

# Complete Streets Checklist **GUIDE**

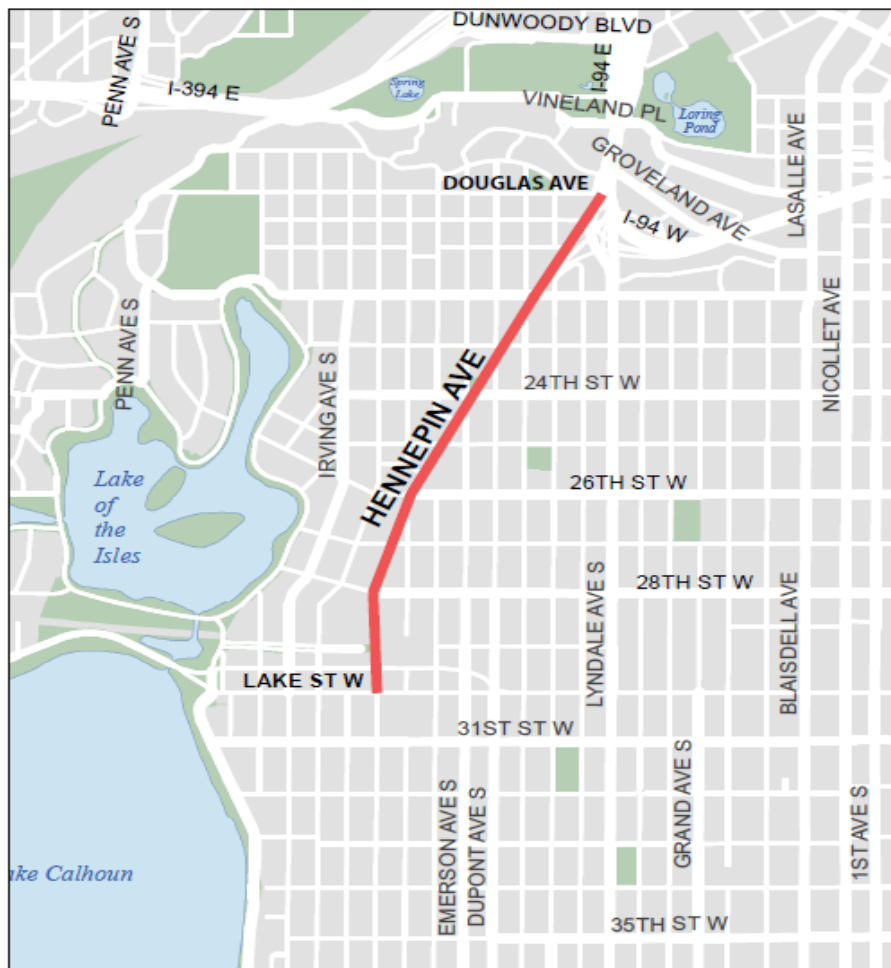



## A. Project Overview

Project Name: **Hennepin Avenue Reconstruction**  
Improvement Type: **Reconstruction**  
City Project ID: **PV-158**  
Facility Jurisdiction: **City of Minneapolis**  
External Agencies: **Metro Transit, Hennepin County, MnDOT, MPRB**  
Project Length: **1.36 miles**

Project Limits: **Douglas Ave to W Lake St**  
Date Completed: **2026**  
TPP Project Manager: **Jenifer Hager**  
TED Project Manager: **Adam Hayow**

Project Location Map



 Potential Project Area



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Checklist for Capital Projects**

**Hennepin Ave Reconstruction (PV-158)**

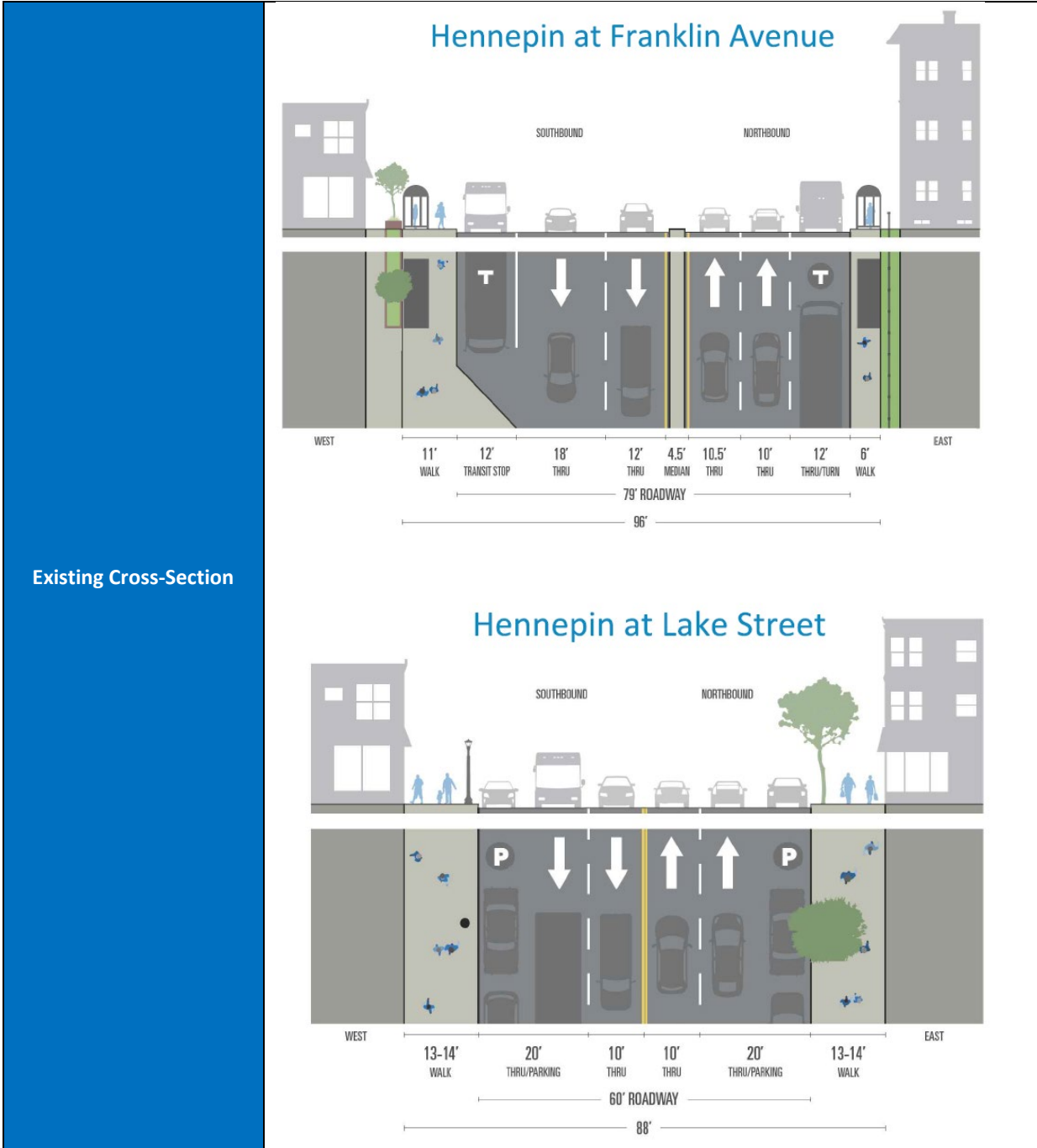
<b>Description:</b>	The proposed project is a complete reconstruction of Hennepin Avenue from Douglas Avenue to West Lake Street.		
<b>Project Elements:</b>	The proposed project will reconstruct the pavement surface, curb and gutter, sidewalks, and consideration of shelters/platforms for the future Metro Transit E Line. Landscaping, lighting, and street furniture may also be included in the project.		
<b>Context Considerations:</b>	The right-of-way width is 88 feet wide between W Lake St and Colfax Ave S and 30-32 feet between Franklin Ave W and Douglas Ave.		
<b>Ward(s):</b>	7, 10	<b>Neighborhood(s):</b>	Lowry Hill, East Isles, Lowry Hill East
<b>Budget:</b>	\$32 million	<b>Funding Sources:</b>	Federal, MSA, Assessments, Net Debt Bonds
<b>Schedule:</b>	Preliminary Planning/Design: 2020-2021 Concept approval: Spring 2022 Final Design: 2023 Construction: 2024-2026		

**ALIGNMENT WITH TAP PRIORITY NETWORKS**

<b>Pedestrian Priority Network:</b>	This segment of Hennepin Avenue is identified on the Pedestrian Priority Network (PPN). It will include elements such as reduced crossing distance, enhanced pedestrian crossings, curb extensions on cross/intersecting streets, medians, and 6'-8' sidewalks along the corridor.
<b>All Ages and Abilities Network:</b>	This segment of Hennepin Avenue is identified on the All Ages and Abilities Network (AAA). It will include elements such as a sidewalk level two-way bikeway.
<b>Transit Priority Project:</b>	This segment of Hennepin Avenue is identified as a Transit Priority Route. It will include elements such as transit priority lanes from Douglas Ave to Uptown Transit Station and BRT stations at Franklin Ave, W 25 <sup>th</sup> St, and the Uptown Transit Station.
<b>Truck Route Network:</b>	This segment of Hennepin Avenue is identified on the Truck Route Network. It will include elements such as one thru lane in each direction, left turn lanes at key intersections, and select parking/loading zones.

## B. Existing Conditions

<b>Street Typology:</b>	Mixed Use Regional Connector (Douglas to Franklin) Mixed Use Commercial Connector (Franklin to Lake)	<b>Special Roadway Designations:</b>	MSA Route 425
<b>Nearby Traffic Generators:</b>	Downtown Minneapolis, Uptown, Lyn-Lake, I-94 and I-394	<b>Nearby Destinations:</b>	Downtown, Walker Art Center, Sculpture Garden, Dunwoody, MCAD, Calhoun Square and various commercial establishments
<b>Zoning District(s):</b>	Urban neighborhood; Corridor mixed use; Community mixed use; Destination mixed use; Parks and open space	<b>Place Type and Land Use(s):</b>	Activity Center, Commercial Corridor – Predominantly commercial, office and high density residential
<b>Existing R/W Width:</b>	88' – Between W Lake St and Colfax Ave S; 30-32' - Between Franklin Ave W and Douglas Ave	<b>Functional Classification:</b>	A-Minor Augmentor
<b>Year Built and Last Project:</b>	Built: 1957 (Lake to Colfax) Renovated: 2000 (Lake to Colfax) Sealcoat: 2009 (Lake to Colfax) *Lagoon to The Mall – built in 1980 and renovated in 2000	<b>Pavement Condition Index and Year Inspected:</b>	61/100 (measured in 2017)
<b>Relevant Plans and/or Studies:</b>	Transportation Action Plan, Street Design Guide, Uptown Small Area Plan, Metro Transit Arterial Transitway Corridors Study		
<b>Planned Development(s):</b>	Site work at Jefferson School; Mixed use development at 1930 Hennepin Ave, Mixed use development at 2841 Hennepin Ave		
<b>Relevant Programmed Improvements:</b>	Franklin Ave resurfacing (2021) Franklin Ave reconstruction (2022) METRO E-Line project (2024) METRO B-Line project (2022)		



Existing Cross-Section

**PEDESTRIAN ELEMENTS**

Sidewalks: Yes, width varies 6'-14' – some locations include sights/light poles that may impact the effective sidewalk width

Sidewalk Gaps: No

Other Nearby Multi-Use Trails: Yes - Midtown Greenway, Loring Greenway

Conflict Points: Intersections and driveways along the corridor

Pedestrian Volumes: 770-3,400 (2018)

Pedestrian Collisions in the last 10 years: 55 (2011-Sept. 2021)

Ave. Intersection Crossing Distance: 60'

Safe Routes to School Route: Intersecting route along W 22<sup>nd</sup> St across Hennepin Ave

Level Driveway Crossings: Yes

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Traffic Buffer? Varies, 0'-8'

Type: Varies – boulevards, furnishing zone

Dimensions: 0'-8'

Marked Crosswalks? Yes, at all signalized crossings along corridor

Type: Zebra

Other Features? N/A

**ADA Transition Plan**

High Priority Intersection(s): Douglas, Summit, Franklin, Colfax, W 22<sup>nd</sup> St, Dupont, Emerson Ave, W 25<sup>th</sup> ½ St, W 27<sup>th</sup> St

Non-Compliant Intersection(s): Douglas, Summit, Franklin, Colfax, W 22<sup>nd</sup> St, Dupont, Emerson Ave, W 25<sup>th</sup> ½ St, W 27<sup>th</sup> St

