Application

04751-2016 Roadway Expansion
05082 - CSAH 10 Expansion - Chaska Creek Phase
Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
Submitted Date:
07/14/2016 8:46 AM

## Primary Contact

| Name:* |  | Darin |  | Mielke |
| :---: | :---: | :---: | :---: | :---: |
|  | Salutation | First Name | Middle Name | Last Name |
| Title: | Deputy County Engineer |  |  |  |
| Department: | Public Works |  |  |  |
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| Address: | 11360 Highway 212, Suite 1 |  |  |  |
| * | Cologne | Minnesota |  | 55322 |
|  | City | State/Province |  | Postal Code/Zip |
| Phone:* | 952-466-5 |  |  |  |
|  | Phone |  | Ext. |  |
| Fax: |  |  |  |  |
| What Grant Programs are you most interested in? | Regional Solicitation - Roadways Including Multimodal Elements |  |  |  |

## Organization Information

Name:

Jurisdictional Agency (if different):
Organization Type: County Government
Organization Website:
Address:
PUBLIC WORKS
11360 HWY 212 W \#1

| COLOGNE | Minnesota | 55322-9133 |
| :--- | :--- | :--- |
| City | State/Province | Postal Code/Zip |

County:
Carver

Phone:*
Ext.

Fax:

PeopleSoft Vendor Number
0000026790A12

## Project Information

Project Name
Primary County where the Project is Located

CSAH 10 Expansion - Chaska Creek Phase
Carver

Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Limit 2,800 characters; approximately 400 words)

The proposed project will expand County State-Aid Highway (CSAH) 10, for approximately 0.7 miles in eastern Carver County, including both Laketown Township and the City of Chaska. Please see Figure 1 for a map of the project area. This segment of road is currently a two-lane undivided A Minor Arterial Expander corridor which will undergo expansion to a four-lane divided urban roadway. The project will also include paved shoulders, curb and gutter, stormwater treatment ponds, and the completion of a paved multiuse trail on the north side of the roadway. In addition to replacement of a temporary signal at the CSAH 10/CSAH 11 intersection.

This segment of CSAH 10 is unique in that it provides a vital east-west connection throughout Carver County. The project is located adjacent to TH 212 (Principal Arterial) interregional freight and commuter corridor serving the Twin Cities Metropolitan Area. Travel demand on CSAH 10 will continue to increase as the City of Chaska develops its planned southwest growth area. This growth area is directly connected to the eastern terminus of the project and surrounding the TH 212 corridor. The southwest growth area will incorporate industrial and commercial parks, neighborhood commercial nodes, and mixed-use residential development on 1,800 acres in the next 15 years. Thus, the 2030 Carver County Transportation Plan identifies a significant mobility need to increase capacity on east-west roadway corridors. An expansion of the CSAH 10 corridor is crucial to meet the forecasted growth of 40,000 vehicles per day by 2040.

Construction of the CSAH 10 trail will make a crucial stride in meeting an identified need for cross-county bicycle and pedestrian linkages to the City of Chaska and future regional trails. The CSAH

10 trail corridor will extend east for 0.4 miles beyond the roadway extension limits connecting directly to a robust network of existing trails and sidewalks throughout the City of Chaska (see Figure 1). An extension of the CSAH 10 Trail corridor to the west of the project area is also planned. Two future regional trail corridors, the SWLRT Connection Trail and the Twin Cities and Western Regional Trail, will also directly connect to the proposed CSAH 10 Trail corridor. These connections will immensely improve regional travel opportunities for Carver County trail users by extending connectivity to the area's vast system of regional and state trails, increasing access to the planned southwest growth area.

Include location, road name/functional class, type of improvement, etc.

| TIP Description Guidance (will be used in TIP if the project is | CSAH 10, CARVER COUNTY, FROM W CSAH 11 TO |
| :--- | :--- |
| selected for funding) | CLOVER RIDGE DRIVE, 1.1 MILES, EXPANSION |
| Project Length (Miles) | 1.1 |

## Project Funding

| Are you applying for funds from another source(s) to implement | No |
| :--- | :--- |
| this project? |  |
| If yes, please identify the source(s) | $\$ 7,000,000.00$ |
| Federal Amount | $\$ 3,024,000.00$ |
| Match Amount | $\$ 10,024,000.00$ |
| Minimum of $20 \%$ of project total | $30.17 \%$ |

Minimum of 20\%
Compute the match percentage by dividing the match amount by the project total
Source of Match Funds
Carver County, City of Chaska
A minimum of $20 \%$ of the total project cost must come from non-federal sources; additional match funds over the $20 \%$ minimum can come from other federal sources

Preferred Program Year
Select one:
2021
For TDM projects, select 2018 or 2019. For Roadway, Transit, or Trail/Pedestrian projects, select 2020 or 2021.
Additional Program Years:
2019

## Project Information: Roadway Projects

| County, City, or Lead Agency | Carver County |
| :---: | :---: |
| Functional Class of Road | "A" Minor Arterial Expander |
| Road System | CSAH |
| TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET |  |
| Road/Route No. | 10 |
| i.e., 53 for CSAH 53 |  |
| Name of Road | Engler Blvd. |
| Example; 1st ST., MAIN AVE |  |
| Zip Code where Majority of Work is Being Performed | 55318 |
| (Approximate) Begin Construction Date | 04/01/2021 |
| (Approximate) End Construction Date | 06/30/2022 |
| TERMINI:(Termini listed must be within 0.3 miles of any work) |  |
| From: <br> (Intersection or Address) | West of CSAH 11 |
| To: <br> (Intersection or Address) | Clover Ridge Drive |
| DO NOT INCLUDE LEGAL DESCRIPTION |  |
| Or At |  |
| Primary Types of Work | Grading, Storm Sewer, Ponding, Traffic Control, Striping, Signals, Bituminous Bicycle Path, Pedestrian Ramps |
| Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC. |  |
| BRIDGE/CULVERT PROJECTS (IF APPLICABLE) |  |
| Old Bridge/Culvert No.: |  |
| New Bridge/Culvert No.: |  |
| Structure is Over/Under (Bridge or culvert name): |  |

