

## Application 17074 - 2022 Multiuse Trails and Bicycle Facilities 17449 - CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway Project Regional Solicitation - Bicycle and Pedestrian Facilities Status: Submitted Submitted Date: 04/14/2022 11:32 AM **Primary Contact** He/him/his Jason Richard Pieper Name:\* Pronouns First Name Middle Name Last Name Title: Transportation Engineer **Department:** Hennepin County - Transportation Department Email: jason.pieper@hennepin.us Address: 1600 Prairie Drive Medina 53340 Minnesota City State/Province Postal Code/Zip 612-596-0241 Phone:\* Phone Ext. Fax: Regional Solicitation - Roadways Including Multimodal

Elements

## **Organization Information**

What Grant Programs are you most interested in?

Name: HENNEPIN COUNTY

Jurisdictional Agency (if different):			
Organization Type:	County Government		
Organization Website:			
Address:	DPT OF PUBLIC WORKS		
	1600 PRAIRIE DR		
*	MEDINA	Minnesota	55340
	City	State/Province	Postal Code/Zip
County:	Hennepin		
Phone:*	763-745-7600		
Thore.		Ext.	
Fax:			
PeopleSoft Vendor Number	0000028004A9		

# **Project Information**

Project Name CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway Project

Primary County where the Project is Located Hennepin

Cities or Townships where the Project is Located: Minneapolis

Jurisdictional Agency (If Different than the Applicant):

The proposed project includes multimodal enhancements along the CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) corridors between the Midtown Greenway and the I-94/I-35W Bridge in the City of Minneapolis. These one-way pairs are both A-Minor Arterials that function as Relievers. Attachment 2 provides an illustration of the project location.

The project objectives are to improve safety, mobility, and accessibility across the CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) corridors, with a focus on enhancing the corridors for multimodal users by slowing vehicle speeds and providing separation between people biking and driving. Photos depicting the roadway's current condition are included in Attachment 3.

Brief Project Description (Include location, road name/functional class, type of improvement, etc.)

In 2018, the county completed an enhanced bikeway network study, which identified the CSAH 33 (Park Ave) and 35 (Portland Ave) corridors as potential enhanced bikeways due to factors such as high biking volumes and key connections. These corridors are RBTN Tier 1 routes and will connect to other Tier 1 routes such as the Midtown Greenway and CSAH 5 (Franklin Ave). The CSAH 33 (Park Ave) and 35 (Portland Ave) corridors are important north-south commuter bike routes as they provide a connection from downtown Minneapolis to job centers and housing in the City of Bloomington. While these corridors provide space for people biking (standard and painted buffered bike lanes), the bike facilities are not perceived as safe or comfortable due to vehicle volumes and speeds. A greater level of separation from motor vehicle traffic, as well as crossing and accessibility upgrades, will make biking, walking, and rolling along the corridor an appealing and safer option for all users traveling to/from work, school, errands,

and recreation.

The project will include, but is not limited to, the following elements. The specific locations and types of improvements will be determined as part of the design process based on additional community input, data analysis, and environmental review. The potential typical sections are included in Attachment 4 and the potential concept is shown in Attachment 5.

- Bicycle improvements; such as the introduction of protected bicycle facilities intersections
- Pedestrian improvements; such as ADA compliant ramps, APS, high visibility crosswalk markings, curb extensions, and countdown timers
- Safety improvements; such as the upgrading of traffic signal systems to accommodate new roadway configurations; relocating the parking lane to provide additional protection for people biking, and, the installation of curb extensions to reduce the crossing distance for people walking and manage speeds for people driving.
- Streetscaping improvements; such as additional greening, stormwater management, and boulevard space throughout the corridor

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)
DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance.

CSAHs 33 and 35 from the Midtown Greenway to the I-94/I-35W Bridge in Minneapolis

to the nearest one-tenth of a mile

## **Project Funding**

Are you applying for competitive funds from another source(s) to

implement this project?

No

If yes, please identify the source(s)

Federal Amount \$5,500,000.00

Match Amount \$2,660,000.00

Minimum of 20% of project total

Project Total \$8,160,000.00

For transit projects, the total cost for the application is total cost minus fare revenues.

Match Percentage 32.6%

Minimum of 20%

Compute the match percentage by dividing the match amount by the project total

Source of Match Funds Hennepin County

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

**Preferred Program Year** 

Select one: 2027

Select 2024 or 2025 for TDM and Unique projects only. For all other applications, select 2026 or 2027.

**Additional Program Years:** 

Select all years that are feasible if funding in an earlier year becomes available.

## **Project Information**

County, City, or Lead Agency Hennepin County

Zip Code where Majority of Work is Being Performed 55404

 (Approximate) Begin Construction Date
 05/03/2027

 (Approximate) End Construction Date
 10/29/2027

Name of Trail/Ped Facility: CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway

(i.e., CEDAR LAKE TRAIL)

TERMINI:(Termini listed must be within 0.3 miles of any work)

(Intersection or Address)

(Intersection or Address)

Midtown Greenway

To:

I-94/I-35W Bridge

DO NOT INCLUDE LEGAL DESCRIPTION; INCLUDE NAME OF ROADWAY IF MAJORITY OF FACILITY RUNS ADJACENT TO A SINGLE CORRIDOR

#### Or At:

Miles of trail (nearest 0.1 miles):

2.1

Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles):

2.1

Is this a new trail?

Yes

**Primary Types of Work** 

BIKEWAY, ADA, SIGNAL MODIFICATIONS, APS, DRAINAGE, CURB EXTENSIONS, PAVEMENT MARKINGS, STREETSCAPING

Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

### **BRIDGE/CULVERT PROJECTS (IF APPLICABLE)**

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under (Bridge or culvert name):

# **Requirements - All Projects**

### **All Projects**

1. The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan (2018), the 2040 Regional Parks Policy Plan (2018), and the 2040 Water Resources Policy Plan (2015).

### Check the box to indicate that the project meets this requirement. Yes

2. The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan goals, objectives, and strategies that relate to the project.

A) Transportation System Stewardship (p 2.2-2.4)

Objectives A & B; Strategies A1 & A2

This project will construct improved multimodal assets to connect with significant investments being made into several key cross streets to CSAHs 33 and 35 (Park and Portland), as well as the nearby D Line BRT. Prioritizing improvements on this corridor creates cost efficiencies through leveraging opportunities created by partner projects.

B) Safety and Security (p 2.5-2.9)

Objectives A & B; Strategies B1, B3, B4, B6

Briefly list the goals, objectives, strategies, and associated pages:

This project will greatly improve the safety and user comfort for those biking, walking and rolling along the corridor by providing a facility that is safe and comfortable for all ages and abilities. Traffic calming design interventions such as curb extensions will be explored at intersections to help reduce crash frequency and user conflicts.

C) Access to Destinations (p 2.10-2.25)

Objectives A, B, C, D, and E; Strategies C1, C2, C3, C4, C8, C9, C15, C16, C17

The corridors provides access to major healthcare, residential, and civic destinations. The project will improve multimodal connections to these destinations as well as connections to existing bicycle facilities at 26th and 28th streets. This project will also tie into Hennepin County's reconstruction of CSAH 5 (Franklin Ave).

D) Competitive Economy (p2.26-2.29)

Objectives A, B & C; Strategies D1, D3, D4, D5

The corridor lies within an area of high job concentration as identified in Thrive MSP 2040 and provides direct connection to downtown Minneapolis and I-94/I-35W, a Tier 1 route as identified as part of the Met Council's Regional Truck Highway Corridor Study. The proposed improvements will reduce conflicts between freight and bicyclists and improve multimodal access to employment centers along the corridor.

E) Healthy and Equitable Communities (p 2.30-2.34)

Objectives A, B, C, D; Strategies E1, E3, E4, E5, E6, E7

The project will prioritize traffic calming elements to protect the vulnerable road users and encourage alternative transportation choices. Stakeholder engagement will occur during design to ensure equitable impacts during and after construction for historically underrepresented populations.

F) Leveraging Transportation Investments to Guide Land Use (p 2.35-2.41)

Objectives: A & C; Strategies: F1, F2, F5, F6, F7

The corridor provides access to healthcare, cultural, and employment destinations in tight-knit

urban residential neighborhoods. Existing on-road bicycle facilities, the current 3-lane one-way configuration, and intersections do not facilitate comfortable or safe pedestrian or bicycle access to these land uses. Streetscaping, traffic calming strategies, and curb extensions will better align the roadway with its diverse, mixed-use context.

(Limit 2,800 characters; approximately 400 words)

3. The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

- Hennepin County Board Resolution 22-0109 Regional Solicitation (Attachment 6)
- Hennepin County Enhanced Bikeway Network
   Study (Attachment 7)
- 3. Hennepin County 2040 Transportation Plan (pages 2-11 2-18)

Website: hennepin.us/-/media/hennepinus/your-government/projects-initiatives/2040-comprehensive-plan/comp-plan-2040-2-transportation.pdf

4. Hennepin County Climate Action Plan (pages 50-54)

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature.

Website: hennepin.us/climate-action/-/media/climateaction/ hennepin-county-climate-action-plan-final.pdf

5. Hennepin County Complete Streets Policy

Website: hennepin.us/completestreets

6. Hennepin County Bike Plan (page 36)

Website:hennepin.us/-/media/hennepinus/residents/transportation/biking/bicycle-transportation-plan.pdf

7. Hennepin County Pedestrian Plan (page 8)

Website: hennepin.us/-/media/hennepinus/residents/transportation/docum

### ents/pedestrian-plan.pdf

8. City of Minneapolis Vision Zero Action Plan (pages 7, 16)

Website: minneapolismn.gov/media/-www-contentassets/documents/VZ-Action-Plan-2020-22.pdf

City of Minneapolis All Ages and Abilities
 Network (Attachment 8)

(Limit 2,800 characters; approximately 400 words)

4. The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible. Unique project costs are limited to those that are federally eligible.

#### Check the box to indicate that the project meets this requirement. Yes

5.Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

#### Check the box to indicate that the project meets this requirement. Yes

6.Applicants must not submit an application for the same project in more than one funding sub-category.

### Check the box to indicate that the project meets this requirement. Yes

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is \$500,000 and the maximum award is the total amount available each funding cycle (approximately \$4,000,000 for the 2020 funding cycle).

Multiuse Trails and Bicycle Facilities: \$250,000 to \$5,500,000

Pedestrian Facilities (Sidewalks, Streetscaping, and ADA): \$250,000 to \$2,000,000

Safe Routes to School: \$250,000 to \$1,000,000

### Check the box to indicate that the project meets this requirement. Yes

8. The project must comply with the Americans with Disabilities Act (ADA).

#### Check the box to indicate that the project meets this requirement. Yes

9.In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The plan must be completed by the local agency before the Regional Solicitation application deadline. For the 2022 Regional Solicitation funding cycle, this requirement may include that the plan is updated within the past five years.

The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public Yes right of way/transportation.

Date plan completed: 08/31/2015

hennepin.us/-

Link to plan:

/media/hennepinus/residents/transportation/docum ents/ada-sidewalk-transition-plan.pdf

The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public right of way/transportation.

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

Upload as PDF

10. The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes

11. The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017. Unique projects are exempt from this qualifying requirement.

Check the box to indicate that the project meets this requirement. Yes

12. The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match.

Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

Check the box to indicate that the project meets this requirement. Yes

13. The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

Check the box to indicate that the project meets this requirement. Yes

14. The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

Check the box to indicate that the project meets this requirement. Yes

## Requirements - Bicycle and Pedestrian Facilities Projects

1.All projects must relate to surface transportation. As an example, for multiuse trail and bicycle facilities, surface transportation is defined as primarily serving a commuting purpose and/or that connect two destination points. A facility may serve both a transportation purpose and a recreational purpose; a facility that connects people to recreational destinations may be considered to have a transportation purpose.

Check the box to indicate that the project meets this requirement. Yes

Multiuse Trails on Active Railroad Right-of-Way:

2.All multiuse trail projects that are located within right-of-way occupied by an active railroad must attach an agreement with the railroad that this right-of-way will be used for trail purposes.

Check the box to indicate that the project meets this requirement.

Upload Agreement PDF

Check the box to indicate that the project is not in active railroad right-of-way.

#### Multiuse Trails and Bicycle Facilities projects only:

3.All applications must include a letter from the operator of the facility confirming that they will remove snow and ice for year-round bicycle and pedestrian use. The Minnesota Pollution Control Agency has a resource for best practices when using salt. Upload PDF of Agreement in Other Attachments.

### Check the box to indicate that the project meets this requirement. Yes

Upload PDF of Agreement in Other Attachments.

### Safe Routes to School projects only:

4.All projects must be located within a two-mile radius of the associated primary, middle, or high school site.

#### Check the box to indicate that the project meets this requirement.

5.All schools benefitting from the SRTS program must conduct after-implementation surveys. These include the student travel tally form and the parent survey available on the National Center for SRTS website. The school(s) must submit the after-evaluation data to the National Center for SRTS within a year of the project completion date. Additional guidance regarding evaluation can be found at the MnDOT SRTS website.

Check the box to indicate that the applicant understands this requirement and will submit data to the National Center for SRTS within one year of project completion.

## Requirements - Bicycle and Pedestrian Facilities Projects

### **Specific Roadway Elements**

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$270,000.00
Removals (approx. 5% of total cost)	\$270,000.00
Roadway (grading, borrow, etc.)	\$28,000.00
Roadway (aggregates and paving)	\$1,138,000.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$950,000.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$495,000.00
Traffic Control	\$270,000.00
Striping	\$23,000.00
Signing	\$0.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$317,000.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00

Totals	\$5,711,000.00
Other Roadway Elements	\$0.00
Roadway Contingencies	\$1,320,000.00
RR Crossing	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
Wetland Mitigation	\$0.00
Traffic Signals	\$630,000.00

# **Specific Bicycle and Pedestrian Elements**

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$932,000.00
Sidewalk Construction	\$251,000.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$325,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	\$7,000.00
Pedestrian-scale Lighting	\$0.00
Streetscaping	\$317,000.00
Wayfinding	\$0.00
Bicycle and Pedestrian Contingencies	\$565,000.00
Other Bicycle and Pedestrian Elements	\$52,000.00
Totals	\$2,449,000.00

# **Specific Transit and TDM Elements**

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	\$0.00
Stations, Stops, and Terminals	\$0.00
Support Facilities	\$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	\$0.00
Vehicles	\$0.00
Contingencies	\$0.00
Right-of-Way	\$0.00

Totals \$0.00

## **Transit Operating Costs**

Number of Platform hours 0

Cost Per Platform hour (full loaded Cost) \$0.00

Subtotal \$0.00

Other Costs - Administration, Overhead, etc. \$0.00

### **Totals**

Total Cost \$8,160,000.00

Construction Cost Total \$8,160,000.00

Transit Operating Cost Total \$0.00

## Measure A: Project Location Relative to the RBTN

Select one:

**Tier 1, Priority RBTN Corridor** 

Tier 1, RBTN Alignment Yes

Tier 2, RBTN Corridor

Tier 2, RBTN Alignment

Direct connection to an RBTN Tier 1 corridor or alignment

Direct connection to an RBTN Tier 2 corridor or alignment

OR

**Upload Map** 

Project is not located on or directly connected to the RBTN but is part of a local system and identified within an adopted county, city or regional parks implementing agency plan.

1649448093062\_2022 RS Map 01 - CSAHs 33 & 35 (Park Ave

& Portland Ave) Bikeway Project - Project to RBTN

Orientation.pdf

Please upload attachment in PDF form.

## **Measure A: Population Summary**

Existing Population Within One Mile (Integer Only) 95942

Existing Employment Within One Mile (Integer Only) 183303

#### ......

Upload the "Population Summary" map

1649448156624\_2022 RS Map 02 - CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway Project - Population & Employment Summary.pdf

Please upload attachment in PDF form.

## **Measure A: Engagement**

i.Describe any Black, Indigenous, and People of Color populations, low-income populations, disabled populations, youth, or older adults within a ½ mile of the proposed project. Describe how these populations relate to regional context. Location of affordable housing will be addressed in Measure C.

ii. Describe how Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing were engaged, whether through community planning efforts, project needs identification, or during the project development process.

iii. Describe the progression of engagement activities in this project. A full response should answer these questions:

Minneapolis connect a large BIPOC population just south of downtown Minneapolis. The area has been a center of Twin Cities Black culture for generations and today is also home to recent immigrants from East Africa, especially around CSAH 5 (Franklin Ave), and from Latin America, especially around CSAH 3 (Lake St).

CSAHs 33 and 35 (Park Ave and Portland Ave) in

Approximately 78% of residents in Census tracts surrounding the project corridor are BIPOC according to the 2020 Census.

The corridors include senior housing at Ebenezer Tower Apartments, Ebenezer Park Apartments and Ebenezer Care Center, a rehabilitation and nursing home. CSAHs 33 and 35 (Park Ave and Portland Ave) are in an excellent location for independent living for people with disabilities and older adults, as they are near transit, walkable locations, health care, and other daily needs.

