Application

17063 - 2022 Roadway Modernization

17623 - Minnehaha Avenue Reconstruction (Payne Ave to E 7th St)

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	04/13/2022 10:22 PM

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What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements			

Organization Information

Name:	ST PAUL, CITY OF

Jurisdictional Agency (if different):	
Organization Type:	City
Organization Website:	
Address:	DEPT OF PUBLIC WORKS-CITY HALL ANNEX 25 W 4TH ST #1500
*	ST PAUL (City) / Minnesota (State/Province) / 55101 (Postal Code/Zip)
County:	Ramsey
Phone:*	651-266-9700 Ext.
Fax:	
PeopleSoft Vendor Number	0000003222A22

Project Information

Project Name	Minnehaha Avenue Reconstruction (Payne Avenue to E 7th Street)
Primary County where the Project is Located	Ramsey
Cities or Townships where the Project is Located:	St. Paul
Jurisdictional Agency (If Different than the Applicant):	

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

The Minnehaha Avenue Reconstruction project will modify the existing four-lane undivided roadway to three lanes with on-road dedicated bike lanes and reconstructed sidewalk for a 0.5-mile segment between Payne Avenue and E 7th Street (TH 5). This will provide better use of the roadway corridor for safer bicycle and pedestrian travel.

The project segment of Minnehaha Avenue is primarily an urban, four-lane undivided roadway with off-peak parking on both sides, classified as an A Minor Reliever Arterial. The existing 10-foot sidewalk is in very poor condition with cracked and missing segments in numerous locations (see attached photos) making it challenging for bicyclists, pedestrians, and people with disabilities. The existing pavement and curb and gutter along the corridor are also past their useful life which creates drainage issues along the roadway. There are no on-street bicycle lanes, Signalized intersections at Payne Avenue, Arcade Street (US 61) and E 7th Street (TH 5).

Project improvements will include:

- On-street dedicated bicycle lanes on each side of the roadway.

- Reduction of travel lanes from four to two lanes with turn lanes at Payne Avenue and Arcade Street.
- Reduction of travel lanes from four lanes to two lanes with a center left-turn lane between Arcade Street (US 61) and E 7th Street (TH 5).

- Reconstructed sidewalks on both sides of the roadway with a landscaped boulevard to separate pedestrian and vehicular traffic. ADA compliant ramps and sidewalks (free of obstructions).

- New Accessible Pedestrian Signals (APS), high visibility crosswalk markings and countdown timers at the Payne Avenue and Arcade Street intersections. The traffic signal at 7th Street is anticipated for reconstruction by MnDOT in the next five years.
- Curb bump outs and pedestrian ramps will be installed at the unsignalized intersections at Stroh Drive, Hope Street and Weide Street.

In the last 10 years there have been 10 bicycle/vehicle or pedestrian/vehicle crashes within the project limits. Three were minor injury crashes and seven were possible injury crashes. The reconstruction project will significantly improve pedestrian and bicycle safety by adding dedicated on-street bike lanes and reconstructed sidewalks along the corridor, while reducing the number of travel lanes from four to two. Reducing the number of travel lanes from four to two will result in slower, safer traffic speeds and eliminate unsafe maneuvers associated with passing or lane changing. Slower traffic speeds will result in a safer environment for people walking and biking.

The project scope excludes the existing bridge over the Bruce Vento Regional Trail.

(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.

Minnehaha Avenue Reconstruction from Payne Avenue to E 7th Street (TH 5)(0.5 miles) Roadway reconstruction, ADA Improvements, off-street bikeway, landscaping, drainage, signage/striping, signals, lighting, and stormwater management

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles)

0.5

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 $5,224,640.00

Match Amount $1,306,160.00

Minimum of 20% of project total

Project Total $6,530,800.00

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

Match Percentage 20.0%

Minimum of 20%
Compute the match percentage by dividing the match amount by the project total

Source of Match Funds City of St. Paul funding

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-Roadways

County, City, or Lead Agency City of St. Paul

Functional Class of Road A Minor Reliever

Road System MSAS

TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET

Road/Route No. 108

i.e., 53 for CSAH 53

Name of Road Minnehaha Avenue

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55101

(Approximate) Begin Construction Date 04/01/2027

(Approximate) End Construction Date 11/01/2027

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

From:
(Intersection or Address) Payne Avenue

To: **(Intersection or Address)** *DO NOT INCLUDE LEGAL DESCRIPTION*	E 7th Street (TH 5)
Or At	
Miles of Sidewalk (nearest 0.1 miles)	1.0
Miles of Trail (nearest 0.1 miles)	0.5
Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)	0.5
Primary Types of Work *Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.*	CURB AND GUTTER, BIT BASE, AGG BASE, LIGHTING, PED RAMPS, SIGNALS, STORM SEWER, BIKE LANES, SIDEWALK, LANDSCAPING

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.

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

Goal A: Transportation System Stewardship:

Objective: Efficiently preserve and maintain the regional transportation system in a state of good repair.

Objective: Operate the regional transportation system to efficiently and cost-effectively connect people and freight to destinations

Strategies: A1 and A2 (Page 2.6)

Goal B: Safety and Security:

Objective: Reduce crashes and improve safety and security for all modes of passenger travel and freight transportation.

Strategies: B1, B4, B5, and B6 (Page 2.7)

Goal C: Access to Destinations:

Objective: Increase the availability of multimodal travel options, especially in congested highway corridors.

Objective: Increase travel time reliability and predictability for travel on highway and transit systems.
Objective: Ensure access to freight terminals such as river ports, airports, and intermodal rail yards.

Objective: Increase transit ridership and share of trips taken using transit bicycling and walking.

Objective: improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically underrepresented populations.

Strategies: C1, C2, C4, C7, C8, C9, C11, C12, and C17 (Page 2.8-2.10)

Goal D: Competitive Economy

Objective: Improve multimodal access to regional job concentrations identified in Thrive MSP 2040.

Objective: Invest in a multimodal transportation system to attract and retain businesses and residents.

Strategies: D1, D3 (Page 2.11)

Goal E: Healthy Environment

Objective: Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles.

Objective: Provide a transportation system that promotes community cohesion and connectivity for historically underrepresented populations.

Strategies: E1, E2, E3, E5, E6, and E7 (Page 2.12-2.13)

Goal F: Leveraging Transportation Investments to Guide Land Use.

Objective: Focus regional growth in areas that support the full range of multimodal travel.

Objective: Encourage local land use design that integrates highways, streets, transit, walking, and bicycling.

Strategies: F1, F2, F3, F4, F5, F6, and F7 (Page 2.14-2.15)

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.

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

City of St. Paul 2040 Comprehensive Plan (2020):

- Policy T-2. Use surface condition and multimodal usage rates to prioritize transportation projects and ensure well-maintained infrastructure that benefits the most people (See Maps T-10 and T-12). (pg. 73)

-Policy T-9. Design the rights-of-way for all users, including older people, children and those with mobility constraints, as guided by the Street Design Manual and Safe Routes to School Plans, and by thoughtfully addressing streetscape issues such as curb cut design, level sidewalks, lighting, accessibility to/from bus stops, and the presence of benches and buffers between sidewalks and streets. (pg. 73)

-Policy T-6. Implement "road diets" for undivided four-lane roads to convert them to two or three lanes, where feasible, in order to prioritize pedestrian safety.

Policy T-10. Design sidewalks, trails and transit stops for personal safety (real and perceived), including by providing lighting and boulevards.

Ramsey County 4 to 3 Lane Conversion Study (2020):

This study identified the reduction in travel lanes from 4 to 2 with turn lanes at intersections. The study notes that this change would have very low impact to roadway function and mobility. (pg. 23)

https://www.ramseycounty.us/sites/default/files/Roads%20and%20Transit/Ramsey%20County%204-to-3%20Conversion%20Study%20Report.pdf

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 elements in more than one funding application 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 2022 funding cycle).
Strategic Capacity (Roadway Expansion): *$1,000,000 to $10,000,000*
Roadway Reconstruction/Modernization: *$1,000,000 to $7,000,000*
Traffic Management Technologies (Roadway System Management): *$500,000 to $3,500,000*
Spot Mobility and Safety: *$1,000,000 to $3,500,000*
Bridges Rehabilitation/Replacement: *$1,000,000 to $7,000,000*

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 right of way/transportation. Yes

(TDM and Unique Project Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.

Date plan completed: 01/13/2016

Link to plan: https://www.stpaul.gov/sites/default/files/Media%20Root/ADA%20Transiton%20Plan%20for%20Public%20Works_2016.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

Roadways Including Multimodal Elements

1.All roadway and bridge projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map.

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

Roadway Strategic Capacity and Reconstruction/Modernization and Spot Mobility projects only:

2.The project must be designed to meet 10-ton load limit standards.

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

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

3.Projects requiring a grade-separated crossing of a principal arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

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

4.The bridge must carry vehicular traffic. Bridges can carry traffic from multiple modes. However, bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities application categories. Rail-only bridges are ineligible for funding.

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

Bridge Rehabilitation/Replacement projects only:

5.The length of the bridge clear span must exceed 20 feet.

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

6. The bridge must have a National Bridge Inventory Rating of 6 or less for rehabilitation projects and 4 or less for replacement projects.

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

Roadway Expansion, Reconstruction/Modernization, and Bridge Rehabilitation/Replacement projects only:

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact Michael Corbett at MnDOT (Michael.J.Corbett@state.mn.us or 651-234-7793) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$129,000.00
Removals (approx. 5% of total cost)	$75,400.00
Roadway (grading, borrow, etc.)	$322,500.00
Roadway (aggregates and paving)	$1,058,300.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$343,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$138,300.00
Traffic Control	$77,000.00
Striping	$18,000.00
Signing	$17,500.00
Lighting	$290,000.00
Turf - Erosion & Landscaping	$118,000.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$800,000.00
Wetland Mitigation	$0.00

Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$1,240,000.00
Other Roadway Elements	$154,000.00
Totals	**$4,781,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$501,200.00
On-Street Bicycle Facility Construction	$583,200.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$64,800.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$75,000.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$454,000.00
Other Bicycle and Pedestrian Elements	$71,600.00
Totals	**$1,749,800.00**

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
Other Transit and TDM Elements	$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	$6,530,800.00
Construction Cost Total	$6,530,800.00
Transit Operating Cost Total	$0.00

Measure B: Project Location Relative to Jobs, Manufacturing, and Education

Existing Employment within 1 Mile:	32304
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	1461
Existing Post-Secondary Students within 1 Mile:	7552
Upload Map	1649887004654_MinnehahaEconomyMap.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor: Yes

None of the tiers:

Measure A: Current Daily Person Throughput

Location	East of Arcade Street
Current AADT Volume	7300
Existing Transit Routes on the Project	54, 61, 64, 74, Other

For New Roadways only, list transit routes that will likely be diverted to the new proposed roadway (if applicable).

Upload Transit Connections Map	1649887072261_MinnehahaTransitMap.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	9490.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	Yes
If checked, METC Staff will provide Forecast (2040) ADT volume	
OR	
Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	
Forecast (2040) ADT volume	

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:

As shown on the Socio-Economic map, the project is in an area of concentrated poverty. Engagement through community planning efforts started with the St. Paul Bike Plan public hearing conducted in December 2014 - meeting summary at www.stpaul.gov/bikeplan.

Additional planning efforts included the Saint Paul Pedestrian Plan. This was the result of 4,000 community member's input over two years through in-person events and an online survey. Safe Summer Nights 2017 events reached a large percentage of residents who identify as a race other than white, are under 25 or have lower incomes. Targeted outreach meetings between Winter 2017 to Spring 2018 ensured a full spectrum of resident participation:

Response:

- English Language Learner classes
- Skyline Teen Advisory Council
- Hamline Elders
- Public Housing Resident Councils

The adopted 2019 Plan identified the project in a high priority area for walking investments and most likely to see the greatest benefits. https://www.stpaul.gov/departments/public-works/transportation-and-transit/walking-saint-paul

In 2020, the Ramsey County 4 to 3 Lane Conversion Study was completed. St. Paul participated in four TAC meetings from October 2019 to March 2020. A stakeholder outreach meeting with the St. Paul staff occurred in April 2020. Minnehaha Avenue was one of 22 different roadway segments to determine whether a lane reduction would have a positive impact. The final

step of implementation prioritized racial equity and community engagement to continue to develop a transportation system that's safe and efficient for everyone.

For the 2040 Comprehensive Plan, an extensive engagement process was conducted to learn about the community's priorities. Staff talked to nearly 2,300 people, with a focus on reaching diverse communities. The project is in an ACP 50 area. One of the priorities identified was road safety for pedestrians and bicyclists. The approved Plan (Map T-3) includes the project segment of Minnehaha Avenue as a future bikeway.

As the project develops, engagement activities will include all equity populations, specifically low-income housing residents and older adults near the project. As shown on the Equity Populations and Destinations map, this will include the following equity populations in census tracts within ½ mile of the project:

- The Cornerstone 754 Payne Avenue - low-income

- The Cambric 720 7th Street - low-income

- Labor Plaza 500 Tedesco Street - low-income and seniors

- Lafayette Plaza 619 Lafayette Road - low-income and disabled

- Phalen Senior Lofts 635 Phalen Boulevard - disabled and seniors

- Nova SP 848 Payne Avenue - low-income

- East Side Commons 593 Sims Avenue - low-

income

- Edgerton Hi-rise 1000 Edgerton Street - low-income

- Variety of Schools and Childcare - youth

(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.

Response:

According to 2019 ACS population area data, approximately 65 percent identifies as BIPOC, 27 percent has an income below the poverty threshold, and 38 percent is under age 18 or over age 65. The project is also located in an area of concentrated poverty. The project benefits to equity populations in the area is summarized below (see Equity Populations and Destinations map).

Bicycle and Pedestrian Safety - Minnehaha Avenue provides a 10-foot wide deteriorating sidewalk that is littered with obstructions, making it challenging for bicyclists, pedestrians, and people with disabilities. In the past 10 years there have been 10 bicycle/vehicle or pedestrian/vehicle injury crashes within the corridor. Hope Community Academy is a K-9 school located on the project corridor, that focuses on the Hmong population and culture. The multimodal improvements provide a safer route for students who walk or bike to/from school.