**BICYCLE AND MICROMOBILITY ELEMENTS**

On-Street Bicycle Facility: No

Dimensions: N/A

Existing or Future AAA network facility? Future AAA

Bicycle Volumes: 220-280 (2018)

Bicycle Collisions in the last 10 years: 23 (2011 – Sept 2021)

Conflict Points: Intersections, driveways, bus stops

Existing Bikeway Connections: Franklin Ave W (Hennepin to Penn), W 24<sup>th</sup> St, W 26<sup>th</sup> St, W 28<sup>th</sup> St, Hennepin Ave (south of Lake St)

Type: *Off street trail, protected bikeways, on street bike lanes*

Other Features? N/A

Planned Bikeway Connections: Franklin Ave (Hennepin to Lyndale)

Low-stress bikeways: Lake of the Isle Trail, Bryant Ave Bike Blvd, Midtown Greenway, Loring Greenway

Other Nearby Bikeways: N/A

Other multimodal facilities: Nice Ride stations near W 28<sup>th</sup> St, W 27<sup>th</sup> St, W 24<sup>th</sup> St, and Dupont/W 22<sup>nd</sup> St

Dimensions: Varies

**TRANSIT ELEMENTS**

Transit Service: Yes - Routes 2, 6, 17, 23, 612

High-Frequency Transit Network: Yes

Existing or Planned Transitway: Yes – Arterial BRT (E Line)

TAP Transit Priority Projects: Yes

Stop Types: 16 existing - near side, far side

Other Features? Peak hour bus only lanes – 7-9am Lake to 28<sup>th</sup> St & 25<sup>th</sup> St to Franklin Ave; 4-6pm 25<sup>th</sup> St to 29<sup>th</sup> St

**CURBSIDE MANAGEMENT ELEMENTS**

On-Street Parking: Yes – variety of both metered and unmetered parking; various time restricted parking

Delivery/Loading Zones: Yes – various delivery/loading zones along the corridor

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**Hennepin Ave Reconstruction (PV-158)**

Valet/Taxi Zones: Yes – NB Hennepin between Lagoon and W 29<sup>th</sup> St 9pm-2am Friday-Sunday; 10pm-3am Thursday-Sunday

**PUBLIC REALM FURNISHINGS, GREENING, AND LIGHTING**

Street Furnishings: Lighting, benches, bike racks, banners, bus shelters

Greening Features (either decorative or green stormwater infrastructure): Trees and perennials in pocket parks, trees in turf boulevards

Street Lighting: Yes

Street Type: Mixed Use Regional Connector (Douglas to Franklin); Mixed Use Commercial Connector (Franklin to Lake)

**Land Uses:**

- Urban neighborhood
- Corridor mixed use
- Community mixed use
- Destination mixed use
- Parks and open space

**MOTORIZED VEHICLE ELEMENTS**

Existing Traffic Volumes: 15,000 – 31,500 AADT (2018)

Existing Truck Volumes (if available): N/A

Projected Traffic Volumes: 20% growth in person trips; 0% vehicle traffic growth due to increased walk, bike, and transit mode shares

Motor Vehicle Collisions: 768 (2011 – Sept 2021)

Critical Crash Rates (if available): 2006 – Mar 2019

Intersections with Critical Crash Rates > 1.0 are:

- 27th St (1.05)
- Lagoon Ave (1.08)

Segments with Critical Crash Rates >1.0 are:

- 26<sup>th</sup> St to Girard Ave (1.85)
- Girard Ave to 27<sup>th</sup> St (1.60)
- 27<sup>th</sup> St to 28<sup>th</sup> St (1.24)
- 29<sup>th</sup> St to Lagoon Ave (1.04)

If yes describe: N/A

Modal Conflict Point(s): Intersections, crosswalks, transit stops, driveways

Intersection Controls: Signals

Truck Route: Yes, MSA Route

Prohibited Movement(s): Intersecting one-ways  
Skewed or Atypical Intersection(s): Skewed intersections

Roadway Restrictions: N/A

Known Drainage Issues: Yes – isolated flooding after rain events

Sight Distance Issues: Yes

Bridges: Yes

Rail Crossings: No

**Hennepin Ave Reconstruction (PV-158)**

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Origins and Destinations: Streetlight data showed that about 50% of trips in the area are through trips with the majority on Hennepin Ave and another 10-15% on neighborhood streets east and west of Hennepin.

Is this corridor identified as a High Injury Street? Yes

Non-Intersection Access: driveways

Other Features? N/A

# C. Preliminary Design: 0%

**CORE TEAM:**

Transportation Planning and Programming: Jenifer Hager, Amy Barnstorff  
 Traffic Engineering and Design: Adam Hayow  
 Traffic and Parking Services: Allan Klugman  
 Surface Water and Sewers: Kelly Moriarity, Lisa Goddard  
 Transportation Maintenance and Repair: Steve Collin  
 Water Treatment and Distribution: Bob Ervin  
 Community Planning and Economic Development: Madel Mouta

**SITE VISIT(S):**

Numerous site visits were conducted between 2017-2021. Select site visits outlined below.

Date: 10/15/2018

Observations: Collect parking supply and occupancy data

Date: 4/16/2020

Observations: Pedestrian, bicycle, transit, and traffic operations observations

Date: 1/14/2021

Observations: Review driveways

**PEDESTRIAN AND PUBLIC REALM ELEMENTS/FURNISHINGS**

Included in Project: Yes No

Identified in Pedestrian Priority Network: Yes No

Additional Technical Analysis: Yes No, if yes list (provide in appendix):

Street Type: Mixed Use Regional Connector (Douglas to Franklin) and Mixed Use Commercial Connector (Franklin to Lake)

**Pedestrian and Public Realm Guidelines**

	Guidelines			Design Concept(s)
	Existing	Acceptable	Recommended	
Boulevard/Furnishing Zone	0'-8'	7'	8.5'	Varies 3'-8'
Pedestrian clear zone	5-6'	5'	8'	8' total (clear zone + frontage) south of Franklin Ave with short segments of 5.5-7' sidewalks at constrained points; 6' total (clear zone + frontage) north of Franklin Ave
Frontage zone	0'	1.5'	3'	See notes above

Other pedestrian elements included or under consideration (see list above): N/A

If design recommendation is less than recommended, provide explanation: Some segments do not meet the recommended pedestrian clear zone due to constrained space at left-turn lanes and selected BRT platforms



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Design Impact:  Improved  Unchanged  Degraded

Easements Required:  Yes  No

Street Lighting:  Yes  No (Refer to Street Lighting Policy), if yes describe: Pedestrian Street Lighting Corridor

Street Furnishings:  Yes  No (Refer to DPRF and PRG), if yes describe: Existing furnishings maintained by Special Service Districts. Desire for existing or new furnishings will be coordinated with the SSDs.

Greening Elements:  Yes  No (Refer to DPRF and PRG), if yes describe: Project includes trees

Maintenance Considerations: N/A

**BIKEWAYS AND MICROMOBILITY ELEMENTS**

Included in Project:  Yes  No

Identified in AAA Network:  Yes  No

Additional Technical Analysis:  Yes  No, if yes list (provide in appendix): Additional analysis can be found on the project website - <https://www.minneapolismn.gov/media/-www-content-assets/documents/Open-House-2-Design-Analysis-and-Concepts---Hennepin-Ave.-S.-Reconstruction.pdf>

Street Type: Mixed Use Regional Connector (Douglas to Franklin) and Mixed Use Commercial Connector

Bicycle Facility: Sidewalk-level two-way protected bikeway

**Bicycle Guidelines**

	Existing	Guidelines		Design Concept(s)
		Acceptable	Recommended	
Bike Lane	N/A	5'	6'	NA
Buffer	N/A	.5 - 1.5'	1.5'	2'
Protected Bike Lane	N/A	One way – 5'; Two-way – 8'	One way – 6-7'; Two-way – 10-12'	8'-10'

Other bicycle elements included or under consideration (including protected intersections; see list above): Off-street bike facility, protected intersections where intersecting with existing protected bikeways

If a reconstruction, confirm no unprotected bike lane or describe why an unprotected bike lane is included: Will not include an unprotected bikeway

If design recommendation is less than recommended, provide explanation: Maximizing pedestrian space

Design Impact:  Improved  Unchanged  Degraded

Easements Required:  Yes  No

If identified in AAA Network and not incorporated, provide explanation: N/A

Maintenance Considerations: Snow and ice control must be considered

**CURBSIDE MANAGEMENT ELEMENTS**

Included in Project:  Yes  No

Additional Technical Analysis:  Yes  No, if yes list (provide in appendix): Evaluate need and feasibility of curbside uses along adjacent streets

Street Type: Mixed Use Regional Connector (Douglas to Franklin) and Mixed Use Commercial Connector (Franklin to Lake)

**Curbside Street Guidelines**

	Existing	Guidelines		Design Concept(s)
		Acceptable	Recommended	
Parking Lane	20' shared parking/thru lane	7'	8'	8'
Delivery/ Loading Zone	20' shared parking and loading/thru lane	7'	8'	8'
Other mobility treatment (e.g. scooter parking, Nice Ride station, etc.)	Select Nice Ride locations along Hennepin Ave or adjacent roadways	varies	varies	N/A

On-Street Parking Recommendations (if applicable):  Remove  Maintain  N/A

On-Street Loading/Un-Loading Recommendations (if applicable):  Remove  Maintain  N/A

Curb Extensions Recommended:  Yes  No Describe here if not included: Curb extensions not feasible on Hennepin Ave due to transit priority lanes. Curb extensions recommended on cross streets.

Other curbside design elements included or under consideration (see list above): curb cuts, driveways

If design recommendation is given priority consideration over pedestrian, bicycle, or transit facilities provide explanation: N/A

Maintenance Considerations: Snow and ice control should be considered

**PUBLIC REALM FURNISHINGS AND URBAN LANDSCAPING**

Street Furnishings: Existing furnishings maintained by Special Service Districts. Desire for existing or new furnishings will be coordinated with the SSDs.

Greening Features (either urban landscaping or green stormwater infrastructure): Streets trees will be included in this project

**MOTOR VEHICLE ELEMENTS**

Additional Technical Analysis:  Yes  No, if yes list (provide in appendix): Traffic Summary Analysis (Appendix A)

Street Type: Mixed Use Regional Connector (Douglas to Franklin) and Mixed Use Commercial Connector (Franklin to Lake)

Speed Limit: 25

Design Guidelines, Standards, and Plans: MnDOT State-Aid

Design Vehicle: SU-30, WB 40

Design Speed: 25

Control Vehicle: MM 100 or WB-62

## Hennepin Ave Reconstruction (PV-158)

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## Street Guidelines

	Existing	Guidelines		Design Concept(s)
		Acceptable	Recommended	
Median	0'	4'	6'-8'	Varies, 4'-8'
Curb and Gutter Zone	2'	1'	2'	1'

Other Design Considerations: consider variance to reduce lane widths and reaction zones to allow more sidewalk space (not required but recommended)

Variance or Design Exception Required:  Yes, variance required for median width at select locations  No

Maintain Emergency Vehicle Access:  Yes  No

Maintain Freight Access:  Yes  No  N/A

What Freight Data Were Collected (e.g. tube counts, observational, engagement with freight users): Intersection turning movement counts; Trucks are generally 2% of the total traffic on the corridor.

Capacity Recommendations:  Reduction  Maintain  Expansion  Other: [Click here to enter text.](#)

Other vehicle design elements included or under consideration (see list above): N/A

If design recommendation affords motor vehicle elements priority consideration over pedestrian, bicycle, urban landscaping, or transit elements provide explanation: N/A

Maintenance Considerations: N/A

## INTERSECTION AND CROSSING ELEMENTS

Features could include: curb extensions, raised crossings, and others.

