



Lake Street

Transforming the street alongside B Line implementation

Making street changes to improve transit speed and reliability, pedestrian safety, and improve mobility: a multi-jurisdiction approach

March 2022



Introduction

As Metro Transit is leading plans for the [METRO B Line Bus Rapid Transit \(BRT\)](#) to travel the entirety of Lake Street in Minneapolis, Hennepin County and Minneapolis have partnered to take a deeper look at Lake Street and work to improve the corridor alongside the B Line improvements. The B Line BRT project offers the opportunity to reassess Lake Street's consistency with each agency's policies to further enhance safety and modal balance. The shared vision between agencies is to improve safety, increase transit speed and reliability along the corridor, and improve conditions for people walking while recognizing the role of Lake Street as an important cultural, business, and residential corridor in the city.

The following document further outlines the goals for the corridor from each of the three agencies' perspectives; the challenges that exist, the technical work done to understand which opportunities can move forward, and present the preferred concept for Lake Street. Coordination between agencies addressing desired improvements alongside the B Line BRT project offers a tremendous opportunity to deliver timely improvements while minimizing further disruption along the corridor.



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Lake Street Today



Corridor demographics

Officially, Lake Street is County State Aid Highway 3. As such, Hennepin County owns and operates the roadway. However, the City of Minneapolis manages traffic along the roadway with its traffic signals. Metro Transit operates one of its most popular transit routes, the Route 21, along its entirety, connecting many important city streets and several county roads in the city.

Lake Street weaves together a diverse array of neighborhoods, cultural institutions, restaurants, and small businesses. Lake Street connects sixteen unique neighborhoods across five City wards, while also serving as a critical link to the adjoining cities of St. Louis Park and Saint Paul. The corridor is rich in culture, art, history, food and commerce serving as a hub for small and family-owned businesses, many of which are immigrant owned, attracting a variety of ideas and people from all different backgrounds. The portion of Lake Street from Hennepin Ave S to Hiawatha Avenue is identified as an ACP50 (Area of Concentrated Poverty in which people of color comprise more than 50% of the population).

Within a quarter mile of the planned B Line BRT stations on Lake Street:

- 18% of the population are living in poverty
- 49% of the population are non-White or of Hispanic/Latino origin compared to 34% of Hennepin County
- 17% of households have zero cars, while 47% have one car
- 11% of the people are living with a disability
- 14% of workers take public transit to work
- 62% of jobs are classified as “essential” jobs (based on classifications from the Department of Homeland Security Cybersecurity & Infrastructure Security Agency)
- 19% of people are under the age of 17

Cultural District designation

Minneapolis’ [Cultural District Program](#) is one strategy the City is implementing to strengthen the commercial corridor and adjacent neighborhoods through prioritizing and accelerating economic activity, public transit, affordable housing, and community ownership while supporting other cultural assets and civic benefits. The outcomes of cultural districts are designed to benefit all members of a community, especially Black, Indigenous and/or Immigrant People of Color (BIPOC) communities and underinvested commercial areas that have historically experienced the negative effects of racially discriminatory actions and policies. The cultural district designation on Lake Street is one of seven districts. The East Lake Street Cultural District Boundary spans the area between Blaisdell and Cedar Avenues and is shown in Figure 1.

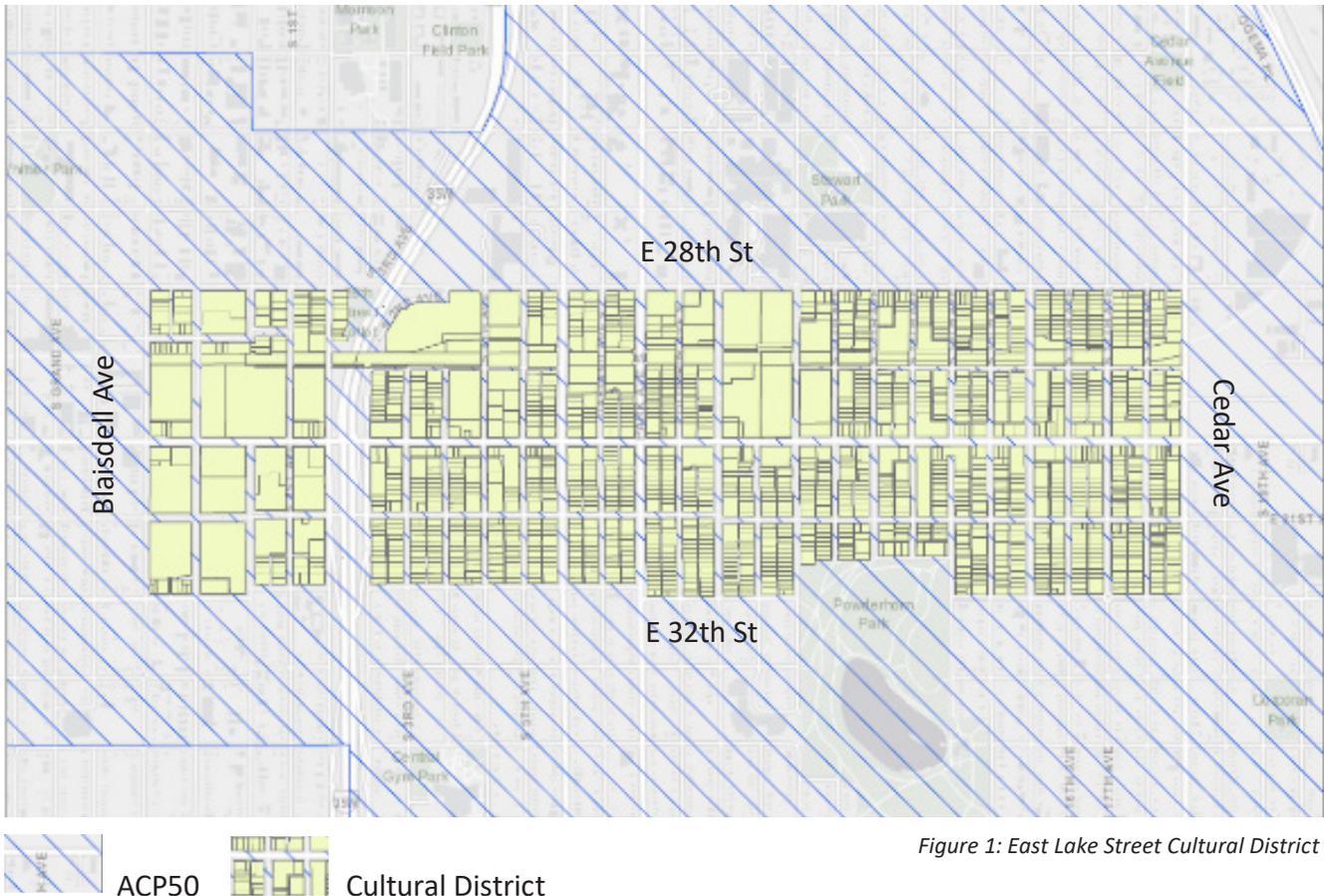


Figure 1: East Lake Street Cultural District

Roadway geometry

Lake Street is a major east-west thoroughfare in south Minneapolis that stretches six miles connecting the City's western border with the City of St. Louis Park, to its eastern border crossing the Mississippi River with the City of Saint Paul.

The Lake Street roadway design varies from west to east (Figure 2), transitioning from a six-lane divided roadway in the west, splitting into a one-way pair of three-lane segments (Lake Street eastbound and Lagoon Avenue westbound) with on-street parking on both sides through the Uptown area. The one-way pair converges east of Dupont Avenue to a four-lane undivided roadway with continuous on-street parking on both sides. Further east, there is a short five-lane undivided segment that includes dedicated left-turn lanes (Portland Avenue to Elliot Ave), as well as four-lane divided segments with turn lanes in the vicinity of Interstate 35W and Hiawatha Avenue (Highway 55).

At 52 of the 86 intersections along Lake Street, at least one quadrant has existing curb bump outs or extensions. Bump outs benefit pedestrians by shortening the crossing distance and improving sightlines. These are especially beneficial in areas with wide streets and heavy parking utilization, as parked vehicles tend to obscure the sightlines of crossing pedestrians. Corridors with bump outs as a standard treatment

at multiple intersections might also experience a traffic calming effect, as drivers may tend to reduce their speed within this perceived narrower street width. Bump outs also provide space for trees, bus stops, and other furnishings. Between intersections, the space between bump outs is generally used for on-street parking.

Most of Lake Street today has four travel lanes and bump outs at intersections (Figure 3). The four-lane undivided segment (East of Dupont Avenue) is most challenging from an operations and safety standpoint for several reasons, including a lack of dedicated turn lanes leading to persistent safety conflicts related to turning vehicles and swerving vehicles trying to avoid turning vehicles.

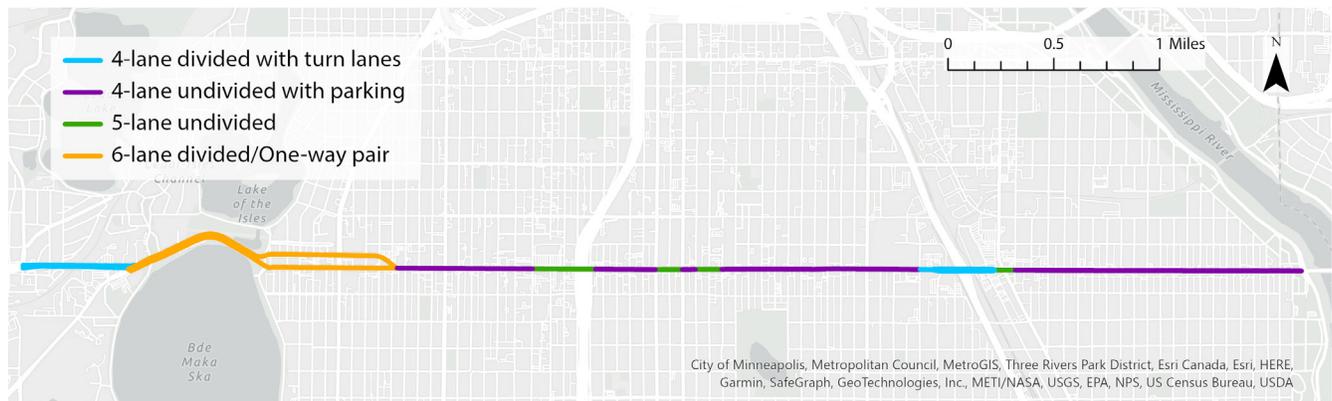


Figure 2: Existing Lake Street lane configuration

Lake Street reconstruction history

Lake Street (east of Dupont Avenue) was reconstructed in 2007, with an anticipated 50+ year service life; as such, the assets are in fairly good condition and do not need to be rebuilt for the foreseeable future. In considering changes that could be implemented with the B Line project, the decision was made that any modifications considered with the B Line BRT project would be limited in scope to between the curbs, consisting primarily of pavement resurfacing, striping, signal modifications, and bump outs where feasible. This was a conscious effort to minimize further disruption to the corridor and preserve existing curb bump outs, parking, streetscaping, and lighting that were largely provided in the 2007 reconstruction efforts. The 2007 design also narrowed travel lanes in order to accommodate these improvements.



Figure 3: Typical Lake Street four-lane undivided section

Traffic statistics and trends

Like many urban arterials, traffic volumes overall have generally been stagnant if not declining along Lake Street for much of the last 20+ years. Traffic volumes vary along the corridor with the heaviest traffic concentrated near Bde Maka Ska (approximately 35,000 vehicles/day) along the six-lane segment, and near the TH 55/Hiawatha interchange (approximately 24,000 vehicles/day), but otherwise ranging between 15,000-20,000 with the lowest counts towards the Mississippi River (approx. 13,000 vehicles/day). Figures 4 and 5 below illustrate traffic count trends from 2003-2019 along the Lake Street corridor at various count locations. Even prior to the COVID-19 Pandemic, where traffic has declined across the system, traffic generally has declined 10%-20% along the corridor since 2005.

With the many residents and destinations along the corridor, there are also people walking and rolling along Lake Street. Outside of Downtown Minneapolis some of the heaviest pedestrian crossing counts observed within Hennepin County are along Lake Street, including 300 daily pedestrian crossings of Lake Street at Hennepin Avenue. Pedestrian crossings are a safety priority throughout the corridor with many vibrant destinations on both sides of the street.