The project provides on-street bike lanes and reconstructed sidewalk with a landscaped median to better separate pedestrian traffic. New Accessible Pedestrian Signals (APS), high visibility crosswalk markings, curb extensions, and countdown timers will be installed at the Payne Avenue and Arcade Street intersections to further improve bicycle/pedestrian safety. Curb extensions and pedestrian ramps will also be installed at the unsignalized intersections at Stroh Drive, Hope Street and Weide Street.

The project reduces the number of through lanes from four to two, eliminating the double lane threat where a stopped vehicle can block the view of a pedestrian from vehicles in the other lane. Lane reductions also decrease the crossing distance and roadway speeds, benefitting bicyclists and

pedestrians.

Access - The on-street bike lanes and reconstructed sidewalk provides access improvements for low-income and senior housing residents near Minnehaha Avenue, such as the Cornerstone to various destinations in the area.

The project improves access for equity populations relying on public transit as an alternative mode of transportation. The sidewalk will provide an improved connection to transit routes along Minnehaha Avenue, Payne Avenue, and 7th Street.

New Modal Option and Public Health Benefits - The on-street bike lanes provide a new transportation option for equity populations with limited access to a car, while encouraging biking as a recreational activity and improving the health for all underserved communities.

There will be construction activities along Minnehaha Avenue that will directly impact the traveling public, nearby residents and businesses. However, project construction will incorporate proper noise, dust, traffic management mitigation, access management and planned detour routes to address the needs of all stakeholders.

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

Measure C: Affordable Housing Access

Describe any affordable housing developmentsexisting, under construction, or plannedwithin 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:

As shown on the attached "Socio-Economic" map, there are 1,227 subsidized housing units in the census tracts within ½ mile of the project. The attached Equity Populations and Destinations map shows how the Minnehaha Avenue project connects affordable housing residents to destinations and alternative modes of travel.

- The Cambric 720 7th Street (113 units)

- The Cornerstone 754 Payne Avenue (12 units)

- Labor Plaza 500 Tedesco Street (67 units)

- Lafayette Plaza 619 Lafayette Road (36 units)

- Phalen Senior Lofts 635 Phalen Boulevard (73 units)

- Nova SP 848 Payne Avenue (99 units)

- East Side Commons 593 Sims Avenue (51 units)

- Edgerton Hi-Rise 1000 Edgerton Street (221 units)

The on-street bike lanes and reconstructed sidewalk provides improved access for residents living in affordable housing such as the Cornerstone and Peaceful Living to key destinations in the area. The project includes multimodal improvements for these residents of affordable housing that use bicycling and walking as their mode of transportation for short trips to the neighborhood store, school, church or health services. This project will reallocate space in the corridor to improve accommodations for people biking and walking with the addition of boulevard space (to provide separation from the roadway), lighting (to promote user comfort and safety), and

proven countermeasures such as dedicated bike lanes (to promote safety along and across the corridor).The project area is located in a RBTN Tier 1 Corridor so the dedicated bike lanes will provide a new modal option and improve connection to important community destinations.

The project will also improve connections for affordable housing residents relying on public transit as an alternative mode of transportation to/from their job destinations in downtown St. Paul or Minneapolis. The on-street bike lanes and reconstructed sidewalks provide a direct connection to existing transit stops on Payne Avenue, Arcade Street and 7th Street. Route 61 connects downtown St. Paul to downtown Minneapolis, traveling along 7th Street and Payne Avenue, crossing the project segment of Minnehaha Avenue.

There are several benefits of converting four-lane roadways to three-lane roadways, including safety, operations, multimodal, and quality of life benefits. Slower traffic and efficient roadway operations along Minnehaha Avenue can improve the comfort for all travel modes. Adding dedicated bike lanes and improved sidewalk space to encourage these modes, adds quality of life benefits for these users in the community, including the low-income residents living in the project area.

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

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:	Yes
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.	1649887439522_MinnehahaSocioMap.pdf

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1987	0.5	993.5	1987.0
	1	**994**	**1987**

Total Project Length

Total Project Length (as entered in "Project Information" form)	0.5

Average Construction Year

Weighted Year	1987

Total Segment Length (Miles)

Total Segment Length	0.5

Measure B: Geometric, Structural, or Infrastructure Improvements

Improved roadway to better accommodate freight movements:	Yes

Response:

Freight movements along the corridor will be greatly improved with the reconstruction of the roadway pavement to handle heavier loads and ensure appropriate turning radii at the intersection corners. The reduction of through lanes from four to two will improve the traffic flow along Minnehaha Avenue, lowering vehicle speeds and speed differentials. This will provide safer travel for trucks accessing industrial businesses in the area. In addition, providing designated turn lanes and associated signal phasing will improve the overall intersection safety for all motorized vehicles by removing turning traffic from vehicles traveling through the intersection.

(Limit 700 characters; approximately 100 words)

Improved clear zones or sight lines:

Yes

Response:

Improvements will be made to improve clear zones and sight lines:

- The lane reduction from four to two through lanes will eliminate the double lane threat where a stopped vehicle can block the view of a pedestrian from vehicles in the other lane. Lane reductions can also improve the sight distances for left-turning vehicles.

- Curb extensions will expand sight lines at intersections.

- Improvements will be implemented on cross streets and along Minnehaha Avenue to increase intersection visibility of pedestrians and bicyclists.

- Upgraded street and pedestrian scale lighting will improve night visibility and safety via CPTED (Crime Prevention Through Environmental Design) principles.

(Limit 700 characters; approximately 100 words)

Improved roadway geometrics:

Yes

Response:

Currently, Minnehaha Avenue is a four-lane undivided roadway with lack of turn lanes at key intersections. The project provides improved roadway geometrics to safely accommodate vehicular traffic in two through lanes with turn lanes at Payne Avenue and Arcade Street. The reconstructed roadway will ensure appropriate turning radius and turn lane storage lengths. In addition, a two-way center left-turn lane will be installed between Arcade Street and E 7th Street to safely accommodate left-turning traffic. With the reduction of through lanes, the remaining pavement width will be re-allocated to on-road bike lanes on both sides of the road.

(Limit 700 characters; approximately 100 words)

Access management enhancements:

Yes

Response:

The project will reduce the number of through lanes from four to two lanes. This lane reduction will improve the safety at mid-block access points along Minnehaha Avenue since turning vehicles have one less lane to cross. Eliminating parking on one side of the street will also eliminate parking maneuver conflicts. During final design, all driveways will be reviewed and duplicative driveways will be eliminated.

(Limit 700 characters; approximately 100 words)

Vertical/horizontal alignment improvements:

Yes

Response:

The existing vertical alignment along Minnehaha Avenue is relatively flat. However, the reconstruction of the roadway provides the opportunity to review and improve any sightlines at all key intersections.

(Limit 700 characters; approximately 100 words)

Improved stormwater mitigation:

Yes

Response:

Best practices stormwater treatments will be used for the Minnehaha Avenue reconstruction project in accordance with local watershed standards.

(Limit 700 characters; approximately 100 words)

Signals/lighting upgrades:

Yes

Response:

Best practices stormwater treatments will be used for the Minnehaha Avenue reconstruction project in accordance with local watershed standards.

(Limit 700 characters; approximately 100 words)

Other Improvements

Yes

The corridor will be designed based on the City's Streets Design Manual to prioritize the needs of the most vulnerable users and support the City's commitment to the complete streets policies.

Response:

Other improvements include ADA compliant ramps and sidewalks (free of obstructions). In addition, on-street dedicated bicycle lanes will be installed on each side of the roadway.

(Limit 700 characters; approximately 100 words)

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/ Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
10.0	10.0	0	1389	1389	0	0	N/A	1649855511642_Minnehaha Traffic Analysis.pdf
13.0	16.0	-3	1702	1702	-5106	-5106	N/A	1649855549942_Minnehaha Traffic Analysis.pdf

21.0	21.0	0	1665	1665	0	0	N/A	1649855582930_Minnehaha Traffic Analysis.pdf
						-5106		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	-5106
Total Peak Hour Delay Reduced	-5106

Measure B:Roadway projects that do not include new roadway segments or railroad grade-separation elements

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
6.0	6.13	-0.13
6	**6**	**0**

Total

Total Emissions Reduced:	-0.13
Upload Synchro Report	1649855682718_Minnehaha Traffic Analysis.pdf

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

Measure B: Roadway projects that are constructing new roadway segments, but do not include railroad grade-separation elements (for Roadway Expansion applications only):

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0	**0**	**0**

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0

Upload Synchro Report

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

Measure B:Roadway projects that include railroad grade-separation elements

Cruise speed in miles per hour without the project:	0
Vehicle miles traveled without the project:	0
Total delay in hours without the project:	0
Total stops in vehicles per hour without the project:	0
Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons (F1)	0
Fuel consumption in gallons (F2)	0
Fuel consumption in gallons (F3)	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	

Measure A: Roadway Projects that do not Include Railroad Grade-Separation Elements

Crash Modification Factor Used:	Used a CMF for a 4 to 3 lane conversion and the installation of bike lanes.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:	This CMF directly relates to the proposed changes for the Minnehaha Avenue reconstruction project. We utilized the most applicable CMF for specific crash types when available. This provided the most accurate reduction calculations.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio	$7,373,510.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	0
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	18
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	0
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	12
Worksheet Attachment	1649887874647_Minnehaha Crash Analysis.pdf

Please upload attachment in PDF form.

Roadway projects that include railroad grade-separation elements:

Current AADT volume:	0
Average daily trains:	0
Crash Risk Exposure eliminated:	0

Measure A: Pedestrian Safety

Determine if these measures do not apply to your project. *Does the project match either of the following descriptions?*
If either of the items are checked yes, then ***score for entire pedestrian safety measure is zero****. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings.	No
Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesnt also add pedestrian crossings and sidewalk or sidepath on one or both sides).	No

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements

To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.

Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.

1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.

Treatments and countermeasures should be well-matched to the roadways context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

The project will address the safety needs of pedestrians crossing the Payne Avenue and Arcade Street signalized intersections. At these intersections, improvements will include safety strategies identified in MnDOT's Best Practices for Pedestrians/Bicycle Safety, such as ADA compliant crosswalks, lighting, traffic signals, and curb ramps. These improvements are important in supporting safe and reliable crossing for all pedestrian users of all abilities to places of employment, shopping, healthcare, and other essential services and activities.

Response:

According to FHWA, lane reductions can improve safety, calm traffic, provide better mobility and access for all road users, and enhance overall quality of life. FHWA notes that reducing lanes from four to three has a 19 to 47 percent reduction in total crashes. According to PEDSAFE, lane reductions decrease the crossing distance and reduce vehicle speeds. Project improvements include the reduction from four to two through lanes of travel. In addition to the two signalized intersections, there are three additional unsignalized intersections along the project corridor. The lane reduction will improve the comfort and safety for pedestrians crossing Minnehaha Avenue at all crossings - signalized, unsignalized and mid-block locations.

The project will include curb bump outs and pedestrian ramps at the unsignalized intersections of Stroh Drive, Hope Street and Weide Street. At the Stroh Drive and Weide Street intersections, the bump outs will extend the length of the T-intersection to prevent on-street parking within the intersection. According to PEDSAFE, curb bump outs improve pedestrian safety by reducing the crossing distance, reducing the time that pedestrians are in the street, visually and physically

narrowing the roadway, and improving the ability of pedestrians and motorists to see each other. MnDOT also recommends the incorporation of curb extensions as a best practice for increasing pedestrian/bicycle safety.

According to PEDSAFE, designing streets for bicycle use helps create a more predictable traffic environment by reducing conflicts between all modes of travel. Dedicated bicycle facilities (e.g., bicycle lanes) on the roadway also help provide a buffer between pedestrians and motor vehicle traffic, encourage lower motor vehicle speeds, and reduce pedestrian exposure to motor vehicles at crossings.

Crosswalk visibility enhancements will be included with upgraded lighting, signing, pavement markings and high-visibility continental crosswalk markings. Each of these items are proven safety countermeasures according to FHWA. FHWA notes that high-visibility crosswalks can reduce pedestrian injury crashes up to 40 percent and intersection lighting can reduce pedestrian crashes up to 42 percent.

(Limit 2,800 characters; approximately 400 words)

Is the distance in between signalized intersections increasing (e.g., removing a signal)?

Select one: No

If yes, describe what measures are being used to fill the gap between protected crossing opportunities for pedestrians (e.g., adding High-Intensity Activated Crosswalk beacons to help motorists yield and help pedestrians find a suitable gap for crossing, turning signal into a roundabout to slow motorist speed, etc.).

Response:

(Limit 1,400 characters; approximately 200 words)

Will your design increase the crossing distance or crossing time across any leg of an intersection? (e.g., by adding turn or through lanes, widening lanes, using a multi-phase crossing, prohibiting crossing on any leg of an intersection, pedestrian bridge requiring length detour, etc.). This does not include any increases to crossing distances solely due to the addition of bike lanes (i.e., no other through or turn lanes being added or widened).

Select one: No

If yes,
How many intersections will likely be affected?

Response:

Describe what measures are being used to reduce exposure and delay for pedestrians (e.g., median crossing islands, curb bulb-outs, etc.)

Response:

(Limit 1,400 characters; approximately 200 words)

If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesnt require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response:

(Limit 1,400 characters; approximately 200 words)

If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).

Response:

(Limit 1,400 characters; approximately 200 words)

2. Describe how motorist speed will be managed in the project design, both for through traffic and turning movements. *Describe any project-related factors that may affect speed directly or indirectly, even if speed is not the intended outcome (e.g., wider lanes and turning radii to facilitate freight movements, adding turn lanes to alleviate peak hour congestion, etc.). Note any strategies or treatments being considered that are intended to help motorists drive slower (e.g., visual narrowing, narrow lanes, truck aprons to mitigate wide turning radii, etc.) or protect pedestrians if increasing motorist speed (e.g., buffers or other separation from moving vehicles, crossing treatments appropriate for higher speed roadways, etc.).*

The project will reduce the number of travel lanes from four to two with the remaining pavement width re-allocated to on-street bike lanes. Traffic calming measures, including lane reductions, reduce vehicle speeds and speed differentials. With one through lane in each direction, motorists are forced to travel the speed of the slowest vehicle, which results in the reduction of overall speeds.