## Specific Roadway Elements

## CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES

Mobilization (approx. 5\% of total cost)
Removals (approx. 5\% of total cost)
Roadway (grading, borrow, etc.) ..... \$1,760,000.00
Roadway (aggregates and paving) ..... \$2,520,000.00
Subgrade Correction (muck) ..... $\$ 440,000.00$
Storm Sewer ..... \$2,625,000.00
Ponds ..... $\$ 165,000.00$
Concrete Items (curb \& gutter, sidewalks, median barriers) ..... \$770,000.00
Traffic Control ..... \$105,000.00
Striping ..... \$50,000.00
Signing ..... \$50,000.00
Lighting ..... $\$ 0.00$
Turf - Erosion \& Landscaping ..... $\$ 105,000.00$
Bridge ..... $\$ 0.00$
Retaining Walls ..... $\$ 0.00$
Noise Wall (do not include in cost effectiveness measure) ..... $\$ 0.00$
Traffic Signals ..... \$250,000.00
Wetland Mitigation ..... $\$ 0.00$
Other Natural and Cultural Resource Protection ..... $\$ 0.00$
RR Crossing ..... $\$ 0.00$
Roadway Contingencies ..... $\$ 0.00$
Other Roadway Elements ..... $\$ 0.00$
Totals ..... \$9,890,000.00
Specific Bicycle and Pedestrian Elements
CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES
Cost
Path/Trail Construction ..... \$125,000.00
Sidewalk Construction ..... $\$ 0.00$
On-Street Bicycle Facility Construction ..... $\$ 0.00$
Right-of-Way ..... $\$ 0.00$
Pedestrian Curb Ramps (ADA) ..... \$9,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK) ..... $\$ 0.00$
Pedestrian-scale Lighting ..... $\$ 0.00$
Streetscaping ..... $\$ 0.00$
Wayfinding ..... $\$ 0.00$
Bicycle and Pedestrian Contingencies ..... $\$ 0.00$
Specific Transit and TDM Elements
CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES Cost
Fixed Guideway Elements ..... $\$ 0.00$
Stations, Stops, and Terminals ..... $\$ 0.00$
Support Facilities ..... $\$ 0.00$
Transit Systems (e.g. communications, signals, controls, fare collection, etc.) ..... $\$ 0.00$
Vehicles ..... $\$ 0.00$
Contingencies ..... $\$ 0.00$
Right-of-Way ..... $\$ 0.00$
Other Transit and TDM Elements ..... $\$ 0.00$
Totals ..... $\$ 0.00$
Transit Operating Costs
Number of Platform hours ..... 0
Cost Per Platform hour (full loaded Cost) ..... $\$ 0.00$
Substotal ..... $\$ 0.00$
Other Costs - Administration, Overhead,etc. ..... $\$ 0.00$

## Totals

| Total Cost | $\$ 10,024,000.00$ |
| :--- | :--- |
| Construction Cost Total | $\$ 10,024,000.00$ |
| Transit Operating Cost Total | $\$ 0.00$ |

## 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, the 2040 Regional Parks Policy Plan (2015), 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 objectives and strategies that relate to the project.

Goal B: Safety and Security - The regional transportation system is safe and secure for all users

Objectives: Reduce crashes and improve safety and security for all modes of passenger travel and freight transport

Strategies: Regional transportation partners will use best practice to provide and improve facilities for safe walking and bicycling, since pedestrians and bicyclists are the most vulnerable users of the transportation system
Page 2.7, Table 2-1

Goal C: Access to Destinations - People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the List the goals, objectives, strategies, and associated pages: region and beyond

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

Strategies: C1. Regional transportation partners will continue to work together to plan and implement transportation systems that are multimodal and provide connections between modes. The Council will prioritize regional projects that are multimodal and cost-effective and encourage investments to include appropriate provisions for bicycle and pedestrian travel.

Strategies: C9. The Council will support investments in A-minor arterials that build, manage, or improve the system's ability to supplement the capacity of the principal arterial system and support access to the region?s job, activity, and industrial and manufacturing concentrations.

# Strategies: C15. Regional transportation partners should focus investments on completing Priority Regional Bicycle Transportation Corridors and on improving the larger Regional Bicycle Transportation Network. <br> Pages 2.8-2.10, Table 2-1 

## Goal F: Leveraging Transportation Investment to Guide Land Use

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

## Strategies: F7. Local Governments should include bicycle and pedestrian elements in local comprehensive plans. Pages 2.14-2.15, Table 2-1

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:

> Carver County 2030 Transportation Plan (Page 7, Financial Plan) and Carver County 2030 Trail System Plan (Page 34, Figure 6.8)
4.The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of bicycle/pedestrian projects, 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.

Check the box to indicate that the project meets this requirement. Yes
5.Applicants that are not cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

Check the box to indicate that the project meets this requirement. Yes
6.Applicants must not submit an application for the same project elements in more than one funding application category.

Check the box to indicate that the project meets this requirement. Yes
7.The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below.
Roadway Expansion: \$1,000,000 to \$7,000,000
Roadway Reconstruction/ Modernization: \$1,000,000 to \$7,000,000
Roadway System Management \$250,000 to \$7,000,000
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.

Check the box to indicate that the project meets this requirement. Yes
9. The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes
10. The owner/operator of the facility must operate and maintain the project for the useful life of the improvement.

Check the box to indicate that the project meets this requirement. Yes
11. 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
12. 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
13. The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

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

## Roadways Including Multimodal Elements

1.All roadway and bridge projects must be identified as a Principal Arterial (Non-Freeway facilities only) or A-Minor Arterial as shown on the latest TAB approved roadway functional classification map.

Check the box to indicate that the project meets this requirement. Yes
Roadway Expansion and Reconstruction/Modernization 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 projects only:
3.Projects requiring a grade-separated crossing of a Principal Arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

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

Check the box to indicate that the project meets this requirement.
5. The length of the bridge must equal or exceed 20 feet

Check the box to indicate that the project meets this requirement.
6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

## Requirements - Roadways Including Multimodal Elements

## Expander/Augmentor/Non-Freeway Principal Arterial

| Select one: | Expander |
| :--- | :--- |
| Area | 3.364 |
| Project Length | 1.1 |
| Average Distance | 3.0582 |
| Upload Map | $1467837349291 \_$Roadway Area Definition Map.pdf |

## Reliever: Relieves a Principle Arterial that is a Freeway Facility

Facility being relieved
Number of hours per day volume exceeds capacity (based on the Congestion Report)

## Reliever: Relives a Principle Arterial that is a Non-Freeway Facility

Facility being relieved
Number of hours per day volume exceeds capacity (based on the table below)

## Non-Freeway Facility Volume/Capacity Table

| Hour | NB/EB Volume | SB/WB Volume |
| :--- | :---: | :--- |
| 12:00am-1:00am |  | CapacityVolume exceeds <br> capacity |
| 1:00am-2:00am | 0 |  |
| $2: 00 \mathrm{am}-3: 00 \mathrm{am}$ | 0 |  |
| 3:00am-4:00am | 0 |  |

```
4:00am - 5:00am 0
5:00am-6:00am 0
6:00am-7:00am 0
7:00am-8:00am 0
8:00am-9:00am 0
9:00am-10:00am 0
10:00am - 11:00am 0
11:00am-12:00pm 0
12:00pm-1:00pm 0
1:00pm-2:00pm 0
2:00pm-3:00pm 0
3:00pm-4:00pm 0
4:00pm - 5:00pm 0
5:00pm - 6:00pm 0
6:00pm-7:00pm 0
7:00pm-8:00pm 0
8:00pm-9:00pm 0
9:00pm-10:00pm 0
10:00pm-11:00pm 0
11:00pm-12:00am 0
```


