# 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

### 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 & 46th Street Chicago & 52nd Street Chicago & 56th Street Portland & 60th Street

#### Richfield

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

#### Bloomington

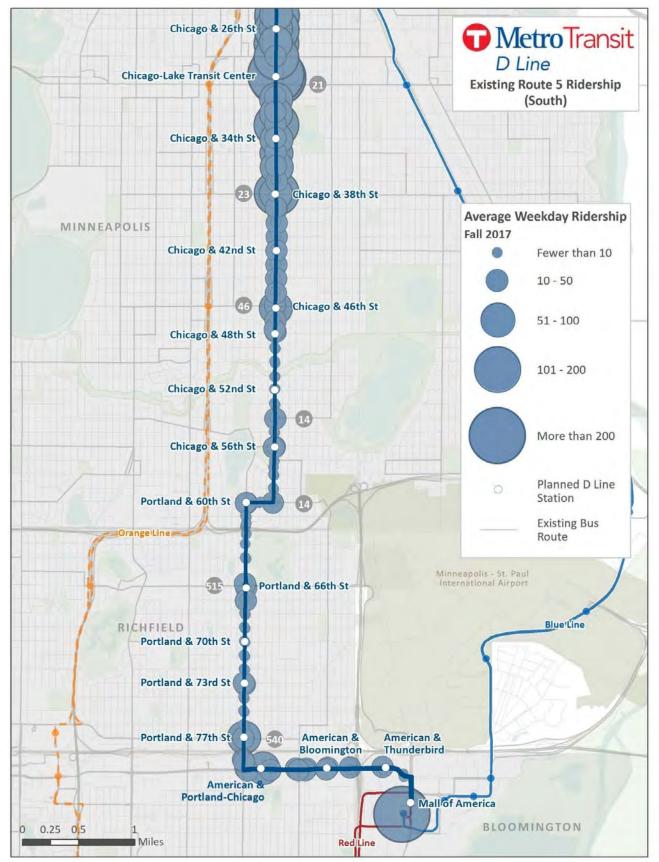
American & Portland-Chicago American & Bloomington American & Thunderbird Mall of America Transit Center

### 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



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

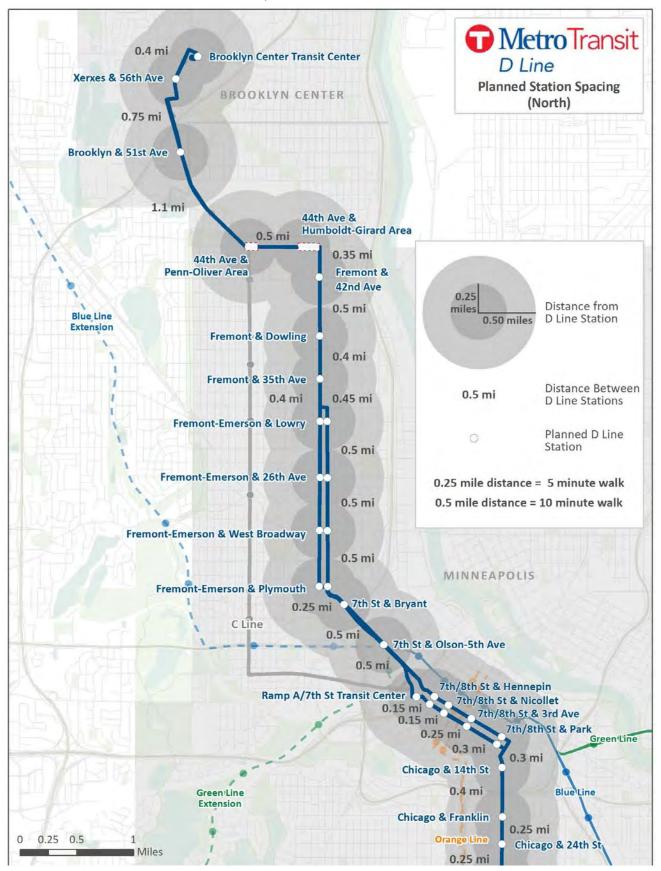
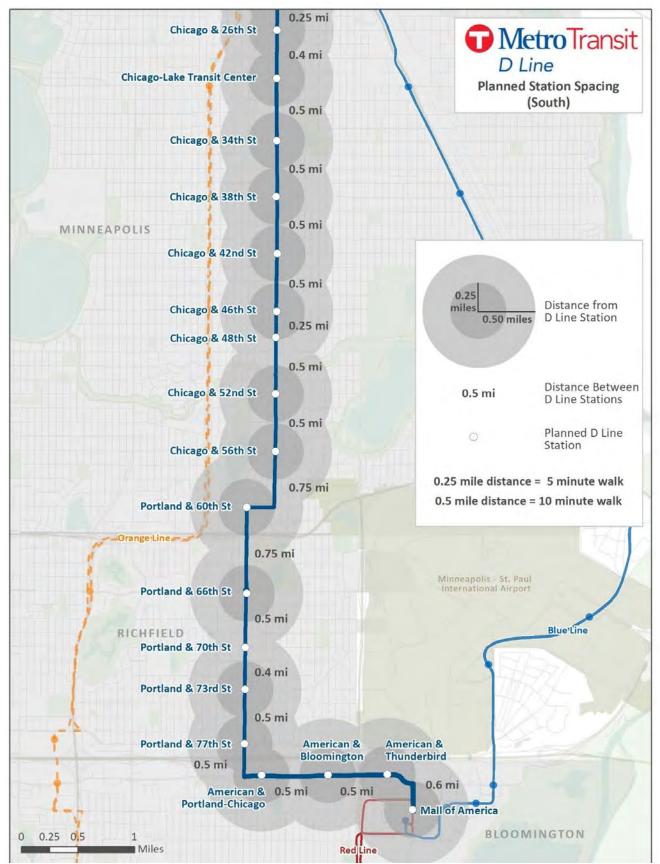


Figure 18: Planned D Line stations and station spacing, northern section



#### 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*<sup>19</sup> 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.<sup>20</sup>
- Rapid bus improvements will be built at the Brooklyn Center Transit Center in 2018.

<sup>19</sup> More information at: <u>https://www.metrotransit.org/c-line-station-plan</u>

<sup>20</sup> 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

441	44th Avenue & Penn-Oliver area		
	Station Characteristic	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.	
	Station spacing	<ul> <li>Southbound: About 0.5 mi to 44th Avenue &amp; Humboldt-Girard area</li> <li>Within guidelines of about half-mile station spacing.</li> <li>Northbound: About 1.1 mi to Brooklyn &amp; 51st Avenue</li> <li>Longer station spacing than guidelines due to lower-ridership segment, lower-density land uses, and presence of railroad overpass.</li> </ul>	
IG CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday	
SURROUNDING CONTEXT	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.	
IDERATIONS	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.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

# 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.<sup>21</sup>
- 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<sup>22</sup> (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

 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<sup>23</sup>, 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*.<sup>24</sup> 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.

22 More information at: <u>https://metrotransit.org/abrt-study</u>

<sup>21</sup> More information at: <u>https://www.hennepin.us/residents/transportation/webber44avenue</u>

<sup>23</sup> More information at: <u>https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf</u>

<sup>24</sup> More information at: <u>https://www.metrotransit.org/Data/Sites/1/media/about/improvements/c-line/final-station-plan/04---osseo--victory-area---final-station-plan.pdf</u>

### 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."<sup>25</sup>
- 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.