The project was identified as part of the City of Minneapolis's All Ages and Abilities network, which seeks to provide safe and comfortable bicycling for all people, not just those who are fit and confident. The network was developed as part of the city's Transportation Action Plan. That planning effort worked with residents citywide from 2018 to 2020 and included workshops, online surveys, social media conversations, community engagement with community organizations, and small-group conversations among city staff and community members of historically underrepresented groups. Four of the Transportation Action Plan's 33 inperson events were within ½ mile of the project area.

Response:

The project responds to themes heard through the city's engagement process, including designing bikeways for the needs of youth, families and nonconventional commuters, particularly in making them feel safe and comfortable while connecting to desired destinations. Initial project concepts also respond to community-identified accessibility needs, with additional ramps at midblock to help people get from parked vehicles to the sidewalk level. The project also responds to pedestrian needs with bumpouts that make streets easier to cross, and separation from people biking. Furthermore, this project responds to the need to slow vehicle speeds by introducing design strategies such as narrower travel lanes, protected bicycle facilities supplemented with medians, curb extensions, and streetscaping.

Hennepin County will work with directly with residents, community organizations and members of underrepresented groups as it refines the project design. Anticipated engagement methods include direct mailings, open houses, meetings with neighborhood groups, contracting with community partners who already have trusted relationships in the community, online events, and pop-up events.

(Limit 2,800 characters; approximately 400 words):

## Measure B: Equity Population Benefits and Impacts

Describe the projects benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:

This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Equity populations residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Equity populations specifically identified through engagement, and substantiate benefits with data.

Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.

Below is a list of potential negative impacts. This is not an exhaustive list.

CSAHs 33 and 35 (Park Ave and Portland Ave) were originally constructed before the I-35W freeway system; therefore, their original design prioritized people driving. This project will construct protected bikeways on CSAHs 33 and 35 (Park Ave and Portland Ave) in South Minneapolis and will benefit BIPOC primarily by creating a safe and comfortable walking and biking environment for people of all biking abilities and ages.

The area has been a center of Twin Cities Black culture for generations, and today is also home to recent immigrants from East Africa, around CSAH 5 (Franklin Ave), and from Latin America, around CSAH 3 (Lake St). About 78% of people in the project area's two census tracts are BIPOC.

The roadways will be narrowed to slow drivers who today are enticed to drive excessively fast by the wide roadways. The project will add green space and bumpouts to benefit people crossing these Aminor relievers on foot and mobility devices by shortening the crossing distance and improving visibility. The project will have minimal if any impacts to on-street parking. The project will install accessibility ramps midblock to reduce the distance people who need to use ramps have to travel to get to sidewalk level and will include accessibility parking.

The project was identified as part of the City of Minneapolis's All Ages and Abilities network as part of the City's Transportation Action Plan. That planning effort worked with residents from 2018-2020 and included engagement tailored to hear from historically underrepresented groups. Four of the 33 in-person events were within ½ mile of the project area.

Response:

The project will link BIPOC residents with other routes on Minneapolis's All Ages and Abilities bicycling network. Hennepin County is exploring enhancements to the bike facilities on these corridors north of this projects' limits in conjunction with a planned pavement preservation activity, which will connect to the CSAH 152 (Washington Ave) cycle track. The southern end of this project will improve the connection to the existing lowstress Midtown Greenway (RBTN Tier 1). Future planned improvements to the corridors will create similar low-stress protected bikeways south to Minnehaha Creek Regional Trail and Richfield. These connections will improve equity in access to transportation and recreation options.

Potential negative impacts to BIPOC could include construction impacts that will be mitigated through detours for all modes and construction scheduling determined through engagement. Access to adjacent buildings will be critical, and staff will seek out opportunities to minimize disruption to nearby residences, businesses, and services during construction.

(Limit 2,800 characters; approximately 400 words):

### **Measure C: Affordable Housing Access**

Describe any affordable housing developments existing, under construction, or planned within ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).

Describe the projects benefits to current and future affordable housing residents within ½ mile of the project. Benefits must relate to affordable housing residents. Examples may include:

This is not an exhaustive list. Since residents of affordable housing are more likely not to own a private vehicle, higher points will be provided to roadway projects that include other multimodal access improvements. A full response will support the benefits claimed, identify benefits specific to residents of affordable housing, identify benefits addressing a transportation issue affecting residents of affordable housing specifically identified through engagement, and substantiate benefits with data.

Response:

A total of 79 affordable, subsidized housing developments are located within ½ mile of the project area. Attachment 9 provides a map and summary of these locations, including unit sizes and affordability limits based on area median incomes. As identified in the Met Council generated Socio-Economic Conditions map, 6,470 subsidized units exist in census tracts within ½ mile of the project. Some of the largest affordable housing developments within the project area, such as the Fifth Avenue Highrises (253 Units), Ebenezer Park Apts (200 Units), and Ebenezer Towers (192 Units) are exclusively for seniors and those with disabilities. While all residents of affordable housing will benefit from the proposed multimodal improvements on CSAHs 33 and 35 (Park and Portland aves), it is especially critical for the residents of these developments who represent the most vulnerable roadway users.

CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) are major thoroughfares for people of all modes to access healthcare, employment, and public service destinations throughout South Minneapolis as shown in Attachment 10. Abbott Northwestern Hospital and the Children's Minnesota Hospital are both two blocks away from CSAH 33 (Park Ave) and serve as major healthcare destinations for residents of affordable housing. Andersen United Middle School, a public school which has a substantial population of low-income students, is within 1/2 mile of the project area, as is the YWCA Minneapolis Children's Center at Abbott which provides programming and early education for families. Multiple nonprofit service providers and community builders operate along the corridor, such as Community Bridge, an organization which provides community meals and a food pantry, as well as job training. Residents of affordable housing also use the corridor to access employment centers and commercial development in Downtown

Minneapolis and CSAH 3 (Lake St).

For families who live in affordable housing, offstreet bicycle facilities and curb extensions will be explored to create an environment that is safe for users of all ages and abilities. For the residents of several large developments in the project area dedicated to seniors and those with disabilities, reconstructed sidewalk assets, accessible pedestrian ramps at intersections, and APS will all be explored to provide maximum accessibility and mobility. Complete Streets design strategies such as narrower travel lanes, protected bicycle facilities supplemented with medians, curb extensions, and streetscaping will slow vehicles to improve comfort and safety for people walking and rolling. Residents of affordable will benefit from improved multimodal access to Metro Transit's future B Line and D Line BRT services along CSAH 3 (Lake St) and Chicago Ave.

(Limit 2,800 characters; approximately 400 words):

### Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:

Projects census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):

Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):

Upload the Socio-Economic Conditions map used for this measure.

Yes

1646929362520\_2022 RS Map 03 - CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway Project - Socio Economic Conditions.pdf

Measure A: Gaps closed/barriers removed and/or continuity between jurisdictions improved by the project

PART 1: Qualitative assessment of project narrative discussing how the project will close a bicycle network gap, create a new or improved physical bike barrier crossing, and/or improve continuity and connections between jurisdictions.

Specifically, describe how the project would accomplish the following: Close a transportation network gap, provide a facility that crosses or circumvents a physical barrier, and/or improve continuity or connections between jurisdictions.

Bike system gap improvements include the following:

- Providing a missing link between existing or improved segments of a local transportation network or regional bicycle facility (i.e., regional trail or RBTN alignment);
- •Improving bikeability to better serve all ability and experience levels by:
- Providing a safer, more protected on-street facility or off-road trail;
- •Improving safety of bicycle crossings at busy intersections (e.g., through signal operations, revised signage, pavement markings, etc.); OR
- •Providing a trail adjacent or parallel to a highway or arterial roadway or improving a bike route along a nearby and parallel lower-volume neighborhood collector or local street.

Physical bicycle barrier crossing improvements include grade-separated crossings (over or under) of rivers and streams, railroad corridors, freeways and expressways, and multi-lane arterials, or enhanced routes to circumvent the barrier by channeling bicyclists to existing safe crossings or grade separations. Surface crossing improvements (at-grade) of major highway and rail barriers that upgrade the bicycle facility treatment or replace an existing facility at the end of its useful life may also be considered as bicycle barrier improvements. (For new barrier crossing projects, distances to the nearest parallel crossing must be included in the application to be considered for the full allotment of points under Part 1).

Examples of continuity/connectivity improvements may include constructing a bikeway across jurisdictional lines where none exists or upgrading an existing bicycle facility treatment so that it connects to and is consistent with an adjacent jurisdictions bicycle facility.

Response:

This project will upgrade a heavily used on-street bikeway to a safe and comfortable protected bikeway pair. The one-way pairs are a primary bicycle transportation route connecting the regional employment center in Downtown Minneapolis with South Minneapolis, Richfield, and Bloomington.

The configuration of CSAH 33 (Park Ave) is oneway northbound, and CSAH 35 (Portland Ave), is one-way southbound; including, two general lanes, one buffered bike lane and two parking lanes. These A-minor relievers are heavily used by bicycle and motor vehicle commuter traffic. Using a permanent bicycle counter on CSAH 33 (Park Ave), the county estimates an average annual daily bicyclists of 280, with much higher numbers in summer. Motor vehicle users illegally drive in the buffered bicycle lanes to pass, prepare for a turn, or because snow covers the pavement markings, and delivery and school bus drivers frequently double park in them. Ruts in snow from people driving motor vehicles in the bike lanes create a hazard for people biking.

This exposure to high-volume motor vehicle traffic, which often travel above the posted 30 mph posted speed limit, makes the corridor uncomfortable for multimodal users. Creating a safer, protected bikeway separate from motor vehicle and pedestrian traffic will remove this barrier. A speed survey conducted by Hennepin County indicated that more than half of the people driving on these corridors traveled at speeds higher than the posted speed limits.

The improvements will include protected intersections where low-stress bicycle network routes cross the corridor at 24th, 26th and 28th streets. These will provide queuing space behind

curb and facilitate box turns without having to pick up a bike to reposition it, which is a difficult maneuver for people with mobility impairments or a bicycle that's heavy or has a trailer attached.

The improvements will enhance a critical link in the City of Minneapolis's All Ages and Abilities bicycling network, identified in the City's Transportation Action Plan as a low-stress bikeway. Hennepin County is exploring enhancements to the bike facilities on these corridors north of this projects' limits in conjunction with a planned pavement preservation activity, which will connect to the CSAH 152 (Washington Ave) cycle track.

The CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) Bikeway Project will improve the connection to the existing low-stress RBTN Tier 1 Midtown Greenway and CSAH 5 (Franklin Ave), which will include future off-street bicycle connections.

The project corridors are RBTN Tier 1 routes and cross the Regional Expressway Barrier I-94/I-35W at the north project terminus. A map illustrating multimodal connections is shown in Attachment 11.

(Limit 2,800 characters; approximately 400 words)

PART 2: Regional Bicycle Barrier Crossing Improvements and Major River Bicycle Barrier Crossings DEFINITIONS:

Regional Bicycle Barrier Crossing Improvements include crossings of barrier segments within the Regional Bicycle Barrier Crossing Improvement Areas as updated in the 2019 Technical Addendum to the Regional Bicycle Barriers Study and shown in the RBBS online map (insert link to forthcoming RBBS Online Map). Projects must create a new regional barrier crossing, replace an existing regional barrier crossing at the end of its useful life, or upgrade an existing barrier crossing to a higher level of bike facility treatment, to receive points for Part 2. Major River Bicycle Barrier Crossings include all existing and planned highway and bicycle/pedestrian bridge crossings of the Mississippi, Minnesota and St. Croix Rivers as identified in the 2018 update of the 2040 Transportation Policy Plan. Projects must create a new major river bicycle barrier crossing, replace an existing major river crossing at the end of its useful life, or upgrade the crossing to a higher level of bike facility treatment, to receive points for Part 2.

Projects that construct new or improve existing Regional Bicycle Barrier Crossings or Major River Bicycle Barrier Crossings will be assigned points as follows: (select one)

### Tier 1

Tier 1 Regional Bicycle Barrier Crossing Improvement Area segments & any Major River Bicycle Barrier Crossings

### Tier 2

Tier 2 Regional Bicycle Barrier Crossing Improvement Area segments

#### Tier 3

Tier 3 Regional Bicycle Barrier Crossing Improvement Area segments

### Non-tiered

Crossings of non-tiered Regional Bicycle Barrier segments

### No improvements

Yes

No Improvements to barrier crossings

If the project improves multiple regional bicycle barriers, check box.

### Multiple

Projects that improve crossing of multiple regional bicycle barriers receive bonus points (except Tier 1 & MRBBCs)

# **Measure B: Project Improvements**

Response:

The segments of CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) from the Midtown Greenway to the I-94/I-35W bridge experienced 27 bicycle-involved crashes and 41 pedestrian-involved crashes across the years 2012 to 2021; including 5 incapacitating injury, 26 non-incapacitating injuries, 31 possible injuries, and 6 non-injury crashes. Attachment 12 includes a summary of the reported crashes.

CSAH 33 (Park Ave) and CSAH 35 (Portland Ave) currently include on-road bike lanes that are enhanced with painted buffers to provide separation between people driving and parked vehicles. Although there is dedicated space for people biking, the conditions remain uncomfortable as vehicle speeds often exceed the posted speed limit of 30 mph due to the lack of traffic calming strategies along the corridor. Similarly, the existing intersections are relatively uncomfortable to cross for people walking and biking as the crossing distances are relatively long (approximately 65') and the current 2-lane configuration presents the potential for dual-threat crashes.

The proposed project will upgrade the existing onroad bike lanes from a painted buffer design to a
protected design that provides more separation
from people driving. It's anticipated that on-street
parking areas will be relocated to minimize conflicts
with people biking along the corridor. In addition,
intersections will be modified to create a more
compact design through the introduction of curb
extensions whenever feasible. Curb extensions will
be especially beneficial since CSAH 33 (Park Ave),
CSAH 35 (Portland Ave), and many east/west
cross streets operate as one-way roadways;
allowing for especially tight turn radii whenever
certain turning movements are not permitted.

Furthermore, protected intersection designs will be considered at locations wherever east/west bikeway facilities exist (such as 28th St, 26th St, and 24th St).

The following list identifies the key safety countermeasures that are anticipated with this project. The specific type and location of improvements will be determined as part of the project development process based on data analysis, stakeholder input, and environmental review. Attachment 13 includes applicable pages from both Minnesota's Best Practices for Pedestrian and Bicycle Safety Guidebook and FHWAs Proven Safety Countermeasure One-Pagers.

- Protected bikeway facility anticipated along both corridors (undetermined reduction)
- Curb extensions anticipated at approximately 18 intersections (~45% reduction)
- Protected intersection designs potentially at the 28th St, 26th St, and 24th St intersections (undetermined reduction)
- APS and signal design/operation considerations for people biking, such as: detection, phasing, and optimization (undetermined reduction)

(Limit 2,800 characters; approximately 400 words)

### **Measure A: Multimodal Elements**

CSAHs 33 and 35 (Park Ave and Portland Ave) were originally constructed before the I-35W freeway system; therefore, their original design prioritized people driving. This project responds to the need to slow vehicle speeds by introducing design strategies such as narrower travel lanes, protected bicycle facilities supplemented with medians, curb extensions, and streetscaping.

People driving demonstrate poor yielding rates, resulting in a stressful environment for people walking and rolling. A speed survey conducted by the county indicated that more than half of the people driving on these corridors traveled at speeds higher than the posted speed limits. These conditions make it uncomfortable for people biking as there is no physical separation between the buffered bike lane and vehicles traveling above the posted speed limit.

Response:

People walking and using mobility devices on CSAHs 33 and 35 (Park Ave and Portland Ave) will benefit from curb extensions that shorten crossing distance to improve visibility, and a separated bikeway that allows for multi-stage crossings. Curb extensions at approximately 18 intersections will increase sidewalk space and pedestrian queuing space at signals. The corridor will be made fully ADA compliant. Sidewalks currently exist on both sides of both streets and will be retained. The project will install high-visibility crosswalk markings at appropriate locations.

The protected bikeway is designed to reduce pedestrian-bicycle conflicts by providing a separated bikeway, reducing the number of people biking on sidewalks. Trees and other plantings will shade sidewalks and create a more attractive walking environment.

Metro Transit Route 9 operates along this corridor between CSAH 5 (Franklin Ave) and the I-94/35W bridge, and Route 27 operates along CSAH 35 (Portland Ave) from CSAH 3 (Lake St) to 27th. Transit users will experience improvements at 3 bus stops, including accessible boarding areas, and the aforementioned pedestrian improvements.

People driving on CSAHs 33 and 35 (Park Ave and Portland Ave) will benefit from a new pavement surface and improved drainage. Separation from people biking also will reduce vehicle-bicycle conflicts, particularly associated with parking and delivery maneuvers. The introduction of midblock accessible ramps from street to sidewalk level will accommodate people with limited mobility who park along these roadways.

