## Application

19837-2024 Roadway Spot Mobility
20331 - CSAH 14 (Main Street) and CSAH 23 (Lake Drive) Intersection Spot Mobility and Safety Improvement
Regional Solicitation - Roadways Including Multimodal Elements
Status: Submitted
Submitted Date: 12/15/2023 10:14 AM

## Primary Contact

Feel free to edit your profile any time your information changes. Create your own personal alerts using My Alerts.

| Name:* | Mr. | Jack | L | Forslund |
| :---: | :---: | :---: | :---: | :---: |
|  | Pronouns | First Name | Middle Name | Last Name |
| Title: | Transportation Planner |  |  |  |
| Department: | Anoka County Transportation Division |  |  |  |
| Email: | jack.forslund@co.anoka.mn.us |  |  |  |
| Address: | 1440 Bunker Lake Boulevard NW |  |  |  |
| * | Andover <br> City | Minnesota |  | 55304-4005 |
|  |  |  |  | Postal Code/Zip |
| Phone:* | 763-324-3179 |  |  |  |
|  | Phone Ext. |  |  |  |
| Fax: | 763-324-302 |  |  |  |
| What Grant Programs are you most interested in? | Regional | ation - Ro | cluding Mu | odal Elements |

## Organization Information

| Name: | ANOKA COUNTY |  |
| :---: | :---: | :---: |
| Jurisdictional Agency (if different): |  |  |
| Organization Type: | County Government |  |
| Organization Website: |  |  |
| Address: | 1440 BUNKER LAKE BLVD |  |
| * | ANDOVER Minnesota | 55304 |
|  | City State/Province | Postal Code/Zip |
| County: | Anoka |  |
| Phone:* | 763-324-3100 |  |
| Fax: | 763-324-3020 |  |
| PeopleSoft Vendor Number | $0000003633 A 15$ |  |

## Project Information

Project Name
Primary County where the Project is Located
Cities or Townships where the Project is Located:
Jurisdictional Agency (If Different than the Applicant):

CSAH 14 and CSAH 23 Intersection Project
Anoka
Lino Lakes

Brief Project Description (Include location, road name/functional class, The CSAH 14 (Main Street) and CSAH 23 (Lake Drive) Intersection Project will type of improvement, etc.) convert the intersection from a traffic signal to a single lane roundabout with added and enhanced pedestrian and multimodal facilities. The western leg of CSAH 14 and the southern leg of CSAH 23 are Principal Arterials. The northern leg of the intersection is classified as an A Minor Reliever with the eastern leg classified as an A Minor Expander. The project includes a new trail facility along CSAH 14 on the Regional Bicycle Trail Network 700 ft west to connect to Lino Lakes Elementary School. The multimodal and specifically pedestrian crossing facilities will be improved at the intersection through reduction in crossing distance, vehicle speed reduction through the intersection, and reduced vehiclepedestrian conflict points. The project will address an established safety and mobility problem location. Peak hour delay per vehicle will be reduced by almost $80 \%$ with crashes reduced by over $50 \%$.
(Limit 2,800 characters; approximately 400 words)
TRANSPORTATIONIMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP Construct single lane roundabout at the intersection of CSAH 14 and CSAH 23 if the project is selected for funding. See MnDOT's TIP description guidance. including approx. 700 ft trail on CSAH 14 west of CSAH 23
Include both the CSAHMSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

> Project Length (Miles)
0.4
to the nearest one-tenth of a mile

## Project Funding

Are you applying for competitive funds from another source(s) to implement this No project?

No
If yes, please identify the source(s)
Federal Amount $\quad \$ 2,137,360.00$
Match Amount $\quad \$ 534,340.00$
Minimumof 20\% of project total
Project Total
\$2,671,700.00
For transit projects, the total cost for the application is total cost minus fare revenues.
Match Percentage
20.0\%

Minimumof 20\%
Compute the match percentage by dividing the match anount by the project total
Source of Match Funds Anoka County

A minimum of $20 \%$ of the total project cost must come fromnon-federal sources; additional match funds over the $20 \%$ minimumcan come fromother federal sources
Preferred Program Year
Select one: 2028

Select 2026 or 2027 for TDM and Unique projects only. For all other applications, select 2028 or 2029.
Additional Program Years:
2027
Select all years that are feasible if funding in an earlier year becones available.

## Project Information: Roadway Projects

NOTE: If your project has already been assigned a State Aid Project \# (SAP or SP), please Indicate SAP\# here
SAP\#:
County, City, or Lead Agency
Functional Class of Road
Road System
Anoka County
Principal Arterial, A Minor Arterial Reliever, A Minor Arterial - Expander CSAH
TH, CSAH MSAS, OO. RD., TMP. RD., OTY STREET
Road/Route No.
1423
i.e., 53 for CSAH 53

Name of Road

Main Street, Lake Drive

Example; 1st ST., MAINAVE
TERMINI:(Termini listed must be within 0.3 miles of any work)
From:
Road System
Road/Route No.
i.e., 53 for CSAH 53

Name of Road
Example; 1st ST., MAINAVE

Road System
DO NOT INCLUDE LEGAL DESCRIPTION

## Road/Route No.

i.e., 53 for CSAH 53

Name of Road
Example; 1st ST., MAINAVE
In the City/Cities of:
(List all cities within project linits)
OR:
At:
Road System
(TH, CSAH, MSAS, CO. RD., TMP. RD., City Street)
Road/Route No.
i.e., 53 for CSAH 53

## Name of Road

Intersection of CSAH 14 (Main Street) and CSAH 23

Example; 1st ST., MAINAVE
In the City/Cities of:
Main Street and Lake Drive

Lino Lakes
(List all cities within project linits)
PROJECT LENGTH
Miles
.4
(nearest 0.1 miles)
Primary Types of Work (check all the apply)
New Construction Yes

Reconstruction Yes
Resurfacing
Bituminous Pavement
Yes
Concrete Pavement
Roundabout
Yes
New Bridge
Bridge Replacement
Bridge Rehab
New Signal
Signal Replacement/Revision
Bike Trail
Yes
Other (do not include incidental items)
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)
Old Bridge/Culvert No.:
New Bridge/Culvert No.:
Structure is Over/Under
(Bridge or culvert name):
OTHERINFORMATION:
Zip Code where Majority of Work is Being Performed 55014
Approximate Begin Construction Date 05/01/2028
$\begin{array}{ll}\text { Approximate End Construction Date } & 10 / 31 / 2028\end{array}$
Miles of Trail (nearest 0.1 miles) 0.3
Miles of Sidewalk (nearest 0.1 miles) 0.1
Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles): 0.3
Is this a new trail? Yes

## 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 B. Safety and Security; Objective A. Reduce fatal and serious injury crashes and improve safety and security for all modes of passenger travel and freight transport; Strategies B1, B4, B6

Goal C. Access to Destinations; Objective A. Increase the availability of multimodal travel options, especially in congested highway corridors; Objective B. Increase travel time reliability and predictability for travel on highway and transit systems; Strategies C1, C9, C17

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 This project need is identified in the August 2020 Anoka County CSAH 23 from this qualifying requirement because of their innovative nature. Preliminary Traffic Analysis (Lexington Avenue to Main Street). The project is under development as part of the Anoka County Highway 23 (Lake Drive) Corridor Study currently underway. CSAH 14 is identified in the Anoka County Transportation Plan for safety and access improvements at this location.

## init 2800 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 belowin 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 2024 funding cycle).

Strategic Capacity (Roadway Expansion): \$1,000,000 to \$10,000,000
Roadway Reconstruction/M odernization: \$1,000,000 to \$7,000,000
Traffic Management Technologies (Roadway System Management): \$500,000 to \$3,500,000
Spot M obility 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 future Regional Solicitation funding cycles, this requirement may include that the plan has undergone a recent update, e.g., within five years prior to application.
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:
03/01/2018
Link to plan:
March 2018 http://anokacountyada.com/wp-content/uploads/2018/05/ACHD-Transition-Plan2018.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. This includes assurance of year-round use of bicycle, pedestrian, and transit facilities, per FHWA direction established 8/27/2008 and updated 4/15/2019. Unique projects are exempt from this qualifying requirement.
Check the box to indicate that the project meets this requirement.
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 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. Bridge Rehabilitation/Replacement projects must be located on a minor collector and above functionally classified roadway in the urban areas or a major collector and above in the rural areas.
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 MnDOT?s ?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 in-place structure is 20 feet or longer.

Check the box to indicate that the project meets this requirement.
6. The bridge must have a Local Planning Index (LPI) of less than 60 OR a National Bridge Inventory (NBI) Rating of 3 or less for either Deck Geometry, Approach Roadway, or Waterway Adequacy as reported on the most recent Minnesota Structure Inventory Report.
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 newexpanded interchange or newinterchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact David Evin at MnDOT (David.Evin@state.mn.us or 651-234-7795) 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.

