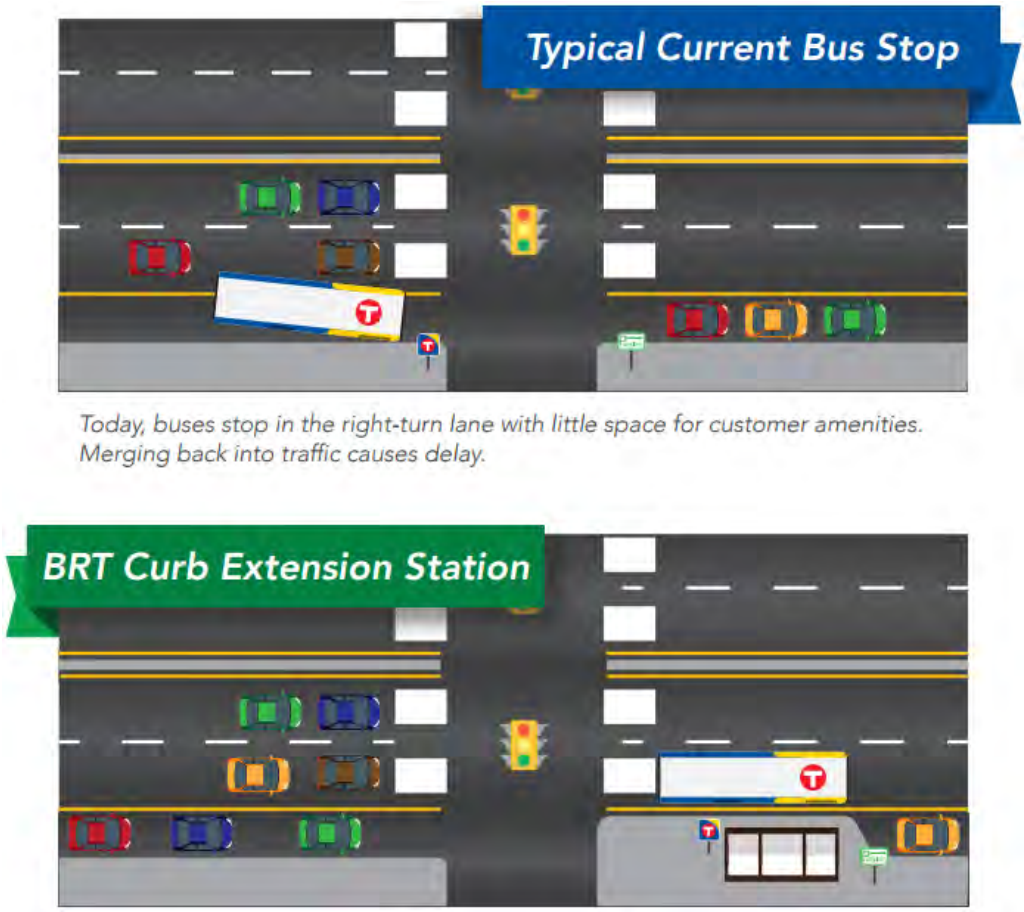
Bumpouts improve overall bus operations by:

- Eliminating the need for buses to merge in and out of traffic to access stations
- Potentially reducing overall bus stop zone length, which may allow on-street parking spaces to be added in space previously used for bus movements
- Providing space for clear and accessible all-door boarding, shelters, and station amenities
- Minimizing conflicts between waiting bus passengers and pedestrians using the sidewalk

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 and eliminate the need to merge into traffic when leaving stations.

Figure 14: Typical current bus stop versus bumpout



Platform length and height: How long will the platform be? How high will the platform be?

Generally, D Line platforms will be designed for a standard length of 60 feet. A 60-foot platform length can fully accommodate a 60-foot articulated bus, the planned standard bus type for the D Line. Certain constrained conditions, like existing access points and driveways, might prevent a full 60-foot 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.

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 height for specific D Line platforms will be finalized within the project's detailed design phase and can be influenced by variables like area drainage requirements and Americans with Disabilities Act (ADA) standards.

Figure 15: Near-level boarding detail

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 D Line due to engineering considerations and the tight 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 rapid buses may provide.

V. STATION PLANS

The following section contains individual station plans for each of the D Line stations. The plans communicate two core station components: the station intersection and the location of platforms within that intersection. While other anticipated design details are provided for additional context (e.g., curb bumpout information and platform length), these details are conceptual and will be finalized throughout the design phase in 2018 and 2019.

The individual station plans are organized north to south, beginning in Brooklyn Center and ending in Bloomington.

The *D Line Station Plan* identifies 40 stations (77 total platforms) over the approximately 18-mile corridor. Figures 16-19 summarize the recommended station locations at the corridor-wide level, illustrating existing Route 5 ridership and planned station spacing.

Brooklyn Center

Brooklyn Center Transit Center
Xerxes & 56th Avenue
Brooklyn & 51st Avenue

North Minneapolis

44th Avenue & Penn-Oliver area
44th Avenue & Humboldt-Girard area
Fremont & 42nd Avenue
Fremont & Dowling
Fremont & 35th Avenue
Emerson-Fremont & Lowry
Emerson-Fremont & 26th Avenue
Emerson-Fremont & West Broadway
Emerson-Fremont & Plymouth
7th Street & Bryant
7th Street & Olson-5th Avenue

Downtown Minneapolis

Ramp A/7th Street Transit Center
7th-8th Street & Hennepin
7th-8th Street & Nicollet
7th-8th Street & 3rd/4th Avenue
7th-8th Street & Park

South Minneapolis

Chicago & 14th Street
Chicago & Franklin
Chicago & 24th Street
Chicago & 26th Street
Chicago-Lake Transit Center
Chicago & 34th Street
Chicago & 38th Street
Chicago & 42nd Street
Chicago & 46th Street
Chicago & 48th Street
Chicago & 52nd Street
Chicago & 56th Street
Portland & 60th Street

Richfield

Portland & 66th Street
Portland & 70th Street
Portland & 73rd Street
Portland & 77th Street

Bloomington

American & Portland-Chicago
American & Bloomington
American & Thunderbird
Mall of America Transit Center

Figure 16: Planned D Line stations and existing Route 5 ridership, northern section

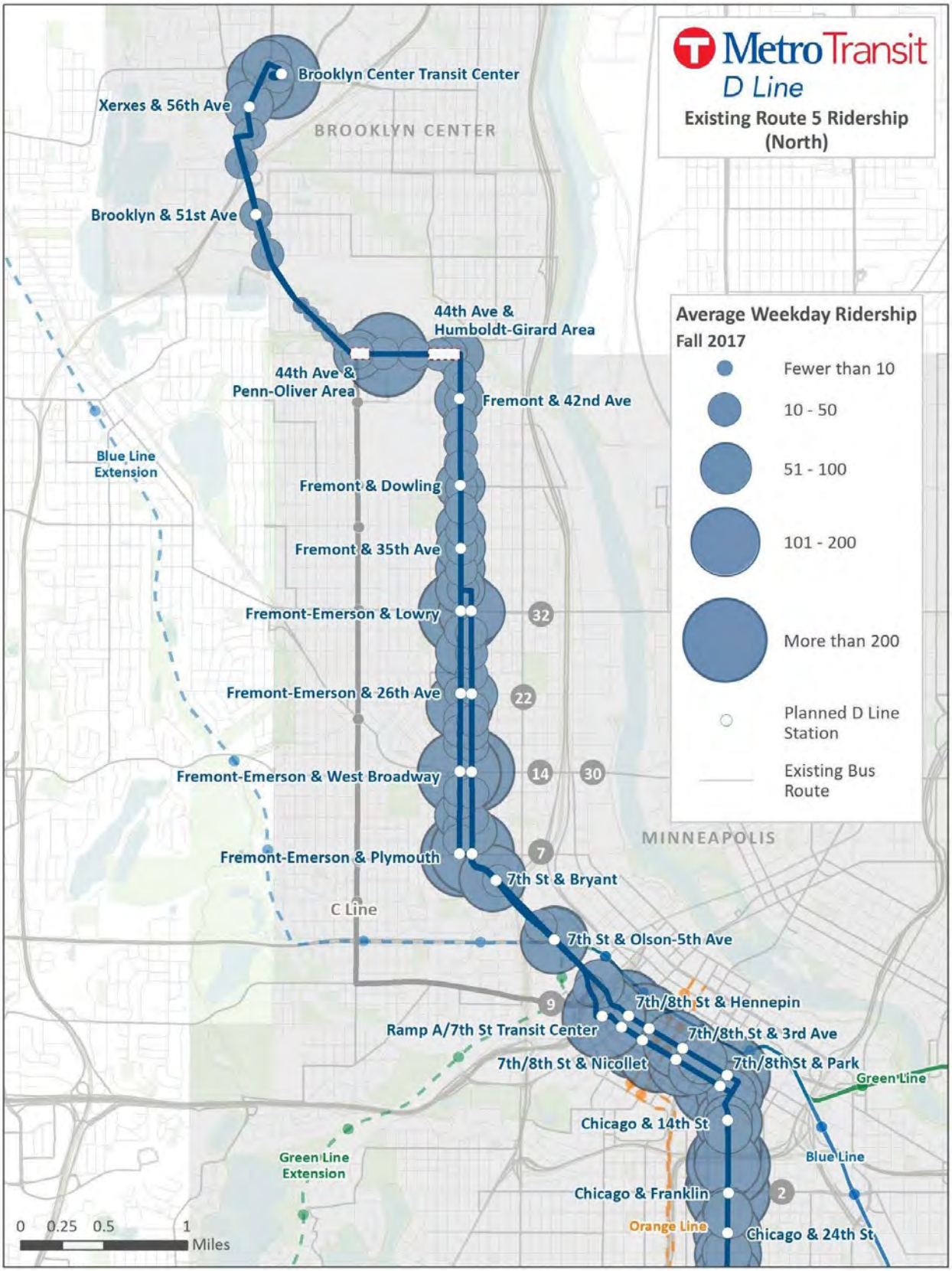


Figure 17: Planned D Line stations and existing Route 5 ridership, southern section

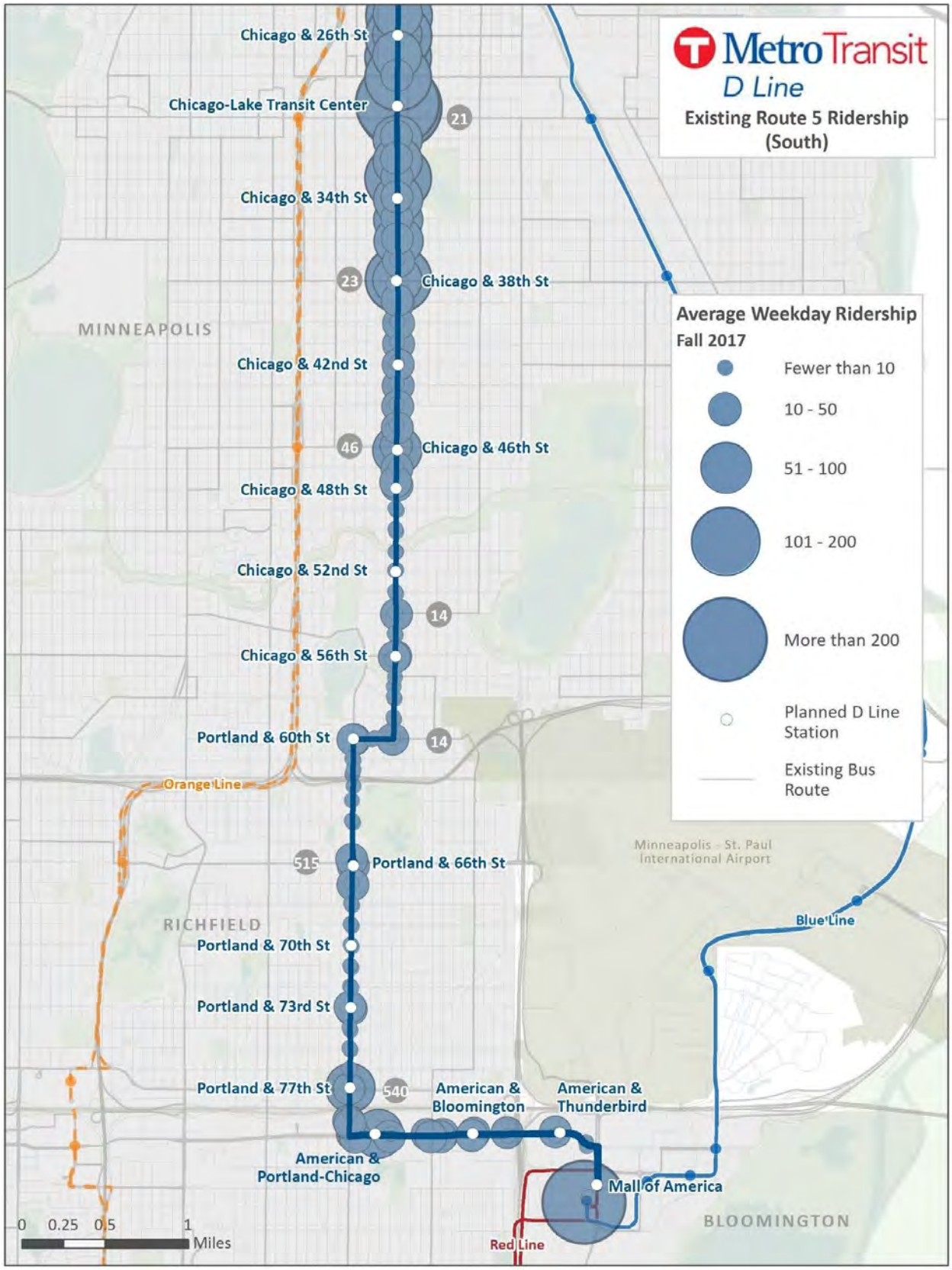


Figure 18: Planned D Line stations and station spacing, northern section

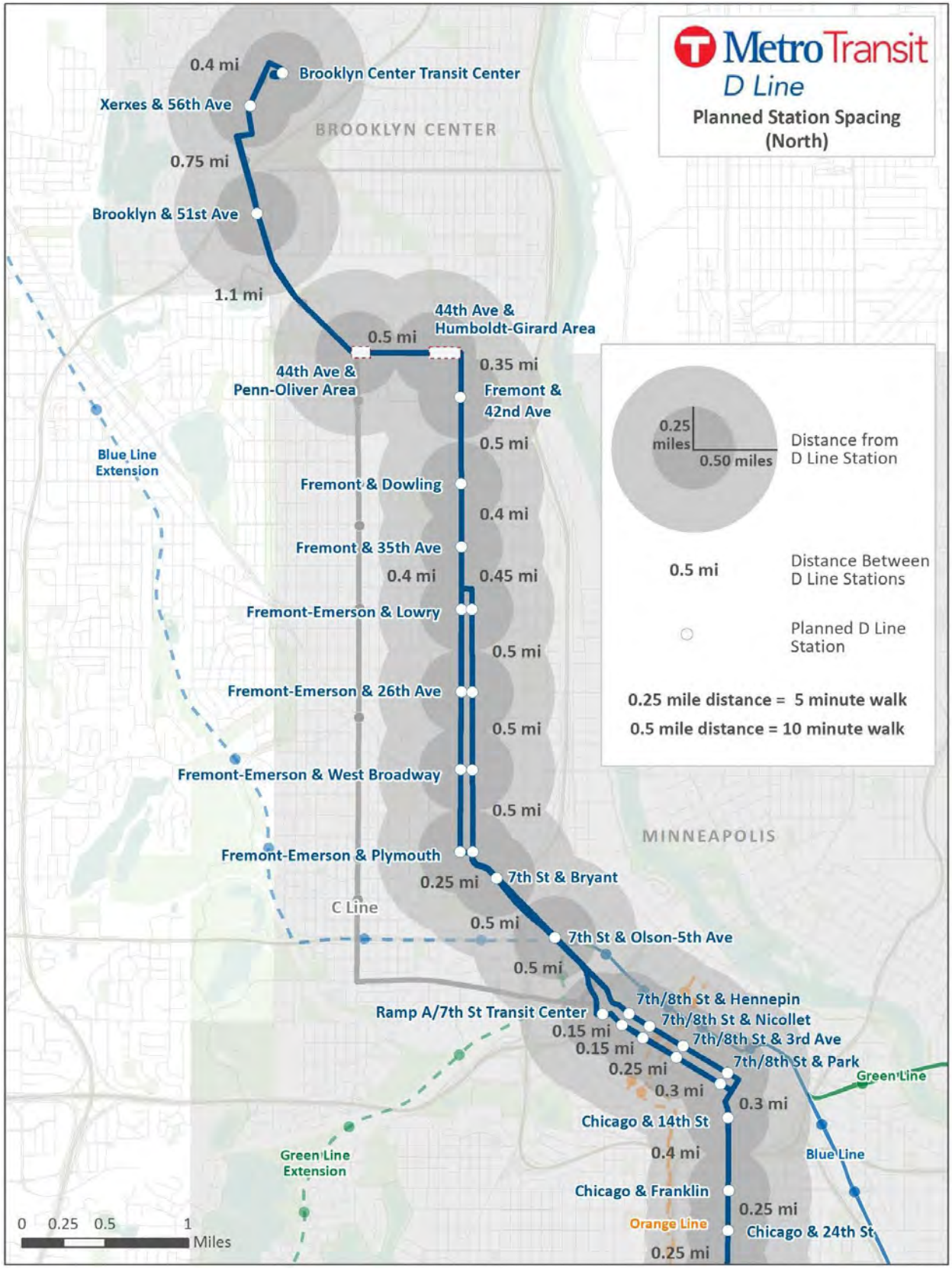
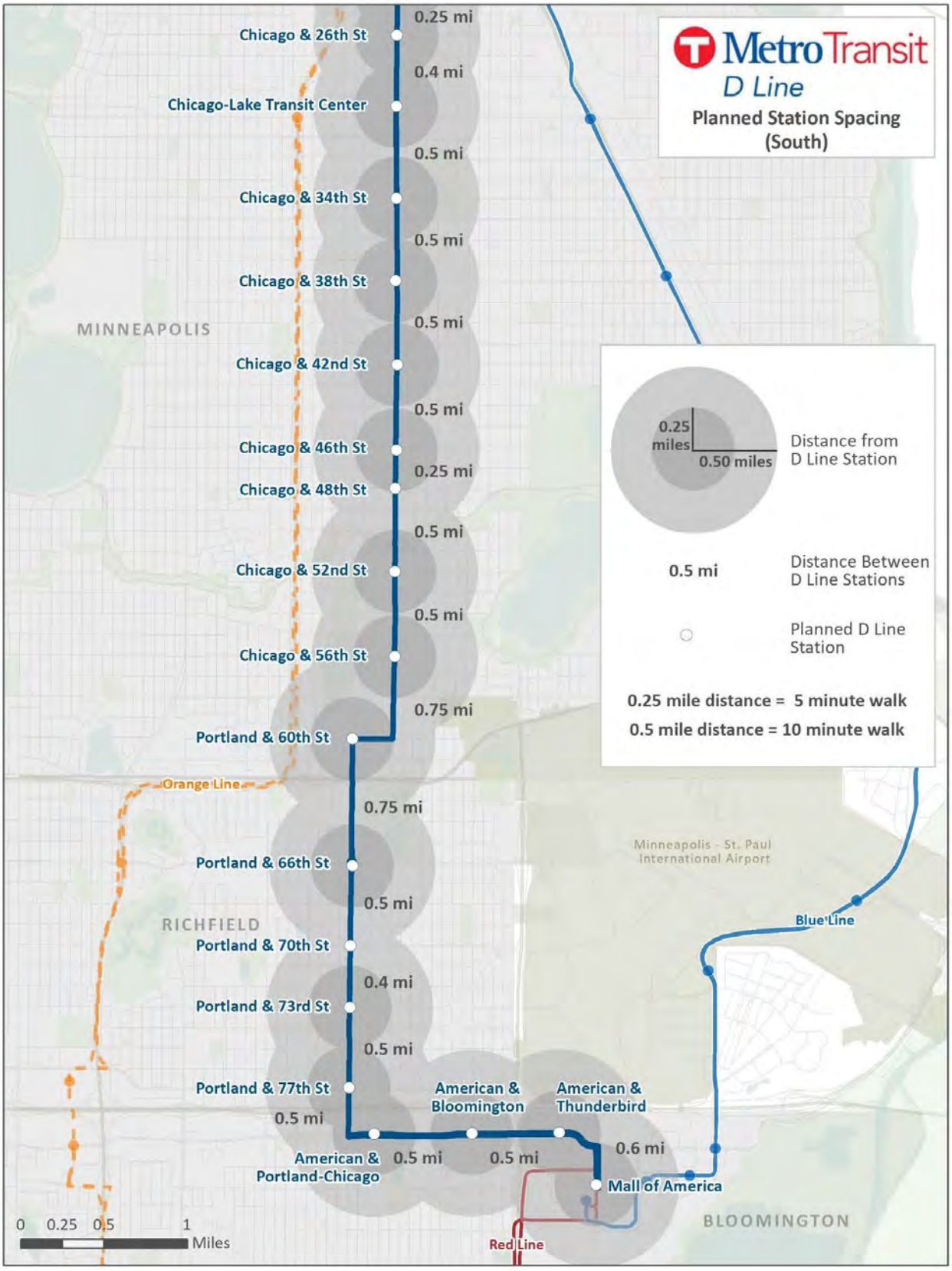


Figure 19: Planned D Line stations and station spacing, southern section



Station Plan: Shared C Line and D Line Stations in Brooklyn Center

The stations below were approved within the C Line planning process. See the final *C Line Station Plan*[19] for more information. These shared stations will serve both the C Line and D Line.

Brooklyn Center Transit Center

- Rapid bus improvements will be built at the Brooklyn Center Transit Center in 2018.

Xerxes & 56th Avenue

- The Xerxes & 56th Avenue station will be built as part of C Line construction in 2018.