CSAHs 33 and 35 (Park Ave and Portland Ave) are major regional biking arterials to access downtown Minneapolis from Richfield, Bloomington. Creating a safe and comfortable bicycling facility into downtown improves the walking, transit, and biking environment by reducing dependence on motor vehicles. Attachment 11 highlights multimodal connections to the project corridor.

(Limit 2,800 characters; approximately 400 words)

### **Transit Projects Not Requiring Construction**

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

**Check Here if Your Transit Project Does Not Require Construction** 

### 1. Public Involvement (20 Percent of Points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.

Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.

100%

At least one meeting specific to this project with the general public has been used to help identify the project need.

50%

At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.

50%

No meeting or outreach specific to this project was conducted, but the project was identified through meetings and/or outreach Yes related to a larger planning effort.

25%

No outreach has led to the selection of this project.

0%

Describe the type(s) of outreach selected for this project (i.e., online or in-person meetings, surveys, demonstration projects), the method(s) used to announce outreach opportunities, and how many people participated. Include any public website links to outreach opportunities.

Response:

The project was identified as part of the city of Minneapolis's All Ages and Abilities network, which seeks to provide safe and comfortable bicycling for people of all ages and abilities. The network was developed as part of the city's Transportation Action Plan. That planning effort worked with residents citywide from 2018 to 2020 and included workshops, online surveys, social media conversations, community engagement contracts with community organizations, and small-group conversations among city staff and community members of historically underrepresented groups. Four of the Transportation Action Plan's 33 inperson events were within ½ mile of the project area.

The project responds to themes heard through the city's engagement process, including designing bikeways for the needs of youth, families and nonconventional commuters, particularly in making them feel safe and comfortable while connecting to desired destinations. Initial project concepts also respond to community-identified accessibility needs, with additional ramps midblock to help people with limited move from parked vehicles on street level to sidewalk level. The project also responds to pedestrian needs with curb extensions that shorten the crossing distance, and separation from people biking. Furthermore, this project responds to the need to slow vehicle speeds by introducing design strategies such as narrower travel lanes, protected bicycle facilities supplemented with medians, curb extensions, and streetscaping.

Hennepin County will work with directly with residents, community organizations and members of underrepresented groups as it refines the project design. Anticipated engagement methods include

direct mailings, open houses, neighborhood groups, contracting with community partners who already have trusted relationships in the community, online events, and pop-up events.

(Limit 2,800 characters; approximately 400 words)

### 2.Layout (25 Percent of Points)

Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow; scale; legend;\* city and/or county limits; existing ROW, labeled; existing signals;\* and bridge numbers\*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width;\* proposed signals;\* and proposed ROW). An aerial photograph with a line showing the projects termini does not suffice and will be awarded zero points. \*If applicable

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties/MnDOT. If a MnDOT trunk highway is impacted, approval by MnDOT must have occurred to receive full points. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

A layout does not apply (signal replacement/signal timing, standalone streetscaping, minor intersection improvements). Applicants that are not certain whether a layout is required should contact Colleen Brown at MnDOT Metro State Aid colleen.brown@state.mn.us.

100%

For projects where MnDOT trunk highways are impacted and a MnDOT Staff Approved layout is required. Layout approved by the applicant and all impacted local jurisdictions (i.e., cities/counties), and layout review and approval by MnDOT is pending. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

75%

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.

Yes

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

**Attach Layout** 

1649951706084 Attachment 05 - Potential Concept.pdf

Please upload attachment in PDF form.

**Additional Attachments** 

Please upload attachment in PDF form.

3. Review of Section 106 Historic Resources (15 Percent of Points)

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge

Yes

100%

There are historical/archeological properties present but determination of no historic properties affected is anticipated.

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

Unsure if there are any historic/archaeological properties in the project area.

0%

Project is located on an identified historic bridge

### 4.Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified

Yes

25%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified

0%

## 5.Railroad Involvement (15 Percent of Points)

No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable)

Yes

100%

### **Signature Page**

Please upload attachment in PDF form.

Railroad Right-of-Way Agreement required; negotiations have begun

50%

Railroad Right-of-Way Agreement required; negotiations have not begun.

## **Measure A: Cost Effectiveness**

Total Project Cost (entered in Project Cost Form): \$8,160,000.00

Enter Amount of the Noise Walls: \$0.00

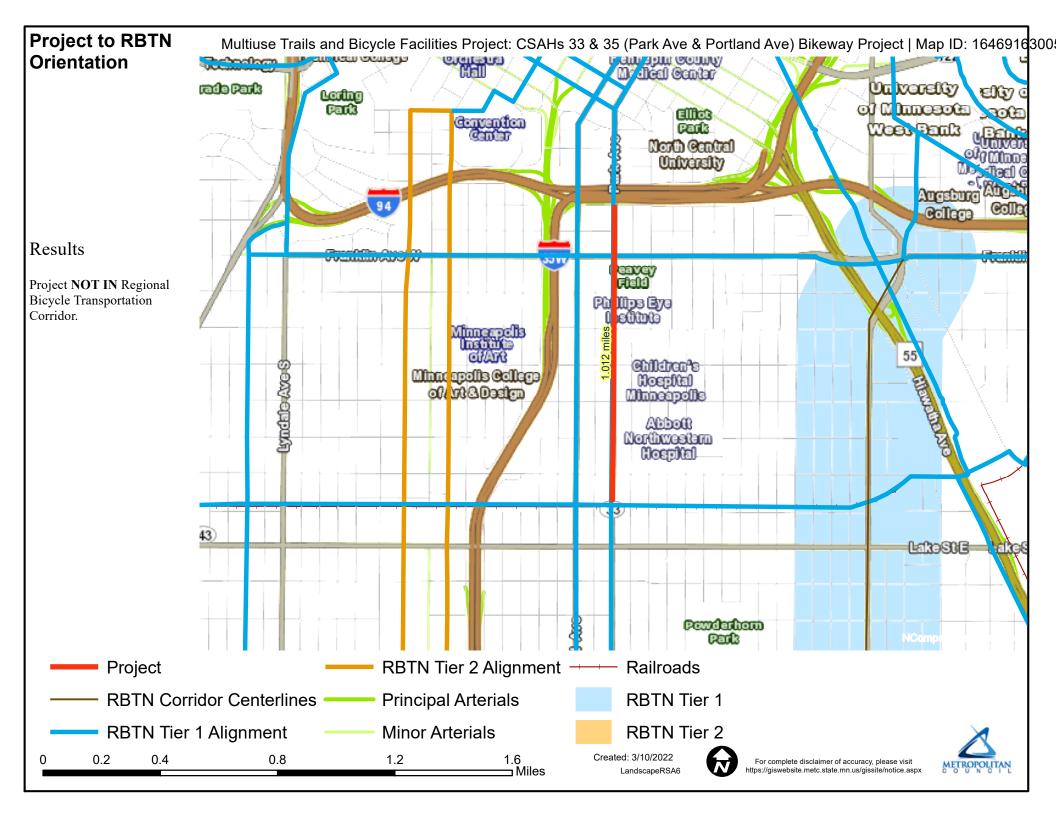
Total Project Cost subtract the amount of the noise walls: \$8,160,000.00

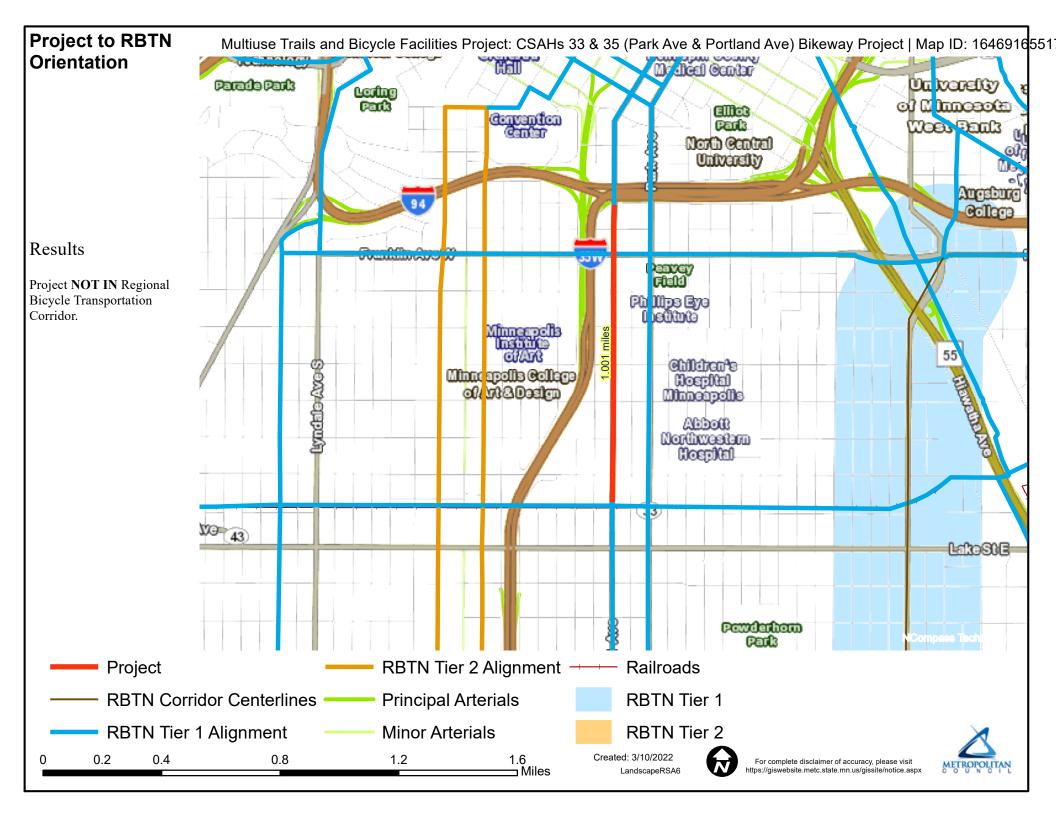
**Points Awarded in Previous Criteria** 

Cost Effectiveness \$0.00

## **Other Attachments**

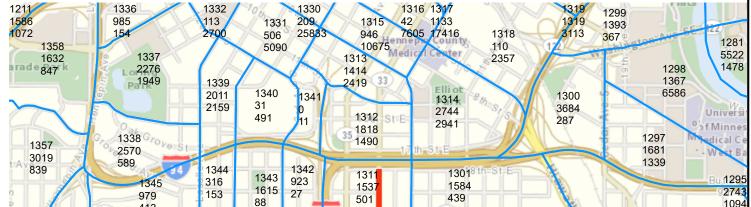
File Name	Description	File Size
Attachment 00 - List of Attachments.pdf	Attachment 00 - List of Attachments	168 KB
Attachment 01 - Project Narrative.pdf	Attachment 01 - Project Narrative	323 KB
Attachment 02 - Project Location Map.pdf	Attachment 02 - Project Location Map	297 KB
Attachment 03 - Existing Roadway Condition Photos.pdf	Attachment 03 - Existing Roadway Condition Photos	172 KB
Attachment 04 - Potential Typical Sections.pdf	Attachment 04 - Potential Typical Sections	146 KB
Attachment 05 - Potential Concept.pdf	Attachment 05 - Potential Concept	6.2 MB
Attachment 06 - County Board Resolution.pdf	Attachment 06 - County Board Resolution	325 KB
Attachment 07 - Enhanced Bikeway Study Maps.pdf	Attachment 07 - Enhanced Bikeway Study Maps	450 KB
Attachment 08 - Minneapolis All Ages and Abilities Network Map.pdf	Attachment 08 - Minneapolis All Ages and Abilities Network Map	111 KB
Attachment 09 - Affordable Housing Access Map and Detail Listing.pdf	Attachment 09 - Affordable Housing Access Map and Detail Listing	807 KB
Attachment 10 - Socio-Economic Equity Map.pdf	Attachment 10 - Socio-Economic Equity Map	452 KB
Attachment 11 - Multimodal Connections Map.pdf	Attachment 11 - Multimodal Connections Map	623 KB
Attachment 12 - Crash Listing.pdf	Attachment 12 - Crash Listing	86 KB
Attachment 13 - Crash Reduction References.pdf	Attachment 13 - Crash Reduction References	623 KB
Attachment 14 - City of Minneapolis Letter of Support.pdf	Attachment 14 - City of Minneapolis Letter of Support	276 KB





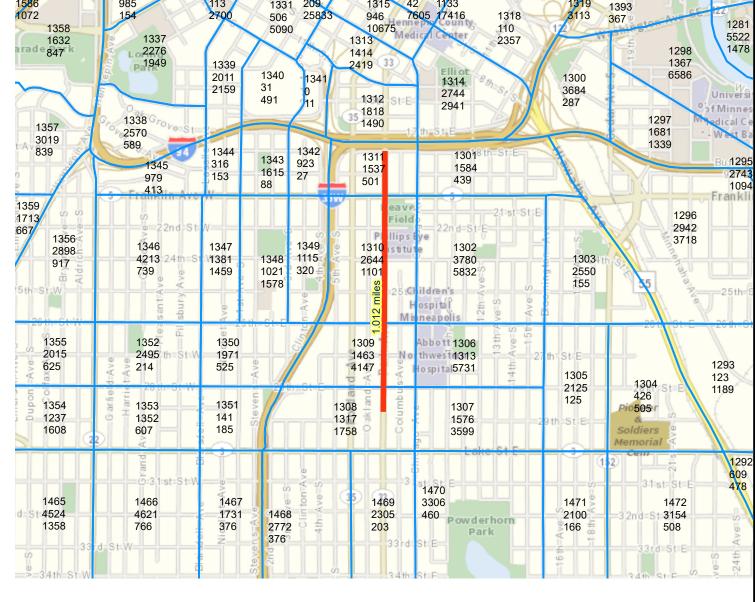
### Population/Employment Summary

Multiuse Trails and Bicycle Facilities Project: CSAHs 33 & 35 (Park Ave & Portland Ave) Bikeway Project | Map ID: 16



#### Results

Within ONE Mile of project: Total Population: 95942 Total Employment: 183303



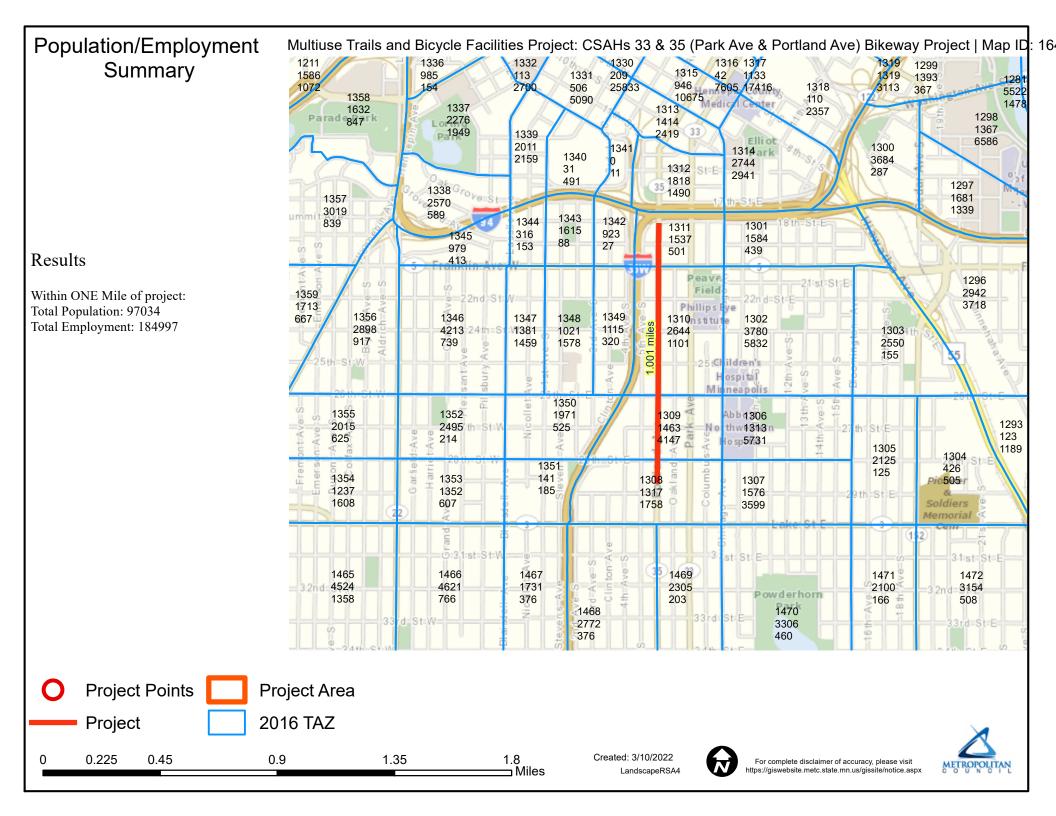


0.225 0.45 0.9 1.35 1.8 Miles

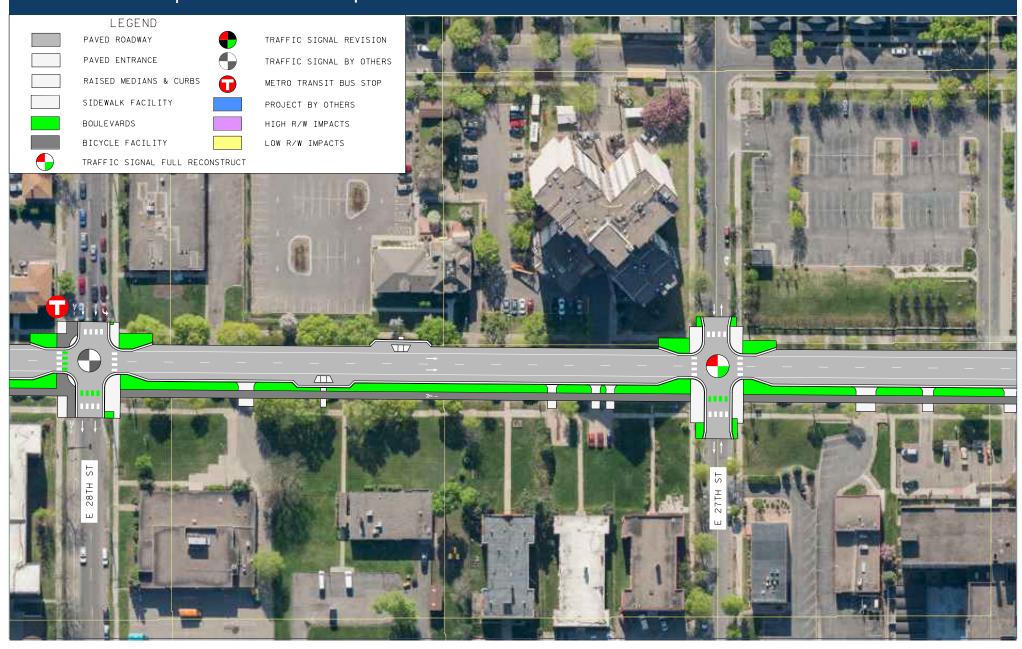
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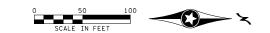