Included in Project:  Yes  No

Identified in Pedestrian Priority Network:  Yes  No

Additional Technical Analysis:  Yes  No, if yes list (provide in appendix Traffic Summary Analysis (Appendix A))

Street Type: Mixed Use Regional Connector (Douglas to Franklin) and Mixed Use Commercial Connector (Franklin to Lake)

Design Guidelines: MnDOT State Aid

Design Vehicle: SU-30 or WB-40

## Signalized Intersections

Location	Description	Concept(s)
All intersections	Signalized	ADA Ped ramps
All locations	Signalized	APS with countdown timers

Does design address the following:

Reduce non-motorized crossing distances:  Yes  No  N/A

Allow for adequate clearance time for non-motorized users:  Yes  No  N/A

Reduce non-motorized wait times:  Yes  No  N/A

Simplify intersection complexity:  Yes  No  N/A

Increase visibility of non-motorized users:  Yes  No  N/A

Reduce conflicts between modes to enhance safety:  Yes  No  N/A

Other traffic signal components included or under consideration: APS with countdown timers, enhanced pedestrian crossings at select locations, dynamic signs to enhance visibility of turn restrictions and transit-only

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lanes

Other intersection design elements included or under consideration: ADA Pedestrian ramps, pedestrian refuge medians at select locations

If design recommendation affords motor vehicle elements priority consideration over pedestrian, bicycle, or transit elements provide explanation: N/A

Maintenance Considerations: Snow and ice control must be considered

**MITIGATING FACTORS AND OPERATIONAL CONSTRAINTS**

**Were any modes excluded from the design?** No

**Was there a documented lack of current or future need that excluded a particular mode or design element? (e.g. higher quality parallel route in close proximity) Describe below.**

Walking: No

Biking/Micromobility: No

Transit: No

Green stormwater infrastructure: No

Small freight: No

Driving: No

Large freight: No

Parking: No

**Explain any constraints related to physical space or right of way acquisition:** Right-of-way acquisition may be needed to provide a 150-foot southbound BRT platform at Franklin Ave and a sidewalk connection north of Franklin Ave to Bryant Ave.

**Explain any constraints related to emergency vehicle clearance:** N/A

**Are any modes prohibited by law from using the street?** No

**What other limiting factors influenced the design choices in this project?** N/A

**OUTREACH AND ENGAGEMENT**

Council Members: Click here to enter text.

Other: Click here to enter text.

**Stakeholder Outreach**

Residents: Click here to enter text.

Neighborhoods: Lowry Hill East Neighborhood Association, Lowry Hill Neighborhood Association, East Isles Residents Council

Advisory Committees: BAC, PAC, MACOPD

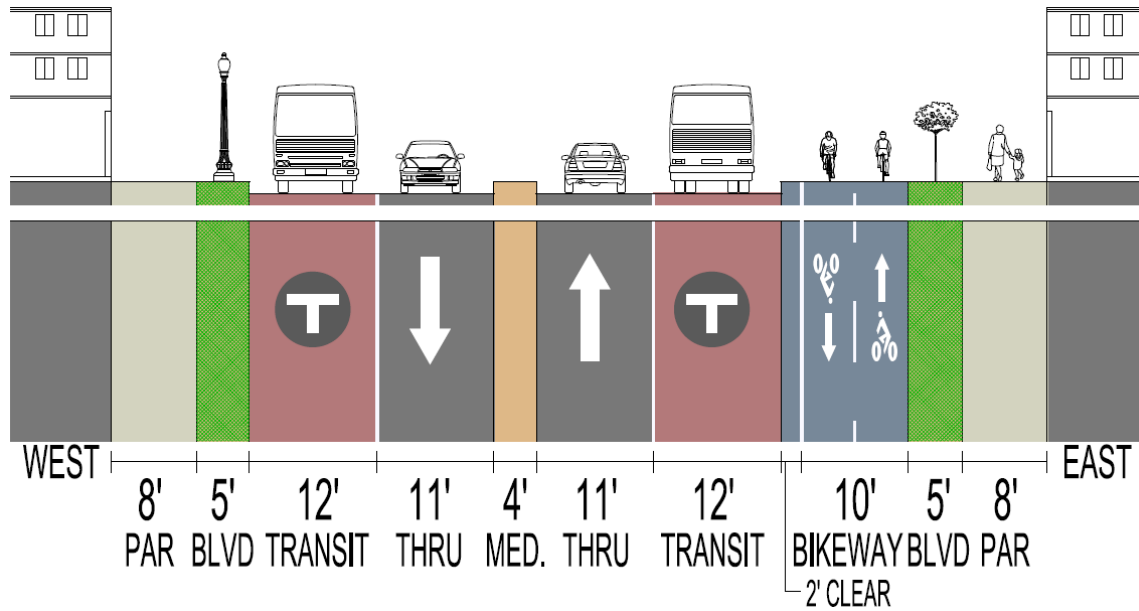
Business Associations Uptown Association, Uptown Special Service District, Lowry Hill Special Service District

- Private Property Owners [Click here to enter text.](#)
- Other: Corridor Stakeholder Committee

Approach and Summary: Project engagement summaries can be seen on the project website:

- Open House 1 (Spring 2018) engagement summary: [https://www.minneapolismn.gov/media/-www-content-assets/documents/Community-Engagement-Summary-\(2018\)---Hennepin-Ave.-S.-Reconstruction.pdf](https://www.minneapolismn.gov/media/-www-content-assets/documents/Community-Engagement-Summary-(2018)---Hennepin-Ave.-S.-Reconstruction.pdf)
- Open House 2 (Fall 2020) engagement summary: <https://www.minneapolismn.gov/media/-www-content-assets/documents/Open-House-2-Engagement-Summary---Hennepin-Ave.-S.-Reconstruction.pdf>
- Open House 3 (Spring 2021) engagement summary: [https://www.minneapolismn.gov/media/-www-content-assets/documents/HennepinSouth\\_Round-3-Engagement-Summary\\_June-2021.pdf](https://www.minneapolismn.gov/media/-www-content-assets/documents/HennepinSouth_Round-3-Engagement-Summary_June-2021.pdf)