Response:

The project will also include curb bump outs and pedestrian ramps at the unsignalized intersections of Stroh Drive, Hope Street and Weide Street. At the Stroh Drive and Weide Street intersections, the bump outs will extend the length of the T-intersection to prevent on-street parking within the intersection. Curb bump outs are another traffic calming measure that visually and physically narrows the roadway, resulting in an overall decrease of roadway speeds.

(Limit 2,800 characters; approximately 400 words)

If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?

Response:	The posted speed limit on Minnehaha Avenue is 25 mph. The project will not change the posted speed limit.

(Limit 1,400 characters; approximately 200 words)

SUB-MEASURE 2: Existing Location-Based Pedestrian Safety Risk Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following factors are present. Applicants receive more points if more risk factors are present.

Existing road configuration is a One-way, 3+ through lanes or	
Existing road configuration is a Two-way, 4+ through lanes	Yes
Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more	
Existing road has AADT of greater than 15,000 vehicles per day	
List the AADT	

SUB-MEASURE 3: Existing Location-Based Pedestrian Safety Exposure Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following existing location exposure factors are present. Applicants receive more points if more risk factors are present.

Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes. If service was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 service for this item.)	Yes
Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays. If service frequency was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 frequency for this item.)	Yes
Existing road is within 500 of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)	Yes

If checked, please describe:

The Minnehaha Avenue project corridor provides a variety of diverse commercial destinations for the community residents to experience. As shown in the attached Equity Populations and Destinations map there are numerous shopping and dining destinations within 500 feet of the project that represent the unique Hispanic businesses. For instance, along 7th Street, southwest of Minnehaha Avenue there is La Cabana Restaurant, Nunez Fashion and Gift Shop, El Guanaco Bakery Y Café, Taqueria Los Paisanos Restaurant, La Michoacana Purepecha (ice cream), and Martha's Food Garage (Mexican). Other unique restaurants on 7th Street include Arirang Korea Restaurant and Manana Salvadorian Restaurant. Saint Paul Brewing, M&H Gas Station and Convenience Store, L&T Fashion Clothing Store, Storehouse Grocers, Claudias Salon, and Karibu Grocery & Deli are other destinations within 500 feet of Minnehaha Avenue.

(Limit 1,400 characters; approximately 200 words)

Existing road is within 500 of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)

If checked, please describe:

As shown in the attached Equity Populations and Destinations map, there are known pedestrian generators within 500 feet of the project including Hope Community Academy, New Hope Baptist Church, and Amazing Grace MN.

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The project will improve the travel experience, safety, and security for people walking, biking, and using transit, while also addressing the safe integration of these modes. The City's Complete Streets Policy will guide the design of this project, redistributing space within the right-of-way to the most vulnerable users: people walking, biking, and using transit. The project will positively affect the multimodal system as described below.

The project is in an RBTN Tier 1 Corridor and includes on-street bike lanes, reconstruction of deteriorated sidewalks and non-compliant curb ramps along Minnehaha Avenue. All intersections will include ADA compliant curb ramps and high visibility continental crosswalk markings to further enhance pedestrian and bicycle safety. A landscaped median between the sidewalk and on-street bike lanes will provide a more comfortable pedestrian space along the corridor.

In the past 10 years there have been 10 bicycle/vehicle or pedestrian/vehicle injury crashes within the corridor. The project also includes new Accessible Pedestrian Signals (APS), curb extensions, and countdown timers at the Payne Avenue and Arcade Street intersections. Curb extensions and pedestrian ramps will also be installed at the unsignalized intersections of Stroh Drive, Hope Street and Weide Street. These imrpvoements will address the number of bicycle and pedestrian related crashes that have occurred along the project corridor. Curb bump outs improve pedestrian safety by reducing the crossing distance, reducing the time that pedestrians are in the street, visually and physically narrowing the roadway, and improving the ability of pedestrians and motorists to see each other.

The reconstruction project will reduce the number of through lanes from four to two, eliminating the double lane threat where a stopped vehicle can block the view of a pedestrian from vehicles in the other lane. Lane reductions also decrease the crossing distance and roadway speeds, benefitting bicyclists, pedestrians, and transit users.

The project will enhance pedestrian/bicycle access to Metro Transit routes 64, 54, 61, and 74. Route 64 offers high-frequency weekday service and service every half hour on weekends along Payne Avenue connecting downtown St. Paul with the Maplewood Mall Transit Center. Route 54 offers high-frequency weekday service along Arcade Street and connects the Minneapolis/St. Paul International Airport with downtown St. Paul, also connecting to the Blue Line LRT. Route 61 offer service along Arcade Street and connects downtown Minneapolis and downtown St. Paul, also connecting to the A Line BRT. Route 74 offers service along 7th Street and connects St. Paul with Maplewood and Oakdale, also connecting to the Blue Line LRT and A Line BRT.

(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

Measure A: Risk Assessment - Construction Projects

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 related to a larger planning effort.

Yes

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:

- Community planning efforts, starting with the St. Paul Bike Plan public hearing conducted in December 2014 - summary of the meeting at www.stpaul.gov/bikeplan.

- In 2020, the Ramsey County 4 to 3 Lane Conversion Study was completed. The City of St. Paul was represented on the Technical Advisory Committee (TAC) and participated in four TAC meetings from October 2019 to March 2020. A stakeholder outreach meeting with the City of St. Paul staff occurred in April 2020. Minnehaha Avenue was one of 22 different roadway segments to determine whether a lane reduction would have a positive impact.

- Prior to creating the draft 2040 Comprehensive Plan, the City conducted an extensive engagement process to learn about the community's priorities. Staff talked to nearly 2,300 people, with a focus on reaching diverse communities. One of the nine priorities that was identified was "road safety for pedestrians and bicyclists". Bicycle and pedestrian facility improvements and safety were frequently mentioned. The approved Plan (Map T-3) includes the project segment of Minnehaha Avenue as a future bikeway.

(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, stand-alone 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 1649887987201_Minnehaha_ConceptLayout.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	Yes
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	
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.	
0%	

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$6,530,800.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$6,530,800.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
Minnehaha Project Summary.pdf	1-page Project Summary	336 KB
MinnehahaCongestionMap.pdf	Met Council Congestion Map	5.8 MB
Minnehaha_Existing photos.pdf	Existing Photos	797 KB
Minnehaha_LOS_City.pdf	City Resolution	96 KB
Minnehaha_LOS_MnDOT.pdf	MnDOT Letter of Support	262 KB

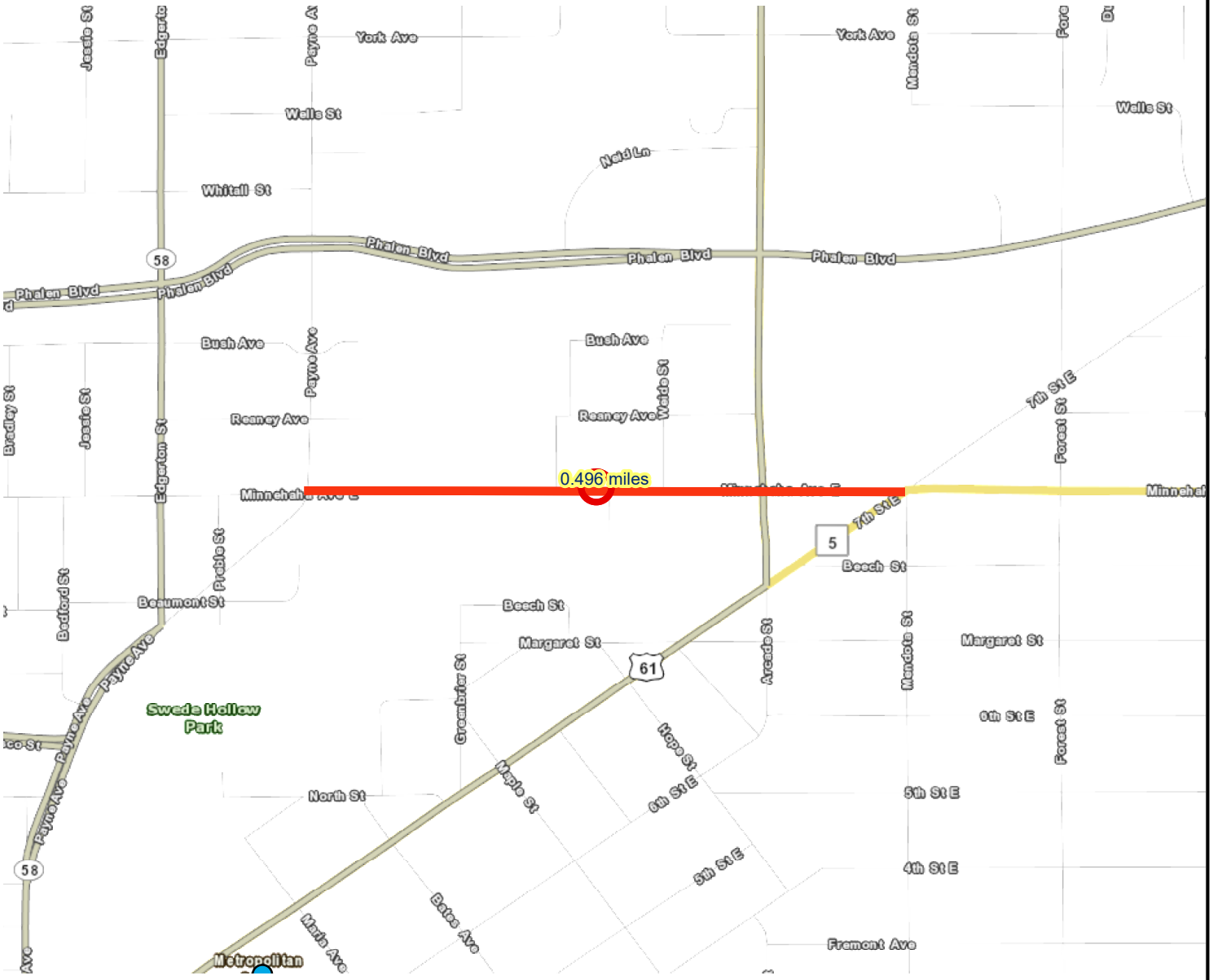
Regional Economy

Roadway Reconstruction/Modernization Project: Minnehaha Avenue | Map ID: 1648302012521

Results

WITHIN ONE MI of project:
Postsecondary Students: 7552

Totals by City:
St. Paul
Population: 35079
Employment: 32304
Mfg and Dist Employment: 1461



Project Points
Project
Postsecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.075 0.15 0.3 0.45 0.6 Miles

Created: 3/26/2022
LandscapeRSA5

For complete disclaimer of accuracy, please visit
http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

Transit Connections

Roadway Reconstruction/Modernization Project: Minnehaha Avenue | Map ID: 1648302012521

Results

Transit with a Direct Connection to project:
54 61 64 74
*Randolph/East 7th

**indicates Planned Alignments*

Transit Market areas: 1

Project Points
Project
Project Area
Active Stop
Arterial Bus Rapid Transit

Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Arterial Bus Rapid Transit

Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Transit Routes

Arterial Bus Rapid Transit
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Modern Streetcar

Undetermined
Arterial Bus Rapid Transit
Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit

Light Rail
Modern Streetcar
Undetermined

0 0.075 0.15 0.3 0.45 0.6 Miles

Created: 3/26/2022
LandscapeRSA3

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METROPOLITAN COUNCIL

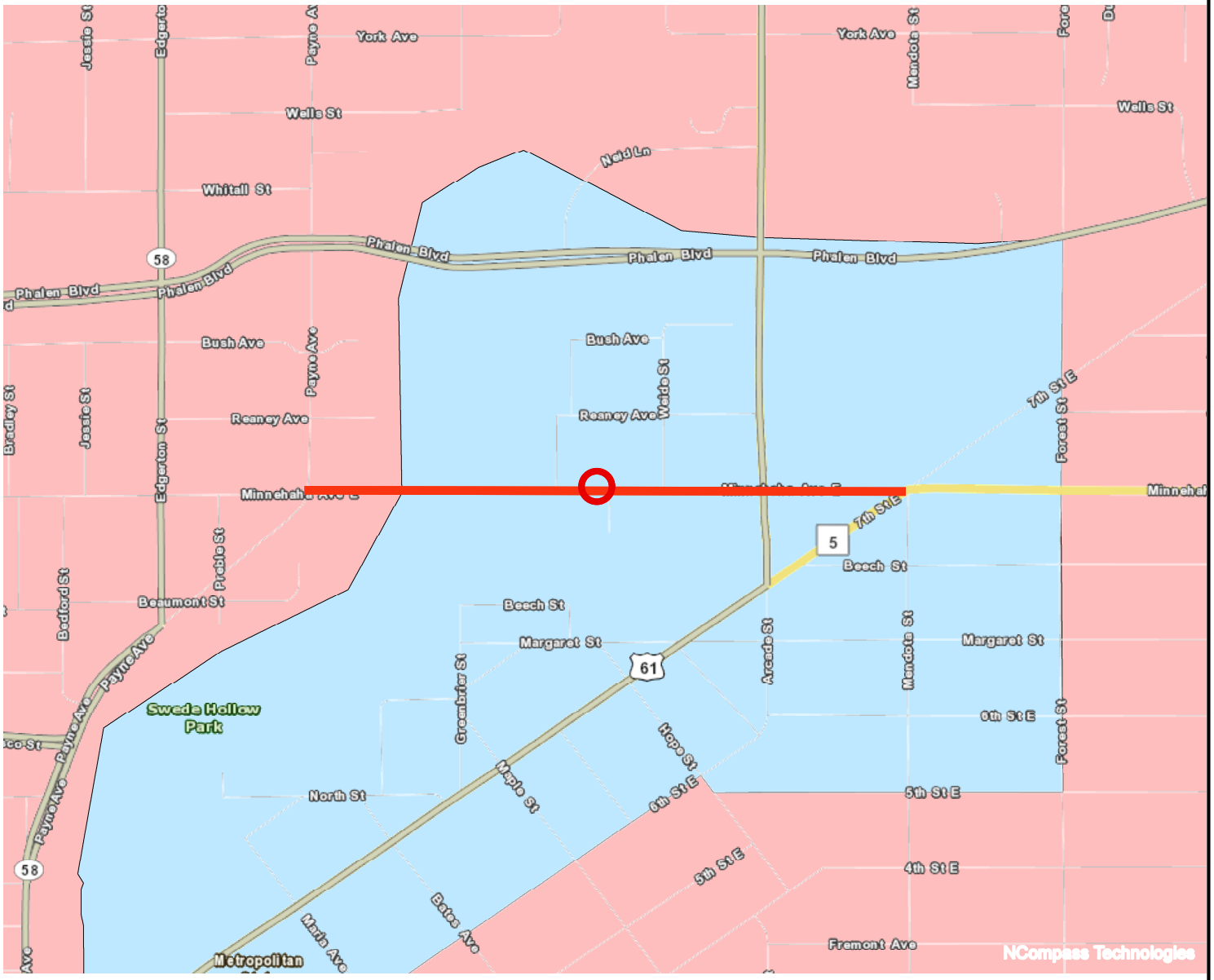
Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: Minnehaha Avenue | Map ID: 1648302012521

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 1227

Project located IN an Area of Concentrated Poverty.