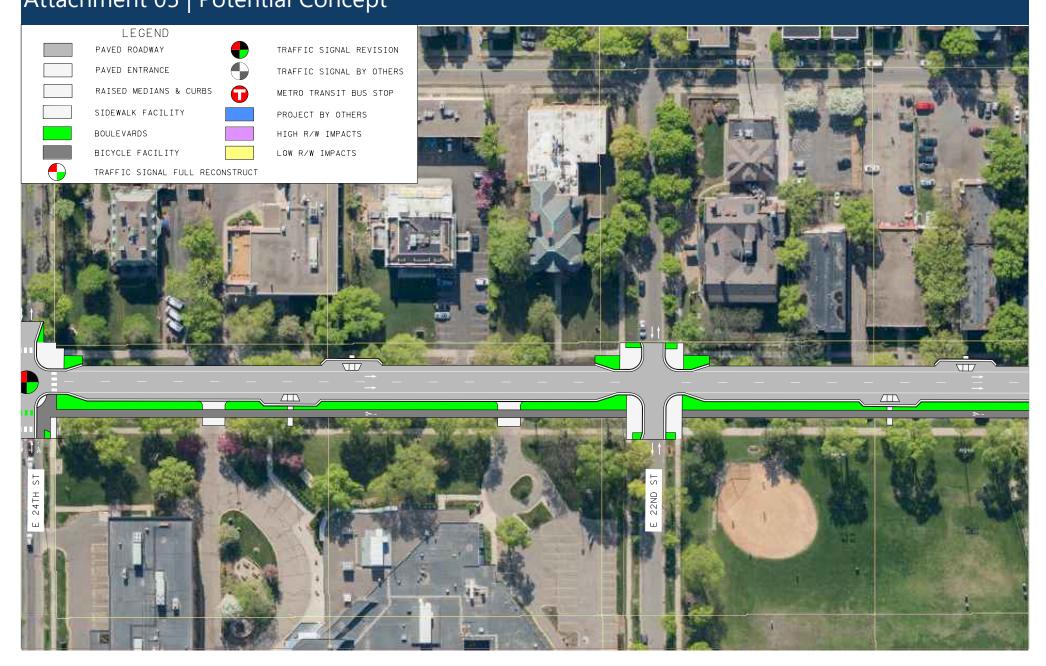


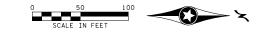


## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT

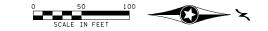


# CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept



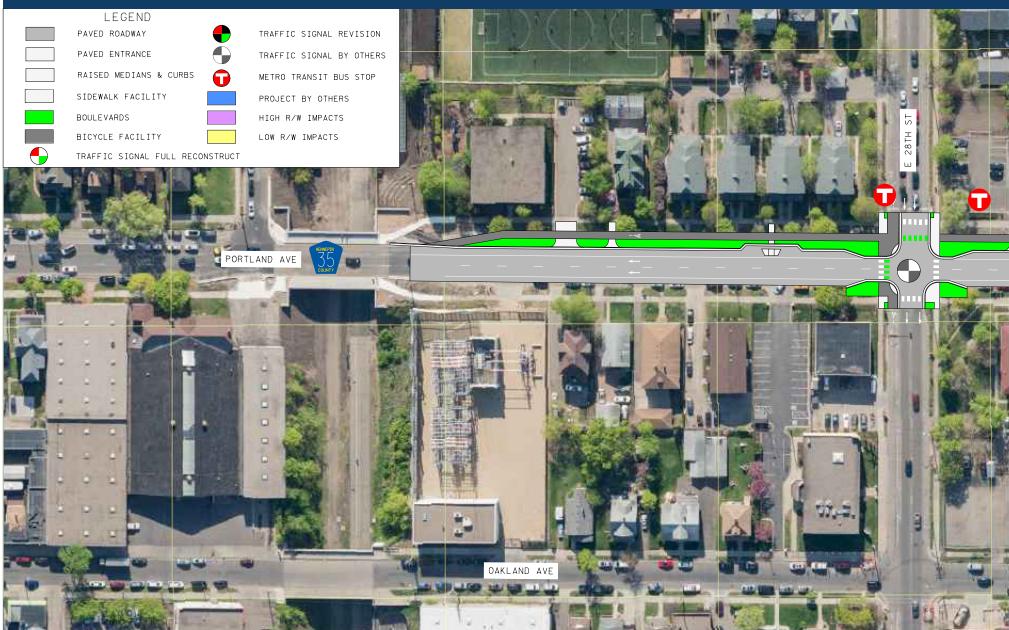


## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT



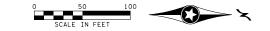


# CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept





## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT





## Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT

CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project





#### List of attachments

- 1. Project Narrative
- 2. Project Location Map
- 3. Existing Roadway Condition Photos
- 4. Potential Typical Sections
- 5. Potential Concept
- 6. County Board Resolution
- 7. Enhanced Bikeway Study Maps
- 8. Minneapolis All Ages and Abilities Network Map
- 9. Affordable Housing Access Map and Detail Summary
- 10. Socio-Economic Equity Map
- 11. Multimodal Connections Map
- 12. Crash Listing
- 13. Crash Reduction References
- 14. City of Minneapolis Letter of Support

Attachment 01 | Project Narrative

#### **Project Name**

CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project

#### City(ies)

Minneapolis

#### **Commissioner District(s)**

4

Capital Project Number Project Category

CP 2220300 Bikeway

Scoping Manager Scoping Form Revision Dates

Emily Buell 4/8/2022

#### **Project Summary**

Construct enhanced bikeway along Park Avenue (CSAH 33) and Portland Avenue (CSAH 35) from the Midtown Greenway to the I-94/I-35W Bridge in the City of Minneapolis.

#### **Roadway History**

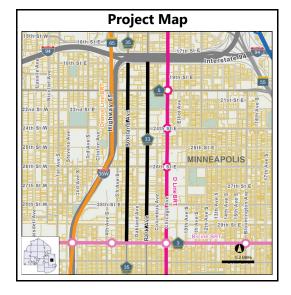
The one-way current configurations of Park Avenue (CSAH 33) and Portland Avenue (CSAH 35) generally include two travel lanes, a buffered bike lane, parking lanes on both sides, and sidewalk facilities on both sides. These A-minor relievers are heavily used by both bicycle and motor vehicle commuter traffic. As a result, a relatively high percentage of vehicles have been observed travelling above the posted 30 mph speed limit. The existing conditions at intersections are uncomfortable for people walking, as the crossing distances are relatively long due to the absence of complete streets design elements. In addition, the bicycling experience along Park Avenue (CSAH 33) and Portland Avenue (CSAH 35) is also uncomfortable as there is no vertical separation between people driving and parked vehicles.

#### **Project Description and Benefits**

The project objectives include improving safety, comfort, and accessibility along Park Avenue (CSAH 33) and Portland Avenue (CSAH 35); with a focus on introducing complete streets design strategies to promote traffic calming. Intersections are anticipated to be redesigned to incorporate curb extensions to slow turning vehicles. Also, the project will introduce a protected bikeway design to provide better separation from people driving and parked vehicles. Protected intersection designs will be evaluated at the 28th Street, 26th Street, and 24th Street intersections to provide safe crossings for east/west bicycling operations. Lastly, ADA accommodations will be upgraded, including APS, to promote accessibility.

#### **Project Risks & Uncertainties**

### HENNEPIN COUNTY



#### **Project Timeline**

Scoping: Q1 2022 - Q4 2023

Design: Q1 2024 - Q4 2026

R/W Acquisition: Q1 2026 - Q4 2026

Bid Advertisement: Q1 2027

Construction: Q2 2027 - Q4 2027

#### **Project Delivery Responsibilities**

Preliminary Design: Consultant Final Design: Consultant Construction Services: Consultant

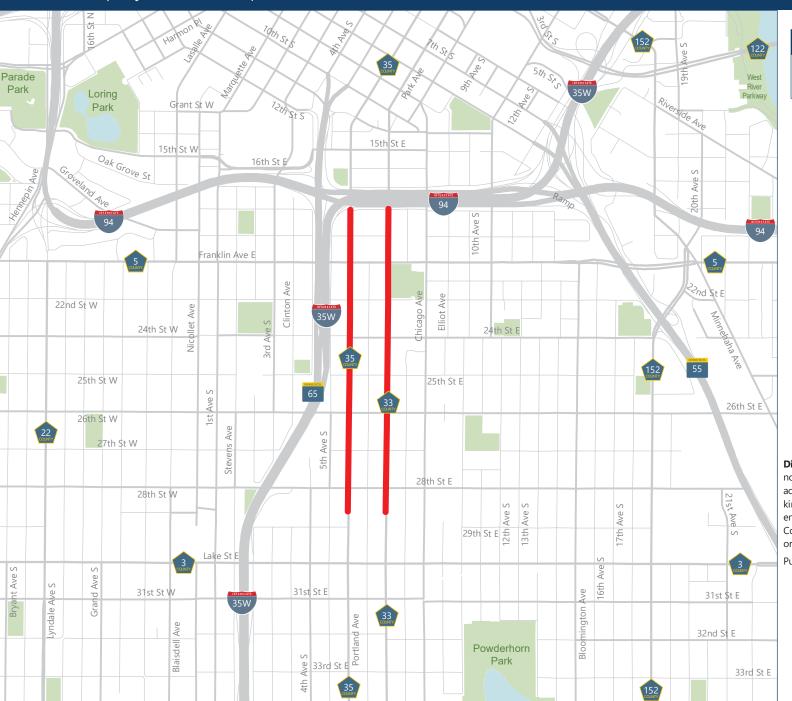
Project Budget -	Project Level
Construction:	\$ 6,280,000
Cost Estimate Year:	2022
Construction Year:	2027
Annual Inflation Rate:	2.0%
Inflated Construction:	\$ 6,930,000
Design Services:	\$ 1,040,000
R/W Acquisition:	\$ 200,000
Other (Utility Burial):	\$ -
Construction Services:	\$ 690,000
Contingency:	\$ 1,880,000
Total Project Budget:	\$ 10,740,000

#### **Funding Notes**

This project is eligible for federal funding through the Metropolitan Council's Regional Solicitation based on the corridors' designation on the RBTN.

HENNEPIN COUNTY
MINNESOTA

Attachment 2 | Project Location Map





0 0.25 0.5 Miles

**Disclaimer:** This map (i) is furnished "AS IS" with no representation as to completeness or accuracy; (ii) is furnished with no warranty of any kind; and (iii) is not suitable for legal, engineering or surveying purposes. Hennepin County shall not be liable for any damage, injury or loss resulting from this map.

Published date: 3/9/2022



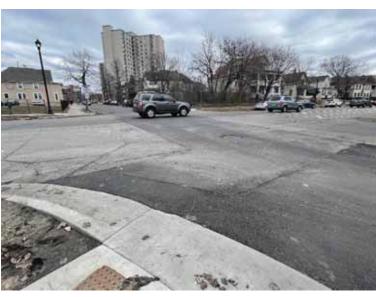




#### Attachment 03 | Existing Roadway Condition Photos



View of existing 3-lane, one way configuration and existing on-street bicycle facility on Portland Ave at 28<sup>th</sup> St facing south.



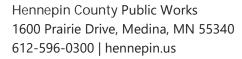
Existing 27<sup>th</sup> St and Portland Ave intersection, demonstrating varying pavement qualities and difficult pedestrian crossings at unsignalized intersections.



Cracked pavement assets and fading paint for on-street bicycle facilities on Park Ave.



Lack of truncated domes and aging pedestrian ramps, 27<sup>th</sup> and Park Ave intersection.









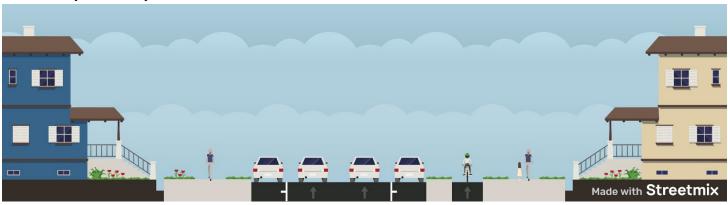
(Above) Several signals along the corridor are past their useful life and are in need of replacement, such as the signal at Portland and 28<sup>th</sup> St which was first constructed in 1956.

(Left) Cracked sidewalk, facing north on Portland Ave near 28<sup>th</sup> St.

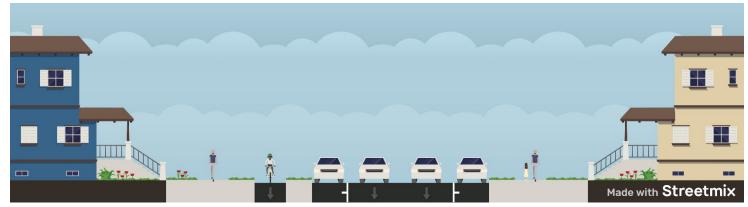


Attachment 04 | Potential Typical Sections

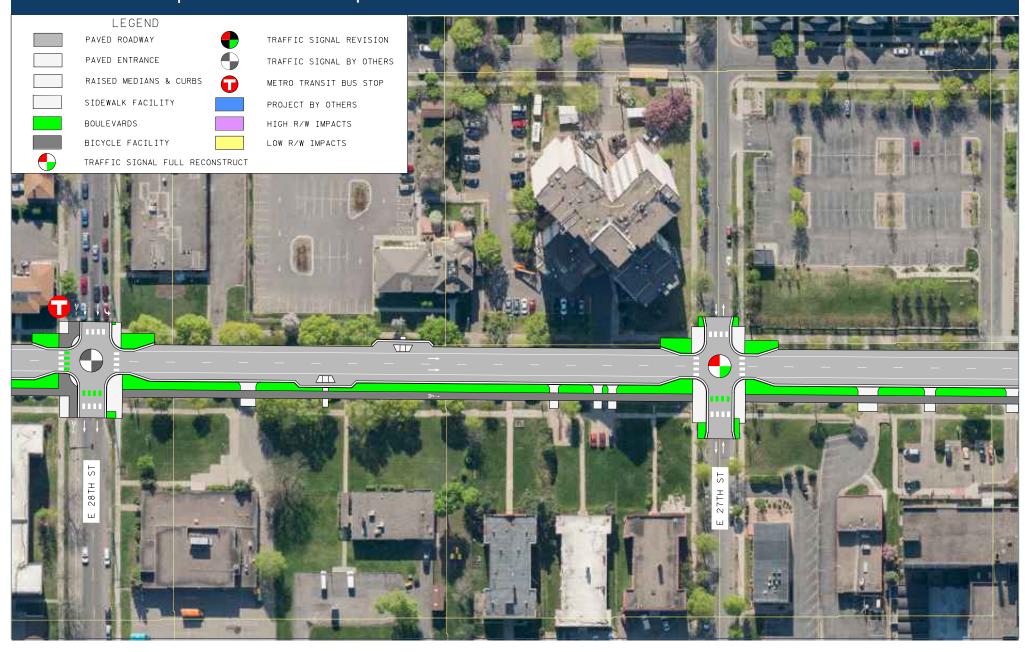
#### CSAH 33 (Park Ave)