Brooklyn & 51st Avenue

- The Brooklyn & 51st Avenue station will be built as part of C Line construction in 2018, in coordination with the Brooklyn Boulevard Corridor Project which will reconstruct Brooklyn Boulevard between 49th Avenue and 59th Avenue.[20]

[19] More information at: https://www.metrotransit.org/c-line-station-plan
[20] More information at: http://www.cityofbrooklyncenter.org/index.aspx?NID=1190

Figure 20: Shared C Line and D Line stations in Brooklyn Center

Station Plan: 44th Avenue & Penn-Oliver area

44th Avenue & Penn-Oliver area		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	44th Avenue & Penn-Oliver area
	Platform location	Southbound and northbound: On 44th Avenue between Penn and Oliver; quadrants to be determined Platform locations within the 44th Avenue and Penn-Oliver area will be determined in coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction design process.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to 44th Avenue & Humboldt-Girard area Within guidelines of about half-mile station spacing. Northbound: About 1.1 mi to Brooklyn & 51st Avenue Longer station spacing than guidelines due to lower-ridership segment, lower-density land uses, and presence of railroad overpass.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday
	Platform location compared to existing bus stop	Southbound: To be determined; existing bus stop farside of Penn on southeast quadrant Northbound: To be determined; existing bus stop nearside of Penn on northeast quadrant
	Connecting service	Routes 19, 721, 724
	Parking changes	Southbound and northbound: To be determined Parking changes dependent upon coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction project design process.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: To be determined Curb configuration dependent upon coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction project design process.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: 44th Avenue/Webber Parkway reconstruction project (Hennepin County)

- Hennepin County is planning to reconstruct 44th Avenue/Webber Parkway from Penn to Fremont in 2020.[21]
- The identification of platform locations is not feasible until reconstruction project design advances in 2018.
- In coordination with Hennepin County, staff has determined that D Line platforms are generally feasible on 44th Avenue between Penn and Oliver. The City of Minneapolis also supports the placement of a D Line station in the 44th Avenue and Penn-Oliver area. Design considerations will include bicycle-transit interactions in an effort to maintain bicycle facilities throughout the length of the 44th Avenue reconstruction project.
- To minimize disruption, construction of D Line platforms will be coordinated with the 44th Avenue/Webber Parkway reconstruction project to the extent possible.

Other station locations considered: Osseo and 47th Avenue

The 2013 Arterial Transitway Corridor Study addendum[22] (ATCS) included a conceptual Osseo & 47th Avenue station. This station plan does not include a D Line station at Osseo and 47th Avenue.

Station spacing and ridership

- The D Line planning process does not include an Osseo & 47th Avenue station because a station is recommended at 44th Avenue & Penn-Oliver. The commercial node in the 44th Avenue & Penn-Oliver area was prioritized before seeking other station alternatives farther north. A combination of lower transit demand, limited available space at Osseo and 47th Avenue and the surrounding intersections[23], and proximity to the Penn-Oliver area limit the feasibility of building a second station within the area.

  If a 44th Avenue & Penn-Oliver station had been deemed technically infeasible, the D Line station planning process would have continued to explore a station option in the Osseo Road and 47th Avenue area. Several potential station locations along Osseo Road between Penn Avenue and the CP rail overpass were considered within the final *C Line Station Plan*.[24] These options continue to be restricted in their constructability due to the limited available space in the current configuration of Osseo Road, where sidewalks are narrow or missing entirely, and the right of way is narrow.
- Transit customers in this area will access the D Line at the 44th Avenue & Penn-Oliver area station.

[21] More information at: https://www.hennepin.us/residents/transportation/webber44avenue
[22] More information at: https://metrotransit.org/abrt-study
[23] More information at: https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf
[24] More information at: https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf

Potential future opportunity

- In its comments on the draft *D Line Station Plan*, the City of Minneapolis commented that Metro Transit should "look for future opportunities to include a station in this segment."[25]

- Hennepin County has programmed Osseo Road between Penn Avenue and 49th Avenue in its five-year Capital Improvement Program. A specific year for improvements is unknown, however, Hennepin County staff anticipates construction activities to occur around the 2022/2023 timeframe. This reconstruction project will present an opportunity to investigate the potential to construct rapid bus platforms within the project limits. Metro Transit will pursue coordination with Hennepin County and the City of Minneapolis to further discuss project details.

Other station locations considered: 44th Avenue and Morgan

Station spacing

- A 44th Avenue & Morgan station is not included because of the feasibility of a 44th Avenue & Penn-Oliver station. If building a station near the intersection of 44th Avenue and Penn had been deemed technically infeasible, a station at Morgan would be a candidate for siting a station in this area.

- Access to the D Line to/from Patrick Henry High School (about two short blocks away) will be comparable to C Line access.

[25] More information within Appendix C: Agency Comments

Figure 21: Recommended station location - 44th Avenue & Penn-Oliver area

Station Plan: 44th Avenue & Humboldt-Girard area

44th Avenue & Humboldt-Girard area		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	44th Avenue & Humboldt-Girard area
	Platform location	Southbound and northbound: On 44th Avenue between Humboldt and Girard; quadrant to be determined Platform locations within the 44th Avenue & Humboldt-Girard area to be determined in coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction design process.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.35 mi to Fremont & 42nd Avenue Shorter station spacing than guidelines due, in part, to provide access to Hamilton Manor senior housing Northbound: About 0.5 mi to 44th Avenue & Penn-Oliver area Within guidelines of about half-mile station spacing
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 235 boardings per weekday
	Platform location compared to existing bus stop	Southbound and Northbound: To be determined
	Connecting service	Routes 721 and 724
	Parking changes	Southbound and northbound: To be determined Parking changes dependent upon coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction project design process.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: To be determined Curb configuration dependent upon coordination with Hennepin County's 44th Avenue/Webber Parkway reconstruction project design process.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: 44th Avenue/Webber Parkway reconstruction project (Hennepin County)

- Hennepin County is planning to reconstruct 44th Avenue/Webber Parkway from Penn to Fremont in 2020.[26]
- The identification of platform locations is not feasible until reconstruction project design advances in 2018.
- In coordination with Hennepin County, staff has determined that D Line platforms are generally feasible on 44th Avenue between Penn and Oliver. The City of Minneapolis also supports the placement of a D Line station in the 44th Avenue and Penn-Oliver area. Design considerations will include bicycle-transit interactions in an effort to maintain bicycle facilities throughout the length of the 44th Avenue reconstruction project.
- To minimize disruption, construction of D Line platforms will be coordinated with the 44th Avenue/Webber Parkway reconstruction project to the extent possible.

[26] More information at: https://www.hennepin.us/residents/transportation/webber44avenue

Figure 22: Recommended station location - 44th Avenue & Humboldt-Girard area

Station Plan: Fremont & 42nd Avenue

Fremont & 42nd Avenue		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Fremont & 42nd Avenue
	Platform location	Southbound: Nearside of 42nd Avenue on northwest corner Nearside improves constructability and reduces parking impact for small businesses farside of intersection. Northbound: Nearside of 42nd Avenue on southeast corner Farside platform not possible due to driveway access about 10' from curb.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Fremont & Dowling Within guidelines of about half-mile station spacing. Northbound: About 0.35 mi to 44th & Humboldt-Girard area Shorter station spacing than guidelines due, in part, to provide access to Hamilton Manor senior housing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 165 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 721 and 724
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces at each location due to the expansion of existing bus stop zone Existing bus stop zones would be extended to accommodate curb taper.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

The intersection of Fremont and 42nd Avenue is a commercial node. Ridership at this location is higher than at surrounding stops.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[27] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

[27] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 23: Recommended station location - Fremont & 42nd Avenue

Station Plan: Fremont & Dowling

Fremont & Dowling		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Fremont & Dowling
	Platform location	Southbound: Farside of Dowling on southwest corner Northbound: Farside of Dowling on northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.4 mi to Fremont & 35th Avenue Close to guidelines; provides access to a high-ridership segment between Dowling and Lowry. Northbound: About 0.5 mi to Fremont & 42nd Avenue Within guidelines of about half-mile station spacing
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 220 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	Routes 721 and 724
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces at each location, due to the relocation and expansion of existing bus stop zone. Potential for existing nearside bus stop zones to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Fremont and Dowling is a major intersection in north Minneapolis, and ridership is substantially higher than at surrounding stops.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[28] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

[28] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 24: Recommended station location - Fremont & Dowling

Station Plan: Fremont & 35th Avenue

Fremont & 35th Avenue		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Fremont & 35th Avenue
	Platform location	Southbound: Farside of 35th Avenue on southwest corner Northbound: Farside of 35th Avenue on northeast corner In both directions, farside has adequate platform length available and is preferred to minimize sightline conflicts at unsignalized intersection.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.4 mi to Emerson-Fremont & Lowry Northbound: About 0.4 mi to Fremont & Dowling In both directions, shorter spacing than guidelines provides access to a high-ridership segment between Dowling and Lowry.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 310 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting service
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces in each location, due to the relocation and expansion of existing bus stop zone. Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

An additional station between Dowling and Lowry is warranted because of consistently high transit demand in this segment. 35th Avenue directly services existing ridership that is comparable to surrounding stops, but with more even station spacing.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[29] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

Other station locations considered: Fremont and 36th Avenue

Station spacing and ridership

- Ridership is slightly lower at 36th Avenue compared to 35th Avenue when including adjacent stops.
- Station spacing is more uneven compared to 35th Avenue, which provides spacing of about 0.4-mi between Lowry and Dowling.

[29] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 25: Recommended station location - Fremont & 35th Avenue

Station Plan: Emerson-Fremont & Lowry

Emerson-Fremont & Lowry		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Emerson-Fremont & Lowry
	Platform location	Southbound: Farside of Lowry on Fremont, southwest corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential. Northbound: Nearside of Lowry on Emerson, southeast corner Farside platform not possible due to driveway about 40' from curb.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Emerson-Fremont & 26th Avenue Within guidelines of about half-mile station spacing. Northbound: About 0.4 mi to Fremont & 35th Avenue Shorter spacing than guidelines provides access to a high-ridership segment between Dowling and Lowry.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 610 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Route 32
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces in each location due to the expansion of existing bus stop zone Existing bus stop zone would be extended to accommodate curb taper.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

The Emerson-Fremont and Lowry intersections are major community nodes with high ridership compared to surrounding bus stops. The intersections also provide a connection to the existing Route 32 local service.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[30] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

[30] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 26: Recommended station location - Emerson-Fremont & Lowry

Station Plan: Emerson-Fremont & 26th Avenue

Emerson-Fremont & 26th Avenue		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Emerson-Fremont & 26th Avenue
	Platform location	Southbound: Farside of 26th Avenue on Fremont, southwest corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential. Northbound: Farside of 26th Avenue on Emerson, northeast corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential. Nearside not feasible due to driveway about 20' from intersection.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Emerson-Fremont & West Broadway Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Emerson-Fremont & Lowry Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 380 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting service
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

An additional station between Lowry and West Broadway is warranted because of consistent transit demand in this segment. 26th Avenue offers even station spacing, a signalized intersection for safe operations, and similar ridership to surrounding stops.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[31] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

[31] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

Figure 27: Recommended station location - Emerson-Fremont & 26th Avenue

Station Plan: Emerson-Fremont & West Broadway

Emerson-Fremont & West Broadway		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Emerson-Fremont & West Broadway
	Platform location	Southbound: Farside of West Broadway on Fremont, southwest corner Farside is preferred to maximize transit signal priority potential. Existing driveway about 60' from intersection will require design adjustments. Northbound: Farside of West Broadway on Emerson, northeast corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Emerson-Fremont & Plymouth Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Emerson-Fremont & 26th Avenue Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 840 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop
	Connecting service	Routes 14, 30
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle. Northbound: 60' platform To obtain a 60' platform, deviations from design standards may be required due to existing driveway about 60' from intersection.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

The Emerson-Fremont and West Broadway intersections are critical community nodes with the highest ridership in north Minneapolis at over 700 combined boardings per day. The intersections also provide transit connections to the existing Routes 14, 30, and 32 local service.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[32] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

Other platform locations considered: Northbound platform nearside of West Broadway

- A northbound nearside location was considered, and has more available length compared to the recommended farside location. However, the farside platform is preferred for the following reasons:
    - Maximizes the potential of transit signal priority at the busy intersection;
    - Maintains ease of transfers to the heavily used bus stop for westbound/northbound Routes 14 and 30;
    - Minimizes potential impacts to historic properties on the southern half of the intersection.

Other station locations considered: Emerson-Fremont and 16th Avenue

The 2013 Arterial Transitway Corridor Study addendum[33] (ATCS) included a conceptual Emerson-Fremont & 16th Avenue station. This station plan does not include a D Line station at Emerson-Fremont and 16th Avenue.

Land use and station spacing

- A major consideration of a potential Emerson-Fremont & 16th Avenue station is to provide rapid bus access to North High School, located about one block west of the D Line corridor.
- Ridership data, however, suggests North High School students predominantly use the existing Route 5 bus stops at Emerson-Fremont and 15th Avenue (about 60 student-related boardings per day). Emerson-Fremont and 15th Avenue is located just 0.15 mile north of the planned Emerson-Fremont & Plymouth station, too close to sustain an additional D Line station.

[32] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont
[33] More information at: https://metrotransit.org/abrt-study

Emerson-Fremont & 16th Avenue is also less than a quarter-mile from the planned Emerson-Fremont & Plymouth station.

- It is anticipated that existing Route 5 school trips will continue to serve North High School after the D Line begins operations. In addition to the school-related service, the local Route 5 service will continue operating about every 30 minutes.

Consistency

- Comparable station spacing of about half-mile will be located on the Penn Avenue corridor's C Line between Plymouth and Golden Valley. Ridership is similar on these segments between Plymouth and Golden Valley on Route 19 (future C Line) and Plymouth and West Broadway (future D Line).

Design considerations: Northbound platform farside of West Broadway

- The existing driveway constrains available platform length and may require design considerations like the narrowing of the existing driveway and non-raised curb heights.
- A platform concept was developed in the planning process to better understand potential northbound platform operations. See Figure 28 for additional information.

Figure 28: Preliminary Emerson & West Broadway platform concept

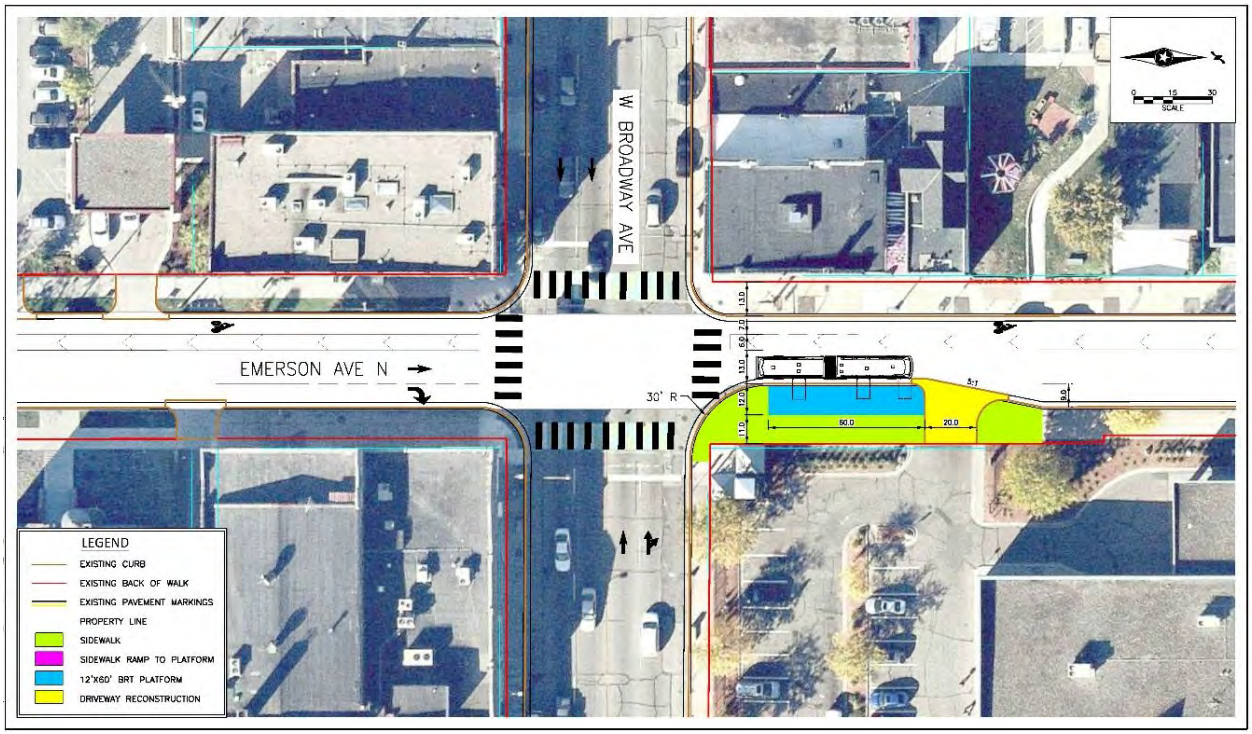


Figure 29: Recommended station location - Emerson-Fremont & West Broadway

Station Plan: Emerson-Fremont & Plymouth

Emerson-Fremont & Plymouth		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Emerson-Fremont & Plymouth
	Platform location	Southbound: Farside of Fremont Avenue on Plymouth Avenue, southeast corner (after left turn from Fremont Avenue to Plymouth Avenue) Northbound: Farside of Plymouth Avenue on Emerson Avenue, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.3 mi to 7th Street & Bryant Shorter station spacing than guidelines due, in part, to pedestrian conditions in the 7th Street & Bryant area and high ridership Northbound: About 0.5 mi to Emerson/Fremont & Broadway Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 600 boardings per weekday
	Platform location compared existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Route 7
	Parking changes	Southbound and northbound: No change No existing parking lanes in northbound or southbound direction.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Emerson-Fremont and Plymouth are major intersections in north Minneapolis, and ridership is substantially higher than at surrounding stops. They also provide transit connections to Routes 7 and 32 local service.

Project coordination: Emerson/Fremont Avenues bicycle-pedestrian improvement project (City of Minneapolis)

- D Line station planning in north Minneapolis between Plymouth Avenue and 42nd Avenue occurred in conjunction with the development of the City of Minneapolis Emerson-Fremont Avenues bicycle-pedestrian improvement project.[34] Outreach and engagement occurred separately between projects.
- Station locations were coordinated in advance of the city's 2014 Regional Solicitation application and confirmed in late 2016.
- Coordination ensures that bicycle-pedestrian improvements (planned for construction in 2018) will not be impacted by D Line construction (planned for construction in 2020/2021, pending full project funding).

Other station locations considered: Emerson-Fremont & 16th Avenue

The 2013 Arterial Transitway Corridor Study addendum[35] (ATCS) included a conceptual Emerson-Fremont & 16th Avenue station. This station plan does not include a D Line station at Emerson-Fremont and 16th Avenue.

Land use and station spacing

- A major reason to consider a station at 16th Avenue is rapid bus access to North High School, located about one block west of the D Line corridor.
- Ridership data, however, suggests North High School students predominantly use the existing Route 5 bus stops at Emerson-Fremont and 15th Avenue (about 60 student-related boardings per weekday). Emerson-Fremont and 15th Avenue is located just 0.15 mile north of the planned Emerson-Fremont & Plymouth station, too close to Plymouth Avenue to warrant an additional D Line station. Emerson-Fremont & 16th Avenue is also less than a quarter-mile from the planned Emerson-Fremont & Plymouth station.
- It is anticipated that existing Route 5 school trips will continue to serve North High School after D Line begins operations. In addition to the school trips, the local Route 5 service will continue operating about every 30 minutes.

Consistency

- One mile to the west, the C Line will serve stations at Plymouth and Golden Valley, roughly one-half mile apart. Ridership is similar on these segments between Plymouth and Golden Valley on Route 19 (future C Line) and Plymouth and West Broadway (future D Line).

[34] More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont
[35] More information at: https://metrotransit.org/abrt-study

Figure 30: Recommended station location - Emerson-Fremont & Plymouth

Station Plan: 7th Street & Bryant

7th Street & Bryant		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	7th Street & Bryant
	Platform location	Southbound: Farside of Aldrich, southeast of intersection Northbound: Nearside of Aldrich, northeast of intersection In both directions, proposed location has more right-of-way and better proximity to existing crosswalk compared to other options. Both locations avoid potential vehicular sightline impediments at stop-controlled side streets.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.6 mi to 7th Street & Olson-5th Avenue Close to guidelines; provides access to customers west of I-94. Northbound: About 0.3 mi to Emerson-Fremont & Plymouth Shorter station spacing than guidelines due, in part, to pedestrian conditions in the 7th Street & Bryant area and high ridership
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 160 boardings per weekday
	Platform location compared to existing bus stop	Southbound: Not at existing bus stop Establishes new bus stop farside of complex 7th St/11th Ave/Bryant/Aldrich intersection Northbound: At existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound and northbound: No change No existing parking lanes in northbound or southbound direction.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: To be determined and coordinated with City of Minneapolis 7th St bikeway project and METRO Green Line Extension Curb configuration dependent upon interagency coordination.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

Notes and Discussion

Revision to include a 7th Street & Bryant D Line station location

The draft *D Line Station Plan* did not include a 7th Street & Bryant station. The primary reason for the draft *Station Plan's* previous no-build recommendation was due to "proximity to other planned transitway service, including a planned D Line Emerson-Fremont & Plymouth station."[36]

The revised *D Line Station Plan* includes a proposed 7th Street & Bryant station for the following reasons:

- There is a more difficult walking environment in the surrounding area compared to other streets like Chicago and Emerson-Fremont Avenues, where fewer travel lanes, shorter crossings, and generally slower speeds are present. While other transitway service is planned on nearby Olson Highway, it could be difficult to easily reach these services by foot for the many people who ride Route 5 from this area today. Pedestrian considerations include:
    - 7th Street roadway characteristics, like:
        - Higher speeds
        - Wider street widths
        - Lack of a curbside boulevard providing a pedestrian buffer
    - Challenging intersection crossings for hundreds of daily customers to reach the Emerson-Fremont & Plymouth area from the 7th Street & Bryant area.
- The improved access provided by this additional station is better aligned with the Metropolitan Council's equity goals, particularly when considering other revisions like an additional recommended station at Chicago & 48th Street.