Lake Street Traffic Counts by Intersection (West of I-35W)

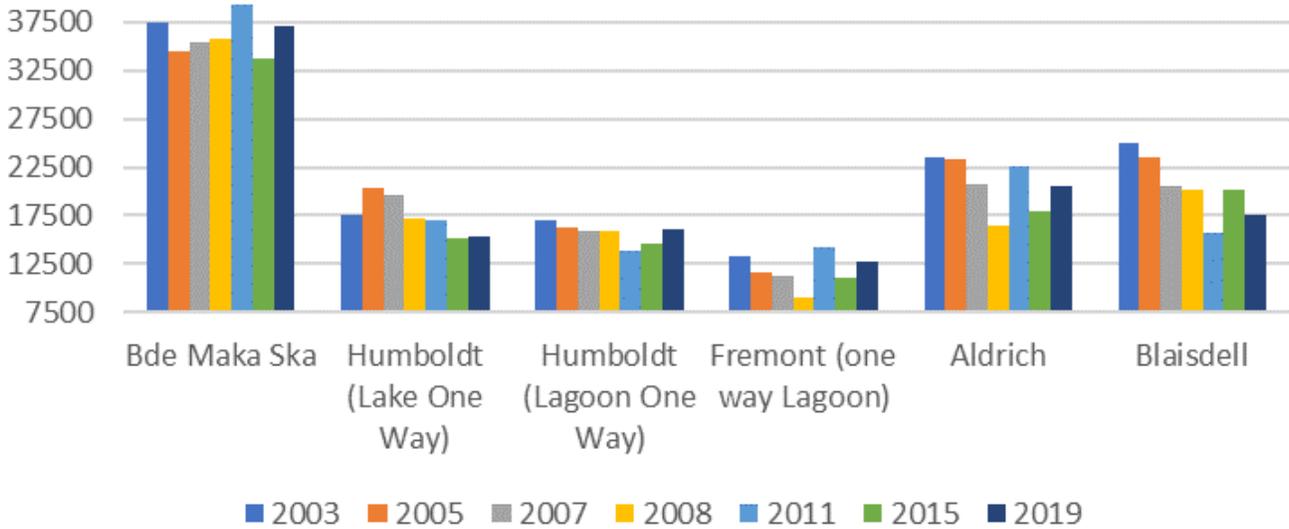


Figure 4: Lake Street traffic count (average # of vehicles per day) trends west of I-35W

Lake Street Traffic Counts by Intersection (East of I-35W)

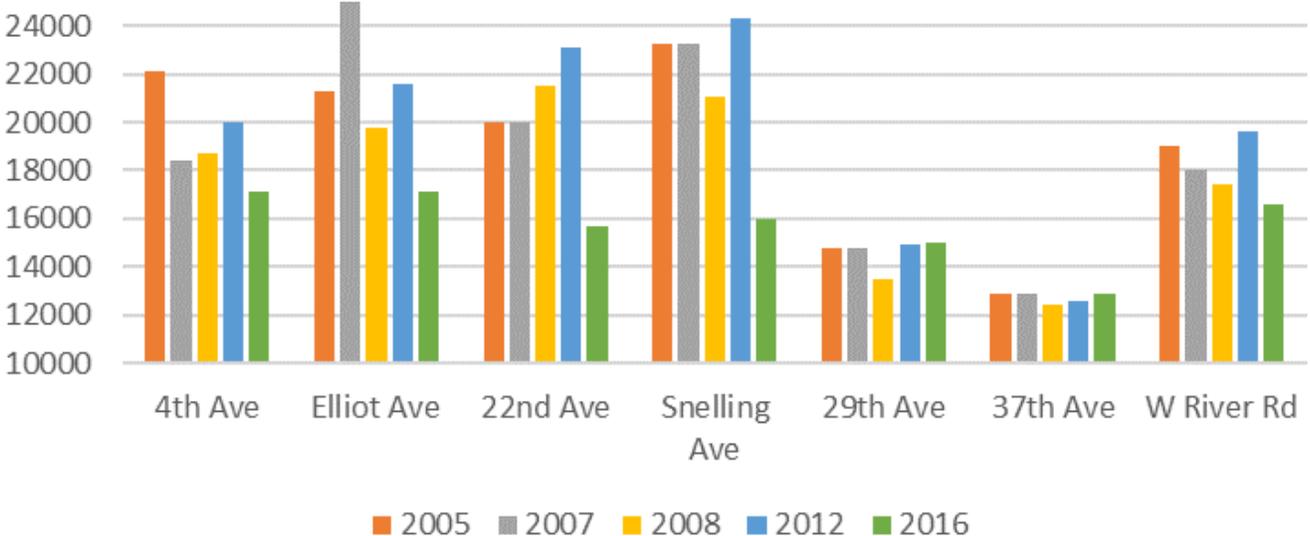


Figure 5: Lake Street traffic count (average # of vehicles per day) trends east of I-35W



High Injury Street designation

Lake Street is the highest crash corridor in Minneapolis, and one of the highest in all of Hennepin County, identified as a High Injury Street in [Minneapolis' Vision Zero Action Plan \(2020-2022\)](#). In 2017 the City of Minneapolis and Hennepin County staff completed a joint study of pedestrian related crashes in the city. The study informed the design recommendations being pursued along Lake Street, as well as recommendations for improvements at ten of the intersections in Minneapolis with the highest concentrations of pedestrian related crashes, including three Lake Street intersections (Lyndale Avenue, Bloomington Avenue, 28th Avenue).

A separate smaller-scale crash study led by county staff conducted between 2017-2019, found that among other safety related issues, left-turns being made from the shared through-lane has led to many rear-end, sideswipe, right-angle, and/or pedestrian-involved crashes along Lake Street (Figure 6). Lack of a left-turn signal phase can lead to pedestrian related crashes as turning motorists are typically focused on looking for a gap in oncoming traffic, with pedestrians crossing as a secondary focus.

In total, 17 intersections along Lake Street are above the citywide average crash rate, and 9 of these intersections above the critical crash rate. When looking specifically at pedestrian related crash frequency, the intersections with the most crashes are at Lyndale Avenue (CSAH 22), Portland Avenue (CSAH 35), and Bloomington Avenue.

Since 2011, 8 people have been killed and an additional 76 severely injured on Lake Street or Lagoon Avenue. Lake Street has 11 of the 100 highest crash intersections in the Twin Cities metro and 5 of the top 100 highest crash intersections in Minnesota. Lake Street/Lagoon Avenue is especially problematic for pedestrian and bicycle safety with 16 of the 100 highest pedestrian and bicycle crash intersections in the entire state. ([2017 Pedestrian Crash Study](#) and [2018 Vision Zero Crash Study](#)). Most of these highest crash intersections are located between Lyndale Avenue and Cedar Avenue (see Figure 6).

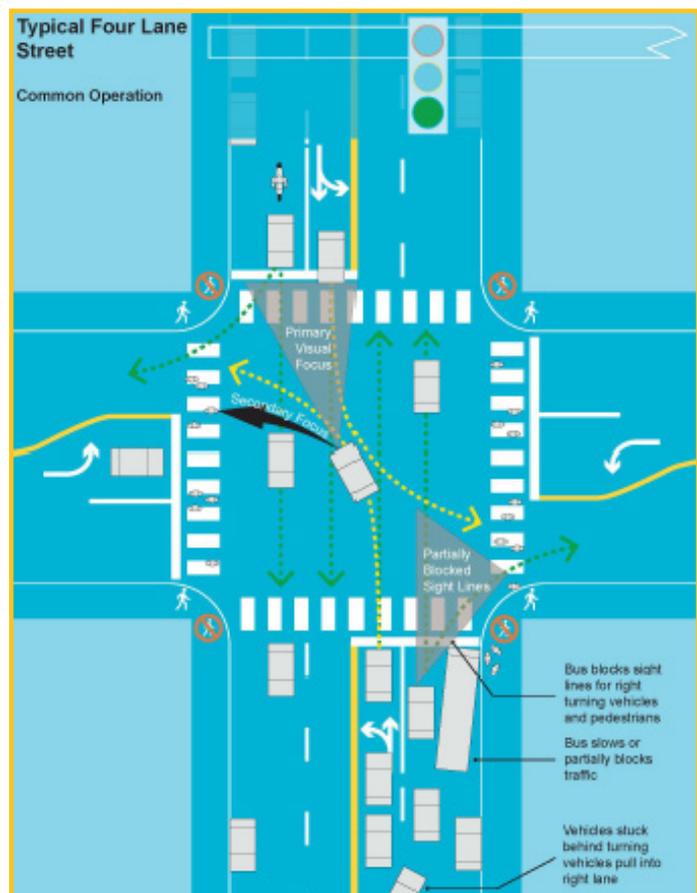


Figure 6: Typical four-lane street safety issues

Intersection	Total Crashes	Fatal & Severe Injury Crashes	Pedestrian & Bicycle Crashes
Lake St & Lyndale Ave	191	2	28
Lake St & Cedar Ave	145	3	13
Lake St & Park Ave	126	2	13
Lake St & 1st Ave	126	1	12
Lake St & 2nd Ave	121	1	8
Lake St & Excelsior Blvd	115	1	3
Lake St & Blaisdell Ave	114	2	17
Lake St & Chicago Ave	112	1	14
Lake St & Stevens Ave	112	2	10
Lake St & Portland Ave	105	5	5
Lake St & Bloomington Ave	102	3	10
Lake St & Hennepin Ave	96	2	12
Lake St & Pillsbury Ave	91	1	15

Figure 7: Highest Crash Intersections on Lake Street, 2011-Sept. 2021

Lake Street transit today

Today, Metro Transit Route 21 provides local bus service along Lake Street in Minneapolis and connects transit users to Marshall and Selby Avenues in Saint Paul. An overview of the existing Route 21 alignment is shown in Figure 8. Throughout the western portion of the B Line corridor, including Lake Street between Hennepin Avenue and the Mississippi River, Route 21 operates every 15 minutes or better throughout the day on weekdays and Saturdays, and every 20 minutes or better on Sundays.

Reflecting regional and nationwide trends, ridership has declined in recent years both before and

1

Source for all crash data presented here: MnDOT MnCMAT. 2011-Sept. 2021 data accessed October 2021. Metro and statewide comparisons exclude Interstate Highway crashes.

during the COVID-19 pandemic. In 2019, customers took more than 10,000 rides on Route 21 each weekday, making it Metro Transit’s second busiest bus route. Figure 9 shows the average weekday ridership on Route 21 over the past ten years.

In some places along the corridor prior to the pandemic, buses carried approximately 20 percent of people traveling by vehicle on Lake Street but made up less than 2 percent of vehicle traffic (Figure 10).

Despite high ridership, Lake Street is also one of the slowest transit corridors in the region. During peak periods and the middle of the day, buses regularly slow to an average speed of 8 miles per hour (Figure 11). Frequent stops, lines of customers waiting to board, and time stopped in traffic or at red lights mean that buses are moving less than half the time they are operational. These delays are greatest during time periods when transit ridership is highest and when volumes of auto traffic are highest, highlighting a need to reduce the amount of time that buses are stopped while customers enter and exit the vehicle along with a need to reduce the amount of time that buses are stopped due to general traffic.

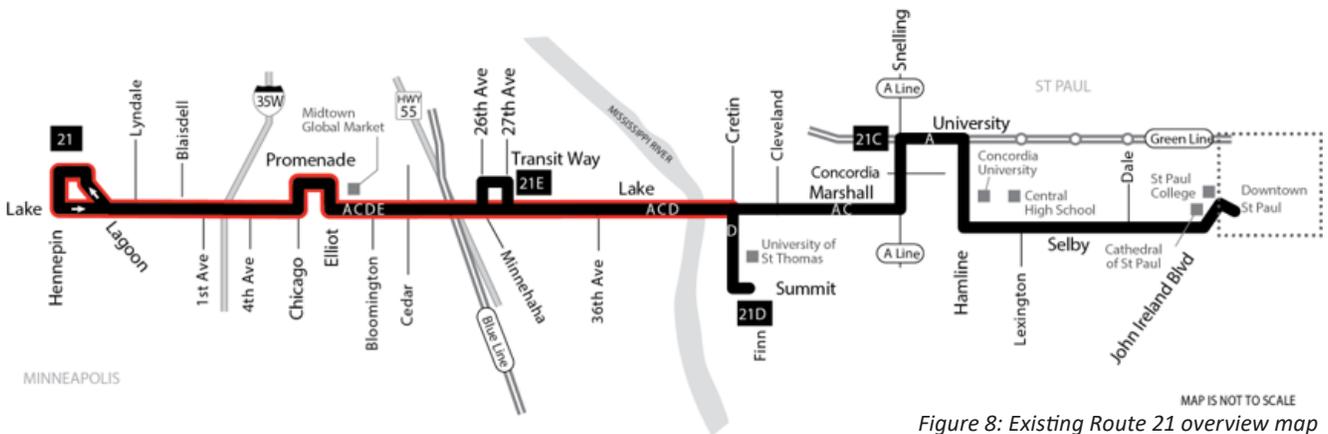


Figure 8: Existing Route 21 overview map

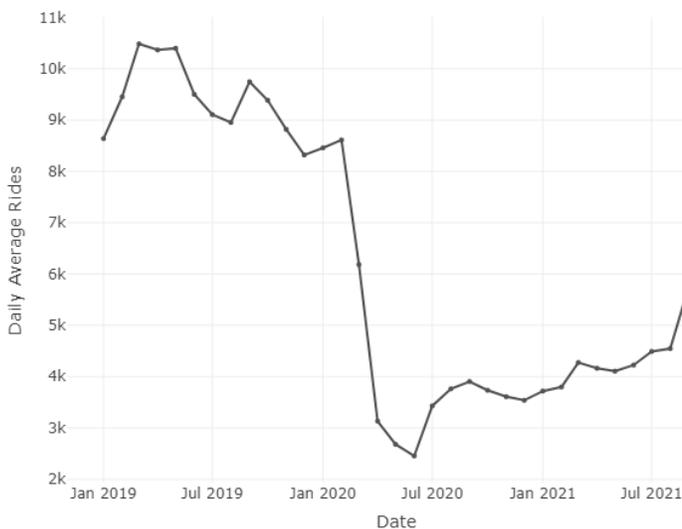


Figure 9: Route 21 average weekday ridership, 2011 - 2021

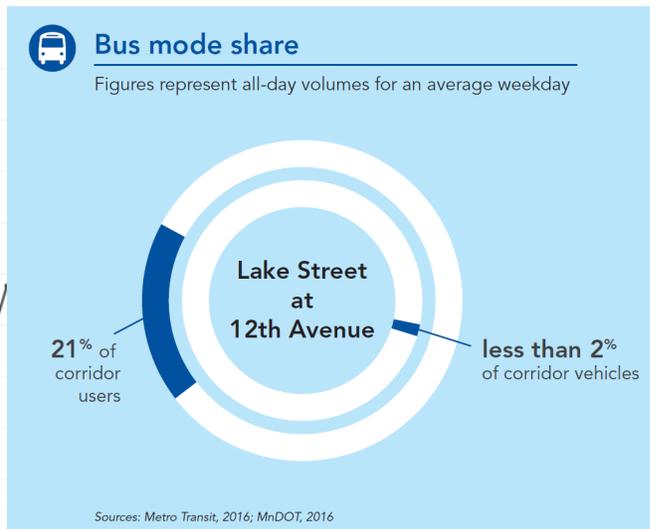


Figure 10: Transit users and buses as a percentage of total corridor users and vehicles