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

Existing Employment within 1 Mile: 870

Existing Manufacturing/Distribution-Related Employment within 1 Mile:

Existing Students:
Upload Map

870
31

0
1467837394292_Regional Economy Map.pdf

## Measure C: Current Heavy Commercial Traffic

| Location: | CSAH 10 East of CSAH 11 |
| :--- | :--- |
| Current daily heavy commercial traffic volume: | 200 |
| Date heavy commercial count taken: | 2015 |

Measure D: Freight Elements

The CSAH 10 project will provide additional accommodations to freight throughout the project area limits. Because CSAH 10 is such a vital eastwest connector throughout Carver County, the ability to incorporate freight connections to larger principal arterials (TH 212) and regional connection points is crucial to the success of a robust freight network.

The proposed project will include paved shoulders to the expanded four-lane divided roadway. By implementing paved shoulders, the freight network traveling on CSAH 10 will have additional amenities to make travel more feasible and accessible along the project corridor. With a Heavy Commercial Average Annual Daily Traffic (HCAADT) count of 200, this number is expected to increase through the implementation of the adjacent southwest growth area and connection to TH 212 interregional freight corridor serving the Twin Cities Metropolitan Area.

This expansion project would include 12-14 foot travel lane widths, which are recommended widths for larger vehicles, to facilitate the movement of freight more effectively and efficiently throughout the corridor. There are many key freight outlets located along the CSAH 10 corridor which will benefit from these roadway improvements. UFC Farm Supply in Waconia, MN, uses CSAH 10 for freight connection to TH 212. These improvements will transform CSAH 10 into an urbanized freight corridor.

## Measure A: Current Daily Person Throughput

Location
Current AADT Volume
Existing Transit Routes on the Project

CSAH 10 East of CSAH 11
12200
N/A

## Response: Current Daily Person Throughput

| Average Annual Daily Transit Ridership | 0 |
| :--- | :--- |
| Current Daily Person Throughput | 15860.0 |

## Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume

If checked, METC Staff will provide Forecast (2040) ADT volume
OR

Identify the approved county or city travel demand model to determine forecast (2040) ADT volume

Forecast (2040) ADT volume

Approved Met Council Carver County Travel Demand Model

40000

## Measure A: Project Location and Impact to Disadvantaged Populations

## Select one:

Project located in Area of Concentrated Poverty with $50 \%$ or more of residents are people of color (ACP50):

Project located in Area of Concentrated Poverty:
Projects census tracts are above the regional average for population in poverty or population of color:

Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly:

The CSAH 10 expansion will improve travel times and economic efficiencies for commuter and freight travel on the corridor, both of which support the health and growth of eastern Carver County's local economy and provide opportunities for job growth and stability for low-income households (6\%) and minority populations ( $13 \%$ ) living near the project. The direct connection to TH 212 will also enable efficient connections to job concentrations and manufacturing centers in and near Minneapolis and Saint Paul for these disadvantaged population groups.

Response (Limit 2,800 characters; approximately 400 words)
The multiuse trail facility included in the proposed project will increase livability around the project area and improve access, local and regional connectivity, transportation choice, and recreational opportunities for all populations living in proximity to the project, including the above county average elderly (8\%) and children (31\%) populations. The CSAH 10 roadway expansion project also integrates ADA intersection improvements, which will enable safe travel for these population groups, as well as individuals with disabilities (6\%), traveling across the corridor.

Right-of-way acquisition will not result in displacement or full takings from property owners. Project construction will incorporate proper noise, dust, and traffic mitigation and will not negatively impact the aforementioned disadvantaged populations present in the project area.

The response should address the benefits, impacts, and mitigation for the populations affected by the project.
Upload Map
1467902633218_Socio-Economic Conditions Map.pdf

## Measure B: Affordable Housing

City/Township
Laketown Township
Chaska
Total Project Length

Total Project Length (Total Population)

## Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township \begin{tabular}{cccccc}
Segment <br>
Length (Miles)

 

Total Length <br>
(Miles)

$\quad$ Score 

Segment <br>
Length/Total <br>
Length

 


| Housing Score |
| :---: |
| Multiplied by |
| Segment |
| percent | <br>

\end{tabular}

## Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)
Total Housing Score
1.1

0

## Measure A: Infrastructure Age

Year of Original
Roadway Construction
or Most Recent
Reconstruction
1999.0
0.72
1439.28

1439
1999.0

1
1999

Average Construction Year
Weighted Year
1999.0

## Total Segment Length (Miles)

Total Segment Length

## Measure A: Vehicle Delay Reduction

|  |  |  |  | EXPLANATIO <br> N of |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Peak <br> Hour Delay <br> Per Vehicle <br> Without The <br> Project | Total Peak <br> Hour Delay <br> Per Vehicle <br> With The <br> Project | Total Peak <br> Hour Delay <br> Per Vehicle <br> Reduced by <br> Project | Volume <br> (Vehicles Per <br> Hour) | Total Peak <br> Hour Delay <br> Reduced by <br> the Project <br> (Seconds) | used to <br> calculate <br> railroad <br> crossing <br> delay, if | Synchro or |
| HCM Reports |  |  |  |  |  |  |

## Total Delay

Total Peak Hour Delay Reduced
23855.0

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


## Total

Total Emissions Reduced:
Upload Synchro Report
1009.25

1468419173612_Syncro Reports.pdf

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

| Total (CO, NOX, | Total (CO, NOX, |
| :---: | :---: |
| and VOC) Peak | and VOC) Peak |
| Hour Emissions | Hour Emissions |
| Per Vehicle | Per Vehicle with |
| without the Project | the Project |
| (Kilograms): | (Kilograms): |

0

| Total (CO, NOX, |  | Total (CO, NOX, |
| :---: | :---: | :---: |
| and VOC) Peak |  | and VOC) Peak |
| Hour Emissions | Volume (Vehicles | Hour Emissions |
| Reduced Per | Per Hour): | Reduced by the |
| Vehicle by the |  | Project |
| Project |  | (Kilograms): |
| (Kilograms): |  |  |