In addition, the City of Minneapolis provided a comment noting that nearby "additional transit service alone is not a sufficient justification for a 'no build' recommendation in this segment."

See Appendix C for agency comments submitted during the draft *D Line Station Plan* phase.

Project coordination: 7th Street bikeway improvement and METRO Green Line Extension (City of Minneapolis and Metropolitan Council)

The recommended station location is within the limits of the planned 7th Street bikeway improvements to be implemented in conjunction with METRO Green Line Extension construction. 7th Street protected bikeway improvements are discussed within the 2015 update to the City of Minneapolis *Bicycle Master Plan*.[37]

Coordination with that project will be required to ensure D Line platform design will fit into the long-term design of the roadway to the extent possible.

[36] The previous draft *D Line Station Plan* is available at: https://www.metrotransit.org/d-line-library
[37] More information at: http://www.minneapolismn.gov/bicycles/WCMS1P-135610

Figure 31: Recommended station location - 7th Street & Bryant

Station Plan: 7th Street & Olson-5th Avenue

7th Street & Olson-5th Avenue		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	7th Street & Olson-5th Avenue
	Platform location	Southbound: Farside of Olson, southwest corner At existing transit stop with rapid bus-ready amenities. Northbound: Farside of 5th Avenue, northeast of intersection Farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Ramp A/7th Street Transit Center Within guidelines of about half-mile station spacing. Northbound: About 0.6 mi to 7th Street & Olson-5th Avenue Close to guidelines; provides access to customers west of I-94.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 370 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop; will use existing rapid bus-ready bus stop Northbound: No existing bus stop Establishes new bus stop at intersection of 7th Street & 5th Avenue
	Connecting service	Routes 19, 22, and 755 Will provide connection to future METRO Green Line Extension at Royalston Ave/Farmers Market Station
	Parking changes	Southbound and northbound: No change
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound: Maintain existing curb line No changes anticipated to curb line at existing rapid bus-ready bus stop. Northbound: To be determined and coordinated with METRO Green Line Extension Curb configuration dependent upon coordination with METRO Green Line Extension project.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other platform locations considered: Northbound platform and potential realignment

- A modification to the alignment of the northbound D Line to serve the existing rapid bus-ready transit stop on Olson Highway just west of 7th Street was evaluated. Serving this existing station would reduce capital costs required for a new station. Field tests indicate that making the additional turning movements will result in, on average, about two minutes delay compared to the existing alignment. In addition, delay variability is large and could exceed four minutes.

- In addition, the future METRO Blue Line Extension will add complexity to traffic operations at the intersection. Coordination with the METRO Blue Line Extension and Green Line Extension projects and the City of Minneapolis determined that time delay from a D Line realignment cannot be reduced. As a result, the realignment option is no longer being considered and the existing rapid bus-ready bus stop on Olson will not be used for the D Line.

- Further interagency coordination indicated the location farside of 5th Avenue provides the best and safest alternative for a northbound D Line platform. It connects customers to the future METRO Green Line Extension Royalston Ave/Farmers Market Station, offers a safe signalized pedestrian crossing, and is near Sharing and Caring Hands and Mary's Place.

- The METRO Green Line Extension project will add a traffic signal at 7th Street and 5th Avenue and bicycle and pedestrian improvements along 7th Street. The existing condition is shown in Figure 32 below. The D Line platform design will fit into the long-term intersection improvements to the extent possible.

Figure 32: Diagram of future signalized intersection of 7th Street & 5th Avenue

Figure 33: Recommended station location - 7th Street & Olson-5th Avenue

Station Plan: Shared C Line and D Line Stations in Downtown Minneapolis

The stations below were approved within the C Line planning process. See the final *C Line Station Plan*[38] for more information. These will be shared stations serving both the C Line and D Line.

Ramp A/7th Street Transit Center

- The Ramp A/7th St Transit Center will be modified with rapid bus-ready improvements in 2018.

7th Street & Hennepin

- The 7th Street & Hennepin platform will use rapid bus-ready infrastructure previously built to improve transit on 7th Street.

8th/7th Street & Nicollet

- The 8th Street & Nicollet platform will be built as part of the 8th Street reconstruction project in 2019 and 2020.[39]
- The 7th Street & Nicollet platform will use rapid bus-ready infrastructure previously built to improve transit on 7th Street.

8th/7th Street & 3rd/4th Avenue

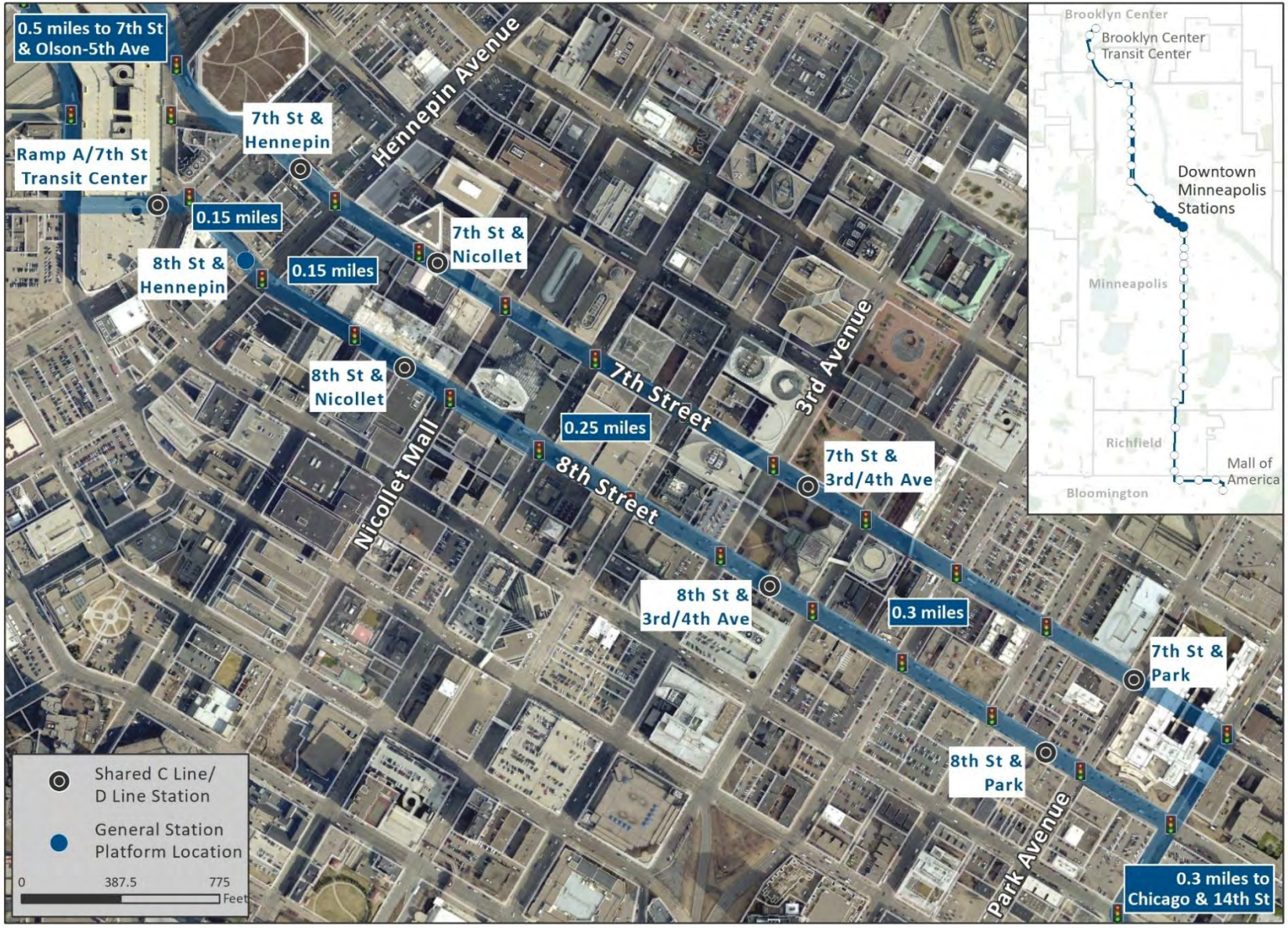
- The 8th Street & 3rd/4th Avenue platform will be built as part of the 8th Street reconstruction project in 2019 and 2020.[2]
- The 7th Street & 3rd/4th Avenue platform will be built as part of C Line construction in 2018.

8th/7th Street & Park

- The 8th Street & Park platform will be built as part of the 8th Street reconstruction project in 2019 and 2020.[2]
- The 7th Street & Park platform will be built as part of C Line construction in 2018.

[38] More information at: https://www.metrotransit.org/c-line-station-plan
[39] More information at: http://www.8thstreetproject.com/

Figure 34: Shared C Line and D Line stations in downtown Minneapolis



Station Plan: 8th Street & Hennepin

8th Street & Hennepin		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	8th Street & Hennepin
	Platform location	Southbound: Nearside of Hennepin Avenue Farside not technically feasible; nearside platform design to be coordinated with the planned Hennepin Avenue reconstruction project, led by the City of Minneapolis.
SURROUNDING CONTEXT	**Station spacing**	Downtown's very high ridership, many dense destinations, and unique land uses result in closer station spacing than on most of the corridor. Ramp A/7th Street Transit Center and 8th Street & Nicollet are less than 0.2 mi from 8th Street & Hennepin.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 2,170 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At existing bus stop
	Connecting service	Connections to many routes; including high frequency Route 6 and the planned C Line.
	Parking changes	Southbound: No parking changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound: To be determined Curb configuration dependent upon coordination with the Hennepin Avenue reconstruction project.
	Platform length	Southbound: To be determined Platform length dependent upon coordination with the Hennepin Avenue reconstruction project.

**Final conditions to be developed during the engineering/design process.*

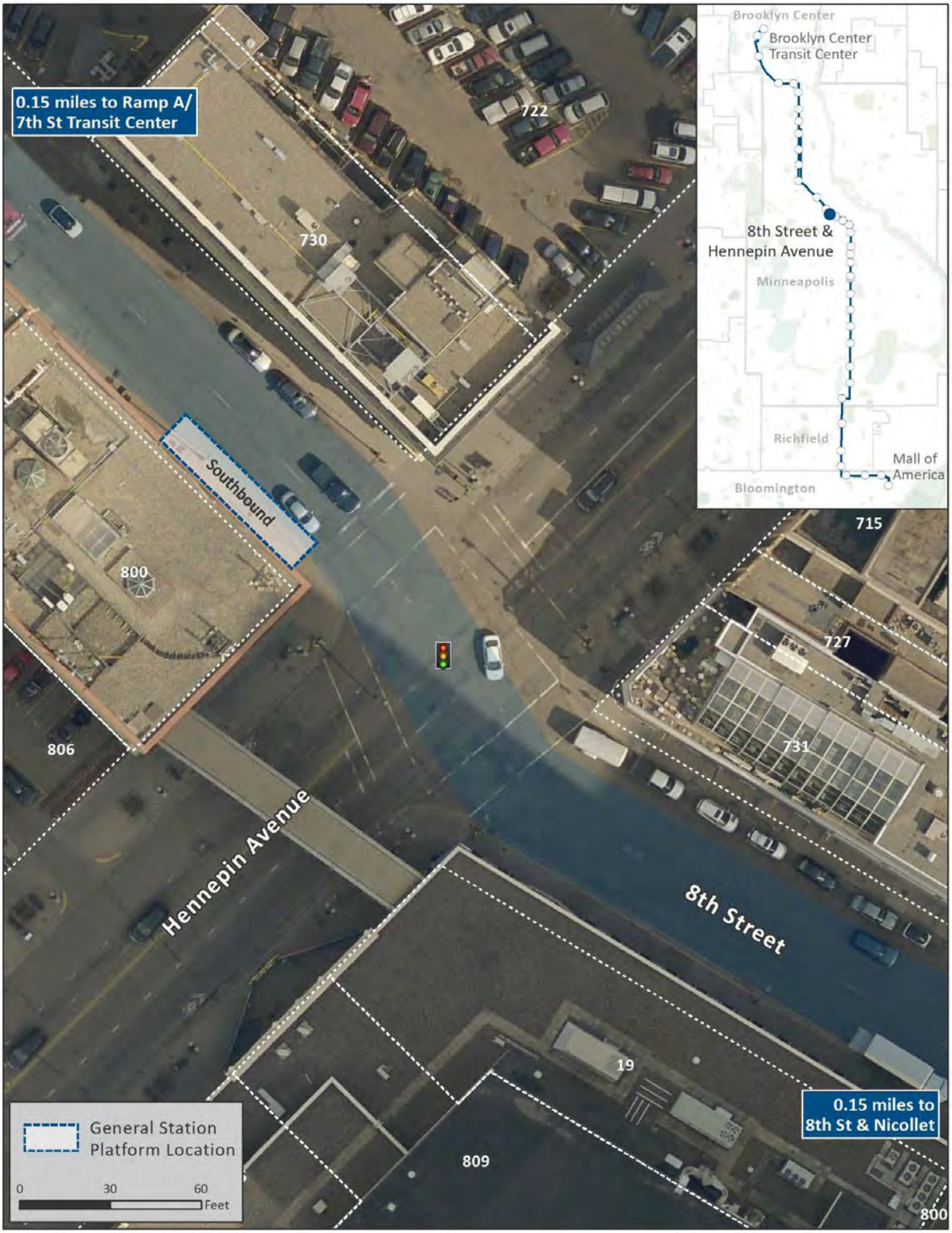
Notes and Discussion

Project coordination: Hennepin Avenue reconstruction project (City of Minneapolis)

- The City of Minneapolis is planning to reconstruct Hennepin Avenue from Washington to 12th Street in 2020.[40]
- The design and construction of the 8th Street & Hennepin platform will be coordinated with this reconstruction project to the extent possible.

[40] More information at: http://www.ci.minneapolis.mn.us/cip/future/WCMSP-172270

Figure 35:Recommended station location – 8th Street & Hennepin



Station Plan: Chicago & 14th Street

Chicago & 14th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 14th Street
	Platform location	Southbound: Farside of 14th Street, southwest corner Northbound: Farside of 14th Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.4 mi to Chicago & Franklin Shorter station spacing than guidelines due to high-ridership segment. Northbound: About 0.3 mi to 7th-8th Streets & Park Shorter station spacing than guidelines due to high-ridership segment and proximity to downtown.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 340 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound: No parking changes Existing farside taxi zone would be replaced by relocated bus stop zone. Northbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and southbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other station locations considered: Chicago and 15th Street

- Chicago and 15th Street has substantially lower ridership compared to at 14th Street (about 280 boardings compared to about 60 boardings per weekday).
- Outreach and engagement suggested that community members consider Chicago and 14th Street as the center of the neighborhood compared to other intersections.

Other station locations considered: Chicago and 17th Street

- While ridership is substantial at Chicago and 17th Street (about 340 daily boardings), multiple driveway access points and the interstate highway overpass in the northbound direction severely limit constructability in this location.
- Chicago and 17th Street is less than 1,000 ft from the recommended Chicago & 14th Street station.

Other station locations considered: Chicago and 18th Street

The 2012 *Arterial Transitway Corridor Study*[41] (ATCS) included a conceptual Chicago & 18th Street station in addition to the station at 14th Street. This station plan does not include a D Line station at Chicago and 18th Street.

Station spacing

- While ridership is substantial at Chicago and 18th Street (about 310 daily boardings), it is only about 900 ft from the recommended Chicago & Franklin station.
- Not recommending a Chicago & 18th Street station prioritizes improved travel times from stop consolidation.

[41] More information at: https://www.metrotransit.org/abrt-study

Figure 36: Recommended station location - Chicago & 14th Street

Station Plan: Chicago & Franklin

Chicago & Franklin		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & Franklin
	Platform location	Southbound: Farside of Franklin, southwest corner Northbound: Farside of Franklin, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.25 mi to Chicago & 24th Street Shorter station spacing than guidelines due to high-ridership segment. Northbound: About 0.4 mi to Chicago & 14th Street Slightly shorter station spacing than guidelines due to high-ridership segment and proximity to downtown.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 820 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	Routes 2, 9, and 39
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: Highway Safety Improvement Project (Hennepin County)

- Hennepin County is planning to make safety improvements at the intersection through the MnDOT Highway Safety Improvement Program.
- The project is currently planned for construction in 2020 or 2021 and will include safety features like curb extensions and signal improvements.
- Coordination will reduce construction impacts and result in a more compatible design that accommodates both projects and improves the intersection for different road users.

Other station locations considered: Chicago and 18th Street

The 2012 *Arterial Transitway Corridor Study*[42] (ATCS) included a conceptual Chicago & 18th Street station in addition to the station at 14th Street. This station plan does not include a D Line station at Chicago and 18th Street.

Station spacing

- While ridership is substantial at Chicago and 18th Street (about 310 daily boardings), it is only about 900 ft from the recommended Chicago & Franklin station.
- Not recommending a Chicago & 18th Street station prioritizes improved travel times from stop consolidation.

Design considerations: General station concept

- See Figure 37 for an example of a preliminary station concept at Chicago and Franklin.
- Station design considerations in 2018-2019 will require coordination to account for any impacts to the adjacent Peavey Field Park and the public art installation at the corner of Chicago and Franklin.

Figure 37: Preliminary Chicago & Franklin platform concept

[42] More information at: https://www.metrotransit.org/abrt-study

Figure 38: Recommended station location - Chicago & Franklin

Station Plan: Chicago & 24th Street

Chicago & 24th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 24th Street
	Platform location	Southbound: Farside of 24th Street, southwest corner Northbound: Farside of 24th Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.25 mi to Chicago & 26th Street Shorter station spacing than guidelines due to high-ridership segment. Northbound: About 0.25 mi to Chicago & Franklin Shorter station spacing than guidelines due to high-ridership segment.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 670 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound and northbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. In northbound direction, existing accessible curbside parking will be impacted farside.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and southbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Figure 39: Recommended station location - Chicago & 24th Street

Station Plan: Chicago & 26th Street

Chicago & 26th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 26th Street
	Platform location	Southbound: Farside of 26th Street, southwest corner Northbound: Farside of 26th Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.4 mi to Chicago-Lake Transit Center Shorter station spacing than guidelines due to high-ridership segment. Northbound: About 0.25 mi to Chicago & 24th Street Shorter station spacing than guidelines due to high-ridership segment.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 660 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	Routes 27 and 39
	Parking changes	Southbound: Reduction of about 3-5 parking spaces, due to the relocation and expansion of existing bus stop zone Existing nearside bus stop zone cannot be converted to curbside parking due to right turn lane. Northbound: Potential increase of about 3-5 parking spaces, due to the relocation of existing bus stop zone Planned farside platform location is currently a no parking zone. Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

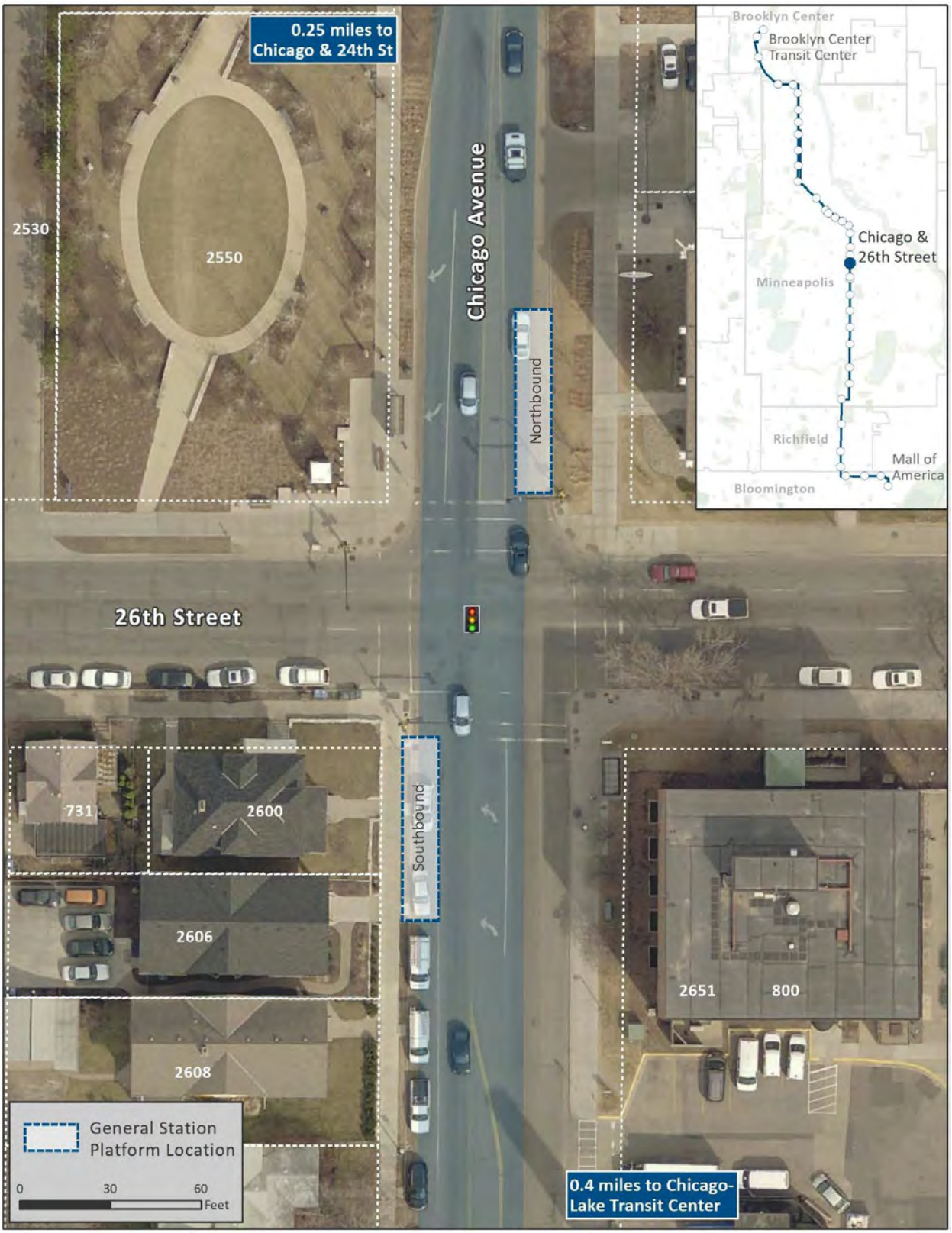
Other station locations considered: Chicago and 27th Street

The 2012 *Arterial Transitway Corridor Study*[43] (ATCS) included a conceptual Chicago & 27th Street station. This station plan does not include a D Line station at Chicago and 27th Street.