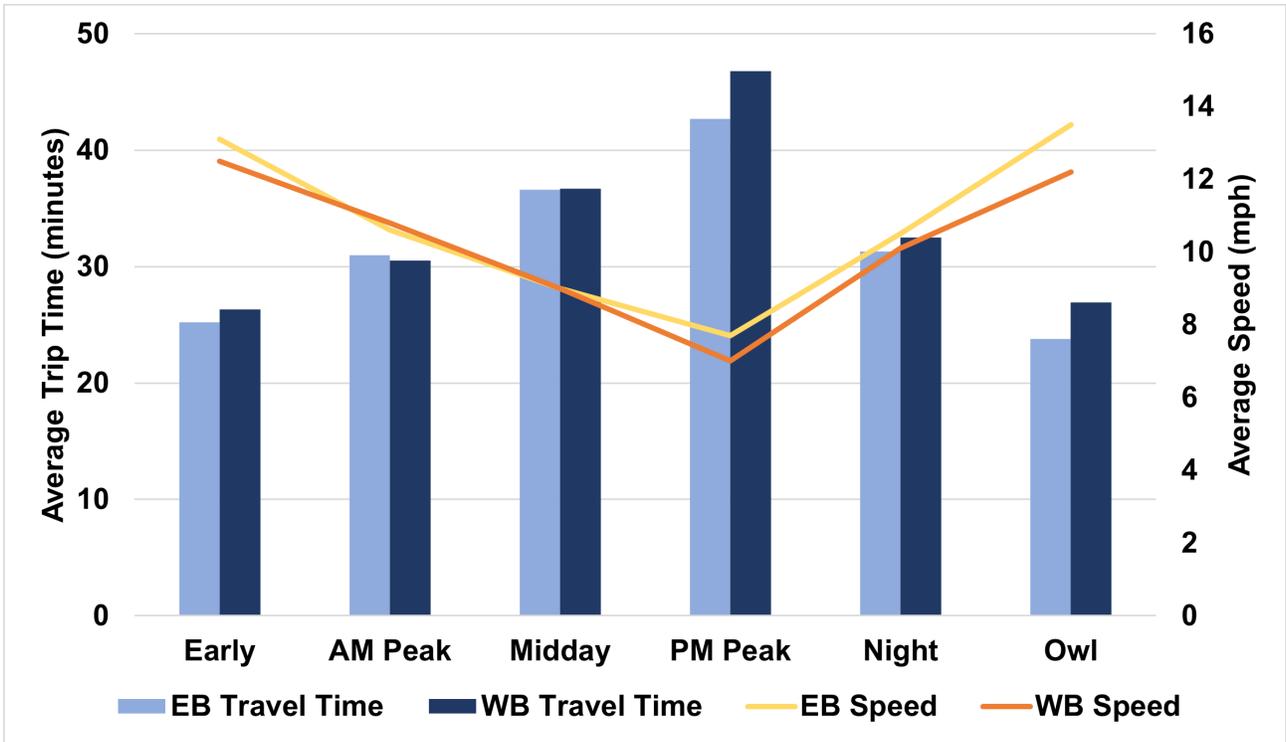


Figure 11: Route 21 average speed and travel time on Lake Street between Uptown Transit Station and the Mississippi River by time of day, Spring 2018

In addition to service delays, passenger waiting facilities along Lake Street are limited at many Route 21 stops due to narrow sidewalks. Where shelters exist, they can be undersized for ridership activity at stops (Figure 12). Narrow sidewalks limit the placement of waiting shelters without blocking pedestrian travel paths. Most existing stops also lack heating, transit information, adequate lighting, and any security features. The limited passenger facilities belie the level of local Route 21 service on the corridor today.

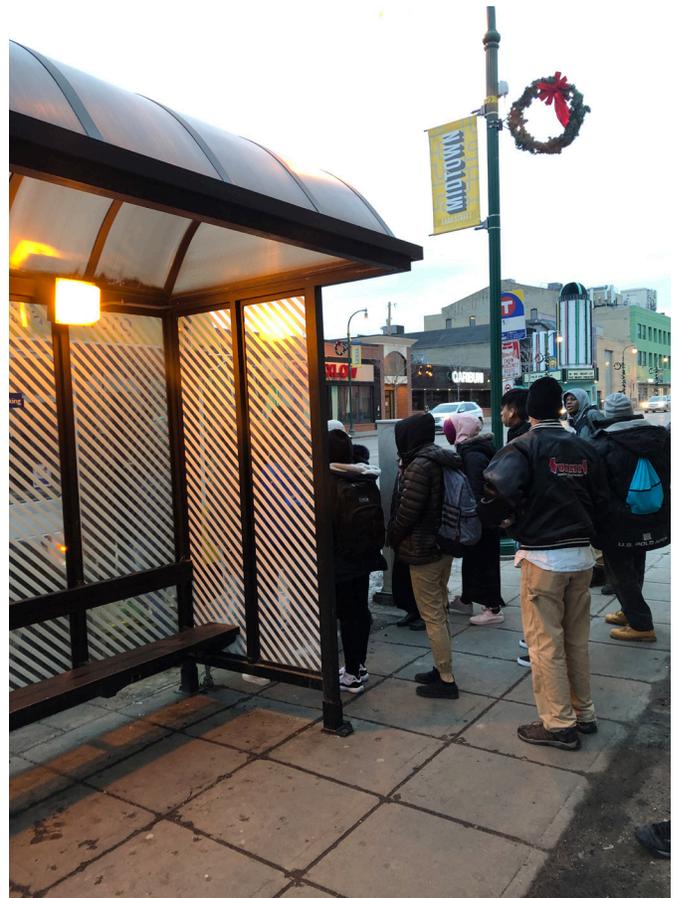


Figure 12: Existing Route 21 passenger facilities





Lake Street in 2020: COVID-19 and civil unrest

In the summer of 2020, Lake Street became the epicenter of much of the pain and destruction experienced during the civil unrest following the murder of George Floyd. The dual impacts of the COVID-19 pandemic and civil unrest left many businesses damaged or destroyed (Figure 13). Every business along Lake Street was impacted in some way. Current recovery efforts are underway to restore Lake Street. Between the extraordinary challenges of the civil unrest, COVID-19 and the on-going reconstruction of the [35W@94 Crosstown to Downtown project](#), these small businesses have been through a lot; minimizing further disruptions with any proposed roadway improvements is an important goal.

In response to the overwhelming recovery needs in corridors impacted by multiple crises, Hennepin County awarded \$5,295,769 to 512 businesses, which represents over 7.5% of the county's total small business relief grant funding. Also, Hennepin County and the Hennepin County Housing and Redevelopment Authority support the recovery and rebuilding of Lake Street and other commercial corridors through ongoing funding (such as Transit Oriented Development, Affordable Housing Incentive Fund, Supportive Housing Capital) for development and redevelopment projects. Over \$4 million has been invested in 12 redevelopment projects within two blocks of the Lake Street corridor since 2020. Additional information about Restoring Lake Street can be found at the Visit Lake Street website: <https://www.visitlakestreet.com/recovery>.



Source: [wikimedia commons](#)



Source: [creative commons](#)

Figure 13: Building damage following civil unrest in 2020

Lake Street Transportation Projects

Recently completed projects

- [Interstate 35W reconstruction](#) The recently completed Interstate 35W reconstruction project (the 35W@94 Crosstown to Downtown project) provides significant enhancements for all modes at Lake Street. A new southbound I-35W exit ramp at Lake Street was constructed to better provide direct access to local businesses and residents. Reconstruction of Lake Street itself between Blaisdell and 5th Street was included in the scope of work, providing an upgraded roadway section (4-lane divided with dedicated left turn lanes) complete with

new pavement, utilities, sidewalk, signals, signage, and BRT-ready transit stations at Lake and Nicollet, Lake and I-35W and Lake and 4th/5th Avenue.

- [I-35W/Lake St Transit Station](#) As a part of the I-35W reconstruction, a new transit station was built at I-35W & Lake St Station to serve express and highway BRT service (the METRO Orange Line). The station is two stories and located between the northbound and southbound lanes of I-35W at freeway level. This station will allow customers to board both Orange Line and I-35W express bus routes on the freeway level, and will provide easy connections to Lake Street, local bus routes and the Midtown Greenway. The station is ADA (Americans with Disabilities Act) accessible and provides a significant upgrade in comfort and safety over previous bus stops.
- [Green Crescent trail connection to Midtown Greenway](#) Also a part of the I-35W reconstruction, the Green Crescent Trail is a one-block stretch of greenspace that connects Lake Street and the Midtown Greenway

Current/upcoming projects

- **Lake Street at Thomas Avenue and Dean Parkway** signalized intersections (2022/2023) The project will upgrade traffic signals, add new mast arms, countdown timers, and pedestrian crossing push buttons APS (Accessible Pedestrian Signals). The project also reconfigures lane striping to provide 3 continuous through lanes, realigning both the westbound and eastbound lanes and redoing the concrete medians.
- **Hiawatha (Highway 55) and Lake Street (2023)** Reconstruct Lake Street and Hiawatha interchange and replace traffic signal systems. The changes include simplifying movements for all users by removing “free-right turn lanes” and realigning the connecting ramps to create more typical 90-degree intersections. Better lighting and reduced pedestrian crossing distances are significant improvements included in the project.
- **Cedar Avenue and Lake Street (2023)** As part of safety improvements at five pedestrian crossing locations in South Minneapolis, the Cedar Avenue and Lake Street signalized intersection will be updated with the goal of improving pedestrian safety and comfort. Hennepin County and Metro Transit plan to construct these improvements in conjunction with the B Line project.





City of Minneapolis Plans for Lake Street

The City of Minneapolis has several plans and policies which call out Lake Street within their respective actions and strategies.

Minneapolis 2040 Comprehensive Plan

[The Minneapolis 2040 Comprehensive Plan](#) shapes how the city will grow and change over the next two decades. It provides high-level policy and vision for 11 topics, including transportation. Policy 20 Transit calls to “increase the frequency, speed, and reliability of the public transit system in order to increase ridership and support new housing and jobs.” This policy supports goals of complete neighborhoods and climate change resilience. Vision Zero is also one of the policies in the transportation section. The Vision Zero guiding principles relate directly to many goals in Minneapolis 2040. Some of these include “Healthy, safe, and connected people” and “Complete neighborhoods.”

Transportation Action Plan (TAP)

[The City’s Transportation Action Plan](#) articulates how the City plans to implement the vision outlined in Minneapolis 2040 within the first 10 years (2020-2030).

A few strategies and actions that impact the City’s approach to potential improvements on Lake Street include:

[The All Ages and Abilities Network](#) has identified bikeway facilities to the east and west ends of the corridor:

1. A connector or long-term low stress bikeway between Hiawatha and the Mississippi River.
2. A near-term low stress bikeway on Lake Street between East Bde Maka Ska Parkway and Hennepin Avenue.

[Transit Action 2.3](#): Evaluate the potential for a bus-only lane and/or other transit advantages on the following corridors, considering partnerships with other jurisdictions.

1. Lake Street (and Lagoon Avenue) from the western city boundary to the eastern city boundary

[Street Operations Action 2.2](#):

1. Prepare final evaluation of 4-lane undivided streets for safety conversions; potential design solutions include 4-to-3 lane conversions. Current 4-lane undivided streets for evaluation include “Lake St segments between Dupont Ave and West River Pkwy”

[Street Operations Action 2.3](#):

1. Evaluate the reconfiguration of 3-lane one-way streets to reduce travel lanes or add alternative uses.

Vision Zero Action Plan - 2020-2022

In 2017, the City adopted a Vision Zero Policy that committed to ending fatal and severe injuries on City streets within 10 years. As previously mentioned, Lake Street is one of the highest crash corridors in Minneapolis, and all of Hennepin County, and is identified as a High Injury Street in the [Vision Zero Action Plan](#) (2020-2022).

