

## Application 10354 - 2018 Roadway Modernization 10884 - CSAH 30 Reconstruction from TH 25 to CSAH 10 Regional Solicitation - Roadways Including Multimodal Elements Status: Submitted Submitted Date: 07/13/2018 3:18 PM **Primary Contact** Angie Stenson Name:\* Salutation First Name Middle Name Last Name Title: Sr. Transportation Planner **Department: Public Works Division** Email: astenson@co.carver.mn.us Address: 11360 Highway 212 Suite 1 Cologne 55322 Minnesota City State/Province Postal Code/Zip 952-466-5273 Phone:\* Phone Ext. Fax: 952-466-5223 Regional Solicitation - Roadways Including Multimodal What Grant Programs are you most interested in? Elements

## **Organization Information**

Name: CARVER COUNTY

Jurisdictional Agency (if different):			
Organization Type:	County Governmen	t	
Organization Website:			
Address:	PUBLIC WORKS		
	11360 HWY 212 W	#1	
*	COLOGNE	Minnesota	55322-9133
	City	State/Province	Postal Code/Zip
County:	Carver		
Phone:*			
Thore.		Ext.	
Fax:			
PeopleSoft Vendor Number	0000026790A12		

# **Project Information**

Project Name CSAH 30 Reconstruction from TH 25 to CSAH 10

Primary County where the Project is Located Carver

Cities or Townships where the Project is Located: Waconia Township, City of Mayer

Jurisdictional Agency (If Different than the Applicant): N/A

The proposed project includes the reconstruction and modernization of County State Aid Highway (CSAH) 30 (70th Street) from Trunk Highway (TH) 25 (Ash Avenue South) to CSAH 10 in Carver County. CSAH 30 is currently a two-lane A-Minor Connector rural highway with 12-foot lanes and two-foot gravel shoulders. The project is located primarily within Waconia Township. The improvements will upgrade CSAH 30 to state aid standards, which includes a full depth reclamation of the 12-foot travel lanes and shoulder widening to eight-foot shoulders. Lighting will also be upgraded at key intersections. The extra shoulder width and flattened in-slopes will improve safety for motorists, bicyclists, heavy commercial vehicles, farming equipment and provide a safe emergency stopping area for vehicles.

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

CSAH 30 is a crucial link to the regional transportation network. CSAH 30 is a major east west connector in Carver County that links two the standalone communities of Mayer and Waconia. The City of Waconia is located on the eastern edge of the project area and is growing rapidly. CSAH 30's rural significance is related to its access to major north-south A Minor Connectors (TH 25 and CSAH 10), which link to the regional transportation network. TH 25 and CSAH 10 serve as one of the few continuous north-south routes in rural Carver County that provides access to TH 5 (A Minor Connector), US 212 (Principal Arterial), and TH 7 (Principal Arterial). Mayer and Waconia rely on these connections heavily.

Based on the area's growth, there is an immediate need to upgrade CSAH 30 to meet state aid standards. The improvements will provide multimodal benefits, including the freight and bicycle communities, who have limited paved

options in rural parts of the region.

(Limit 2,800 characters; approximately 400 words)

TIP Description <u>Guidance</u> (will be used in TIP if the project is selected for funding)

Reconstruction of CSAH 30 from TH 25 to CSAH 10 including

shoulder widening

**Project Length (Miles)** 

to the nearest one-tenth of a mile

## **Project Funding**

Are you applying for competitive funds from another source(s) to implement this project?

No

3.9

If yes, please identify the source(s)

Federal Amount \$2,413,920.00

Match Amount \$603,480.00

Minimum of 20% of project total

**Project Total** \$3,017,400.00

Match Percentage 20.0%

Minimum of 20%

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

Source of Match Funds County (local and/or CSAH regular construction funds)

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: 2023

Select 2020 or 2021 for TDM projects only. For all other applications, select 2022 or 2023.