0

## Total Parallel Roadways

Emissions Reduced on Parallel Roadways
Upload Synchro Report

0

## New Roadway Portion:

Cruise speed in miles per hour with the project: 0
Vehicle miles traveled with the project: 0
Total delay in hours with the project: 0
Total stops in vehicles per hour with the project: 0
Fuel consumption in gallons: 0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or
Produced on New Roadway (Kilograms):
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:
Vehicle miles traveled without the project: 0
Total delay in hours without the project: 0
Total stops in vehicles per hour without the project: 0
Cruise speed in miles per hour with the project: 0
Vehicle miles traveled with the project: 0
Total delay in hours with the project: 0
Total stops in vehicles per hour with the project: 0
Fuel consumption in gallons (F1) 0

Fuel consumption in gallons (F2) 0
Fuel consumption in gallons (F3) 0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):

EXPLANATION of methodology and assumptions used:(Limit
1,400 characters; approximately 200 words)

## Measure A: Benefit of Crash Reduction

CR1=Increase Number of Lanes

CR2=Install a raised median
$C R=1-(1-C R 1)^{*}(1-C R 2)$

Other Crashes: CR=1-(1-.31)*(1-.39)=. 58

Head On: CR=1 - $(1-.53)^{*}(1-.39)=.71$

ROR (injury): $\mathrm{CR}=1-(1-.44)^{*}(1-.39)=.65$

Crash Modification Factor Used:
ROR (PDO): $\mathrm{CR}=1-(1-.50)^{*}(1-.39)=.70$

Right Angle: CR=1-(1-.45)* $(1-.39)=.66$

Left-Turn: CR=1-(1-.71)*(1-.39)=. 82

Rear End: CR=1 - $(1-.53)^{*}(1-.39)=.71$

Sideswipe (all): CR=1 - (1-.44)*(1-.39) =. 66

Sideswipe (PDO): CR=1-(1-.64)*(1-.39) = . 78

See attachment for more information.

Improvements include a 2 lane to 4 lane conversion and installing a median. The intersection of CSAH 11/CSAH 10 adds a NBR, creates a dual EBL and SBL, and switches to protected only phasing to EBL and SBL. Determined that the two factors below give best result for B/C.
(Limit 1400 Characters; approximately 200 words)
Project Benefit (\$) from B/C Ratio:
4849965.0

Worksheet Attachment
1467841052089_CSAH 10 Crash Complete.pdf

## Roadway projects that include railroad grade-separation elements:

Current AADT volume:
12200.0

Average daily trains:
Crash Risk Exposure eliminated:

0
0

Measure A: Multimodal Elements and Existing Connections

The proposed CSAH 10 expansion project includes the construction of a paved multiuse trail, located in the right-of-way immediately north of the roadway. To fill a regional gap, the trail will extend east of the roadway expansion termini for 0.3 miles to connect into existing trails and sidewalks at Clover Ridge Drive in the City of Chaska. The trail will be available to bicyclists, pedestrians, and other nonmotorized recreational users. 2040 forecasted volumes on the CSAH 10 corridor (40,000 ADT), which will serve as a critical thoroughfare for travel into and out of the planned southwest growth area of Chaska, preclude the safe operation of on-road bicycle facilities. A separate roadway and trail facility is optimal for all users to avoid collisions between modes and protect the safety of nonmotorized travelers and drivers. This separated multiuse facility is also supported by the Carver County Trail System Plan.

Response (Limit 2,800 characters; approximately 400 words)
Several planned multiuse trails directly connect to the CSAH 10 roadway expansion and trail (see attached Figure 1). An extension of the CSAH 10 Trail corridor to the west of the project area is planned and identified in the 2030 Carver County Trails System Plan. Within the Trails System Plan, this full corridor is identified as a significant bicycle link for safe and efficient travel throughout Carver County. The proposed CSAH 10 will directly connect to a robust network of existing trails and sidewalks throughout the City of Chaska at Clover Ridge Drive.

Two future regional trail corridors will directly connect to the CSAH 10 Trail corridor: the SWLRT Connection Trail, and the Twin Cities and Western Regional Trail. These connections will immensely improve regional travel opportunities for Carver County trail users by extending connectivity to the
area's vast system of regional and state trails, including the Minnesota River Bluffs LRT Trail, which connects eastern Chaska to the City of Hopkins. The SWLRT Connection Trail will increase access to the planned southwest growth area in the City of Chaska for commuters traveling to the future commercial office parks and mixeduse commercial developments. Residents of the mixed-use residential development in the growth area will also benefit from access to these regional trails west of Chaska.

There are no existing transit service routes on the CSAH 10 (Engler Boulevard) corridor. However, SouthWest Transit provides express bus service to Minneapolis, St. Paul, the University of Minnesota, and the Mall of America via routes 695, 698, and 699 at the Clover Fields Park and Ride facility and the East Creek Transit Station. Both transit facilities are located in developed areas of Chaska immediately east of the proposed project (1.5 miles).

## Transit Projects Not Requiring Construction

If the applicant is completing a transit or TDM 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

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred
100\%
Stakeholders have been identified
Yes
40\%
Stakeholders have not been identified or contacted

## $0 \%$

## 2)Layout or Preliminary Plan (5 Percent of Points)

Layout or Preliminary Plan completed Yes
$100 \%$
Layout or Preliminary Plan started
50\%
Layout or Preliminary Plan has not been started
0\%
Anticipated date or date of completion
3)Environmental Documentation (5 Percent of Points)

EIS
EA
PM
Yes
Document Status:

Document approved (include copy of signed cover sheet)
$100 \%$

Document submitted to State Aid for review

Document in progress; environmental impacts identified; review request letters sent

50\%
Document not started Yes
$0 \%$
Anticipated date or date of completion/approval
10/01/2020
4)Review of Section 106 Historic Resources (10 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 Yes project is not located on an identified historic bridge

100\%
Historic/archeological review under way; determination of no historic properties affected or no adverse effect anticipated

80\%
Historic/archaeological review under way; determination of adverse effect anticipated

40\%
Unsure if there are any historic/archaeological resources in the project area

0\%
Anticipated date or date of completion of historic/archeological review:

Project is located on an identified historic bridge
5)Review of Section 4f/6f Resources (10 Percent of Points)

4(f) Does the project impacts any public parks, public wildlife refuges, public golf courses, wild \& scenic rivers or public private historic properties? 6(f) Does the project impact any public parks, public wildlife refuges, public golf courses, wild \& scenic rivers or historic property that was purchased or improved with federal funds?