- Pedestrian access is blocked east of the intersection of Chicago Avenue and 27th Street by the Abbott Northwestern hospital campus. As an alternate option, 26th Street offers better connectivity to the street grid and more typical rapid bus operations at a signalized intersection.

[43] More information at: https://www.metrotransit.org/abrt-study

Figure 40: Recommended station location - Chicago & 26th Street



Station Plan: Chicago-Lake Transit Center

Chicago-Lake Transit Center		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago-Lake Transit Center
	Platform location	Southbound: Farside of transit center driveway Farside location on-street prioritizes improved travel times by no longer turning into the Chicago-Lake Transit Center. Northbound: Farside of transit center driveway Farside at existing stop has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Chicago & 34th Street Within guidelines of about half-mile station spacing. Northbound: About 0.4 mi to Chicago & 26th Street Slightly shorter station spacing than guidelines due to high-ridership segment.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 1,500 boardings per weekday
	Platform location compared to existing bus stop	Southbound: Leaves existing off-street stop at Chicago-Lake Transit Center and instead serves Chicago Avenue on-street. Northbound: At existing stop
	Connecting service	Routes 21, 27, 39, and 53
	Parking changes	Southbound: Reduction of about 3-5 parking spaces, due to the relocation of existing bus stop Northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

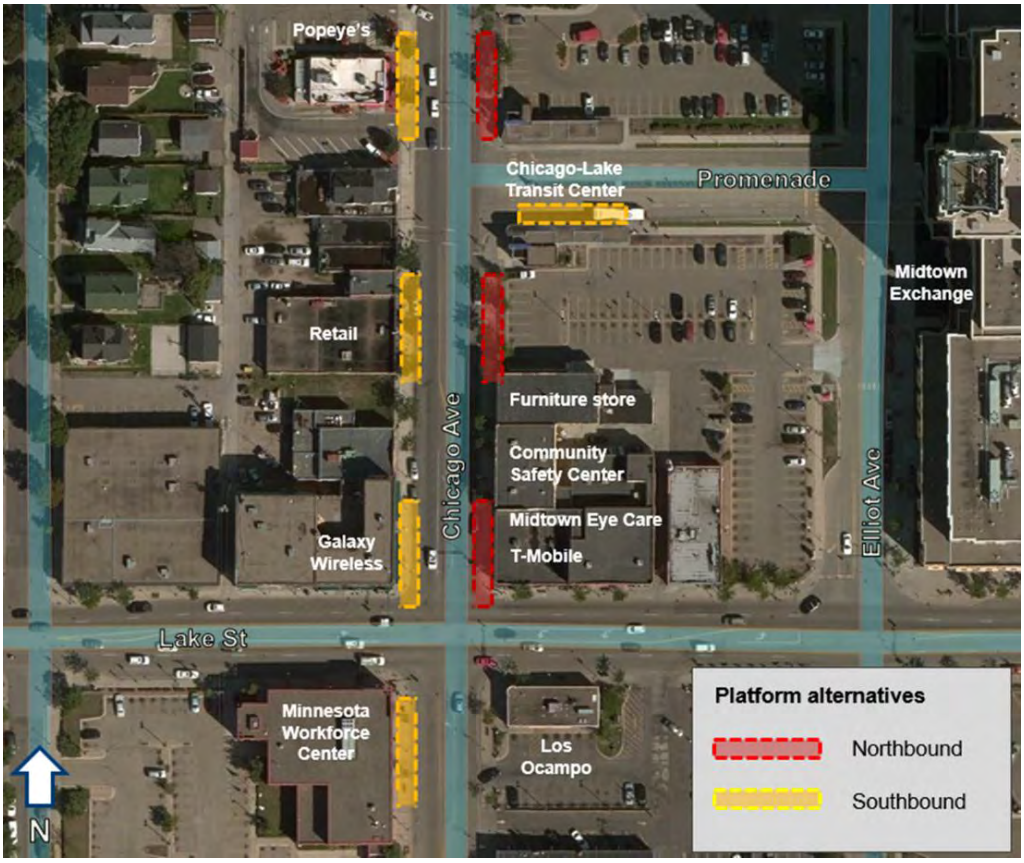
Notes and Discussion

Other station locations considered: Chicago-Lake Planning Study[44]

Background

- Today, at the Chicago-Lake Transit Center, there are 1,500 average daily weekday Route 5 boardings. This is the highest ridership point on the Route 5, outside of downtown Minneapolis.
- The Chicago-Lake Transit Center serves as a major transfer point for customers traveling on Routes 5, 21, and 53.
- The existing Route 5 southbound stop is located off Chicago Avenue on the transit center driveway entrance to the Midtown Exchange building. This requires southbound Route 5 buses to make multiple turning movements, resulting in about three minutes of travel delay and poor on-time reliability.
- Metro Transit completed a Chicago-Lake planning study to consider alternative platform options to provide a faster and more reliable trip.
- Figure 41 illustrates the location of considered alternative platform locations.

Figure 41: Chicago-Lake area alternative platform locations



[44] More information at: https://www.metrotransit.org/d-line-library

Study process

- Evaluation of travel times, traffic impacts, transfer movements across routes, and pedestrian access
- Interviews with Metro Transit police, operations, and maintenance departments about how the transit facility functions today
- Customer surveys and conversations with neighborhood groups and small businesses

Study recommendation

- The study recommendation locates both the northbound and southbound platforms on the farside of the existing transit center driveway. Three primary considerations of this recommendation include:
    - **Maintaining the ease of existing transfer activity:** It is estimated that about 50-75 percent of existing customers transfer between routes at this location. The proximity of recommended D Line platforms to the transit center prioritizes the continued ease of these transfers.
    - **Positioning with long-term transitway planning:** Recommended D Line platforms are located between the planned B Line rapid bus (Lake Street corridor) and Midtown rail (Midtown Greenway corridor) services.
    - **Minimizing traffic impacts:** Traffic evaluation indicated minimized traffic impacts by locating platform north of congestion at Chicago and Lake, especially in the southbound direction.

Figure 42: Preliminary Chicago-Lake Transit Center platform concept

Figure 43: Recommended station location - Chicago-Lake Transit Center

Station Plan: Chicago & 34th Street

Chicago & 34th		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 34th Street
	Platform location	Southbound: Farside of 34th Street, southwest corner Northbound: Farside of 34th Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Chicago & 38th Street Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Chicago-Lake Transit Center Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 450 boardings per weekday
	Platform compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. Northbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. Farside platform to impact school zone parking restrictions.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other station locations considered: Chicago and 33rd Street and Chicago and 35th Street

The 2012 *Arterial Transitway Corridor Study*[45] (ATCS) included conceptual Chicago & 33rd Street and Chicago & 35th Street stations. This station plan does not include D Line stations at Chicago and 33rd or 35th Streets.

Station spacing and consistency

- Stations at both 33rd Street and 35th Street would result in station spacing of about 0.25- to 0.33 mile, too close when considering ridership and spacing trends elsewhere on the D Line corridor. Outside of downtown, this station plan limits quarter-mile station spacing to the Chicago & 24th Street station where a variety of dense land uses drive high ridership throughout the surrounding area.
- Other segments on the D Line corridor have higher ridership with stations planned closer to half-mile station spacing, like segments between Chicago and 14th Street and 18th Streets or Chicago and 26th and the Chicago-Lake Transit Center.

Access to destinations

- In addition, access to the Minneapolis Public Schools Wilder Complex is currently provided at the bus stop located at Chicago and 33rd Street. This educational facility includes the Wellstone International High School.
- Ridership data indicates seasonal increases in daily ridership up to about 150 boardings when school is in session.
- Service to the Wilder Complex can be maintained by a Chicago & 34th Street station without introducing additional pedestrian crossings of Chicago Avenue.

[45] More information at: https://www.metrotransit.org/abrt-study

Figure 44: Recommended station location - Chicago & 34th Street

Station Plan: Chicago & 38th Street

Chicago & 38th		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 38th Street
	Platform location	Southbound: Farside of 38th Street, southwest corner Driveway access limits available length in both nearside and farside locations. Farside location recommended to maximize transit signal priority potential and will require further project review to account for existing driveway. Northbound: Farside of 38th Street, northeast corner Farside has adequate platform length available and preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Chicago & 42nd Street Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Chicago & 34th Street Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 390 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop
	Connecting service	Routes 23 and 133
	Parking changes	Southbound: Reduction of about 1-2 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. Northbound: Reduction of about 2-3 parking spaces Existing bus stop zone would be extended to accommodate curb taper.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpouts Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other platform locations considered: Southbound platform nearside of 38th Street

Constructability

- The existing gas station access driveway limits the constructible platform length to less than 50 feet. This precludes the capability to ensure all-door boarding and exiting at a high-activity location.

Stop activity

- Existing Route 5 ridership at this southbound stop is about 90 boardings and over 215 alightings. Considering the high usage at this stop, the construction of a platform with the full standard length of 60 feet, 9-inch curbs, and a bumpout is warranted to ensure the best long-term transit operations possible, including all-door boarding.

Transit signal priority

- A farside location will provide additional potential to maximize transit signal priority benefit.

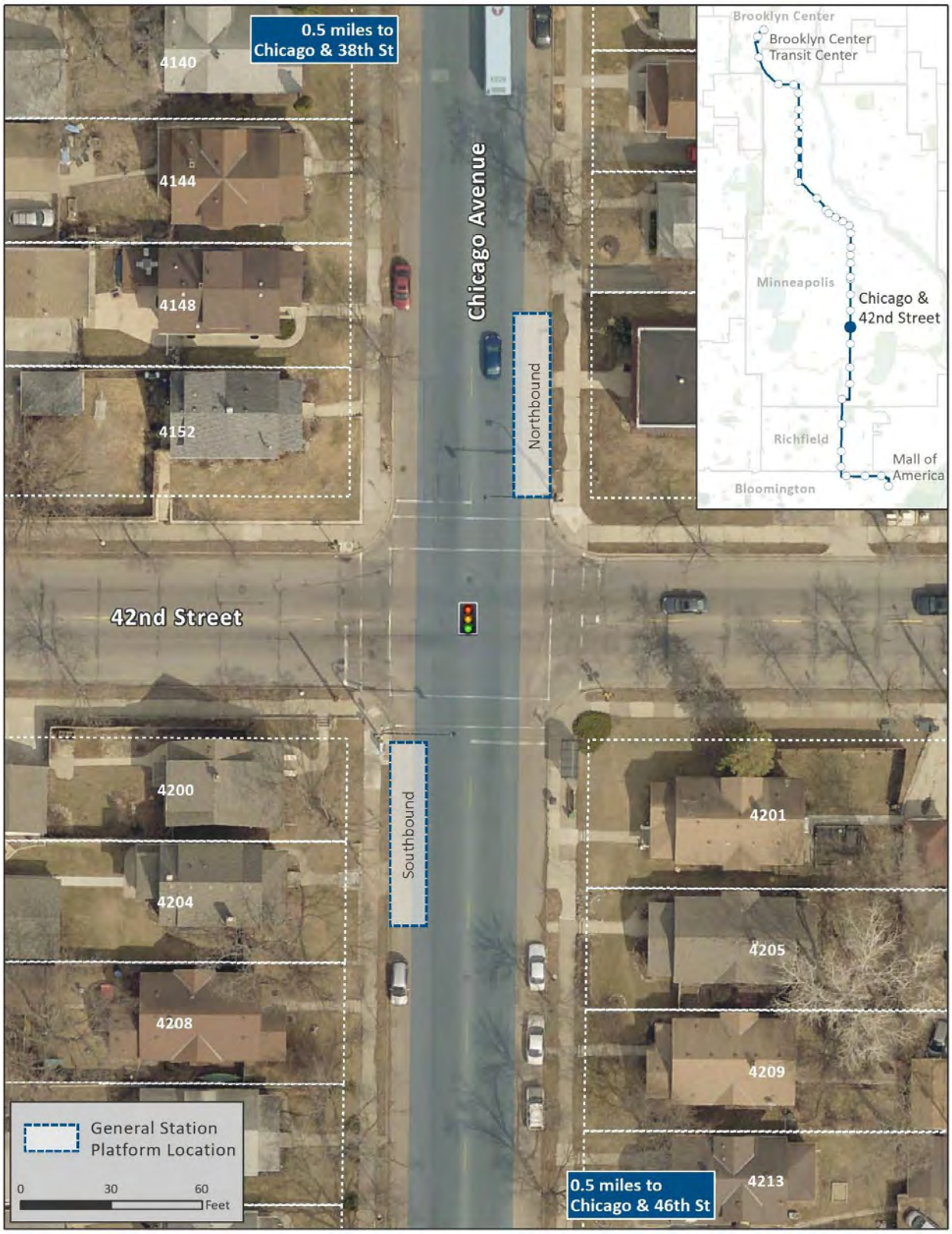
Figure 45: Recommended station location - Chicago & 38th Street

Station Plan: Chicago & 42nd Street

Chicago & 42nd		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 42nd Street
	Platform location	Southbound: Farside of 42nd Street, southwest corner Northbound: Farside of 42nd Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Chicago & 46th Street Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Chicago & 38th Street Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. Northbound: No impact to number of parking spaces; relocation of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpouts Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Figure 46: Recommended station location - Chicago & 42nd Street



Station Plan: Chicago & 46th Street

Chicago & 46th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 46th Street
	Platform location	Southbound: Farside of 46th Street on southwest corner Northbound: Farside of 46th Street on northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.25 mi to Chicago & 48th Street Shorter station spacing than guidelines to provide direct service to the 48th & Chicago commercial node Northbound: About 0.5 mi to Chicago & 42nd Street Within guidelines of about half-mile average station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 170 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop
	Connecting service	Route 46
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound: Bumpout Bumpout will maximize operational efficiency and pedestrian space. Northbound: No bumpout; maintain existing curb line Adequate space available for transit amenities; full width of bicycle lane to be maintained within existing curb line.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: Highway Safety Improvement Project (Hennepin County)

- Hennepin County is planning to make safety improvements through the MnDOT Highway Safety Improvement Program along 46th Street, including the intersection of Chicago and 46th Street.
- The project is currently planned for construction in 2019 or 2020 and will include safety features like signal modifications and pedestrian ramp improvements.
- Coordination will reduce construction impacts and result in a more compatible design that accommodates both projects.

Figure 47: Recommended station location - Chicago & 46th Street

Station Plan: Chicago & 48th Street

Chicago & 48th Street		
	Station Consideration	*Planned Condition**
CORE STATION PLAN	Intersection location	Chicago & 48th Street
	Platform location	Southbound: Farside of 48th Street on southwest corner Northbound: Farside of 48th Street on northeast corner Farside locations have adequate platform length available and directly serve the commercial intersection compared to other alternatives.
SURROUNDING CONTEXT	Station spacing	Southbound: About 0.5 mi to Chicago & 52nd Street Within guidelines of about half-mile average station spacing. Northbound: About 0.25 mi to Chicago & 46th Street Shorter station spacing than guidelines to provide direct service to the 48th & Chicago commercial node.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday
	Platform location compared to existing bus stop	Southbound: South of existing bus stop Northbound: At existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound: Reduction of about 1-2 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing midblock bus stop zone to be converted to curbside parking. Northbound: Reduction of about 1-2 parking spaces, due to the expansion of existing bus stop zone
DESIGN CONSIDERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

Notes and Discussion

Revision to include a Chicago & 48th Street D Line station

The draft *D Line Station Plan* did not include a Chicago & 48th Street station. The primary reasons for this previous no-build recommendation include[46]:

- Proximity to a planned Chicago & 46th Street station about a quarter-mile to the north
- Consistency with other draft *Station Plan* no-build recommendations at transit-supportive intersections elsewhere on the corridor, like the 7th Street and Bryant area

The revised *D Line Station Plan* includes a Chicago & 48th Street station for the following reasons:

- Support for a Chicago & 48th Street station received during the public comment period for the draft *D Line Station Plan.*[47]
    - About 1/3 of all submitted comments supported a Chicago & 48th Street station.
    - The City of Minneapolis formally supports a station as noted within a City Council action completed on March 17, 2018.
    - Consistent comment themes included:
        - The number and variety of businesses and services available at Chicago and 48th Street warrants an exception to rapid bus spacing guidelines
        - Transit access benefits outweigh the potential impacts to street parking
- An additional station at this node is consistent with other *Station Plan* revisions, including the addition of a 7th Street & Bryant station in north Minneapolis. The 7th Street & Bryant station will also be about a quarter-mile from the nearest D Line station on a part of the corridor with substantially higher existing ridership.

In addition to the above comments, Metro Transit received some opposition to a Chicago & 48th Street station during the planning process. Several business owners have expressed concerns about parking impacts and quality of life considerations that may result from a station at the business node. Metro Transit, in partnership with the City of Minneapolis, will incorporate these concerns to the extent possible throughout the design process. For example, parking management considerations will include the potential conversion of the existing southbound bus stop zone to curbside parking.

Other platform locations considered: Southbound platform midblock at existing transit stop

- A southbound midblock location at the existing transit stop (between 47th and 48th Streets) was considered primarily due its minimal impact to street parking in the area. However, the farside platform is preferred for the following reasons:
    - More directly serves the commercial node and establishes improved station spacing
    - Improves potential for transit signal priority benefit

[46] The previous draft *D Line Station Plan* is available at: https://www.metrotransit.org/d-line-library
[47] See Appendix B for more information about submitted comments

Figure 48: Recommended station location - Chicago & 48th Street

Station Plan: Chicago & 52nd Street

Chicago & 52nd Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 52nd Street
	Platform location	Southbound: Farside of 52nd Street on southwest corner Northbound: Farside of 52nd Street on northeast corner Farside locations have adequate platform length available. Compared to nearside, farside location improves sightlines at 2-way stop controlled intersection.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Chicago & 56th Street Within guidelines of about half-mile average station spacing. Northbound: About 0.5 mi to Chicago & 48th Street Within guidelines of about half-mile average station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 35 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop
	Connecting service	No connecting transit service
	Parking changes	Southbound: Reduction of about 2-3 parking spaces, due to the relocation and expansion of existing bus stop zone Potential for existing nearside bus stop zone to be converted to curbside parking. Northbound: Reduction of about 1-2 parking spaces, due to the expansion of existing bus stop zone
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other station locations considered: Chicago and 54th Street

The 2012 *Arterial Transitway Corridor Study*[48] (ATCS) included a conceptual Chicago & 54th Street station. This station plan does not include a D Line station at Chicago & 54th Street.

Constructability

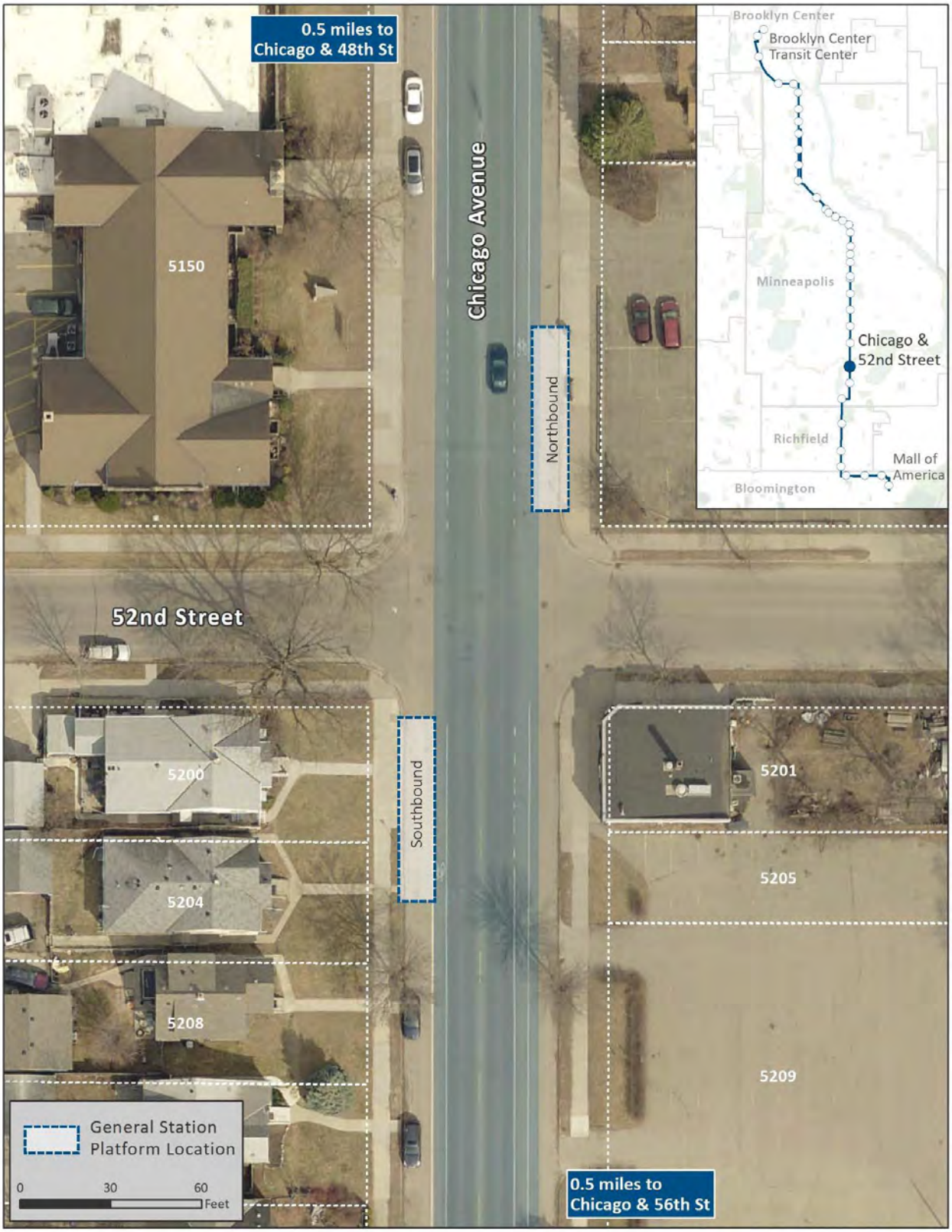
- Driveway access substantially limits available platform length at three out of four corners at Chicago and 54th Street. As a result, a station at this location is not feasible.