## Requirements - Roadways Including Multimodal Elements

| Specific Roadway Elements |  |
| :--- | ---: |
| CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES | Cost |
| Mobilization (approx 5\% of total cost) | $\$ 93,800.00$ |
| Removals (approx $5 \%$ of total cost) | $\$ 187,900.00$ |
| Roadway (grading, borrow, etc.) | $\$ 111,100.00$ |
| Roadway (aggregates and paing) | $\$ 470,200.00$ |
| Subgrade Correction (muck) | $\$ 0.00$ |
| Storm Sewer | $\$ 230,000.00$ |
| Ponds | $\$ 0.00$ |
| Concrete ltems (curb \& gutter, sidewalks, median barriers) | $\$ 319,100.00$ |
| Traffic Control | $\$ 93,800.00$ |
| Striping | $\$ 28,150.00$ |
| Signing | $\$ 28,150.00$ |
| Lighting | $\$ 100,000.00$ |
| Turf - Erosion \& Landscaping | $\$ 140,700.00$ |
| Bridge | $\$ 0.00$ |
| Retaining Walls | $\$ 0.00$ |
| Noise Wall (not calculated in cost effectiveness measure) | $\$ 0.00$ |
| Traffic Signals | $\$ 0.00$ |
| Wetland Mtigation | $\$ 0.00$ |
| Other Natural and Cultural Resource Protection | $\$ 0.00$ |


| RR Crossing | \$0.00 |
| :---: | :---: |
| Roadway Contingencies | \$356,200.00 |
| Other Roadway Elements | \$400,000.00 |
| Totals | \$2,559,100.00 |
| Specific Bicycle and Pedestrian Elements |  |
| CONSTRUCTION PROJECT E EMENTS/COST ESTIMATES | Cost |
| Path/Trail Construction | \$70,900.00 |
| Sidewalk Construction | \$2,900.00 |
| On-Street Bicycle Facility Construction | \$0.00 |
| Right-of-Way | \$0.00 |
| Pedestrian Curb Ramps (ADA) | \$20,000.00 |
| Crossing Aids (e.g., Audible Pedestrian Signals, HAMK) | \$0.00 |
| Pedestrian-scale Lighting | \$0.00 |
| Streetscaping | \$0.00 |
| Wayfinding | \$0.00 |
| Bicycle and Pedestrian Contingencies | \$18,800.00 |
| Other Bicycle and Pedestrian Elements | \$0.00 |
| Totals | \$112,600.00 |
| Specific Transit and TDM Elements |  |
| CONSTRUCTION PROJECT E EMENTS/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 TDMElements | \$0.00 |
| Totals | \$0.00 |

## Transit Operating Costs

Number of Platform hours 0

| Cost Per Platform hour (full loaded Cost) | $\$ 0.00$ |
| :--- | :--- |

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

## PROTECT Funds Eligibility

One of the newfederal funding sources is Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT). Please describe which specific elements of your project and associated costs out of the Total TAB-Eligible Costs are eligible to receive PROTECT funds. Examples of potential eligible items may include: storm sewer, ponding, erosion control/landscaping, retaining walls, newbridges over floodplains, and road realignments out of floodplains.

INFORMATION: Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance (dot.gov).
Response:
This project includes eligible storm sewer and turf and erosion and landscaping improvements for a total PROTECT eligible amount of \$370,700.

## Totals

| Total Cost | $\$ 2,671,700.00$ |
| :--- | :--- |
| Construction Cost Total | $\$ 2,671,700.00$ |
| Transit Operating Cost Total | $\$ 0.00$ |

## Congestion within Project Area:

Free-Flow Travel Speed:
The free-flow travel speed is the black number
Peak Hour Travel Speed:30

The peak hour travel speed is the red number
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-How (calculation):

## Congestion on adjacent Parallel Routes:

| Adjacent Parallel Corridor | Lexington Avenue |
| :--- | :--- |
| Adjacent Parallel Corridor Start and End Points: | 109th Ave NE |
| Start Point: | Bunker Lake Blvd <br> End Point: |
| Free-Flow Travel Speed: <br> The Free-How Travel Speed is black number. |  |
| Peak Hour Travel Speed: <br> The Peak-Hour Travel Speed is red number. <br> Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow <br> (calculation): <br> Upload the "Level of Congestion" map: | 56 |

## Principal Arterial Intersection Conversion Study:

Proposed at-grade project that reduces delay at a High Priority Intersection: (70 Points)
Proposed at-grade project that reduces delay at a Medium Priority Intersection:
(65 Points)
Proposed at-grade project that reduces delay at a Low Priority Intersection:
(60 Points)
Not listed as a priority in the study: Yes
(0 Points)

## Congestion Management and Safety Plan IV:

Proposed at-grade project that reduces delay at a CMSP opportunity area:
(70 Points)
Not listed as a CMSP priority location: Yes
(0 Points)

## 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:
None of the tiers:

## Measure A: Engagement

ii. Describe howBlack, 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:

1. What engagement methods and tools were used?
2. How did you engage specific communities and populations likely to be directly impacted by the project?
3. What techniques did you use to reach populations traditionally not involved in community engagement related to transportation projects?
4. How were the project?s purpose and need identified?
5. How was the community engaged as the project was developed and designed?
6. How did you provide multiple opportunities for of Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing to engage at different points of project development?
7. How did engagement influence the project plans or recommendations? How did you share back findings with community and re-engage to assess responsiveness of these changes?
8. If applicable, how will NEPA or Title VI regulations will guide engagement activities?

Response:

Anoka County employs robust public engagement strategies, with an emphasis on reaching underrepresented populations, including black, indigenous, people of color (BIPoC), low-income individuals, persons with disabilities, youth, older adults, and residents in affordable housing. The County collaborates with city staff, policymakers and directly with residents, business owners, and commuters through accessible public meetings and online engagement efforts.

The project is located in Census Tract 502.33. Per the 5 -year estimate from the 2021 American Community Survey, the population under 18 years old is $27.6 \%$ in Census Tract 502.33, above the Region?s 23.7\%. The percentage of the population over 60 is $17.5 \%$ in Census Tract 502.33 and $21.6 \%$ in the city of Lino Lakes, compared to the Region?s 20.2\%. The non-White Alone population is $8.7 \%$ in Census Tract 502.33 and $10.3 \%$ in the city of Lino Lakes. The percentage of the population with a disability is $7.8 \%$ in Census Tract 502.33 and $7.7 \%$ in the city of Lino Lakes. The percentage of the population below poverty level is $0.8 \%$ in Census Tract 502.33 and $1.9 \%$ in the city of Lino Lakes. This analysis identifies vulnerable populations located in the surrounding project area, most significantly the population under 18, which is above the regional average and the population over 60, which citywide is above the regional average.

A public open house was held on December 14, 2023. Nearly 100 people attended the meeting. Advertising of the meeting was done through direct mailing as well as through the newspaper (ABC Newspapers, and social media). Residents and property owners were in favor of the proposed concept, particularly the safety benefits and improved multimodal facilities to be implemented with the project. Anoka County also engaged specific disadvantaged communities through an online survey on the project website where residents were asked to ?Tell us how these projects fit into your vision for our community. We seek your input and value your opinions on these important transportation improvement investments.? Several comments were received from the over 200 visitors to our Anoka County STP Website (https://www.anokastpprojects.com/\#content) showing support for this important project.

Measure B: Disadvantaged Communities Benefits and Impacts

Describe the project?s benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:
? pedestrian and bicycle safety improvements;
? public health benefits;
? direct access improvements for residents or improved access to destinations such as jobs, school, health care, or other;
? travel time improvements;
? gap closures,
? newtransportation services or modal options;
? leveraging of other beneficial projects and investments;
? and/or community connection and cohesion improvements.
This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Disadvantaged communities residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Disadvantaged communities 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.
Belowis a list of potential negative impacts. This is not an exhaustive list.
? Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
? Increased speed and/or ?cut-through? traffic.
? Removed or diminished safe bicycle access.
? Inclusion of some other barrier to access to jobs and other destinations.

The proposed project will directly benefit equity populations through improvements to and prioritization of multimodal transportation facilities.

This project will improve travel time through the intersection as well as emissions in the project area due to the conversion to a single lane roundabout from a traffic signal. Safety will be improved at the intersection, with an expected decrease in crashes of $52 \%$. Vehicle speed will also be decreased through the intersection as part of the project. Pedestrian and multimodal safety and crossing improvements will add to the multimodal network on this corridor for better access to nearby commercial uses. Pedestrian crossing distance will be decreased through the addition of pedestrian refuge islands on all legs of the intersection and reduced overall pavement width. A dedicated trail will be extended west on CSAH 14 to connect to the Lino Lakes Elementary School. No negative impacts to disadvantaged communities are expected as part of this project.

The project will not impose adverse health or environmental effects on equity populations. Project construction will incorporate proper noise, dust, and traffic mitigation as well as planned detour routes consistent with adopted County policies. The project requires no relocations of residences or businesses.

## Measure C: Affordable Housing Access

Describe any affordable housing developments?existing, under construction, or planned?within $1 / 2$ 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 howa project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).

Describe the project?s benefits to current and future affordable housing residents within $1 / 2$ mile of the project. Benefits must relate to affordable housing residents. Examples may include:

[^0]? and/or community connection and cohesion improvements.
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.

The Streams HousingLink detail shows an affordable housing property called Lakewood Apartments located south of the project area along CSAH 23 at I-35W. This is approximately 1.5 miles from the project area. The apartment building includes 60 total affordable units with all of them designated for households at or below $50 \%$ of the area median income. 12 of the units are 2 bedrooms and 48 units are 3 bedrooms. It is likely that the project area is regularly used by residents at this housing location due to the suburban development type of the area and the longer distances between services and commercial development. A second cluster of affordable housing properties is located approximately 3 miles from the project area at Cottage Homesteads of Willow Ponds. This development contains 48 total units with 46 of them designated for households at or below $60 \%$ of the area median income. 6 of these units are 1 bedroom and 40 of the units are 2 bedroom.

This project will improve travel time through the intersection as well as emissions in the project area due to the conversion to a roundabout from a signal. Pedestrian safety and crossing improvements will add to the multimodal network on this corridor for better access to nearby commercial uses.

## Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:
Project?s 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 Yes
in poverty or populations of color (Regional Environmental Justice Area):
Upload the ?Socio-Economic Conditions? map used for this measure. 1702498752596_Anoka CSAH 23-14_Socio-Economic_Map.pdf

| 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 | Volume | Volume | Total | Total | Total | EXPLANATION of | Synchro or HCM Reports |
|  |  | Delay Per Vehicle | without | with the | Peak | Peak | Peak | methodology used to calculate railroad crossing delay, if applicable. |  |
|  |  | Reduced by | the | Project | Hour | Hour | hour |  |  |
|  |  | Project (Seconds/Vehicle) | Project | (Vehicles | Delay | Delay by | Delay |  |  |
|  |  |  | (Vehicles | Per | without | the | Reduced |  |  |
|  |  |  | per hour) | Hour): | the Project: | Project: | $\begin{gathered} \text { by } \\ \text { project } \end{gathered}$ |  |  |
| 48.7 | 27.3 | 21.4 | 2062 | 2062 | 100419.4 | 56292.6 | 44126.8 | Signal was last retimed in January of 2023. | 1702594719830 Anoka CSAH 23-14_Existing-Build PM.pdf |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

## Vehicle Delay Reduced

| Total | Total | Delay |
| :---: | :---: | :---: |
| Peak | Peak | Reduced |
| Hour | Hour | Total |
| Delay | Delay |  |
| Reduced | Reduced |  |

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

| Total (CO, | Total (CO, | Total (CO, |
| :---: | :---: | :---: |
| NOX, and | NOX, and | NOX, and |
| VOC) Peak | VOC) Peak | VOC) Peak |
| Hour | Hour | Hour |
| Emissions | Emissions | Emissions <br> without the <br> Project |
| with the | Reduced by |  |
| Project | the Project |  |
| (Kilograms): | (Kilograms): | (Kilograms): |
| 5.78 | 4.19 | 1.59 |
| 6 | 4 | 2 |

## Total

| Total Emissions Reduced: | 1.59 |
| :--- | :--- |
| Upload Synchro Report | 1702594661727_Anoka CSAH 23-14_Existing-Build PM.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 gradeseparation elements (for Roadway Expansion applications only):

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

## 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 0 (Kilograms):

## Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:
(Linit 700 Characters; approximately 100 words)
Rationale for Crash Modification Selected:
(Limit 1400 Characters; approximately 200 words)
Project Benefit (\$) from B/C Ratio
Total Fatal (K) Crashes:
Total Serious Injury (A) Crashes:
Total Non-Motorized Fatal and Serious Injury Crashes:
Total Crashes:
Total Fatal (K) Crashes Reduced by Project:
Total Serious Injury (A) Crashes Reduced by Project:
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:
Total Crashes Reduced by Project:
Worksheet Attachment

Upload Orash Modification Factors and B/C Worksheet in PDF form

CMF $225=0.52$

CMF 225 is used for all crash types and severities for an existing signalized intersection that is being converted to a single-lane roundabout. CMF 225 was used because the project proposes to construct a single-lane roundabout at the existing intersection of CSAH 23 and CSAH 14.

Measure B: 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 No safe and comfortable pedestrian facilities and crossings.
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 doesn?t also add pedestrian crossings and sidewalk or sidepath on one or both sides).
SUB-M EASURE 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 howthese 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 roadway?s 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.
Response:
The existing intersection of CSAH 23 and CSAH 14 currently provides marked crosswalks and pedestrian signal heads on all approaches. The proposed project is expected to construct a roundabout with pedestrian facilities, including crosswalks, pedestrian refuge islands, and trails.

According to Minnesota's Best Practices for Pedestrian and Bicycle Safety, Minnesota-based research has found that roundabouts provide approximately 60\% Crash Reduction Factor for pedestrian crashes after a conversion from a traditional four-legged intersection. The construction of a roundabout at the intersection of CSAH 23 and CSAH 14 will introduce pedestrian refuge islands on all approaches, which will decrease the distance from curb to refuge curb. For example, pedestrians would currently have to cross 2-lanes of traffic plus two turn lanes between curbs for a crossing distance of approximately 58 feet. The single lane roundabout will create an environment where pedestrians are crossing one lane of traffic at a time with decreased distance between curb and pedestrian median refuge. This will also decrease the pedestrian-vehicle conflict points.

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 slowmotorist speed, etc.).

Response: The signal at the intersection of CSAH 23 and CSAH 14 is being replaced by a single-lane roundabout with pedestrian facilities. The roundabout is expected to provide safer pedestrian crossing opportunities by slowing motorist speed at the intersection and providing refuge islands for pedestrians. Pedestrian-vehicle conflict points will be reduced by the project with conversion to a single-lane roundabout with pedestrian refuge areas.
(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: 0
? 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., shallowtunnel that doesn?t require much elevation change instead of pedestrian bridge with numerous suitchbacks).

Response:
(Limit 1,400 characters; approximately 200 words)
If mid-block crossings are restricted or blocked, explain why this is necessary and howpedestrian 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., vider 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, narrowlanes, 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.).
Response: The construction of a single-lane roundabout will reduce motorist speed through the intersection compared to the existing signalized intersection. The roundabout will incorporate horizontal curves and other geometric design standards to compel vehicles to decelerate safely when entering and circulating the roundabout. The extended raised splitter islands will visually narrow the approach lanes and further manage the vehicle speeds while also managing turning movements at the adjacent driveways. Pavement width at the intersection will be significantly decreased, which is shown to reduce speeds. The single lane roundabout will be an improvement to managing speed and turning movements compared to the existing condition. The concrete truck apron is a key component of the roundabout design and is located between the central raised island and the primary roadway. The truck apron will enable semi-trailers and other large vehicles to circulate the roundabout at a safe and comfortable speed.
(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 existing posted speed limit is 40 mph on CSAH 14 eastern leg and 30 mph on CSAH 14 west of the intersection within the school speed zone. The existing posted speed limit is 55 mph on CSAH 23. These posted speed limits will not change. The addition of the roundabout at the intersection will decrease speed from the existing condition. The design speed for vehicles entering the single-lane roundabout is 15 mph .

## (Limit 1,400 characters; approximately 200 words)

SUB-M EASURE 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 howmany 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
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

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.)
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.)
Existing road is within 500? of $1+$ shopping, dining, or entertainment destinations Yes (e.g., grocery store, restaurant)

Several commercial uses are located at the project location intersection including The Tavern on Main, Mama Mia Mexican Grill, US Bank Branch, Marathon Gas Station, BILL's Superette, G-Will Liquors, Jackigene's Hair Studio, and more.
(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- Yes designated affordable housing)

If checked, please describe:
Lino Lakes Elementary School, with over 450 students, is located adjacent to the project area.
(Linit 1,400 characters; approximately 200 words)

## Measure A: Multimodal Elements and Existing Connections

Response:
The proposed project will convert the intersection from a traffic signal to a single lane roundabout with added and enhanced pedestrian and multimodal facilities. The pedestrian crossing distance will be decreased from curb to pedestrian refuge. The pedestrian-vehicle conflict points will be significantly reduced. A dedicated pedestrian facility will be added to the north side of CSAH 23 extending an additional 700 feet to connect to the Lino Lakes Elementary School. These multimodal project components will enhance the multimodal components of the corridor, which is designated as part of the RBTN. CSAH 14 is designated as a RBTN Tier 2 Alignment and CSAH 23 is designated as a RBTN Tier 2 Corridor, meaning the full project is within the RBTN designation. I-35W south of the project area is designated as an expressway barrier as part of the Regional Bicycle Barriers designation a Tier 3 Expressway Barrier Crossing area is within a $1 / 4$ mile of the project area. There is no fixed route transit service directly in the project area; however, the project area connects to the 35-E Park and Ride serviced by Route 275 in Centerville five miles southeast of the project area. Curb ramps within the project area were given a Tier 1 ? Good rating as part of the 2018 Anoka County ADA Transition Plan. All curb ramps will be reconstructed and/or updated in accordance with ADA requirements.
(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, howthe 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 witten 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 Yes 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.

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.

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.

Most recently, residents were invited to learn about the project, provide input and connect with County staff at http://anokastpprojects.com. The website was advertised through press releases and social media. The website included an online survey, web-based mapping interface, and contact information, where residents could connect with County staff.

Residents were invited to a public open house meeting on December 14, 2023, at the Columbus Community Center from $5-7 \mathrm{pm}$. The meeting was advertised ahead of time through press releases, social media, and through the three project agency websites ( 1 Counties \& 2 Cities). The purpose of the meeting was to seek input on conceptual design options and to answer questions from the community. An online survey was administered where residents were asked to ?Tell us how these projects fit into your vision for our community. We seek your input and value your opinions on these important transportation improvement investments.?

PROJECT WEBSITES:
CSAH 23 Corridor Study:
https://storymaps.arcgis.com/stories/422db3bcd40b4df4932d4dd7b0f8ecc3
Anoka County 2024 STP Projects: https://www.anokastpprojects.com/

## (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 project?s 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.
50\%
Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

Yes
25\%
Layout has not been started
0\%
Attach Layout
1702500140684_CSAH14-23_Concept_OT4M00213_RAB_Figure.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 Yes identified historic bridge
100\%

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

100\%
Historic/archeological property impacted; determination of ?no adverse effect? anticipated
80\%
Historic/archeological property impacted; determination of ?adverse effect? anticipated
40\%
Unsure if there are any historic/archaeological properties in the project area.
$0 \%$
Project is located on an identified historic bridge
4. Right-of-Way ( 25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT
agreement/limited-use permit either not required or all have been acquired
100\%
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete
50\%
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified 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)
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):
\$2,671,700.00
Enter Amount of the Noise Walls:
Total Project Cost subtract the amount of the noise walls:
\$2,671,700.00
Enter amount of any outside, competitive funding:
$\$ 0.00$
Attach documentation of award:
Points Awarded in Previous Criteria
Cost Efectiveness $\quad \$ 0.00$

## Other Attachments

| File Name | Description | File Size |
| :--- | :--- | :--- |
| Affordable Housing Map-Streams HousingLink Property Detail_Combined.pdf | Affordable Housing Map |  |
| Anoka Co CSAH 14-CSAH 23 Existing Conditions.pdf | Existing conditions pictures | 7.1 MB |
| Anoka Co_Resolution \#2023-137_14-23 Roundabout.pdf | Anoka County Resolution of support | 382 KB |
| AnokaCounty_STPSummary2023_MainStandLakeDr.pdf | Engagement Summary |  |
| CSAH14-23_Concept_0T4M00213_RAB_Figure.pdf | Project Concept drawing |  |
| One Page Description-CSAH 14-CSAH 23 Intersection Project.pdf | One Page Project Summary | 383 KB |



Results

Total of publicly subsidized rental
housing units in census
tracts within $1 / 2$ mile: 0
Project located in census tracts
that are BELOW the regional average
for population in poverty or
population of color.