#### **CSAH 35 (Portland Ave)**

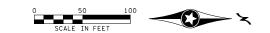




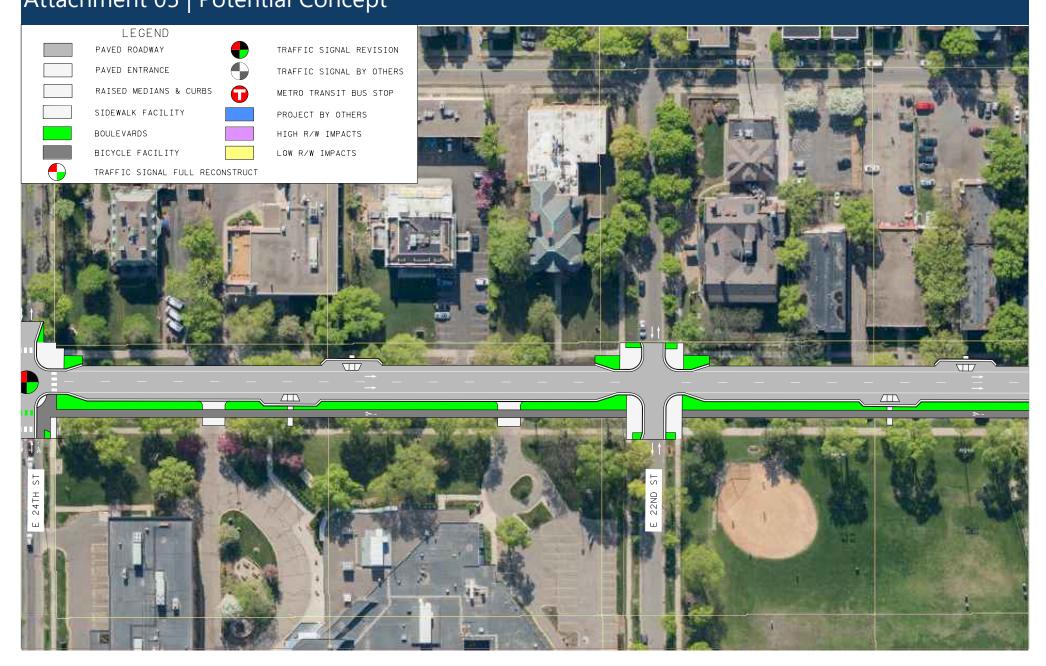


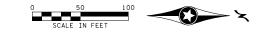


## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT

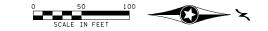


# CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept



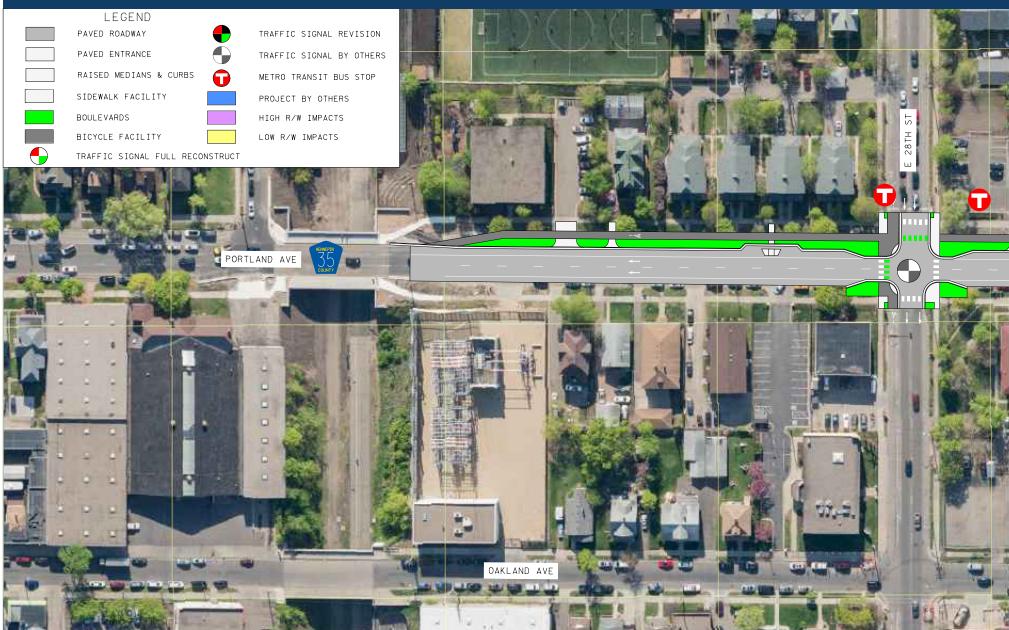


## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT



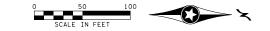


# CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept





## CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT



Attachment 05 | Potential Concept



# Attachment 05 | Potential Concept LEGEND PAVED ROADWAY TRAFFIC SIGNAL REVISION PAVED ENTRANCE TRAFFIC SIGNAL BY OTHERS RAISED MEDIANS & CURBS METRO TRANSIT BUS STOP SIDEWALK FACILITY PROJECT BY OTHERS BOULEVARDS HIGH R/W IMPACTS BICYCLE FACILITY LOW R/W IMPACTS TRAFFIC SIGNAL FULL RECONSTRUCT

CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project

Attachment 05 | Potential Concept



Attachment 05 | Potential Concept



Attachment 06 | Hennepin County Board Resolution

# HENNEPIN COUNTY

MINNESOTA

Hennepin County, Board of Commissioners

#### **RESOLUTION 22-0109**

2022

The following resolution was moved by Commissioner Angela Conley and seconded by Commissioner Debbie Goettel:

BE IT RESOLVED, that Hennepin County be authorized to apply for federal funding through the Regional Solicitation for the following projects (separated by category) on various County State Aid Highways (CSAHs) throughout the county:

#### Roadway Reconstruction/Modernization

Projects programmed in the 2022-2026 CIP:

- Franklin Avenue (CSAH 5) from Lyndale Avenue (CSAH 22) to Blaisdell Avenue in Minneapolis
- Dayton River Road (CSAH 12) from Colburn Street to North Diamond Lake Road (CSAH 144) in Dayton and Champlin
- Lyndale Avenue (CSAH 22) from the Hennepin County Regional Railroad Authority (HCRRA) bridge to Franklin Avenue (CSAH 5) in Minneapolis

Projects identified in the county's 10-year work-plan, but not programmed in the 2022-2026 CIP:

- Penn Avenue (CSAH 32) from 75th Street to the Trunk Highway 62 South Ramp in Richfield
- · Cedar Avenue (CSAH 152) from Lake Street (CSAH 3) to 24th Street in Minneapolis

#### **Bridge Rehabilitation/Replacement**

Project programmed in the 2022-2026 CIP:

· Bass Lake Road (CSAH 10) bridge over the Twin Lakes Inlet in Brooklyn Center and Crystal

Projects identified in the county's 10-year work-plan, but not programmed in the 2022-2026 CIP:

- Pioneer Trail (CSAH 1) bridge over the HCRRA corridor in Eden Prairie
- · Eden Prairie Road (CSAH 4) bridge over Twin Cities and Western Railroad in Eden Prairie

Multiuse Trails/Bicycle and Pedestrian Facilities (sidewalks, streetscaping and improved accessibility)

Project partially programmed in the 2022-2026 CIP:

Lake Street (CSAH 3) from Dupont Avenue to the Mississippi River

Attachment 06 | Hennepin County Board Resolution

Project identified in the county's 10-year work-plan, but not programmed in the 2022-2026 CIP:

Marshall Street NE (CSAH 23) from Third Avenue NE to Lowry Avenue NE (CSAH 153).

Project not currently identified in the county's 2022-2026 CIP or 10-year work-plan:

• Park Avenue (CSAH 33) and Portland Avenue (CSAH 35) from Lake Street (CSAH 3) to the I-94/I-35W Bridge in Minneapolis

#### **Mobility and Safety**

Projects not currently identified in the county's 10-year work-plan or 5-year CIP:

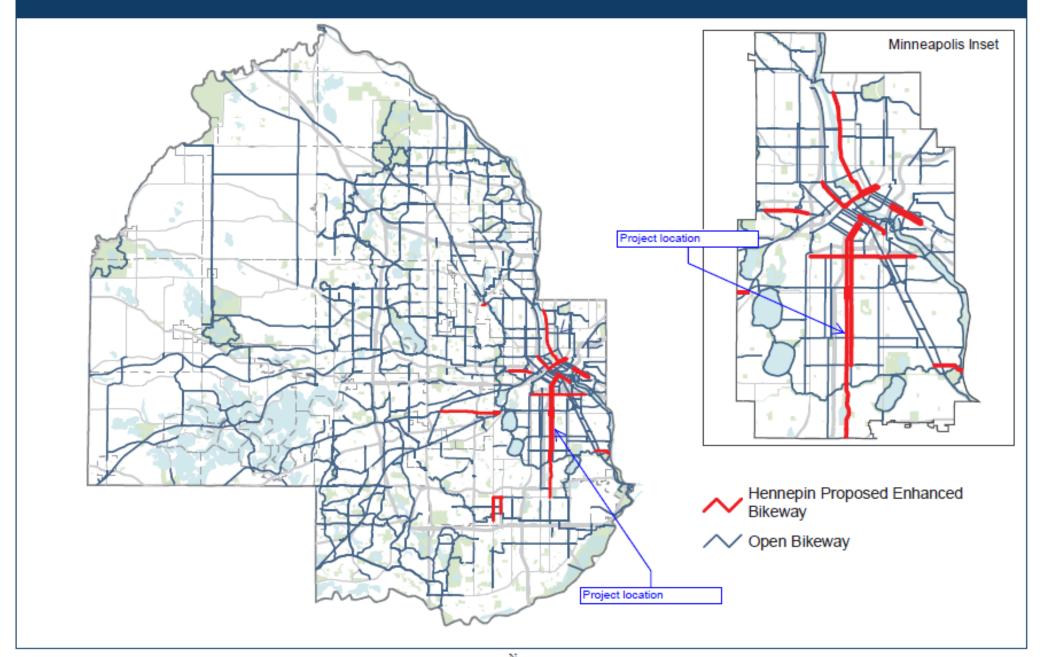
- Rockford Road (CSAH 9) and Northwest Boulevard (CSAH 61) in Plymouth
- Hemlock Lane (CSAH 61) and Elm Creek Boulevard (CSAH 130) in Maple Grove

The question was on the adoption of the resolution and there were 7 YEAS and 0 NAYS, as follows:

	County of Hennepin Board of County Commissioners									
YEAS	NAYS	ABSTAIN	ABSEN							
Marion Greene										
Debbie Goettel										
Irene Fernando										
Angela Conley										
Jeff Lunde										
Chris LaTondress	se									
Kevin Anderson										
RESOLUTION A	DOPTED ON 3/22/2022									
ATTEST:	M. 12086									
	Deputy/Clerk to the County Bo	pard								

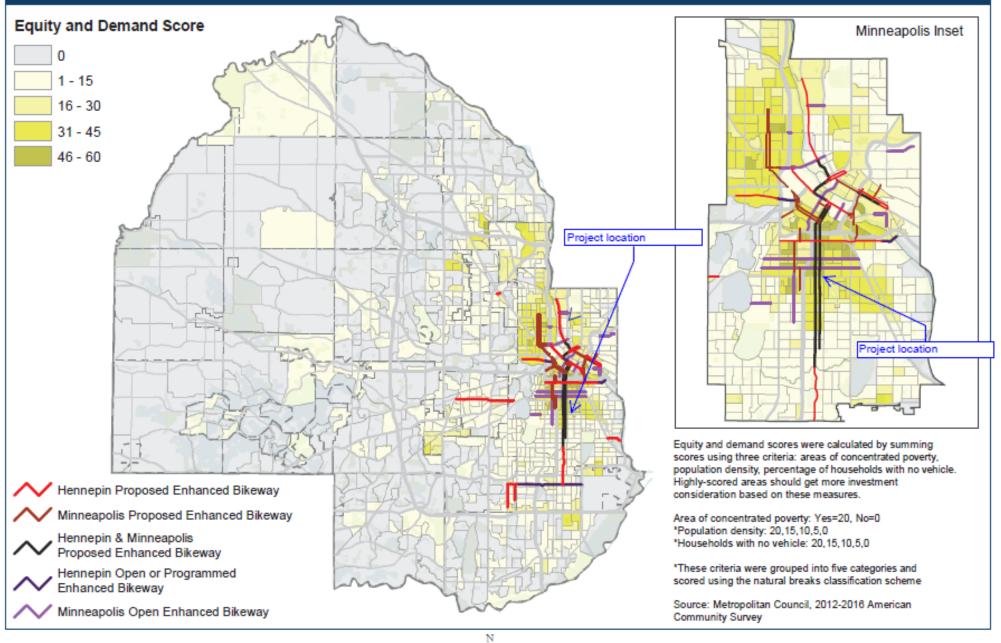
**Hennepin County** Board of Commissioners 300 South Sixth Street, Minneapolis, MN 55487 hennepin.us





# CSAHs 33 and 35 (Park Ave and Portland Ave) Bikeway Project Attachment 7 | Enhanced Bikeway Study Maps

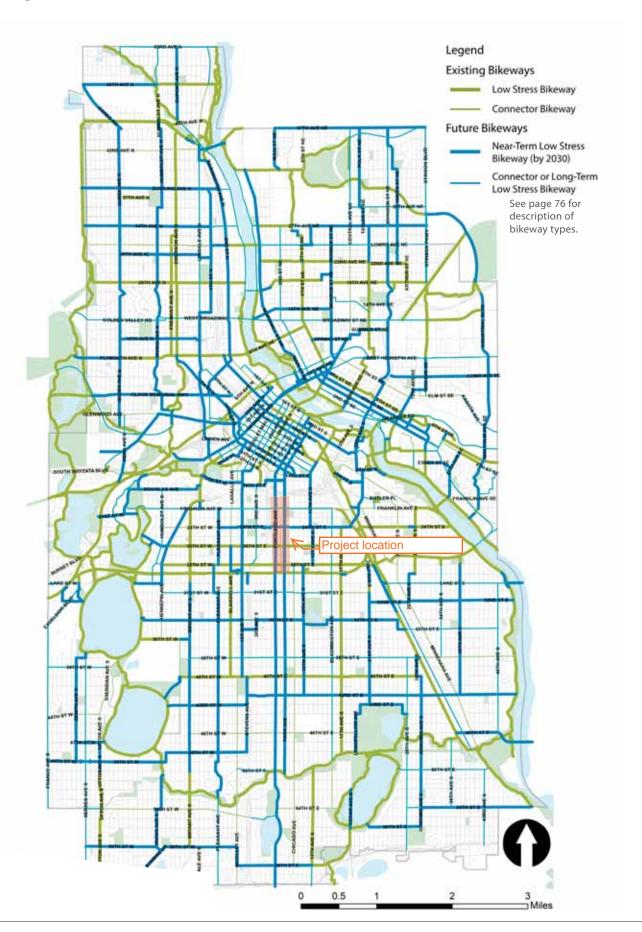
# HENNEPIN COUNTY



Attachment 8 | Minneapolis All Ages and Abilities Network Map

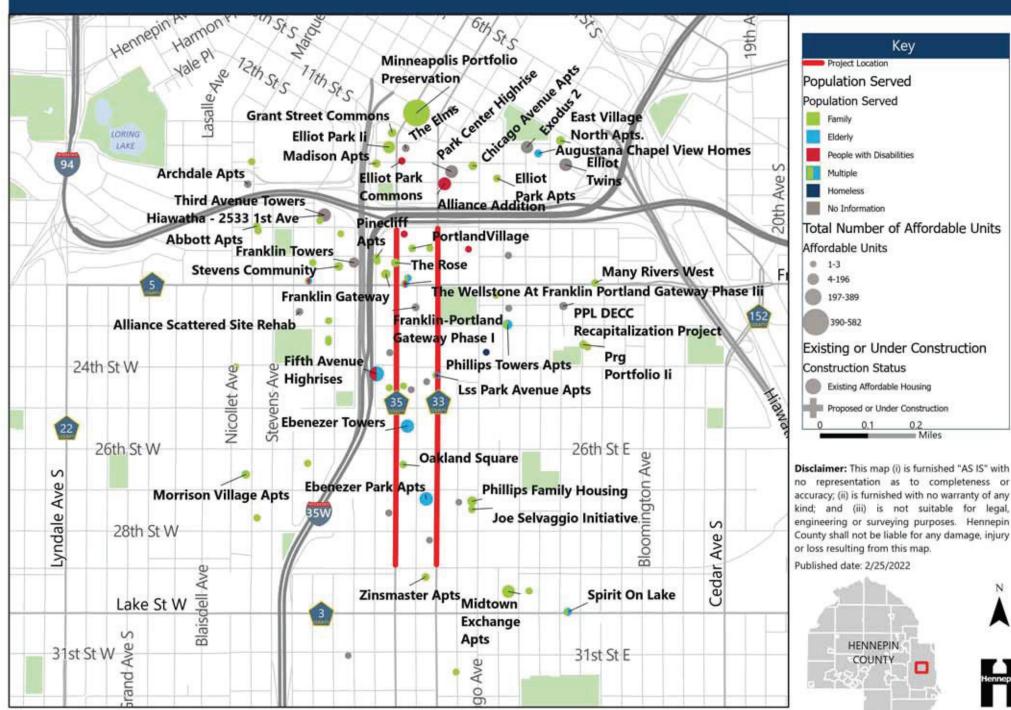


Figure 50: All Ages and Abilities Network



Attachment 09 | Affordable Housing Access Map and Detail Summary

HENNEPIN COUNTY



Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Clinton Avenue Townhomes (fka 18th & Clinton	8	8	8	0	0	0	0	4	3	1
hillips Towers Apts	107	88	88	0	0	0	88	0	0	0
Madison Apts	51	51	0	51	0	0	0	38	9	4
benezer Park Apts	200	200	0	200	0	0	190	10	0	0
Ebenezer Towers	192	192	96	0	0	71	119	2	0	0
Stevens Community	59	59	59	0	0	0	56	3	0	0
Alliance Scattered Site Rehab	30	29	17	12	0	16	3	4	6	0