No Section $4 \mathrm{f} / 6 \mathrm{f}$ resources located in the project area Yes

100\%
No impact to 4 f property. The project is an independent
bikeway/walkway project covered by the bikeway/walkway
Negative Declaration statement; letter of support received
100\%
Section 4f resources present within the project area, but no known adverse effects

80\%
Project impacts to Section 4f/6f resources likely
coordination/documentation has begun
50\%
Project impacts to Section 4f/6f resources likely
coordination/documentation has not begun
$30 \%$
Unsure if there are any impacts to Section 4f/6f resources in the project area

0\%
6)Right-of-Way (15 Percent of Points)

Right-of-way, permanent or temporary easements not required $100 \%$

Right-of-way, permanent or temporary easements has/have been acquired

100\%
Right-of-way, permanent or temporary easements required, offers made

75\%
Right-of-way, permanent or temporary easements required, appraisals made

50\%
Right-of-way, permanent or temporary easements required, parcels identified

25\%
Right-of-way, permanent or temporary easements required, parcels not identified

0\%


Anticipated date or date of completion
10/01/2020
10)Letting

Anticipated Letting Date 02/01/2021

## Measure A: Cost Effectiveness

| Total Project Cost (entered in Project Cost Form): | $\$ 10,024,000.00$ |
| :--- | :--- |
| Enter Amount of the Noise Walls: | $\$ 0.00$ |
| Total Project Cost subtract the amount of the noise walls: | $\$ 10,024,000.00$ |
| Points Awarded in Previous Criteria |  |
| Cost Effectiveness | $\$ 0.00$ |

## Other Attachments

| File Name | Description | File Size |
| :--- | :--- | :--- |
| CSAH 10 Layout.pdf | CSAH 10 Layout | 5.3 MB |
| CSAH10 Chaska Resolution.pdf | City of Chaska Resolution | 51 KB |
| Figure1 CSAH10 Expansion.pdf | Figure 1 | 573 KB |

## Roadway Area Definition

Results
Project Length: 1.092 miles
Project Area: 3.364 sq mi


- Project Points $\square$ Project Area
Project
For complete disclaimer of accuracy, please visit
For complete disclaimer of accuracy, please visit
tp://giswebsite.metc.state.mn.us/gissitenew/notice.asp


Transit Connections Roadway Expansion Project: Carver County CSAH 10 Expansion | Map ID: 1464900852554

Results
Transit with a Direct Connection to project: -- NONE --
*indicates Planned Alignments


Project Points $\square$ Project Area
Project
For complete disclaimer of accuracy, please visit
For complete disclaimer of accuracy, please visit
ttp://giswebsite.metc.state.mn.us/gissitenew/notice.aspx



3: CSAH 11 \& CSAH 10

| Direction | All |
| :--- | ---: |
| Future Volume $(\mathrm{vph})$ | 1835 |
| Total Delay / Veh (s/v) | 25 |
| CO Emissions $(\mathrm{kg})$ | 1.86 |
| NOx Emissions $(\mathrm{kg})$ | 0.36 |
| VOC Emissions $(\mathrm{kg})$ | 0.43 |

## 3: CSAH 11 \& CSAH 10

| Direction | All |
| :--- | ---: |
| Future Volume $(\mathrm{vph})$ | 1835 |
| Total Delay / Veh (s/v) | 12 |
| CO Emissions $(\mathrm{kg})$ | 1.47 |
| NOx Emissions $(\mathrm{kg})$ | 0.29 |
| VOC Emissions $(\mathrm{kg})$ | 0.34 |

3: CSAH 11 \& CSAH 10

| Direction | All |
| :--- | ---: |
| Future Volume $(\mathrm{vph})$ | 1835 |
| Total Delay / Veh (s/v) | 25 |
| CO Emissions $(\mathrm{kg})$ | 1.86 |
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## 3: CSAH 11 \& CSAH 10

| Direction | All |
| :--- | ---: |
| Future Volume $(\mathrm{vph})$ | 1835 |
| Total Delay / Veh (s/v) | 12 |
| CO Emissions $(\mathrm{kg})$ | 1.47 |
| NOx Emissions $(\mathrm{kg})$ | 0.29 |
| VOC Emissions $(\mathrm{kg})$ | 0.34 |



Splits and Phases: 3: CSAH 11 \& CSAH 10


[^0]|  |  |  |  | $\rightarrow$ | 4 | $\ddagger$ | 4 | $\leftarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Movement | SBL | NBTL | WBL | EBT | NBL | SBT | EBL | WBTL |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | None | None | Min | None | None |
| Maximum Split (s) | 8 | 20 | 8 | 24 | 8 | 20 | 8 | 24 |
| Maximum Split (\%) | 13.3\% | 33.3\% | 13.3\% | 40.0\% | 13.3\% | 33.3\% | 13.3\% | 40.0\% |
| Minimum Split (s) | 8 | 20 | 8 | 20 | 8 | 20 | 8 | 20 |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Minimum Initial (s) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehicle Extension (s) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum Gap (s) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Time Before Reduce (s) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Time To Reduce (s) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walk Time (s) |  | 5 |  | 5 |  | 5 |  | 5 |
| Flash Dont Walk (s) |  | 11 |  | 11 |  | 11 |  | 11 |
| Dual Entry | No | Yes | No | Yes | No | Yes | No | Yes |
| Inhibit Max | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Start Time (s) | 0 | 8 | 28 | 36 | 0 | 8 | 28 | 36 |
| End Time (s) | 8 | 28 | 36 | 0 | 8 | 28 | 36 | 0 |
| Yield/Force Off (s) | 4 | 24 | 32 | 56 | 4 | 24 | 32 | 56 |
| Yield/Force Off 170(s) | 4 | 24 | 32 | 45 | 4 | 24 | 32 | 45 |
| Local Start Time (s) | 52 | 0 | 20 | 28 | 52 | 0 | 20 | 28 |
| Local Yield (s) | 56 | 16 | 24 | 48 | 56 | 16 | 24 | 48 |
| Local Yield 170(s) | 56 | 16 | 24 | 37 | 56 | 16 | 24 | 37 |
| Intersection Summary |  |  |  |  |  |  |  |  |
| Cycle Length |  |  | 60 |  |  |  |  |  |
| Control Type Actuated-Uncoordinated | Actuated-Uncoordinated |  |  |  |  |  |  |  |
| Natural Cycle |  |  | 60 |  |  |  |  |  |

Splits and Phases: 3: CSAH 11 \& CSAH 10


[^1]

- Countermeasure: Instaltraised median


0.5644 All \begin{tabular}{c}
Fatal, Serious <br>
injury

 