Points
Area of Concentrated Poverty

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

ETROPOLITAN

|  | 4 |  |  | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | $\stackrel{7}{ }$ | ${ }^{7}$ | $\uparrow$ | $\stackrel{7}{ }$ | \% | $\uparrow$ | \% | ${ }^{7}$ | $\uparrow$ | F |
| Trafic Volume (vph) | 188 | 227 | 82 | 219 | 283 | 45 | 99 | 318 | 221 | 33 | 176 | 171 |
| Future Volume (vph) | 188 | 227 | 82 | 219 | 283 | 45 | 99 | 318 | 221 | 33 | 176 | 171 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 300 |  | 300 | 250 |  | 250 | 280 |  | 220 | 300 |  | 300 |
| Storage Lanes | 1 |  | 1 | 1 |  | 1 | 1 |  | 1 | 1 |  | 1 |
| Taper Length (ft) | 100 |  |  | 100 |  |  | 100 |  |  | 100 |  |  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt |  |  | 0.850 |  |  | 0.850 |  |  | 0.850 |  |  | 0.850 |
| Flt Protected | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| FIt Permitted | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Right Turn on Red |  |  | No |  |  | No |  |  | No |  |  | No |
| Satd. Flow (RTOR) |  |  |  |  |  |  |  |  |  |  |  |  |
| Link Speed (mph) |  | 40 |  |  | 40 |  |  | 50 |  |  | 55 |  |
| Link Distance (ft) |  | 1217 |  |  | 1018 |  |  | 1129 |  |  | 1025 |  |
| Travel Time (s) |  | 20.7 |  |  | 17.4 |  |  | 15.4 |  |  | 12.7 |  |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 209 | 252 | 91 | 243 | 314 | 50 | 110 | 353 | 246 | 37 | 196 | 190 |
| Shared Lane Trafic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 209 | 252 | 91 | 243 | 314 | 50 | 110 | 353 | 246 | 37 | 196 | 190 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) |  | 12 |  |  | 12 |  |  | 12 |  |  | 12 |  |
| Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | $\mathrm{Cl}+\mathrm{Ex}$ |
| Detector 1 Channel |  |  |  |  |  |  |  |  |  |  |  |  |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) |  | 94 |  |  | 94 |  |  | 94 |  |  | 94 |  |
| Detector 2 Size(ft) |  | 6 |  |  | 6 |  |  | 6 |  |  | 6 |  |
| Detector 2 Type |  | Cl+Ex |  |  | Cl+Ex |  |  | Cl+Ex |  |  | Cl+Ex |  |
| Detector 2 Channel |  |  |  |  |  |  |  |  |  |  |  |  |
| Detector 2 Extend (s) |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 |  | 1 | 6 |  | 3 | 8 |  | 7 | 4 |  |
| Permitted Phases |  |  | 2 |  |  | 6 |  |  | 8 |  |  | 4 |


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 7.0 | 14.0 | 14.0 | 7.0 | 14.0 | 14.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 |
| Total Split (s) | 16.0 | 25.0 | 25.0 | 16.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 |
| Total Split (\%) | 20.0\% | 31.3\% | 31.3\% | 20.0\% | 31.3\% | 31.3\% | 17.5\% | 31.3\% | 31.3\% | 17.5\% | 31.3\% | 31.3\% |
| Maximum Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | Lead | Lag | Lead | Lead | Lag | Lead | Lead |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | None | None | None | None |
| Walk Time (s) |  | 7.0 | 7.0 |  | 7.0 | 7.0 |  | 7.0 | 7.0 |  | 7.0 | 7.0 |
| Flash Dont Walk (s) |  | 11.0 | 11.0 |  | 11.0 | 11.0 |  | 11.0 | 11.0 |  | 11.0 | 11.0 |
| Pedestrian Calls (\#/hr) |  | 0 | 0 |  | 0 | 0 |  | 0 | 0 |  | 0 | 0 |
| Act Effct Green (s) | 9.2 | 16.1 | 16.1 | 9.8 | 16.7 | 16.7 | 7.9 | 18.4 | 18.4 | 7.1 | 14.8 | 14.8 |
| Actuated g/C Ratio | 0.13 | 0.22 | 0.22 | 0.13 | 0.23 | 0.23 | 0.11 | 0.25 | 0.25 | 0.10 | 0.20 | 0.20 |
| v/c Ratio | 0.95 | 0.62 | 0.26 | 1.03 | 0.74 | 0.14 | 0.58 | 0.76 | 0.62 | 0.22 | 0.52 | 0.60 |
| Control Delay | 86.7 | 34.9 | 28.2 | 104.3 | 40.2 | 25.9 | 48.8 | 39.7 | 34.6 | 37.1 | 33.2 | 36.7 |
| Queue Delay | 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 Delay | 86.7 | 34.9 | 28.2 | 104.3 | 40.2 | 25.9 | 48.8 | 39.7 | 34.6 | 37.1 | 33.2 | 36.7 |
| LOS | F | C | C | F | D | C | D | D | C | D | C | D |
| Approach Delay |  | 53.4 |  |  | 64.7 |  |  | 39.3 |  |  | 35.1 |  |
| Approach LOS |  | D |  |  | E |  |  | D |  |  | D |  |
| 90th \%ile Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 |
| 90th \%ile Term Code | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max |
| 70th \%ile Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.9 | 18.0 | 18.0 | 7.0 | 17.1 | 17.1 |
| 70th \%ile Term Code | Max | Max | Max | Max | Max | Max | Hold | Max | Max | Max | Gap | Gap |
| 50th \%ile Green (s) | 9.0 | 15.9 | 15.9 | 11.1 | 18.0 | 18.0 | 10.2 | 18.0 | 18.0 | 7.0 | 14.8 | 14.8 |
| 50th \%ile Term Code | Max | Gap | Gap | Hold | Max | Max | Hold | Max | Max | Max | Gap | Gap |
| 30th \%ile Green (s) | 9.0 | 14.0 | 14.0 | 10.2 | 15.2 | 15.2 | 7.0 | 25.6 | 25.6 | 0.0 | 11.6 | 11.6 |
| 30th \%ile Term Code | Max | Min | Min | Hold | Gap | Gap | Max | Hold | Hold | Skip | Gap | Gap |
| 10th \%ile Green (s) | 9.0 | 14.0 | 14.0 | 9.0 | 14.0 | 14.0 | 0.0 | 12.3 | 12.3 | 0.0 | 12.3 | 12.3 |
| 10th \%ile Term Code | Max | Min | Min | Max | Min | Min | Skip | Gap | Gap | Skip | Hold | Hold |
| Stops (vph) | 142 | 197 | 66 | 163 | 244 | 38 | 83 | 263 | 184 | 31 | 149 | 149 |
| Fuel Used(gal) | 6 | 5 | 2 | 8 | 7 | 1 | 3 | 9 | 6 | 1 | 5 | 5 |
| CO Emissions (g/hr) | 438 | 379 | 126 | 543 | 466 | 64 | 207 | 621 | 417 | 73 | 356 | 360 |
| NOx Emissions (g/hr) | 85 | 74 | 24 | 106 | 91 | 13 | 40 | 121 | 81 | 14 | 69 | 70 |
| VOC Emissions (g/hr) | 102 | 88 | 29 | 126 | 108 | 15 | 48 | 144 | 97 | 17 | 83 | 84 |
| Dilemma Vehicles (\#) | 0 | 13 | 0 | 0 | 17 | 0 | 0 | 19 | 0 | 0 | 11 | 0 |
| Queue Length 50th (ft) | ~116 | 118 | 39 | 123 | 147 | 20 | 52 | 169 | 113 | 18 | 90 | 89 |
| Queue Length 95th (ft) | \#246 | 188 | 77 | \#290 | \#263 | 48 | \#133 | \#311 | \#210 | 46 | 148 | 149 |
| Internal Link Dist (ft) |  | 1137 |  |  | 938 |  |  | 1049 |  |  | 945 |  |
| Turn Bay Length (ft) | 300 |  | 300 | 250 |  | 250 | 280 |  | 220 | 300 |  | 300 |
| Base Capacity (vph) | 221 | 465 | 395 | 236 | 465 | 395 | 190 | 505 | 429 | 171 | 465 | 395 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Splits and Phases: 1: CSAH 23 \& CSAH 14


## 1: CSAH 23 \& CSAH 14

| Direction | All |
| :--- | ---: |
| Future Volume (vph) | 2062 |
| Control Delay / Veh (s/v) | 49 |
| Queue Delay / Veh (s/v) | 0 |
| Total Delay / Veh (s/v) | 49 |
| Total Delay (hr) | 28 |
| Stops / Veh | 0.83 |
| Stops (\#) | 1709 |
| Average Speed (mph) | 11 |
| Total Travel Time (hr) | 37 |
| Distance Traveled (mi) | 430 |
| Fuel Consumed (gal) | 58 |
| Fuel Economy (mpg) | 7.4 |
| CO Emissions (kg) | 4.05 |
| NOx Emissions (kg) | 0.79 |
| VOC Emissions (kg) | 0.94 |
| Unserved Vehicles (\#) | 9 |
| Vehicles in dilemma zone (\#) | 60 |


| Intersection |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Intersection Delay, s/veh | 27.3 |  |  |  |  |  |  |  |
| Intersection LOS | D |  |  |  |  |  |  |  |
| Approach |  | EB |  | WB |  | NB |  | SB |
| Entry Lanes |  | 1 |  | 1 |  | 1 |  | 1 |
| Conflicting Circle Lanes |  | 1 |  | 1 |  | 1 |  | 1 |
| Adj Approach Flow, veh/h |  | 552 |  | 607 |  | 709 |  | 423 |
| Demand Flow Rate, veh/h |  | 563 |  | 619 |  | 723 |  | 432 |
| Vehicles Circulating, veh/h |  | 486 |  | 685 |  | 508 |  | 680 |
| Vehicles Exiting, veh/h |  | 626 |  | 546 |  | 541 |  | 624 |
| Ped Vol Crossing Leg, \#/h |  | 0 |  | 0 |  | 0 |  | 0 |
| Ped Cap Adj |  | 1.000 |  | 1.000 |  | 1.000 |  | 1.000 |
| Approach Delay, s/veh |  | 16.1 |  | 39.4 |  | 31.8 |  | 17.0 |
| Approach LOS |  | C |  | E |  | D |  | C |
| Lane | Left |  | Left |  | Left |  | Left |  |
| Designated Moves | LTR |  | LTR |  | LTR |  | LTR |  |
| Assumed Moves | LTR |  | LTR |  | LTR |  | LTR |  |
| RT Channelized |  |  |  |  |  |  |  |  |
| Lane Util | 1.000 |  | 1.000 |  | 1.000 |  | 1.000 |  |
| Follow-Up Headway, s | 2.609 |  | 2.609 |  | 2.609 |  | 2.609 |  |
| Critical Headway, s | 4.976 |  | 4.976 |  | 4.976 |  | 4.976 |  |
| Entry Flow, veh/h | 563 |  | 619 |  | 723 |  | 432 |  |
| Cap Entry Lane, veh/h | 841 |  | 686 |  | 822 |  | 690 |  |
| Entry HV Adj Factor | 0.980 |  | 0.980 |  | 0.981 |  | 0.979 |  |
| Flow Entry, veh/h | 552 |  | 607 |  | 709 |  | 423 |  |
| Cap Entry, veh/h | 824 |  | 673 |  | 806 |  | 675 |  |
| V/C Ratio | 0.670 |  | 0.902 |  | 0.880 |  | 0.626 |  |
| Control Delay, s/veh | 16.1 |  | 39.4 |  | 31.8 |  | 17.0 |  |
| LOS | C |  | E |  | D |  | C |  |
| 95th \%tile Queue, veh | 5 |  | 12 |  | 11 |  | 4 |  |