Ridership

- In addition, ridership is substantially lower at 54th Street (about 20 total daily weekday boardings) compared to 56th Street (about 70).

[48] More information at: https://www.metrotransit.org/abrt-study

Figure 49: Recommended station location - Chicago & 52nd Street



Station Plan: Chicago & 56th Street

Chicago & 56th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Chicago & 56th Street
	Platform location	Southbound: Farside of 56th Street on southwest corner Northbound: Nearside of 56th Street on southeast corner Southern half of intersection maintains better constructability due to northern half's hilly topography. 4-way stop control mitigates northbound nearside sightline issues.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.75 mi to Portland & 60th Street Longer station spacing than guidelines due to lower ridership segment and lower-density land uses. Northbound: About 0.5 mi to Chicago & 52nd Street Within guidelines of about half-mile average station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 80 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 14, 111, and 552
	Parking changes	Southbound: No changes Northbound: Reduction of about 2-3 parking spaces Existing bus stop zone would be extended to accommodate curb taper.
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Design considerations: General station concept

- Station design considerations in 2018 will require coordination to account for any impacts to the adjacent Todd Park.

Other station locations considered: Chicago and 54th Street

The 2012 *Arterial Transitway Corridor Study*[49] (ATCS) included a conceptual Chicago & 54th Street station. This station plan does not include a D Line station at Chicago & 54th Street.

Constructability

- Driveway access substantially limits available platform length at three out of four corners at Chicago and 54th Street. As a result, a station at this location is not feasible.

Ridership

- In addition, ridership is substantially lower at 54th Street (about 20 total daily weekday boardings) compared to 56th Street (about 70).

Other station locations considered: Chicago and 60th Street

The 2012 *Arterial Transitway Corridor Study*[50] (ATCS) included a conceptual Chicago & 60th Street station. This station plan does not include a D Line station at Chicago and 60th Street.

Ridership and station spacing

- Existing ridership and lower-density residential land uses in this segment of the D Line corridor do not support the inclusion of a station at Chicago and 60th Street.
- All customers except those currently boarding at Chicago and 59th Street would be within a quarter-mile walk to a D Line station. Riders currently boarding at Chicago and 59th Street (about five total boardings per day) would be able to access the planned Portland & 60th Street D Line station by walking about a third of a mile. Access to Route 5 will remain at bus stops on every block.

[49] More information at: https://www.metrotransit.org/abrt-study
[50] More information at: https://www.metrotransit.org/abrt-study

Figure 50: Recommended station location - Chicago & 56th Street

Station Plan: Portland & 60th Street

Portland & 60th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Portland & 60th Street
	Platform location	Southbound: Farside of 60th Street on Portland Avenue, southwest corner (after left turn from 60th Street onto Portland Avenue) Northbound: Nearside of 60th Street on Portland Avenue, southeast corner)
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.75 mi to Portland & 66th Street Longer station spacing than guidelines due to lower ridership segment and land uses like Hwy 62, water plant, Veterans Park. Northbound: About 0.75 mi to Chicago & 56th Street Longer station spacing than guidelines due to lower ridership segment and lower-density land uses.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 50 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 111 and 553
	Parking changes	Southbound and northbound: No change
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curb line
	Platform length	Southbound: 60’ platform Platform will be designed to accommodate a 60’ BRT vehicle. Northbound: About 50’ platform Deviations from design standards may be required due to existing driveway south of intersection.

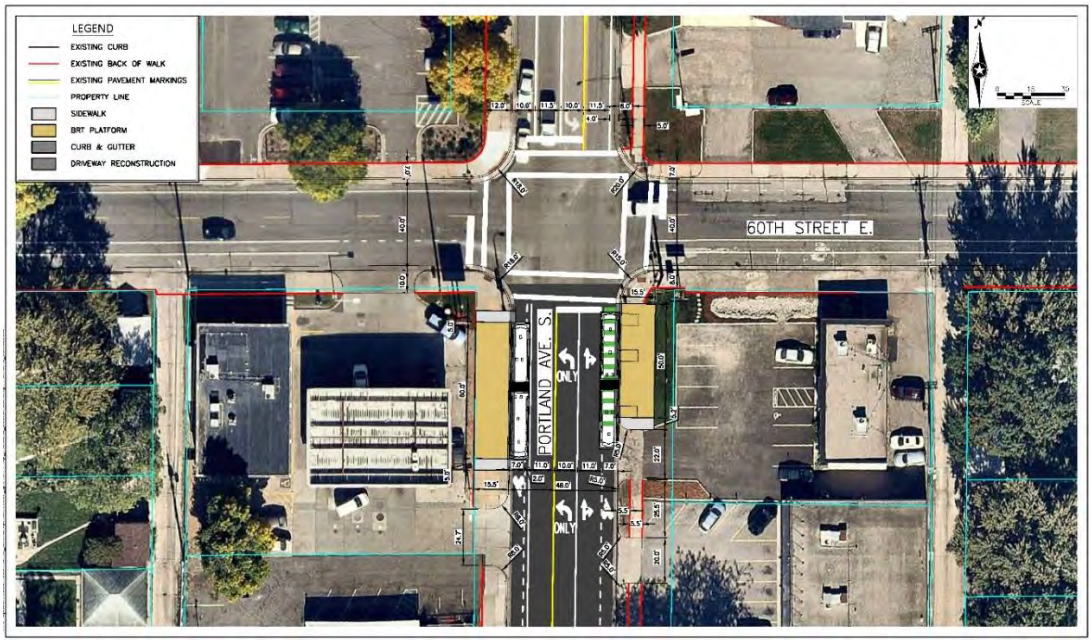
**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: Planned bicycle & pedestrian improvements (Hennepin County)

- This station recommendation was developed with consideration of Hennepin County's planned bicycle and pedestrian improvements on Portland Avenue between 60th and 66th Streets.
- Design of the D Line will be coordinated to the extent possible with the Portland Avenue improvements to balance the needs of all roadway users, including transit riders, pedestrians, and bicyclists.
- Construction of the planned bicycle and pedestrian improvements is planned for 2020.[51]
- See Figure 51 for an example of a preliminary station concept at Portland and 60th Street.

Figure 51: Preliminary Portland & 60th Street platform concept



Other station locations considered: Chicago and 60th

The 2012 *Arterial Transitway Corridor Study*[52] (ATCS) included a conceptual Chicago & 60th Street station. This station plan does not include a D Line station at Chicago and 60th Street.

Ridership and station spacing

- Lower existing ridership and lower-density residential land uses in this segment of the D Line corridor do not support the inclusion of a station at Chicago and 60th Street.
- All customers would be within a quarter-mile walk to a D Line station, and riders currently boarding at Chicago and 59th Street (about five total boardings per day) would be able to access the D Line station by walking about a third of a mile.

[51] More information at: https://metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Solicitation/2016-Submitted-Applications/MULTI-USE-TRAILS-BIKEWAYS/5217HennCoTr.aspx
[52] More information at: https://www.metrotransit.org/abrt-study

Figure 52: Recommended station location - Portland & 60th Street

Station Plan: Portland & 66th Street

Portland & 66th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Portland & 66th Street
	Platform location	Southbound: Nearside of 66th Street on northwest corner Northbound: Nearside of 66th Street on southeast corner Adequate length available nearside at existing stops. No transit signal priority potential due to roundabout intersection. Nearside locations maintain existing transit operations condition at roundabout.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.9 mi to Portland & 73rd Street Longer station spacing than guidelines due to lower ridership segment and lower-density land uses. Northbound: About 0.75 mi to Portland & 60th Street Longer station spacing than guidelines due to lower ridership segment and land uses like Hwy 62, water plant, and Veterans Park.
	Existing ridership within a block, or about 1/8 mile (Spring 2016)	About 100 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 111, 515, and 553
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound: No bumpout; generally maintain existing curbline Northbound: To be determined; any curbline adjustments would be built to improve bicycle-transit compatibility
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other platform locations considered: Southbound platform farside of 66th Street

- A D Line platform at this location is not recommended due to potential long-term changes to traffic and transit operations within the roundabout.

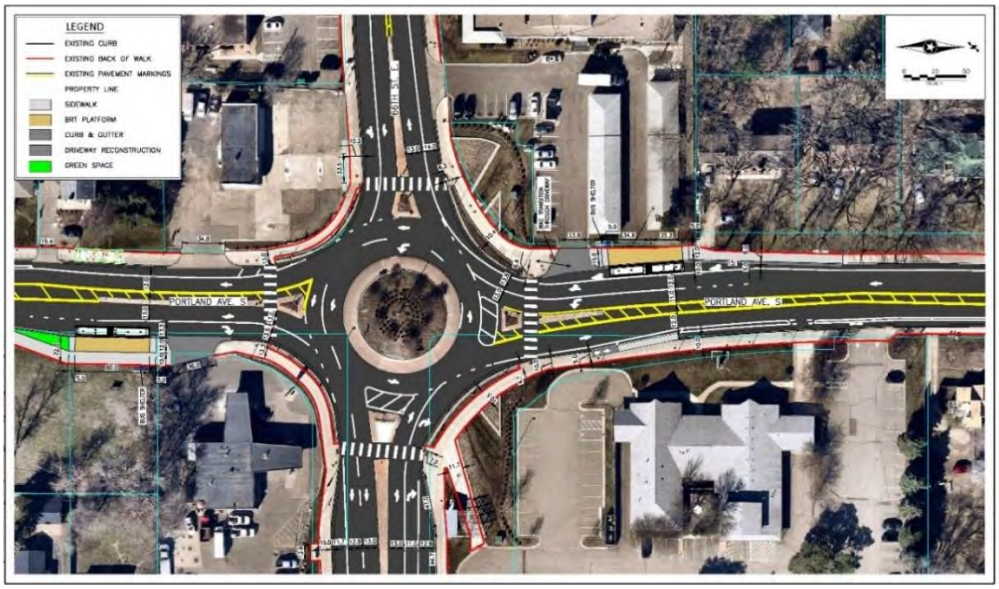
  Locating the southbound platform nearside of 66th Street will maintain the existing use of a bus pullout lane regardless of roundabout operations, removing the potential for buses to block the roundabout's entry and exit.

- Locating a southbound platform farside of 66th Street would also conflict with driveway access on a double parcel immediately south of the roundabout.

Project coordination: Planned bicycle & pedestrian improvements (Hennepin County)

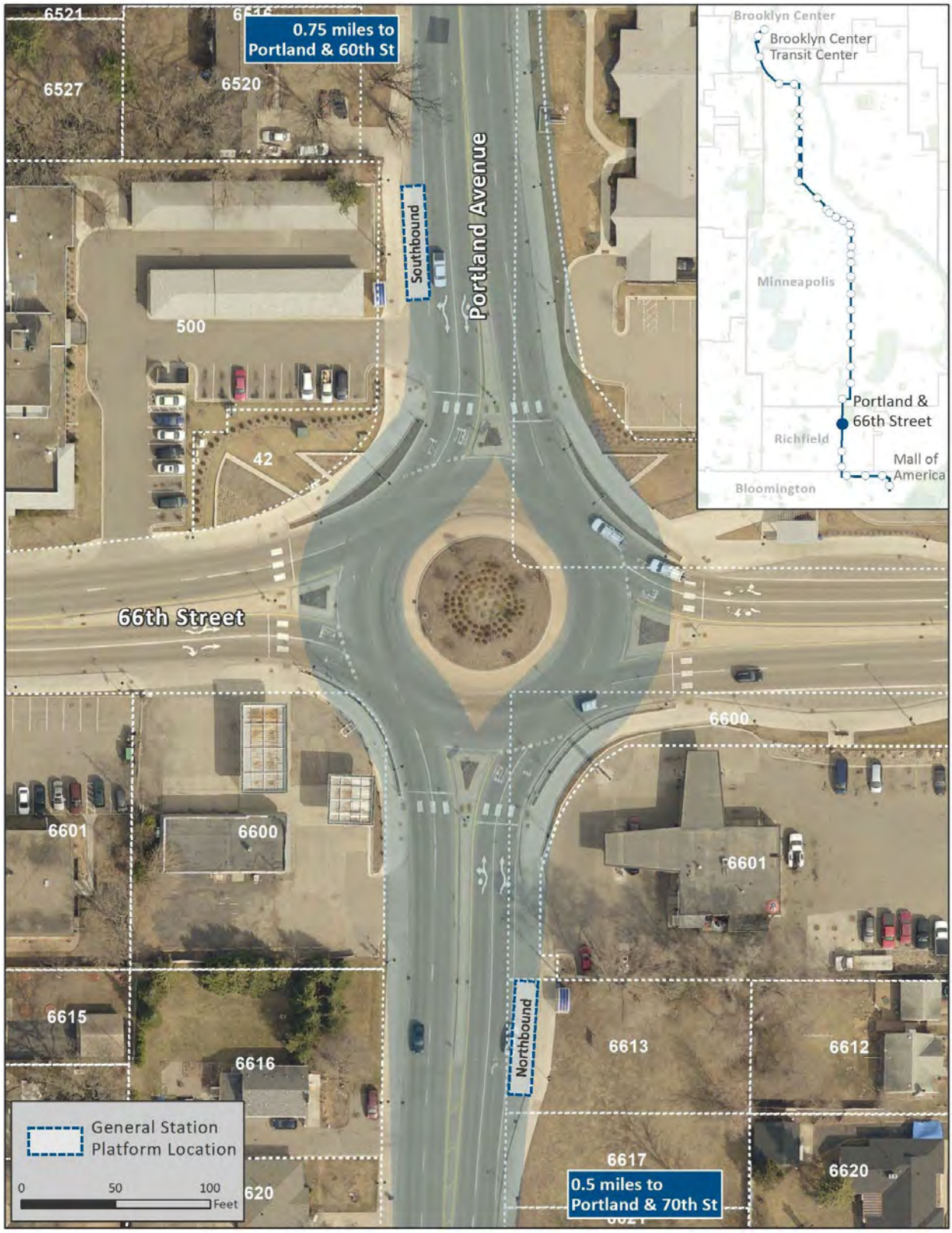
- This station recommendation was developed with consideration of Hennepin County's planned bicycle and pedestrian improvements on Portland Avenue between 60th and 66th Streets.
- Design of the D Line will be coordinated to the extent possible with the Portland Avenue improvements to balance the needs of all roadway users, including transit riders, pedestrians, and bicyclists. Coordination will also focus on lessening conflicts between transit vehicles and bicyclist to the extent possible. Considerations will include transitions of bicycle facilities between on- and off-street locations and connections to existing and/or planned bicycle facilities immediately outside the project limits.
- Construction of the planned bicycle and pedestrian improvements is planned for 2020.[53]
- See Figure 53 for an example of a preliminary station concept at Portland and 66th Street.

Figure 53: Preliminary Portland & 66th platform concept



[53] More information at: https://metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Solicitation/2016-Submitted-Applications/MULTI-USE-TRAILS-BIKEWAYS/5217HennCoTr.aspx

Figure 54: Recommended station location - Portland & 66th Street



Station Plan: Portland & 70th Street

Portland & 70th Street		
	Station Consideration	**Planned Condition***
CORE STATION PLAN	**Intersection location**	Portland & 70th Street
	Platform location	Southbound: Nearside of 70th Street on southwest corner Farside not possible due to driveway access about 50 ft from intersection. Northbound: Nearside of 70th Street on northeast corner Farside not possible due to driveway access about 50 ft from intersection
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.4 mi to Portland & 73rd Street Close to guidelines; improves rapid bus access to predominantly residential area. Northbound: About 0.5 mi to Portland & 66th Street Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Spring 2017)	About 30 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At existing bus stop Northbound: At existing bus stop
	Connecting service	Route 553
	Parking changes	Southbound and northbound: No change
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curb line
	Platform length	Southbound and northbound: 60’ platform Platform will be designed to accommodate a 60’ BRT vehicle.

Notes and Discussion

Revision to include a Portland & 70th Street station

The draft *D Line Station Plan* did not include a Portland & 70th Street station. The primary reason for the draft *Station Plan's* previous no-build recommendation was due to "low existing Route 5 ridership, which does not support station spacing closer than half-mile spacing guidelines."[54]

The revised *D Line Station Plan* includes a proposed Portland & 70th Street station for the following reasons:

- Support for a Portland & 70th Street station was consistently communicated within the public comment period for the draft *D Line Station Plan.*[55]
    - Public comments submitted indicated general support for an additional station at Portland & 70th. A consistent theme included that the 0.9-mile distance between the planned Portland & 66th Street and Portland & 73rd Street stations is too long regardless of low ridership in the segment.
    - The City of Richfield Mayor, City Manager, and staff submitted comments stating that the lack of a Portland & 70th Street station would result in an underserved community.
- The additional station would provide better transit access to the area with the D Line, independent of potential Route 5 local service levels after the start of D Line operations.
    - In its support for an additional station at 70th Street, City of Richfield staff commented that "local bus service on the Route 5 is proposed to be reduced to 30-minute headways, representing a significant reduction in service for any riders not within walking distance of D Line stations at 66th Street or 73rd Street … the City is concerned that local bus service along Portland Avenue could see its frequency cut back even further or eliminated entirely."
    - Metro Transit acknowledges that the number of Route 5 trips serving Portland and 70th Street will be reduced from today's service level with the start of D Line operations.
    - Further, with the recommended addition of a station at 70th Street, Metro Transit will review potential to end Route 5 service at Portland and 66th Street upon the start of D Line operations.

Design considerations: Bicycle-transit interaction

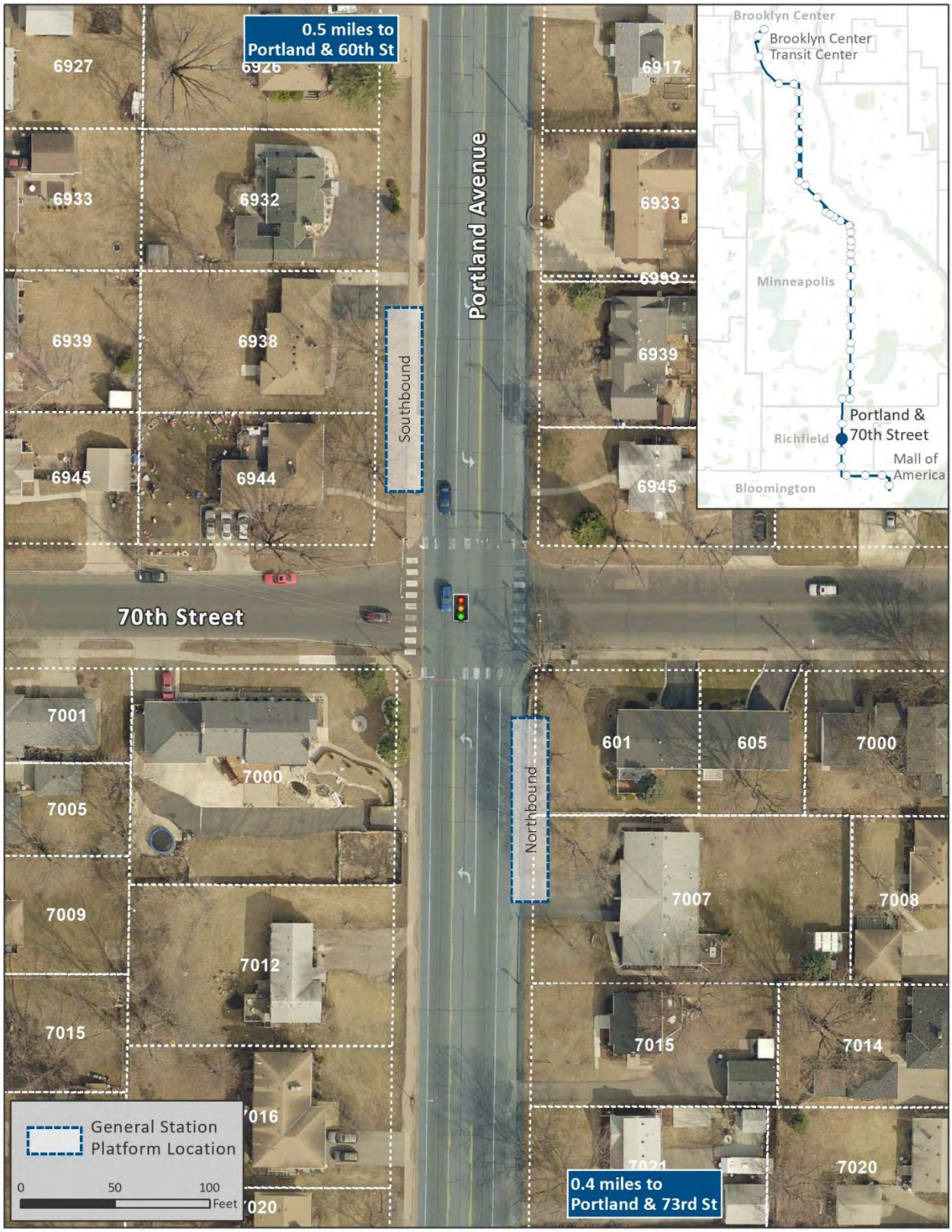
- Portland Avenue was reconstructed between 67th Street and 77th Street in 2015 and 2016. This resulted in a new cross section, depicted in Figure 55 below. D Line platform design is planned to utilize the existing curbline established by the reconstruction project.