Points
Lines
Area of Concentrated Poverty
Regional Environmental Justice Area

0 0.075 0.15 0.3 0.45 0.6 Miles

Created: 3/26/2022
LandscapeRSA2

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METROPOLITAN COUNCIL

Minnehaha Avenue Reconstruction (Payne Ave to E 7th St)

Equity Populations and Destinations

- Proposed Project
- Census Tracts
- 1/2 Mile Project Boundary
- Place of Worship
- Retail / Grocery
- School / Daycare / Library
- Senior Housing
- Medical / Social Services
- Restaurant
- Affordable Housing

Edgerton Hi-Rise
YMCA Early Childhood Learning Center
John A Johnson Elementary School
Bymore Supermercado
East Side Commons
Beacon of Hope Church
Phalen Senior Lofts
Nova SP
Moler Barber School
Gillette Children's St. Paul Phalen Clinic
Lifetime Specialties Healthcare
M Health Fairview EMS
East Side Family Clinic
Peaceful Living
The Cornerstone
New Hope Baptist Church
Hope Community Academy
Storehouse Grocers
Dellwood Gardens & Adult Day Health Memory Loss
St. John Lutheran Church
La Palma Supermercado
Iglesia De Dios Pentecostal
Faith City Church
Minnesota Emergency Disability Services
Swede Hollow Park
Always Best Care Senior Services
Sacred Heart Church
Swede Hollow Head Start Program
Lafayette Plaza
Labor Plaza
STEP Academy
The Cambric
Mississippi Market Natural Foods
The Restoring Place People Inc
Center for Academic Excellence
Urgent Care for Adult Mental Health
Metro State University

Lawson Ave E
Jenks Ave E
Case Ave E
York Ave
Wells St
Whitall St
Neid Ln
Phalen Blvd
7th St E
Ross Ave
Bush Ave
Reaney Ave
Minnehaha Ave E
Margaret St
6th St E
5th St E
4th St E
Fremont Ave
3rd St E
Conway St
Euclid St
Wilson Ave
Wakefield Ave
Hudson Rd
Kellogg Blvd E
Cayuga St
Phalen Blvd
Tedesco St
North St
Hopkins St
Pettit St
Kenny Rd
Grove St
University Ave E
Arch St E
Pennsylvania Ave E
Lafayette Park
Cayuga Park
Swede Hollow Park

Mississippi St
Westminster St
Bradley St
Desoto St
Burr St
Jessie St
Edgerton St
Greenbrier St
Walsh St
Wells St
Mendota St
Cypress St N
Duchess St
Forest St N
Russell St N
Frank St N
Duluth St N
Earl St N
Atlantic St N
Arkwright St
Clark St
Agate St
Payne Ave
Maple St
Hancock St
Griffith St
Johnson Pkwy
Gotzian St
Maria Ave
Bates Ave
Surrey Ave
Plum St
Olive St
Pine St
L'Orient St
Lafayette Rd N
Rivoli St
Mounds Blvd

35E
10
61
5
94

0 0.5 Miles

N

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Minnehaha

1	Minnehaha Ave and Payne Ave		
	Existing Volume	1389	vehicles
	Existing Delay	10	sec/veh
	Existing Total Delay	13890	seconds
	Future Volume	1389	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	13890	seconds
	Total Delay Reduction	0	seconds

2	Minnehaha Ave and Arcade St		
	Existing Volume	1702	vehicles
	Existing Delay	13	sec/veh
	Existing Total Delay	22126	seconds
	Future Volume	1702	vehicles
	Future Delay	16	sec/veh
	Future Total Delay	27232	seconds
	Total Delay Reduction	-5106	seconds

3	Minnehaha Ave and 7th St/Mendota St		
	Existing Volume	1665	vehicles
	Existing Delay	21	sec/veh
	Existing Total Delay	34965	seconds
	Future Volume	1665	vehicles
	Future Delay	21	sec/veh
	Future Total Delay	34965	seconds
	Total Delay Reduction	0	seconds

Total Network Delay Reduction	**-5106**	**seconds**

Emissions

Existing	1	2	3			Total
CO	1.07	1.59	1.54			4.2
NO	0.21	0.31	0.3			0.82
VOC	0.25	0.37	0.36			0.98
				Network Total		6

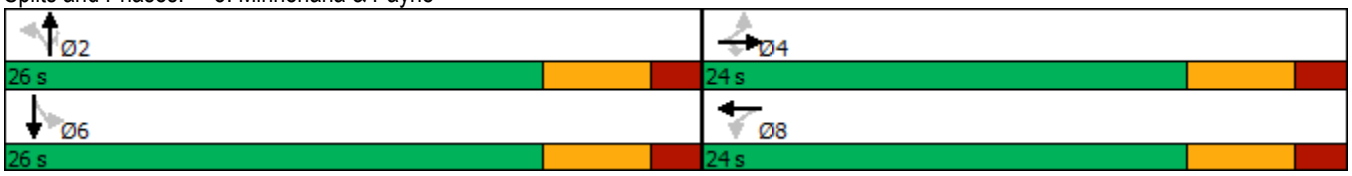
Build	1	2	3			Total
CO	1.07	1.68	1.54			4.29
NO	0.21	0.33	0.3			0.84
VOC	0.25	0.39	0.36			1
				Network Total		6.13

Reduction	**-0.13**

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	34	76	107	45	7	404	142	120	341
Future Volume (vph)	34	76	107	45	7	404	142	120	341
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		14.2	14.2	14.2	17.2	17.2	17.2	17.2	17.2
Actuated g/C Ratio		0.43	0.43	0.43	0.52	0.52	0.52	0.52	0.52
v/c Ratio		0.18	0.21	0.18	0.02	0.45	0.17	0.27	0.42
Control Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
LOS		B	B	A	A	B	A	B	A
Approach Delay		12.3		9.4		8.7			10.0
Approach LOS		B		A		A			B

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 33.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Minnehaha & Payne



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	269	2	173	37	425	170	295
Future Volume (vph)	85	269	2	173	37	425	170	295
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	31.0	31.0	31.0	31.0
Total Split (%)	43.6%	43.6%	43.6%	43.6%	56.4%	56.4%	56.4%	56.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)		12.8		12.8	16.5	16.5	16.5	16.5
Actuated g/C Ratio		0.31		0.31	0.39	0.39	0.39	0.39
v/c Ratio		0.52		0.32	0.10	0.65	0.62	0.50
Control Delay		14.2		8.0	8.9	15.0	20.9	11.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		14.2		8.0	8.9	15.0	20.9	11.8
LOS		B		A	A	B	C	B
Approach Delay		14.2		8.0		14.5		14.8
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 41.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Minnehaha & Arcade

Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NEL	NET	SWL2	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Future Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	Perm	NA	Perm	Perm	NA
Protected Phases		4			8		10		2			6
Permitted Phases	4		8	8		10		2		6	6	
Detector Phase	4	4	8	8	8	10	10	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	36.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	21.9	21.9			21.9		10.4		15.3			15.3
Actuated g/C Ratio	0.38	0.38			0.38		0.18		0.26			0.26
v/c Ratio	0.24	0.57			0.53		0.15		0.68			0.49
Control Delay	18.3	21.4			23.0		0.9		24.8			19.2
Queue Delay	0.0	0.0			0.0		0.0		0.0			0.0
Total Delay	18.3	21.4			23.0		0.9		24.8			19.2
LOS	B	C			C		A		C			B
Approach Delay		20.7			23.0		0.9		24.8			19.2
Approach LOS		C			C		A		C			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 58	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Mendota & Minnehaha & 7th St

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.59
NOx Emissions (kg)	0.31
VOC Emissions (kg)	0.37

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Future Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	83	0	116	49	89	8	439	154	130	371	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	368		559	155	282	443	784	664	390	709	63
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	309	1409	1585	1315	595	1081	981	1870	1585	824	1693	151
Grp Volume(v), veh/h	120	0	0	116	0	138	8	439	154	130	0	404
Grp Sat Flow(s),veh/h/ln	1717	0	1585	1315	0	1676	981	1870	1585	824	0	1843
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.5	0.2	6.7	2.3	5.3	0.0	6.1
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.9	0.0	2.5	6.3	6.7	2.3	12.0	0.0	6.1
Prop In Lane	0.31		1.00	1.00		0.64	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	574	0		559	0	438	443	784	664	390	0	772
V/C Ratio(X)	0.21	0.00		0.21	0.00	0.32	0.02	0.56	0.23	0.33	0.00	0.52
Avail Cap(c_a), veh/h	929	0		846	0	804	555	997	845	484	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	11.0	0.0	11.2	10.5	8.3	7.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.6	0.2	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.8	0.0	1.9	0.6	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	0.0	11.1	0.0	11.6	10.5	8.9	7.2	13.3	0.0	8.7
LnGrp LOS	B	A		B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		120	A		254			601			534	
Approach Delay, s/veh		11.1			11.4			8.5			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		15.8		21.7		15.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		18.0		20.0		18.0				
Max Q Clear Time (g_c+I1), s		8.7		3.9		14.0		4.5				
Green Ext Time (p_c), s		2.6		0.5		1.7		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Future Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	292	70	2	188	145	40	462	12	185	321	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	449	108	285	302	233	463	809	21	384	725	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1047	1458	350	1020	979	755	1020	1815	47	920	1625	208
Grp Volume(v), veh/h	92	0	362	2	0	333	40	0	474	185	0	362
Grp Sat Flow(s),veh/h/ln	1047	0	1807	1020	0	1734	1020	0	1862	920	0	1833
Q Serve(g_s), s	4.0	0.0	8.4	0.1	0.0	8.0	1.4	0.0	9.2	9.1	0.0	6.6
Cycle Q Clear(g_c), s	12.0	0.0	8.4	8.5	0.0	8.0	8.0	0.0	9.2	18.4	0.0	6.6
Prop In Lane	1.00		0.19	1.00		0.44	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	298	0	557	285	0	534	463	0	830	384	0	817
V/C Ratio(X)	0.31	0.00	0.65	0.01	0.00	0.62	0.09	0.00	0.57	0.48	0.00	0.44
Avail Cap(c_a), veh/h	362	0	667	347	0	640	532	0	955	445	0	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	14.6	18.3	0.0	14.4	12.1	0.0	10.0	16.9	0.0	9.3
Incr Delay (d2), s/veh	0.6	0.0	1.7	0.0	0.0	1.4	0.1	0.0	0.6	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.2	0.0	0.0	2.9	0.3	0.0	3.1	1.8	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	16.3	18.3	0.0	15.8	12.2	0.0	10.7	17.8	0.0	9.7
LnGrp LOS	C	A	B	B	A	B	B	A	B	B	A	A
Approach Vol, veh/h		454			335			514			547	
Approach Delay, s/veh		17.1			15.8			10.8			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.7		21.0		27.7		21.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		25.0		18.0		25.0		18.0				
Max Q Clear Time (g_c+I1), s		11.2		14.0		20.4		10.5				
Green Ext Time (p_c), s		2.7		1.0		1.4		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

HCM 6th Edition methodology does not support more than 4 approaches.

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Minnehaha

1	Minnehaha Ave and Payne Ave		
	Existing Volume	1389	vehicles
	Existing Delay	10	sec/veh
	Existing Total Delay	13890	seconds
	Future Volume	1389	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	13890	seconds
	Total Delay Reduction	0	seconds

2	Minnehaha Ave and Arcade St		
	Existing Volume	1702	vehicles
	Existing Delay	13	sec/veh
	Existing Total Delay	22126	seconds
	Future Volume	1702	vehicles
	Future Delay	16	sec/veh
	Future Total Delay	27232	seconds
	Total Delay Reduction	-5106	seconds

3	Minnehaha Ave and 7th St/Mendota St		
	Existing Volume	1665	vehicles
	Existing Delay	21	sec/veh
	Existing Total Delay	34965	seconds
	Future Volume	1665	vehicles
	Future Delay	21	sec/veh
	Future Total Delay	34965	seconds
	Total Delay Reduction	0	seconds

Total Network Delay Reduction	**-5106**	**seconds**

Emissions

Existing	1	2	3			Total
CO	1.07	1.59	1.54			4.2
NO	0.21	0.31	0.3			0.82
VOC	0.25	0.37	0.36			0.98
				Network Total		6

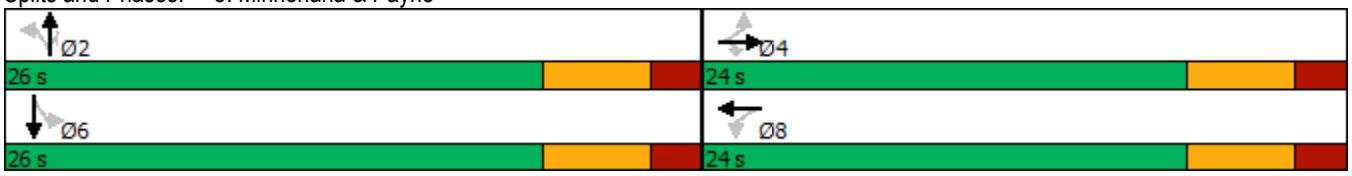
Build	1	2	3			Total
CO	1.07	1.68	1.54			4.29
NO	0.21	0.33	0.3			0.84
VOC	0.25	0.39	0.36			1
				Network Total		6.13