## 1: CSAH 23 \& CSAH 14

| Direction | All |
| :--- | ---: |
| Future Volume (vph) | 2062 |
| Control Delay / Veh (s/v) | 0 |
| Queue Delay / Veh (s/v) | 0 |
| Total Delay / Veh (s/v) | 0 |
| Total Delay (hr) | 0 |
| Stops / Veh | 1.00 |
| Stops (\#) | 2062 |
| Average Speed (mph) | 45 |
| Total Travel Time (hr) | 10 |
| Distance Traveled (mi) | 430 |
| Fuel Consumed (gal) | 42 |
| Fuel Economy (mpg) | 10.2 |
| CO Emissions (kg) | 2.94 |
| NOx Emissions (kg) | 0.57 |
| VOC Emissions (kg) | 0.68 |
| Unserved Vehicles (\#) | 0 |
| Vehicles in dilemma zone (\#) | 0 |


|  | 4 |  |  | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | $\stackrel{7}{ }$ | ${ }^{7}$ | $\uparrow$ | $\stackrel{7}{ }$ | \% | $\uparrow$ | \% | ${ }^{7}$ | $\uparrow$ | F |
| Trafic Volume (vph) | 188 | 227 | 82 | 219 | 283 | 45 | 99 | 318 | 221 | 33 | 176 | 171 |
| Future Volume (vph) | 188 | 227 | 82 | 219 | 283 | 45 | 99 | 318 | 221 | 33 | 176 | 171 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 300 |  | 300 | 250 |  | 250 | 280 |  | 220 | 300 |  | 300 |
| Storage Lanes | 1 |  | 1 | 1 |  | 1 | 1 |  | 1 | 1 |  | 1 |
| Taper Length (ft) | 100 |  |  | 100 |  |  | 100 |  |  | 100 |  |  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt |  |  | 0.850 |  |  | 0.850 |  |  | 0.850 |  |  | 0.850 |
| Flt Protected | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| FIt Permitted | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  | 0.950 |  |  |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Right Turn on Red |  |  | No |  |  | No |  |  | No |  |  | No |
| Satd. Flow (RTOR) |  |  |  |  |  |  |  |  |  |  |  |  |
| Link Speed (mph) |  | 40 |  |  | 40 |  |  | 50 |  |  | 55 |  |
| Link Distance (ft) |  | 1217 |  |  | 1018 |  |  | 1129 |  |  | 1025 |  |
| Travel Time (s) |  | 20.7 |  |  | 17.4 |  |  | 15.4 |  |  | 12.7 |  |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 209 | 252 | 91 | 243 | 314 | 50 | 110 | 353 | 246 | 37 | 196 | 190 |
| Shared Lane Trafic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 209 | 252 | 91 | 243 | 314 | 50 | 110 | 353 | 246 | 37 | 196 | 190 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) |  | 12 |  |  | 12 |  |  | 12 |  |  | 12 |  |
| Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | $\mathrm{Cl}+\mathrm{Ex}$ |
| Detector 1 Channel |  |  |  |  |  |  |  |  |  |  |  |  |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) |  | 94 |  |  | 94 |  |  | 94 |  |  | 94 |  |
| Detector 2 Size(ft) |  | 6 |  |  | 6 |  |  | 6 |  |  | 6 |  |
| Detector 2 Type |  | Cl+Ex |  |  | Cl+Ex |  |  | Cl+Ex |  |  | Cl+Ex |  |
| Detector 2 Channel |  |  |  |  |  |  |  |  |  |  |  |  |
| Detector 2 Extend (s) |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 |  | 1 | 6 |  | 3 | 8 |  | 7 | 4 |  |
| Permitted Phases |  |  | 2 |  |  | 6 |  |  | 8 |  |  | 4 |


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase |  |  |  |  |  |  |  |  |  |  |  |  |
| Minimum Initial (s) | 7.0 | 14.0 | 14.0 | 7.0 | 14.0 | 14.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 |
| Total Split (s) | 16.0 | 25.0 | 25.0 | 16.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 | 14.0 | 25.0 | 25.0 |
| Total Split (\%) | 20.0\% | 31.3\% | 31.3\% | 20.0\% | 31.3\% | 31.3\% | 17.5\% | 31.3\% | 31.3\% | 17.5\% | 31.3\% | 31.3\% |
| Maximum Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | Lead | Lag | Lead | Lead | Lag | Lead | Lead |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | None | None | None | None |
| Walk Time (s) |  | 7.0 | 7.0 |  | 7.0 | 7.0 |  | 7.0 | 7.0 |  | 7.0 | 7.0 |
| Flash Dont Walk (s) |  | 11.0 | 11.0 |  | 11.0 | 11.0 |  | 11.0 | 11.0 |  | 11.0 | 11.0 |
| Pedestrian Calls (\#/hr) |  | 0 | 0 |  | 0 | 0 |  | 0 | 0 |  | 0 | 0 |
| Act Effct Green (s) | 9.2 | 16.1 | 16.1 | 9.8 | 16.7 | 16.7 | 7.9 | 18.4 | 18.4 | 7.1 | 14.8 | 14.8 |
| Actuated g/C Ratio | 0.13 | 0.22 | 0.22 | 0.13 | 0.23 | 0.23 | 0.11 | 0.25 | 0.25 | 0.10 | 0.20 | 0.20 |
| v/c Ratio | 0.95 | 0.62 | 0.26 | 1.03 | 0.74 | 0.14 | 0.58 | 0.76 | 0.62 | 0.22 | 0.52 | 0.60 |
| Control Delay | 86.7 | 34.9 | 28.2 | 104.3 | 40.2 | 25.9 | 48.8 | 39.7 | 34.6 | 37.1 | 33.2 | 36.7 |
| Queue Delay | 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 Delay | 86.7 | 34.9 | 28.2 | 104.3 | 40.2 | 25.9 | 48.8 | 39.7 | 34.6 | 37.1 | 33.2 | 36.7 |
| LOS | F | C | C | F | D | C | D | D | C | D | C | D |
| Approach Delay |  | 53.4 |  |  | 64.7 |  |  | 39.3 |  |  | 35.1 |  |
| Approach LOS |  | D |  |  | E |  |  | D |  |  | D |  |
| 90th \%ile Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 | 7.0 | 18.0 | 18.0 |
| 90th \%ile Term Code | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max | Max |
| 70th \%ile Green (s) | 9.0 | 18.0 | 18.0 | 9.0 | 18.0 | 18.0 | 7.9 | 18.0 | 18.0 | 7.0 | 17.1 | 17.1 |
| 70th \%ile Term Code | Max | Max | Max | Max | Max | Max | Hold | Max | Max | Max | Gap | Gap |
| 50th \%ile Green (s) | 9.0 | 15.9 | 15.9 | 11.1 | 18.0 | 18.0 | 10.2 | 18.0 | 18.0 | 7.0 | 14.8 | 14.8 |
| 50th \%ile Term Code | Max | Gap | Gap | Hold | Max | Max | Hold | Max | Max | Max | Gap | Gap |
| 30th \%ile Green (s) | 9.0 | 14.0 | 14.0 | 10.2 | 15.2 | 15.2 | 7.0 | 25.6 | 25.6 | 0.0 | 11.6 | 11.6 |
| 30th \%ile Term Code | Max | Min | Min | Hold | Gap | Gap | Max | Hold | Hold | Skip | Gap | Gap |
| 10th \%ile Green (s) | 9.0 | 14.0 | 14.0 | 9.0 | 14.0 | 14.0 | 0.0 | 12.3 | 12.3 | 0.0 | 12.3 | 12.3 |
| 10th \%ile Term Code | Max | Min | Min | Max | Min | Min | Skip | Gap | Gap | Skip | Hold | Hold |
| Stops (vph) | 142 | 197 | 66 | 163 | 244 | 38 | 83 | 263 | 184 | 31 | 149 | 149 |
| Fuel Used(gal) | 6 | 5 | 2 | 8 | 7 | 1 | 3 | 9 | 6 | 1 | 5 | 5 |
| CO Emissions (g/hr) | 438 | 379 | 126 | 543 | 466 | 64 | 207 | 621 | 417 | 73 | 356 | 360 |
| NOx Emissions (g/hr) | 85 | 74 | 24 | 106 | 91 | 13 | 40 | 121 | 81 | 14 | 69 | 70 |
| VOC Emissions (g/hr) | 102 | 88 | 29 | 126 | 108 | 15 | 48 | 144 | 97 | 17 | 83 | 84 |
| Dilemma Vehicles (\#) | 0 | 13 | 0 | 0 | 17 | 0 | 0 | 19 | 0 | 0 | 11 | 0 |
| Queue Length 50th (ft) | ~116 | 118 | 39 | 123 | 147 | 20 | 52 | 169 | 113 | 18 | 90 | 89 |
| Queue Length 95th (ft) | \#246 | 188 | 77 | \#290 | \#263 | 48 | \#133 | \#311 | \#210 | 46 | 148 | 149 |
| Internal Link Dist (ft) |  | 1137 |  |  | 938 |  |  | 1049 |  |  | 945 |  |
| Turn Bay Length (ft) | 300 |  | 300 | 250 |  | 250 | 280 |  | 220 | 300 |  | 300 |
| Base Capacity (vph) | 221 | 465 | 395 | 236 | 465 | 395 | 190 | 505 | 429 | 171 | 465 | 395 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Splits and Phases: 1: CSAH 23 \& CSAH 14