Schultz <br>
et al., <br>
2011
\end{tabular}

0.29 All All Urban | Schultz |
| :---: |
| et al., |
| 2008 |

0.45 Angle All Urban | Schultz |
| :---: |
| et al., |
| 2008 |

|  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 0.86 | 14 | AllYanmaz- <br> Tuzel <br> and |
| Ozbay, |  |  |
| 2010 |  |  |


| Countermeasure(s) | Crash Type | Crash Severity | Area Type | Road Type | Daily Traffic Volume (veh/day) | Ref | Effectiveness |  |  |  | Study Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Crash Reduction Factor / Function | $\begin{aligned} & \text { Std } \\ & \text { Error } \end{aligned}$ | Range |  |  |
|  |  |  |  |  |  |  |  |  | Low | High |  |
| Flatten side slopes and remove guardrail | All | All | All | All |  | 27 | 42 | 58 |  |  | EB BeforeAfter |
| Improve curve superelevation | All | All | Rural | All |  | 21 | 0 |  |  |  | Expert Panel |
|  | All | All | Rural |  |  | 21 | 100(1-(1.00+6(SD-0.01))); <br> SD=superelevation deficiency between 0.01 and 0.02 |  |  |  | Expert Panel |
|  | All | All | Rural |  |  | 21 | 100(1-(1.06+3(SD-0.02))); <br> SD=superelevation deficiency greater than 0.02 |  |  |  | Expert Panel |
| Improve gore area | All | All |  |  |  | 15 | 25 |  |  |  |  |
|  | All | All | All | All |  | 1 | 25 |  |  |  |  |
| Improve horizontal and vertical alignments | All | All |  |  |  | 15 | 58 |  |  |  |  |
|  | All | All | All | All |  | 1 | 50 |  |  |  |  |
|  | All | All |  |  |  | 15 | 50 |  |  |  |  |
|  | All | All |  |  |  | 15 | 50 |  |  |  |  |
|  | All | All |  |  |  | 15 | 73 |  |  |  |  |
| Improve longitudinal grade | All | All |  |  |  | 15 | 49 |  |  |  |  |
|  | All | All | All | All |  | 1 | 40 |  |  |  |  |
|  | All | All |  |  |  | 15 | 40 |  |  |  |  |
|  | All | All |  |  |  | 15 | 57 |  |  |  |  |
|  | All | Fatal/ Injury |  |  |  | 15 | 87 |  |  |  |  |
|  | All | PDO |  |  |  | 15 | 83 |  |  |  |  |
| Improve superelevation | All | All |  |  |  | 15 | 40 |  |  |  |  |
|  | All | All |  |  |  | 1 | 40 |  |  |  |  |
|  | ROR | All |  |  |  | 15 | 50 |  |  |  |  |
| Improve superelevation (for drainage) | All | All |  |  |  | 15 | 45 |  |  |  |  |
|  | All | All |  |  |  | 15 | 40 |  |  |  |  |
|  | All | All |  |  |  | 15 | 49 |  |  |  |  |
| Increase number of lanes | All | All |  |  | <5,000/lane | 15 | 20 |  |  |  |  |
|  | All | All |  |  | >5,000/lane | 15 | (31) |  |  |  |  |
|  | All | All |  |  |  | 15 | 10 |  |  |  |  |
|  | All | All |  |  |  | 15 | 20 |  |  |  |  |
|  | All | All |  |  |  | 15 | 22 |  |  |  |  |


| Countermeasure(s) | $\begin{aligned} & \text { Crash } \\ & \text { Type } \end{aligned}$ | Crash Severity | Area Type | Road Type | Daily Traffic Volume (veh/day) | Ref | Effectiveness |  |  |  | Study Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Crash Reduction Factor / Function | Std <br> Error | Range |  |  |
|  |  |  |  |  |  |  |  |  | Low | High |  |
| Increase number of lanes (cont'd) | All | All |  |  |  | 15 | 25 |  |  |  |  |
|  | All | All |  |  |  | 15 | 25 |  |  |  |  |
|  | All | All |  |  |  | 15 | 25 |  |  |  |  |
|  | All | Fatal |  |  |  | 15 | 39 |  |  |  |  |
|  | All | Injury |  |  |  | 15 | 23 |  |  |  |  |
|  | All | PDO |  |  |  | 15 | 27 |  |  |  |  |
|  | Head-on | All |  |  | <5,000/lane | 15 | 38 |  |  |  |  |
|  | Head-on | All |  |  | >5,000/lane | 15 | 44 |  |  |  |  |
|  | Head-on | All |  |  |  | 15 | 53 |  |  |  |  |
|  | Head-on | All |  |  |  | 15 | 53 |  |  |  |  |
|  | Head-on | PDO |  |  |  | 15 | 50 |  |  |  |  |
|  | Left-turn | All |  |  |  | 15 | 71) |  |  |  |  |
|  | Left-turn | PDO |  |  |  | 15 | 61 |  |  |  |  |
|  | ROR | All |  |  |  | 15 | (44) |  |  |  |  |
|  | ROR | All |  |  |  | 15 | 26 |  |  |  |  |
|  | ROR | All |  |  |  | 15 | 44 |  |  |  |  |
|  | ROR | All |  |  |  | 15 |  |  |  |  |  |
|  | ROR | PDO |  |  |  | 15 | $50$ |  |  |  |  |
|  | Overturn | All |  |  | <5,000/lane | 15 | 42 |  |  |  |  |
|  | Overturn | All |  |  | >5,000/lane | 15 | 52 |  |  |  |  |
|  | Rear-end | All |  |  | <5,000/lane | 15 | 42 |  |  |  |  |
|  | Rear-end | All |  |  | >5,000/lane | 15 | 52 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | 32 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | 32 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | 40 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | (53) |  |  |  |  |
|  | Rear-end | PDO |  |  |  | 15 | 53 |  |  |  |  |
|  | Rightangle | All |  |  | <5,000/lane | 15 | 35 |  |  |  |  |
|  | Rightangle | All |  |  | >5,000/lane | 15 | (45) |  |  |  |  |
|  | Rightangle | All |  |  |  | 15 | 15 |  |  |  |  |
|  | Rightangle | PDO |  |  |  | 15 | 46 |  |  |  |  |
|  | Sideswipe | All |  |  | <5,000/lane | 15 | 38 |  |  |  |  |