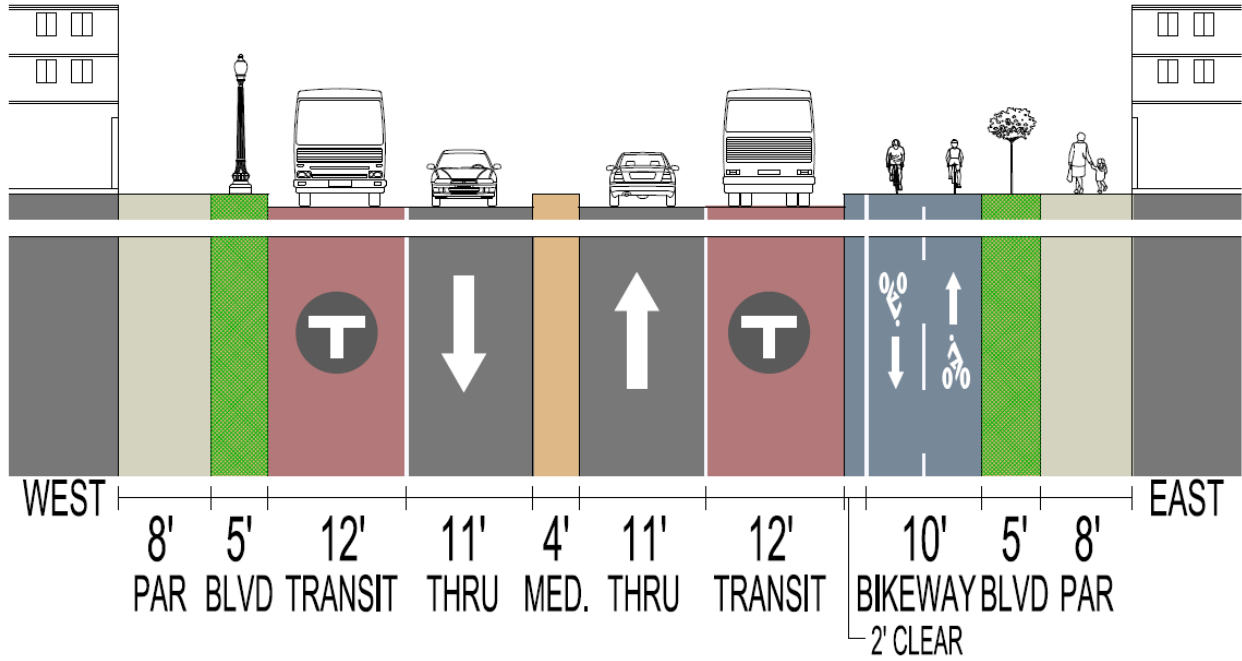
**RECOMMENDED CROSS-SECTION**



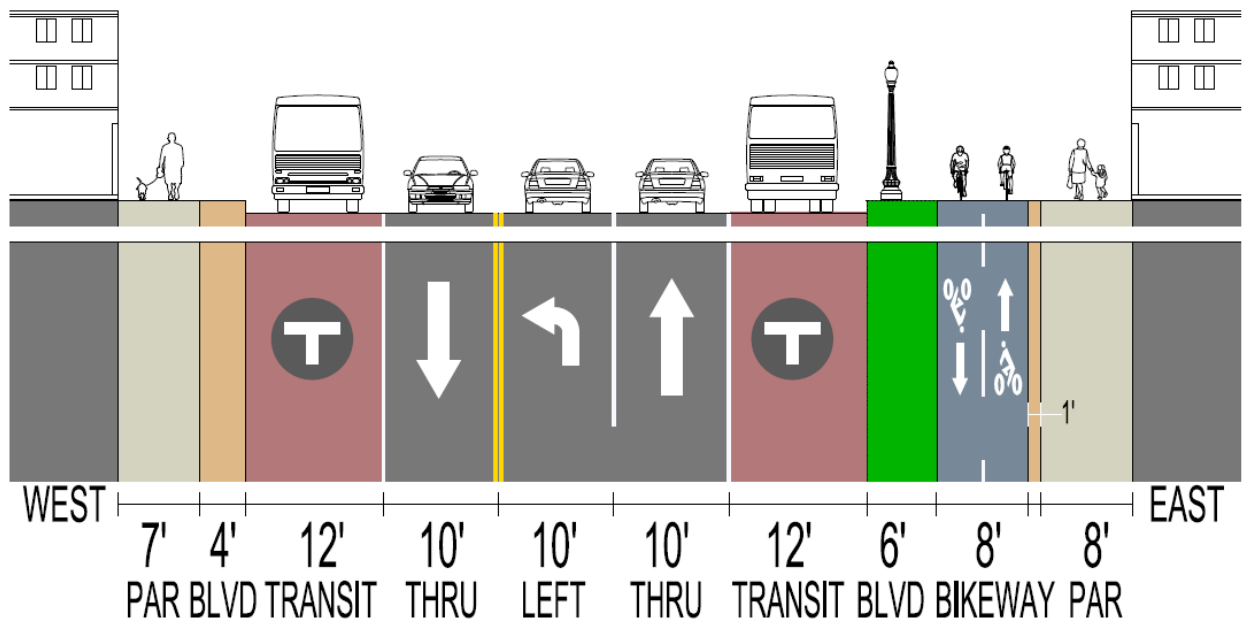
# D. Preliminary Design: 30%

## RECOMMENDED CROSS-SECTION

### Base Section



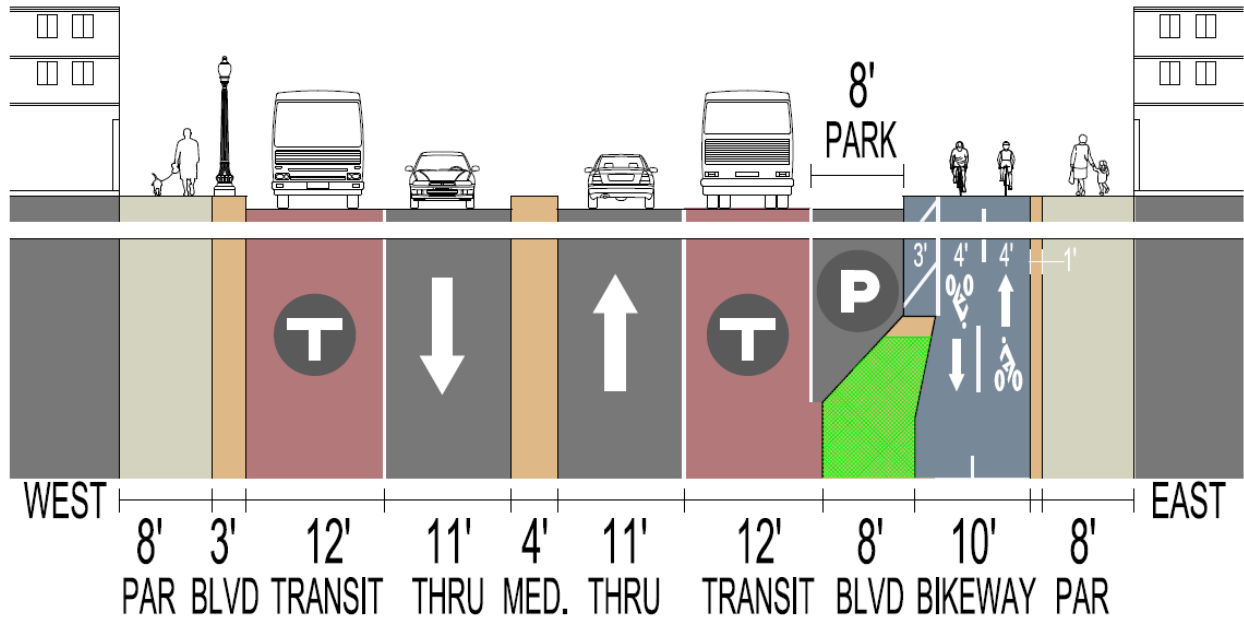
### Locations with left turn lanes



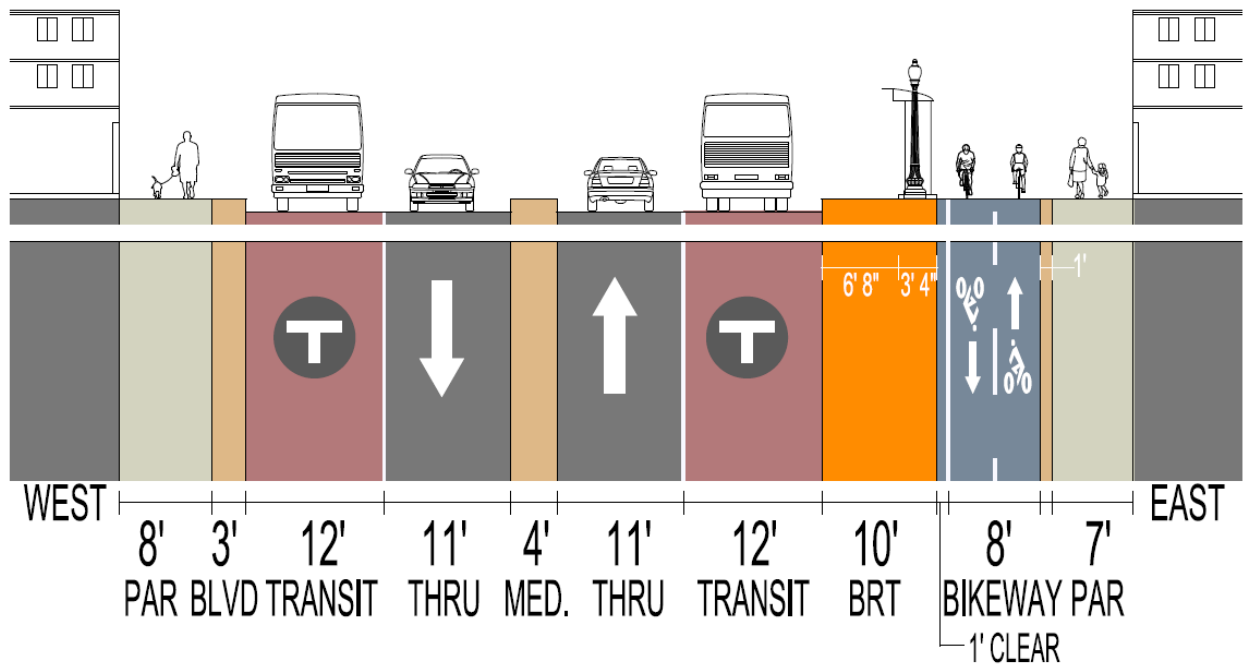
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Locations with Parking/Loading Bay



Locations with Transit Station



**RECOMMENDED LAYOUT**

Recommended layout can be seen on the project webpage: [https://www.minneapolismn.gov/media/-www-content-assets/documents/3\\_Hennepin-recommended-design-layout.pdf](https://www.minneapolismn.gov/media/-www-content-assets/documents/3_Hennepin-recommended-design-layout.pdf)

**Project Meetings**

A complete list of project meetings (as of 6/13/2022) attached in Appendix B

**CONCEPT APPROVAL: 0%**

DocuSigned by: <i>Jenifer Hager</i> 09A144E7D066486...	7/5/2022
Transportation Planning and Programming <i>Adam Hayow</i> C71CE11F765E4C3...	Date 7/5/2022
Transportation Engineering and Design <i>Steve Collin</i> 547DFE74DE0E484...	Date 7/5/2022
Transportation Maintenance and Repair <i>Allan Huzman</i> 2E419A766464473...	Date 7/5/2022
Traffic & Parking Services	Date

**LAYOUT APPROVAL: 30%**

DocuSigned by: <i>Jenifer Hager</i> 09A144E7D066486...	7/5/2022
Transportation Planning and Programming <i>Adam Hayow</i> C71CE11F765E4C3...	Date 7/5/2022
Transportation Engineering and Design <i>Steve Collin</i> 547DFE74DE0E484...	Date 7/5/2022
Transportation Maintenance and Repair <i>Allan Huzman</i> 2E419A766464473...	Date 7/5/2022
Traffic & Parking Services <i>L Goddard (more detail needed for Ch 54 compliance)</i> 64C8D51CE0154A4...	Date 7/5/2022
Surface Waters & Sewers	Date



**Hennepin Ave Reconstruction (PV-158)**

DocuSigned by:  
*Robert Erwin*  
3145C55E48114C2

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7/5/2022

Water Treatment & Distribution

Date

Community Planning & Economic Development

Date

**DESIGN APPROVAL: 60%**

Transportation Planning and Programming

Date

Transportation Engineering and Design

Date

Transportation Maintenance and Repair

Date

Traffic & Parking Services

Date

Surface Waters & Sewers

Date

Water Treatment & Distribution

Date

Community Planning & Economic Development

Date

**DESIGN APPROVAL: 90%**

Transportation Planning and Programming

Date

Transportation Engineering and Design

Date

Transportation Maintenance and Repair

Date

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**Hennepin Ave Reconstruction (PV-158)**

_____	_____
Traffic & Parking Services	Date
_____	_____
Surface Waters & Sewers	Date
_____	_____
Water Treatment & Distribution	Date
_____	_____
Community Planning & Economic Development	Date

*(Note: Provide final signed copies to the Project Sponsor, Customers, and Division Director.)*

**Hennepin Ave Reconstruction (PV-158)**

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### Concept and Design Changes

Design Benchmark	Date	Design Change(s)	Rationale	Core Team Member
30				
60				
90				
100				

### Summary of Non-Motorized Complete Streets Elements

Mode	New/Modified Elements
Walking/Rolling	Upgraded ADA ramps, shortened crossing distances, wider pedestrian access routes, APS, full signals, select pedestrian refuge medians
Bicycles and Micromobility	Sidewalk-level two-way protected bicycle facility
Transit	Transit priority lanes, BRT platforms at Franklin, 25 <sup>th</sup> St, and Uptown Transit Station
Public Realm Elements/Furnishings	Street lighting and signage; storm water management

# Appendix A: Traffic Analysis Summary



The following summarizes the key findings from the traffic evaluation for existing and the future design alternatives for the Hennepin Avenue S corridor.

## 1. Hennepin Avenue Transportation – Existing Users and Characteristics

Hennepin Avenue facilitates over 40,000 persons daily through multimodal transportation. Key characteristics of the current facility that were considered in the traffic analysis include the following:

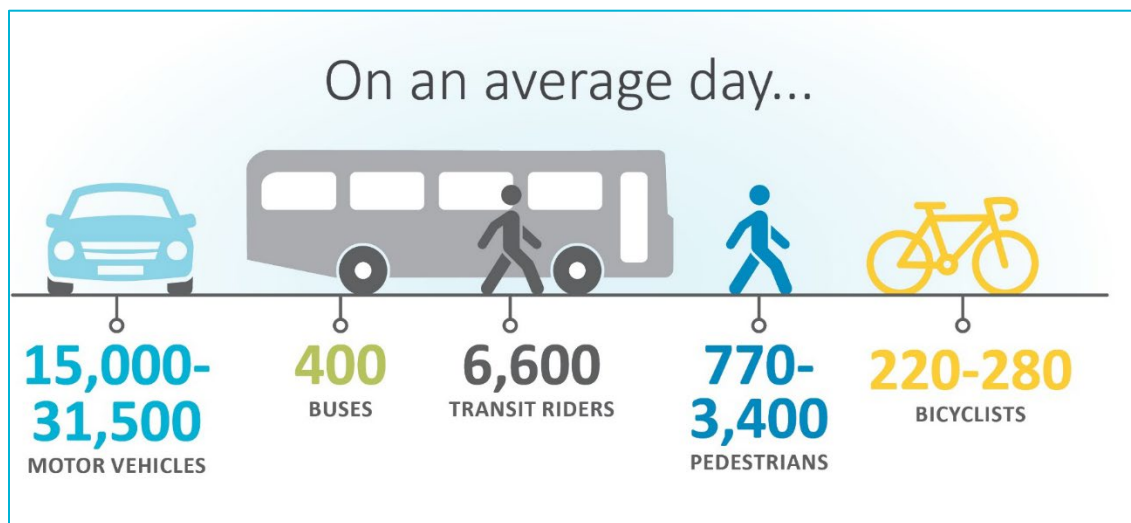


Figure 1. Existing Hennepin Avenue Transportation Users

### EXISTING DAILY CORRIDOR USERS

- **Pedestrians.** A typical day shows approximately 150-400 total pedestrian intersection crossings during peak hours. Pedestrian activity is greatest on the south end and reduces to the north. Approximately 67% of pedestrian travel occurs on the west side of Hennepin Avenue.
- **Bicycles.** Bicyclists currently travel within the motor vehicle lanes.
- **Transit.**
  - There are currently 10 Metro Transit routes using Hennepin Avenue. Approximately 50-60 total bi-directional buses use the corridor during peak hours.
  - Hennepin Avenue is planned as the future Metro E Line (Route 6) arterial bus rapid transit route.
  - Peak period bus lanes (southbound south of 25<sup>th</sup> Street, northbound Lake Street to the Uptown Transit Center, and northbound north of 25<sup>th</sup> Street) occupy the curb lane.

- **Motor Vehicles.** Key travel characteristics include:
  - **Mode Share.** Passenger and commercial vehicle occupants make up approximately 70% of the corridor users on a daily basis.
  - **Left turns.** Motorists making a left turn from Hennepin Avenue represent about 3% of traffic.
  - **Trucks.** Commercial or larger vehicle truck traffic along Hennepin is approximately 4% throughout the day and about 2% during the p.m. peak hour.

#### MOTOR VEHICLE REGIONAL AND DESTINATION TRIP PATTERN

- **Roadway Function.** Approximately 50-55% of motorists travel through the corridor, 30% originate or are destined within the adjacent neighborhoods, and 20% are corridor destination based.

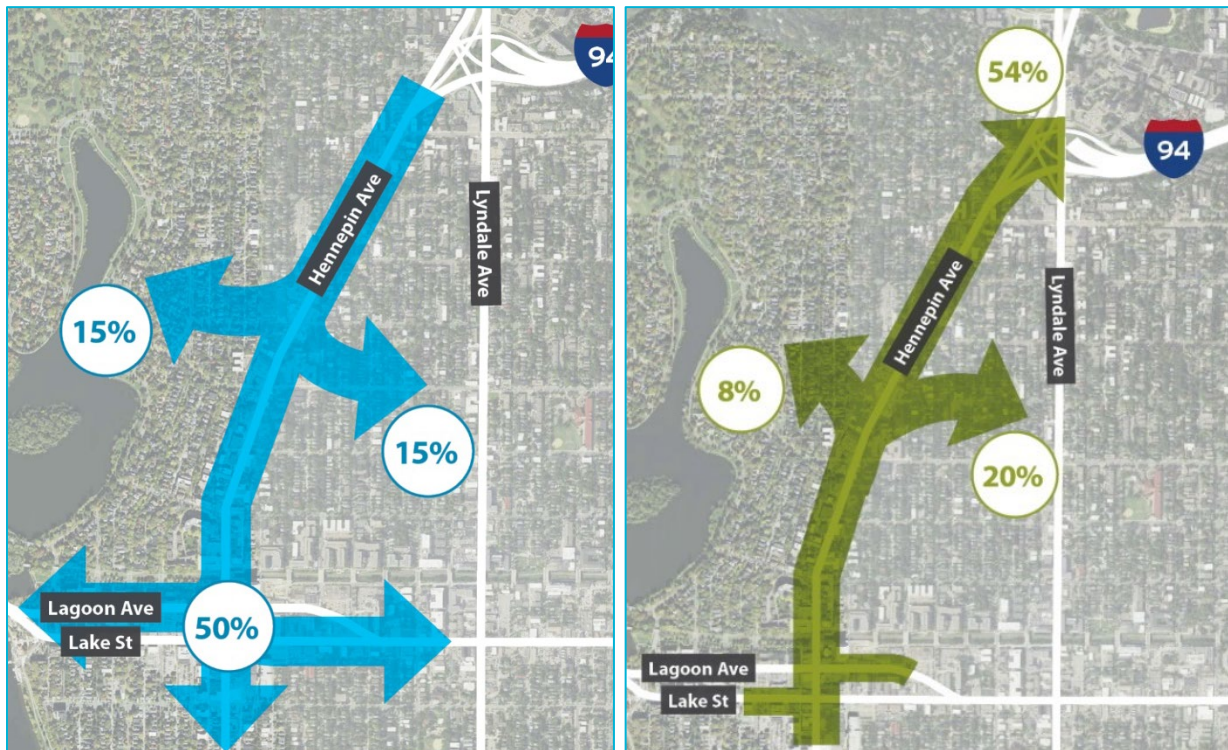


Figure 2. Existing Through Traffic Patterns on Hennepin Avenue

- **Volumes.** The traffic analysis of existing conditions is based on year 2018 (pre-COVID 19 and pre-35W/94 construction) traffic volumes. Volumes collected in late 2021 show consistent traffic levels as 2018 (blue line in Figures 3-4) throughout the day, except for the northbound a.m. peak hour showing approximately 35% less in 2021 (orange line in Figure 3).