## 1: CSAH 23 \& CSAH 14

| Direction | All |
| :--- | ---: |
| Future Volume (vph) | 2062 |
| Control Delay / Veh (s/v) | 49 |
| Queue Delay / Veh (s/v) | 0 |
| Total Delay / Veh (s/v) | 49 |
| Total Delay (hr) | 28 |
| Stops / Veh | 0.83 |
| Stops (\#) | 1709 |
| Average Speed (mph) | 11 |
| Total Travel Time (hr) | 37 |
| Distance Traveled (mi) | 430 |
| Fuel Consumed (gal) | 58 |
| Fuel Economy (mpg) | 7.4 |
| CO Emissions (kg) | 4.05 |
| NOx Emissions (kg) | 0.79 |
| VOC Emissions (kg) | 0.94 |
| Unserved Vehicles (\#) | 9 |
| Vehicles in dilemma zone (\#) | 60 |


| Intersection |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Intersection Delay, s/veh | 27.3 |  |  |  |  |  |  |  |
| Intersection LOS | D |  |  |  |  |  |  |  |
| Approach |  | EB |  | WB |  | NB |  | SB |
| Entry Lanes |  | 1 |  | 1 |  | 1 |  | 1 |
| Conflicting Circle Lanes |  | 1 |  | 1 |  | 1 |  | 1 |
| Adj Approach Flow, veh/h |  | 552 |  | 607 |  | 709 |  | 423 |
| Demand Flow Rate, veh/h |  | 563 |  | 619 |  | 723 |  | 432 |
| Vehicles Circulating, veh/h |  | 486 |  | 685 |  | 508 |  | 680 |
| Vehicles Exiting, veh/h |  | 626 |  | 546 |  | 541 |  | 624 |
| Ped Vol Crossing Leg, \#/h |  | 0 |  | 0 |  | 0 |  | 0 |
| Ped Cap Adj |  | 1.000 |  | 1.000 |  | 1.000 |  | 1.000 |
| Approach Delay, s/veh |  | 16.1 |  | 39.4 |  | 31.8 |  | 17.0 |
| Approach LOS |  | C |  | E |  | D |  | C |
| Lane | Left |  | Left |  | Left |  | Left |  |
| Designated Moves | LTR |  | LTR |  | LTR |  | LTR |  |
| Assumed Moves | LTR |  | LTR |  | LTR |  | LTR |  |
| RT Channelized |  |  |  |  |  |  |  |  |
| Lane Util | 1.000 |  | 1.000 |  | 1.000 |  | 1.000 |  |
| Follow-Up Headway, s | 2.609 |  | 2.609 |  | 2.609 |  | 2.609 |  |
| Critical Headway, s | 4.976 |  | 4.976 |  | 4.976 |  | 4.976 |  |
| Entry Flow, veh/h | 563 |  | 619 |  | 723 |  | 432 |  |
| Cap Entry Lane, veh/h | 841 |  | 686 |  | 822 |  | 690 |  |
| Entry HV Adj Factor | 0.980 |  | 0.980 |  | 0.981 |  | 0.979 |  |
| Flow Entry, veh/h | 552 |  | 607 |  | 709 |  | 423 |  |
| Cap Entry, veh/h | 824 |  | 673 |  | 806 |  | 675 |  |
| V/C Ratio | 0.670 |  | 0.902 |  | 0.880 |  | 0.626 |  |
| Control Delay, s/veh | 16.1 |  | 39.4 |  | 31.8 |  | 17.0 |  |
| LOS | C |  | E |  | D |  | C |  |
| 95th \%tile Queue, veh | 5 |  | 12 |  | 11 |  | 4 |  |

## 1: CSAH 23 \& CSAH 14

| Direction | All |
| :--- | ---: |
| Future Volume (vph) | 2062 |
| Control Delay / Veh (s/v) | 0 |
| Queue Delay / Veh (s/v) | 0 |
| Total Delay / Veh (s/v) | 0 |
| Total Delay (hr) | 0 |
| Stops / Veh | 1.00 |
| Stops (\#) | 2062 |
| Average Speed (mph) | 45 |
| Total Travel Time (hr) | 10 |
| Distance Traveled (mi) | 430 |
| Fuel Consumed (gal) | 42 |
| Fuel Economy (mpg) | 10.2 |
| CO Emissions (kg) | 2.94 |
| NOx Emissions (kg) | 0.57 |
| VOC Emissions (kg) | 0.68 |
| Unserved Vehicles (\#) | 0 |
| Vehicles in dilemma zone (\#) | 0 |

Traffic Safety Benefit-Cost Calculation
Highway Safety Improvement Program (HSIP) Reactive Project

## A. Roadway Description

| Route | CSAH 23 | District |  | County | Anoka |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Begin RP | CSAH 14 | End RP | CSAH 14 | Miles | 0.000 |
| Location | The intersection of CSAH 23 and CSAH 14 |  |  |  |  |

## B. Project Description

| Proposed Work | Converting signa | roundabout |  |
| :---: | :---: | :---: | :---: |
| Project Cost* |  | Installation Year | 2027 |
| Project Service Life | 20 years | Traffic Growth Factor | 1.0\% |
| * exclude Right of Wa | rom Project Cost |  |  |

C. Crash Modification Factor

| 0.52 | Fatal (K) Crashes | Reference CMF 225 |  |
| :--- | :--- | :--- | :--- |
| 0.52 | Serious Injury (A) Crashes |  |  |
| 0.52 | Moderate Injury (B) Crashes | Crash Type All |  |
| 0.52 | Possible Injury (C) Crashes |  |  |
| 0.52 | Property Damage Only Crashes |  | WWW.CMFclearinghouse.org |

D. Crash Modification Factor (optional second CMF)

|  | Fatal (K) Crashes | Reference |
| :--- | :--- | :--- |
|  |  |  |
|  | Serious Injury (A) Crashes |  |
|  | Crash Type |  |
|  |  |  |
| Possible Injury (C) Crashes |  | www.CMFclearinghouse.org |


| E. Crash Data |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Begin Date <br> Data Sourc | 1/1/ | End Date | 12/31/2022 | 3 years |
|  |  |  |  |  |
|  | Crash Severity |  | < opt |  |
|  | K crashes | 0 |  |  |
|  | A crashes | 0 |  |  |
|  | B crashes | 0 |  |  |
|  | C crashes | 3 |  |  |
|  | PDO crashes | 11 |  |  |
| F. Benefit-Cost Calculation |  |  |  |  |
| \$1,809,879 |  | Benefit (present value) | $\mathrm{B} / \mathrm{C} \text { Ratio = N/A }$ |  |
|  | \$0 | Cost |  |  |
|  | Proposed project expected to reduce 3 crashes annually, o of which involving fatality or serious injury. |  |  |  |

F. Analysis Assumptions

| Crash Severity |  |
| :--- | ---: |
| K crashes | $\$ 1,600,000$ |
| A crashes | $\$ 800,000$ |
| B crashes | $\$ 250,000$ |
| C crashes | $\$ 130,000$ |
| PDO crashes | $\$ 15,000$ |

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

| Real Discount Rate: | $0.8 \%$ | Default |
| :--- | :--- | :--- |
| Traffic Growth Rate: | $1.0 \%$ | Revised |
| Project Service Life: | 20 years | Revised |

## 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 | 0.00 | 0.00 | $\$ 0$ |
| C crashes | 1.44 | 0.48 | $\$ 62,400$ |
| PDO crashes | 5.28 | 1.76 | $\$ 26,400$ |

\$88,800

## H. Amortized Benefit

| Year | Crash Benefits | Present Value |  |
| :---: | :---: | :---: | :---: |
| 2027 | \$88,800 | \$88,800 | Total $=$ \$1,809,879 |
| 2028 | \$89,688 | \$88,976 |  |
| 2029 | \$90,585 | \$89,153 |  |
| 2030 | \$91,491 | \$89,330 |  |
| 2031 | \$92,406 | \$89,507 |  |
| 2032 | \$93,330 | \$89,684 |  |
| 2033 | \$94,263 | \$89,862 |  |
| 2034 | \$95,206 | \$90,041 |  |
| 2035 | \$96,158 | \$90,219 |  |
| 2036 | \$97,119 | \$90,398 |  |
| 2037 | \$98,090 | \$90,578 |  |
| 2038 | \$99,071 | \$90,757 |  |
| 2039 | \$100,062 | \$90,938 |  |
| 2040 | \$101,063 | \$91,118 |  |
| 2041 | \$102,073 | \$91,299 |  |
| 2042 | \$103,094 | \$91,480 |  |
| 2043 | \$104,125 | \$91,661 |  |
| 2044 | \$105,166 | \$91,843 |  |
| 2045 | \$106,218 | \$92,025 |  |
| 2046 | \$107,280 | \$92,208 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 |  |
| 0 | \$0 | \$0 | NOTE: |
| 0 | \$0 | \$0 | This calculation relies on the real discount rate, which accounts |
| 0 | \$0 | \$0 | for inflation. No further discounting is necessary. |
| 0 | \$0 | \$0 |  |


| Crash Severity/Crash Year |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Crash Severity | Total | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 9}$ | $\mathbf{2 0 2 0}$ | $\mathbf{2 0 2 1}$ | $\mathbf{2 0 2 2}$ | $\mathbf{2 0 2 3}$ |
| K - Fatal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| A - Serious Injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| B - Minor Injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C - Possible Injury | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| N - Prop Dmg Only | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 4 | 0 |
| U - Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 7 | 0 |