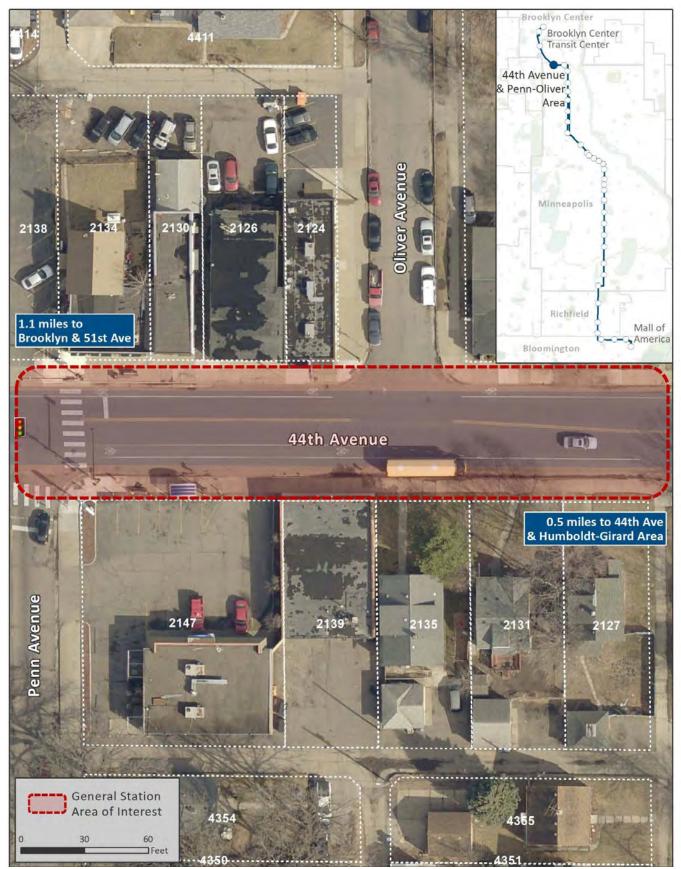
### Other station locations considered: 44th Avenue and Morgan

### 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.

<sup>25</sup> More information within Appendix C: Agency Comments

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



# Station Plan: 44th Avenue & Humboldt-Girard area

44t	44th Avenue & Humboldt-Girard area		
	Station Characteristic	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.	
	Station spacing	<ul> <li>Southbound: About 0.35 mi to Fremont &amp; 42nd Avenue</li> <li>Shorter station spacing than guidelines due, in part, to provide access to Hamilton Manor senior housing</li> <li>Northbound: About 0.5 mi to 44th Avenue &amp; Penn-Oliver area</li> <li>Within guidelines of about half-mile station spacing</li> </ul>	
IG CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 235 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound: To be determined	
	Connecting service	Routes 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.	
	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.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

# 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.<sup>26</sup>
- 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.

<sup>26</sup> 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

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

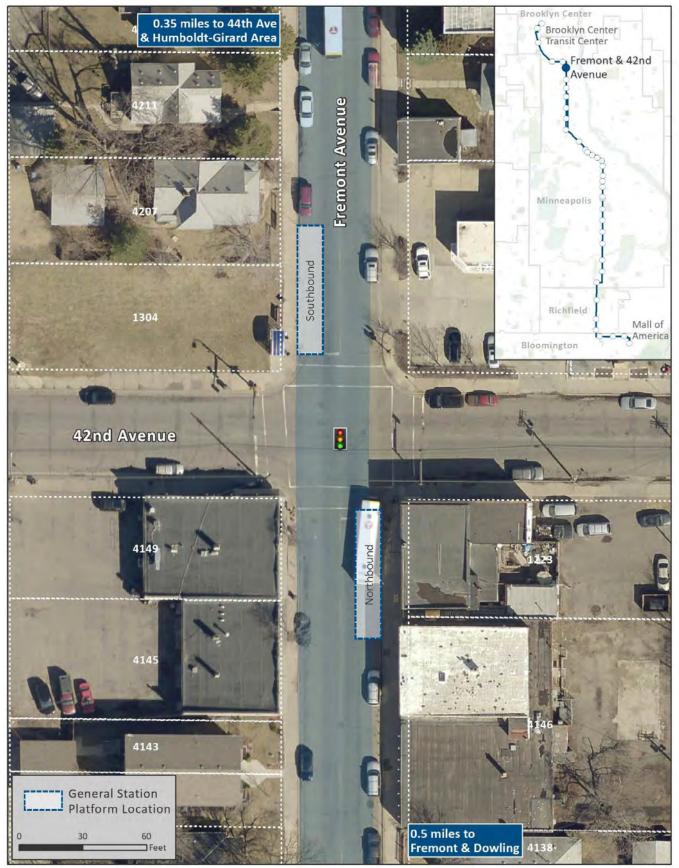
The intersection of Fremont and 42nd Avenue is a commercial node. Ridership at this location is higher than at surrounding stops.

### 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.<sup>27</sup> 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.

<sup>27</sup> More information at: <u>http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont</u>

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



# **Station Plan:** Fremont & Dowling

Fre	Fremont & Dowling		
	Station Characteristic	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	
	Station spacing	<ul> <li>Southbound: About 0.4 mi to Fremont &amp; 35th Avenue</li> <li>Close to guidelines; provides access to a high-ridership segment between</li> <li>Dowling and Lowry.</li> <li>Northbound: About 0.5 mi to Fremont &amp; 42nd Avenue</li> <li>Within guidelines of about half-mile station spacing</li> </ul>	
<b>CONTEXT</b>	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 220 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound and northbound: At opposite corner of existing bus stop	
	Connecting service	Routes 721 & 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.	
IDERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

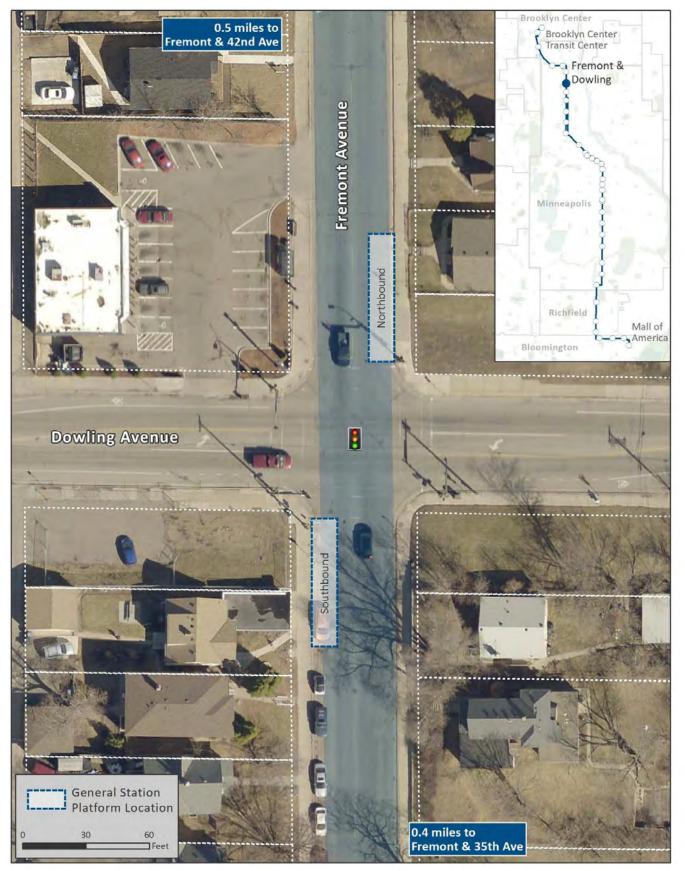
Fremont and Dowling is a major intersection in north Minneapolis, and ridership is substantially higher than at surrounding stops.

### 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.<sup>28</sup> 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).

<sup>28</sup> 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

Fre	Fremont & 35th Avenue		
	Station Characteristic	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.	
		Southbound: About 0.4 mi to Emerson-Fremont & Lowry	
	Station spacing	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.	
CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 310 boardings per weekday	
SURROUNDING CONTEXT	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.	
SIDERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

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.<sup>29</sup> 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.