**Additional Program Years:** 

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

## **Project Information-Roadways**

County, City, or Lead Agency Carver County

Functional Class of Road A-Minor Arterial Connector

Road System CSAH

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

Road/Route No. 30

i.e., 53 for CSAH 53

Name of Road 70th St

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55387

(Approximate) Begin Construction Date 07/01/2022

(Approximate) End Construction Date 10/31/2022

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

From:

(Intersection or Address)

To: (Intersection or Address)

CSAH 10

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work

Grade, Agg base, Agg surface, Bit base, Bit surface, Storm

sewer, Striping

TH 25

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):

## **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 (2015), 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 goals, objectives, and strategies that relate to the project.

These are the primary goals, objective, and strategies from the 2040 TPP supported by the proposed project:

Goal A - Transportation System Stewardship; Objective - Efficiently preserve and maintain the regional transportation system in a state of good repair; Strategy A1, A2 (page 2.6)

List the goals, objectives, strategies, and associated pages:

Goal B - Safety and Security; Objective - Reduce crash rates and improve safety and security for all modes of passenger travel and freight transport; Strategy B1, B3, B6 (page 2.7)

Goal D - Competitive Economy; Objective - Support the region's economic competitiveness through the efficient movement of freight; Strategy D1 (page 2.11)

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.

Roadway Safety Plan (2013). CSAH 30 is ranked in the rural segment prioritization category for road departure in Appendix D (page 148 of full document). The corridor is also identified in the edge risk assessment as risky (worst rating) for shoulder width and clear zone on page 147 of the

CSAH 30 corridor is listed in the Carver County

List the applicable documents and pages:

The project is identified as a County Road Rehabilitation project in the adopted Carver County 20-year Transportation Tax Implementation Plan to provide funding equity to rural populations.

full CRSP document.

<sup>4.</sup> 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.

#### 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 Modernization and Spot Mobility: \$1,000,000 to \$7,000,000

Traffic Management Technologies (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 (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, or be substantially working towards, completing 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 applicant is a public agency that employs 50 or more people and has an adopted ADA transition plan that covers the public right of way/transportation.

The applicant is a public agency that employs 50 or more people and is currently working towards completing an ADA transition plan that covers the public rights of way/transportation.

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

The applicant is a public agency that employs fewer than 50 people and is working towards completing an ADA self-evaluation that covers the public rights of way/transportation.

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

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

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

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

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

12. The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

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

02/18/2014 Yes

Date plan adopted by governing body

Date of anticipated plan Date process started completion/adoption

Date self-evaluation completed

Date of anticipated plan Date process started

completion/adoption

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

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

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

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

### **Roadways Including Multimodal Elements**

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

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

Roadway Expansion 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 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.

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

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

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

## **Requirements - Roadways Including Multimodal Elements**

# **Specific Roadway Elements**

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$174,000.00
Removals (approx. 5% of total cost)	\$29,200.00
Roadway (grading, borrow, etc.)	\$600,000.00
Roadway (aggregates and paving)	\$1,476,000.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$292,000.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$0.00
Traffic Control	\$29,200.00
Striping	\$10,000.00
Signing	\$0.00
Lighting	\$15,000.00
Turf - Erosion & Landscaping	\$100,000.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00
Traffic Signals	\$0.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$292,000.00
Other Roadway Elements	\$0.00
Totals	\$3,017,400.00

# **Specific Bicycle and Pedestrian Elements**

ESTIMATES	Cost
Path/Trail Construction	\$0.00
Sidewalk Construction	\$0.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$0.00

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
Other Bicycle and Pedestrian Elements	\$0.00
Totals	\$0.00

## **Specific Transit and TDM Elements**

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

# **Transit Operating Costs**

Number of Platform hours 0

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

Subtotal \$0.00

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

### **Totals**

Total Cost \$3,017,400.00

Construction Cost Total \$3,017,400.00

Transit Operating Cost Total \$0.00

# **Congestion on adjacent Parallel Routes:**

Adjacent Parallel Corridor TH 7

**Adjacent Parallel Corridor Start and End Points:** 

Start Point: TH 7 at TH 25

End Point: TH 7 at CSAH 10

Free-Flow Travel Speed: 59

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed: 55

The Peak-Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to

Free-Flow (calculation):

450444004000 0044100 0

Upload the "Level of Congestion" map: 1531411664000\_CSAH 30 Reconstruction\_Level of