| Time of Day/Day of Week |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From To | $\begin{aligned} & \text { 00:00 } \\ & 01: 59 \end{aligned}$ | $\begin{aligned} & \text { 02:00 } \\ & \text { 03:59 } \end{aligned}$ | $\begin{aligned} & \text { 04:00 } \\ & 05: 59 \end{aligned}$ | $\begin{aligned} & \text { 06:00 } \\ & \text { 07:59 } \end{aligned}$ | $\begin{aligned} & \text { 08:00 } \\ & \text { 09:59 } \end{aligned}$ |  | $\begin{aligned} & \text { 10:00 } \\ & \text { 11:59 } \end{aligned}$ |  | $\begin{aligned} & 12: 00 \\ & 13: 59 \end{aligned}$ | $\begin{aligned} & 14: 00 \\ & 15: 59 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { 16:00 } \\ & \text { 17:59 } \end{aligned}$ | $\begin{aligned} & 18: 00 \\ & 19: 59 \end{aligned}$ | $\begin{aligned} & \text { 20:00 } \\ & 21: 59 \end{aligned}$ | $\begin{aligned} & 22: 00 \\ & \text { 23:59 } \\ & \hline \end{aligned}$ | Total | \% |
| SUN | 0 | 0 | 0 | 0 | 0 |  |  | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 14.3 |
| MON | 0 | 0 | 0 | 0 | 1 |  |  | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 21.4 |
| tue | 0 | 0 | 0 | 0 | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| WED | 0 | 0 | 0 | 0 | 0 |  |  | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 21.4 |
| THU | 0 | 0 | 0 | 0 | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| FRI | 0 | 0 | 0 | 0 | 0 |  |  | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 28.6 |
| SAT | 0 | 0 | 0 | 0 | 0 |  |  | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 14.3 |
| Total | 0 | 0 | 0 | 0 | 1 |  |  | 1 | 4 | 5 | 3 | 0 | 0 | 0 | 14 | 100.0 |
| \% | 0.0 | 0.0 | 0.0 | 0.0 | 7.1 |  | 7.1 |  | 28.6 | 35.7 | 21.4 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 |
| Driver \& Non-Motorist Age/Gender Summary |  |  |  |  |  |  |  |  | Month Summary |  |  |  |  |  | Total | \% |
| Age | M | F | NR | No Value | Total |  |  | \% | January |  |  |  |  |  | 0 | 0.0 |
| <14 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | February |  |  |  |  |  | 2 | 14.3 |
| 14 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | March |  |  |  |  |  | 1 | 7.1 |
| 15 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | April |  |  |  |  |  | 3 | 21.4 |
| 16 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | May |  |  |  |  |  | 1 | 7.1 |
| 17 | 1 | 1 | 0 | 0 |  | 2 |  | 6.2 | June |  |  |  |  |  | 2 | 14.3 |
| 18 | 1 | 0 | 0 | 0 |  | 1 |  | 3.1 | July |  |  |  |  |  | 1 | 7.1 |
| 19 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | August |  |  |  |  |  | 2 | 14.3 |
| 20 | 1 | 1 | 0 | 0 |  | 2 |  | 6.2 | September |  |  |  |  |  | 2 | 14.3 |
| 21-24 | 0 | 2 | 0 | 0 |  | 2 |  | 6.2 | October |  |  |  |  |  | 0 | 0.0 |
| 25-29 | 2 | 3 | 0 | 0 |  | 5 |  | 15.6 | November |  |  |  |  |  | 0 | 0.0 |
| 30-34 | 1 | 0 | 0 | 0 |  | 1 |  | 3.1 | December |  |  |  |  |  | 0 | 0.0 |
| 35-39 | 1 | 0 | 0 | 0 |  | 1 |  | 3.1 | Total |  |  |  |  |  | 14 | 100.0 |
| 40-44 | 2 | 1 | 0 | 0 |  | 3 |  | 9.4 |  |  |  |  |  |  |  |  |
| 45-49 | 2 | 1 | 0 | 0 |  | 3 |  | 9.4 | Physical Condition Summary |  |  |  |  |  | Total | \% |
| 50-54 | 1 | 1 | 0 | 0 |  | 2 |  | 6.2 | Apparently Normal (Including No Drugs/AIcohol) |  |  |  |  |  | 30 | 96.8 |
| 55-59 | 1 | 0 | 0 | 0 |  | 1 |  | 3.1 | Physical Disability (Short Term or Long Term) |  |  |  |  |  | 0 | 0.0 |
| 60-64 | 0 | 1 | 0 | 0 |  | 1 |  | 3.1 | Medical Issue (III, Sick or Fainted) |  |  |  |  |  | 1 | 3.2 |
| 65-69 | 1 | 1 | 0 | 0 |  | 2 |  | 6.2 | Emotional (Depression, Angry, Disturbed, etc.) |  |  |  |  |  | 0 | 0.0 |
| 70-74 | 3 | 0 | 0 | 0 |  | 3 |  | 9.4 | Asleep or Fatigued |  |  |  |  |  | 0 | 0.0 |
| 75-79 | 2 | 0 | 0 | 0 |  | 2 |  | 6.2 | Has Been Drinking Alcohol |  |  |  |  |  | 0 | 0.0 |
| 80-84 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | Has Been Taking Illicit Drugs |  |  |  |  |  | 0 | 0.0 |
| 85-89 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | Has Been Taking Medications |  |  |  |  |  | 0 | 0.0 |
| 90-94 | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | Other/Unknown |  |  |  |  |  | 0 | 0.0 |
| 95+ | 0 | 0 | 0 | 0 |  | 0 |  | 0.0 | Not Applicable |  |  |  |  |  | 0 | 0.0 |
| No Value | 0 | 0 | 0 | 1 |  | 1 |  | 3.1 | Total |  |  |  |  |  | 31 | 100.0 |
| Total | 19 | 12 | 0 | 1 |  | 32 |  | 100.0 |  |  |  |  |  |  |  |  |
| \% | 59.4 | 37.5 | 0.0 | 3.1 |  | 100.0 |  | 100.0 |  |  |  |  |  |  |  |  |

Selection Filter:
WORK AREA: County ('659447') - FILTER: Basic Type('1','2','3','4','5','6','7','8','9','10','90'), Year('2020','2021','2022')

Analyst:
Ross Tillman
Notes:
,

CRASH MODIFICATION FACTORS CLEARINGHOUSE

## CMF / CRF Details

CMF ID: 225
CMF Name: Convert signalized intersection to modern roundabout

## Description:

## Prior Condition: No Prior Condition(s)

## Category: Intersection geometry

Study ID: NCHRP Report 572: Applying Roundabouts in the United States, Rodegerdts et al. 2007

|  |  |
| :--- | :--- |
|  | Star Quality Rating |
| Star Quality Rating: | 4 Stars |
|  |  |
|  | Crash Modification Factor (CMF) |
| Value: | 0.52 |
| Adjusted Standard Error: | 0.06 |
| Unadjusted Standard Error: | 0.05 |


|  |  | Crash Reduction Factor |
| ---: | :--- | :--- |
| Value: | 48 |  |
| Adjusted Standard Error: | 6 |  |
| Unadjusted Standard Error: | 5 |  |

## Applicability

| Crash Type: | All |
| :---: | :---: |
| Crash Severity: | All |
| Roadway Types: | Not Specified |
| Minimum Number of Lanes: | 1 |
| Maximum Number of Lanes: | 2 |
| Number of Lanes Direction: |  |
| Number of Lanes Comment: |  |
| Road Division Type: |  |
| Minimum Speed Limit: |  |
| Maximum Speed Limit: |  |
| Speed Unit: |  |
| Speed Limit Comment: |  |
| Area Type: | All |
| Traffic Volume: |  |
| Average Traffic Volume: |  |
| Time of Day: |  |
|  | If countermeasure is intersection-based. |
| Intersection Type: | Roadway/roadway (not interchange related) |
| Intersection Geometry: | Not Specified |
| Traffic Control: | Signalized |
| Major Road Traffic Volume: |  |
| Minor Road Traffic Volume: |  |

Average Major Road Volume:

Average Minor Road Volume:

## Development Details

| Date Range of Data Used: |  |
| ---: | :--- | :--- |
| Municipality: |  |
| State: |  |
| Country: |  |
| Type of Methodology Used: | Before/after using empirical Bayes or full Bayes |


|  | Other Details |
| ---: | :--- |
| Included in HSM: | Yes. HSM lists this CMF in <strong>bold</strong> font to indicate that it has the highes |
| Date Added to Clearinghouse: | Dec 01, 2009 |
| Comments: | Countermeasure name changed to match HSM |

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S.
Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.



## HousingLink

## Property Detail

About Streams

Lakewood Apts
705 Town Center Pkwy Lino Lakes, MN 55014

Funding Categories
Tax Credit
Subsidized-Other
Tax Credit (LIHTC 9\%)
Property Information
Year Built: 2008
Building Type: Apartment
Groups Served: Family, Elderly, Disabled
Total Units: 60
Affordable Units: 60
Affordable Units by Bedroom
2 BR: 12
3 BR: 48
Units by Area Median Income
50\%: 60


Housing+Transit Cost
Walk Score ${ }^{\circledR}: 14$
Report a problem

Listing Summary

| BR Size | 1st Listing | Last Listing | Low Rent | High Rent | Last Rent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | $01 / 10 / 2008$ | $03 / 01 / 2020$ | $\$ 844$ | $\$ 1,258$ | $\$ 1,059$ |
| 3 | $01 / 10 / 2008$ | $10 / 20 / 2022$ | $\$ 979$ | $\$ 1,717$ | $\$ 1,400$ |

Known Property Addresses
1 705 Town Center Pkwy $\quad$ Lino Lakes
Funding Dates \& Programs
First known closing: 7/1/2007
Most recent closing: 12/17/2008
Earliest expiration: 1/1/2035
Last Activity: New Construction

MHFA: Housing Tax Credits
Close Date: 1/1/2005
Estimated Expiration: 1/1/2035
MHFA: Housing Tax Credits 9\%
Close Date: $1 / 1 / 2008$
Expiration: 1/1/2038
MHFA: HOME
Close Date: 12/17/2008

Estimated Expiration: 12/17/2038
MHFA: LHIA
Close Date: 12/17/2008
Estimated Expiration: 12/17/2038
MHFA: LMIR
Close Date: $12 / 17 / 2008$
Expiration: 1/1/2039
Known Property Identifiers
HousingLink: 9678
MHFA: D3792
HUDLIHTC9: MNA20089009

## HousingLink

## Property Detail



Known Property Addresses

| 1 | 61 Willow Pond Trail | Lino Lakes |
| ---: | :--- | :--- |
| 2 | 79 Elm St | Lino Lakes |
| 3 | 107 Elm St | Lino Lakes |
| 4 | 103 Willow Pond Trail | Lino Lakes |

Funding Dates \& Programs
First known closing: 1/1/1994
Most recent closing: $1 / 1 / 1996$
Earliest expiration: 1/1/2024
Last Activity: New Construction

MHFA: Housing Tax Credits
Close Date: 1/1/1994
Estimated Expiration: 1/1/2024
MHFA: Housing Tax Credits 9\%
Close Date: 1/1/1996
Expiration: 1/1/2026
Known Property Identifiers
HousingLink: 5973
MHFATC9: D0701

HUDLIHTC9: MNA1996060

Anoka County CSAH 14 and CSAH 23 Intersection Improvement Project Existing Conditions Pictures
Aerial view of CSAH 14 (Main St.) and CSAH 23 (Lake Dr.)