<sup>29</sup> More information at: <u>http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont</u>

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



# **Station Plan:** Emerson-Fremont & Lowry

Em	Emerson-Fremont & Lowry		
	Station Characteristic	Planned Condition*	
CORE STATION PLAN	Intersection Location	Emerson-Fremont & Lowry	
	Platform location	Southbound: Farside of Lowry on Fremont, southwest corner Farside has adequate platform lenth available and is preferred to maxi- mize transit signal priority potential. Northbound: Nearside of Lowry on Emerson, southwest corner Farside platform not possible due to driveway about 40' from curb.	
	Station spacing	<ul> <li>Southbound: About 0.5 mi to Emerson-Fremont &amp; 26th Avenue Within guidelines of about half-mile station spacing.</li> <li>Northbound: About 0.4 mi to Fremont &amp; 35th Avenue Shorter spacing than guidelines provides access to a high ridership segment between Dowling and Lowry.</li> </ul>	
IG CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 610 boardings per weekday	
SURROUNDING CONTEXT	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.	
IDERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

 $\ensuremath{^{\mbox{\scriptsize Final}}}$  conditions to be developed during the engineering/design process.

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.<sup>30</sup> Outreach and engagement occurred separately between projects.
- tation 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).

<sup>30</sup> 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

Em	Emerson-Fremont & 26th Avenue		
	Station Characteristic	Planned Condition*	
CORE STATION PLAN	Intersection Location	Emerson-Fremont & 26th Avenue	
	Platform location	<ul> <li>Southbound: Farside of 26th Avenue on Fremont, southwest corner</li> <li>Farside has adequate platform lenth available and is preferred to maximize transit signal priority potential.</li> <li>Northbound: Farside of 26th Avenue on Emerson, northeast corner</li> <li>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.</li> </ul>	
	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.	
G CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 380 boardings per weekday	
SURROUNDING CONTEXT	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.	
IDERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

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.<sup>31</sup> 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).

<sup>31</sup> 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

Em	Emerson-Fremont & West Broadway		
	Station Characteristic	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.	
	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.	
IG CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 840 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop	
	Connecting service	Route 14, 30	
	Parking changes	Southbound and northbound: No changes.	
DERATIONS	Curb configuration	Southbound and northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound: 60' platform Platforms 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.	

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.<sup>32</sup> 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:
  - o Maximizes the potential of transit signal priority at the busy intersection;
  - o Maintains ease of transfers to the heavily used bus stop for westbound/northbound Routes 14 and 30;
  - o 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<sup>33</sup> (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.

<sup>32</sup> More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

<sup>33</sup> More information at: https://metrotransit.org/abrt-study

• 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.

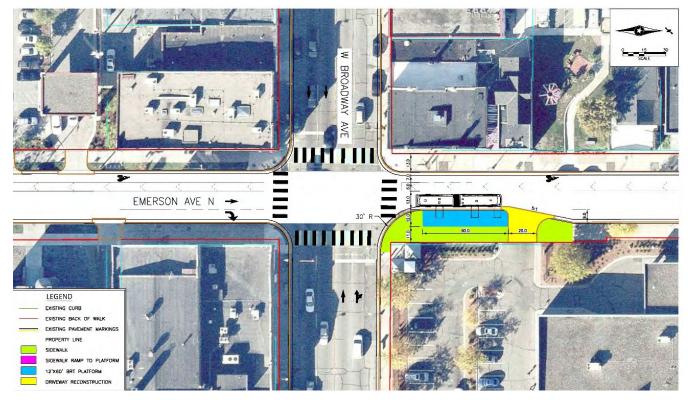
• It is anticipated that existing Route 5 school trips will continue to serve North High School after the D Line begins operations. In addition to the school-related service, the local Route 5 service will continue operating about every 30 minutes.

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

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.<sup>34</sup> 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<sup>35</sup> (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).

<sup>34</sup> More information at: http://www.ci.minneapolis.mn.us/cip/future/emerson-fremont

<sup>35</sup> 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 Characteristic	Planned Condition*
z	Intersection Location	7th Street & Bryant
CORE STATION PLAN	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.
	Station spacing	Southbound: About 0.6 mi to 7th Street & Olson-5th Avenue Close to guidelines; provides access to customers west of 1-94. 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.
NG CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 160 boardings per weekday
SURROUNDING CONTEXT	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 changes. No existing parking lanes in northbound or southbound direction.
DERATIONS	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.
DESIGN CONSIDERATIONS	Platform length	Southbound and Northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

### 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 transit-way service, including a planned D Line Emerson-Fremont & Plymouth station."<sup>36</sup>

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:
  - o 7th Street roadway characteristics, like:
    - Higher speeds
    - Wider street widths
    - Lack of a curbside boulevard providing a pedestrian buffer
  - o 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 and recommended D Line Station Plan comment periods.

### 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.<sup>37</sup>

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.

<sup>36</sup> The previous draft D Line Station Plan is available at: <u>https://www.metrotransit.org/d-line-library</u>

<sup>37</sup> 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	7th Street & Olson-5th Avenue		
	Station Characteristic	Planned Condition*	
z	Intersection Location	7th Street & Olson-5th Avenue	
CORE STATION PLAN	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.	
	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.	
CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 370 boardings per weekday	
SURROUNDING CONTEXT	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 changes.	
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.	
DESIGN CO	Platform length	Southbound and Northbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

# 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*<sup>38</sup> 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.<sup>39</sup>
- 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.
- The 7th Street & 3rd/4th Avenue platform will be built as part of C Line construction in 2018.

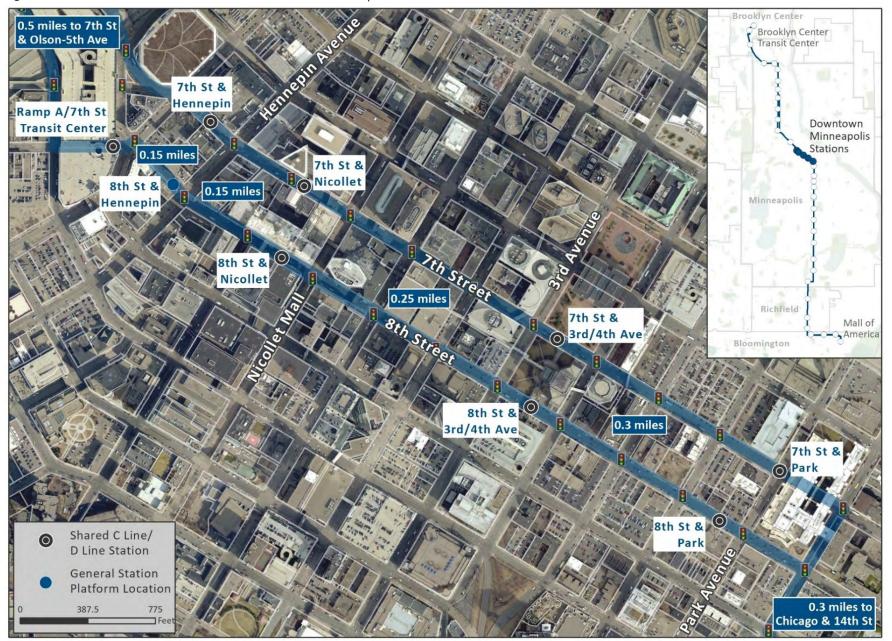
#### 8th/7th Street & Park

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

<sup>38</sup> More information at: <u>https://www.metrotransit.org/c-line-station-plan</u>

<sup>39</sup> 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	8th Street & Hennepin		
	Station Characteristic	Planned Condition*	
z	Intersection Location	8th Street & Hennepin	
CORE STATION PLAN	Platform location	Southbound: Nearside of Hennepin Avenue Farside not technically feasible; nearside platform design to be coordinat- ed with the planned Hennepin Avenue reconstruction project, led by the City of Minneapolis.	
	Station spacing	Downtown's very high ridership, may 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.	
G CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 2,170 boardings per weekday	
SURROUNDING CONTEXT	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.	
IDERATIONS	Curb configuration	Southbound: To be determined Curb configuration dependent upon coordination with the Hennepin Avenue reconstruction project.	
DESIGN CONSIDERATIONS	Platform length	Southbound: To be determined Platforms length dependent upon coordination with the Hennepin Avenue reconstruction project.	