Congestion Map.pdf

6.78%

## **Principal Arterial Intersection Conversion Study:**

Proposed at-grade project that reduces delay at a High Priority Intersection:

(65 Points)

Proposed at-grade project that reduces delay at a Medium Priority Intersection:

(55 Points)

Proposed at-grade project that reduces delay at a Low Priority

Intersection:

(45 Points)

Not listed as a priority in the study:

(0 Points)

## **Congestion Management and Safety Plan IV:**

Proposed at-grade project that reduces delay at a CMSP opportunity area:

(65 Points)

Not listed as a CMSP priority location: Yes

(0 Points)

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

42

Existing Employment within 1 Mile: 113

Existing Manufacturing/Distribution-Related Employment within 1

Mile:

Existing Post-Secondary Students within 1 Mile: 0

Please upload attachment in PDF form.

## **Measure C: Current Heavy Commercial Traffic**

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

Along Tier 1:

Along Tier 2:

Along Tier 3:

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: Yes

## Measure A: Current Daily Person Throughput

Location CSAH 30 west of Quartz Ave

**Current AADT Volume** 2950

**Existing Transit Routes on the Project** N/A

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

1531411871593\_CSAH 30 Reconstruction\_Transit **Upload Transit Connections Map** 

Connections Map.pdf

Please upload attachment in PDF form.

## **Response: Current Daily Person Throughput**

**Average Annual Daily Transit Ridership** 

**Current Daily Person Throughput** 3835.0

#### Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT

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

Council 2040 model)

2040 Carver County model (same number as Met

Forecast (2040) ADT volume

3600

# Measure A: Connection to disadvantaged populations and projects benefits, impacts, and mitigation

Select one:

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

(up to 100% of maximum score)

**Project located in Area of Concentrated Poverty:** 

(up to 80% of maximum score )

Projects census tracts are above the regional average for population in poverty or population of color:

(up to 60% of maximum score )

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:

Yes

(up to 40% of maximum score )

1.(0 to 3 points) A successful project is one that has actively engaged low-income populations, people of color, children, persons with disabilities, and the elderly during the project's development with the intent to limit negative impacts on them and, at the same time, provide the most benefits.

Describe how the project has encouraged or will engage the full cross-section of community in decision-making. Identify the communities to be engaged and where in the project development process engagement has occurred or will occur. Elements of quality engagement include: outreach to specific communities and populations that are likely to be directly impacted by the project; techniques to reach out to populations traditionally not involved in the community engagement related to transportation projects; residents or users identifying potential positive and negative elements of the project; and surveys, study recommendations, or plans that provide feedback from populations that may be impacted by the proposed project. If relevant, describe how NEPA or Title VI regulations will guide engagement activities.

#### Response:

Carver County reached out to Waconia Township officials regarding the project and determined the best approach for resident engagement was via a direct mailing to residents along the project and in the project area. Residents were mailed project information and invited to attend the township board meeting to provide input. Waconia Township considered resident feedback at their township board meeting and discussed the future project. Waconia Township has a Community Designation of Agricultural, and this project is a vital link in the farm-to-market highway system.

The City of Mayer and City of Waconia approved letters of support for the project, which is a key connection between these two communities.

Outreach and coordination with the Township, cities, and residents will continue throughout project development.

The project is identified as a County Road Rehab project in the adopted Carver County 20-year Transportation Tax Implementation Plan as part of the goal to provide funding equity to rural populations.

(Limit 1,400 characters; approximately 200 words)

2.(0 to 7 points) Describe the projects benefits to low-income populations, people of color, children, people with disabilities, and the elderly. Benefits could relate to safety; public health; access to destinations; travel time; gap closure; leveraging of other beneficial projects and investments; and/or community cohesion. Note that this is not an exhaustive list.

#### Response:

The project provides access to medical facilities and critical services for Waconia Township's elderly, rural population. 26.5% of Waconia Township residents are over age 60 (2012-16 ACS 5-Yr Est.) compared to 14.8% of Carver County's total population (ACS 5-Yr Est.) and 15.7% of the Minneapolis-St. Paul MSA (2010 Census). The project corridor is a direct connection to the City of Waconia, which is home to a regional medical services facility, Ridgeview Medical Center. The project will improve access to this medical facility for elderly populations with a wider shoulder that complies with state standards and upgraded pavement.