[54] The previous draft *D Line Station Plan* is available at: https://www.metrotransit.org/d-line-library
[55] See Appendix B for more information about submitted comments

Figure 55: Portland Avenue typical cross section after reconstruction

- D Line design considerations will include any impacts to the existing sidewalk and mixed-use bicycle-pedestrian facility on either side of the roadway. The on-street bicycle lanes are not anticipated to be impacted. The planned use of the existing curbline will result in buses operating in largely the same way they do today for existing service, temporarily stopping in the bicycle lane to allow passengers to board and exit the bus.

Figure 56: Recommended station location - Portland & 70th Street



Station Plan: Portland & 73rd Street

Portland & 73rd Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Portland & 73rd Street
	Platform location	Southbound: Nearside of 73rd Street on northwest corner Farside platform is not possible due to driveway access about 20 ft from curb. Northbound: Farside of 73rd Street on northeast corner Nearside not possible due to driveway access about 40 ft from intersection.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to Portland & 77th Street Within guidelines of about half-mile station spacing Northbound: About 0.4 mi to Portland & 70th Street Close to guidelines; improves rapid bus access to predominantly residential area. .
	Existing ridership within a block, or about 1/8 mile (Spring 2017)	About 60 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At existing bus stop Northbound: At opposite corner of existing bus stop
	Connecting service	Route 553
	Parking changes	Southbound and northbound: No change
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curb line
	Platform length	Southbound and northbound: 60’ platform Platform will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Other station locations considered: Portland and 72nd Street

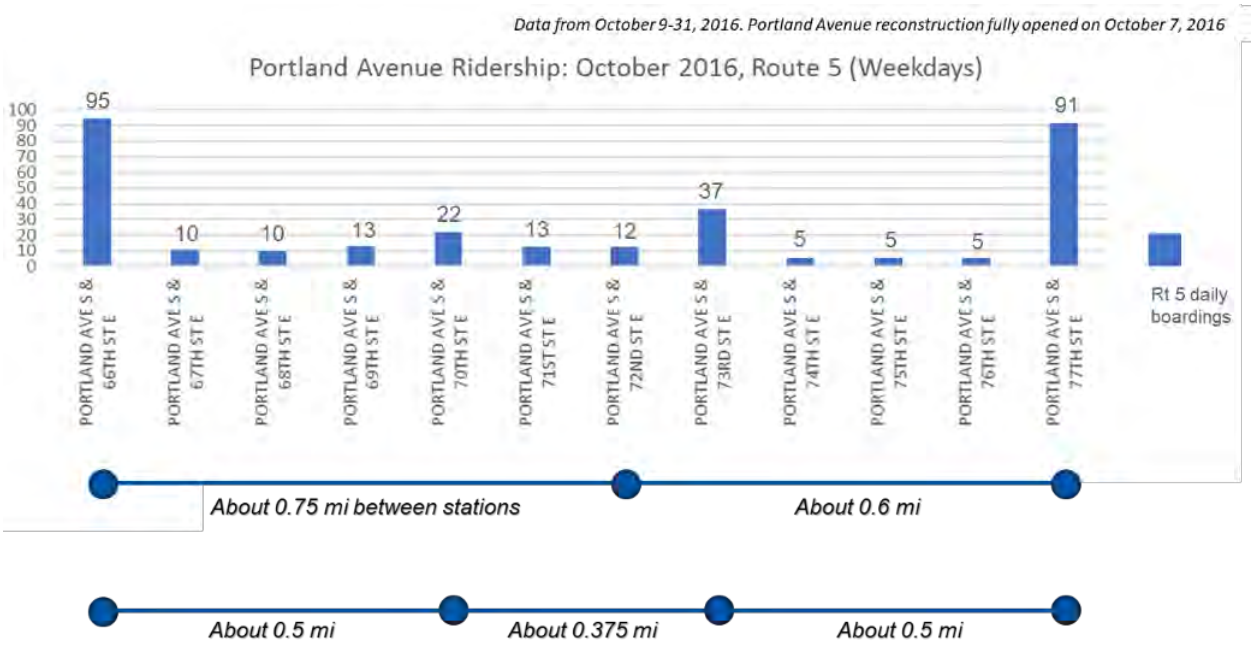
Ridership

- Ridership between 66th and 77th Streets is highest at 73rd Street and not at 72nd Street. See Figure 57 for more information.

Connectivity

- The large block west of Portland and 72nd Street disconnects the street grid and limits pedestrian access for neighborhoods to the west.

Figure 57: Existing Route 5 ridership on Portland Avenue



The addition of a station at 70th Street in this recommended plan further supports the placement of a station at 73rd Street instead of 72nd Street.

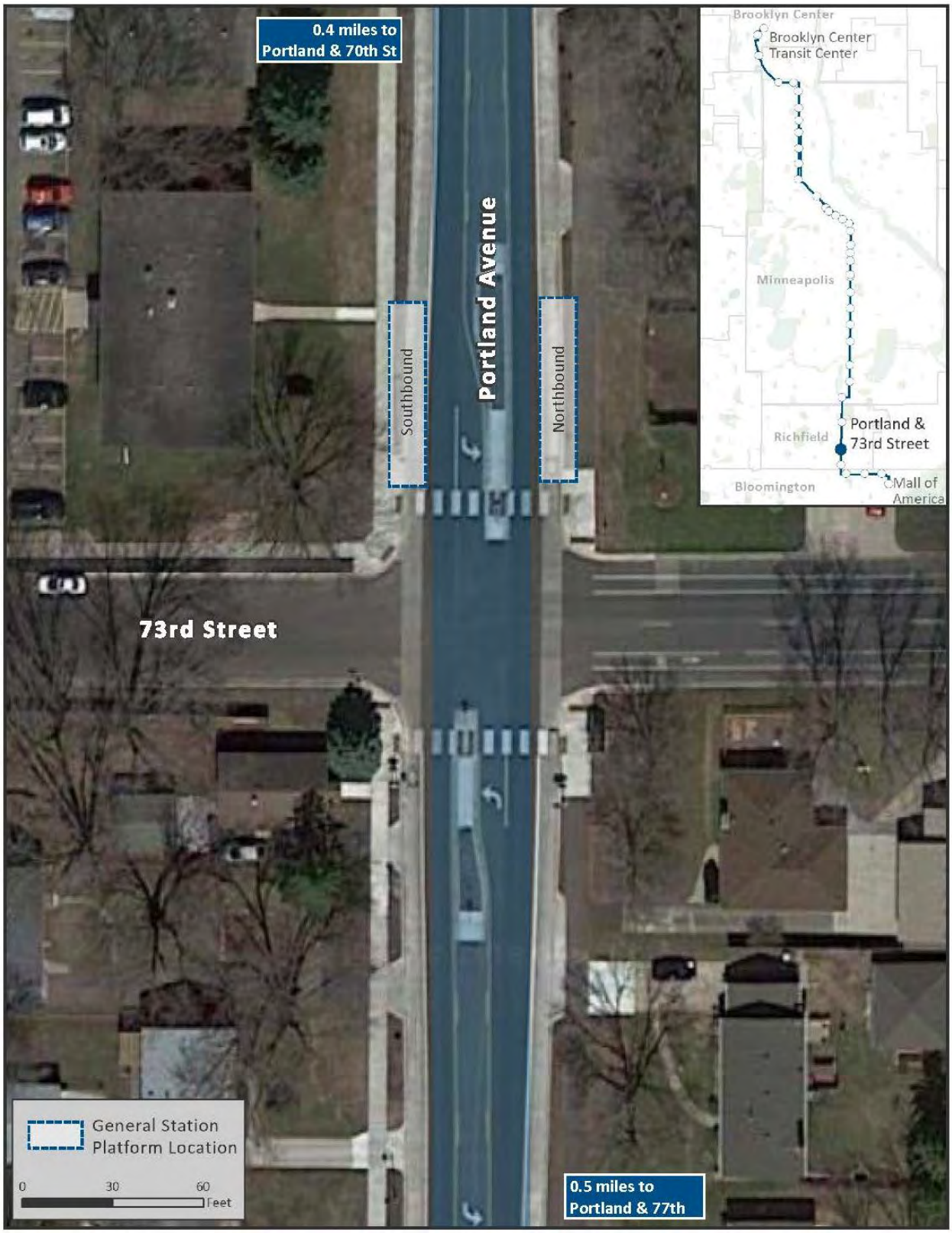
Design considerations: Bicycle-transit interaction

- Portland Avenue was reconstructed between 67th Street and 77th Street in 2015 and 2016. This resulted in a new cross section, depicted in Figure 58 below. D Line platform design is planned to utilize the existing curbline established by the reconstruction project.

Figure 58: Portland Avenue typical cross section after reconstruction

- D Line design considerations will include any impacts to the existing sidewalk and mixed-use bicycle-pedestrian facility on either side of the roadway. The on-street bicycle lanes are not anticipated to be impacted. The planned use of the existing curbline will result in buses operating in largely the same way they do today for existing service, temporarily stopping in the bicycle lane to allow passengers to board and exit the bus.

Figure 59: Recommended station location - Portland & 73rd Street



Station Plan: Portland & 77th Street

Portland & 77th Street		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Portland & 77th Street
	Platform location	Southbound: Nearside of 77th Street on northwest corner Farside platform is not feasible due to driveway about 20' from curb. Northbound: Farside of 77th Street on northeast corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to American & Portland-Chicago Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Portland & 73rd Street Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 60 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 540 and 553
	Parking changes	Southbound and northbound: No change
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curbline
	Platform length	Southbound and northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Design considerations: Bicycle-transit interaction

- Substantial planning coordination with Hennepin County and the City of Richfield focused on the potential interaction between transit and bicycle facilities.
- Portland Avenue was reconstructed between 67th Street and 77th Street in 2015 and 2016. This resulted in a new cross section, depicted in Figure 60 below. D Line platform design is planned to utilize the existing curbline established by the reconstruction project.

Figure 60: Portland Avenue typical cross section after reconstruction

- D Line design considerations will include any impacts to the existing sidewalk and mixed-use bicycle-pedestrian facility on either side of the roadway. The on-street bicycle lanes are not anticipated to be impacted. The planned use of the existing curbline will result in buses operating in largely the same way they do today for existing service, temporarily stopping in the bicycle lane to allow passengers to board and exit the bus.
- See Figure 61 for an example of a preliminary station concept at Portland and 77th Street.

Figure 61: Preliminary Portland & 77th Street platform concept

Figure 62: Recommended station location - Portland & 77th Street

Station Plan: American & Portland-Chicago

American & Portland-Chicago		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	American & Portland-Chicago
	Platform location	Southbound: To be determined Area of interest spans from midblock to nearside of Chicago; final location dependent upon further coordination with City of Bloomington Northbound: Midblock between Portland and Chicago At existing bus stop with adequate platform length available
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to American & Bloomington Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to Portland & 77th Street Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 220 boardings per weekday
	Platform location compared to existing bus stop	Southbound: To be determined Existing bus stops at Portland and Chicago; potential for new midblock location dependent upon further coordination with City of Bloomington Northbound: At existing bus stop
	Connecting service	Routes 542 and 553
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curbline No change anticipated to curblines at existing transit stops.
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Planning consideration: Shared station with future American Boulevard rapid bus service

- The proposed station location is anticipated to also be utilized by a planned American Boulevard rapid bus service.[56] There is no project schedule or projected opening date for an American Boulevard rapid bus service.

Other platform locations considered: Southbound platform midblock or nearside of Chicago Avenue

- This station plan recommends a general area of interest for the southbound platform between a midblock location and Chicago Avenue. A southbound midblock platform location is preferred if pedestrians can reach it safely using a pedestrian crossing.

Potential midblock pedestrian crossing improvement

- Today, pedestrians and transit customers frequently make unprotected midblock crossings of American Boulevard.
- If ongoing project coordination with the City of Bloomington determines a midblock pedestrian crossing is not feasible, then the final southbound platform location will be nearside of Chicago to utilize the existing signalized crossing. See Figure 63 below for more information.

Figure 63: Midblock locations on American Boulevard

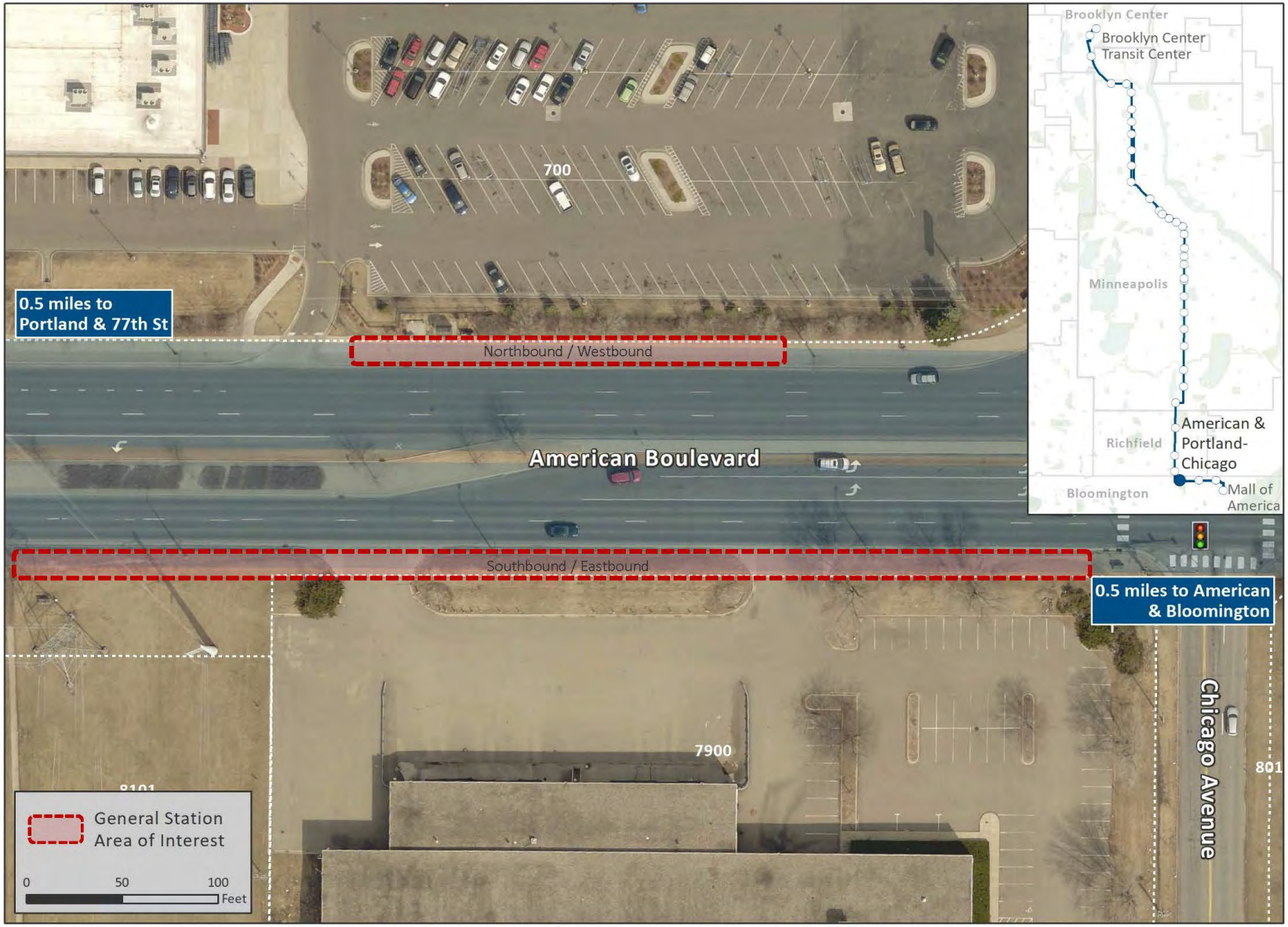
Other station locations considered: American and Portland

The 2012 *Arterial Transitway Corridor Study*[57] (ATCS) included a conceptual American & Portland station. This station plan does not include a D Line station at American and Portland.

- Ridership and pedestrian movements are more focused eastward from Portland.
- Coordination with the City of Bloomington indicates a preference to locate rapid bus platforms away from the busy intersection of Portland and American to reduce traffic complications and improve overall safety.

[56] More information at: https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf
[57] More information at: https://www.metrotransit.org/abrt-study

Figure 64: Recommended station location - American & Portland-Chicago



Station Plan: American & Bloomington

American & Bloomington		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	American & Bloomington
	Platform location	Southbound: Farside of Bloomington on southeast corner Northbound: Farside of Bloomington on northwest corner In both directions, farside has adequate platform length available and is preferred to minimize sightline conflicts at unsignalized intersection.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.5 mi to American & Thunderbird Within guidelines of about half-mile station spacing. Northbound: About 0.5 mi to American & Portland-Chicago Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 70 boardings per weekday
	Platform location compared to existing bus stop	Southbound: At existing bus stop Northbound: At opposite corner of existing bus stop
	Connecting service	Routes 515, 540, 542, and 552
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpouts; maintain existing curblines
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Planning consideration: Shared station with future American Boulevard rapid bus service

- The proposed station location is anticipated to also be utilized by a planned American Boulevard rapid bus service.[58] There is no project schedule or projected opening date for an American Boulevard rapid bus service.

Other station locations considered: American and 12th Avenue

The 2012 *Arterial Transitway Corridor Study*[59] (ATCS) included a conceptual American & 12th Avenue station. This station plan does not include a D Line station at American and 12th Avenue.

Station spacing, ridership, and land use

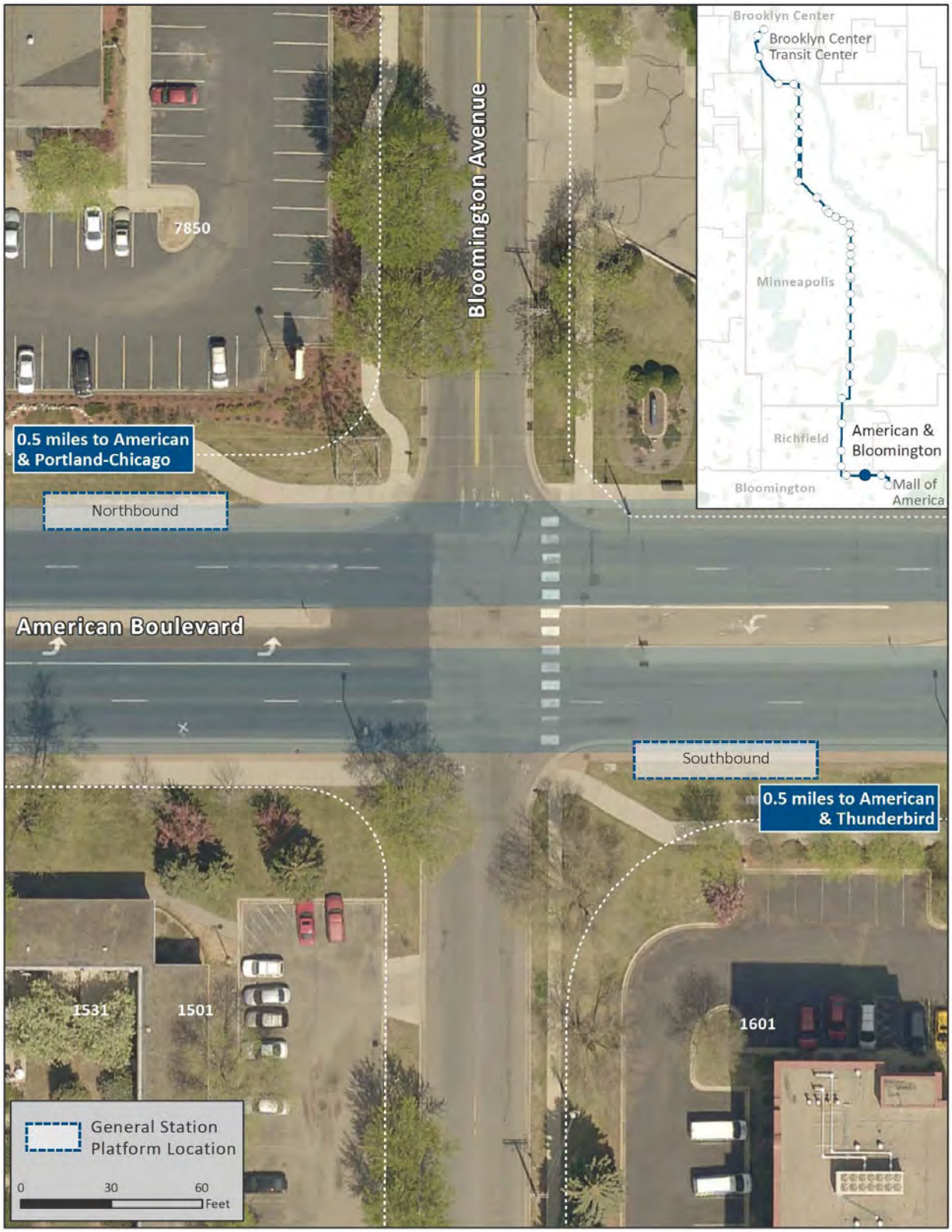
- A D Line station at American and 12th Avenue would result in station spacing of about 0.25 and 0.33 mi to neighboring stations. However, the surrounding land uses, longer block lengths, ridership considerations, and station location precedents set elsewhere on the corridor do not support station spacing closer than half-mile guidelines.