Reduction	**-0.13**

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	34	76	107	45	7	404	142	120	341
Future Volume (vph)	34	76	107	45	7	404	142	120	341
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		14.2	14.2	14.2	17.2	17.2	17.2	17.2	17.2
Actuated g/C Ratio		0.43	0.43	0.43	0.52	0.52	0.52	0.52	0.52
v/c Ratio		0.18	0.21	0.18	0.02	0.45	0.17	0.27	0.42
Control Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
LOS		B	B	A	A	B	A	B	A
Approach Delay		12.3		9.4		8.7			10.0
Approach LOS		B		A		A			B

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 33.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Minnehaha & Payne



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	269	2	173	37	425	170	295
Future Volume (vph)	85	269	2	173	37	425	170	295
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	31.0	31.0	31.0	31.0
Total Split (%)	43.6%	43.6%	43.6%	43.6%	56.4%	56.4%	56.4%	56.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)		12.8		12.8	16.5	16.5	16.5	16.5
Actuated g/C Ratio		0.31		0.31	0.39	0.39	0.39	0.39
v/c Ratio		0.52		0.32	0.10	0.65	0.62	0.50
Control Delay		14.2		8.0	8.9	15.0	20.9	11.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		14.2		8.0	8.9	15.0	20.9	11.8
LOS		B		A	A	B	C	B
Approach Delay		14.2		8.0		14.5		14.8
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 41.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Minnehaha & Arcade

Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NEL	NET	SWL2	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Future Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	Perm	NA	Perm	Perm	NA
Protected Phases		4			8		10		2			6
Permitted Phases	4		8	8		10		2		6	6	
Detector Phase	4	4	8	8	8	10	10	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	36.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	21.9	21.9			21.9		10.4		15.3			15.3
Actuated g/C Ratio	0.38	0.38			0.38		0.18		0.26			0.26
v/c Ratio	0.24	0.57			0.53		0.15		0.68			0.49
Control Delay	18.3	21.4			23.0		0.9		24.8			19.2
Queue Delay	0.0	0.0			0.0		0.0		0.0			0.0
Total Delay	18.3	21.4			23.0		0.9		24.8			19.2
LOS	B	C			C		A		C			B
Approach Delay		20.7			23.0		0.9		24.8			19.2
Approach LOS		C			C		A		C			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 58	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Mendota & Minnehaha & 7th St

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.59
NOx Emissions (kg)	0.31
VOC Emissions (kg)	0.37

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Future Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	83	0	116	49	89	8	439	154	130	371	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	368		559	155	282	443	784	664	390	709	63
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	309	1409	1585	1315	595	1081	981	1870	1585	824	1693	151
Grp Volume(v), veh/h	120	0	0	116	0	138	8	439	154	130	0	404
Grp Sat Flow(s),veh/h/ln	1717	0	1585	1315	0	1676	981	1870	1585	824	0	1843
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.5	0.2	6.7	2.3	5.3	0.0	6.1
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.9	0.0	2.5	6.3	6.7	2.3	12.0	0.0	6.1
Prop In Lane	0.31		1.00	1.00		0.64	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	574	0		559	0	438	443	784	664	390	0	772
V/C Ratio(X)	0.21	0.00		0.21	0.00	0.32	0.02	0.56	0.23	0.33	0.00	0.52
Avail Cap(c_a), veh/h	929	0		846	0	804	555	997	845	484	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	11.0	0.0	11.2	10.5	8.3	7.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.6	0.2	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.8	0.0	1.9	0.6	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	0.0	11.1	0.0	11.6	10.5	8.9	7.2	13.3	0.0	8.7
LnGrp LOS	B	A		B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		120	A		254			601			534	
Approach Delay, s/veh		11.1			11.4			8.5			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		15.8		21.7		15.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		18.0		20.0		18.0				
Max Q Clear Time (g_c+I1), s		8.7		3.9		14.0		4.5				
Green Ext Time (p_c), s		2.6		0.5		1.7		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Future Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	292	70	2	188	145	40	462	12	185	321	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	449	108	285	302	233	463	809	21	384	725	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1047	1458	350	1020	979	755	1020	1815	47	920	1625	208
Grp Volume(v), veh/h	92	0	362	2	0	333	40	0	474	185	0	362
Grp Sat Flow(s),veh/h/ln	1047	0	1807	1020	0	1734	1020	0	1862	920	0	1833
Q Serve(g_s), s	4.0	0.0	8.4	0.1	0.0	8.0	1.4	0.0	9.2	9.1	0.0	6.6
Cycle Q Clear(g_c), s	12.0	0.0	8.4	8.5	0.0	8.0	8.0	0.0	9.2	18.4	0.0	6.6
Prop In Lane	1.00		0.19	1.00		0.44	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	298	0	557	285	0	534	463	0	830	384	0	817
V/C Ratio(X)	0.31	0.00	0.65	0.01	0.00	0.62	0.09	0.00	0.57	0.48	0.00	0.44
Avail Cap(c_a), veh/h	362	0	667	347	0	640	532	0	955	445	0	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	14.6	18.3	0.0	14.4	12.1	0.0	10.0	16.9	0.0	9.3
Incr Delay (d2), s/veh	0.6	0.0	1.7	0.0	0.0	1.4	0.1	0.0	0.6	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.2	0.0	0.0	2.9	0.3	0.0	3.1	1.8	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	16.3	18.3	0.0	15.8	12.2	0.0	10.7	17.8	0.0	9.7
LnGrp LOS	C	A	B	B	A	B	B	A	B	B	A	A
Approach Vol, veh/h		454			335			514			547	
Approach Delay, s/veh		17.1			15.8			10.8			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.7		21.0		27.7		21.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		25.0		18.0		25.0		18.0				
Max Q Clear Time (g_c+I1), s		11.2		14.0		20.4		10.5				
Green Ext Time (p_c), s		2.7		1.0		1.4		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

HCM 6th Edition methodology does not support more than 4 approaches.

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Minnehaha

1	Minnehaha Ave and Payne Ave		
	Existing Volume	1389	vehicles
	Existing Delay	10	sec/veh
	Existing Total Delay	13890	seconds
	Future Volume	1389	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	13890	seconds
	Total Delay Reduction	0	seconds

2	Minnehaha Ave and Arcade St		
	Existing Volume	1702	vehicles
	Existing Delay	13	sec/veh
	Existing Total Delay	22126	seconds
	Future Volume	1702	vehicles
	Future Delay	16	sec/veh
	Future Total Delay	27232	seconds
	Total Delay Reduction	-5106	seconds

3	Minnehaha Ave and 7th St/Mendota St		
	Existing Volume	1665	vehicles
	Existing Delay	21	sec/veh
	Existing Total Delay	34965	seconds
	Future Volume	1665	vehicles
	Future Delay	21	sec/veh
	Future Total Delay	34965	seconds
	Total Delay Reduction	0	seconds

Total Network Delay Reduction	**-5106**	**seconds**

Emissions

Existing	1	2	3			Total
CO	1.07	1.59	1.54			4.2
NO	0.21	0.31	0.3			0.82
VOC	0.25	0.37	0.36			0.98
				Network Total		6

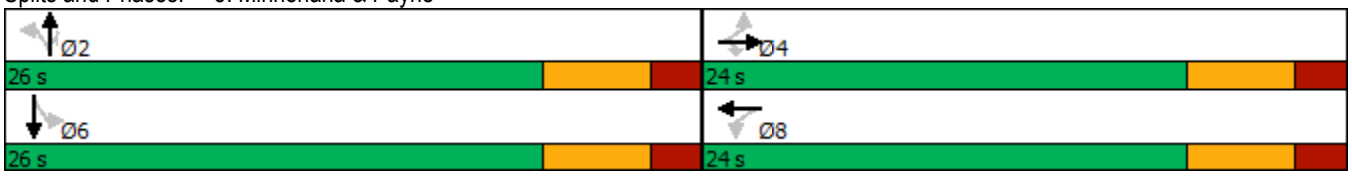
Build	1	2	3			Total
CO	1.07	1.68	1.54			4.29
NO	0.21	0.33	0.3			0.84
VOC	0.25	0.39	0.36			1
				Network Total		6.13

Reduction	**-0.13**

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	34	76	107	45	7	404	142	120	341
Future Volume (vph)	34	76	107	45	7	404	142	120	341
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		14.2	14.2	14.2	17.2	17.2	17.2	17.2	17.2
Actuated g/C Ratio		0.43	0.43	0.43	0.52	0.52	0.52	0.52	0.52
v/c Ratio		0.18	0.21	0.18	0.02	0.45	0.17	0.27	0.42
Control Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
LOS		B	B	A	A	B	A	B	A
Approach Delay		12.3		9.4		8.7			10.0
Approach LOS		B		A		A			B

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 33.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Minnehaha & Payne



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	269	2	173	37	425	170	295
Future Volume (vph)	85	269	2	173	37	425	170	295
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	31.0	31.0	31.0	31.0
Total Split (%)	43.6%	43.6%	43.6%	43.6%	56.4%	56.4%	56.4%	56.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)		12.8		12.8	16.5	16.5	16.5	16.5
Actuated g/C Ratio		0.31		0.31	0.39	0.39	0.39	0.39
v/c Ratio		0.52		0.32	0.10	0.65	0.62	0.50
Control Delay		14.2		8.0	8.9	15.0	20.9	11.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		14.2		8.0	8.9	15.0	20.9	11.8
LOS		B		A	A	B	C	B
Approach Delay		14.2		8.0		14.5		14.8
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 41.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Minnehaha & Arcade

Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NEL	NET	SWL2	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Future Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	Perm	NA	Perm	Perm	NA
Protected Phases		4			8		10		2			6
Permitted Phases	4		8	8		10		2		6	6	
Detector Phase	4	4	8	8	8	10	10	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	36.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	21.9	21.9			21.9		10.4		15.3			15.3
Actuated g/C Ratio	0.38	0.38			0.38		0.18		0.26			0.26
v/c Ratio	0.24	0.57			0.53		0.15		0.68			0.49
Control Delay	18.3	21.4			23.0		0.9		24.8			19.2
Queue Delay	0.0	0.0			0.0		0.0		0.0			0.0
Total Delay	18.3	21.4			23.0		0.9		24.8			19.2
LOS	B	C			C		A		C			B
Approach Delay		20.7			23.0		0.9		24.8			19.2
Approach LOS		C			C		A		C			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 58	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Mendota & Minnehaha & 7th St

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.59
NOx Emissions (kg)	0.31
VOC Emissions (kg)	0.37

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Future Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	83	0	116	49	89	8	439	154	130	371	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	368		559	155	282	443	784	664	390	709	63
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	309	1409	1585	1315	595	1081	981	1870	1585	824	1693	151
Grp Volume(v), veh/h	120	0	0	116	0	138	8	439	154	130	0	404
Grp Sat Flow(s),veh/h/ln	1717	0	1585	1315	0	1676	981	1870	1585	824	0	1843
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.5	0.2	6.7	2.3	5.3	0.0	6.1
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.9	0.0	2.5	6.3	6.7	2.3	12.0	0.0	6.1
Prop In Lane	0.31		1.00	1.00		0.64	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	574	0		559	0	438	443	784	664	390	0	772
V/C Ratio(X)	0.21	0.00		0.21	0.00	0.32	0.02	0.56	0.23	0.33	0.00	0.52
Avail Cap(c_a), veh/h	929	0		846	0	804	555	997	845	484	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	11.0	0.0	11.2	10.5	8.3	7.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.6	0.2	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.8	0.0	1.9	0.6	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	0.0	11.1	0.0	11.6	10.5	8.9	7.2	13.3	0.0	8.7
LnGrp LOS	B	A		B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		120	A		254			601			534	
Approach Delay, s/veh		11.1			11.4			8.5			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		15.8		21.7		15.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		18.0		20.0		18.0				
Max Q Clear Time (g_c+I1), s		8.7		3.9		14.0		4.5				
Green Ext Time (p_c), s		2.6		0.5		1.7		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Future Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	292	70	2	188	145	40	462	12	185	321	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	449	108	285	302	233	463	809	21	384	725	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1047	1458	350	1020	979	755	1020	1815	47	920	1625	208
Grp Volume(v), veh/h	92	0	362	2	0	333	40	0	474	185	0	362
Grp Sat Flow(s),veh/h/ln	1047	0	1807	1020	0	1734	1020	0	1862	920	0	1833
Q Serve(g_s), s	4.0	0.0	8.4	0.1	0.0	8.0	1.4	0.0	9.2	9.1	0.0	6.6
Cycle Q Clear(g_c), s	12.0	0.0	8.4	8.5	0.0	8.0	8.0	0.0	9.2	18.4	0.0	6.6
Prop In Lane	1.00		0.19	1.00		0.44	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	298	0	557	285	0	534	463	0	830	384	0	817
V/C Ratio(X)	0.31	0.00	0.65	0.01	0.00	0.62	0.09	0.00	0.57	0.48	0.00	0.44
Avail Cap(c_a), veh/h	362	0	667	347	0	640	532	0	955	445	0	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	14.6	18.3	0.0	14.4	12.1	0.0	10.0	16.9	0.0	9.3
Incr Delay (d2), s/veh	0.6	0.0	1.7	0.0	0.0	1.4	0.1	0.0	0.6	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.2	0.0	0.0	2.9	0.3	0.0	3.1	1.8	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	16.3	18.3	0.0	15.8	12.2	0.0	10.7	17.8	0.0	9.7
LnGrp LOS	C	A	B	B	A	B	B	A	B	B	A	A
Approach Vol, veh/h		454			335			514			547	
Approach Delay, s/veh		17.1			15.8			10.8			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.7		21.0		27.7		21.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		25.0		18.0		25.0		18.0				
Max Q Clear Time (g_c+I1), s		11.2		14.0		20.4		10.5				
Green Ext Time (p_c), s		2.7		1.0		1.4		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

HCM 6th Edition methodology does not support more than 4 approaches.