The project corridor connects to Watertown
Township, located 1 mile north of the project
corridor, which is designated as a Township above
the regional average for concentrated poverty. The
roadway reconstruction project will benefit
Watertown Township residents by widening the
shoulders and modernizing the roadway to state
standards.

CSAH 30 provides a direct connection to six area schools and 94 different district bus routes serving over 3,700 students on a daily basis. The school district is expecting to grow rapidly to 6,000 students by 2030.

(Limit 2,800 characters; approximately 400 words)

3.(-3 to 0 points) Describe any negative externalities created by the project along with measures that will be taken to mitigate them. Negative externalities can result in a reduction in points, but mitigation of externalities can offset reductions.

Below is a list of negative impacts. Note that this is not an exhaustive list.

Increased difficulty in street crossing caused by increased roadway width, increased traffic speed, wider turning radii, or other elements that negatively impact pedestrian access.

Increased noise.

Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.

Project elements that are detrimental to location-based air quality by increasing stop/start activity at intersections, creating vehicle idling areas, directing an increased number of vehicles to a particular point, 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.

Displacement of residents and businesses.

Construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings. These tend to be temporary.

Other

#### Response:

(Limit 2,800 characters; approximately 400 words)

**Upload Map** 

Negative externalities or negative project impacts are not expected or planned to be created by this project. It is a non-controversial roadway reconstruction project to modernize the roadway to state standards including shoulder widening. The County has taken preliminary steps to mitigate any potential externalities by engaging Waconia Township officials. As part of these outreach efforts, residents along the project corridor were mailed project information and provided a venue for project discussion at the Township meeting.

1531412026859\_CSAH 30 Reconstruction\_Socio-Economic Map.pdf

#### Measure B: Affordable Housing

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent
Mayer	0.2	0.05	25.0	1.282
Not Available	3.7	0.95	0	0

## **Total Project Length**

Total Project Length (as entered in the "Project Information" form) 3.9

## Affordable Housing Scoring

Total Project Length (Miles) or Population 3.9

Total Housing Score 1.282

## **Affordable Housing Scoring**

## **Measure A: Year of Roadway Construction**

**Year of Original** 

Roadway Construction or Most Recent Segment Length Calculation Calculation 2

Reconstruction

1953 3.9 7616.7 1953.0

4 7617 1953

Yes

## **Total Project Length**

Total Project Length (as entered in "Project Information" form) 3.9

## **Average Construction Year**

Weighted Year 1953

## **Total Segment Length (Miles)**

Total Segment Length 3.9

## Measure B: Geometric, Structural, or Infrastructure Improvements

Improved roadway to better accommodate freight movements:

Response:
(Limit 700 characters; approximately 100 words)
Improved clear zones or sight lines:
Response:
(Limit 700 characters; approximately 100 words)
Improved roadway geometrics:
Response:
(Limit 700 characters; approximately 100 words)
Access management enhancements:

The proposed CSAH 30 reconstruction and modernization project improvements will accommodate heavy freight vehicles and agricultural equipment weighing over 10-tons. CSAH 30 is currently posted as a ten-ton route. The reconstruction of CSAH 30 will maintain this designation. Widening the shoulder to the state aid standard of 8 feet will better accommodate freight movement along the corridor.

Yes

The crash rate along the corridor is higher than the State average based on 10-yr crash statistics: segment btwn Shimmcor & Quartz - 2.2x higher; segment east of Polk - 2.2x higher; Polk intersection - 2.7x higher; segment btwn Polk & 78th - 2.7x higher. Many of these crashes are lane departure crashes. The existing two-ft shoulders do not provide an adequate area for motorists who cross the lane line to regain control of the vehicle safely.

The proposed shoulder widening of CSAH 30 from 2 ft to 8 ft will provide a clear zone for operators to regain control of their vehicle. The extra shoulder width will also provide a safe emergency stopping area for vehicles.

Yes

The proposed project will address the roadway geometrics associated with the curves on the roadway and upgrade geometry to a 55 mph design speed. The project will also include an upgraded shoulder width from two to eight feet. A northbound right hand turn lane will also be added at the TH 25/CSAH 30 intersection.