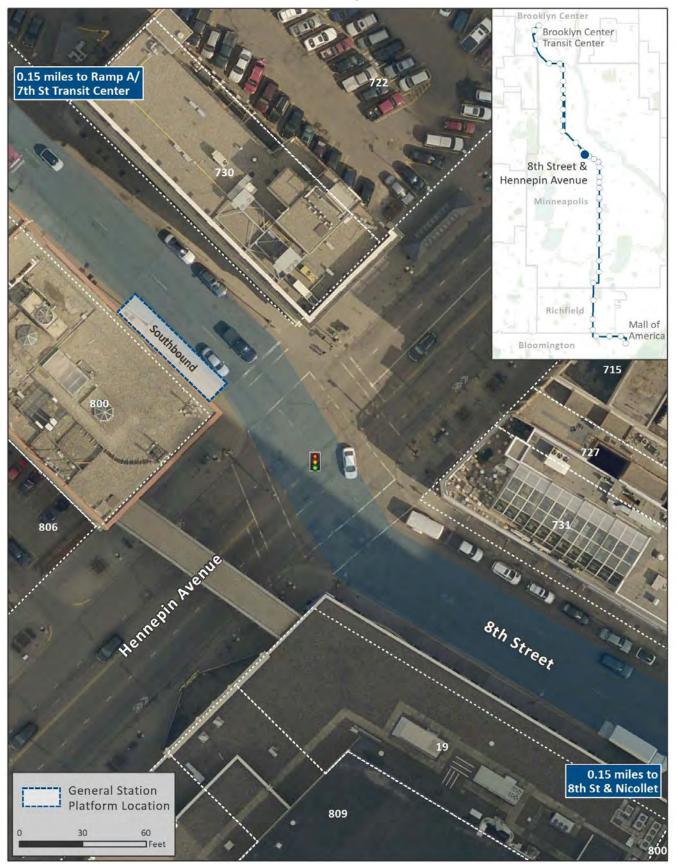
 $\ensuremath{^{\mbox{\scriptsize Final}}}$  conditions to be developed during the engineering/design process.

# 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.<sup>40</sup>
- The design and construction of the 8th Street & Hennepin platform will be coordinated with this reconstruction project to the extent possible.

<sup>40</sup> 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

Chi	Chicago & 14th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 14th Street	
CORE STATION PLAN	Platform location	Southbound: Farside of 14th Street, southwest corner Northbound: Farside of 14th Street, northwest corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.	
	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.	
ONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 340 boardings per weekday	
SURROUNDING CONTEXT	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 reloca- tion and expansion of existing bus stop zone. Potential for existing nearside bus stop zone to be converted to curbside parking.	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

### 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<sup>41</sup> (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.

<sup>41</sup> More information at: https://www.metrotransit.org/abrt-study

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



## Station Plan: Chicago & Franklin

Chi	Chicago & Franklin		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & Franklin	
CORE STATION PLAN	Platform location	Southbound: Farside of Franklin, southwest corner Northbound: Farside of Franklin, northwest corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.	
	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 highridership segment and proximity to downtown.	
G CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 820 boardings per weekday	
SURROUNDING CONTEXT	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.	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

### 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<sup>42</sup> (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: <u>https://www.metrotransit.org/abrt-study</u>

Figure 38: Recommended station location – Chicago & Franklin



## **Station Plan:** Chicago & 24th Street

Chi	Chicago & 24th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 24th Street	
CORE STATION PLAN	Platform location	Southbound: Farside of 24th Street, southwest corner Northbound: Farside of 24th Street, northwest corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.	
	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 Slightly shorter station spacing than guidelines due to high-ridership segment and proximity to downtown.	
ONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 670 boardings per weekday	
SURROUNDING CONTEXT	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	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

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



## **Station Plan:** Chicago & 26th Street

Chi	Chicago & 26th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 26th Street	
CORE STATION PLAN	Platform location	Southbound: Farside of 26th Street, southwest corner Northbound: Farside of 26th Street, northwest corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.	
	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 Slightly shorter station spacing than guidelines due to high-ridership segment and proximity to downtown.	
цтехт	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 660 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound and Northbound: At opposite corner of existing bus stop	
Š	Connecting service	Routes 27 and 39.	
	Parking changes	Southbound: Reduction of about 3-5 parking spaces, due to the reloca- tion 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.	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

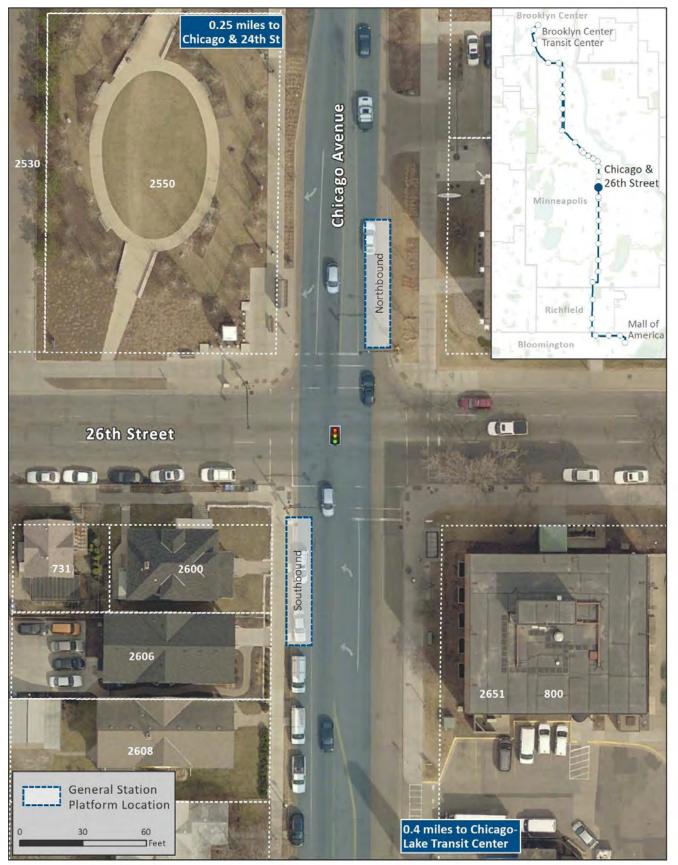
### Other station locations considered: Chicago and 27th Street

The 2012 Arterial Transitway Corridor Study<sup>43</sup> (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.

<sup>43</sup> More information at: https://www.metrotransit.org/abrt-study

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



## Station Plan: Chicago-Lake Transit Center

Chi	Chicago-Lake Transit Center		
	Station Characteristic	Planned Condition*	
CORE STATION PLAN	Intersection Location	Chicago-Lake Transit Center	
	Platform location	<ul> <li>Southbound: Farside of transit center driveway</li> <li>Farside location on-street prioritizes improved travel times by no longer turning into the Chicago-Lake Transit Center.</li> <li>Northbound: Farside of transit center driveway</li> <li>Farside at existing stop has adequate platform length available and is preferred to maximize transit signal priority potential.</li> </ul>	
	Station spacing	Southbound: About 0.5 mi to Chicago & 34th Street Within guidelines of about half-mile station spacing. Northbound: About 0.25 mi to Chicago & 24th Street Slightly shorter station spacing than guidelines due to high-ridership segment.	
G CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 1,500 boardings per weekday	
SURROUNDING CONTEXT	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 reloca- tion and expansion of existing bus stop Northbound: No changes	
	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

### Other station locations considered: Chicago-Lake Planning Study<sup>44</sup>

#### 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.

Popeye's Chicago-Lake Transit Center Promonade Hidrowing Community Satety Center Hidrowing Community Co

Figure 41: Chicago-Lake area alternative platform locations

44 More information at: <u>https://www.metrotransit.org/d-line-library</u>

#### 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.
  - o **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

Chi	Chicago & 34th		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 34th Street	
CORE STATION PLAN	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.	
	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.	
ONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 450 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound and Northbound: At opposite corner of existing bus stop	
URR	Connecting service	No connecting transit service	
S	Parking changes	Southbound: Reduction of about 2-3 parking spaces, due to the reloca- tion 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 reloca- tion 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.	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

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

The 2012 Arterial Transitway Corridor Study<sup>45</sup> (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.