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Alliance Addition aka Alliance	184	184	148	36	0	182	2	0	0	0
The Wellstone At Franklin Portland Gateway Phase Iii	49	37	0	37	0	5	3	16	13	0
Echo Flats (fka Whittier e" (np))"	20	20	0	16	0	0	0	4	12	4
illiot Park Ii (slater Square)	162	162	0	97	24	124	37	1	0	0
Lss Park Avenue Apts	38	38	0	34	0	0	9	10	15	4
Archdale Apts (fka Integrated Housing)	30	30	30	0	0	26	4	0	0	0
Abbott View (aka Stevens Court)	21	20	20	0	0	0	18	2	0	0

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Oakland Square	31	31	31	0	0	0	1	19	10	1
Zinsmaster Apts	36	36	0	0	0	0	5	18	13	0
Lss Opportunity Housing	12	12	0	12	0	0	0	10	2	0
Incarnation House	19	15	15	0	0	0	11	4	0	0
Passages (aka Passage Community	17	17	17	0	0	0	3	7	7	0
Collaborative Village Initiative	20	18	0	18	0	0	0	4	8	6
The Lorraine	16	16	0	16	0	0	0	0	0	0

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Courtyard Townhomes (aka Phillips Park	12	12	12	0	0	0	0	0	12	0
Franklin-portland Gateway Phase I	36	36	23	13	0	0	9	18	9	0
Armadillo Flats I	19	19	0	0	19	0	0	0	0	0
Armadillo Flats II	19	19	0	0	0	0	0	0	0	0
East Village North Apts.	70	70	0	0	0	0	30	0	9	1
Portland Place Cooperative	17	17	0	0	0	0	2	6	4	5
Pinecliff Apts	30	30	7	23	0	0	18	12	0	0

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Central Neighborhood Apts	12	12	0	12	0	0	2	4	0	6
Morrison Village Apts (fka Jack Frost Flats)	57	57	0	0	0	5	7	24	21	0
Alliance Stabilization, Phase Iii	12	12	0	0	0	0	0	0	0	0
Portland Village	26	26	22	4	0	0	0	10	12	4
Joe Selvaggio Initiative	30	30	0	30	0	0	2	24	2	2
Cromwell Commons	18	17	0	0	0	10	7	0	0	0
Dundry Hope Block Stabilization Phase II aka St. Joseph	30	12	7	5	0	0	7	1	3	1

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
D0886 - No Name Provided	4	4	0	0	0	0	0	0	0	0
Resource, Inc.	15	3	0	3	0	0	0	1	2	0
D0885 - No Name Provided	16	16	0	0	0	0	0	0	0	0
The Shelter At Our Savior's	6	6	0	0	0	0	0	0	0	0
Thirtyone Hund Fourth Avenue	10	4	0	0	0	0	0	0	0	0
Minneapolis Portfolio Preservation (aka:	582	582	213	354	0	402	157	23	0	0
The Lonoke (fka 1926 - 3rd Ave S)	19	19	10	9	0	0	19	0	0	0

_							_	_	
Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
81	32	0	0	0	0	0	0	0	0
30	30	30	0	0	0	0	20	10	0
57	16	0	12	2	0	13	3	0	0
219	178	0	62	0	4	128	43	3	0
10	10	0	34	0	0	9	10	15	4
4	4	0	0	0	0	0	0	3	1
41	24	0	24	0	6	8	9	9	0
	30 57 219 10	81     32       30     30       57     16       219     178       10     10       4     4	81       32       0         30       30       30         57       16       0         219       178       0         10       10       0         4       4       0	81       32       0       0         30       30       30       0         57       16       0       12         219       178       0       62         10       10       0       34         4       4       0       0	81       32       0       0       0         30       30       30       0       0         57       16       0       12       2         219       178       0       62       0         10       10       0       34       0         4       4       0       0       0	81       32       0       0       0       0         30       30       30       0       0       0         57       16       0       12       2       0         219       178       0       62       0       4         10       10       0       34       0       0         4       4       0       0       0       0	81       32       0       0       0       0       0         30       30       30       0       0       0       0         57       16       0       12       2       0       13         219       178       0       62       0       4       128         10       10       0       34       0       0       9         4       4       0       0       0       0       0	81       32       0       0       0       0       0       0       0       0       20         30       30       30       0       0       0       0       20       20         57       16       0       12       2       0       13       3         219       178       0       62       0       4       128       43         10       10       0       34       0       0       9       10         4       4       0       0       0       0       0       0	81       32       0       0       0       0       0       0       0       0       0         30       30       30       0       0       0       0       20       10         57       16       0       12       2       0       13       3       0         219       178       0       62       0       4       128       43       3         10       10       0       34       0       0       9       10       15         4       4       0       0       0       0       0       0       3

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Many Rivers West	28	28	3	9	8	0	8	6	14	0
Nokoma Cooperative	19	19	0	0	0	0	19	0	0	0
1822 Park	18	18	6	12	0	0	18	0	0	0
Indian Neighborhood Club	20	14	13	0	1	14	0	0	0	0
Chicago Avenue Apts	60	60	60	0	0	0	44	10	6	0
Elliot Park Commons	25	25	25	0	0	0	24	1	0	0
Hiawatha - 2533 1st Ave	42	42	42	0	0	0	42	0	0	0

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Elliot Avenue (np)	15	15	0	0	0	0	0	0	0	0
North Haven Phase Ii	5	5	0	5	0	0	1	0	4	0
Spirit On Lake	46	46	5	41	0	0	29	17	0	0
Abbott Apts	123	25	0	25	0	7	18	0	0	0
Augustana Chapel View Homes	151	33	0	33	0	17	16	0	0	0
Grant Street Commons	84	59	0	17	42	3	46	10	0	0
PPL DECC Recapitalization Project	51	51	7	38	0	0	7	27	4	13

Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Franklin Gateway (the Rose, South Quarter IV)	120	77	19	58	0	8	18	34	17	0
Barrington	26	18	0	0	0	9	9	0	0	0
Fifth Avenue Highrises	253	253	253	0	0	0	253	0	0	0
Franklin Towers	110	110	110	0	0	0	109	1	0	0
Third Avenue Towers	198	198	198	0	0	0	198	0	0	0
Elliot Twins	184	184	19	0	10	92	92	0	0	0
Park Center Highrise	182	182	182	0	0	0	182	0	0	0

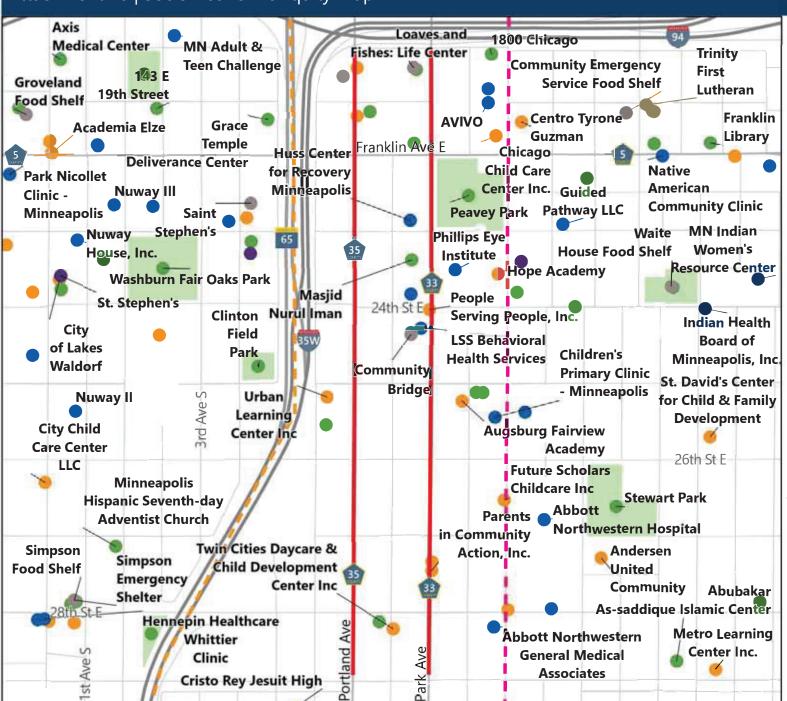
Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Maynidoowahdak Odena	15	15	0	15	0	4	3	2	3	3
Prg Portfolio Ii	49	49	0	35	0	0	2	18	22	7
Phillips Family Housing	89	89	0	0	0	0	0	0	0	0
Canadian Terrace	19	19	19	0	0		3	13	3	
17XX 3rd Avenue South	16	12	0	0	0	5	7			
The Rose	120	67	0	0	0		34	69	17	
2806 Park Avenue	40	8	0	0	0					

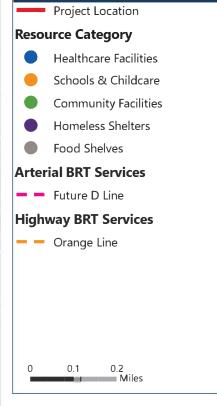
Location Name	Total Units	Affordable Units	30% AMI	50% AMI	60% AMI	0 BR	1 BR	2 BR	3 BR	4+ BR
Exodus 2	167	167	167	0	0	167	0	0	0	0
Elliot Twins	184	184	19	0	10	92	92	0	0	0

Attachment 10 | Socio-Economic Equity Map

HENNEPIN COUNTY

Key





**Disclaimer:** This map (i) is furnished "AS IS" with no representation as to completeness or accuracy; (ii) is furnished with no warranty of any kind; and (iii) is not suitable for legal, engineering or surveying purposes. Hennepin County shall not be liable for any damage, injury or loss resulting from this map.

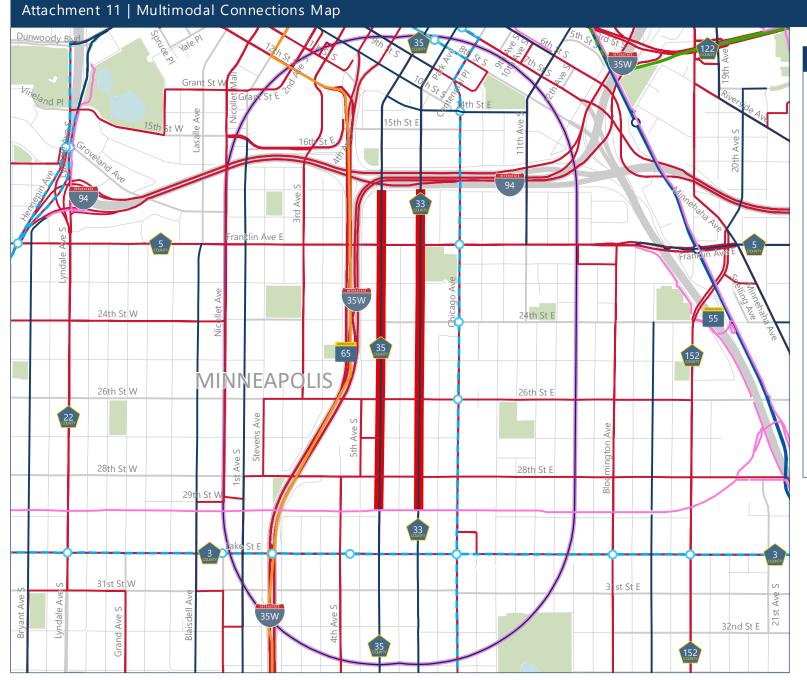
Published date: 3/21/2022







HENNEPIN COUNTY
MINNESOTA



Key **Project Location** 1/2 Mi Buffer **Bikeways** Off-Street On-Street **Transitway Stations** Arterial BRT Blue Line Green Line / Ext Orange Line **Transitway Alignments** Arterial BRT Orange Line BRT Blue / Green Line LRT Blue Line LRT Green Line LRT Planned Arterial BRT **Transit Routes** 









Attachment 12 | Crash Listing

CSAH 33 (Park Ave) from CSAH 3 (Lake St) I-94/I-35W Bridge in Minneapolis Total Crashes = 427

Number of Reported Crashes Involving People Biking: 13

Year	Total	K	Α	В	C	N
2012	1	0	0	1	0	0
2013	2	0	0	0	2	0
2014	1	0	0	0	1	0
2015	2	0	0	0	2	0
2016	0	0	0	0	0	0
2017	2	0	0	2	0	0
2018	2	0	0	1	0	1
2019	1	0	0	1	0	0
2020	1	0	0	1	0	0
2021	1	0	0	0	1	0
Ten						
Year	13	0	0	6	6	1
Totals						

Number of Reported Crashes Involving People Walking: 18

Year	Total	K	Α	В	С	N
2012	2	0	0	0	2	0
2013	5	0	0	2	3	0
2014	1	0	1	0	0	0
2015	1	0	0	0	0	1
2016	1	0	0	1	0	0
2017	2	0	0	0	2	0
2018	1	0	0	1	0	0
2019	3	0	0	1	2	0
2020	1	0	0	1	0	0
2021	1	0	1	0	0	0
Ten						
Year	18	0	2	6	9	1
Totals						

Attachment 12 | Crash Listing

CSAH 35 (Portland Ave) from CSAH 3 (Lake St) I-94/I-35W Bridge in Minneapolis Total Crashes = 331

Number of Reported Crashes Involving People Biking: 14

Year	Total	K	Α	В	C	N
2012	1	0	0	0	1	0
2013	2	0	1	0	1	0
2014	0	0	0	0	0	0
2015	1	0	0	0	1	0
2016	1	0	0	0	0	1
2017	2	0	0	2	0	0
2018	3	0	0	1	1	1
2019	3	0	0	1	1	1
2020	0	0	0	0	0	0
2021	1	0	0	0	1	0
Ten						
Year	14	0	1	4	6	3
Totals						

Number of Reported Crashes Involving People Walking: 23

Year	Total	K	Α	В	С	N
2012	2	0	0	1	1	0
2013	1	0	0	1	0	0
2014	1	0	0	0	1	0
2015	2	0	1	1	0	0
2016	3	0	0	2	1	0
2017	2	0	0	0	1	1
2018	1	0	0	0	1	0
2019	4	0	0	3	1	0
2020	5	0	1	2	2	0
2021	2	0	0	0	2	0
Ten						
Year	23	0	2	10	10	1
Totals						

# Separated Bicycle Lanes

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References

### What is their purpose?

Separated bike lanes, also known as cycle tracks and protected bike lanes, are exclusive facilities for bicycling that are located within or directly adjacent to a roadway. They are physically separated from motor vehicle traffic by a vertical element such as flexible post delineators, channelizing curb, rigid bollards, raised medians, concrete barriers, parked motor vehicles, planters and landscaping, and/or other physical objects. The presence of this vertical element is what differentiates separated bike lanes from conventional and buffered bike lanes.

Unlike sidepaths and shared use paths, separated bike lanes are bike-only facilities. The buffer between the bicycle facility and the roadway is known as the street buffer; the buffer between the bicycle facility and sidewalk is known as the sidewalk buffer. Separated bike lanes can be:

- · One- or two-way facilities
- On the left or right-hand side of a street
- At road-grade, at sidewalk-grade, or at an intermediate-grade between the roadway and sidewalk.



Capital City Bikeway, Jackson Street, Saint Paul, MN

### Are they a proven strategy?

Physical separation of bicyclists from motor vehicle traffic promotes multimodal safety. The specific impact of separated bike lanes is not yet quantified, but has been shown to be more comfortable for people of all ages and abilities. Because of the lack of specific data for this measure, it is considered **TRIED**.

#### Where would we use them?

Separated bike lanes can be considered at the following locations:

- In areas with traffic volumes over 6,000 ADT or high motor vehicle speeds (over 30 mph)
- In areas with peak hour bicycle traffic over 100 per hour
- In areas with a wide range of user types and variety of speeds
- In areas that connect existing or planned biking networks
- Freight movements, delivery locations, on-street parking, accessible parking, pedestrian curb ramps, bus and transit access, and curb cuts must be carefully considered when designing separated bike lanes.