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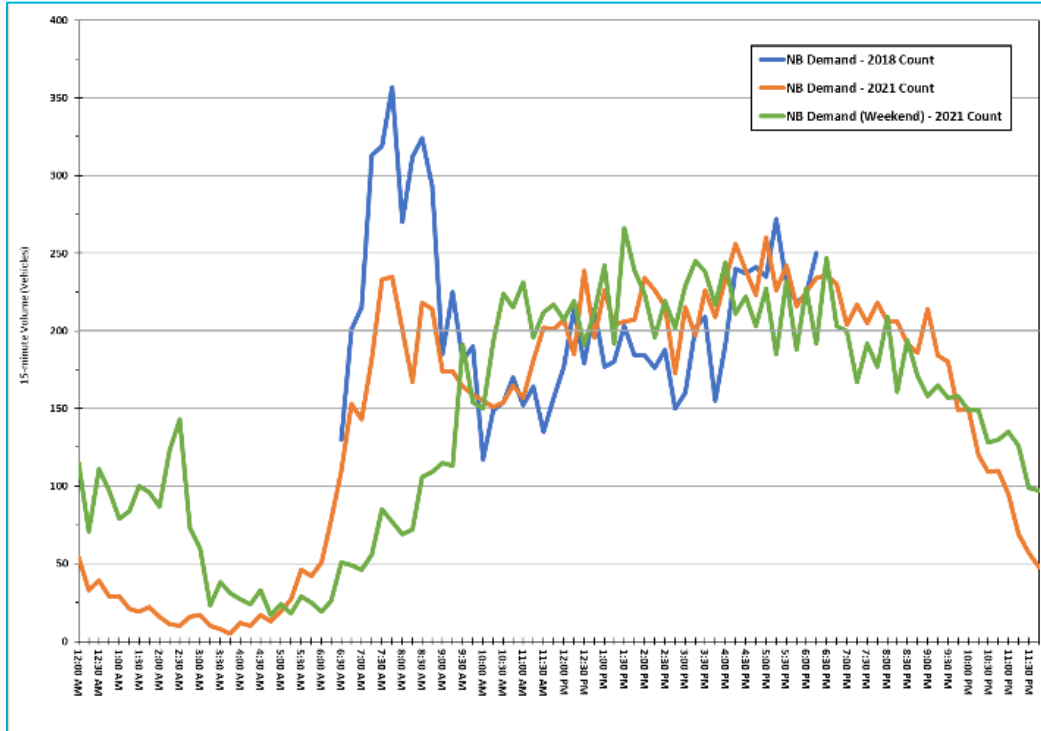


Figure 3. Existing Traffic Volumes - Northbound Hennepin Avenue

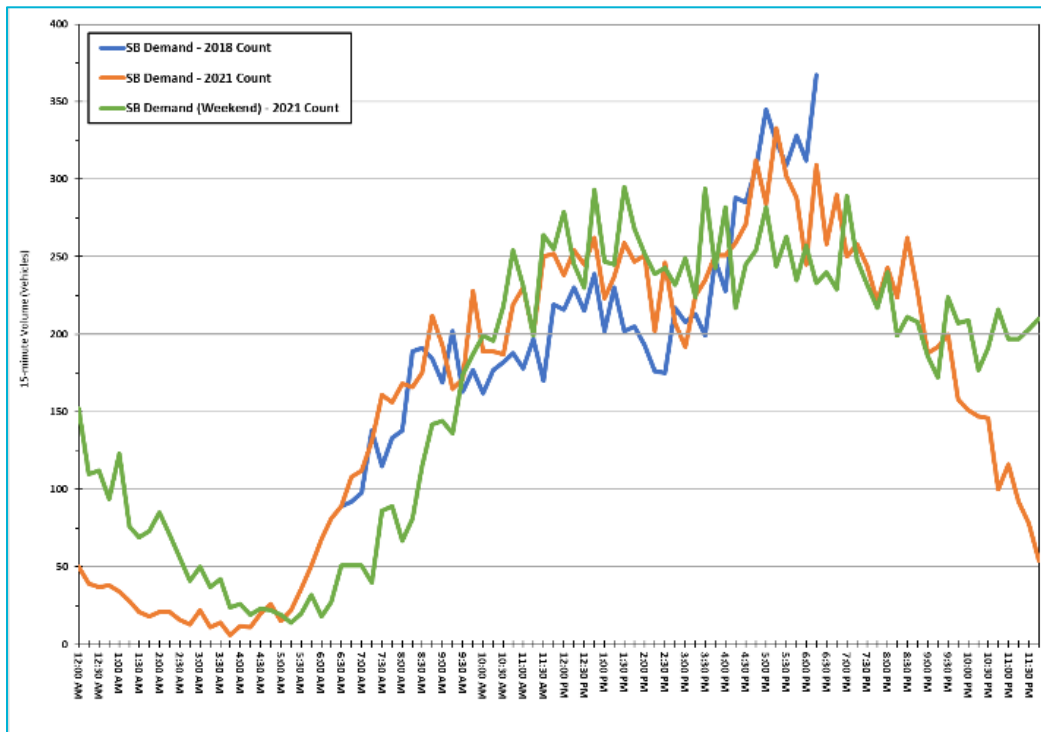


Figure 4. Existing Traffic Volumes - Southbound Hennepin Avenue

## 2. Multimodal Forecast Volumes

The City of Minneapolis Transportation Action Plan (TAP) calls for action over the next 10 years to leverage city streets to reach citywide goals. Implementation of the TAP through street design will enhance transit, walking, and bicycling in pursuit of increasing mode share and reducing motor vehicle traffic. An estimated 40,000 persons per day use Hennepin Avenue (Figure 5), and the Metropolitan Council Activity Based Regional Model (ABM) estimates an approximate 20% growth in persons within the corridor across all travel modes (48,000 persons) over the next 20 years. In accordance with the City of Minneapolis TAP, consideration of existing Hennepin Avenue characteristics, the ABM, growth in persons within the corridor, and corridor design elements, the forecast volumes were derived from the estimated corridor mode share (Figure 6).

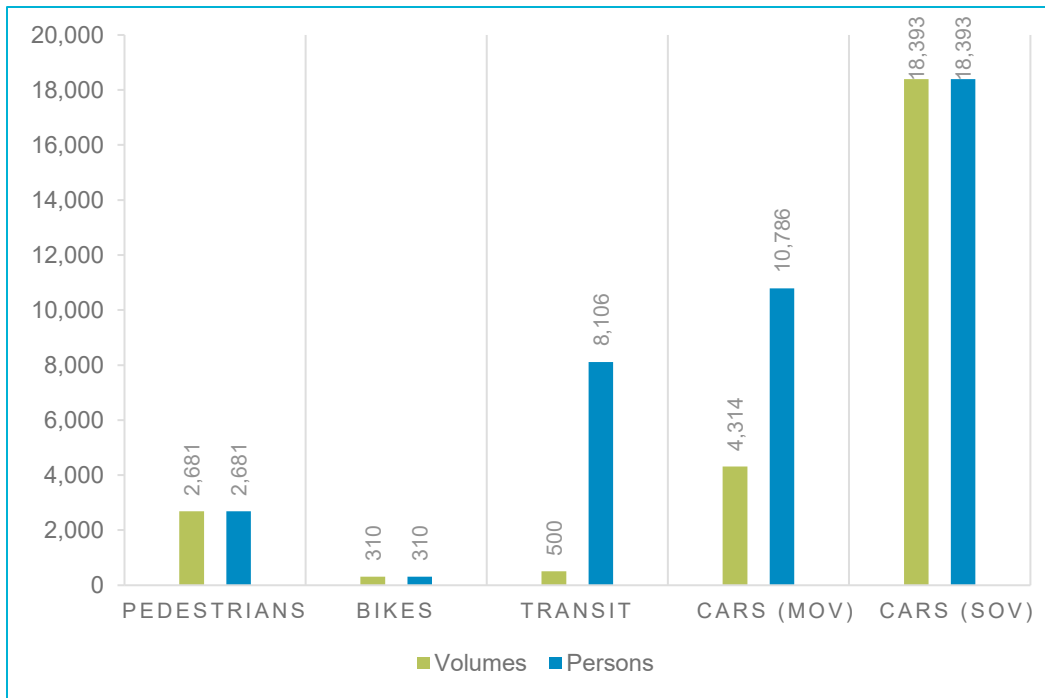


Figure 5. Existing Daily Persons by Travel Mode



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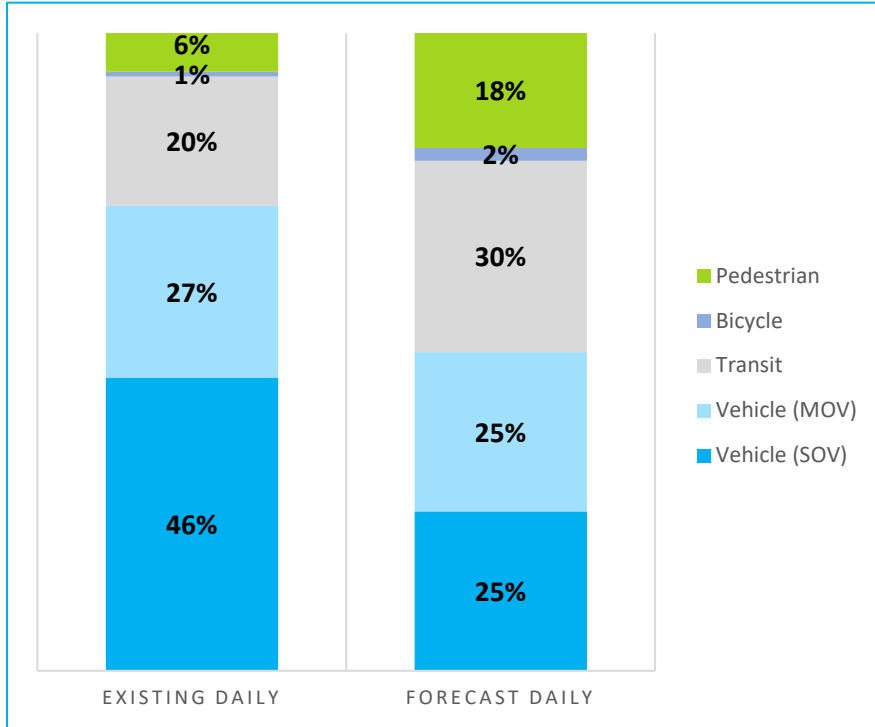


Figure 6. Existing and Forecast Travel Mode Share

Including the forecast person growth within the corridor and mode share consistent with the policies of the TAP, the forecast motor vehicle traffic volumes are shown below. Motor vehicle volume levels are expected to reduce by approximately 20% (Figure 7). This reduction along Hennepin is expected to occur through improved alternative transportation options, street design elements that enhance transit facilities and service, walking and bicycling, and motorists seeking alternative route choices. In addition, the future of a remote working environment and the post-pandemic a.m. peak traffic volumes may continue to be depressed into the future (currently 35% lower than 2018 and 20% lower than the forecast volumes).