<sup>45</sup> More information at: <u>https://www.metrotransit.org/abrt-study</u>

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



## Station Plan: Chicago & 38th Street

Chi	icago & 38th	
	Station Characteristic	Planned Condition*
-	Intersection Location	Chicago & 38th Street
CORE STATION PLAN	Platform location	Southbound: Farside of 38th Street, southwest corner Driveway access limites 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.
CORE		Northbound: Farside of 38th Street, northeast corner Farside has adequate platform length available and preferred to maximize transit signal priority potential.
		Southbound: About 0.5 mi to Chicago & 42nd Street Within guidelines of about half-mile station spacing.
	Station spacing	Northbound: About 0.5 mi to Chicago & 34th Street Within guidelines of about half-mile station spacing.
CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 390 boardings per weekday
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop
SUR	Connecting service	Routes 23 and 133
	Parking changes	Southbound: Reduction of about 1-2 parking spaces, due to the reloca- tion 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 accomodate curb taper.
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

# 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.

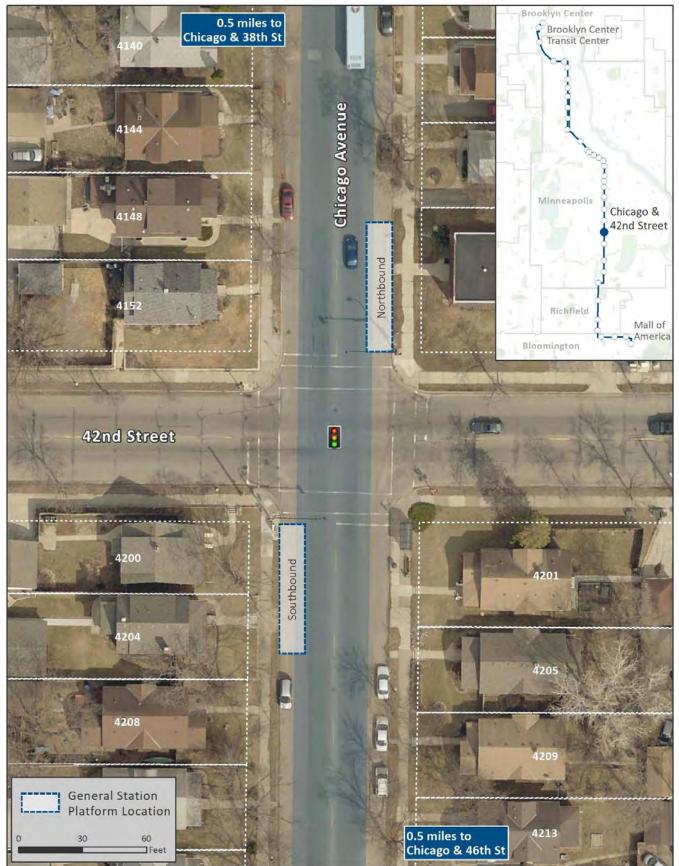
Figure 45: Recommended station location – Chicago & 38th Street



## **Station Plan:** Chicago & 42nd Street

Chi	Chicago & 42nd Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 42nd Street	
CORE STATION PLAN	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.	
	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.	
ONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound and Northbound: At opposite corner of existing bus stop	
URR	Connecting service	No connecting transit service	
S	Parking changes	Southbound: Reduction of about 1-2 parking spaces, due to the reloca- tion 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 top zone to be converted to curbside parking.	
	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

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



## Station Plan: Chicago & 46th Street

Chicago & 46th Street		
	Station Characteristic	Planned Condition*
z	Intersection Location	Chicago & 46th Street
CORE STATION PLAN	Platform location	Southbound: Farside of 46th Street, southwest corner Northbound: Farside of 46th Street, northeast corner In both directions, farside has adequate platform length available and is preferred to maximize transit signal priority potential.
	Station spacing	<ul> <li>Southbound: About 0.25 mi to Chicago &amp; 48th Street</li> <li>Shorter station spacing than guidelines to provide direct service to the 48th &amp; Chicago commercial node.</li> <li>Northbound: About 0.5 mi to Chicago &amp; 42nd Street</li> <li>Within guidelines of about half-mile station spacing.</li> </ul>
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 170 boardings per weekday
SURROUN	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
SIDERATIONS	Curb configuration	Southbound: Bumpout Bumpouts 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.
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.

### 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

Chi	Chicago & 48th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 48th Street	
CORE STATION PLAN	Platform location	Southbound: Farside of 48th Street, southwest corner Northbound: Farside of 48th Street, northeast corner Farside locations have adequate platform length available and directly serve the commercial intersection compared to other alternatives.	
	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 guidelines to provide direct service to the 48th & Chicago commercial node.	
SURROUNDING CONTEXT	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	
N N	Connecting service	No connecting transit service	
	Parking changes	Southbound: Reduction of about 1-2 parking spaces, due to the reloca- tion 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 expan- sion of existing bus stop zone	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

#### 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<sup>46</sup>:

- 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* included 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*<sup>47</sup>.
  - o About 1/3 of all submitted comments submitted across the entire project supported a Chicago & 48th Street station.
  - o The City of Minneapolis formally supports a station as noted within a City Council action completed on March 17, 2018.
  - o 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.

During the draft *Station Plan* comment period, Metro Transit also received some opposition to a Chicago & 48th Street station. Several business owners have expressed concerns about parking impacts and quality of life considerations that may result from a station at the business node.

The mix of support and opposition to a Chicago & 48th Street station continued during the recommended Station Plan comment period. Of the 50 comments submitted during this period, 39 addressed the intersection of Chicago Avenue and 48th Street. In addition, the City of Minneapolis submitted an additional comment of support for a station at this location on May 15, 2018.<sup>48</sup> Stakeholders opposing a Chicago & 48th Street station cited loss of scarce parking, perceptions of security issues and nuisances from bus riders, diminished visibility of business signage, and noise/odor from buses as primary concerns. The level of input at this intersection is indicative of its importance to the community.

<sup>46</sup> The previous draft D Line Station Plan is available at: https://www.metrotransit.org/d-line-library

<sup>47</sup> See Appendix B for more information about submitted comments

<sup>48</sup> See Appendix C for agency comments submitted during the planning process.

The final *D Line Station Plan* includes a Chicago & 48th Street station and platform locations as communicated within the recommended Station Plan. Metro Transit, in partnership with the City of Minneapolis, will incorporate community concerns to the extent possible in an effort to implement a station design that best "fits" the surrounding area. For example, parking management considerations will include the potential conversion of the existing southbound bus stop zone to curbside parking. The design process can also include consideration of shelter and pylon placement to minimize visibility impacts to the surrounding businesses.

Conversations and coordination with the Chicago & 48th Street community will continue on an on going basis throughout the project development process.

# 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:
  - o More directly serves the commercial node and establishes improved station spacing
  - o Improves potential for transit signal priority benefit



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

# Station Plan: Chicago & 52nd Street

Chi	Chicago & 52nd Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 52nd Street	
CORE STATION PLAN	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.	
	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.	
G CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 35 boardings per weekday	
SURROUNDING CONTEXT	Platform location compared to existing bus stop	Southbound: At opposite corner of existing bus stop Northbound: At existing bus stop	
ิร	Connecting service	No connecting transit service	
	Parking changes	Southbound: Reduction of about 2-3 parking spaces, due to the reloca- tion 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 expan- sion of existing bus stop zone	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATIONS	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