Desktop Reference for Crash Reduction Factors
Roadway Departure Crashes

| Countermeasure(s) | Crash Type | Crash Severity | Area Type | Road Type | Daily Traffic Volume (veh/day) | Ref | Effectiveness |  |  |  | Study Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Crash Reduction Factor / Function | Std <br> Error | Range |  |  |
|  |  |  |  |  |  |  |  |  | Low | High |  |
| Increase number of lanes (cont'd) | Sideswipe | All |  |  | >5,000/lane | 15 | (44) |  |  |  |  |
|  | Sideswipe | All |  |  |  | 15 | 30 |  |  |  |  |
|  | Sideswipe | All |  |  |  | 15 | 30 |  |  |  |  |
|  | Sideswipe | All |  |  |  | 15 | 35 |  |  |  |  |
|  | Sideswipe | PDO |  |  |  | 15 | 64) |  |  |  |  |
| Increase vertical grade by $1 \%$ | All | All | Rural | 2-lane |  | 23 | $-1.6 P ; P=$ percent grade (absolute value) |  |  |  |  |
| Install acceleration/ deceleration lanes | All | All |  |  |  | 15 | 26 |  |  |  |  |
|  | All | All | All | All |  | 1 | 10 |  |  |  |  |
|  | All | All |  |  |  | 15 | 10 |  |  |  |  |
|  | All | All |  |  |  | 15 | 10 |  |  |  |  |
|  | All | All |  |  |  | 15 | 10 |  |  |  |  |
|  | All | All |  |  |  | 15 | 25 |  |  |  |  |
|  | All | All |  |  |  | 15 | 75 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | 75 |  |  |  |  |
|  | Sideswipe | All |  |  |  | 15 | 75 |  |  |  |  |
| Install channelized lane | All | All |  |  |  | 15 | 67 |  |  |  |  |
|  | All | PDO |  |  |  | 15 | 62 |  |  |  |  |
|  | Rear-end | All |  |  |  | 15 | 93 |  |  |  |  |
| Install climbing lane (where large difference between car and truck speed) | All | Fatal/ Injury | Rural | 2-lane |  | 38 | 33 |  |  |  |  |
| Install passing/climbing lane | All | All | All | All |  | 1 | 20 |  |  |  |  |
|  | All | Fatal/ Injury | Rural | 2-lane |  | 38 | 33 |  |  |  |  |
| Install shoulder | All | All |  |  |  | 15 | 9 |  |  |  |  |
| Install shoulder bus lanes | Head-on | Fatal/ <br> Injury |  |  |  | 15 | 50 |  |  |  |  |
|  | Head-on | PDO |  |  |  | 15 | 86 |  |  |  |  |
|  | Left-turn | Fatal/ Injury |  |  |  | 15 | 42 |  |  |  |  |
|  | Left-turn | PDO |  |  |  | 15 | 57 |  |  |  |  |

Dual CRF for CSAH 10 between CSAH 11 and West Creek Rd

Improvements include a 2 lane to 4 lane conversion and installing a median. The intersection of CSAH $11 / C S A H 10$ adds a NBR, creates a dual EBL and SBL, and switches to protected only phasing to EBL and SBL. Determined that the two factors below give best result for $B / C$.

CR1=Increase Number of Lanes
CR2=Install a raised median
$C R=1-(1-C R 1) *(1-C R 2)$

Other Crashes: CR=1 - (1-.31)*(1-.39) =. 58
Head On: CR=1 - (1-.53)*(1-.39) $=.71$
ROR (injury): CR $=1-(1-.44) *(1-.39)=.65$
ROR (PDO): CR = 1- $(1-.50)^{*}(1-.39)=.70$
Right Angle: CR=1 - (1-.45)* $(1-.39)=.66$
Left-Turn: CR=1 $-(1-.71)^{*}(1-.39)=.82$
Rear End: CR=1 - (1-.53)* $(1-.39)=.71$
Sideswipe (all): CR=1 - (1-.44)*(1-.39) = . 66
Sideswipe (PDO): CR=1 - (1-.64)*(1-.39) $=.78$

CSAH 10 From CSAH 11 to Creek Rd. (2013-2015) - created on 06-17-2016 by rile1che Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

| SYS | NUM | REF_POINT | GIS_ROUTE | GIS_TM | RD_DIR | ELEM | RELY | INV | R_U |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | Z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | E |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | Z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | N |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | E |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.651 | 0410000010 | 19.651 | Z |  | 2 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | Z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | Z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.310 | 0410000010 | 19.310 | Z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.551 | 0410000010 | 19.551 | Z |  | 2 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | z | - | 1 | $z$ | R |
| 04 | 10000010 | 019+00.414 | 0410000010 | 19.414 | Z |  | 3 | 2 | R |
| 04 | 10000010 | 019+00.571 | 0410000010 | 19.571 | z |  | 1 | 2 | R |
| 04 | 10000010 | 019+00.301 | 0410000010 | 19.301 | z | - | z | z | R |
| 04 | 10000010 | 019+00.751 | 0410000010 | 19.751 | z |  | 1 | 2 | R |

VEHICLE \#2 WAS STOPPED AT THE INTERSECTION OF COUNTY ROAD 10 AND COUNTY ROAD 11 WAITING FOR TRAFFIC D\#1 STATED SHE WAS BEHIND V\#2 WHEN D\#1 LOOKED DOWN TO CHECK HER CELL PHONE. D\#1 STATED THAT D\#2 S UNIT \#1 WAS EB, STOPPED AT THE TRAFFIC SIGNAL ON CO RD. 10 AT CO RD. 11. UNIT \#1 HAD RED LIGHT. UNI UNIT 1 WAS IN THE RIGHT HAND TURN LANE AND TURNING SOUTHBOUND ONTO CO RD. 11. UNIT 1 DRIVER DECIDE UNIT 1 WAS TRAVELING EAST ON CO. RD. 10 THE DRIVER OF UNIT 1 LOST CONTROL OF THE VEHICLE A HALF MI DRIVER OF VEH. \#1 STATED SHE WAS SB ON COUNTY ROAD 10 AND BEGAN TO LOSE CONTROL OF THE REAR OF HER VEH \#1 WAS EB ON CO RD 10. VEH \#2 WAS NB ON CO RD 11. DRIVER \#1 STATED HE HAD A GREEN LIGHT, AND RE VEHICLE \#1 WAS TRAVELLING EAST ON CSAH \#10 APPROACHING CSAH \#11. VEHICLE \#1 ENTERED LEFT TURN LANE VEHICLE \#1 EB ON CO RD 10. VEHICLE \#1 DRIVING APPROX. 45 MPH. VEHICLE \#1 BEGAN TO LOSE CONTROL ON DRIVER OF VEH. \# 1 STATED SHE WAS EASTBOUND ON COUNTY ROAD 10 HEADING INTO CHASKA. SHE STATED SHE W $t$ VEHICLE 1 STRUCK A DEER WHHLE TRAVELING EASTBOUNDONCORD 11 AT THE INTERSECTION OFCORD 10. NOI VEHICLE 1 WAS DRIVING WESTBOUND ON CSAH 10. VEHICLE ONE TRAVELLED OVER CENTER LINE AND ENTERED THE DRIVER OF VEHICLE 1 WAS NORTHBOUND ON CO RD 11. DRIVER OF VEHICLE 2 WAS SB ON CO RD 11. DRIVER OF V VEHICLE H1 WAS TRAVELING EBON COUNTY ROAD 10. VEHICLE H1 STRUCK $A$ DEER WITH THE RIGHT FRONT FENDE THE DRIVER OF VEHICLE 1 STATED SHE WAS HEADED WESTBOUND ON CO. RD. 10 WHEN SHE APPROACHED A VEHICLI