Strategy 2: Make cost-effective safety improvements systematically and rapidly on High Injury Streets.

2.2: Partner with Hennepin County to proactively implement safety conversions (for example, 4-to-3 lane safety conversions) or other safety treatments to address high-injury 4-lane undivided streets they own. High Injury Streets with 4 lanes include sections of Lowry Avenue N and NE, Broadway Avenue N and NE, Washington Avenue N, Lyndale Avenue S, Lake Street, Franklin Avenue, and 46th Street E.

Minneapolis Complete Streets Policy

The City of Minneapolis adopted a Complete Streets Policy in 2016 and updated in 2021. The Policy established a modal hierarchy that holds throughout all phases of planning, design, construction, and operations of City streets. The updated Complete Streets policy includes references to micromobility, freight and green stormwater infrastructure. The Complete Streets Policy has been an important framework to guide project design and street operations.

By implementing the Complete Streets Policy, the City will advance its goal of having 3 out of every 5 trips taken by walking, biking, or transit by 2030, as adopted in the TAP. Through the Complete Streets policy, the City is committing to routinely design and operate the entire right of way to prioritize safer, slower speeds for all people who use the road, over high speeds for motor vehicles. This means that every transportation project will make the street network better and safer for people walking, rolling, biking, riding transit, and driving, making Minneapolis a better place to live.

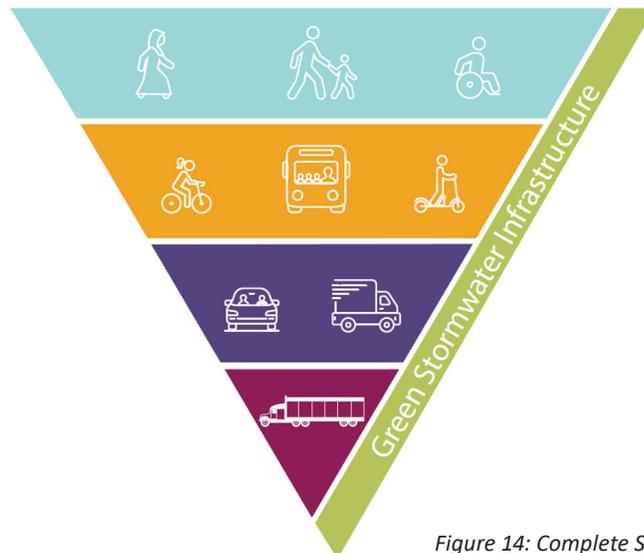


Figure 14: Complete Streets modal hierarchy



Stormwater Ordinance and Green Infrastructure

Minneapolis Green Zones

Part of Lake Street (between I-35W and Hiawatha Avenue) is identified as the [Minneapolis Southside Green Zone](#) (Figure 15), which includes the greater Phillips community. A Green Zone is a place-based policy initiative aimed at improving health and supporting economic development using environmentally conscious efforts in communities that face the cumulative effects of environmental pollution, as well as social, political and economic vulnerability. Some of the goals of the Green Zone Initiative include:

- Improving air quality, livability, and pollinator habitat through vegetation, clean energy, and energy efficiency;
- Improving air and environmental quality in business and transport.

As part of a Green Zone, the Lake Street corridor is a high priority for reducing impacts of traffic pollution and increasing greening, especially trees and green stormwater infrastructure, and reducing impervious area.

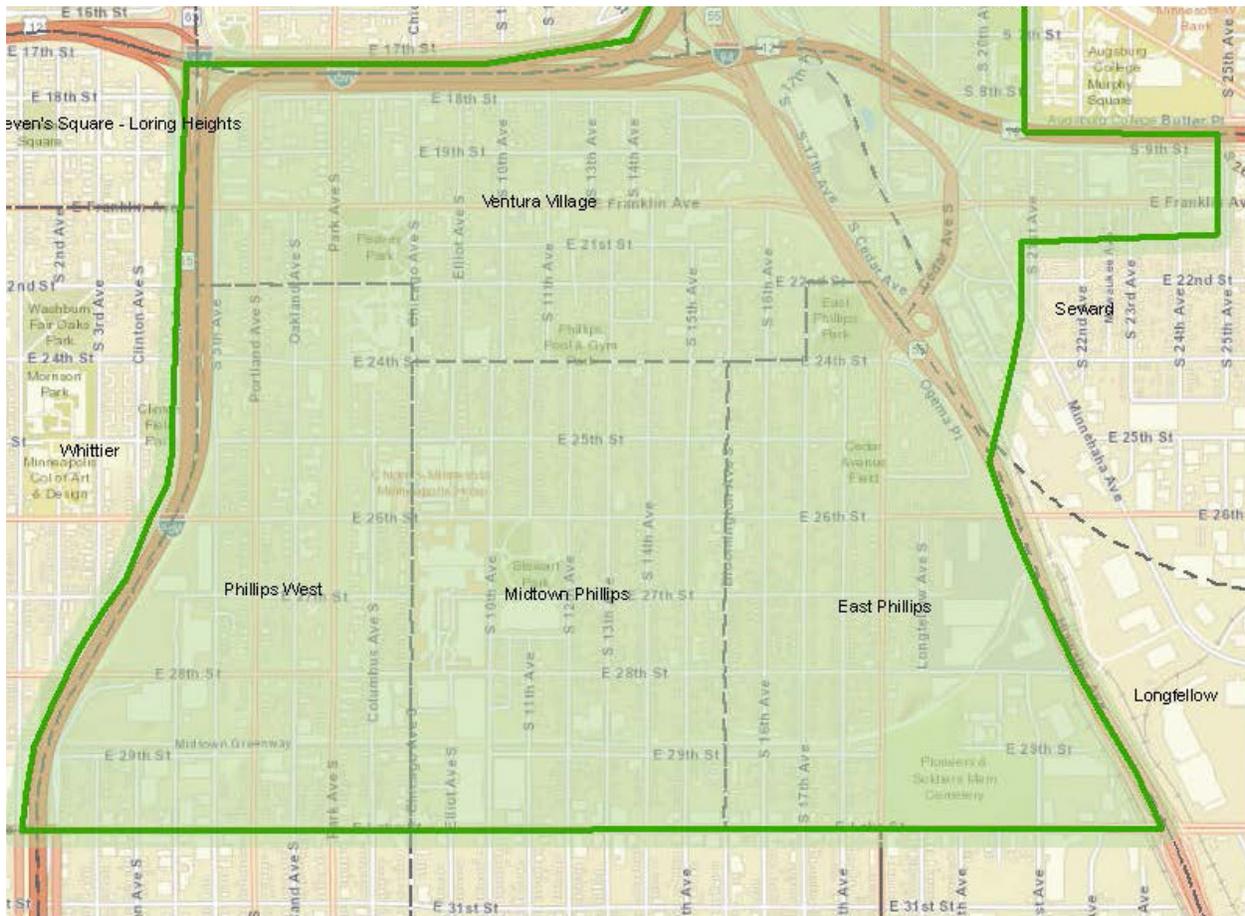


Figure 15: Minneapolis Southside Green Zone

The City of Minneapolis recently updated its Stormwater Ordinance which went into effect in 2022. The Chapter 54 Stormwater Ordinance requires that projects that disturb over ½ acre of land incorporate stormwater management that meets the following requirements:

- Reduce stormwater volume by an amount equivalent to 0.55” over the newly reconstructed impervious area;
- Provide water quality treatment to remove 70% of Total Suspended Solids (TSS) from the project runoff during a 1.25” storm event;
- Meet or reduce the peak discharge from the project area as compared to the existing conditions.
- The project will not trigger the ordinance since the total disturbance area, while more than ½ acre, is not directly connected.

Hennepin County Plans for Lake Street

Outside of the completed, on-going, and programmed projects, county staff have identified the pavement condition of a majority of Lake Street being due for an overlay in the next 5-10 years. This scope of work is typically limited to a mill and overlay of the pavement (between the curbs) with upgrades of non-ADA compliant curb ramps at intersections. This work is not uncommon for a roadway 15-20 years following a complete reconstruction. With the concerning safety history along Lake Street, and upcoming pavement needs, the B Line project offers a unique opportunity to address corridor-wide needs beyond station locations in an expedited manner.

One key recommendation from the 2017 Pedestrian Crossing Study Hennepin County and City of Minneapolis staff are planning to incorporate into the Lake Street restriping plans is pursuing dedicated left-turn lanes/signal phasing at high-volume intersections (Lyndale, Cedar, Bloomington). In a constrained urban environment, adding left-turn lanes at intersections involves tradeoffs with other street uses including the goal of reducing pedestrian crossing distances. A protected left turn phase eliminates the possibility that a driver will misjudge simultaneous gaps in oncoming traffic and pedestrians in the crosswalk; as the driver simply turns only when there is a green arrow. This operation has significant potential for reducing severe and fatal crashes for pedestrians crossing legally within the crosswalk. A Left Turn Pedestrian & Bicyclist Crash Study completed by the NYDOT found that installing protected left-turn signals reduced left-turn pedestrian and bicycle serious injuries and fatalities by 33 percent.

A key takeaway from the follow-up 2019 Hennepin County crash study was the comparison of Lake Street crash data and traffic volumes to Marshall Avenue in Ramsey County. The segment of Marshall Avenue east of the Mississippi River was a 4-lane undivided roadway that was converted to a 3-lane section at least 20 years ago. The section of Marshall Ave that was reviewed has Daily Traffic ranging from 15,800 to 19,200 vehicles per day. Locations with different traffic volumes and number of years of crash data can be compared using crash rates, to account for vehicle exposure (number of vehicles per day and number of days). Intersections with similar traffic and intersections with similar entering



vehicles from Lake Street and Marshall Avenue were compared. In all comparisons, intersections on Marshall Avenue experience much lower crash rates than those along Lake Street. The intersection of Lake Street & Pillsbury Avenue has similar traffic counts as the intersection of Marshall Avenue & Prior Avenue, yet it has 2.3 times the crash rate and over twice the number of crashes.

Hennepin County Complete Streets Policy

As the first Minnesota county to adopt a Complete Streets policy (2009), Hennepin County recognized the importance of addressing the needs of transit riders, bicyclists, and pedestrians along with the needs of motorists. The policy has been recognized by the National Complete Streets Coalition as one of the top policies in the nation. Complete Streets are designed, built, and maintained to be safe and convenient for people of all ages and abilities — whether they are walking, biking, taking transit, or driving. County staff are currently in the process of updating our policy to better align with the current priorities.

The update will carry forward important aspects including:

- A focus on residents with consideration of the character of area, community values, and user needs
- Enhanced safety, mobility, and accessibility for all corridor users
- Design that is context sensitive, with each project looking different based on the community and setting

To date, Hennepin County staff has focused on researching complete streets and green streets best practices and drafting an outline and content with the lens of several county initiatives, including:

- Disparity reduction
- Climate action
- Transportation safety
- Towards zero deaths efforts

Hennepin County Climate Action Plan

Approved by the Hennepin County Board of Commissioners in May 2021, the Hennepin County Climate Action Plan formally adopts goals and strategies to reduce the County's carbon footprint as an agency across multiple business lines. For the transportation division among other targets, this means reducing vehicle miles traveled (VMT) within the county and partnering on more efficient and frequent transit on county roadways. This will involve advancing the Minnesota Department of Transportation's (MnDOT) goal of 20% reduction in VMT by 2050 by developing a more ambitious goal for Hennepin County that reflects Hennepin County's role in the state as a more densely populated county, and also reflects rural, suburban, and urban contexts within Hennepin County.

Modeling Considerations

Hennepin County Climate Action Plan

One strategy from the recently approved Hennepin County Climate Action Plan is to incorporate traffic modelling with zero and reduced traffic growth in forecasting future roadway needs. County staff supported utilizing a pilot example of this through Lake St/B Line supplemental modelling, retaining existing traffic data in 2040 assumptions. Historically, regional traffic modelling assumptions for growth in many parts of Minneapolis had been assumed to be around 0.5% annually. This decision is supported by observations that traffic counts at all locations along Lake Street have been stagnant if not in decline since the early 2000's (Figure 4 and 5).

Minneapolis Transportation Action Plan

The City's 10-Year Transportation Action Plan's [Minneapolis Streets 2030](#) has identified three major metrics to monitor in order to meet the Climate and Equity goals, including mode shift, greenhouse gas reduction, and reduction in vehicle miles traveled. The City has set a goal of having 60% of trips taken by means other than a car - 35% by walking and biking and 25% by transit. Mode split measures the percentage of travelers using a particular type of transportation (walk, bike, transit, car) for all trips that start or end in Minneapolis. Mode split goal: 3 of 5 trips taken by walking, biking, transit (Figure 16).