#### Other station locations considered: Chicago and 54th Street

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

#### Constructability

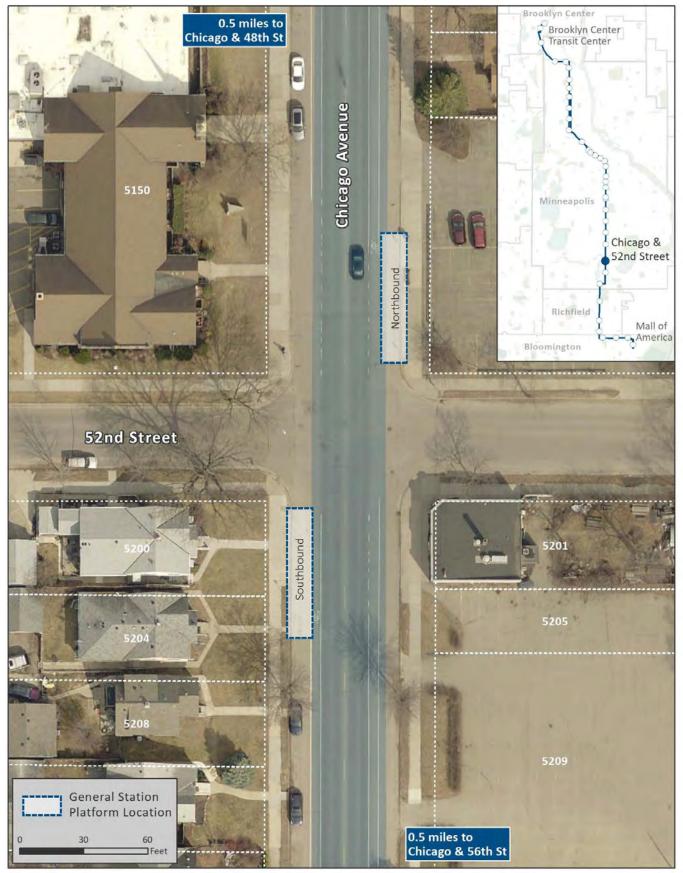
• Driveway access substantially limits available platform length at three out of four corners at Chicago and 54th Street. As a result, a station at this location is not feasible.

#### Ridership

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

<sup>49</sup> More information at: <u>https://www.metrotransit.org/abrt-study</u>

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



# Station Plan: Chicago & 56th Street

Chi	Chicago & 56th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Chicago & 56th Street	
CORE STATION PLAN	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 migrates northbound nearside sightlines issues.	
	Station spacing	<ul> <li>Southbound: About 0.75 mi to Portland &amp; 60th Street</li> <li>Longer station spacing than guidelines due to lower ridership segment and lower-density land uses.</li> <li>Northbound: About 0.5 mi to Chicago &amp; 52nd Street</li> <li>Within guidelines of about half-mile average station spacing.</li> </ul>	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 80 boardings per weekday	
SURROUNI	Platform location compared to existing bus stop	Southbound and Northbound: At existing bus stop	
	Connecting service	Routes 14, 111, and 552	
		Southbound: No changes	
	Parking changes	Northbound: Reduction of about 2-3 parking spaces Existing bus stop zone would be extended to accommodate curb taper.	
IDERATIONS	Curb configuration	Southbound and Northbound: Bumpout Bumpouts will maximize operational efficiency and pedestrian space.	
DESIGN CONSIDERATION	Platform length	Southbound and southbound: 60' platform Platforms will be designed to accommodate a 60' BRT vehicle.	

#### 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<sup>50</sup> (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<sup>51</sup> (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.

<sup>50</sup> More information at: <u>https://www.metrotransit.org/abrt-study</u>

<sup>51</sup> More information at: https://www.metrotransit.org/abrt-study

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



## Station Plan: Portland & 60th Street

Рог	Portland & 60th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Portland & 60th Street	
CORE STATION PLAN	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	
_	Station spacing	<ul> <li>Southbound: About 0.75 mi to Portland &amp; 66th Street</li> <li>Longer station spacing than guidelines due to lower ridership segment and land uses like Hwy 62, water plant, Veterans Park.</li> <li>Northbound: About 0.75 mi to Chicago &amp; 56th Street</li> <li>Longer station spacing than guidelines due to lower ridership segment and lower-density land uses.</li> </ul>	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 50 boardings per weekday	
SURROUN	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 changes.	
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curb line	
DESIGN CONSIDERATION	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.	

# 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.<sup>52</sup>
- 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<sup>53</sup> (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.

<sup>52</sup> More information at: <u>https://metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Solicitation/2016-Submitted-Applications/MULTI-USE-TRAILS-BIKEWAYS/5217HennCoTr.aspx</u>

<sup>53</sup> More information at: https://www.metrotransit.org/abrt-study

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



### Station Plan: Portland & 66th Street

Рог	Portland & 66th Street		
	Station Characteristic	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.	
	Station spacing	<ul> <li>Southbound: About 0.5 mi to Portland &amp; 70th Street</li> <li>Within guidelines of about half-mile station spacing.</li> <li>Northbound: About 0.75 mi to Portland &amp; 60th Street</li> <li>Longer station spacing than guidelines due to lower ridership segment and land uses like Hwy 62, water plant, and Veterans Park.</li> </ul>	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 100 boardings per weekday	
SURROUN	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.	
IDERATIONS	Curb configuration	Southbound: No bumpout; generally maintain existing curbline Northbound: To be determined; any curbline adjustments would be built to improve bicycle-transit compatibility.	
DESIGN CONSIDERATIO	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.	

# 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)

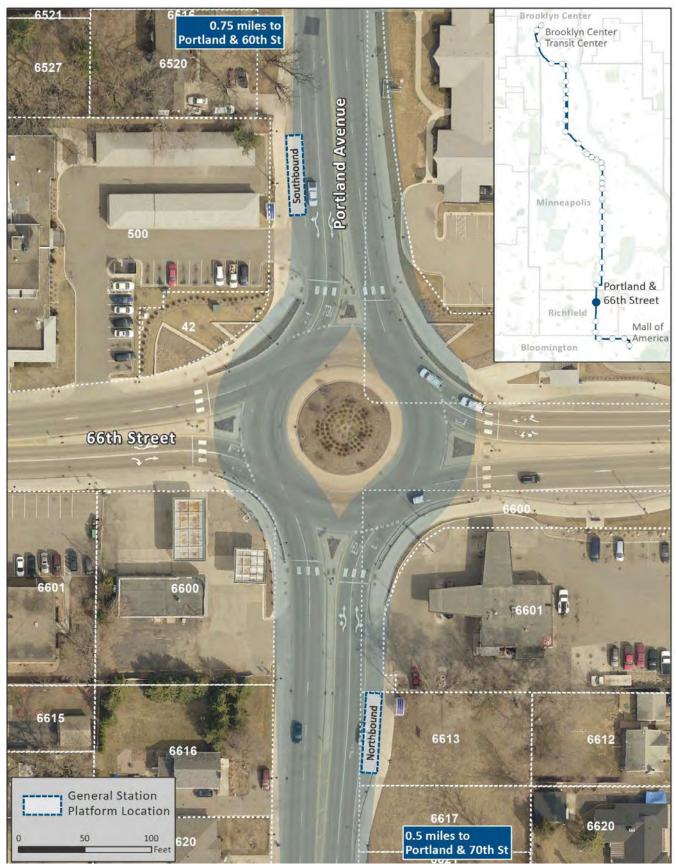
- This station recommendation was developed with consideration of Hennepin County's planned bicycle and pedestrian improvements on Portland Avenue between 60th and 66th Streets.
- Design of the D Line will be coordinated to the extent possible with the Portland Avenue improvements to balance the needs 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.<sup>54</sup>
- See Figure 53 for an example of a preliminary station concept at Portland and 66th Street.



Figure 53: Preliminary Portland & 66th platform concept

54 More information at: <u>https://metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Solicitation/2016-Submitted-Applications/MULTI-USE-TRAILS-BIKEWAYS/5217HennCoTr.aspx</u>

#### Figure 54: Recommended station location – Portland & 66th Street



## Station Plan: Portland & 70th Street

Рог	Portland & 70th Street		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Portland & 70th Street	
CORE STATION PLAN	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.	
	Station spacing	Southbound: About 0.4 mi to Portland & 73rd Street Close to guidelines; improves rapid bus access to predominantly residen- tial area. Northbound: About 0.5 mi to Portland & 66th Street Within guidelines of about half-mile station spacing.	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 30 boardings per weekday	
SURROUN	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 changes.	
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline	
DESIGN CONSIDERATIO	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.	

### **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."<sup>55</sup>

The recommended *D Line Station Plan* included 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.*<sup>56</sup>
  - o 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.
  - o 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.
  - o 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."
  - o 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.
  - o 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.