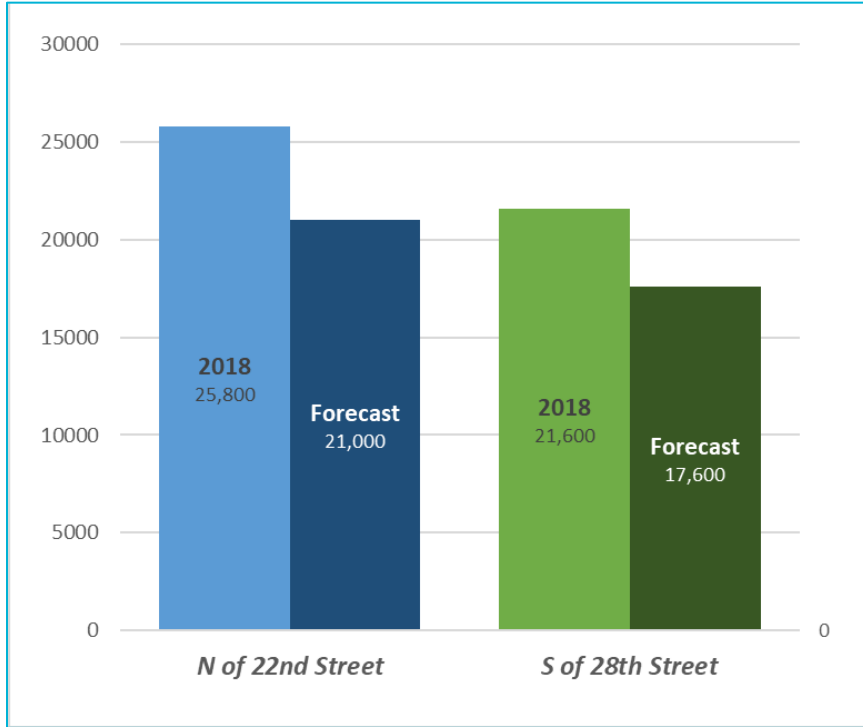


Figure 7. Forecast Daily Vehicle Traffic Volumes

### 3. Corridor Mobility Performance

A comprehensive multimodal traffic modeling analysis was completed for numerous street design / lane configuration scenarios and the recommended design layout. Key performance metrics used to convey the quality of mobility are Level of Service (LOS) and travel time as illustrated in Figures 8-11 (2018 existing and the recommended layout with forecast traffic volumes).

**CORRIDOR LEVEL OF SERVICE**

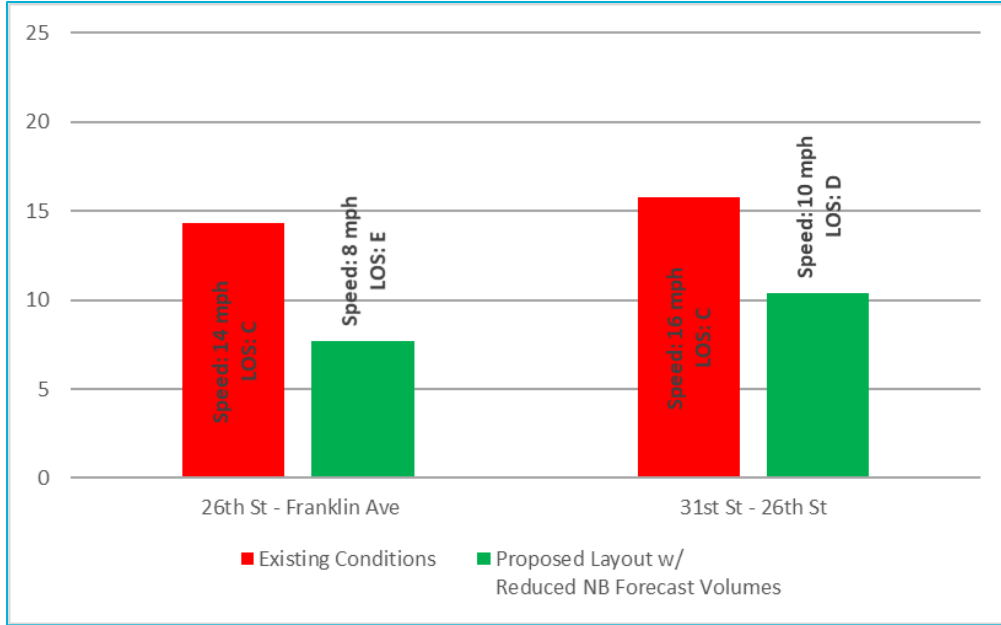


Figure 8. Northbound – Average Motor Vehicle Speed and LOS (AM Peak)

Note: Average motor vehicle speed (green bar) reflects the forecast volumes less an estimated 150 motorists that are likely to divert because of the approach capacity to Franklin Avenue.

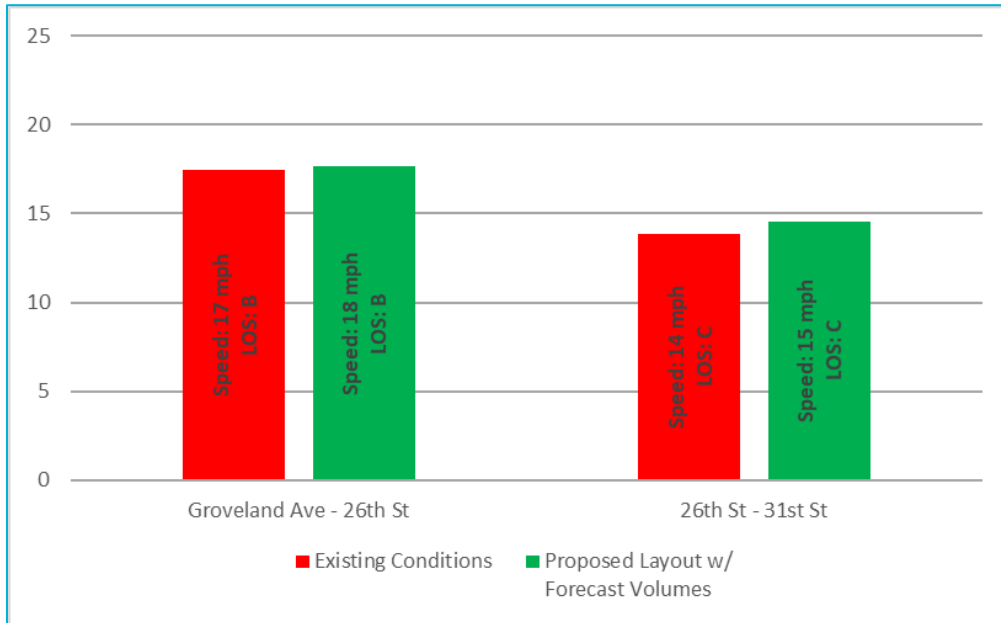


Figure 9. Southbound – Average Motor Vehicle Speed and LOS (AM Peak)

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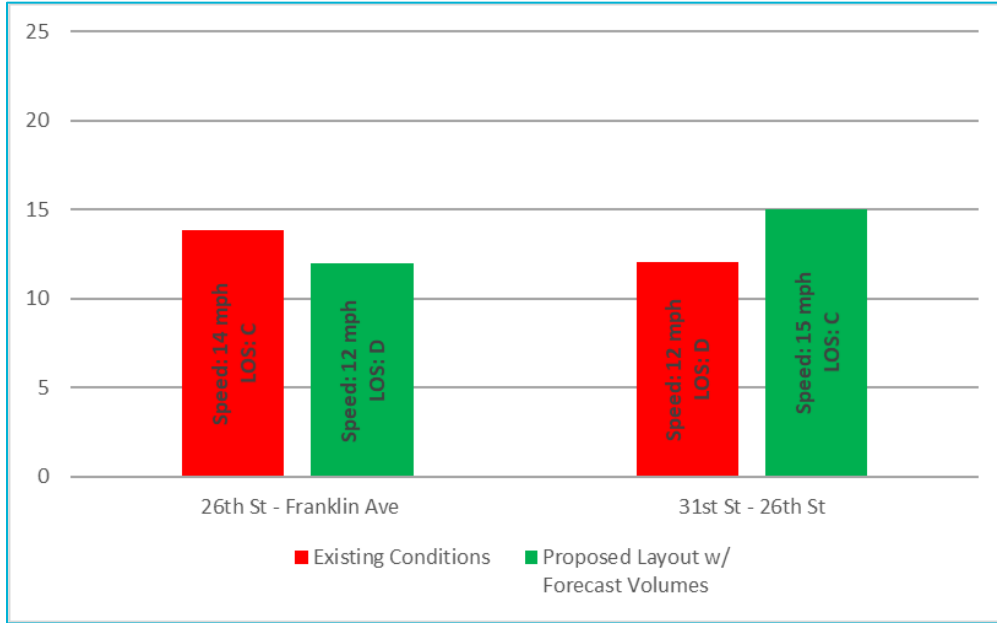


Figure 10. Northbound – Average Motor Vehicle Speed and LOS (PM Peak)



Figure 11. Southbound – Average Motor Vehicle Speed and LOS (PM Peak)

**MOTOR VEHICLE TRAVEL TIME**

Motor vehicle and transit vehicle travel times (shown in minutes) are compared between the existing conditions (2018 volumes) and the recommended layout with the forecast traffic volumes. The total corridor travel time is the addition of the two key corridor segments (north of 26<sup>th</sup> Street and south of 26<sup>th</sup> Street).

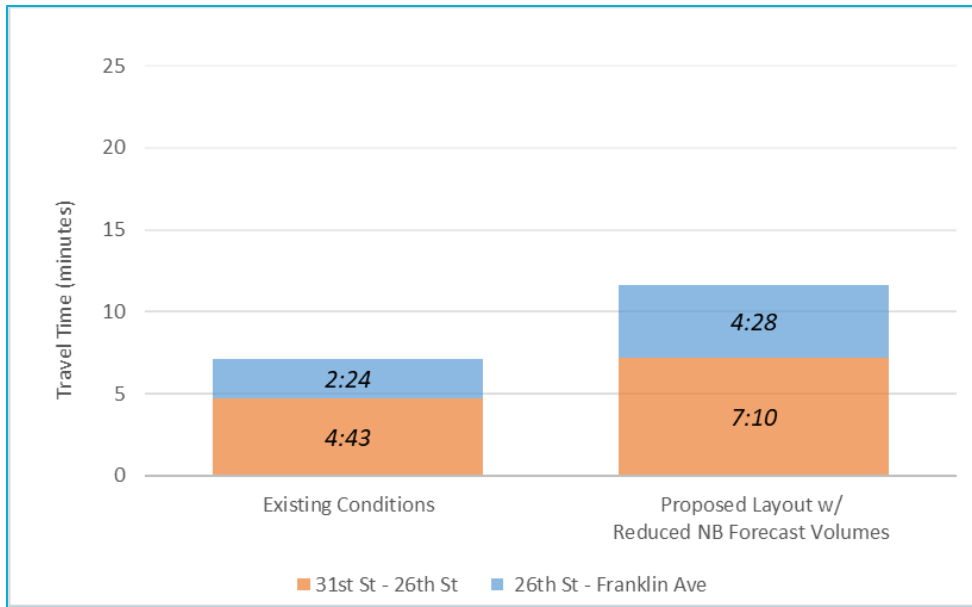


Figure 12. Northbound - Motor Vehicle Travel Time (AM Peak Hour)

Note: Average motor vehicle travel times (proposed layout) reflects the forecast volumes less an estimated 150 motorists that are likely to divert because of the approach capacity to Franklin Avenue.