All trips starting and ending in Minneapolis; mode split (2010) and mode split goal (2030)

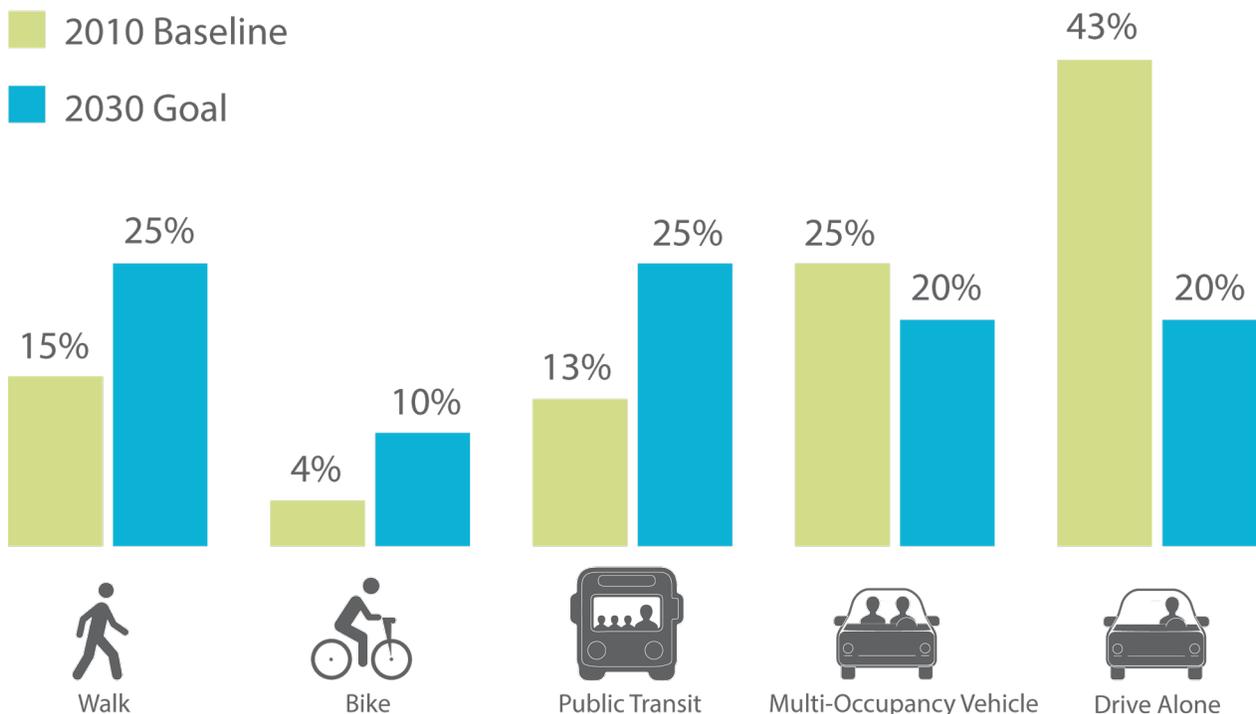
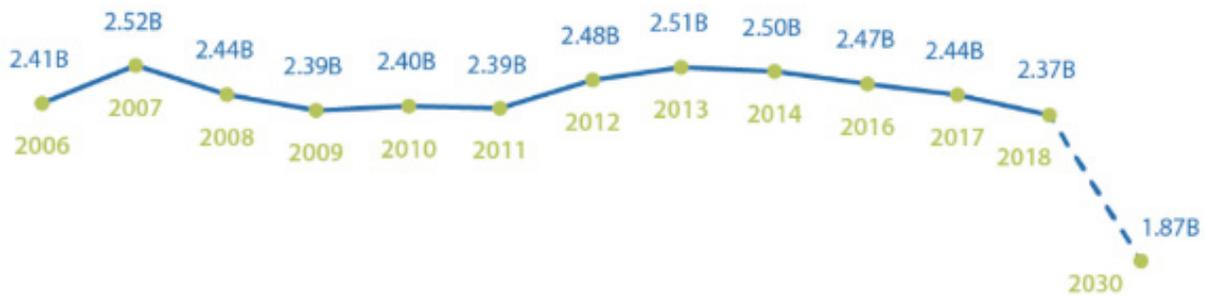


Figure 16: Minneapolis TAP mode split goal

Vehicle miles traveled reduction measures the total number of vehicle miles driven in the city of Minneapolis. Reducing VMT is important to reach citywide transportation goals around equity, safety and mobility, and also helps reduce pressure on the right of way constraints that are prevalent in urban environments.

VMT reduction goal: 1.8% reduction per year, to align with 80% reduction in greenhouse gases by 2050 (from 2006 baseline), in line with City’s Climate Action Plan and Minneapolis 2040 (Figure 17).

Vehicle miles traveled historically and projected to reach City's goal



Source: Minnesota Department of Transportation (MnDOT); Roadway Data, VMT by Route System in each City, within each County

Figure 17: Minneapolis TAP VMT reduction goal

The following TAP actions helped guide the approach to the conversation around Lake Street modeling and proposed improvements (Figure 18)

DO	<p>ACTION 3.1 2020-2023 (YEARS 0-3); ON-GOING</p> <p>Plan and design for zero or decreasing motor vehicle trip growth and positive growth in other modes for trip forecasting for street projects where the City is the primary implementer. Work with project partners to encourage this approach in project planning when the City is a partner versus a lead.</p>	Climate, Mobility	Medium
DO	<p>ACTION 3.2 2020-2023 (YEARS 0-3); ON-GOING</p> <p>Discontinue the use of vehicular level of service except where necessary to meet funding, legislative or other jurisdictional requirements. <i>See Walkina Action 2.7</i></p>	Mobility	Medium
DO	<p>ACTION 2.7 2020-2023 (YEARS 0-3); ON-GOING</p> <p>Discontinue the use of vehicular level of service and/or vehicle counts as sole justification for the installation of traffic signals, and include pedestrian and bicycle counts in the evaluation of new traffic signal need. <i>See Street Operations Action 3.2</i></p>	Safety, Mobility	Medium

Figure 18: Minneapolis TAP actions

Metro Transit Plans for Lake Street – METRO B Line BRT

The B Line is a planned arterial BRT line that will upgrade and substantially replace Route 21 on Lake Street (Figure 19). The goals of the B Line project are to:

- Provide faster, more reliable transit service along the Route 21 corridor
- Improve transit experience at stops and on vehicles
- Expand equitable access to destinations
- Provide efficient connections to the existing and planned transit network

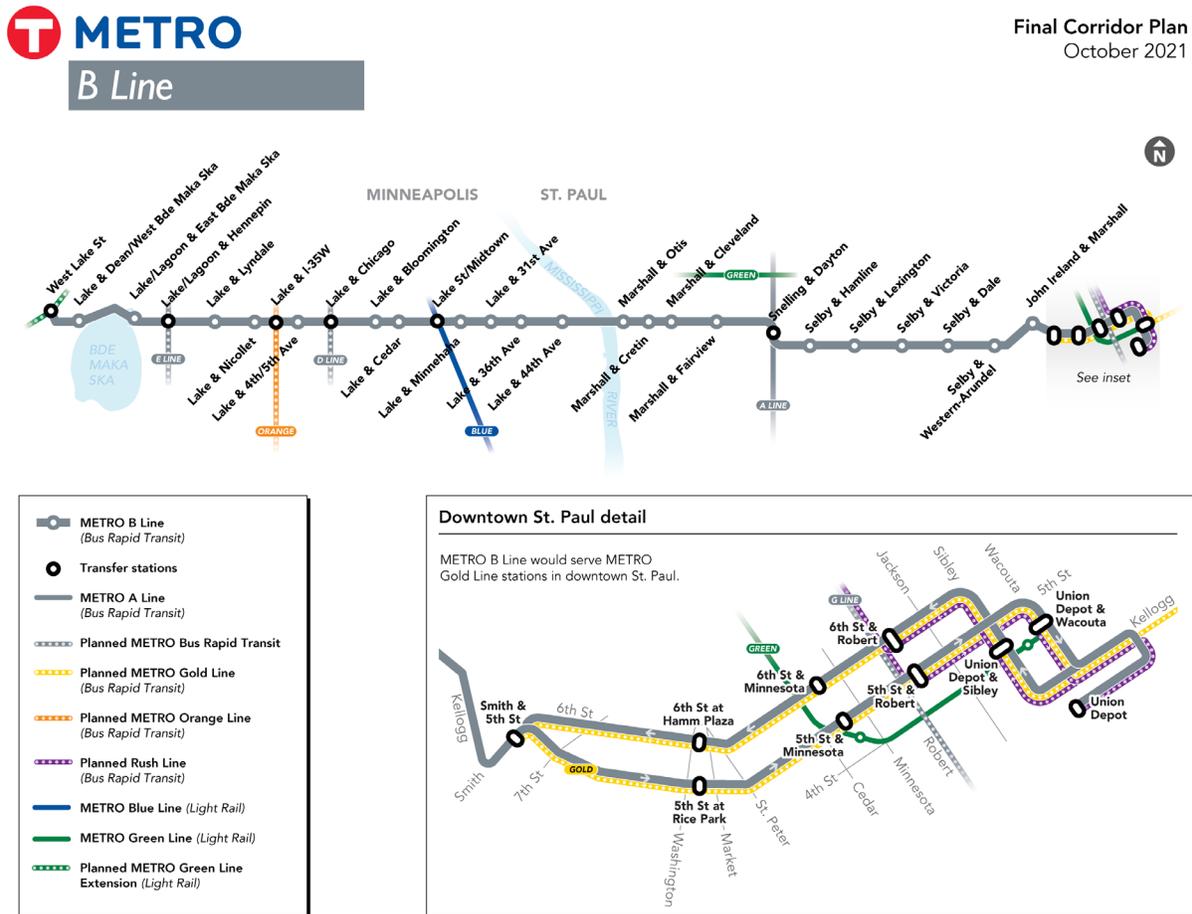


Figure 19: B Line corridor map

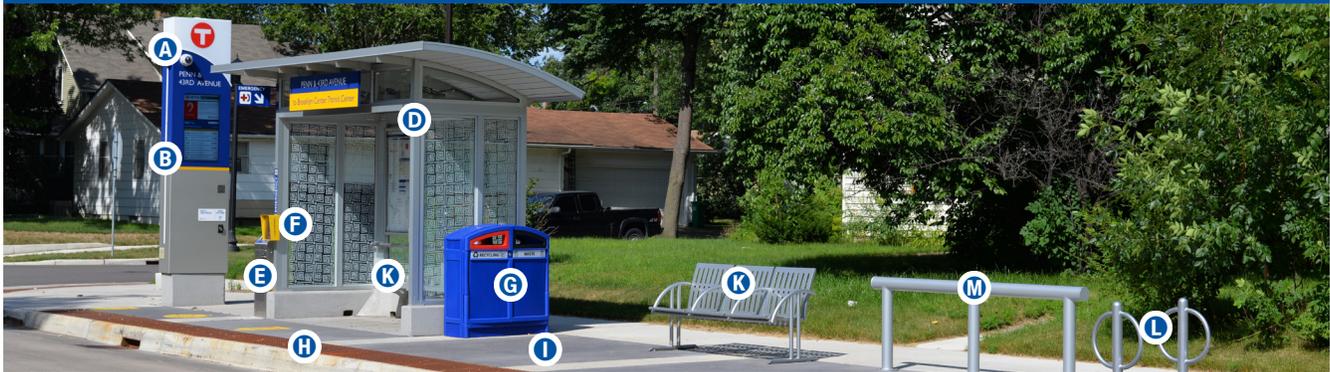


B Line project scope

Arterial BRT provides faster and more efficient service than regular route service, and station and bus amenities that foster an improved customer experience. See Figure 20 for the design and features of arterial BRT stations in the Twin Cities. The B Line will build stations and make improvements at 17 intersections along Lake Street, along with additional stations to the east in Saint Paul. The B Line is not a linear project, nor does it include full reconstruction of the street at any location along Lake Street.

In addition to improved facilities for transit users, providing faster and more reliable transit service is a key goal for the B Line project. Specifically, the project seeks to improve transit travel times by 20%. Buses along the Lake Street corridor experience delays all day and in both directions. Passenger delay (time buses are delayed multiplied by the number of riders on buses in a given location) is most substantial in the portion of the corridor between Lyndale Avenue and Hiawatha Avenue, where both the number of people on the bus is greatest and buses move the slowest (Figure 21).

What will stations look like?



A Pylon markers help riders identify stations from a distance.

B Real-time NexTrip signs provide bus information, and on-demand annunciators speak this information for people with low vision.

C Utility boxes near station areas house necessary communications and electrical equipment. (not pictured)

D Shelters provide weather protection and feature push-button, on-demand heaters and shelter lighting. Shelter sizes will vary based on customer demand (small shown here).

E Ticket machines and fare card readers collect all payment before customers board the bus.

F Emergency telephones provide a direct connection to Metro Transit police. Stations also feature security cameras.

G Stations feature trash and recycling containers.

H Platform edges are marked with a cast-iron textured warning strip to keep passengers safely away from the curb while the bus approaches. Many stations also feature raised curbs for easier boarding.

I Platform areas are distinguished by a dark gray concrete pattern.

J Some stations have pedestrian-scale light fixtures to provide a safe, well-lit environment. (not pictured)

K Benches at stations provide a place to sit.

L Most stations have bike parking.

M At some stations, railings separate the platform from the sidewalk.



11-08-11281-19

Figure 20: Arterial BRT stations



Figure 21: Lake Street transit passenger delay

B Line timeline and key documents

Following the [Arterial Transitway Corridors Study](#) and the Midtown Corridor Alternatives Analysis, the B Line corridor was identified as the region’s fourth planned arterial BRT line in 2016.