<sup>55</sup> The previous draft *D Line Station Plan* is available at: <u>https://www.metrotransit.org/d-line-library</u>

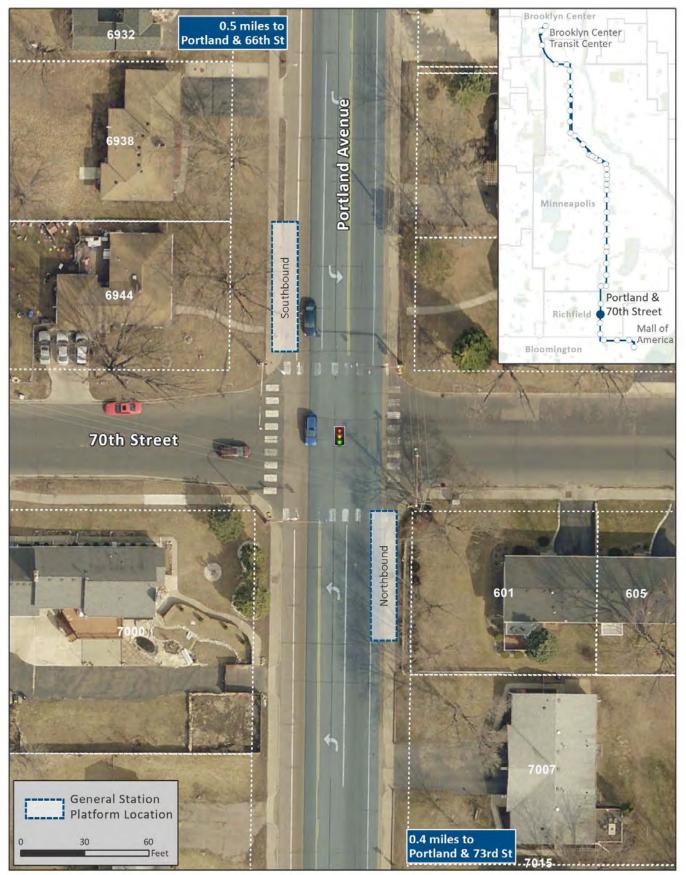
<sup>56</sup> See Appendix B for more information about submitted comments

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 Characteristic	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: Nearside of 73rd Street on northeast corner Nearside not possible due to driveway access about 40 ft from intersection.
	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 residen- tial area.
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 60 boardings per weekday
SURROUN	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 changes.
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline
DESIGN CONSIDERATIO	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.

#### Other station locations considered: Portland and 72nd Street

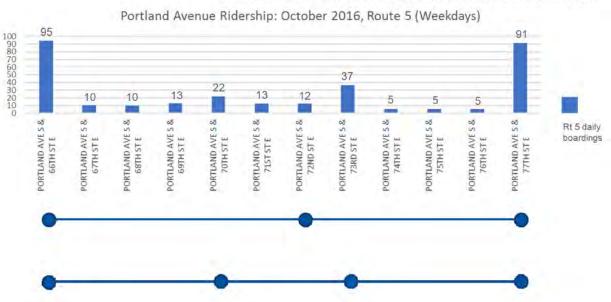
#### Ridership

• 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



Data from October 9-31, 2016. Portland Avenue reconstruction fully opened on October 7, 2016

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

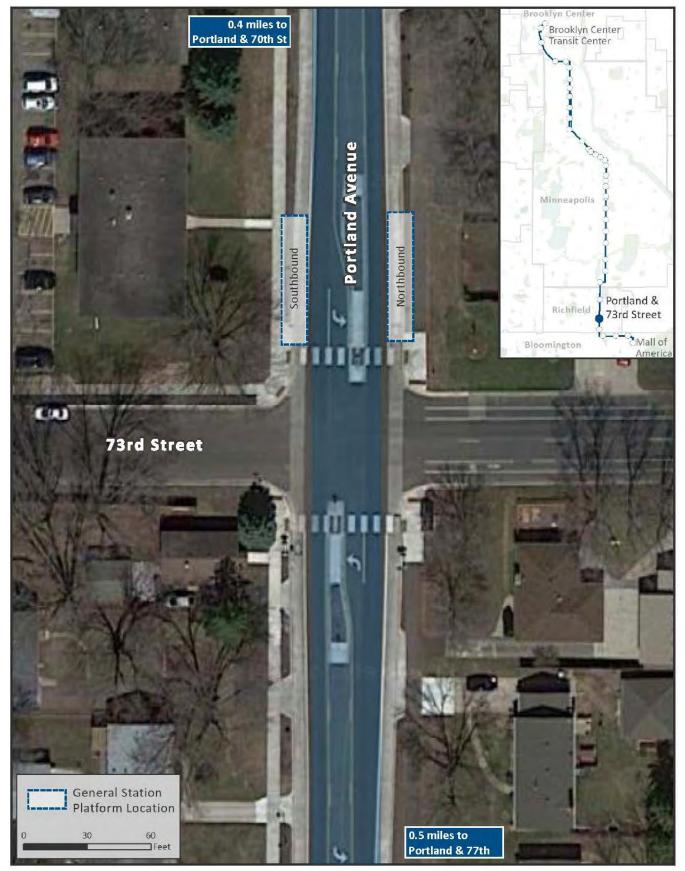
• Portland Avenue was reconstructed between 67th Street and 77th Street in 2015 and 2016. This resulted in a new cross section, depicted in Figure 58 below. D Line platform design is planned to utilize the existing curbline established by the reconstruction project.

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 58: Portland Avenue typical cross section after reconstruction

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



### Station Plan: Portland & 77th Street

Portland & 77th Street		
	Station Characteristic	Planned Condition*
CORE STATION PLAN	Intersection Location	Portland & 77th Street
	Platform location	Southbound: Nearside of 77th Street on northwest corner Farside platform is not possible due to driveway access about 20 ft 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.
	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.
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 60 boardings per weekday
SURROUN	Platform location compared to existing bus stop	Southbound and Northbound: At existing bus stop
	Connecting service	Route 540 and 553
	Parking changes	Southbound and Northbound: No changes.
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline
DESIGN CONSIDERATIONS	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.

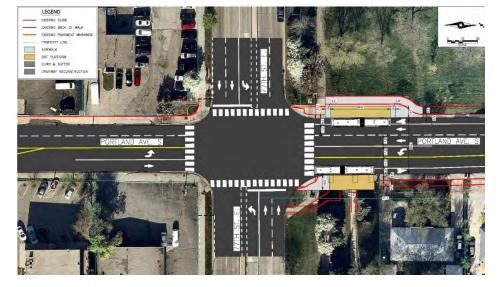
#### Design considerations: Bicycle-transit interaction

- 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

Am	American & Portland-Chicago		
	Station Characteristic	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.	
	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.	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 220 boardings per weekday	
SURROUND	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	Route 540 and 553	
	Parking changes	Southbound and Northbound: No changes.	
IDERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline No change anticipated to curblines at existing transit stops.	
DESIGN CONSIDERATION	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.	