Constructability

- Limited right-of-way is available at 12th/13th Avenues compared to Bloomington Avenue, likely requiring design mitigations to ensure transit operations needs are met.
- An existing midblock crossing at American and Bloomington can be utilized to assist pedestrians and customers with safe crossings of American.

[58] More information at: https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf
[59] More information at: https://www.metrotransit.org/abrt-study

Figure 65: Recommended station location - American & Bloomington



Station Plan: American & Thunderbird

American & Thunderbird		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	American & Thunderbird
	Platform location	Southbound: Nearside of Thunderbird on southeast corner Nearside has adequate platform length available at existing stop and is preferred for compatibility with any potential future Mall of America-related redevelopment. Northbound: Farside of Thunderbird on northwest corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential.
SURROUNDING CONTEXT	**Station spacing**	Southbound: About 0.6 mi to Mall of America Transit Center Slightly longer station spacing than guidelines due to surrounding land use and ridership patterns concentrated at the Mall of America terminal. Northbound: About 0.5 mi to American & Bloomington Within guidelines of about half-mile station spacing.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 30 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing bus stop
	Connecting service	Routes 515, 540, and 542
	Parking changes	Southbound and northbound: No changes
DESIGN CONSIDERATIONS	**Curb configuration**	Southbound and northbound: No bumpout; maintain existing curbline
	Platform length	Southbound and northbound: 60’ platform Platforms will be designed to accommodate a 60’ BRT vehicle.

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Planning consideration: Shared station with future American Boulevard rapid bus service

- The proposed station location is anticipated to also be utilized by a planned American Boulevard rapid bus service.[60] There is no project schedule or projected opening date for an American Boulevard rapid bus service.

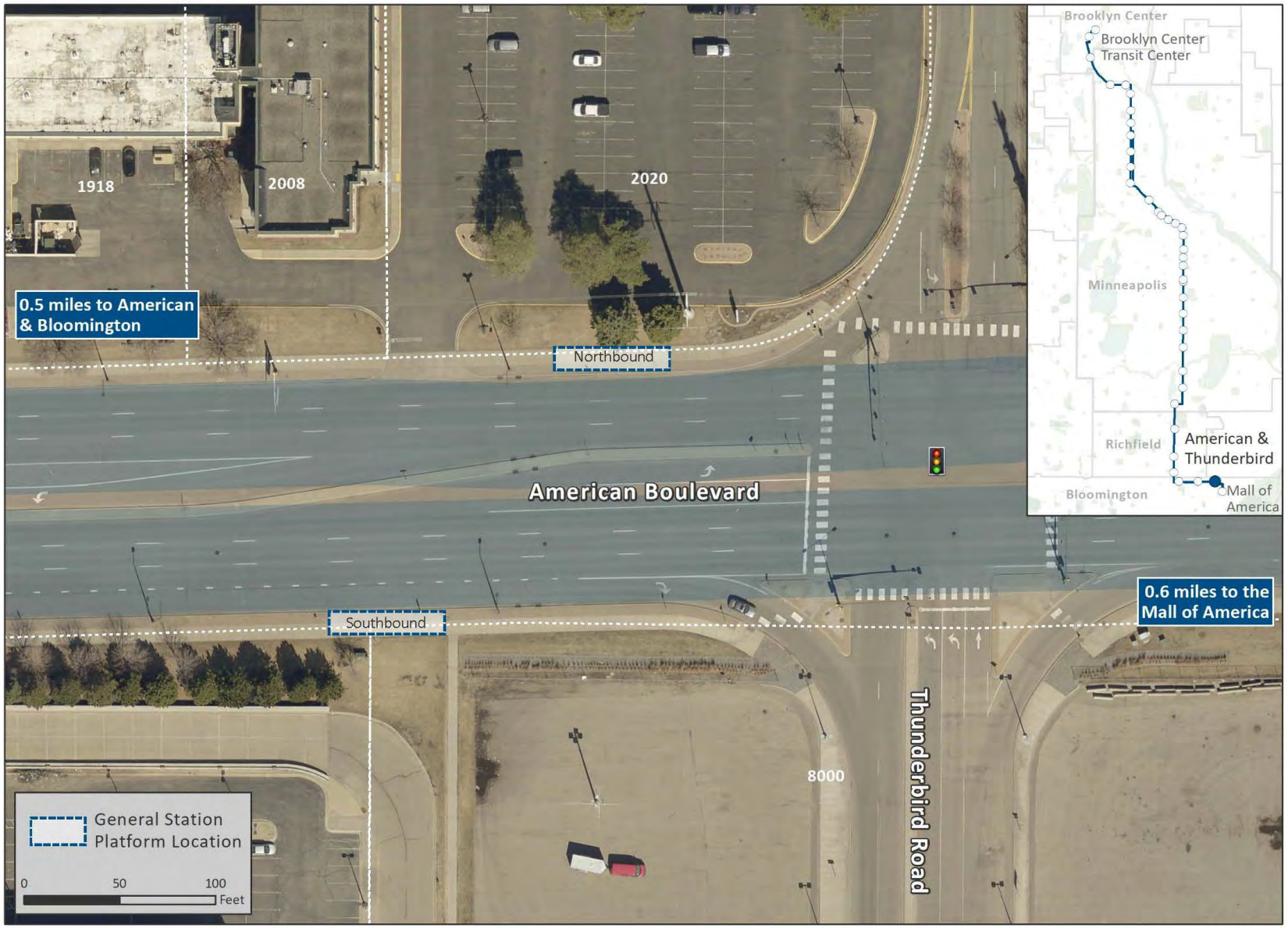
Design considerations: Southbound nearside platform location

- There is long-term potential for the Mall of America to expand into the parcel immediately south of this planned platform, in addition to the removal of the southbound right turn lane from American onto Thunderbird.
- See Figure 66 for an example preliminary station concept at American and Thunderbird.

Figure 66: Preliminary American & Thunderbird platform concept

[60] More information at: https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf

Figure 67: Recommended station location - American & Thunderbird



Station Plan: Mall of America Transit Center

Mall of America		
	Station Consideration	***Planned Condition****
CORE STATION PLAN	**Intersection location**	Mall of America Transit Center
	Platform location	Northbound: At existing transit center Station will be located within the Mall of America Transit Center
SURROUNDING CONTEXT	**Station spacing**	Northbound: About 0.6 mi to American & Thunderbird Longer station spacing than guidelines due to land use and low-ridership segment.
	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 500 boardings per weekday
	Platform location compared to existing bus stop	Southbound and northbound: At existing transit center
	Connecting service	Connections to many routes, including METRO Blue Line, METRO Red Line, and high frequency service Route 54.
	Parking changes	Northbound: No parking changes

**Final conditions to be developed during the engineering/design process.*

Notes and Discussion

Project coordination: Mall of America Transit Center renovation (Metro Transit)

- The D Line station will be integrated into the planned Mall of America Transit Center renovation to be completed in 2019.

Figure 68: Mall of America Transit Center renovation rendering

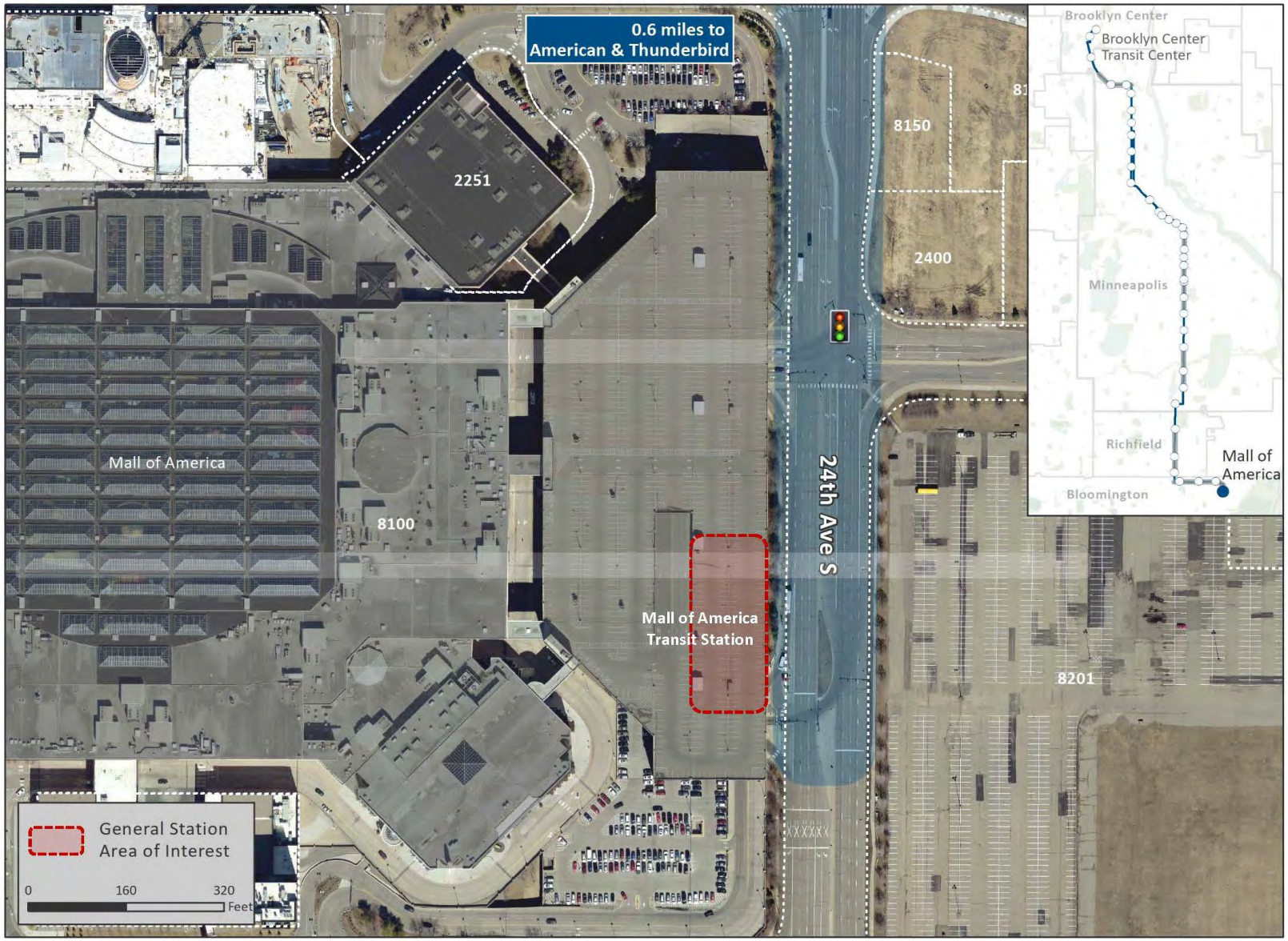
Other station locations considered: 24th Avenue and Lindau

The 2012 *Arterial Transitway Corridor Study*[61] (ATCS) included a conceptual 24th Avenue & Lindau station. This station plan does not include a D Line station at 24th Avenue and Lindau.

> A D Line station at 24th Avenue and Lindau would result in station spacing of about 0.3 and 0.4 mi to neighboring stations. However, the surrounding land uses, longer block lengths, ridership considerations, and station location precedents set elsewhere on the corridor do not justify station spacing closer to half-mile guidelines.

[61] More information at: https://www.metrotransit.org/abrt-study

Figure 69: Recommended station location - Mall of America Transit Center



APPENDIX A: Other Station Locations Considered

Appendix A compiles information about other station locations considered and discussed within the individual station plans, but not included in the draft station plan.

Osseo and 47th Avenue

The 2013 Arterial Transitway Corridor Study addendum[62] (ATCS) included a conceptual Osseo & 47th Avenue station. This station plan does not include a D Line station at Osseo and 47th Avenue.

Station spacing and ridership

- The D Line planning process does not include an Osseo & 47th Avenue station because a station is recommended at 44th Avenue & Penn-Oliver. The commercial node in the 44th Avenue & Penn-Oliver area was prioritized before seeking other station alternatives farther north. A combination of lower transit demand, limited available space at Osseo and 47th Avenue and the surrounding intersections[63], and proximity to the Penn-Oliver area limit the feasibility of building a second station within the area.

  If a 44th Avenue & Penn-Oliver station had been deemed technically infeasible, the D Line station planning process would have continued to explore a station option in the Osseo Road and 47th Avenue area. Several potential station locations along Osseo Road between Penn Avenue and the CP rail overpass were considered within the final *C Line Station Plan*.[64] These options continue to be restricted in their constructability due to the limited available space in the current configuration of Osseo Road, where sidewalks are narrow or missing entirely, and the right of way is narrow.

- Customers in this area will access the D Line at the 44th Avenue & Penn-Oliver area station.

Potential future opportunity

- In its comments on the draft *D Line Station Plan*, the City of Minneapolis commented that Metro Transit should "look for future opportunities to include a station in this segment."[65]

- Hennepin County has programmed Osseo Road between Penn Avenue and 49th Avenue in its five-year Capital Improvement Program. A specific year for improvements is unknown, however, Hennepin County staff anticipates construction activities to occur around the 2022/2023 timeframe. This reconstruction project will present an opportunity to investigate the potential to construct rapid bus platforms within the project limits. Metro Transit will pursue coordination with Hennepin County and the City of Minneapolis to further discuss project details.

44th Avenue and Morgan

Station spacing

- A 44th Avenue & Morgan station is not included because of the feasibility of a 44th Avenue & Penn-Oliver station. If building a station near the intersection of 44th Avenue and Penn had been deemed technically infeasible, a station at Morgan would be a candidate for siting a station in this area.

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[62] More information at: https://metrotransit.org/abrt-study
[63] More information at: https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf
[64] More information at: https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf
[65] More information within Appendix C: Agency Comments

- Access to the D Line to/from Patrick Henry High School (about two short blocks away) will be comparable to C Line access.

Fremont and 36th Avenue

Station spacing and ridership

- Ridership is slightly lower at 36th Avenue compared to 35th Avenue when including adjacent stops.
- Station spacing is more uneven compared to 35th Avenue, which provides spacing of about 0.4-mi between Lowry and Dowling.

Emerson-Fremont and 16th Avenue

The 2013 Arterial Transitway Corridor Study addendum[66] (ATCS) included a conceptual Emerson-Fremont & 16th Avenue station. This station plan does not include a D Line station at Emerson-Fremont and 16th Avenue.

Land use and station spacing

- A major consideration of a potential Emerson-Fremont & 16th Avenue station is to provide rapid bus access to North High School, located about one block west of the D Line corridor.
- Ridership data, however, suggests North High School students predominantly use the existing Route 5 bus stops at Emerson-Fremont and 15th Avenue (about 60 student-related boardings per day). Emerson-Fremont and 15th Avenue is located just 0.15 mile north of the planned Emerson-Fremont & Plymouth station, too close to sustain an additional D Line station. Emerson-Fremont & 16th Avenue is also less than a quarter-mile from the planned Emerson-Fremont & Plymouth station.
- It is anticipated that existing Route 5 school trips will continue to serve North High School after D Line begins operations. In addition to the school-related service, the local Route 5 service will continue operating about every 30 minutes.

Consistency

- Comparable station spacing of about half-mile will be located on the Penn Avenue corridor's C Line between Plymouth and Golden Valley. Ridership is similar on these segments between Plymouth and Golden Valley on Route 19 (future C Line) and Plymouth and West Broadway (future D Line).

Chicago and 15th Street

- Chicago and 15th Street has substantially lower ridership compared to 14th Street (about 60 boardings compared to about 280 boardings per weekday).
- Outreach and engagement suggested that community members consider Chicago and 14th Street as the center of the neighborhood compared to other intersections.

[66] More information at: https://metrotransit.org/abrt-study

Chicago and 17th Street

- While ridership is substantial at Chicago and 17th Street (about 340 daily boardings), multiple driveway access points and the interstate highway overpass in the northbound direction severely limit constructability in this location.
- Chicago and 17th Street is less than 1,000 ft from the recommended Chicago & 14th Street station.

Chicago and 18th Street

The 2012 *Arterial Transitway Corridor Study*[67] (ATCS) included a conceptual Chicago & 18th Street station in addition to the station at 14th Street. This station plan does not include a D Line station at Chicago and 18th Street.

Station spacing

- While ridership is substantial at Chicago and 18th Street (about 310 daily boardings), it is only about 900 ft from the recommended Chicago & Franklin station.
- Not recommending a Chicago & 18th Street station prioritizes improved travel times from stop consolidation.

Chicago and 27th Street

The 2012 *Arterial Transitway Corridor Study*[68] (ATCS) included a conceptual Chicago & 27th Street station. This station plan does not include a D Line station at Chicago and 27th Street.

- Pedestrian access is blocked east of the intersection of Chicago Avenue and 27th Street by the Abbott Northwestern hospital campus. As an alternate option, 26th Street offers better connectivity to the street grid and more typical rapid bus operations at a signalized intersection.

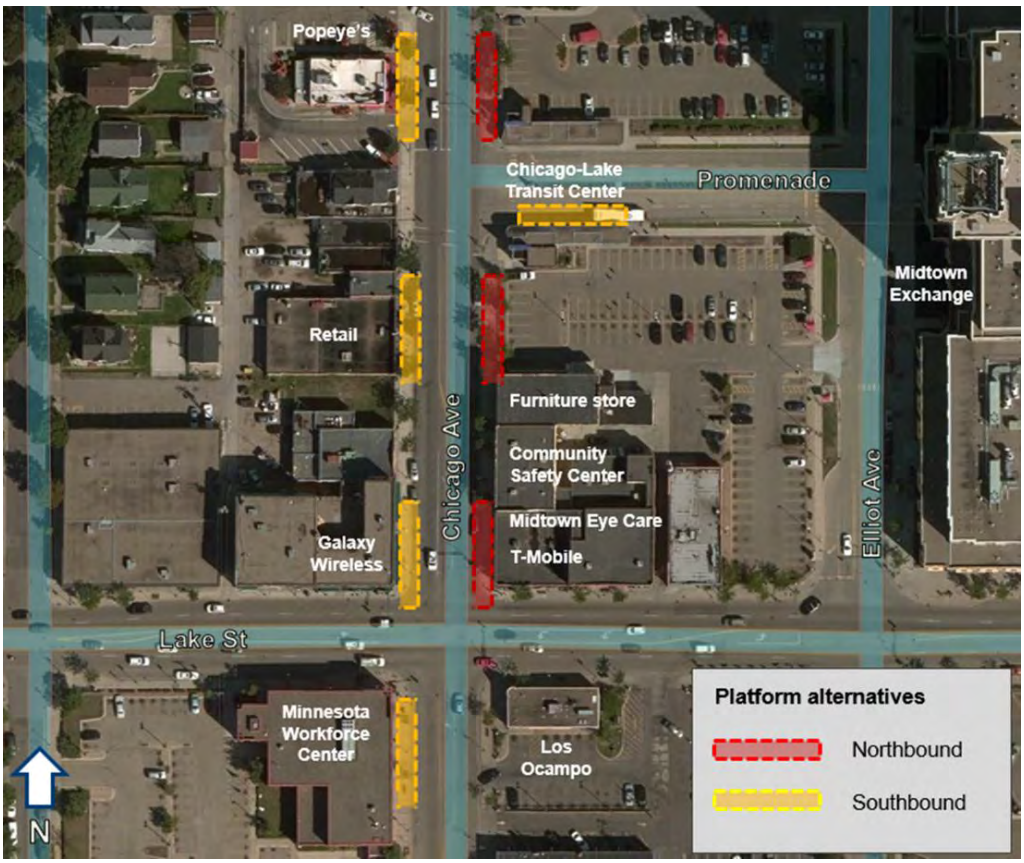
Chicago-Lake Planning Study

Background

- Today, at the Chicago-Lake Transit Center, there are 1,500 average daily weekday Route 5 boardings. This is the highest ridership point on the Route 5, outside of downtown Minneapolis.
- The Chicago-Lake Transit Center serves as a major transfer point for customers traveling on Routes 5, 21, and 53.
- The existing Route 5 southbound stop is located off Chicago Avenue on the transit center driveway entrance to the Midtown Exchange building. This requires southbound Route 5 buses to make multiple turning movements, resulting in about three minutes of travel delay and poor on-time reliability.
- Metro Transit completed a Chicago-Lake planning study to consider alternative platform options to provide a faster and more reliable trip.
- Figure 70 illustrates the location of considered alternative platform locations.

[67] More information at: https://www.metrotransit.org/abrt-study
[68] More information at: https://www.metrotransit.org/abrt-study

Figure 70: Chicago-Lake area alternative platform locations



Study process

- Evaluation of travel times, traffic impacts, transfer movements across routes, and pedestrian access
- Interviews with Metro Transit police, operations, and maintenance departments about how the transit facility functions today
- Customer surveys and conversations with neighborhood groups and small businesses

Study recommendation

- The study recommendation locates both the northbound and southbound platforms on the farside of the existing transit center driveway. Three primary considerations of this recommendation include:
    - **Maintaining the ease of existing transfer activity:** It is estimated that about 50-75 percent of existing customers transfer between routes at this location. The proximity of recommended D Line platforms to the transit center prioritizes the continued ease of these transfers.
    - **Positioning with long-term transitway planning:** Recommended D Line platforms are located between the planned B Line rapid bus (Lake Street corridor) and Midtown rail (Midtown Greenway corridor) services.

- **Minimizing traffic impacts:** Traffic evaluation indicated minimized traffic impacts by locating platform north of congestion at Chicago and Lake, especially in the southbound direction.

Figure 71: Preliminary Chicago-Lake Transit Center platform concept

Chicago and 33rd Street and Chicago and 35th Street

The 2012 *Arterial Transitway Corridor Study*[69] (ATCS) included conceptual Chicago & 33rd Street and Chicago & 35th Street stations. This station plan does not include D Line stations at Chicago and 33rd or 35th Streets.