### What are the maintenance impacts?

Partner with maintenance team members to discuss strategies and issues related to routine maintenance for separated bicycle lanes, in particular for debris in the spring and snow in the winter. Separated bicycle lanes typically require special equipment to remove snow. If adequate snow storage space is not provided in the buffer



# Separated Bicycle Lanes

**CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project** Attachment 13 | Crash Reduction References

zone, snow removal may be needed. If delineator posts are used in lieu of curb separation, agencies should plan on replacing delineators that are damaged or destroyed during regular use; in high-traffic areas, this may require replacing up to 1/3 of delineators annually.



## What are the advantages?

- Minimize bicyclist exposure and reduce the interaction between bicyclists and motor vehicles through the corridor.
- If a separated bike lane is at sidewalk- or intermediate-level through driveways and intersections, this design reduces the speed of motor vehicles at conflict points. This reduces bicycle crash severity.
- The street buffer provides space outside of the pedestrian accessible route space for roadway signs, utility poles, and parking meters. The street buffer can also provide space for snow storage.
- The sidewalk buffer can provide space outside of the pedestrian accessible route for trash receptacles, landscaping, benches, and/or pedestrian scale lighting.
- A buffer width of 5' or more can create the opportunity for additional landscaping or for providing stormwater best management practices.



### What are the challenges?

- One-way separated bicycle lanes may attract wrong way riding if a separated bike lane is not provided in the opposite direction.
- Two-way separated bicycle lanes present unexpected conflicts between bicyclists and motorists at intersections and driveways because bicycles are riding against traffic.
- The design of the vertical separation must consider the drainage impacts.
- Consider freight movements and delivery locations when designing separated bike lanes.
- The design of the vertical separation will need to consider accessibility features, such as a space for paratransit needs since paratransit vehicles cannot park in bike lanes.



A separated bicycle lane in Minneapolis



### How much do they cost?

Typical costs range from \$16,000 per mile for restriping to \$500,000 per mile for overlay to \$5 million per mile for reconstruction.



# Separated Bicycle Lanes

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References

### **Design Features**

- Coordinate with MnDOT ADA Group for guidance related to ADA needs and paratransit needs on roadways where separated bicycle lanes are proposed.
- For state specific design details, including preferred and minimum bike lane widths, see Chapter 5 of the MnDOT Bicycle Facility Manual.
- If a separated bike lane is at sidewalk-level, the design should allow the bicycle facility to continue at grade and while motor vehicles change grade to cross the facility.
- On two-way roadways, one-way separated bike lanes on each side of the roadway are typically preferred over a two-way separated bike lane on one side of the roadway.
- If motorists and bike/pedestrian movements are concurrent or uncontrolled at conflict points, sight lines on the intersection or driveway approach must be kept clear to maintain visibility between street users.
- Separated bike lanes can present some specific accessibility challenges that must be carefully thought through during the initial planning process.
- Protected intersections are commonly used with separated bike lanes. Refer to Separated Bicycle Lanes section.
- The <u>MassDOT Separated Bicycle Lane Planning and Design Guide</u> provides additional detailed guidance for Separated Bicycle Lanes.

A separated bicycle lane along Minnesota Avenue, Glenwood, MN

#### Resources

- FHWA Separated Bike Lane Planning and Design Guide: <a href="https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/">https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/</a>
  publications/separated bikelane pdg/separatedbikelane pdg.pdf
- MnDOT Bicycle Facility Design Manual, Chapter 5
- MassDOT Separated Bicycle Lane Planning and Design Guide: <a href="https://www.mass.gov/lists/separated-bike-lane-planning-design-guide">https://www.mass.gov/lists/separated-bike-lane-planning-design-guide</a>



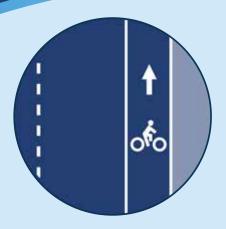
A separated bicycle lane along Minnesota Avenue, Glenwood, MN



Attachment 13 | Crash Reduction References

U.S. Department of Transportation Federal Highway Administration OFFICE OF SAFETY

# Proven Safety Countermeasures



### **Safety Benefits:**

**Bicycle Lane Additions can** reduce crashes up to:

for total crashes on urban 4-lane undivided collectors and local roads.6

**30**%

for total crashes on urban 2-lane undivided collectors and local roads.6



Separated bicycle Iane in Washington, DC. Source: Alex Baca, Washington Area Bicyclist Association

Separated bicycle lanes may provide further safety benefits. FHWA is anticipating completion of research in Fall 2022.

For more information on this and other FHWA Proven Safety Countermeasures, please visit https://safety.fhwa.dot.gov/ provencountermeasures/ and https://safety.fhwa.dot.gov/ ped\_bike/tools\_solve/docs/ fhwasa18077.pdf.

## **Bicycle Lanes**

Most fatal and serious injury bicyclist crashes occur at non-intersection locations. Nearly one-third of these crashes involve overtaking motorists<sup>1</sup>; the speed and size differential between vehicles and bicycles can lead to severe injury. To make bicycling safer and more comfortable for most types of bicyclists, State and local agencies should consider installing bicycle lanes. These dedicated facilities for the use of bicyclists along the roadway can take several forms. Providing bicycle facilities can mitigate or prevent interactions, conflicts, and crashes between bicyclists and motor vehicles, and create a network of safer roadways for bicycling. Bicycle Lanes align with the Safe System Approach principle of recognizing human vulnerability—where separating users in space can enhance safety for all road users.

#### **Applications**

FHWA's Bikeway Selection Guide and Incorporating On-Road Bicycle Networks into Resurfacing Projects assist agencies in determining which facilities provide the most benefit in various contexts. Bicycle lanes can be included on new roadways or created on existing roads by reallocating space in the right-of-way.

In addition to the paint stripe used for a typical bicycle lane, a lateral offset with painted buffer can help to further separate bicyclists from vehicle traffic. State and local agencies may also consider physical separation of the bicycle lane from motorized traffic lanes through the use of vertical elements like posts, curbs, or vegetation.<sup>2</sup> Based on international experience and implementation in the United States, there is potential for further safety benefits associated with separated bicycle lanes. FHWA is conducting research on separated bicycle lanes, which includes the development of crash modification factors, to be completed in 2022 to address significant interest on this topic.

- 1 Thomas et al. Bicyclist Crash Types on National, State, and Local Levels: A New Look. Transportation Research Record 673(6), 664-676, (2019).
- 2 Separated Bike Lane Planning and Design Guide. FHWA-HEP-15-025, (2015).
- 3 Park and Abdel-Aty. "Evaluation of safety effectiveness of multiple cross sectional features on urban arterials". Accident Analysis and Prevention, Vol. 92, pp. 245-255, (2016).
- 4 FHWA Tech Advisory Shoulder and Edge Line Rumble Strips, (2011).
- 5 Sandt et al. Pursuing Equity in Pedestrian and Bicycle Planning. FHWA, (2016).
- 6 Avelar et al. Development of Crash Modification Factors for Bicycle Lane Additions While Reducing Lane and Shoulder Widths. FHWA, (2021).

#### **Considerations**

- City and State policies may require minimum bicycle lane widths, although these can differ by agency and functional classification of the road.
- Bicycle lane design should vary according to roadway characteristics (e.g., motor vehicle volumes and speed) in order to maximize the facility's suitability for riders of all ages and abilities and should consider the travel needs of low-income populations likely to use bicycles. The **Bikeway Selection Guide** is a useful resource.
- While some in the public may oppose travel lane narrowing if they believe it will slow traffic or increase congestion, studies have found that roadways did not experience an increase in injuries or congestion when travel lane widths were decreased to add a bicycle lane.3
- Studies and experience in US cities show that bicycle lanes increase ridership and may help jurisdictions better manage roadway capacity without increased risk.
- In rural areas, rumble strips can negatively impact bicyclists' ability to ride if not properly installed. Agencies should consider the dimensions, placement, and offset of rumble strips when adding a bicycle lane.4
- Strategies, practices, and processes can be used by agencies to enhance their ability to address equity in bicycle planning and design.5

# Curb Extensions and Curb Radii

#### CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project

Attachment 13 | Crash Reduction References

### What is their purpose?

A curb extension is an extension of the sidewalk into the roadway that reduces the crossing distance of a roadway for pedestrians and pedestrian exposure to vehicular traffic. Curb extensions can provide visual cues to drivers that encourage them to reduce speeds and be aware of pedestrians and bicyclists. Curb extensions also improve intersection sight distance for vehicles and pedestrians since they restrict parking near the intersection. They can also provide additional space to construct ADA-compliant curb ramps, making them an effective strategy on ADA retrofit projects where constructing and ADA-compliant ramp may be otherwise difficult. Curb extensions are used at intersections and at mid-block crosswalks.



A curb extension at an intersection

### Are they a proven strategy?

Curb extensions are **PROVEN** safety strategies. Research shows that reducing the crossing distance, restricting the street width, and reducing wide corner radii improve pedestrian safety and enhance the sight distance between motorists and pedestrians.

Supporting Documentation: MnDOT Enhanced Crosswalks

#### Where would we use them?

Curb extensions are most appropriate in urban settings when there is an on-street parking lane or a shoulder where the extensions will not impede bicycle travel. The curb extension physically precludes vehicles parking near an intersection or pedestrian crossing, improving sight lines and visibility both for and of crossing pedestrians near parked vehicles. Beyond being used at intersections, curb extensions can be applied in a variety of ways depending on the roadway's needs. Examples include the following:

- Mid-block curb extensions or pinch points
- Offset curb extensions or chicanes
- Bus stops

### What are the maintenance impacts?

Partner with maintenance team members during design development to discuss strategies and issues related to routine maintenance, especially during winter months. Curb extensions may increase the level of effort required to remove snow from the parking lane. This can be minimized by adding delineators or markers on the curb extension to help guide snow plows, and by flattening the taper rate of the curb extension to 1:5 so plows can maintain a limited forward speed while clearing snow adjacent to the curb extension.



# Curb Extensions and Curb Radii

#### CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project

Attachment 13 | Crash Reduction References



### What are the advantages?

- May be temporarily implemented and evaluated using low-cost, interim materials such as gravel, planters, paint and striping, flexible posts, or bollards until a permanent improvement can be funded through a reconstruction project or other programming.
- Increase visibility of pedestrians and bicyclists crossing the street.
- · Encourage slower turning speeds.
- Reduce crossing distance at mid-block crosswalks.
- Serve as a gateway or visual cue for drivers entering a slower, more residential area.
- May dedicate width for bus stops (bus bulbs).
- May dedicate width for on-street parking.
- Increase space for street furniture, landscaping, and stormwater treatment.
- Improve intersection sight distance (by prohibiting parking near the intersection)
- Provide additional space to construct ADAcompliant curb ramps.
- Studies show a reduction in crashes up to 45%.



### What are the challenges?

- Design can be restricted by the turning radius of the larger design vehicles (trucks and buses).
- Stormwater management needs associated with the new curb alignment (e.g., catch basin locations) can bring additional design and construction costs.
- Require additional winter maintenance considerations.
- Curb extension retrofits may reduce the amount of available on-street parking

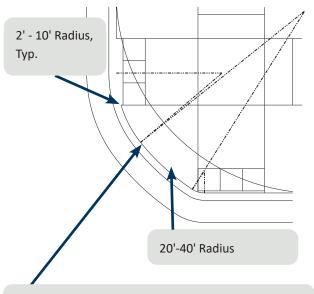
### Supplemental treatments

Curb extensions and curb radii can be combined with the following treatments:

- · High-visibility crosswalk markings
- Advanced warning signs
- Right turn on red restrictions at signalized intersections
- Landscaping or other aesthetic improvements

### Best practices

Curb extensions can often be lengthened to provide additional space for landscaping, stormwater treatment, transit waiting areas, and bus shelters. In addition, curb extensions can create additional space to fit ADA-compliant curb ramps, improving accessibility in constrained locations where it may otherwise be difficult to do so.



A compound radius can increase available curb extension space while still allowing large vehicles to turn, especially on multi-lane roadways.

Compound radius detail, Source: MnDOT Curb Ramp Standard Plan

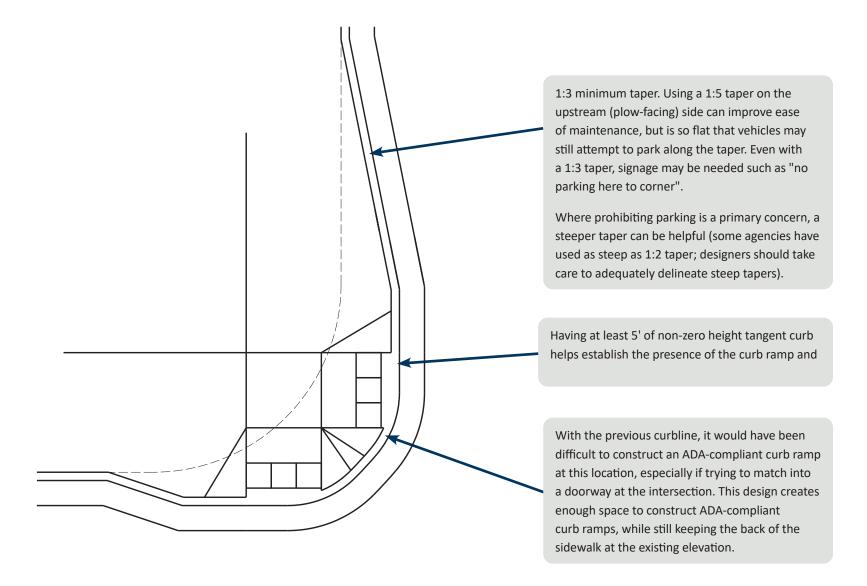


### How much do they cost?

Costs depend on site conditions, drainage impacts, pavement design, and ADA accommodations. Curb extension installation can range between \$2,000-\$3,500 per corner if it does not cause storm sewer impacts and between \$10,000-\$20,000 per corner if it does cause storm sewer impacts.



Attachment 13 | Crash Reduction References



DEPARTMENT OF

# Curb Extensions and Curb Radii

#### CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project

Attachment 13 | Crash Reduction References





Curb retrofit on Snelling Avenue, Saint Paul, MN; Source: Google

Before/after photo of curb ramp retrofit. The curb extension allowed the construction of ADA-compliant ramps on an otherwise constrained corridor. Note the upstream side of curb extension has a flatter taper than the downstream side.

### **Design Features**

Curb extensions should be tailored to the unique characteristics of the site at which they are installed, though MnDOT's Pedestrian Curb Ramp Standard Plans has details that may be helpful. See Curb Extensions and Curb Radii section of this handbook.

Designers should also consider or incorporate the following:

- Curb extensions should extend the full width of an adjacent parking lane.
- Maintain proper sight distance between pedestrians and motorists, including street furniture and landscaping features.
- Stormwater runoff may be impacted and additional catch basins may be required as part of the design. Avoid designs that cause water to pool on the sidewalk.

#### Resources

- Proven: http://www.dot.state.mn.us/stateaid/trafficsafety/county/CRSP-EnhancedCrosswalks.pdf
- https://safety.fhwa.dot.gov/intersection/conventional/signalized/fhwasa13027/ch9.cfm#s911
- Minnesota DOT Roadway Design Manual, Chapter 5-1.04
- http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs Report Nov2013.pdf
- Bump Outs: http://pedbikesafe.org/PEDSAFE/countermeasures detail.cfm?CM NUM=5
- https://nacto.org/publication/urban-street-design-guide/street-design-elements/curb-extensions/
- Curb Radii: http://pedbikesafe.org/PEDSAFE/countermeasures detail.cfm?CM NUM=28
- https://safety.fhwa.dot.gov/ped\_bike/step/docs/STEP\_Guide\_for\_Improving\_Ped\_Safety\_at\_Unsig\_Loc\_3-2018\_07\_17-508compliant.pdf



# **Protected Intersections**

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References

### What is their purpose?

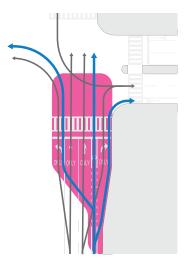
Protected intersections separate pedestrians and bicyclists from motor vehicles using physical barriers that eliminate merging and weaving movements. Well-designed protected intersections are intuitive and comfortable, provide clear right-of-way assignment, promote predictability of movement, and allow eye contact between motorists, bicyclists, and pedestrians. A comparison of conflict points at conventional (on-road) bike lanes and at protected intersections is shown in pink on the figures to the right. The single conflict point at a protected intersection can be eliminated by providing a separated signal phase for turning traffic, when used in conjunction with dedicated turn lanes..

Protected intersections can also incorporate intersection design elements that reduce speeds (see Intersection Design section).