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Minnehaha

1	Minnehaha Ave and Payne Ave		
	Existing Volume	1389	vehicles
	Existing Delay	10	sec/veh
	Existing Total Delay	13890	seconds
	Future Volume	1389	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	13890	seconds
	Total Delay Reduction	0	seconds

2	Minnehaha Ave and Arcade St		
	Existing Volume	1702	vehicles
	Existing Delay	13	sec/veh
	Existing Total Delay	22126	seconds
	Future Volume	1702	vehicles
	Future Delay	16	sec/veh
	Future Total Delay	27232	seconds
	Total Delay Reduction	-5106	seconds

3	Minnehaha Ave and 7th St/Mendota St		
	Existing Volume	1665	vehicles
	Existing Delay	21	sec/veh
	Existing Total Delay	34965	seconds
	Future Volume	1665	vehicles
	Future Delay	21	sec/veh
	Future Total Delay	34965	seconds
	Total Delay Reduction	0	seconds

Total Network Delay Reduction	**-5106**	**seconds**

Emissions

Existing	1	2	3			Total
CO	1.07	1.59	1.54			4.2
NO	0.21	0.31	0.3			0.82
VOC	0.25	0.37	0.36			0.98
				Network Total		6

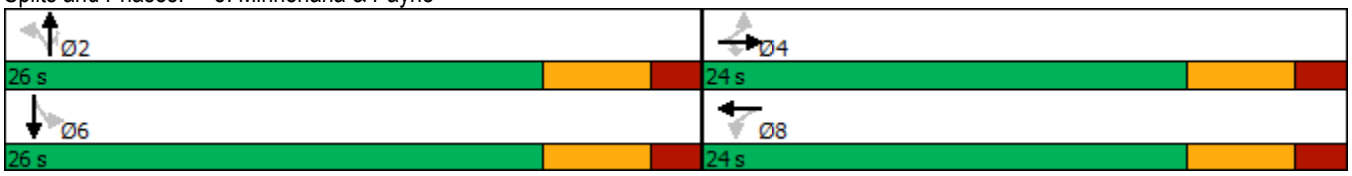
Build	1	2	3			Total
CO	1.07	1.68	1.54			4.29
NO	0.21	0.33	0.3			0.84
VOC	0.25	0.39	0.36			1
				Network Total		6.13

Reduction	**-0.13**

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	34	76	107	45	7	404	142	120	341
Future Volume (vph)	34	76	107	45	7	404	142	120	341
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)		14.2	14.2	14.2	17.2	17.2	17.2	17.2	17.2
Actuated g/C Ratio		0.43	0.43	0.43	0.52	0.52	0.52	0.52	0.52
v/c Ratio		0.18	0.21	0.18	0.02	0.45	0.17	0.27	0.42
Control Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		12.3	13.0	6.3	7.3	10.5	3.3	10.3	9.9
LOS		B	B	A	A	B	A	B	A
Approach Delay		12.3		9.4		8.7			10.0
Approach LOS		B		A		A			B

Intersection Summary	
Cycle Length: 50	
Actuated Cycle Length: 33.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Minnehaha & Payne



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	269	2	173	37	425	170	295
Future Volume (vph)	85	269	2	173	37	425	170	295
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	31.0	31.0	31.0	31.0
Total Split (%)	43.6%	43.6%	43.6%	43.6%	56.4%	56.4%	56.4%	56.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)		12.8		12.8	16.5	16.5	16.5	16.5
Actuated g/C Ratio		0.31		0.31	0.39	0.39	0.39	0.39
v/c Ratio		0.52		0.32	0.10	0.65	0.62	0.50
Control Delay		14.2		8.0	8.9	15.0	20.9	11.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		14.2		8.0	8.9	15.0	20.9	11.8
LOS		B		A	A	B	C	B
Approach Delay		14.2		8.0		14.5		14.8
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 41.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 73.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Minnehaha & Arcade

Lane Group	EBL	EBT	WBL2	WBL	WBT	NBL2	NBL	NEL	NET	SWL2	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Future Volume (vph)	96	328	5	67	155	4	33	4	399	5	6	294
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	Perm	NA	Perm	Perm	NA
Protected Phases		4			8		10		2			6
Permitted Phases	4		8	8		10		2		6	6	
Detector Phase	4	4	8	8	8	10	10	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	36.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			0.0
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	21.9	21.9			21.9		10.4		15.3			15.3
Actuated g/C Ratio	0.38	0.38			0.38		0.18		0.26			0.26
v/c Ratio	0.24	0.57			0.53		0.15		0.68			0.49
Control Delay	18.3	21.4			23.0		0.9		24.8			19.2
Queue Delay	0.0	0.0			0.0		0.0		0.0			0.0
Total Delay	18.3	21.4			23.0		0.9		24.8			19.2
LOS	B	C			C		A		C			B
Approach Delay		20.7			23.0		0.9		24.8			19.2
Approach LOS		C			C		A		C			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 58	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Mendota & Minnehaha & 7th St

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.59
NOx Emissions (kg)	0.31
VOC Emissions (kg)	0.37

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Future Volume (veh/h)	34	76	0	107	45	82	7	404	142	120	341	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	83	0	116	49	89	8	439	154	130	371	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	368		559	155	282	443	784	664	390	709	63
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.26	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	309	1409	1585	1315	595	1081	981	1870	1585	824	1693	151
Grp Volume(v), veh/h	120	0	0	116	0	138	8	439	154	130	0	404
Grp Sat Flow(s),veh/h/ln	1717	0	1585	1315	0	1676	981	1870	1585	824	0	1843
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.5	0.2	6.7	2.3	5.3	0.0	6.1
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.9	0.0	2.5	6.3	6.7	2.3	12.0	0.0	6.1
Prop In Lane	0.31		1.00	1.00		0.64	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	574	0		559	0	438	443	784	664	390	0	772
V/C Ratio(X)	0.21	0.00		0.21	0.00	0.32	0.02	0.56	0.23	0.33	0.00	0.52
Avail Cap(c_a), veh/h	929	0		846	0	804	555	997	845	484	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	11.0	0.0	11.2	10.5	8.3	7.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.6	0.2	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.8	0.0	1.9	0.6	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	0.0	11.1	0.0	11.6	10.5	8.9	7.2	13.3	0.0	8.7
LnGrp LOS	B	A		B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		120	A		254			601			534	
Approach Delay, s/veh		11.1			11.4			8.5			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		15.8		21.7		15.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		18.0		20.0		18.0				
Max Q Clear Time (g_c+I1), s		8.7		3.9		14.0		4.5				
Green Ext Time (p_c), s		2.6		0.5		1.7		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Future Volume (veh/h)	85	269	64	2	173	133	37	425	11	170	295	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	292	70	2	188	145	40	462	12	185	321	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	449	108	285	302	233	463	809	21	384	725	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1047	1458	350	1020	979	755	1020	1815	47	920	1625	208
Grp Volume(v), veh/h	92	0	362	2	0	333	40	0	474	185	0	362
Grp Sat Flow(s),veh/h/ln	1047	0	1807	1020	0	1734	1020	0	1862	920	0	1833
Q Serve(g_s), s	4.0	0.0	8.4	0.1	0.0	8.0	1.4	0.0	9.2	9.1	0.0	6.6
Cycle Q Clear(g_c), s	12.0	0.0	8.4	8.5	0.0	8.0	8.0	0.0	9.2	18.4	0.0	6.6
Prop In Lane	1.00		0.19	1.00		0.44	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	298	0	557	285	0	534	463	0	830	384	0	817
V/C Ratio(X)	0.31	0.00	0.65	0.01	0.00	0.62	0.09	0.00	0.57	0.48	0.00	0.44
Avail Cap(c_a), veh/h	362	0	667	347	0	640	532	0	955	445	0	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	14.6	18.3	0.0	14.4	12.1	0.0	10.0	16.9	0.0	9.3
Incr Delay (d2), s/veh	0.6	0.0	1.7	0.0	0.0	1.4	0.1	0.0	0.6	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.2	0.0	0.0	2.9	0.3	0.0	3.1	1.8	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	16.3	18.3	0.0	15.8	12.2	0.0	10.7	17.8	0.0	9.7
LnGrp LOS	C	A	B	B	A	B	B	A	B	B	A	A
Approach Vol, veh/h		454			335			514			547	
Approach Delay, s/veh		17.1			15.8			10.8			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.7		21.0		27.7		21.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		25.0		18.0		25.0		18.0				
Max Q Clear Time (g_c+I1), s		11.2		14.0		20.4		10.5				
Green Ext Time (p_c), s		2.7		1.0		1.4		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

HCM 6th Edition methodology does not support more than 4 approaches.

5: Minnehaha & Payne

Direction	All
Future Volume (vph)	1389
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.07
NOx Emissions (kg)	0.21
VOC Emissions (kg)	0.25

10: Minnehaha & Arcade

Direction	All
Future Volume (vph)	1702
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

15: Mendota & Minnehaha & 7th St

Direction	All
Future Volume (vph)	1665
Total Delay / Veh (s/v)	21
CO Emissions (kg)	1.54
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	Minnehaha Ave	**District**	Metro	**County**	Ramsey
Begin RP		**End RP**		**Miles**	
Location	Minnehaha Ave and 7th St and Payne Avenue				

B. Project Description

Proposed Work	Install Bike Lanes		
Project Cost*	$6,530,800	**Installation Year**	2026
Project Service Life	20 years	**Traffic Growth Factor**	0.5%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.44	**Fatal (K) Crashes**	**Reference**	Install Bike Lane CMF
0.44	**Serious Injury (A) Crashes**		
0.44	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.44	**Possible Injury (C) Crashes**		
0.44	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes		
A crashes		
B crashes	2	
C crashes	4	
PDO crashes	4	

F. Benefit-Cost Calculation

$3,634,416	**Benefit (present value)**	**B/C Ratio = 0.56**
$6,530,800	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 0.5%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	1.12	0.37	$85,867
C crashes	2.24	0.75	$89,600
PDO crashes	2.24	0.75	$9,707
			$185,173

H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	$185,173	$185,173
2027	$186,099	$184,806
2028	$187,030	$184,439
2029	$187,965	$184,072
2030	$188,905	$183,707
2031	$189,849	$183,342
2032	$190,798	$182,978
2033	$191,752	$182,614
2034	$192,711	$182,252
2035	$193,675	$181,890
2036	$194,643	$181,528
2037	$195,616	$181,168
2038	$196,594	$180,808
2039	$197,577	$180,449
2040	$198,565	$180,090
2041	$199,558	$179,733
2042	$200,556	$179,376
2043	$201,559	$179,020
2044	$202,566	$178,664
2045	$203,579	$178,309
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $3,634,416

Countermeasure: Install bicycle lanes

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.435		★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.51	49	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.734	26.6	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.694	30.6	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.649	35.1	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	Minnehaha Ave	**District**	Metro	**County**	Ramsey
Begin RP		**End RP**		**Miles**	
Location	Minnehaha Ave and Arcade St				

B. Project Description

Proposed Work	4 to 3 Lane conversion and install bike lanes		
Project Cost*	$6,530,800	**Installation Year**	2026
Project Service Life	20 years	**Traffic Growth Factor**	0.5%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.24	**Fatal (K) Crashes**	**Reference**	Multiple CMF
0.24	**Serious Injury (A) Crashes**		
0.24	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.24	**Possible Injury (C) Crashes**		
0.24	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes		
A crashes		
B crashes	2	
C crashes	2	
PDO crashes	4	

F. Benefit-Cost Calculation

$3,739,094	**Benefit (present value)**	**B/C Ratio = 0.58**
$6,530,800	**Cost**	

Proposed project expected to reduce 3 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 0.5%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	1.52	0.51	$116,533
C crashes	1.52	0.51	$60,800
PDO crashes	3.04	1.01	$13,173
			$190,507

H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	$190,507	$190,507
2027	$191,459	$190,128
2028	$192,416	$189,751
2029	$193,379	$189,374
2030	$194,345	$188,998
2031	$195,317	$188,622
2032	$196,294	$188,248
2033	$197,275	$187,874
2034	$198,262	$187,501
2035	$199,253	$187,128
2036	$200,249	$186,757
2037	$201,250	$186,386
2038	$202,257	$186,016
2039	$203,268	$185,646
2040	$204,284	$185,277
2041	$205,306	$184,909
2042	$206,332	$184,542
2043	$207,364	$184,176
2044	$208,401	$183,810
2045	$209,443	$183,445
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $3,739,094

Multiple CMF Calculation

1. Crash Modification Factor - Road Diet (4-lane to 2-lane with turning lane)

0.56	**Fatal (K) Crashes**	**Reference**	https://www.cmfclearinghouse.org/detail.cfm?facid=7828
0.56	**Serious Injury (A) Crashes**		
0.56	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.56	**Possible Injury (C) Crashes**		
0.56	**Property Damage Only Crashes**		

2. Crash Modification Factor - Install bicycle lanes

0.44	**Fatal (K) Crashes**	**Reference**	https://www.cmfclearinghouse.org/detail.cfm?facid=1073
0.44	**Serious Injury (A) Crashes**		
0.44	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.44	**Possible Injury (C) Crashes**		
0.44	**Property Damage Only Crashes**		

Multiple CMF Calculation 1

CMF (K) = CMF 1 * CMF 2 = 0.435 * 0.56 = 0.2436	0.24	**Fatal (K) Crashes**
CMF (A) = CMF 1 * CMF 2 = 0.435 * 0.56 = 0.2436	0.24	**Serious Injury (A) Crashes**
CMF (B) = CMF 1 * CMF 2 = 0.435 * 0.56 = 0.2436	0.24	**Moderate Injury (B) Crashes**
CMF (C) = CMF 1 * CMF 2 = 0.435 * 0.56 = 0.2436	0.24	**Possible Injury (C) Crashes**
CMF (PDO) = CMF 1 * CMF 2 = 0.435 * 0.56 = 0.2436	0.24	**Property Damage Only Crashes**

Countermeasure: Road diet (Convert 4-lane undivided road to 2-lanes plus turning lane)

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.71 [B]	29	★★★★★	All	All	Urban	HARKEY ET AL., 2008	
☐	0.613	38.7	★★★★☆	Non-intersection	All	Urban	SUN AND RAHMAN, 2019	Safety performance function for 4-lane ... [READ MORE]
☐	0.56	44	★★★☆☆	All	All	Urban	ABDEL-ATY ET AL., 2014	CMFs of converting urban undivided ... [READ MORE]
☐	0.63	37	★★★☆☆	All	K (fatal),A (serious injury),B (minor injury),C (possible injury)	Urban	ABDEL-ATY ET AL., 2014	CMFs of converting urban undivided ... [READ MORE]