Station spacing and consistency

- Stations at both 33rd Street and 35th Street would result in station spacing of about 0.25- to 0.33 mile, too close when considering ridership and spacing trends elsewhere on the D Line corridor. Outside of downtown, this station plan limits quarter-mile station spacing to the Chicago & 24th Street station where a variety of dense land uses drive high ridership throughout the surrounding area.

- Other segments on the D Line corridor have higher ridership with stations planned closer to half-mile station spacing, like segments between Chicago and 14th Street and 18th Streets or Chicago and 26th and the Chicago-Lake Transit Center.

Access to destinations

- In addition, access to the Minneapolis Public Schools Wilder Complex is currently provided at the bus stop located at Chicago and 33rd Street. This educational facility includes the Wellstone International High School.

[69] More information at: https://www.metrotransit.org/abrt-study

- Ridership data indicates seasonal increases in daily ridership up to about 150 boardings when school is in session.
- Service to the Wilder Complex can be maintained by a Chicago & 34th Street station without introducing additional pedestrian crossings of Chicago Avenue.

Chicago and 54th Street

The 2012 *Arterial Transitway Corridor Study*[70] (ATCS) included a conceptual Chicago & 54th Street station. This station plan does not include a D Line station at Chicago & 54th Street.

Constructability

- Driveway access substantially limits available platform length at three out of four corners at Chicago and 54th Street. As a result, a station at this location is not feasible.

Ridership

- In addition, ridership is substantially lower at 54th Street (about 20 total daily weekday boardings) compared to 56th Street (about 70).

Chicago and 60th Street

The 2012 *Arterial Transitway Corridor Study*[71] (ATCS) included a conceptual Chicago & 60th Street station. This station plan does not include a D Line station at Chicago and 60th Street.

Ridership and station spacing

- Existing ridership and lower-density residential land uses in this segment of the D Line corridor do not support the inclusion of a station at Chicago and 60th Street.
- All customers except those currently boarding at Chicago and 59th Street would be within a quarter-mile walk to a D Line station. Riders currently boarding at Chicago and 59th Street (about five total boardings per day) would be able to access the planned Portland & 60th Street D Line station by walking about a third of a mile. Access to Route 5 will remain at bus stops on every block.

Portland and 72nd Street

Ridership

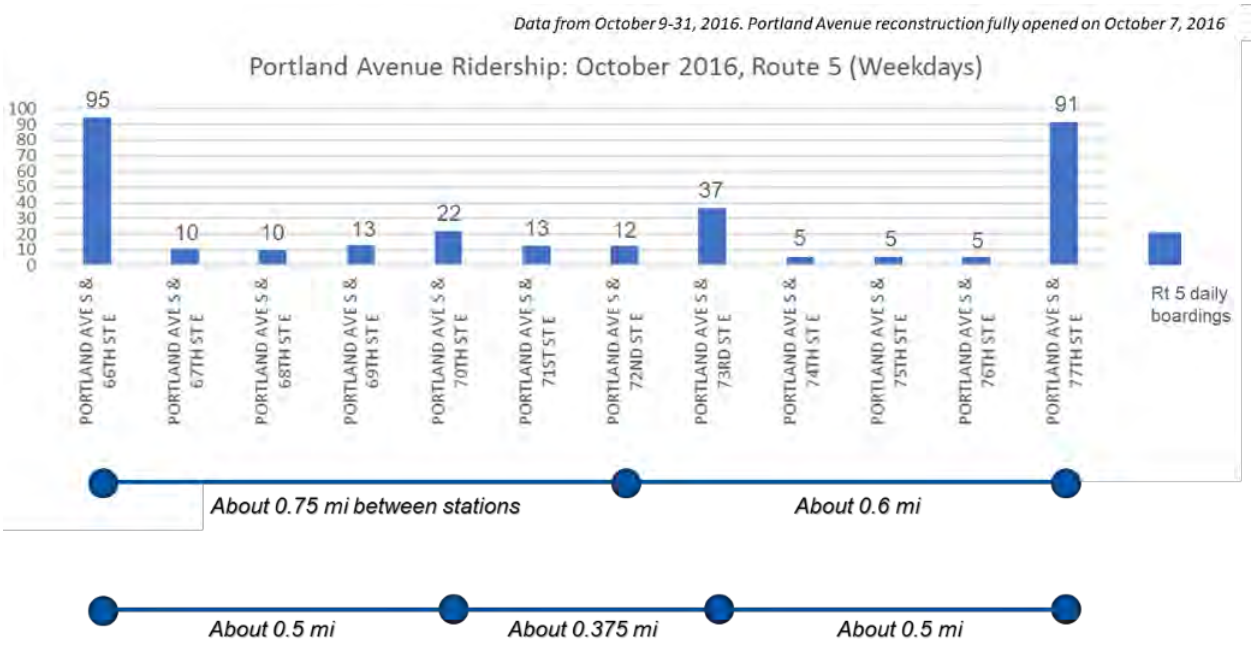
- Ridership between 66th and 77th Streets is highest at 73rd Street and not at 72nd Street. See Figure 72 for more information.

Connectivity

- The large block west of Portland and 72nd Street disconnects the street grid and limits pedestrian access for neighborhoods to the west.

[70] More information at: https://www.metrotransit.org/abrt-study
[71] More information at: https://www.metrotransit.org/abrt-study

Figure 72: Existing Route 5 ridership on Portland Avenue



The addition of a station at 70th Street in this recommended plan further supports the placement of a station at 73rd Street instead of 72nd Street.

American and Portland

The 2012 *Arterial Transitway Corridor Study*[72] (ATCS) included a conceptual American & Portland station. This station plan does not include a D Line station at American and Portland.

- Ridership and pedestrian movements are more focused eastward from Portland.
- Coordination with the City of Bloomington indicates a preference to locate rapid bus platforms away from the busy intersection of Portland and American to reduce traffic complications and improve overall safety.

American and 12th Avenue

The 2012 *Arterial Transitway Corridor Study*[73] (ATCS) included a conceptual American & 12th Avenue station. This station plan does not include a D Line station at American and 12th Avenue.

Station spacing, ridership, and land use

- A D Line station at American and 12th Avenue would result in station spacing of about 0.25 and 0.33 mi to neighboring stations. However, the surrounding land uses, longer block lengths, ridership considerations, and station location precedents set elsewhere on the corridor do not support station spacing closer than half-mile guidelines.

[72] More information at: https://www.metrotransit.org/abrt-study
[73] More information at: https://www.metrotransit.org/abrt-study

Constructability

- Limited right-of-way is available at 12th/13th Avenues compared to Bloomington Avenue, likely requiring design mitigations to ensure transit operations needs are met.
- An existing midblock crossing at American and Bloomington can be utilized to assist pedestrians and customers with safe crossings of American.

24th Avenue and Lindau

The 2012 *Arterial Transitway Corridor Study*[74] (ATCS) included a conceptual 24th Avenue & Lindau station. This station plan does not include a D Line station at 24th Avenue and Lindau.

- A D Line station at 24th Avenue and Lindau would result in station spacing of about 0.3 and 0.4 mi to neighboring stations. However, the surrounding land uses, longer block lengths, ridership considerations, and station location precedents set elsewhere on the corridor do not justify station spacing closer to half-mile guidelines.

[74] More information at: https://www.metrotransit.org/abrt-study

APPENDIX B: D LINE STATION PLAN COMMENT SUMMARY

A draft *D Line Station Plan* was released on February 5, 2018, opening a 30-day comment period that concluded on March 6, 2018. Metro Transit collected comments throughout the comment period with a requested input focus on station and platform locations.

See Section II (Planning Process) of this plan for information about outreach and engagement activities during the station plan process.

Over 200 comments were submitted during the draft *D Line Station Plan* comment period. Over 60 comments were submitted via email. Over 130 comments were submitted during on-bus conversations. Open house comments and agency letters contributed about ten additional comments. Formal comments submitted by government agencies can be found in Appendix C.

Many comments addressed similar topics, like general service planning questions or overall project support. Comment trends and frequent comment topics are highlighted below.

Formal comments submitted by government agencies can be found in Appendix C.

General: Service planning considerations

A common question asked for clarification on potential D Line and Route 5 service plans and operations details.

Comment excerpts:

- *Will there be regular bus stops between D Line stations? I would still like to catch a bus where there is not a D Line stop.*
- *Route 5 should run no less than twice an hour, 7 days a week.*
- *The D Line should share stops with the Route 5. That way passengers can take whichever comes first.*

Comment response:

More information about service and operations like bus frequencies or stop spacing can be found within the *D Line Station Plan's* Section I (Introduction) and Section IV (Station Characteristics).

The D Line would be the primary service in the corridor, substantially replacing Route 5. Final service plans will be formed in later phases of D Line project development. It is anticipated that D Line service would generally operate every 10 minutes throughout day, including weekends. Local Route 5 service would generally operate about every 30 minutes, including weekends. The D Line and Route 5 would operate with less frequent service in the early morning and late at night.

Route 5 would continue to serve all existing bus stops, including those between planned D Line stations. D Line and Route 5 buses are generally targeted to share facilities at rapid bus platforms; however, operations decisions for each location will be determined in later project phases.

General: Safety and security

Comments about safety and security were received throughout the comment period.

Comment excerpts:

- *More police presence is needed.*
- *More security.*
- *Buses are crowded, which doesn't help safety.*

Comment response:

More information about customer safety and security can be found within Section I (Introduction).

Metro Transit police officers will be on D Line buses to randomly inspect fares, similar to light rail. Security cameras and telephones at stations will also improve customer safety. In addition, the D Line will operate with 60-foot articulated (or accordion) buses. Providing more space inside the vehicle.

General: Miscellaneous

Comments included a variety of miscellaneous questions. A few are highlighted below.

Comment excerpts and responses:

- *Will bike lanes still be available on Chicago Avenue with the D Line? Will bike lanes be re-routed?*

  Bike lanes are planned to remain available on Chicago Avenue and will not be re-routed to a different street. Many platforms on Chicago Avenue are planned to be bumpouts. These D Line platforms are anticipated to be built into what is currently a parking lane or bus stop zone. Buses would temporarily block the on-street bicycle lane to let customers board or exit. This is comparable to what occurs today on Chicago Avenue.

- *Can transfers to other transit service be timed to connect to the D Line?*

  Improving transfers to and from the D Line will be reviewed as the service plan is finalized later in project development. Schedule adjustments to improve transfer connections are more likely to happen during off-peak hours.

- *Do you need to have a Go-To Card to ride?*

  A Go-To Card is not required to use the D Line. Ticket machines at every D Line platform will accept cash or credit card fare payment. Go-To Card validators are also available for customers with Go-To Cards.

- *What about snow removal?*

  As on the A Line today, snow will be cleared from D Line platforms by Metro Transit maintenance staff.

Location: Chicago & 48th Street area

About 20 comments addressed the Chicago & 48th Street area, predominantly supporting the inclusion of a Chicago & 48th Street station in the final *Station Plan*.

Comment excerpts:

- *I am concerned about the lack of a station at 48th Street and Chicago Avenue. It's a major neighborhood commercial center and one of the most important anchors on Chicago Avenue in south Minneapolis. While having a station at both 46th Street and 48th Street is not ideal spacing, the importance of accessing the business district overwhelms standard spacing considerations in this case.*
- *The station at 46th & Chicago should be moved a block (or more) south to better serve the retail node at 48th & Chicago OR an additional station should be added at 48th.*
- *When half mile spacing is not feasible we should skew slightly closer than half mile spacing rather than significantly further.*

Comment response:

The *Station Plan* has been revised to include a Chicago & 48th Street station. See the individual station plan in Section V (Station Plans) for more information. In general, comments support an additional station, and the number and variety of businesses and services available near Chicago & 48th Street warrants an exception to rapid bus station spacing guidelines.

Several comments suggested relocating the proposed Chicago & 46th Street station farther south to serve both Chicago and 46th Street and the commercial district surrounding 48th Street. Improving connectivity to the existing transit network is a priority when considering rapid bus station locations. As a result, the planned Chicago & 46th Street station is important to maintain and will improve connections to Route 46 local service.

Location: City of Richfield and Portland Avenue

About 10 comments addressed station locations within the City of Richfield on Portland Avenue, predominantly supporting the inclusion of a Portland & 70th Street station in the final *Station Plan*.

Comment excerpts:

- *The plan developed does not provide sufficient service for Richfield residents. I would like to see the stop at 70th Street added back in this plan.*
- *70th Street is a key neighborhood connector, to our library and large community park, to three schools, and to a new trail.*
- *Please don't impact the recently reconstructed Portland Avenue.*

Comment response:

The *Station Plan* has been revised to include a Portland & 70th Street station. See the individual station plan in Section V (Station Plans) for more information. In general, an additional station is supported by

submitted comments and would provide better transit access to the area with the D Line, independent of potential Route 5 local service levels.

The planned Portland & 70th station is anticipated to be built within the existing Portland Avenue curbline, minimizing impacts to its recent reconstruction.

Location: Franklin Avenue to Lake Street segment

About 10 comments addressed station spacing considerations between Franklin Avenue and Lake Street in south Minneapolis.

Comment excerpts:

- *The Franklin to 26th Street area is one of high ridership and should be served well. However, I think that having three stations in such a short distance goes against the principle of what arterial BRT should be. It seems prudent to eliminate 24th St. given time savings and the cost savings of eliminating one station.*
- *Offer plenty of additional stations between Lake and Franklin. They will be used.*
- *Instead of stopping at Chicago & 26th, the D Line should stop at Chicago & 27th. It is much easier to get into the hospital from there.*

Comment response:

Submitted comments were mixed in their support and opposition to the number and location of stations between Franklin Avenue and Lake Street. The revised *D Line Station Plan* maintains planned station locations at Franklin Avenue, 24th Street, 26th Street, and the Chicago-Lake Transit Center. Station spacing is closer than rapid bus guidelines in this area due to the consistently high ridership throughout this segment. This ensures better transit access throughout the segment and minimizes walking distances for the large number of customers in the area.

A station at Chicago and 27th Street was considered but ultimately not recommended due to the blockage of pedestrian access from the east by the Abbott Northwestern hospital campus. The hospital campus will be served by the Chicago & 26th Street station, which is also better connected to the street grid for improved pedestrian access. See the Chicago & 26th Street individual station plan within Section V (Station Plans) for more information.

APPENDIX C: AGENCY COMMENTS

Formal written comments on the *D Line Station Plan* were submitted by the following agencies or organizations.

- City of Richfield (October 24, 2017 and January 11, 2018)
- City of Minneapolis (March 17, 2018)

October 24, 2017

Katie Roth, Project Manager
Metro Transit
BRT/Small Starts Project Office
560 North 6th Ave.
Minneapolis, MN 55411

RE: Metro Transit D Line Project

Dear Ms. Roth:

The City of Richfield is excited about the future construction of the new D Line. We welcome the improved service to our residents and anticipate an emergence of new transit users with the future enhancements. We understand that providing limited stops is what makes the line faster; however, the City supports Metro Transit's initial design of Portland Avenue's four transit stops as presented in 2013. The City believes stops at each of the following locations are essential for the success of the D Line's service through Richfield along Portland Avenue:

- 66th Street
- 70th Street
- 73rd Street
- 77th Street

Our goal is that the improvements along this corridor will enhance the livability and quality of life for Richfield residents by providing improved connectivity and mobility options. It would be a true oversight if the stations were located over 0.5 miles apart resulting in an underserved community.

Finally, as you are likely aware, the Richfield Fire Station is located on Portland Avenue at 68th Street. This means that every call our emergency services respond to requires travelling along Portland Avenue. For this reason, the future location of the stations and the bus drivers along this route must make it their top priority to clear the medians when emergency vehicles are present on the corridor.

We wish you success with this planning process and look forward to working with you on the implementation of the project.

Sincerely,

Pat Elliott
Mayor

Steven L. Devich
City Manager

CITY OF RICHFIELD

Memorandum

DATE: January 11, 2018

TO: Scott Janowiak, Metro Transit

FROM: Matt Brillhart

SUBJECT: Draft *D Line Station Plan* – City staff comments

City of Richfield staff is concerned with the lack of a station at 70th Street. The resulting gap (0.9 miles) between the stations at 66th Street and 73rd Street exceeds Metro Transit's half-mile spacing guidelines. A station at Portland Avenue & 70th Street was included in the 2012 *Arterial Transitway Corridor Study* (ATCS). The City's preference is that the Portland Avenue & 70th Street station be described in the *Station Plan* as being "deferred", rather than being excluded entirely. The City is aware that current bus ridership to be relatively low along this portion of the existing Route 5. While the existing land use near 70th Street is primarily low density single-family residential and is not currently designated for higher density redevelopment, there are two elementary schools located on 70th Street, approximately 1/3-mile to the east (Richfield Dual Language and Richfield STEM). Additionally, buffered bike lanes were recently added to 70th Street, improving multimodal connections to a potential station at Portland Avenue & 70th Street.

Once the D Line service is operational, local bus service on the Route 5 is proposed to be reduced to 30-minute headways, representing a significant reduction in service for any riders not within walking distance of D Line stations at 66th Street or 73rd Street. Given Metro Transit's recent and ongoing budget instability due to actions taken by the Legislature, the City is concerned that local bus service along Portland Avenue could see its frequency cut back even further or eliminated entirely as a result of system-wide service cuts. Should these service cuts take place, the addition of a D Line station at 70th Street should be reconsidered.

Minneapolis
City of Lakes

www.minneapolismn.gov

City of Minneapolis Comments on D Line BRT Draft Station Plan: 2/14/2018

The City of Minneapolis appreciates the opportunity to comment on the D Line Draft Station Plan. It is understood that additional opportunities exist to modify the Station Area Plan, and City staff look forward to working with Metro Transit staff to advance the final station area plan.

Station location and spacing considerations

Appendix A of the draft plan includes a summary of 14 stations within Minneapolis that were included in the 2012 Arterial Transitway Corridor Study but ultimately not recommended in the draft plan. The City of Minneapolis generally supports Metro Transit's effort for consolidating stations in order to provide a balance between access and service. However, the following comments relate to "no build" recommendations that leave a greater than one-half mile distance between stations, or which involve a Neighborhood Commercial Node. The City acknowledges that the goal of this plan is for an average of one-half mile station spacing, and that some variation to this distance is inevitable due to specific site characteristics.

- **47th Ave N at Osseo Rd:** The City requests that Metro Transit provide more supporting information on the alternatives to the 47th Ave N at Osseo Rd station and the difficulty of siting a station equidistant between the two adjacent stations. Several alternative locations for this station were considered with the previous C Line BRT station plan, though ultimately no C Line station was recommended in this segment of Osseo Rd. The C Line station plan seems to indicate that these alternatives would be revisited with the D Line station plan. However, it is unclear from the D Line draft station plan whether further exploration or engagement of the alternatives took place. The City recommends providing a statement summarizing the results of any additional analysis and engagement for a station at 47th Ave N and Osseo Rd. The City also recommends that Metro Transit look for future opportunities to include a station in this segment, if surrounding land use were to significantly change.
- **7th St N and 11th Ave N:** The City requests that Metro Transit provide more supporting information on the alternatives to the 7th St N at 11th Ave N location and the difficulty of siting a station equidistant between Olson Memorial Highway and Plymouth Avenue North. The City would like to emphasize the high ridership in this area, and note that additional transit service alone is not a sufficient justification for a "no build" recommendation in this segment. The City recommends that Metro Transit provide a statement summarizing the results of any additional analysis and engagement for a station at 7th St N at 11th Ave N or alternative locations. The City also recommends that Metro Transit explore whether a future station in this segment could result in increased ridership or service connections, including access to routes on I-94.
- **48th St E & Chicago Ave S:** The City recommends a station within the 48th St E and Chicago Ave S business node for the following reasons:

- The City of Minneapolis defines 48th St E and Chicago Ave S as a Neighborhood Commercial Node. The large quantity and diversity of businesses as well as multifamily housing within this node make it a prime location for a station location. It is one of only two Neighborhood Commercial Nodes with "No Build" recommendations along the D Line route, the other being Chicago Ave S at 54th St E. The City believes that the quantity and diversity of businesses in this node warrant an exception to the average half-mile spacing goal within the station plan.
- The draft station plan states that parking considerations were an additional factor for a "no build" recommendation at 48th St E and Chicago Ave S.The City manages curbside uses, including street parking and loading. The City's Complete Streets Policy supports prioritizing the public right of way for people who walk, bike and take transit over those that choose to drive motor vehicles. Transit extends the range of travel for people when they walk or bicycle, provides greater efficiencies and operational benefits than motor vehicles, and is accessible to those unable to walk, bicycle, or drive. The City supports a D Line station at the 48th St E and Chicago Ave S business node and believes the benefits to transit service at this node outweigh the potential impacts to street parking in the node. City staff note that mitigation strategies discussed within the Draft Station Plan would minimize the overall number of parking spots needed for a D Line Station at this node.
- The City would like to express that including a D Line BRT station within the existing 48th St E business node would support City goals for implementing infrastructure, public services and community assets that support business and commerce.

- **54th St E & Chicago Ave S:** The City supports Metro Transit's recommendation to not build a station at this location due to the quarter-mile proximity to the 56th St E station, multiple existing driveways that conflict with station siting, and the limited number of businesses in this commercial node.
- **60th St E & Chicago Ave S:** The City supports Metro Transit's recommendation to not build a station at this location due to the quarter-mile proximity to the Portland Ave S at 60th St E station and the surrounding low-density residential land use.

Additional station siting comments

The City of Minneapolis acknowledges the general station platform locations identified along the future Emerson Ave N, Fremont Ave N and 7th Ave N protected bikeway alignments. The City requests that Metro Transit explore station designs that incorporate innovative solutions for reducing bicycle and transit conflicts in key locations along these priority bikeway corridors.

Additional staff comments

The City of Minneapolis is committed to partnering with Metro Transit on the D Line BRT, as evidenced by its participation on the Technical Advisory Committee and through its coordinated effort to improve pedestrian access and safety along the Emerson/Fremont segment of the corridor. The City will also look to further coordination and support through final design and construction of the D Line BRT.