Planning Phase (2019-2021)

The planning phase for the B Line began in 2019 and included review of early station location recommendations and specific planning issues. A [Corridor Plan](#) was developed by Metro Transit staff throughout 2019 and 2020 with inputs and feedback received from an interagency Technical Advisory Committee consisting of representatives of agencies along the corridor, including Hennepin County and the City of Minneapolis, and through community outreach and engagement activities.

Two preliminary versions of the B Line Corridor Plan were distributed for public review and comment in 2021. Following review and incorporation of comments (including agency comments as included in Appendix C of the Corridor Plan), the Metropolitan Council adopted and approved the Final B Line Corridor Plan in October 2021. The approved B Line Corridor Plan finalized station locations to inform the design phase.

Design Phase (2021-2022)

Following approval of the corridor plan, design of stations and other related corridor improvements began in fall 2021 and is anticipated to continue until the end of 2022. As in the planning phase, development of B Line station design includes close coordination with agencies along the corridor, including Hennepin County and the City of Minneapolis.

Construction Phase (2023-2024)

After completion of design in 2022, the B Line construction is targeted to begin in 2023. Construction of some B Line stations will be coordinated with other projects and may be built sooner. In other places, the B Line will use existing station facilities already built in anticipation of the B Line, such as those along Lake Street at 35W. The B Line is planned to open for service in 2024.



B Line anticipated performance

Speed and reliability improvement goal

Providing faster and more reliable transit service is a key goal for the B Line project, which is intended to operate 20% faster than existing service and provide more reliable transit travel times. Metro Transit is planning a core set of improvements as part of the B Line to speed up buses. These include increasing distance between stops, allowing buses to stay within the travel lane while stopping, and placing stops at the far side of an intersection where feasible (under this condition, buses can move through an intersection prior to stopping to allow customers to enter/exit the bus, which decreases time spent waiting at signalized intersections). These changes reduce the number of stops that buses make and the amount of time that buses spend merging into and out of travel lanes. Other standard arterial BRT features, such as off-board fare payment and all-door boarding, reduce the amount of time that buses are stopped while customers enter and exit the vehicle.

This set of improvements has worked in other corridors to achieve 20% faster transit trips, but Lake Street has more congestion and experiences greater speed and reliability challenges than other corridors, such as Snelling, Penn, or Chicago Avenues, where previous arterial BRT projects have been designed. Therefore, in addition to the standard set of arterial BRT improvements, Metro Transit, in partnership with Hennepin County and the City of Minneapolis, has worked to evaluate various packages of bus priority treatments to make the B Line successful in improving speed and reliability.

Types of bus priority treatments

Bus priority treatments include modifications to the timing of traffic signals and changes to roadway sections to provide buses with priority as they move along the corridor. While there are many ways in which bus priority treatments can be applied, they are generally intended to reduce the amount of time that buses spend stopped at traffic signals or slowed by general traffic congestion. This can include changing the timing of traffic signals to provide more time with a green light for all vehicles using a street that BRT buses travel along or it can include a change to traffic signal timing that is only activated when a bus is present. Similarly, street space can be modified to include changes for all vehicles (i.e., identifying a new turn lane to be used by buses and auto traffic) or changes specific to buses (i.e., a bus-only lane). Bus-only lanes implemented on Hennepin Avenue South have been proven to improve bus speeds and reduce variability.

Bus Priority Treatment Options

Bus priority treatments improve transit speed and reliability between stops by changing the designation of street space or the operation of traffic signals.

	Description		Benefit to Transit Users	Considerations
Transit Signal Priority	A traffic signal turns green earlier or stays green longer when a bus approaches		Increases speed and reliability by reducing delay at traffic signals	<ul style="list-style-type: none"> - Works well with in-lane stops - Best used in corridors with long distances between signals and at signals with long cycles - May change signal phasing of cross-street, increasing wait times
Queue Jump Lane	A shared bus/turn lane allows the bus to avoid backed-up traffic and cross the intersection before other vehicles		Increases speed and reliability by allowing buses to move around backed-up traffic at intersections	<ul style="list-style-type: none"> - Enforcement necessary to avoid use by unauthorized vehicles - Atypical signal configuration and phasing - Best at intersections with low right-turn volumes - Can be paired with transit signal priority - May increase wait times for other vehicles
Bus Approach Lane	Exclusive street space for buses as they approach an intersection		Increases speed and reliability by allowing buses to stay in lane and avoid backed-up traffic at intersections	<ul style="list-style-type: none"> - Enforcement necessary to avoid use by unauthorized vehicles - Best at intersections with high right-turn volumes - Can be paired with transit signal priority - May increase queue lengths in adjacent lane - Can be used all day or peak-only
Bus-only Lane	Exclusive street space for buses		Increases speed and reliability along frequently-congested street segments	<ul style="list-style-type: none"> - Enforcement necessary to avoid use by unauthorized vehicles - Can be paired with transit signal priority - May increase traffic volume in adjacent lane - Can be used all day or peak-only, can share or prohibit turns, can share with bicycles

Figure 22: Bus priority treatment options

Lake Street Transit and Traffic Operations Analysis

Throughout late 2020 and 2021, Metro Transit, Hennepin County, and City of Minneapolis staff have collaborated in support and guidance of transit and traffic operations analysis of the Lake Street corridor. This analysis began with the development and evaluation of alternative bus priority treatment model scenarios focused on achieving B Line project goals; however, it evolved to address the broader set of agency goals and plans for the corridor as outlined above.

Incorporating safety improvements while improving transit travel times along the corridor was a primary focus of the analysis. Staff developed various lane configuration scenarios that met basic screening criteria (e.g. avoid removal of existing bumpouts, meet minimum geometric requirements, etc.); and evaluated them against the following goals:

- Enhance pedestrian safety
- Improve transit travel times and reliability
- Reduce crashes



- Retain future ability to add planned bike facilities
- Enhance overall user experience for all modes

In light of these goals, the main objectives of the traffic operations modeling were as follows:

- Evaluate whether a scenario would meet B Line speed improvement goals by achieving a 20% reduction in transit travel time compared to existing conditions
- Evaluate whether a scenario would maintain acceptable vehicle operations and travel times, including consideration of driver behavior and safety based on modeled conditions and impacts of traffic operations on buses traveling along the corridor

This analysis was performed to provide agency leadership with technical information related to the feasibility of designs to make informed decisions about how to proceed and invest in the Lake Street corridor as part of the B Line project and/or subsequent future projects, with the overall goal of ensuring a vision for the future of Lake Street and B Line of a safer, more transit and pedestrian- friendly corridor.

The section below provides an overview of the model scenarios developed and analyzed as part of these efforts. Note that traffic operations models are developed based on assumptions that intend to reflect and predict real-world behavior. Traffic modeling results focus on conditions during the AM peak period (e.g. 7:30 - 8:30 AM) and the PM peak period (e.g. 4:30 - 5:30 PM) for each segment, as those are the times during the day in which traffic volumes and travel times are highest for roadway users including motorists and transit users.

In addition to an existing conditions scenario and future no build (“Do Nothing”) scenario, the alternative scenarios developed are as follows (note: because scenario development and associated modeling was iterative, the descriptions focus on what was changed from the prior model run):

- **Base Build Scenario (Growth/No Growth Version)** - this scenario would construct and operate B Line stations as planned with no bus priority treatments (i.e. no changes to traffic signal operations or lane configurations). The Growth Version assumes an increase in traffic volumes in the future (0.28% to 1.04%); the No Growth Version assumes that traffic volumes stay constant.
- **Scenario 1: Limited Bus Priority Concept (Growth/No Growth Version)** - this scenario would modify signal operations to provide more green time to buses, including implementation of transit signal priority, along the B Line corridor. No changes to lane configurations would be implemented. The Growth Version assumes an increase in traffic volumes in the future; the No Growth Version assumes that traffic volumes stay constant (base model year 2019).
- **Scenario 2: Extensive Bus Priority Concept (Growth/No Growth Version)** - in addition to bus priority treatments under Scenario 1, Scenario 2 would convert the outermost travel lane in each direction to a bus- and right-turn-only lane along the full length of Lake Street. In the Saint Paul portion of the B Line corridor, intersection-based geometric improvements are assumed to be implemented under Scenario 2. The Growth Version assumes an increase

in traffic volumes in the future; the No Growth Version assumes that traffic volumes stay constant. Subsequent model scenarios focused on alternative configurations for the Minneapolis portion of the B Line corridor due to the higher level of passenger delays for transit users on Lake Street as well as general right-of-way width on Lake Street as compared to Marshall and Selby Avenues in Saint Paul.

- Scenario 3: Balanced Bus Priority Concept** - Various iterations were developed to test scenarios that would convert portions of the existing four-lane undivided section of Lake Street to three lanes (one through lane in each direction with a center left-turn lane) with a bus-only lane in a single direction. The proposed concept is presented below.

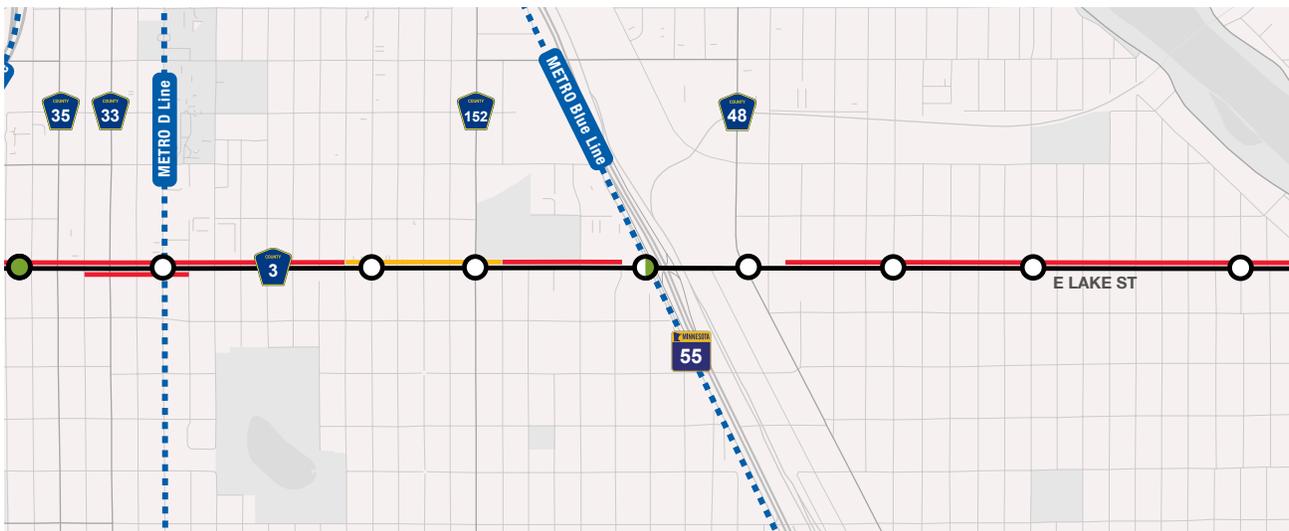
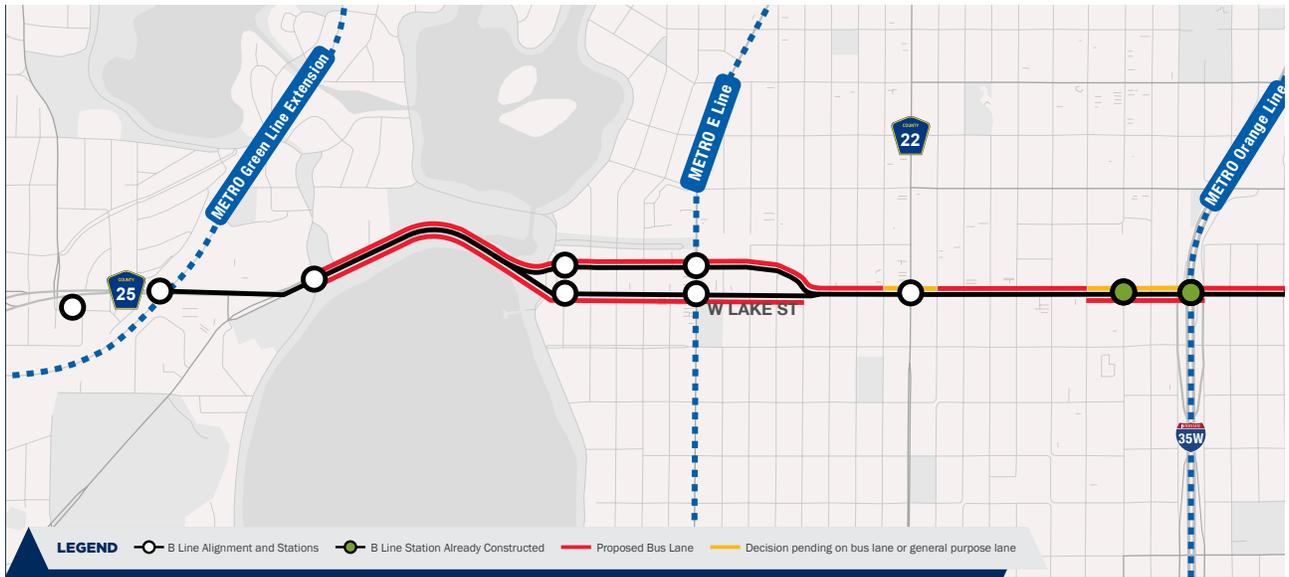


Figure 23: Proposed bus lanes on Lake Street



Existing Conditions: Baseline Scenario

Existing Conditions is a baseline scenario developed and modeled using existing (2019) traffic volumes, street patterns, and existing transit service and ridership data pre-pandemic.