Countermeasure: Install bicycle lanes

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.435		★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.51	49	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.734	26.6	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.694	30.6	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]
☐	0.649	35.1	★★★★☆	All	All	Urban	, 2021	This CMF is for bicycle ... [READ MORE]

Minnehaha and Arcade

INCIDENTID	RTESYSCOD	RTENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
968146	2	61	137.599	62	Saint Paul		M	24		21220000	2.13E+08	10
803590	2	61	137.606	62	Saint Paul		M	24		20051906	2.01E+08	3
728023	2	61	137.609	62	Saint Paul		M	24		19132092	1.92E+08	6
731508	2	61	137.628	62	Saint Paul		M	24		19145892	1.92E+08	7
915145	5	108	0.678	62	Saint Paul		M	24		21132368	2.12E+08	6
740746	5	108	0.679	62	Saint Paul		M	24		19182923	1.92E+08	8
746050	5	108	0.679	62	Saint Paul		M	24		19203449	1.93E+08	9
943928	5	108	0.685	62	Saint Paul		M	24		21205166	2.13E+08	9

Minnehaha and Payne

INCIDENTID	RTESYSCOD	RTENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
969735	5	108	0.315	62	2396511			24		21225140	2.13E+08	10
970433	5	108	0.315	62	2396511			24		21227243	2.13E+08	10
681737	5	108	0.322	62	Saint Paul		M	24		19022095	1.9E+08	1

Minnehaha and 7th St

INCIDENTID	RTESYSCOD	RTENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
755811	3	5	72.062	62	Saint Paul		M	24		19236806	1.93E+08	10
915483	3	5	72.08	62	Saint Paul		M	24		21133377	2.12E+08	6
733938	3	5	72.089	62	Saint Paul		M	24		19155976	1.92E+08	7
766403	5	108	0.794	62	Saint Paul		M	24		19266659	1.93E+08	11
892663	5	193	0.016	62	Saint Paul		M	24		21037907	2.11E+08	2
739175	5	193	0.026	62	Saint Paul		M	24		19176797	1.92E+08	8
893992	2	61	137.594	62	Saint Paul		M	24		21042806	2.11E+08	3

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARM	RELATIONT	LIGHTCONI	WEATHERP
20	2021	Wed	20	98	5	0	2	5	10	3	4	3
12	2020	Thu	5	98	4	0	2	12	10	3	4	3
19	2019	Wed	19	N	5	0	2	13	10	10	1	1
5	2019	Fri	0	S	4	0	1	99	10	2	4	1
29	2021	Tue	15	E	5	0	2	10	10	3	1	1
16	2019	Fri	15	98	3	0	3	5	10	3	1	2
9	2019	Mon	12	N	3	0	1		8	3	1	3
30	2021	Thu	13	N	5	0	2	13	10	3	1	1

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARM	RELATIONT	LIGHTCONI	WEATHERP
28	2021	Thu	10	98	5	0	2	5	10	3	1	2
31	2021	Sun	9	98	5	0	2	5	10	3	1	1
31	2019	Thu	17	98	4	0	2	12	10	3	4	1

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARM	RELATIONT	LIGHTCONI	WEATHERP
20	2019	Sun	13	98	3	0	1		9	10	1	1
30	2021	Wed	21	98	4	0	2	90	10	3	3	1
16	2019	Tue	17	98	4	0	3		11	2	1	1
30	2019	Sat	1	W	4	0	1		28	3	4	4
23	2021	Tue	23	W	5	0	1		28	2	4	1
9	2019	Fri	5	98	5	0	1		70	6	4	1
3	2021	Wed	4	W	3	0	1		28	3	4	1

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPEU	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
	2	98	N ARCADE	MINNEHAH	020000000	10	2	4	3	21	62	M
	2	98	N ARCADE ST		020000000	7	1	4	1	21		
	1	98	N ARCADE ST		020000000	9	1	2	3	24		
	1	98	N ARCADE ST		020000000	4	2	31	2	21	26	M
	99	98	E MINNEHAHA AVE		050002396	5	2	2	3	21	47	M
	1	98	E MINNEHAHA AVE		050002396	10	2	4	2	21	34	F
	2	98	E MINNEHAHA AVE		050002396	1	2	4	1	24	47	F
	1	98	E MINNEHAHA AVE		050002396	10	2	2	2	21	78	F

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPEU	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	
	2	98	E MINNEHAHA AVE		050002396	10	2	2	3	21	21	F	
	1	98	E MINNEHAHA AVE		050002396	10	2	4	1	21	52	F	
	5	98	E MINNEHA	N PAYNE A	050002396	7	2	48	4	21	24		99

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPEU	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
	1	98	E 7TH ST		030000000	2	6				15	M
	1	98	E MINNEHAHA AVE		030000000	90	2	2	3	24	75	F
	2	98	E MINNEHAHA AVE		030000000	90	2	4	3	21	41	M
7	3	98	E MINNEHAHA AVE		050002396	3	2	2	4	99	21	F
	1	98	E 7TH ST		050002396	3	1	2	4	99		
	1	98	E 7TH ST		050002396	3	1	2	3	99		
	1	98	N ARCADE ST		020000000	3	2	2	4	21	68	M

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEL	VEHICLETY	DIRECTION
5	99				12	20	20	11	21	2	5	1
					12	20	30	11	21	2	2	1
					12	20	30	11	21	2	4	1
10	90				12	9	30	11	21			
99	99				12	20	30	11	21	1	4	3
5	63				12	20	30	11	21	2	3	3
5	2				12	20	30	11	24	5		
5	1				12	20	30	11	21	2	2	3

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEL	VEHICLETY	DIRECTION
5	63				12	20	25	11	21	2	2	3
5	65				12	20	30	11	23	2	5	3
5	99				12	20	30	11	21	2	3	4

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEL	VEHICLETY	DIRECTION
5	5	2	30	1						2	2	3
5	2				12	20	20	11	21	2	2	4
5	10				12	9	30	11	21	3	2	3
99	99				12	9	30	11	21			
					12	98	30	11	21			
					12	20	30	11	21			
5	99				13	20	30	11	21			

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2
21	46	M	5	1				12	20	20	11	21
34	38	M	5	1				12	20	30	11	21
21	26	F	5	1				12	20	30	11	21
21								12	20	30	11	21
21	20	M	5	1				12	20	30	11	21
	82	F	5	22		90	1					
21	26	F	5	1				12	20	30	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2
21	51	M	5	1				12	20	25	11	21
21	46	M	5	1				12	20	30	11	21
34	40	M	5	1				12	20	30	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2
21	40	F	5	1				12	20	30	11	21
21	23	F	5	1				12	20	20	11	21
20								12	9	30	11	21

UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO
2	3	1	34	48	F	5	1				12	20

UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO

UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO
3	4	3	20								12	9

SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEU	VEHICLETYI	DIRECTION	PRECRASHI	AGEU4	SEXU4	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC
30	11	21										

SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEU	VEHICLETYI	DIRECTION	PRECRASHI	AGEU4	SEXU4	PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC
30	11	21										

NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_N
						494793.3	4978830	44.96289	-93.066	########	Accepted	Reportable
						494792.6	4978842	44.963	-93.066	########	Accepted	Reportable
						494792.4	4978846	44.96304	-93.066	########	Accepted	Reportable
						494792.5	4978876	44.96332	-93.066	########	Accepted	Reportable
						494786	4978849	44.96307	-93.0661	########	Accepted	Reportable
						494786.8	4978849	44.96307	-93.0661	########	Accepted	Reportable
						494787	4978849	44.96307	-93.0661	########	Accepted	Reportable
						494798	4978849	44.96307	-93.066	########	Accepted	Reportable

NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_N
						494202	4978840	44.96297	-93.0735	44497.45	Accepted	Reportable
						494202.4	4978844	44.96301	-93.0735	44500.39	Accepted	Reportable
						494213.8	4978843	44.96301	-93.0734	43496.75	Accepted	Reportable

NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_N
						494976.2	4978845	44.96303	-93.0637	########	Accepted	Reportable
						495003.2	4978850	44.96308	-93.0634	########	Accepted	Reportable
						495018.1	4978851	44.96308	-93.0632	########	Accepted	Reportable
						494972.5	4978850	44.96308	-93.0638	########	Accepted	Reportable
						495005.3	4978865	44.96321	-93.0633	########	Accepted	Reportable
						495017.9	4978874	44.96329	-93.0632	########	Accepted	Reportable
						494793.6	4978822	44.96283	-93.066	########	Accepted	Reportable

AGENCY_O	AGENCY_O	NARRATIVE
MN062090	Police	Unit 1 traveling e/b Minnehaha through Arcade St. Struck by Unit 2 traveling n/b Arcade St through Minnehaha ave. No injuri
MN062090	Police	Unit 2 was
MN062090	Police	Unit #1 was traveling southbound Arcade/Minnehaha attempting to take a left handed turn to go eastbound Minnehaha. Unit
MN062090	Police	On
MN062090	Police	MV1:
MN062090	Police	Per
MN062090	Police	Per driver
MN062090	Police	Veh 1

AGENCY_O	AGENCY_O	NARRATIVE
MN062090	Police	V1 traveling east on Minnnehaha Ave ran the red light and struck V2 traveling south on Payne Ave. V1 then struck traffic light k
MN062090	Police	On 10/31/21 at 0916 hoursI, Officer Arntzen, responded to a traffic accident at Payne and Minnehaha Ave. I spoke with Officer
MN062090	Police	On 01/31/2019 at 1955 hours, Officers were sent to Minnehaha Ave. E. and Payne Ave. on the report of an accident hit and rur

AGENCY_O	AGENCY_O	NARRATIVE
MN062090	Police	Unit 1 was attempting to bicycle through the crosswalk against the flow of traffic southbound across 7th from Mendota. Unit
MN062090	Police	UNIT #1
MN062090	Police	On
MN062090	Police	V1
MN062090	Police	On 02/23/2021 at 2338 hours, officers responded to the intersection of 7th St E and Minnehaha Ave E for a property damage a
MN062090	Police	Officers
MN062090	Police	Unit 1 was

ies reported, vehicles towed.

#2 was traveling northbound Arcade when Unit #1 pulled out infront of them and caused a crash. Unit #1 fled the scene after the crash.

cnocking it over.No apparent injuries to either driver.Vehicles towed due to damage and obstructing roadway.Citation 620907664273 issued to D1 for f
Jaworski in CCTV, he notified me that the cameras did not get the crash but you can see Campos, Rosemaris (DOB/1969-04-3010721 Smetana Road M
n. Officers had stopped the driver of unit 1 after a brief vehicle and foot pursuit. Unit 1 did not wish to speak to Officers at this time. Unit 2 stated he w

2 was traveling EB on 7th crossing Mendota on a green light with the right-of-way. As Unit 1 was attempting to illegally cross the roadway Unit 2 stru

accident involving a single vehicle and a light pole. Officers arrived on scene and located Unit #1 (MN/LIC: 657LVN) partially facing westbound, blockin

ail to drive with due care

innetonka MINNESOTA 55343 (952)484-5569)driving MNDGP140 northbound on Payne Ave, she had the red light.Robert Johannes (DOB/1975-03-03)
as stopped at the intersection of Minnehaha Ave. E. and Payne Ave. at a red light. Unit 2 stated unit 1 was behind him. Unit 2 stated unit 1 had struck h

ck him with her vehicle. Possible minor injuries to Unit 1. Photographs taken. No citations issued at this time.

g the westbound lane of traffic on 7th St E. The vehicle appeared to have collided head on with a light pole on the west side of 7th St E, just north of M

Minnehaha Avenue E Payne Avenue St Paul MINNESOTA 55106 Minnehaha Ave E / Payne Ave (571)354-3268 was driving MN license DRH079 East on
his vehicle. Unit 2 stated unit 1 fled the scene and a St. Paul Police Squad car was following him. Unit 2 had minor drivers side rear damage. Unit 1 was

Minneahaha Ave E. There was heavy front end damage to the vehicle and the driver's airbag had been deployed. There was minor damage to the base

Minnehaha. Johannes had the green light Eastbound and there were 5 seconds left on the crosswalk light. Campos struck Johannes' vehicle in the mid
towed to the St. Paul Police Impound Lot.

of the light pole. There was no one in or around the vehicle upon officer arrival. Photos were taken of the scene and of the damage to the vehicle an

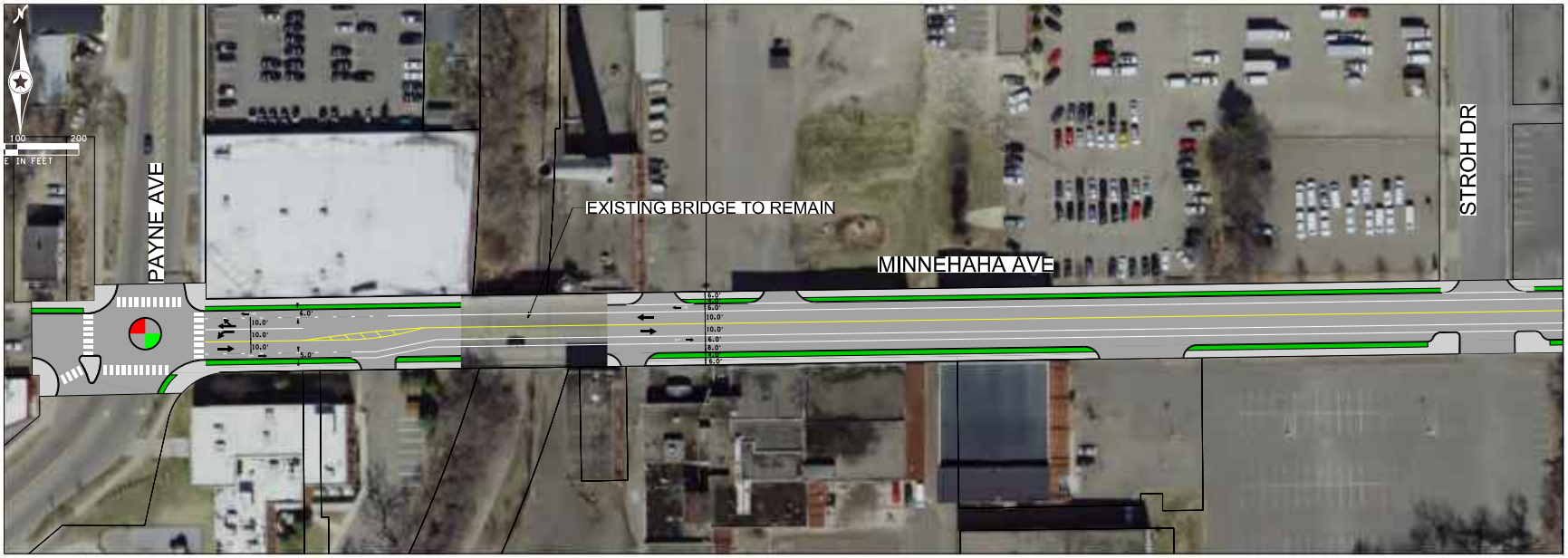
dle of the driver's side. Campos vehicle knocked down a stop light pole and ended up resting on the wall of our Eastern district building. No damage to

d the light pole. The vehicle was towed to the city impound lot and all photos were uploaded to the SPPD secure media vault.