CSAH 23 (Lake Dr.) at CSAH 14 (Main St.) facing north


CSAH 14 (Main St.) at CSAH 23 (Lake Dr.) facing west


Images from Google 2023.

## AUTHORIZING SUBMITTAL OF A FEDERAL FUNDING APPLICATION FOR THE CSAH 14 / CSAH 23 INTERSECTION IMPROVEMENT PROJECT

WHEREAS, the intersection of CSAH 14 (Main Street), a Non-Freeway "Principal" Arterial, and CSAH 23 (Lake Drive), a Non-Freeway "Principal" Arterial, is a vital transportation intersection utilized by thousands of travelers each day; and,

WHEREAS, Anoka County and the City of Lino Lakes have identified the need to improve the CSAH 14 / CSAH 23 intersection; and,

WHEREAS, existing traffic volumes on CSAH 14 and CSAH 23 have been increasing and are projected to continue to increase as the area develops; and,

WHEREAS, proposed transportation improvements to the CSAH 14 / CSAH 23 intersection will improve the safety and mobility for all modes of travel; and,

WHEREAS, the Anoka County Highway Department is proposing to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation program to receive federal transportation funds to improve the intersection of CSAH 14 / CSAH 23 in the city of Lino Lakes; and,

WHEREAS, Anoka County has the necessary capabilities to adequately fund its local cost share for this public improvement project:

NOW, THEREFORE, BE IT RESOLVED that Anoka County, by and through its Board of Commissioners, hereby authorizes the Anoka County Highway Department to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation program in the Spot Mobility and Safety category, to receive federal transportation funds to make capacity and safety improvements to the CSAH 14 / CSAH 23 intersection in the city of Lino Lakes.

## STATE OF MINNESOTA)

COUNTY OF ANOKA ) ss
I, Rhonda Sivarajah, County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on December 1, 2023, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 1st day of
 COUNTY ADMINISTRATOR

|  | YES | NO |
| :---: | :---: | :---: |
| DISTRICT \# 1 - LOOK | X |  |
| DISTRICT \#2 - BRAASTAD | X |  |
| DISTRICT \#3 - REINERT | X |  |
| DISTRICT \# - SChULTE | X |  |
| DISTRICT \#5 - GAMACHE | X |  |
| DISTRICT \#6 - JEPPSON | X |  |
| DISTRICT \#7-MEISNER | X |  |

## A Unique Approach

Anoka County created an interactive website to share six future projects that will be submitted for federal funding through the Metropolitan Council:

```
www.anokastpprojects.com
```

This mobile-friendly website provides transparency into the funding process, educates readers on how projects are funded, and allows the community to see and comment on future transportation and mobility improvements. The six projects fit into four funding categories: Roadway Expansion, Roadway Spot Mobility \& Safety, Traffic Management Technologies, and Multi-use Trail.
The website opens into a series of storyboards that guide the reader through the content they are about to see, and why it matters. This approach provides our key messages and call-to-action up front so the reader knows how to navigate


The Anoka STP website tells a story about transportation funding and showcases each of the nine projects in a color-coded, interactive map. Explore the map by clicking on the image! the information and what is being asked of them. Six project overview pages are arranged within an interactive map using pins organized by funding category. An additional content tab provides information on how projects get funding and the STP timeline, as well as links to external resources such as the Metropolitan Council.
The website was launched on November 3, 2023, and will remain live past the application deadline. When the Metropolitan Council announces its awards later in the year, an update will be made and promoted to stay connected to the people who participated in this phase of engagement.

## Promotions \& Outreach

The projects will benefit residents, businesses, commuters, and visitors across the county. The interactive website was promoted via the following communication channels beginning November 3, 2023:

Notifications on the following websites:

- Anoka County - City of Lino Lakes
- City of Coon Rapids
- City of Blaine
- City of Fridley

NextDoor post
Anoka County Twitter post
Anoka County Construction Weekly email distribution

Electronic announcement (PowerPoint slide looping on screen) at Anoka County government buildings:

- Anoka County Health and Human Services Center
- Anoka County Job Training Center


## Public Feedback Opportunities

Various opportunities to provide comments and feedback encouraged site visitors to share their thoughts in the format that worked best for them.


A general comment form could be accessed at any time on the site.


Contact information for emails and phone calls with county staff was also provided.


Public input was requested online through open-ended and demographic survey questions embedded into each project page. See page 2.

## 3 survey submissions:

1 for strongly opposed of this future project
1 for strongly in favor of this future project

1 for neutral about this future project.

## Website Performance: November 3-December 8, 2023



Total Visitors
131
Total Visits*

* includes multiple visits by the same user


Average Visit Length


TOP MINNESOTA VISITOR LOCATIONS
Minneapolis Cambridge Andover Columbia Heights Coon Rapids Ramsey
Anoka
Blaine

Saint Paul
Columbus

## What are your thoughts?

How do you feel about this future project?
Strongly opposed
Opposed
Neutral
In favor
Strongly in favor
We want to know what you think about this project. Does it align with your vision for
our community?
Share your thoughts.

Our goal is to get input from a wide range of individuals and understand the needs and preferences of our community. In order to understand who is participating in this survey, we are collecting demographic information to identify who we're hearing from.

The next four questions are optional.

What is your zip code?

What is your age?
Under 18
18-24
25-34
35-44
45-54
55-64
65-74
75+
Prefer not to answer

Which of these describes your personal income?
Under $\$ 10,000$
\$10,000-\$24,999
\$25,000-\$49,999
\$50,000-\$74,999
\$75,000-\$99,999
\$100,00-\$149,999
\$150,000+
Prefer not to answer

Please describe your race/ethnicity.
American Indian or Alaska Native
Asian

Black or African American
Hispanic or Latino
Native Hawaiian or Pacific
Islander
White

Other


CSAH 14 \& CSAH 23 Intersection

## Project (Anoka County)

Project Name: CSAH 14 and CSAH 23 Intersection Project
Applicant: Anoka County
Primary Contact:
Jack Forslund
Senior Transportation Planner 2100 3rd Avenue, Anoka, MN 55303
763-324-3179
Jack.Forslund@anokacountymn.gov

Location \& Route:
CSAH 14 \& CSAH 23 Intersection in Lino Lakes


Application Category: Spot Mobility and Safety

Funding Information:
Requested Award Amount: \$2,137,360
Local Match: \$534,340
Project Total: \$2,671,700

Additional Funding Sources:

- Country funding

CSAH 14/CSAH 23 Facts:

- Approximately 9,200 AADT (CSAH 14)
- More than 11,100 AADT (CSAH 23)
- 783 HCAADT (CSAH 23 at intersection)
- RBTN Tier 2 Alignment (CSAH 14); RBTN Tier 2 Corridor (CSAH 23)
- Improvements contribute to 50\% crash reduction; 80\% peak-hour delay reduction
- Lino Lakes Elementary about 1,000 feet west of intersection



## Project Description

The CSAH 14 (Main Street) and CSAH 23 (Lake Drive) Intersection Project will convert the existing intersection from a traffic signal to a single-lane roundabout with added and enhanced pedestrian and multimodal facilities. The western (CSAH 14) and southern (CSAH 23) legs of the intersection are classified as Principal Arterials. The northern leg (CSAH 23) is an A Minor Reliever and the eastern leg (CSAH 14) is as an A Minor Expander.

The project also includes a new trail facility along CSAH 14 on the Regional Bicycle Trail Network 700 feet west of the intersection that will connect to Lino Lakes Elementary School.

## Project Benefits/Regional Significance

The new roundabout is expected to provide safer pedestrian crossing opportunities by slowing motorist speeds at the intersection and providing refuge islands for pedestrians. The project will reduce pedestrian-vehicle conflict points by converting the intersection to a single-lane roundabout with pedestrian refuge areas.

The project also will improve multimodal and pedestrian crossing facilities at the intersection by reducing crossing distance, vehicle speeds through the intersection and vehicle-pedestrian conflict points. These multimodal project components will enhance the multimodal components of the corridor, which is designated as part of the Regional Bicycle Transportation Network (RBTN). CSAH 14 is designated as a RBTN Tier 2 Alignment and CSAH 23 is designated as a RBTN Tier 2 Corridor, meaning the full project is within the RBTN designation.

The project will address an established safety and mobility problem location. Improvements will reduce peak-hour delay per vehicle by almost $80 \%$ and crashes by more than 50\%.


## Project Development and Status

Anoka County is studying the CSAH 14 and CSAH 23 intersection as part of the CSAH 23 (Lake Drive) Corridor Study. On Dec. 14, 2023, the study team held a public open house to further develop the project, report on existing conditions and ask the public for input on their wants and needs for the project area. Feedback will be used to help develop a design for the project, which is scheduled for construction in 2028.


[^0]:    ? specific direct access improvements for residents
    ? improved access to destinations such as jobs, school, health care or other;
    ? newtransportation services or modal options;