Future No Build: “Do Nothing” Scenario

The “Do Nothing” scenario is a baseline used to compare against conditions in 2040. The “Do Nothing” Scenario incorporates key planned and programmed roadway projects and the assumption that transit service remains the same as under existing conditions.

This scenario assumed forecasted annual traffic growth rates between 0.40% to 1.04%, depending on the segment of the corridor, extended to 2040. Note that traffic patterns have changed substantially because of the COVID-19 pandemic, so in addition to typical challenges in predicting future traffic volumes, there is additional uncertainty about how traffic patterns may shift in the future. Additionally, this assumed growth does not reflect Hennepin County or City of Minneapolis goals for reduced vehicle miles traveled in the corridor.

Under the “Do Nothing” Scenario, transit and general vehicle trip times were both estimated to be generally slower in the future, as assumed traffic volumes increase, and no improvements would be made in support of faster transit trip times. This scenario retained the existing lane configuration along Lake Street and did not include substantive safety improvements for corridor users.

Base Build Scenario: B Line implementation without bus priority treatments

Under the Base Build scenario, transit service assumptions include planned B Line stations and service plans without implementing any bus priority treatments. All other assumptions are consistent with the Future No Build scenario with the exception that two traffic growth assumptions were modeled: the original version included forecasted annual traffic growth rates consistent with the Future No Build scenario (“Growth Version”), and a revised version held traffic volumes constant at existing (2019) levels for all segments of Lake Street (“No Growth Version”). The strengths and weaknesses below apply to both the Growth Version and No Growth Version.

Strengths:

- Meets B Line goal for 20% travel time improvement in AM peak period (assuming existing traffic volumes)
- General vehicle operations and travel times would be like those observed for the 2040 “Do Nothing” scenario

Weaknesses:

- Does not meet B Line goal for a 20% travel time improvement in PM peak period (the Growth Version results in a 7% improvement in the eastbound direction and a 1% increase in travel time in the westbound direction; the No Growth Version results in a 13% improvement in the eastbound direction and a 17% improvement in the westbound direction)
- Retains existing 4-lane undivided sections; does not include safety improvements for corridor users

Scenario 1: Limited Bus Priority Concept

The Limited Bus Priority concept builds upon the Base Build scenario by adding transit signal priority and other signal phasing/timing improvements to benefit buses along the corridor and reduce the amount of time that buses are spent stopped at red lights. The Limited Bus Priority concept does not assume any changes to street space along the corridor. A Growth Version and No Growth Version of this scenario were modeled. The strengths and weaknesses below apply to both modeled versions. Intersections where transit signal priority was assumed as part of the Limited Bus Priority concept are identified in Figure 24.

Strengths:

- Meets B Line goal for 20% travel time improvement in AM peak period (assuming existing traffic volumes)
- General vehicle operations and travel times would be like those observed for the 2040 “Do Nothing” scenario

Weaknesses:

- Does not meet B Line goal for a 20% travel time improvement in PM peak period (the Growth Version results in a 14% improvement in the eastbound direction and a 5% improvement in travel time in the westbound direction; the No Growth Version results in a 16% improvement in the eastbound direction and a 19% improvement in the westbound direction)
- Retains existing 4-lane undivided sections; does not include safety improvements for corridor users

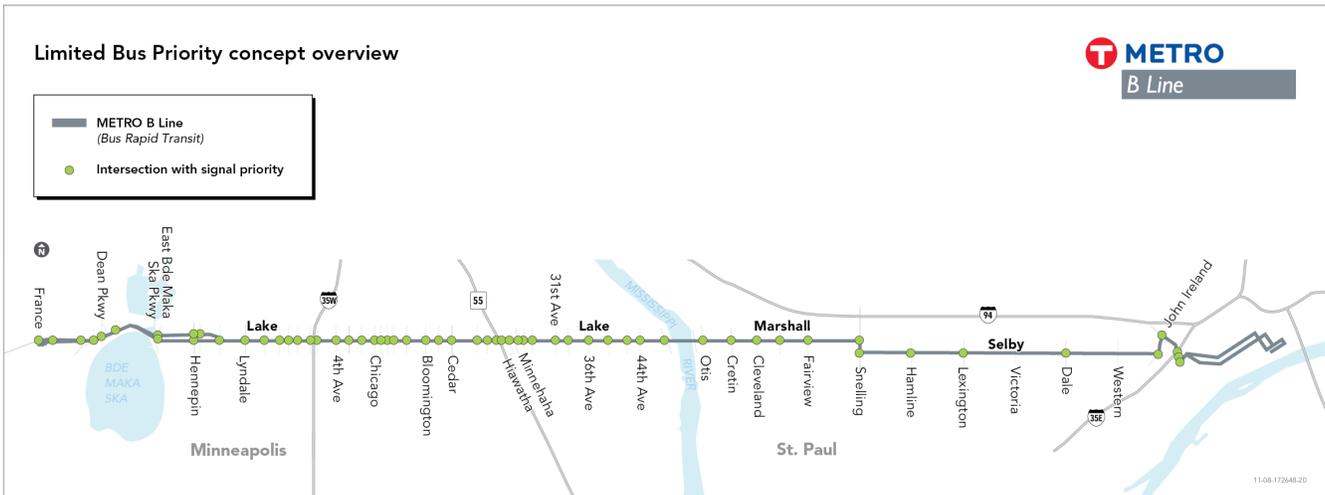


Figure 24: Limited Bus Priority concept overview

Scenario 2: Extensive Bus Priority Concept

The Extensive Bus Priority concept builds upon Scenario 1 by adding bidirectional dedicated bus lanes on Lake Street between Excelsior Boulevard and the Mississippi River. This scenario would convert the existing outside general-purpose travel lane to a bus lane in both the eastbound and westbound directions (Figure 25). Autos would continue to use these lanes to access parking or driveways, or when



making right turns. A Growth Version and No Growth Version of this scenario were modeled. The strengths and weaknesses below apply to both modeled versions.

No safety-related changes to lane configurations (e.g., new left-turn lanes) would be implemented under this scenario. Locations where bus priority treatments were assumed as part of the Extensive Bus Priority concept are identified in Figure 26.

Strengths:

- Meets and exceeds B Line goal for 20% travel time improvement in AM peak period (under either no-growth or modest growth future traffic assumptions)

Weaknesses:

- Results in substantial roadway capacity constraints, leading to significant traffic delays and long queues throughout much of the corridor (including both ends of the corridor, affecting buses and general-purpose traffic)
- As a result of these long queues, vehicles making right turns onto Lake Street from cross streets in the model were queued back through intersections, also blocking buses from being able to pass through intersections, even in the presence of a dedicated bus-only lane
- Does not meet B Line goal for a 20% transit travel time improvement in PM peak period (the Growth Version results in a 16% improvement in the eastbound direction and a 5% improvement in the westbound direction; the No Growth Version results in a 16% improvement in the eastbound direction and a 3% improvement in the westbound direction)
- Does not include safety improvements for corridor users; the lack of dedicated left-turn lanes along the corridor would further stress a single through-lane, with potential for additional crashes (rear-ends, etc.)

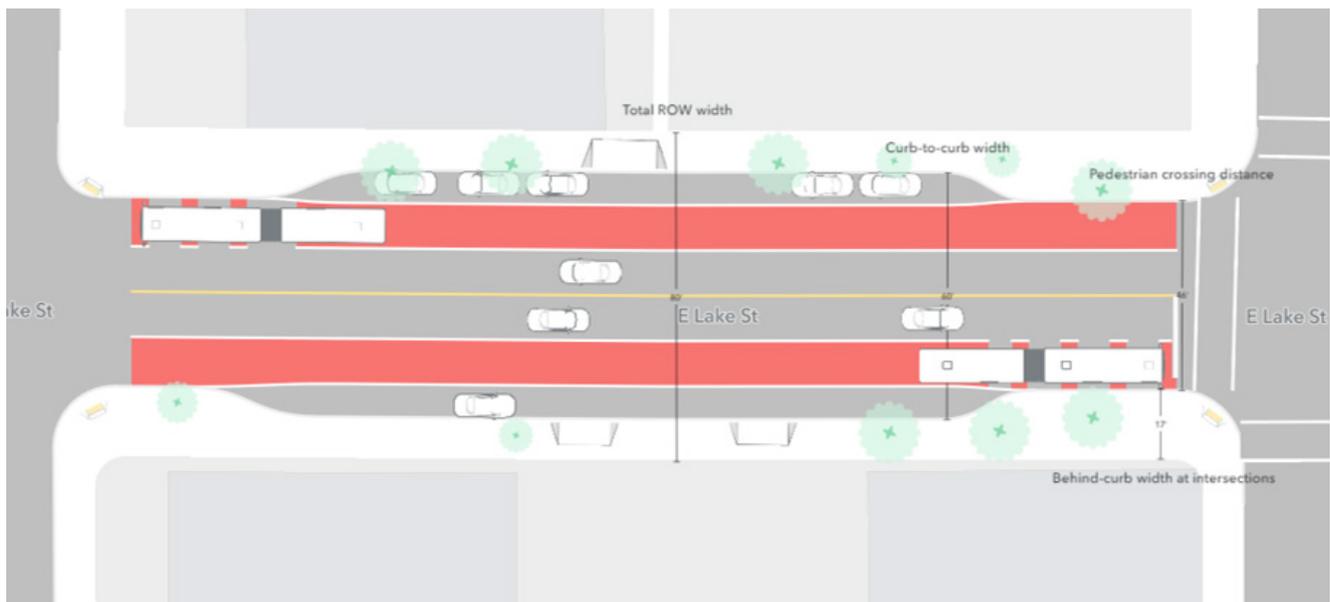


Figure 25: Conceptual lane configuration under the Extensive Bus Priority concept

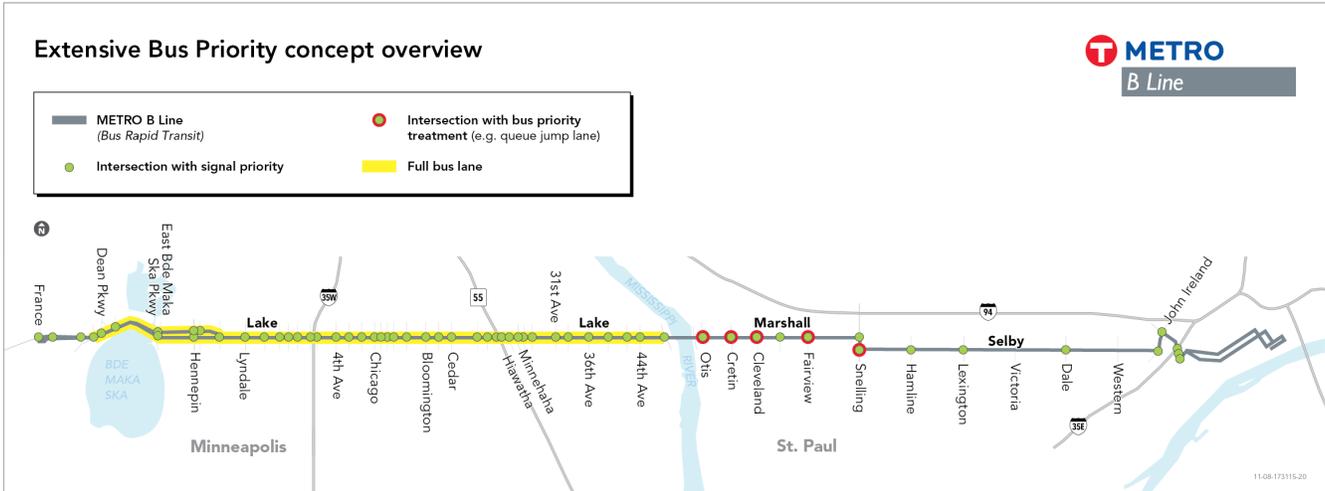


Figure 26: Extensive Bus Priority concept overview

Scenario 3: Balanced Bus Priority concept

The Balanced Bus Priority concept combines measures to improve transit speed and reliability for the B Line considered in Scenarios 1 and 2 with roadway changes intended to address broader City of Minneapolis and Hennepin County goals for the corridor.

Based on the results of prior modeling, staff generally concurred that bus lanes (in both directions) between Dean Parkway and Dupont Avenue (three-lane one-way pairs) performed well and could largely remain as proposed in Scenario 2 as a baseline in Scenario 3. However, staff concluded that additional study and consideration was necessary to come to a preferred concept in the largely four-lane undivided section east of Dupont Avenue (where Lake Street transitions to/from the one-way pair) to the Mississippi River.