| MONTH | DAY | YEAR | TIME | SEV | NUM_KILLED |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 12 | 2013 | 1740 | N | 0 |
| 3 | 25 | 2015 | 1246 | N | 0 |
| 12 | 20 | 2014 | 1932 | N | 0 |
| 6 | 21 | 2015 | 1200 | N | 0 |
| 9 | 16 | 2015 | 1432 | C | 0 |
| 1 | 15 | 2013 | 0854 | N | 0 |
| 3 | 13 | 2013 | 1030 | A | 0 |
| 2 | 25 | 2015 | 1041 | N | 0 |
| 4 | 17 | 2014 | 0720 | C | 0 |
| 1 | 3 | 2013 | 0853 | C | 0 |
| 6 | 24 | 2015 | 0614 | N | 0 |
| 10 | 13 | 2014 | 0745 | B | 0 |
| 8 | 10 | 2015 | 1318 | B | 0 |
| 5 | 16 | 2014 | 0530 | N | $\theta$ |
| 3 | 17 | 2013 | 2008 | N | 0 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  | PERSON1 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NUM_VEH | JUNC | SL | TYPE | DIAG | LOC1 | TCD | LIT | WTHR1 | WTHR2 | SURF | CHAR | DESGN | ACC_NUM | VTYPE | DIR | ACT | FAC1 | FAC2 |
| 2 | 4 | 55 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8 | 131030031 | 1 | 7 | 1 | 15 | 0 |
| 2 | 4 | 50 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 1 | 1 | 6 | 150840130 | 4 | 3 | 1 | 15 | 15 |
| 2 | 4 | 55 | 1 | 2 | 1 | 1 | 4 | 2 | 0 | 1 | 1 | 8 | 143550011 | 1 | 3 | 1 | 15 | 5 |
| 2 | 1 | 55 | 1 | 2 | 1 | 1 | 1 | 1 | 90 | 1 | 1 | 8 | 151730018 | 1 | 3 | 1 | 1 | 1 |
| 1 | 1 | 55 | 64 | 3 | 4 | 98 | 1 | 1 | 0 | 1 | 1 | 8 | 152600034 | 1 | 3 | 1 | 15 | 0 |
| 1 | 1 | 55 | 30 | 4 | 1 | 98 | 1 | 1 | 0 | 90 | 5 | 8 | 130150034 | 1 | 5 | 1 | 46 | 0 |
| 2 | 4 | 55 | 1 | 5 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8 | 130730197 | 32 | 1 | 1 | 1 | 0 |
| 2 | 4 | 55 | 1 | 5 | 1 | 1 | 1 | 4 | 0 | 3 | 2 | 6 | 150560137 | 3 | 5 | 1 | 1 | 0 |
| 1 | 1 | 55 | 51 | 7 | 2 | 98 | 1 | 2 | 0 | 5 | 1 | 8 | 141070088 | 3 | 3 | 1 | 46 | 0 |
| 1 | 1 | 55 | 30 | 7 | 90 | 98 | 1 | 4 | 2 | 3 | 1 | 8 | 130030061 | 3 | 3 | 1 | 61 | 46 |
| 1 | 4 | 55 | 8 | 8 | 1 | 1 | z | 1 | $\theta$ | 1 | 1 | 8 | 151750092 | 1 | 3 | 1 | 1 | $\theta$ |
| 2 | 1 | 55 | 1 | 8 | 1 | 98 | 1 | 2 | 0 | 1 | 1 | 8 | 142860082 | 3 | 3 | 1 | 1 | 1 |
| 2 | 1 | 50 | 1 | 8 | 1 | 98 | 1 | 1 | 0 | 1 | 5 | 8 | 152220123 | 1 | 1 | 2 | 15 | 16 |
| 1 | 1 | 55 | 8 | 90 | 1 | 98 | z | z | $\theta$ | 1 | 1 | 8 | 141360015 | z | 3 | 1 | 90 | $\theta$ |
| 1 | 2 | 55 | 26 | 90 | 8 | 4 | 4 | 2 | 0 | 1 | 2 | 8 | 130760152 | 3 | 7 | 1 | 1 | 0 |






# CITY OF CHASKA CARVER COUNTY, MINNESOTA 

## RESOLUTION

DATE $\qquad$ RESOLUTION NO. 16-40

MOTION BY COUNCILMEMBER BOE SECOND BY COUNCILMEMBER_SCHULZ

## A RESOLUTION ENDORSING CARVER COUNTY'S APPLICATION FOR FEDERAL FUNDING FOR CSAH 10 (ENGLER BOULEVARD) EXPANSION FROM CSAH 11 (VICTORIA DRIVE) TO WEST CREEK LANE

WHEREAS, County State Aid Highway (CSAH) 10 is an A Minor Expander from CSAH 11 to US 212 in the City of Chaska;

WHEREAS, the 2030 Carver County Road System Plan recognizes the need to improve transportation connections and operations in order to provide a safe and efficient transportation system that meets the anticipated future needs and demands;

WHEREAS, said transportation plan demonstrates the need to expand CSAH 10 from 2 lanes to 4 lanes;

WHEREAS, the City of Chaska and Carver County are working cooperatively to meet the future needs to CSAH 10 and adjacent highways and city streets;

WHEREAS, the expansion of CSAH 10 will create a highly accessible facility that will help reduce traffic congestion, improve reliability to the highway users, improve safety and enhance the economic vitality of the community;

NOW, THEREFORE, BE IT RESOLVED that the City of Chaska endorses Carver County's regional solicitation application submittal to the Metropolitan Council for federal funding for the CSAH 10 (Engler Boulevard) expansion from 2 lanes to 4 lanes from approximately CSAH 11 (Victoria Drive) to West Creek Lane; and,

BE IT FURTHER RESOLVED, that the City of Chaska agrees to financially participate with the County of Carver in providing the matching funds, consistent with the current cost participation policy, at such time that the project is awarded federal funds subject to agreement on the project details.

Passed and adopted by the City Council of the City of Chaska, Minnesota, this 20th day of June, 2016.



## Project Limits

Figure 1
CSAH 10 Expansion
Carver County Regional Solicitation Roadway Expansion Application


[^0]:    K:ITrafficlTom\Regional Solicitation\2016ISynchrolCarver CountylCSAH 10ICSAH 10 CSAH 11 Existing PM.syn Synchro 8 Report

[^1]:    K:ITrafficlTom|Regional Solicitationl2016|SynchrolCarver CountyICSAH 10ICSAH 10 CSAH 11 Improved PM.syn Synchro 8 Report