# 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.<sup>57</sup> 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

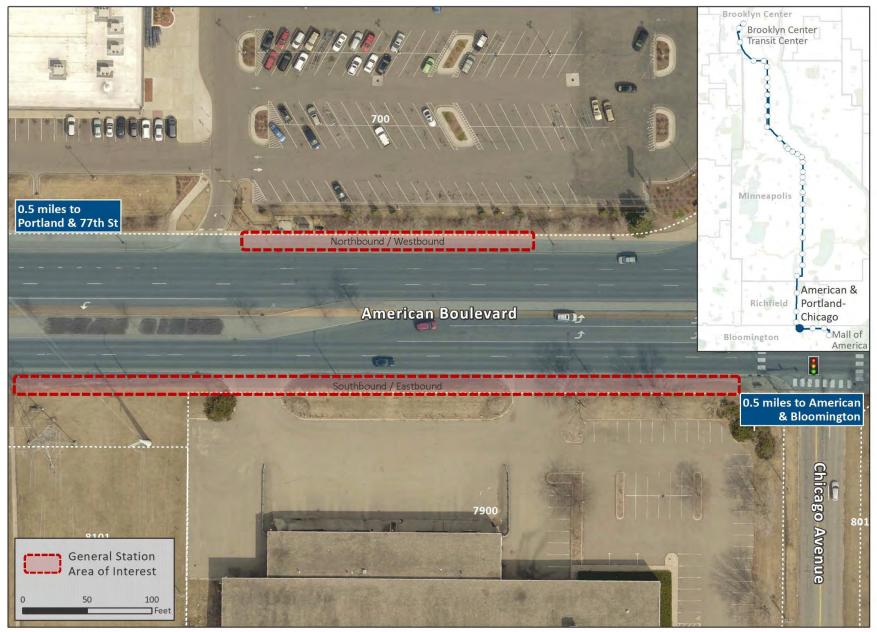
The 2012 Arterial Transitway Corridor Study<sup>58</sup> (ATCS) included a conceptual American & Portland station. This station plan does not include a D Line station at American and Portland.

- 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.

<sup>57</sup> More information at: <a href="https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf">https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf</a>

<sup>58</sup> More information at: https://www.metrotransit.org/abrt-study





# **Station Plan:** American & Bloomington

Am	American & Bloomington		
	Station Characteristic	Planned Condition*	
z	Intersection Location	American & Bloomington	
CORE STATION PLAN	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.	
	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.	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 70 boardings per weekday	
SURROUN	Platform location compared to existing bus stop	Southbound: At existing bus stop Northbound: At opposite corner of existing bus stop	
	Connecting service	Route 515, 540, 542, and 552	
	Parking changes	Southbound and Northbound: No changes.	
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline	
DESIGN CONSIDERATIO	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.	

# 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.<sup>59</sup> There is no project schedule or projected opening date for an American Boulevard rapid bus service.

#### Other station locations considered: American and 12th Avenues

The 2012 Arterial Transitway Corridor Study<sup>60</sup> (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.

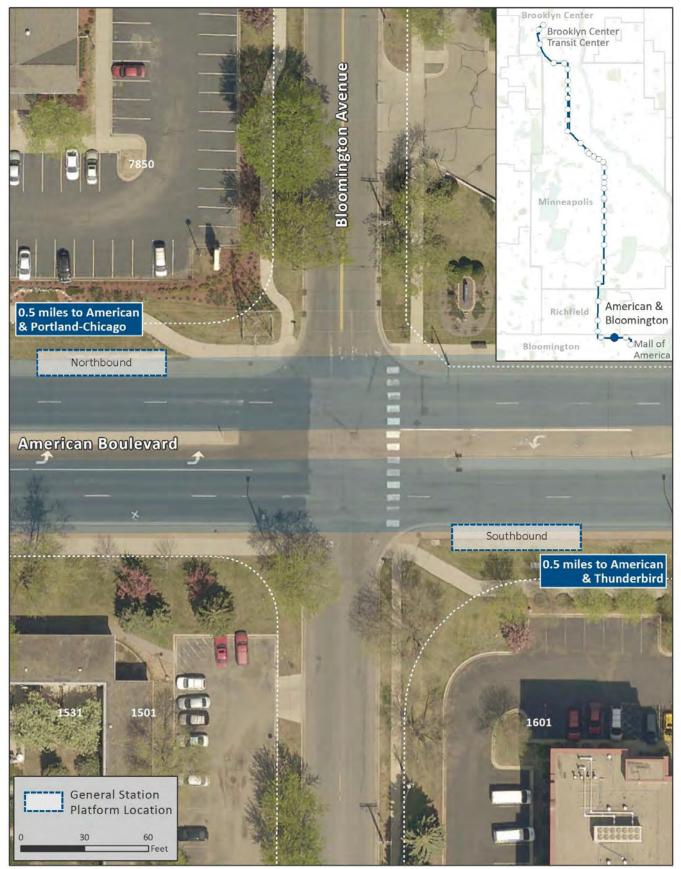
#### Constructability

- 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.

<sup>59</sup> More information at: <u>https://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/american.pdf</u>

<sup>60</sup> More information at: https://www.metrotransit.org/abrt-study

Figure 65: Recommended station location – American & Bloomington



## Station Plan: American & Thunderbird

Am	American & Thunderbird		
	Station Characteristic	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.	
CORE 5		Northbound: Farside of Thunderbird on northwest corner Farside has adequate platform length available and is preferred to maximize transit signal priority potential.	
	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.	
	Station spacing	Northbound: About 0.5 mi to American & Bloomington Within guidelines of about half-mile station spacing.	
SURROUNDING CONTEXT	Existing ridership within a block, or about 1/8 mile (Fall 2016)	About 30 boardings per weekday	
SURROUN	Platform location compared to existing bus stop	Southbound and Northbound: At existing bus stop	
	Connecting service	Route 515, 540, and 542	
	Parking changes	Southbound and Northbound: No changes.	
DERATIONS	Curb configuration	Southbound and Northbound: No bumpout; maintain existing curbline	
DESIGN CONSIDERATIONS	Platform length	Southbound and Northbound: 60' platform Platform will be designed to accommodate a 60' BRT vehicle.	

# 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.<sup>61</sup> There is no project schedule or projected opening date for an American Boulevard rapid bus service.

#### Design considerations: Southbound nearside platform location

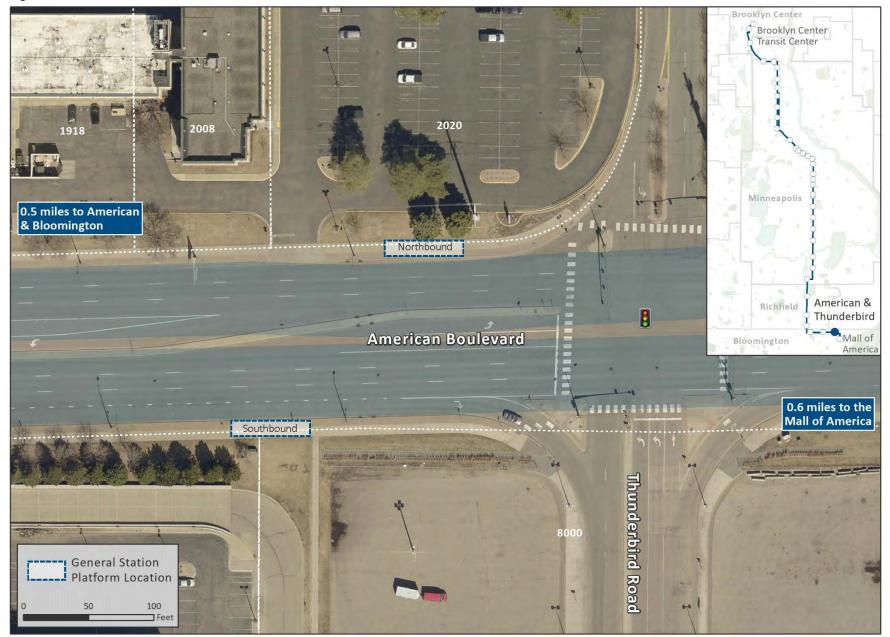
- There is long-term potential for the Mall of America to expand into the parcel immediately south of this planned platform, in addition to the removal of the southbound right turn lane from American onto Thunderbird.
- See Figure 66 for an example preliminary station concept at American and Thunderbird.

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#### Figure 66: Preliminary American & Thunderbird platform concept

<sup>61</sup> 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

Ma	Mall of America		
	Station Characteristic	Planned Condition*	
z	Intersection Location	Mall of America Transit Center	
CORE STATION PLAN	Platform location	Northbound: At existing transit center Station will be located within the Mall of America Transit Center.	
	Station spacing	Northbound: About 0.6 mi to American & Thunderbird Longer station spacing than guidelines due to land use and low ridership segment.	
SURROUNDING CONTEXT	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.	

#### 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<sup>62</sup> (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.

<sup>62</sup> More information at: https://www.metrotransit.org/abrt-study

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