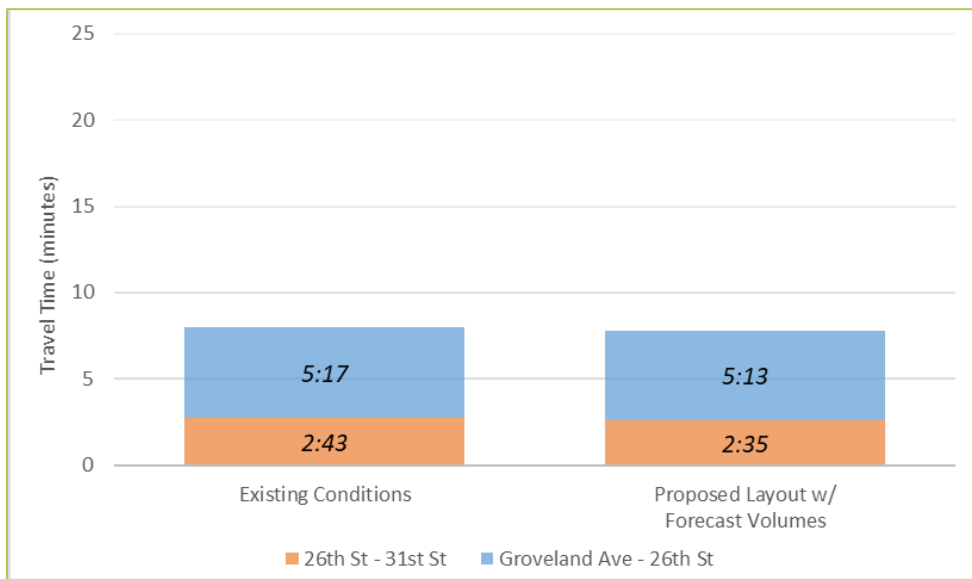


Figure 13. Southbound – Motor Vehicle Travel Time (AM Peak Hour)

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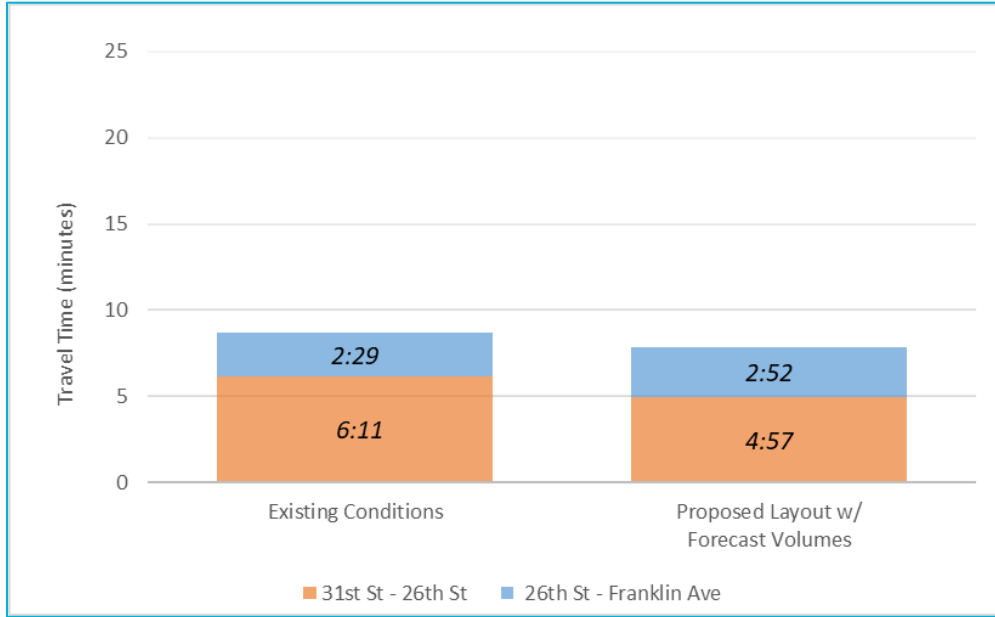


Figure 14. Northbound – Motor Vehicle Travel Time (PM Peak Hour)

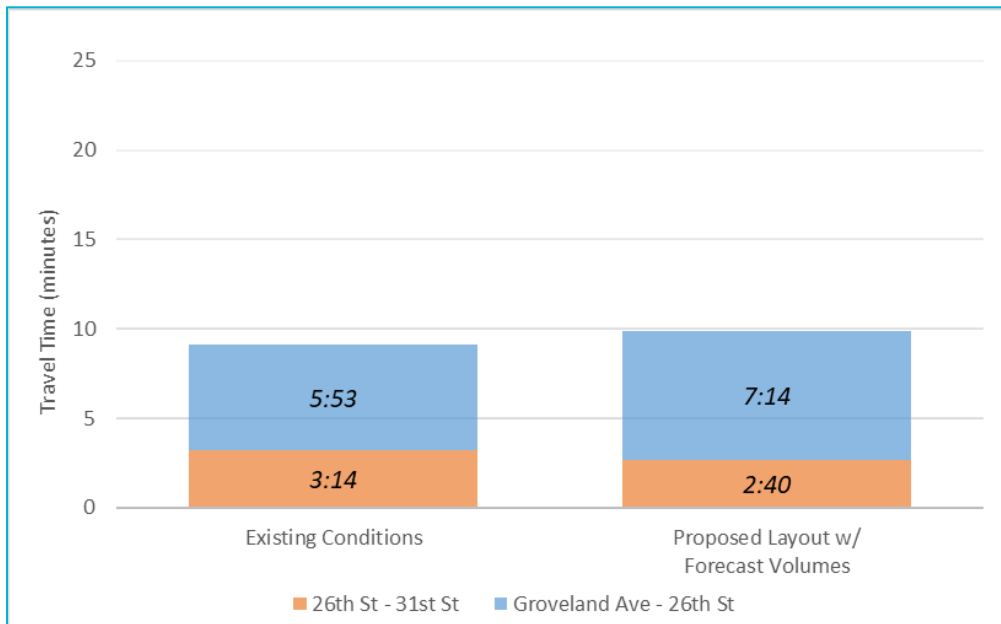


Figure 15. Southbound - Motor Vehicle Travel Time (PM Peak Hour)

TRANSIT VEHICLE TRAVEL TIME

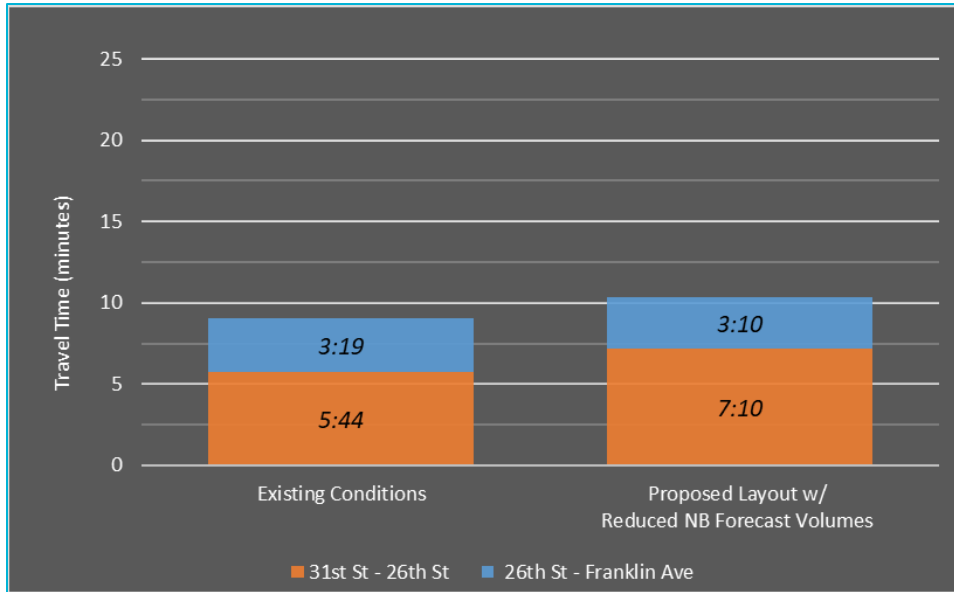


Figure 16. Northbound – Transit Vehicle Travel Time (AM Peak Hour)

Note: Transit vehicle travel time (recommended layout) reflects the forecast volumes less an estimated 150 motorists that are likely to divert because of the approach capacity to Franklin Avenue. The transit vehicle travel time may also be influenced by I-94 congestion backing onto Hennepin Avenue (not reflected) and motor vehicle congestion that could block access to the transit priority lanes.

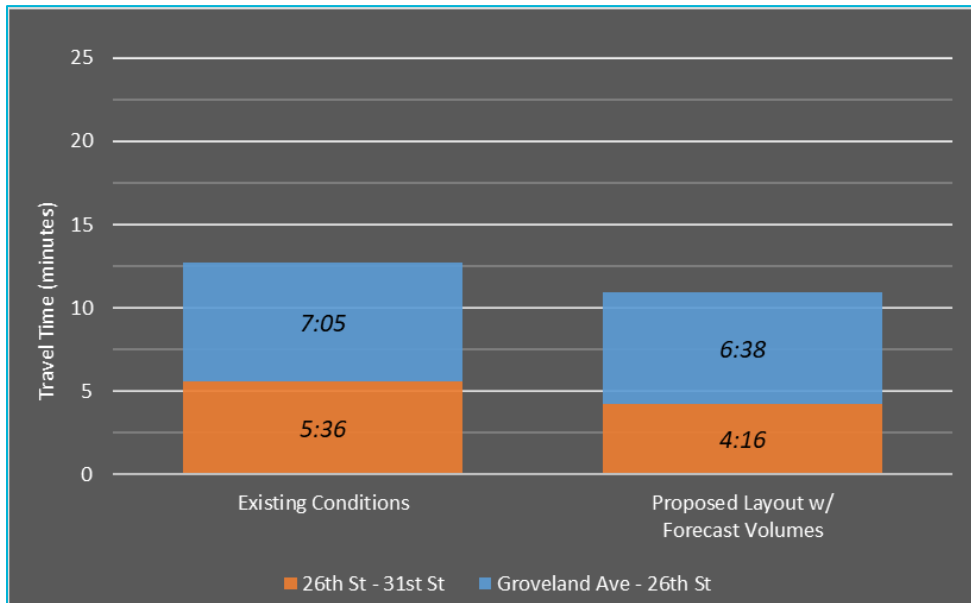


Figure 17. Southbound - Transit Vehicle Travel Time (AM Peak Hour)

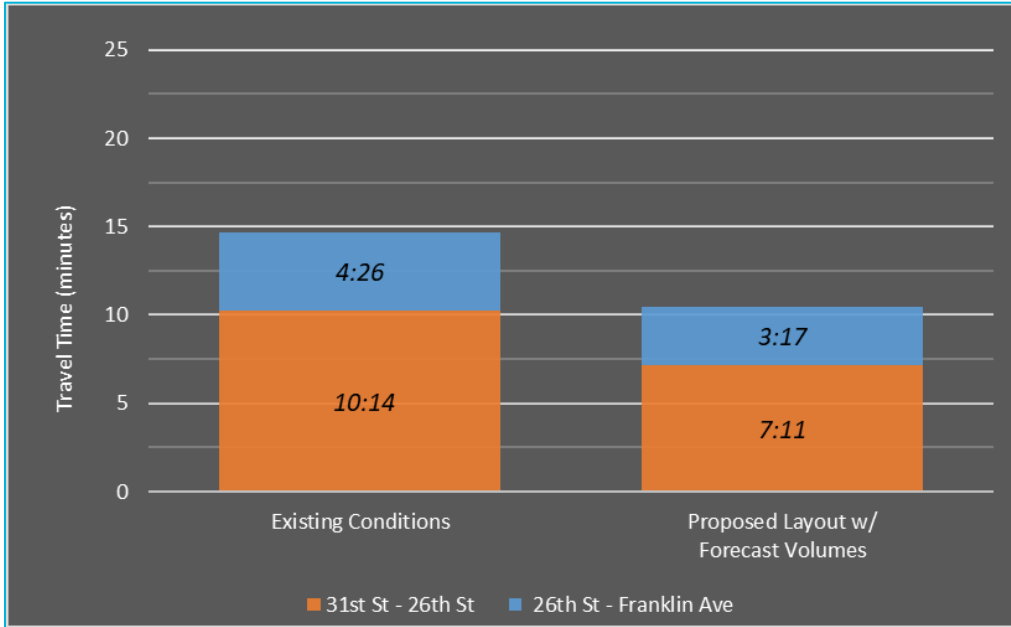


Figure 18. Northbound - Transit Vehicle Travel Time (PM Peak Hour)