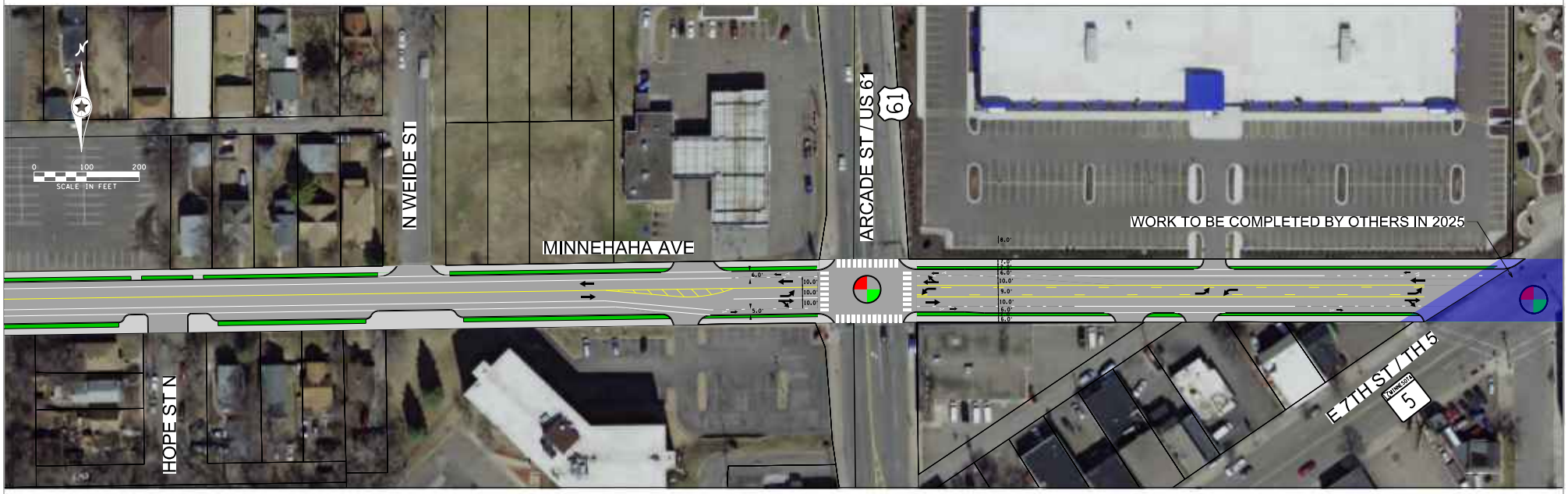
building, just some minor scrapes on the brick.Both vehicles privately towed. both driver's had valid State Farm Insurance.Campos cited for running re

ed light, citation 620908126258.

CITY OF ST. PAUL - MINNEHAHA AVENUE RECONSTRUCTION (PAYNE AVE TO E 7TH ST)



PAYNE AVE TO STROH DR



STROH DR TO E 7TH ST

PROJECT SUMMARY

Project Name: Minnehaha Avenue Street (Payne Avenue to E 7th Street)

Applicant: City of Saint Paul

Project Location: Minnehaha Avenue between Payne Avenue and E 7th Street (TH 5)

Total Project Cost: $ 6,530,800

Requested Federal Dollars: $5,224,640

Before Photo:

Project Description:

The Minnehaha Avenue Reconstruction project will modify the existing four-lane undivided roadway to three lanes with on-road dedicated bike lanes and reconstructed sidewalk between Payne Avenue and E 7th Street (TH 5). Other improvements include:

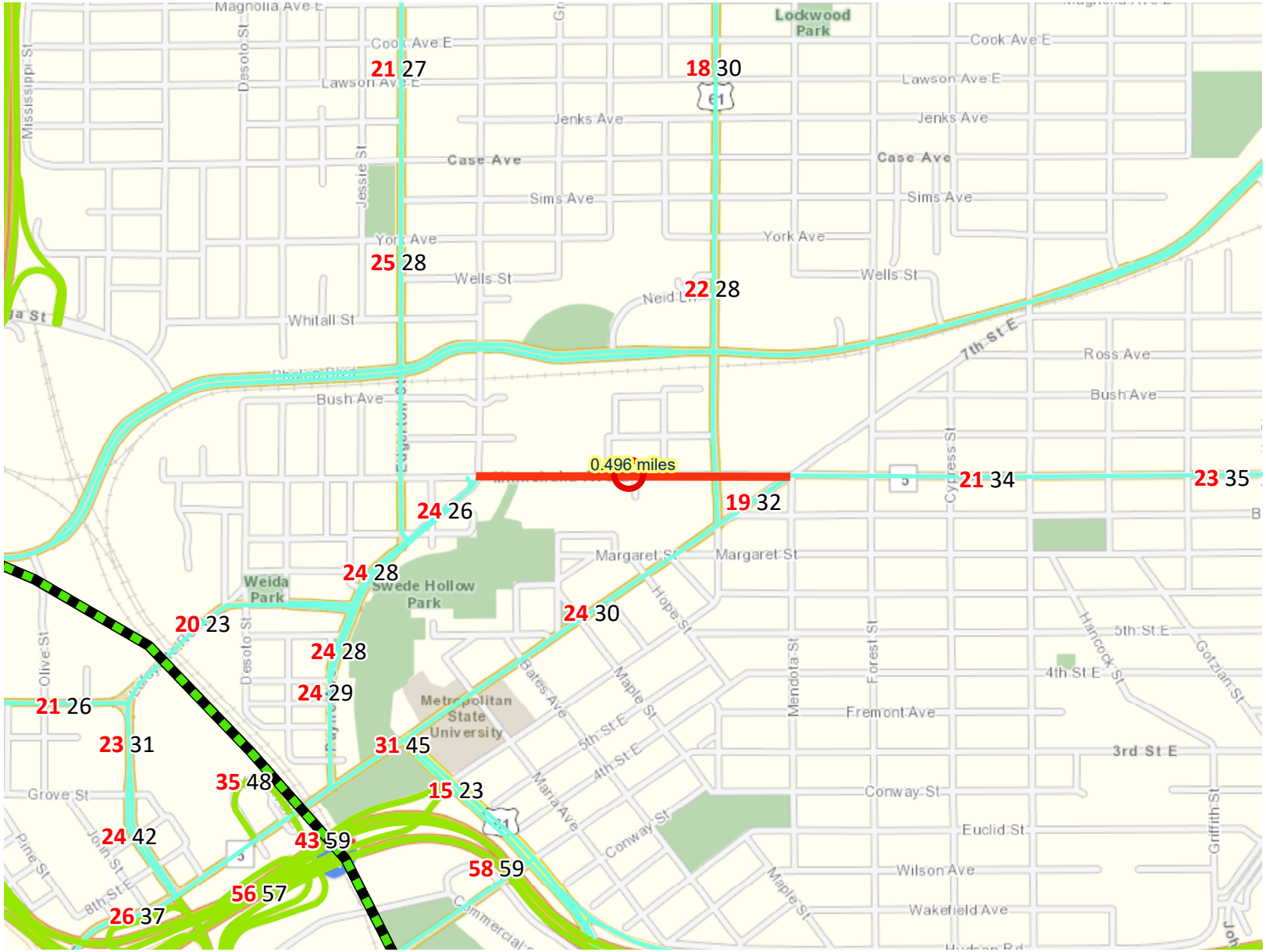
- On-street dedicated bicycle lanes on each side of the roadway.
- Reconstructed sidewalks with a landscaped boulevard to separate pedestrian and vehicular traffic
- New Accessible Pedestrian Signals (APS), ADA compliant ramps, high visibility crosswalk markings and countdown timers at the Payne Avenue and Arcade Street (US 61) intersections.
- Curb bump outs and pedestrian ramps at the unsignalized intersections at Stroh Drive, Hope Street and Weide Street.

Project Benefits:

- Provides a safer route for students who walk or bike to/from school.
- Enhances pedestrian travel with ADA compliant sidewalks, pedestrian-scaled lighting, and streetscaping.
- Improves connections to transit routes along Minnehaha Avenue, Payne Avenue, and 7th Street (TH 5).
- Provides better mobility and access while calming traffic for all road users with lane reductions and intersection bump outs.

Level of Congestion

Roadway Reconstruction/Modernization Project: Minnehaha Avenue | Map ID: 1648302012521



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.15 0.3 0.6 0.9 1.2 Miles

Created: 3/26/2022
LandscapeRSA1

For complete disclaimer of accuracy, please visit
https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Minnehaha Avenue Reconstruction (Payne Avenue to 7th Street) (Photos)

Minnehaha Avenue Reconstruction (Payne Avenue to 7th Street) (Photos)

City of Saint Paul

Signature Copy

Resolution: RES 22-334

City Hall and Court House
15 West Kellogg Boulevard
Phone: 651-266-8560

File Number: RES 22-334

Authorizing the Departments of Public Works and Parks and Recreation to submit project applications for federal funding into the 2022 Metropolitan Council Regional Solicitation Program and to authorize the commitment of a twenty percent local funding match plus engineering for any project that is awarded federal funding.

WHEREAS, the Departments of Public Works and Parks and Recreation are proposing to submit twelve project applications for federal funding into the 2022 Metropolitan Council Regional Solicitation Program for funding in years 2026 and 2027; and

WHEREAS, there is a required twenty percent local funding match to any project awarded to an agency under the Regional Solicitation Program; and

WHEREAS, the City commits to ensuring that all sidewalks and bikeways included in these project applications will be fully open for use and cleared of snow throughout the winter, either by City staff or by adjacent property owners per existing City ordinances; and

WHEREAS, the projects to be submitted by the City under the Metropolitan Council Regional Solicitation are as follows:

- Wabasha Street Reconstruct - 7th to 11th (Roadways)
- Minnehaha Avenue Reconstruct - Payne to 7th (Roadways)
- Fairview Avenue Reconstruct - Edgcumbe to Ford (Roadways)
- Cretin Avenue Reconstruct - I94 to Marshall (Roadways)
- Maryland Avenue Traffic Signal Modernization - Dale to White Bear (Traffic Management)
- Capital City Bikeway - Kellogg from W. 7th to John Ireland (Multiuse Trails)
- Capital City Bikeway - St. Peter/12th from 10th to John Ireland (Multiuse Trails)
- Point Douglas Regional Trail Phase 1 Construction (Multiuse Trails)
- Payne Avenue - Phalen Blvd to Maryland (Pedestrian Facilities)
- Arlington Avenue Sidewalk Infill - I35E to Edgerton (Pedestrian Facilities)
- Chelsea Heights Safe Routes to School (Safe Routes to School)
- Evie Carshare Expansion (Unique Projects 2024/2025 funding)

WHEREAS, these projects fall within appropriate funding categories and meet the conditions and requirements specified for eligibility of federal funding; now, therefore be it

RESOLVED, that the Council of the City of Saint Paul authorizes submission of the project applications for possible award of federal transportation funds through the Metropolitan Council Regional Solicitation Program; and be it finally

RESOLVED, that the Council of the City of Saint Paul authorizes the commitment of local funds on

a twenty percent match basis plus engineering for any project awarded federal funding under the Regional Solicitation Program.

ResolutionRES 22-334PassedMayor's OfficepassedSigned4/8/20224/6/2022Signed|DAYTHAt a meeting of the on , this Resolution was Signed.

Yea: 4 Councilmember Noecker, Councilmember Prince, Councilmember Jalali, and Councilmember Yang

Nay: 0

Absent: 3 Councilmember Brendmoen, Councilmember Thao, and Councilmember Tolbert

Vote Attested by Council Secretary Shari Moore **Date** 4/6/2022

Approved by the Mayor Melvin Carter III **Date** 4/8/2022

MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

April 12, 2022

Don Pflaum
Department of Public Works
City of Saint Paul

Re: MnDOT Letter for City of Saint Paul's Metropolitan Council/Transportation Advisory Board 2022 Regional Solicitation Funding Request for projects on Wabasha Street and Minnehaha Avenue

Don Pflaum,

This letter documents MnDOT Metro District's recognition for City of Saint Paul to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2022 Regional Solicitation for the following improvements that have impacts to MnDOT right of way.

- **Wabasha Street from 7th Street and 11th Street**, including a portion of 7th Street (Hwy 5) intersection.
- **Minnehaha Avenue from Payne to E 7th St (Hwy 5)**

As proposed, these projects impact MnDOT right of way as described above. As the agency with jurisdiction over this system, MnDOT will allow the City to seek improvements proposed in the application. Details of any future maintenance agreement will need to be determined during project development to define how the improvements will be maintained for the project's useful life if the project receives funding.

There is no funding from MnDOT currently planned or programmed for this improvement. If your project receives funding, continue to work with MnDOT Area staff to coordinate needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with Saint Paul as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to North Area Manager Melissa Barnes at melissa.barnes@state.mn.us.

Sincerely,

Michael Barnes

Digitally signed by Michael Barnes
Date: 2022.04.12 09:59:41 -05'00'

Michael Barnes, PE
Metro District Engineer

CC: Melissa Barnes, Metro District Area Manager; Dan Erickson, Metro State Aid Engineer; Molly McCartney, Metro Program Director