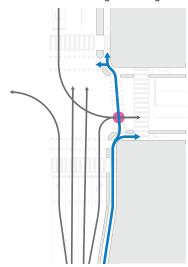
By moving the bicycle through movement further from the vehicle lane, it becomes easier for a cyclist to spot a right-turning vehicle in time to avoid a collision, and improves motorist sight lines as well.



A protected intersection



Conflict area between bicycles and motor vehicles (in pink) at a conventional intersection, Source: MassDOT Separated Bike Lane Planning and Design Guide



Conflict points with a protected intersection, Source: MassDOT Separated Bike Lane Planning and Design Guide



# **Protected Intersections**

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References



### What are the advantages?

- Reduce motor vehicle speeds at intersections, which reduces bicycle and pedestrian crash severity.
- When combined with intersection design practices such as smaller curb radii, can reduce crossing distance, minimizing pedestrian and bicycle exposure at the intersection.
- Reduce the interaction between bicyclists and motor vehicles through an intersection, which minimizes bicycle exposure at the intersection.
- Improve the ability of drivers to perceive and react to bicyclist in the intersection, and improve ability of cyclists to recognize when a vehicle is turning right.
- Forward queuing area for bicyclists and pedestrian refuge median reduces crossing distances for both users and improves their visibility to motorists.
- Can reduce bicyclist speeds by adding deflection to the bike lane or sidepath.



### What are the challenges?

- Design may require additional right-of-way depending on the existing roadway's crosssection. Existing roadway amenities, such as on-street parking lanes, may need to be removed to fit the design.
- Reducing curb radii and removing channelized right turns can make it difficult for larger vehicles to navigate an intersection without encroaching into opposing lanes of travel.
- Adjustments to curb radii and channelized right turns may require modifications to existing drainage infrastructure.
- Channelized right-turn lanes may need to be removed from an intersection in order to make the design fit, which may increase motor vehicle delay.
- If motorists and bike/pedestrian movements are concurrent or uncontrolled, sight lines on the approach must be kept clear to maintain visibility between street users.
- Significant impacts on maintenance efforts.

## Are they a proven strategy?

Individual strategies to slow vehicles at intersections have been **PROVEN**. Protected intersections have **PROVEN** safety benefits at signalized and unsignalized intersections where bicycle crossings are offset from the motorist travel way by a preferable distance of between 6' and 16.5'.

#### Where would we use them?

Protected intersections can be considered at the following locations:

- At signalized or stop-controlled intersections to create safe, comfortable conditions for people bicycling and walking, where there are high volumes of turning motor vehicle traffic.
- They are most commonly used with separated bike lanes and sidepaths, but can be used with conventional (on-road) bike lanes, paved shoulders, or shared lanes.

### What are the maintenance impacts?

Partner with maintenance team members during design development to discuss strategies and issues related to routine maintenance, especially during winter months, to keep the bike lane and small concrete islands free of snow and debris. The design should ensure that maintenance vehicles can clear snow and debris from the narrow bikeways.



# How much do they cost?

The cost for a protected intersection varies widely depending on the site conditions, drainage impacts, and existing intersection features. On average, it costs approximately \$100,000 to upgrade a signalized intersection to a protected intersection with permanent features, without a separate bicycle phase. A seasonal or other short-term design (only intended for a few years) can be achieved at a much lower cost by using flexible posts.



## **Protected Intersections**

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References

### **Design Features**

FHWA Achieving Multimodal Networks report and Chapter 4 of the MassDOT Separated Bicycle Lane Planning and Design Guide both provide additional detailed guidance for protected intersections. Noteworthy design features include the following (specific points in some notes are illustrated in the graphic on the right):

- Key features include a corner island, forward bicycle queuing area, driver yield zone, and pedestrian refuge median.
- Corner island A corner island allows the bike lane to be physically separated from motor vehicle traffic up to the edge of the intersection and reduces motor vehicle turning speeds 1. Mountable truck aprons can accommodate large vehicles 3.
- Forward bicycle queuing area Forward bicycle queuing area provides a waiting area for bicyclists that is fully within view of drivers waiting behind the pedestrian crosswalk 2.
- Driver yield zone A driver yield zone creates a space for turning drivers to yield to bicyclists and pedestrians by setting the bicycle and pedestrian crossings back from the intersection, similar to the offset geometry recommended for sidepath crossings 4. If pedestrian and/or bicyclist movements are to be protected by signal phasing, a driver yield zone is not as critical.
- Pedestrian refuge median A pedestrian refuge median enables pedestrians to cross bicycle and motor vehicle traffic separately and reduces the pedestrian crossing distance (5 and 6). Medians less than 6'-wide should not be considered refuges, and cannot include detectable warning surfaces.
- Can be constructed of curbs and more permanent features, or using flexible delineators and other rapid implementation materials.

### Supplemental treatments

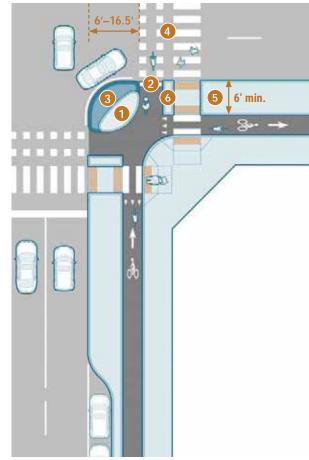
Protected intersections include several other treatments discussed in more detail in the following sections of this handbook:

- Intersection Design
- Bicycle Boxes
- Medians and Crossing Islands

- · Curb Extensions and Curb Radii
- Bicycle Signal Indications
- LPI and/or LBI

#### Resources

FHWA Achieving Multimodal Networks: <a href="https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/publications/multimodal\_networks/fhwahep16055.">https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/publications/multimodal\_networks/fhwahep16055.</a>
 pdf



A protected intersection. Source: FHWA Achieving Multimodal Networks

- MnDOT's Bicycle Facility Manual: <a href="http://www.dot.state.mn.us/bike/design-engineering.html">http://www.dot.state.mn.us/bike/design-engineering.html</a>
- MassDOT Separated Bicycle Lane Planning and Design Guide: <a href="https://www.mass.gov/lists/separated-bike-lane-planning-design-guide">https://www.mass.gov/lists/separated-bike-lane-planning-design-guide</a>



# Traffic Signals

# CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project Attachment 13 | Crash Reduction References

### What is their purpose?

Traffic signals assign right-of-way to various traffic movements at intersections and help reduce conflict between different roadway users. Signal design typically focuses on the operating characteristics of motorized vehicles, but can also benefit pedestrians and bicyclists by creating gaps in traffic to cross. For example, in areas with pedestrian activity, traffic signals can include features such as countdown timers, leading pedestrian intervals, and exclusive pedestrian signal timings.

MnMUTCD Chapter 4C includes a list of nine warrants, which are threshold conditions that should be analyzed to help determine if signalization is appropriate for an intersection. These warrants are based on the volume of pedestrians and vehicles crossing the intersection, the presence of a school crossing, coordinated signal system, a grade crossing, and the crash experience at the intersection location. Engineering judgment should always be used when assessing traffic control change and signal warrant analysis.

### Are they a proven strategy?

A traffic signal alone is not a proven safety countermeasure for pedestrians and bicyclists. There are a number of reasons for this, including lack of attention and failure of motorists to yield to pedestrians, lack of signal compliance by drivers and pedestrians, and speeding.

Supplemental strategies should be considered to improve pedestrian accommodations at signalized intersections. Strategies include countdown timers, which are **PROVEN** countermeasures to reduce crashes; and leading pedestrian intervals, which are **PROVEN** countermeasures. No Turn on Red restrictions, which are a **TRIED** countermeasure; and exclusive pedestrian signal timings, which are **TRIED** countermeasures.

#### Where would we use them?

Traffic signals serve many purposes. Before they are used, an engineering study of traffic conditions, pedestrian activity, and location characteristics should be performed. Additionally, the MnMUTCD signal warrants must be analyzed as part of the study. It should be noted that a location meeting one or more traffic signal warrant criteria does not in itself mandate the installation of a traffic signal.

Traffic signals are most effective for pedestrian and bicycle safety when:

- The intersection needs additional enhancements to improve motorist yielding rates or address limited gaps in traffic.
- There is a high volume of pedestrian activity, near transit stops, schools, and parks.



Bicyclists at a traffic signal



# Traffic Signals

### CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project

Attachment 13 | Crash Reduction References



### What are the advantages?

- Stop vehicles on red, allowing pedestrians and bicyclists to cross and create gaps in traffic flow to allow pedestrians and bicyclists to cross.
- Can be enhanced with many supplemental design features to further improve pedestrian safety.
- Widely used strategy to manage traffic
- Can reduce the severity of motor vehicle crashes.
- With countdown timers, pedestrian-vehicle crashes can be reduced up to 70% relative to signals without countdown timers.

### What are the maintenance impacts?

Traffic signals require routine maintenance by properly trained technicians and ongoing funding to repair, replace, or upgrade signal controllers, detectors, and other signal hardware. It is also important to regularly assess the condition of traffic signal control equipment, including verifying that detectors are working properly, traffic signal controller timings are entered correctly, and signal displays are operational. Additionally, all traffic signal and pedestrian displays should be routinely checked to ensure they are visible to motorists and pedestrians. A maintenance management system database is typically employed to track these items.



### What are the challenges?

- Installation of a traffic signal will increase delay and travel time for some motorists.
- Rely on driver attention and behavior to obey signals, to stop behind the stop bar, and to yield to crosswalks when turning.
- Some crash types could increase, including rear-end collisions.

For pedestrians and bicyclists, it is especially important that all indications, push buttons, detectors, and other components are positioned and working properly.

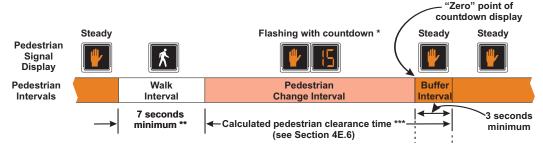
### Supplemental treatments

Traffic signals are often combined with one or more of the following treatments:

#### **PROVEN** treatments:

• Countdown pedestrian timers reduce pedestrianvehicle crashes up to 70% after installation.

- Leading pedestrian intervals (LPI) reduce up to 60% of pedestrian-vehicle crashes at intersections.
- Backplates with retroreflective borders improve
  the visibility of the signal face during daytime and
  nighttime conditions. Research shows that the
  installation of retroreflective backplates can reduce
  total crashes by up to 15% at intersections.
- Yellow change intervals should be well-timed to reduce the number of red-light running vehicles. Redlight running vehicles cause a majority of the severe crashes at signalized intersections, and improvements to yellow change intervals can improve overall intersection safety. Research shows that optimized yellow change intervals can reduce red light running by up to 50%, reduce total crashes up to 14%, and reduce injury crashes up to 12%. Requirements and guidance about optimal yellow change interval timing can be found in the FHWA Traffic Signal Timing Manual.



Pedestrian signal display, Source: Minnesota MUTCD



# Traffic Signals

**CSAHs 33 and 35 (Park Ave & Portland Ave) Bikeway Project** Attachment 13 | Crash Reduction References

#### Other Common Treatments:

- Fixed pedestrian phases are common at intersections with steady pedestrian activity throughout the day.
- Pedestrian push buttons are common in areas
  with intermittent pedestrian activity. When push
  buttons are installed, the design should consider
  implementing an Accessible Pedestrian Signal (APS).
  An APS is a device that communicates information
  about WALK and DON'T WALK intervals at signalized
  intersections through audible tones, speech
  messages, and vibrating surfaces to assist pedestrians
  with visual impairments.
- Implementing shorter cycle lengths (approximately 90 seconds).
- Implementing turn restrictions or left-turn phasing for vehicles.
- Ensuring that the signal has proper crossing times for pedestrians per MnMUTCD guidance.
- Exclusive pedestrian signal timings are most common in urban areas. These stop vehicles from all directions to allow pedestrians the right-of-way to cross the street in any direction (including diagonally).

### **Best practices**

Traffic signals are used to assign right-of-way to conflicting traffic modes at intersections. There are several proven safety countermeasures that can be paired with traditional signalized intersections to enhance safety. Examples include countdown pedestrian timers, leading pedestrian intervals, backplates with retroreflective borders, and yellow change intervals.

#### Resources

- Crash Modification Factors
- Cost
- <a href="http://www.dot.state.mn.us/trafficeng/publ/mutcd/mnmutcd2018/mnmutcd-4.pdf">http://www.dot.state.mn.us/trafficeng/publ/mutcd/mnmutcd2018/mnmutcd-4.pdf</a>
- http://guide.saferoutesinfo.org/engineering/traffic\_ signals.cfm
- <a href="https://www.dot.state.mn.us/trafficeng/publ/fundamentals/2015-mndot-safety-handbook-fundamentals/2015-mndot-safety-fundam



### How much do they cost?

Installing a new traffic signal can vary from approximately \$250,000 to \$500,000, depending on the site conditions, existing utilities, and additional enhancements. Annual maintenance costs are approximately \$2,000 to \$4,000 per intersection.

### **Design Features**

Reference the MnDOT Traffic Control Signal Design Manual for a detailed review of traffic signal design elements, including signal phasing and operations, detection design, and signing and pavement markings. The goals of the design should include providing a safe and efficient operation for the intersection's unique conditions.

Key strategies for improving pedestrian accommodation at signalized intersections include the following:

- Adding accessible pedestrian push buttons where signals are pedestrian actuated.
- Implementing short cycle lengths (90 seconds maximum)
- Adding countdown timers, which are usually installed with pedestrian indication lights. These provide the
  number of seconds remaining during the pedestrian phase. <u>MnMUTCD Chapter 4D.7</u> now requires countdown
  timers to be installed at signals with pedestrian signal heads at crosswalks with pedestrian change intervals
  greater than 7 seconds.
- Leading pedestrian intervals, which can be installed to improve the safety of the crossings by providing
  pedestrians 3-7 seconds to enter an intersection prior to giving the green indication to vehicles. More
  information can be found in the section on Leading and Separate Exclusive Signals.
- Using a fixed pedestrian phase if pedestrian traffic is frequent, this timing strategy does not require pushing the pedestrian button to activate the WALK phase.
- Maintaining optimal sight distance and visibility of signals to pedestrians.
- Implementing MnMUTCD guidelines for creating optimal WALK and DON'T WALK times for pedestrians.



Attachment 14 | City of Minneapolis Letter of Support



Public Works 350 S. Fifth St. - Room 203 Minneapolis, MN 55415 TEL 612.673.3000

www.minneapolismn.gov

Support for Hennepin County Regional Solicitation Applications

Dear Ms. Stueve:

Hennepin County has requested letters of support for a series of grant applications as part of the Regional Solicitation process, by which the Metropolitan Council competitively allocates federal transportation funds. As a part of this request, Minneapolis conducted a review of completed plans, studies, and community engagement, as well as documented priorities and adopted policies to identify which projects to support. Improvements along Hennepin County streets offer significant opportunities to address some of the greatest safety and mobility needs within Minneapolis and are a critical part of the city's goal to address climate change, support mode shifts, and eliminate deaths and severe injuries resulting from traffic crashes.

Minneapolis hereby supports the following applications:

#### **Roadway Reconstruction / Modernization**

- Franklin Ave (CSAH 5) Reconstruction: Lyndale Ave (CSAH 22) to approx. 250' West of Blaisdell Ave
- Lyndale Ave (CSAH 22) Reconstruction: HCRRA to Franklin Ave (CSAH 5)
- Cedar Ave (CSAH 152) Reconstruction: 150' North of Lake St (CSAH 3) TO 24<sup>TH</sup> St

#### **Multiuse Trail and Bicycle Facilities**

- \*Marshall St NE (CSAH 23) Bikeway: 3<sup>rd</sup> Ave NE to (CSAH 153) Lowry Ave NE
- Park Ave (CSAH 33) and Portland Ave (CSAH 35) Bikeway: Lake St (CSAH 3) to the I-35W/I-94 Bridges

#### **Pedestrian Facilities**

- \*Marshall St NE (CSAH 23) Pedestrian Improvements: 3<sup>rd</sup> Ave NE to (CSAH 153) Lowry Ave NE
- Lake St (CSAH 3) Pedestrian Improvements: Dupont to the Mississippi River

\*Whereas the County is pursuing grant funding in the Multiuse Trail and Bicycle Facilities and Pedestrian Facilities categories, the city supports the County applications with the understanding that this funding is applied to fully reconstruct Marshall St NE.

At this time, Minneapolis has no funding programmed in its adopted 2023-2028 Transportation Capital Improvement Program (CIP) for these projects. Therefore, Minneapolis is currently unable to commit cost participation in these projects. However, we request that Hennepin County includes city staff as part of the design process to ensure project success. Furthermore, Minneapolis agrees to provide maintenance, such as sweeping and plowing, for protected bikeways until such time Hennepin County has the resources to do so.

Thank you for making us aware of this application effort and the opportunity to provide support. Minneapolis Public Works looks forward to working with you on these projects.

Sincerely,

Margaret Anderson Kelliher Director of Public Works City of Minneapolis

Margant Anderson Kelliher