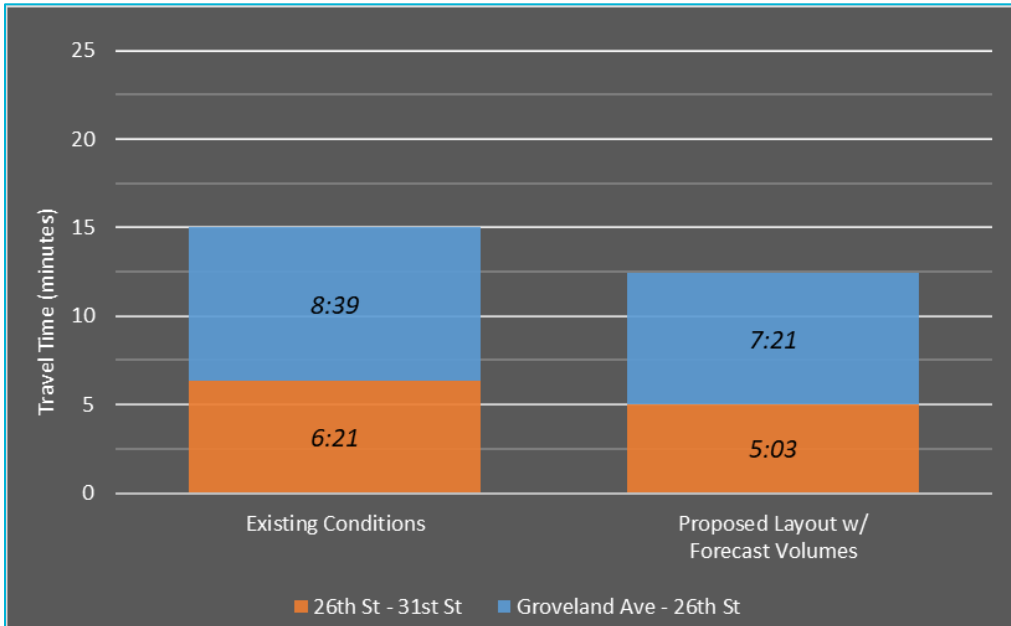


Figure 19. Southbound - Transit Vehicle Travel Time (PM Peak Hour)



**ALTERNATIVES EVALUATION**

The traffic analysis process identified several conclusions that informed the recommended layout or were considered in the overall design considerations:

- The most challenging intersections to balance motor vehicle and transit service capacity are Franklin Avenue and the Lake/Lagoon intersections due to high through and turning traffic demands, transit connections, and closely spaced traffic signals.
  - Two southbound through movement travel lanes are needed at Franklin Avenue to minimize potential for traffic to back onto the freeway ramp.
  - Two eastbound left-turn lanes (from Lake Street) onto Hennepin Avenue are needed. A four-lane cross-section between Lake Street and 29<sup>th</sup> Street is needed.
- Transitioning from a 4-lane to a 3-lane design (lane drop merge) in the southbound direction is incrementally more efficient the further south of Franklin it is located. However, the capacity increase is only approximately 5-10% better if located south of 24<sup>th</sup> versus south of 22<sup>nd</sup> or Franklin Avenue. Capacity gain should be considered with respect to the impacts to transit, sidewalks, bicycle facility, and other corridor space needs.
- Reducing Hennepin Avenue to one travel lane at Douglas Avenue is advantageous to improving safety and efficiency by allowing the existing left side merge from the westbound I-94 exit ramp to be a lane addition instead of a merge.
- Optimum locations for left-turn lanes were identified based on left-turn traffic demand, key crossing city streets, traffic access and circulation for adjacent properties, safety, and traffic efficiency. Key intersections include 28<sup>th</sup> Street, 26<sup>th</sup> Street, 24<sup>th</sup> Street and 22<sup>nd</sup> Street. Left turn restrictions (on Hennepin) should be considered at all other intersections from Franklin Avenue to 29<sup>th</sup> Street where left-turn lanes are not provided.
- Restricting both the northbound and southbound left-turn movements at Franklin Avenue offers significant intersection safety and motor vehicle/transit benefit. There are also significant impacts on other modes if space is allocated for left-turn lanes at Franklin. A left-turn movement from a shared through lane is not recommended at this intersection.
- The final shelter placement and associated pavement marking/signing for a nearside transit station may have an influence on traffic capacity for the northbound approach at Franklin Avenue;. However, other design constraints and transit route connectivity considerations may govern the final design.
- Corridor performance may also be influenced by I-94 congestion (external factor) backing onto Hennepin Avenue, which is not reflected in the traffic analysis. This external corridor congestion could impact the mobility performance of Hennepin Avenue during the a.m. peak period.

#### 4. Key Traffic and Transit Mobility Performance Summary

The proposed concept layout is designed to accommodate the forecast traffic volume levels, mode share expectations, and to optimize mobility, capacity, and safety at key focus areas in accordance with the City of Minneapolis TAP policy. Based on the traffic analysis, the key performance conclusions with respect to the recommended concept layout and forecast volumes are summarized below:

- Southbound Hennepin Avenue is expected to operate at a LOS D or better all day under forecast traffic volumes.
- Northbound Hennepin Avenue, under forecast traffic volumes, is expected to operate at a LOS D or better for nearly all day. LOS F (approximately 1 ½ hours) during the a.m. peak period is expected (approximately 150 vehicles/hour over capacity at Franklin Avenue). The northbound a.m. peak hour traffic demand that can be accommodated at Franklin is 30% less than 2018. It is unknown if the current morning traffic volume trends will stay depressed after the pandemic, or if a return to pre-COVID 19 levels will occur. Current (2021) a.m. peak hour volume levels are close to 35% lower than pre-COVID 19 levels. Should this trend continue, a capacity issue at Franklin Avenue or traffic diversion would not be expected.
- Motor vehicle travel times are expected to be approximately 1 minute longer southbound (p.m. peak hour) and 4.5 minutes (a.m. peak hour) longer northbound, with potential motor vehicle traffic diversion. It should be noted that final shelter placement and pavement marking/signing for the northbound nearside transit station at Franklin Avenue, the presence of congestion on I-94 (which could increase travel time), and significantly depressed a.m. peak volume demand following COVID 19 (greatly reduces travel demand) are variables that should be taken into consideration.
- Transit priority lanes show benefit in both the directions, with expected transit vehicle travel time improvements as follows:
  - A.m. peak – 1.5 minutes northbound (over traveling in a general use traffic lane) and 1.5 minutes southbound.
  - P.m. peak – 4 minutes northbound and 2.5 minutes southbound.

# Appendix B: Project Meetings



<b>Date</b>	<b>Meeting Name</b>
<b>4/11/2018</b>	In-person open house meeting
<b>3/23/2020</b>	0% CPTF
<b>3/26/2020</b>	MnDOT Federal Aid meeting
<b>5/1/2020</b>	Technical Advisory Committee (TAC) meeting
<b>5/19/2020</b>	EIRA BET Committee meeting
<b>5/26/2020</b>	Technical Advisory Committee (TAC) meeting
<b>6/23/2020</b>	Technical Advisory Committee (TAC)
<b>7/14/2020</b>	Capital Project Design and Delivery (CPDD) meeting
<b>7/17/2020</b>	Technical Advisory Committee (TAC) meeting
<b>7/16/2020</b>	Pedestrian Advisory Committee Infrastructure & Engineering Subcommittee meeting
<b>7/28/2020</b>	Technical Advisory Committee (TAC) meeting
<b>7/30/2020</b>	Corridor Stakeholder Committee (CSC) meeting
<b>8/4/2020</b>	Metro Transit meeting
<b>8/8/2020</b>	Bicycle Advisory Committee Engineering Subcommittee meeting
<b>9/15/2020</b>	Metro Transit meeting
<b>9/22/2020</b>	Virtual open house meeting
<b>9/30/2020</b>	Virtual open house meeting
<b>10/6/2020</b>	Corridor Stakeholder Committee (CSC) meeting
<b>10/21/2020</b>	Uptown Business Association meeting
<b>10/27/2020</b>	Technical Advisory Committee (TAC) meeting
<b>11/5/2020</b>	Property owner meeting (areaway site visit)
<b>11/10/2020</b>	Capital Project Design and Delivery (CPDD) meeting
<b>11/10/2020</b>	LHNA board meeting
<b>11/17/2020</b>	EIRA BET Committee meeting
<b>11/24/2020</b>	Technical Advisory Committee (TAC) meeting
<b>12/1/2020</b>	MnDOT State Aid meeting
<b>12/6/2020</b>	Business owner meeting
<b>12/7/2020</b>	Metro Transit meeting
<b>12/9/2020</b>	Utility Coordination meeting
<b>12/9/2020</b>	LHENA Zoning & Planning meeting
<b>12/15/2020</b>	Corridor Stakeholder Committee (CSC) meeting
<b>1/5/2021</b>	Property owner meeting (areaway site visit)
<b>1/11/2021</b>	Technical Advisory Committee (TAC) meeting
<b>1/12/2021</b>	Capital Project Design and Delivery (CPDD) meeting

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<b>1/14/2021</b>	MPRB meeting
<b>1/25/2021</b>	MPRB meeting
<b>1/26/2021</b>	Technical Advisory Committee (TAC) meeting
<b>2/9/2021</b>	Corridor Stakeholder Committee (CSC) meeting
<b>2/17/2021</b>	Metro Transit meeting
<b>2/18/2021</b>	Metro Transit meeting
<b>2/23/2021</b>	Technical Advisory Committee (TAC) meeting
<b>3/2/2021</b>	Virtual open house meeting
<b>3/4/2021</b>	Virtual open house meeting
<b>3/9/2021</b>	Property owner meetings
<b>3/10/2021</b>	Property owner meeting
<b>3/16/2021</b>	Bicycle Advisory Committee Engineering Subcommittee meeting
<b>3/17/2021</b>	Property owner meetings
<b>3/18/2021</b>	Pedestrian Advisory Committee Infrastructure & Engineering Subcommittee meeting
<b>3/19/2021</b>	Property owner meeting
<b>4/6/2021</b>	LHNA board meeting
<b>4/14/2021</b>	Business owner meeting
<b>4/14/2021</b>	LHENA Zoning & Planning meeting
<b>4/17/2021</b>	Metro Chapter National Federation for the Blind MN (NFBMN) meeting
<b>4/19/2021</b>	Property owner meeting
<b>4/20/2021</b>	Lowry Hill Special Service District meeting
<b>4/21/2021</b>	Uptown Special Service District meeting
<b>4/21/2021</b>	Uptown Business Association meeting
<b>4/29/2021</b>	EIRA BET Committee meeting
<b>5/4/2021</b>	MnDOT State Aid meeting
<b>5/5/2021</b>	Metro Transit meeting
<b>5/18/2021</b>	Corridor Stakeholder Committee (CSC) meeting
<b>5/19/2021</b>	Metro Transit meeting
<b>5/20/2021</b>	LHNA annual meeting
<b>6/2/2021</b>	MnDOT State Aid meeting
<b>6/22/2021</b>	Technical Advisory Committee (TAC) meeting
<b>7/22/2021</b>	Metro Transit meeting
<b>8/2/2021</b>	Jefferson School meeting
<b>8/17/2021</b>	Jefferson School meeting
<b>8/31/2021</b>	Property owner meeting
<b>9/14/2021</b>	Property owner meeting
<b>9/16/2021</b>	Property owner meeting
<b>10/20/2021</b>	Property owner meeting
<b>11/2/2021</b>	Property owner meeting
<b>11/9/2021</b>	Capital Project Design and Delivery (CPDD) meeting
<b>11/9/2021</b>	Corridor Stakeholder Committee (CSC) meeting
<b>12/7/2021</b>	Technical Advisory Committee (TAC) meeting

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<b>12/13/2021</b>	15% CPTF
<b>1/4/2022</b>	Uptown Business Association meeting
<b>1/4/2022</b>	LHNA board meeting
<b>1/5/2022</b>	Lowry Hill Special Service District meeting
<b>1/5/2022</b>	Uptown Special Service District meeting
<b>1/7/2022</b>	MPRB meeting
<b>1/10/2022</b>	Metro Transit meeting
<b>1/11/2022</b>	Bicycle Advisory Committee Engineering Subcommittee meeting
<b>1/11/2022</b>	MnDOT Federal Aid meeting
<b>1/12/2022</b>	LHENA Community Development Committee meeting
<b>1/13/2022</b>	Virtual open house meeting
<b>1/18/2022</b>	EIRA BET Committee meeting
<b>1/20/2022</b>	Pedestrian Advisory Committee Infrastructure & Engineering Subcommittee meeting
<b>1/20/2022</b>	Property Owner meeting
<b>2/24/2022</b>	Metro Transit Meeting
<b>3/15/2022</b>	Property Owner meeting
<b>3/24/2022</b>	MnDOT State Aid Variance Committee meeting
<b>4/4/2022</b>	30% CPTF
<b>4/6/2022</b>	Property Owner meeting
<b>4/27/2022</b>	Met Council/Metro Transit meeting
<b>4/27/2022</b>	Hennepin County coordination meeting
<b>5/12/2022</b>	Utility coordination meeting
<b>5/16/2022</b>	Move MN meeting
<b>5/16/2022</b>	Sierra Club, Our Streets, Hennepin for People meeting
<b>5/16/2022</b>	BAC and PAC Chair meeting
<b>5/16/2022</b>	Property Owner meeting