Two alternatives were reviewed but not advanced:

- Adding a median to create a four-lane divided roadway with turn lanes at all intersections, while preferable from a traffic safety and operations perspective, was not considered a feasible or desirable option as it would require removing curb bump outs and on-street parking throughout much of the corridor to create the necessary width for medians and B Line stations.
- A three-lane section with bus lanes in both directions (Figure 27) for much of the corridor was discussed but not carried forward for modeling as it would require removal of existing bump outs (approximately 140 locations), removal of on-street parking on both sides of the street, and relocation of trees and lighting. Consistent with agency goals, County and City staff prioritized pedestrian crossing safety along the corridor with the B Line project, not only wanting to preserve the 52 intersections with existing bump outs in at least one quadrant but add additional bump outs where possible at B Line station locations.

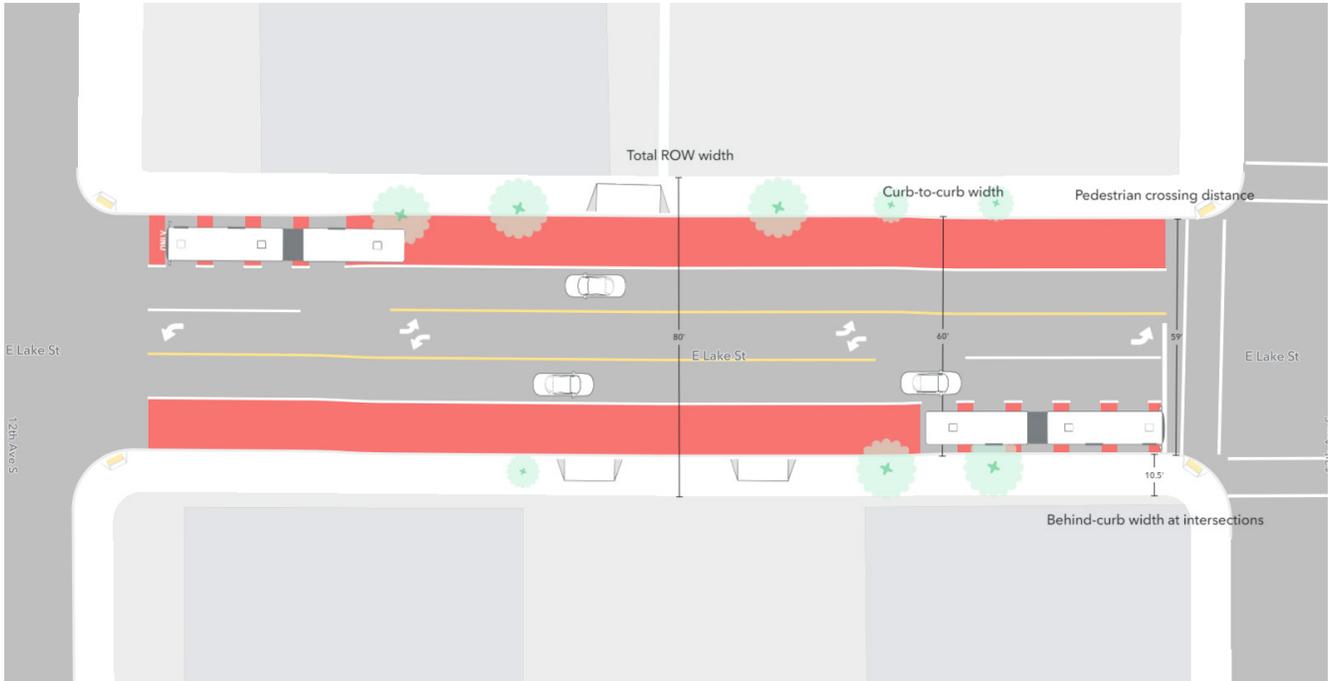


Figure 27: Conceptual five-lane section with bidirectional bus lanes (not advanced for modeling)

With this in mind, agency staff coalesced around development of additional model scenarios in which much of the corridor (east of Dupont Avenue) would consider a four-to-three-lane conversion (with a shared center left-turn lane) combined with a bus lane in one direction and associated pedestrian benefits (Figure 28). To enable a four-to-three conversion without removing bump outs while providing transit advantages for the B Line, staff evaluated a bus lane in one direction, alternating based on where transit delay is greatest.

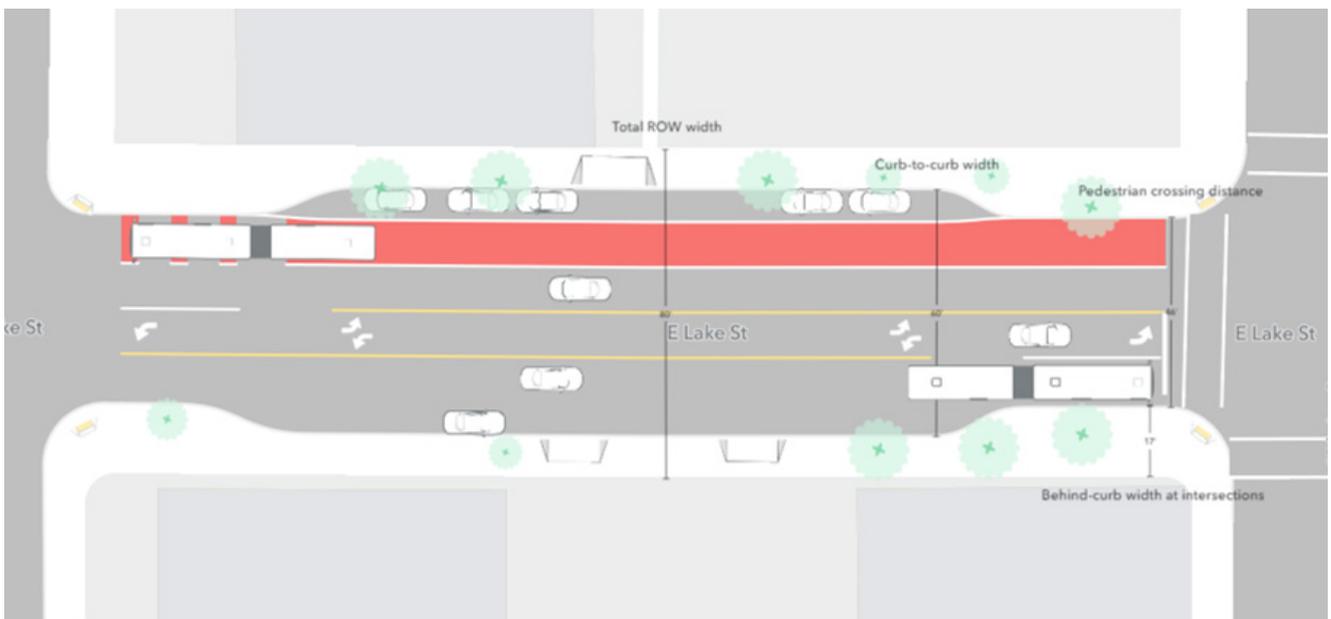


Figure 28: Conceptual four-to-three conversion section with directional bus lane

Substantial modeling was completed to identify and validate a recommended concept for Scenario 3. The concept includes:

- Full bus-only lanes between Dean Parkway and Dupont Avenue, between Stevens Avenue and 3rd Avenue, and between Portland Avenue and Elliot Avenue.
- A four-to-three lane conversion with new left-turn lanes and a single-direction bus-only lane between Dupont Avenue and Aldrich Avenue, between Garfield Avenue and Blaisdell Avenue, between 3rd Avenue and Portland Avenue, between Elliott Avenue and 15th Avenue, between Longfellow Avenue and 21st Avenue, and between 27th Avenue and 47th Avenue.
- Addition of an eastbound bus-only lane in an existing five-lane section between Blaisdell Avenue and Stevens Avenue.
- Future evaluation for westbound bus-only lanes between Aldrich Avenue and Garfield Avenue, between Blaisdell Avenue and Stevens Avenue, and between 15th Avenue and Longfellow Avenue.
- A westbound queue jump signal at Hiawatha Avenue.
- Transit signal priority at select locations along the entire corridor.

Decision Making, Corridor Design Implementation and Next Steps

Multi-jurisdictional approach

Each of the three agencies involved in this effort have different roles when it comes to decision-making in the Lake Street corridor. As such, a coordinated multi-jurisdictional approach to planning, design, and implementation of improvements is critical in achieving the goals described in the previous sections.

Through the B Line Corridor Plan process, Metro Transit has made decisions for future transit service along the corridor, including the identification of planned locations for B Line stations and platforms, as well as broader decisions around future transit service patterns along the corridor (e.g., termini, alignment, planned mix of BRT and local bus service, adjustments to connecting local bus service, etc.).

The scenarios for bus priority treatments, including bus lanes, have been studied as part of the B Line corridor planning process in support of achieving project goals for transit speed and reliability improvements; these decisions are made jointly by Hennepin County and the City of Minneapolis, with input from Metro Transit.

Recommended next steps

Hennepin County, the City of Minneapolis, and Metro Transit will continue close coordination as the design for Lake Street improvements is further developed throughout 2022, including the collection



of additional data (e.g. updated traffic counts) to inform further understand recent changes in traffic trends and to inform future decisions, such as extending westbound bus lanes through high volume intersections where two westbound general purpose lanes are currently identified in the proposed concept.

Timeline for Lake Street improvements

The schedule for implementing corridor improvements on Lake Street is based on broad agency concurrence on technical work to advance multi-jurisdictional goals, which was reached in early 2022.

Design for the proposed improvements will be coordinated and integrated into the B Line station design, which began in summer 2021. Design activities are on-going, with construction beginning in 2023 and continuing into 2024, consistent with the scheduled timeline for B Line station construction.

Funding for Lake Street improvements

The B Line project is funded through a mix of federal, state and Metropolitan Council funds. The estimated cost of the project is \$65 million. Cost estimates will be further refined as the project is developed.

The County and the City have identified additional improvements which are necessary to ensure a complete project which optimizes the positive benefits of the B Line including safety, accessibility, speed and reliability. Funding to design these additional improvements has been secured while funding to implement the improvements continues to be explored. The additional improvements may include the following:

- Pavement resurfacing
- Striping
- Traffic signal work
- Other geometric changes (i.e., curb extensions)
- Green infrastructure

Public Engagement Approach

The work anticipated to be undertaken along Lake Street is informed by substantial previous public engagement efforts in the corridor completed as part of several projects and studies in recent years.

Metro Transit B Line Corridor Plan

Metro Transit engaged communities along the B Line throughout 2019 and the first part of 2020 to help inform recommendations in the B Line Corridor Plan. In early 2021, Metro Transit engaged its riders and community around the publication of the draft B Line Corridor Plan to seek feedback on the document. After the conclusion of the B Line Draft Corridor Plan process, the draft document was revised based on feedback received and ongoing interagency coordination into a Recommended B Line Corridor Plan, which was published for an additional 30-day public comment period in July 2021. Additional revisions to the plan were incorporated into the Final B Line Corridor Plan, which was approved by the Metropolitan Council in October 2021. Throughout the B Line planning phase, Metro Transit received more than 2,500 comments on the project, including more than 500 corridor plan comments supporting bus priority treatments and approximately 50 corridor plan comments focused on safety considerations for roadway users (pedestrians, bicyclists, motorists, and transit users).

City of Minneapolis Transportation Action Plan

The City of Minneapolis heard from thousands of people on citywide engagement for the Transportation Action Plan, Vision Zero Action Plan, and Minneapolis 2040 Plan. Common themes from that engagement that help inform Lake Street work include:

- A desire for more, improved, and faster transit;
- A desire for quickly improving safety on High Injury Streets;
- A desire for pedestrian improvements along and across busy corridors;
- A desire for pedestrian improvements along and across busy corridors in the winter;
- A desire from some for more bicycle connections along busy streets and a desire from others to not have bike lanes on busy streets;
- A desire for additional greening on streets where possible;

Hennepin County Climate Action Plan

Feedback on the county's draft Climate Action Plan was gathered in early 2021 from residents, representatives of community organizations and advocacy groups. Respondents wanted greater emphasis and specifics about how to reduce emissions from transportation, buildings and energy use, and zerowaste initiatives. Respondents did not think the plan went far enough in moving the county away from a car-centric transportation system and toward people-centered road design. Commentors called on the county to establish goals to reduce vehicle miles traveled and car lane miles and increase investments in transit, biking, and walking infrastructure and transit-oriented development.



Lake Street engagement plan

The extensive public feedback already received through previous engagement efforts by the three agencies has guided the shared vision for Lake Street changes. The project team is currently providing update presentations with several larger stakeholder coalition groups and also hosted a virtual open house in March 2022 directed towards the many neighborhood groups along the corridor. A [Hennepin County webpage](#) explains how the project team has and will continue to collaborate between agencies on a shared vision of the corridor.

Design decision making

Following City and County decision-making processes in early 2022, design for these improvements will advance and be coordinated with B Line station design across 2022. Design activities are anticipated to be finalized later in 2022 in preparation for implementation beginning in 2023 and continuing into 2024, in coordination with B Line station construction. More details will be shared about construction phasing plans for B Line stations and broader street improvements later in 2022 and into 2023.

Following coordination with decision-makers and public release of the preferred concept in February 2022, the preferred concept will be presented to the City's Pedestrian and Bicycle Advisory Committees, the City's Public Works & Infrastructure Committee, and brought forward to Minneapolis City Council as an informational receive and file item.

Preferred concept/vision to advance

The preferred 10% concept is available to view on the County's Lake Street improvements webpage at <https://www.hennepin.us/lake-street-improvements>.