Yes

The County Comprehensive Plan identifies this roadway for ½ mile spacing of full intersections and 1/4 mile spacing of secondary intersections. The 3.9 mile corridor contains one full access, 4-way intersection (Goose Lake Dr/Polk Ave) and 4 full, 3way T-intersections (Shimmcor St, Quartz Ave, Rutz Lk Rd, and 78th St). This falls within the Response: County's access management guidance. The majority of the existing and planned land use along the corridor is Agricultural, with 1 dwelling per 1/4 1/4 section (1 per 40 acres) and many of the parcels are identified as Enrolled Agricultural Preserves. No changes to driveways are planned as part of the project because of low existing and planned densities. (Limit 700 characters; approximately 100 words) Yes Vertical/horizontal alignment improvements: The roadway intends to follow the existing alignment, which has reasonable vertical or horizontal alignment conditions. One intersection will be reviewed for intersection reconfiguration and Response: better intersection sight distance, which may require a partial mainline segment shift. The shoulder widening of the existing 2 ft shoulder is the main purpose of the project. (Limit 700 characters; approximately 100 words) Improved stormwater mitigation: Yes The project will meet Carver County WMO requirements including the incorporation of BMPs such as enhanced infiltration techniques. In Response: addition, the proposed project will apply the appropriate stormwater mitigation measures for a rural two-lane roadway. (Limit 700 characters; approximately 100 words) Signals/lighting upgrades: Yes

#### Response:

(Limit 700 characters; approximately 100 words)

**Other Improvements** 

Response:

(Limit 700 characters; approximately 100 words)

The proposed project will include the appropriate lighting at county road intersections. Upgraded and enhanced LED lighting will be installed at the two highway intersections on the project corridor of TH 25/CSAH 30 and CSAH 10/CSAH 30. Signals are not included as part of this project.

Yes

The project corridor does not currently meet state aid standards. This roadway modernization project will update the highway to meet state aid standards, with the major improvement being reconstruction of existing pavement and shoulder widening from 2 feet to 8 feet.

**EXPLANATIO** 

# Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/Veh icle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/Veh icle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/Veh icle)	Volume (Vehicles per hour)	Total Peak Hour Delay Reduced by the Project:	N of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
3.0	3.0	0	923	0		15312498507 01_Synchro Results CSAH 30.pdf
5.0	5.0	0	593	0		15312498704 67_Synchro Results CSAH 30.pdf

#### Vehicle Delay Reduced

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

Total (CO, NOX, and VOC)
Peak Hour Emissions
without the Project
(Kilograms):

Total (CO, NOX, and VOC)
Peak Hour Emissions with
the Project (Kilograms):

Total (CO, NOX, and VOC)
Peak Hour Emissions
Reduced by the Project
(Kilograms):

#### **Total**

Total Emissions Reduced:

Upload Synchro Report 1531249784248\_Synchro Results CSAH 30.pdf

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

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

Total (CO, NOX, and VOC)
Peak Hour Emissions
without the Project
(Kilograms):

Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms): Total (CO, NOX, and VOC)
Peak Hour Emissions
Reduced by the Project
(Kilograms):

0

0

0 0 0

0

## **Total Parallel Roadway**

Emissions Reduced on Parallel Roadways

**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:

Vehicle miles traveled with the project:

O

Total delay in hours with the project:

O

Total stops in vehicles per hour with the project:

O

Fuel consumption in gallons:

O

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):

0.0

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

Cruise speed in miles per hour without the project: 0 Vehicle miles traveled without the project: 0 Total delay in hours without the project: 0 Total stops in vehicles per hour without the project: Cruise speed in miles per hour with the project: Vehicle miles traveled with the project: 0 Total delay in hours with the project: Total stops in vehicles per hour with the project: 0 Fuel consumption in gallons (F1) n Fuel consumption in gallons (F2) Fuel consumption in gallons (F3) 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: Roadway Projects that do not Include Railroad Grade-Separation Elements

**Crash Modification Factor Used:** 

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

(Limit 1400 Characters; approximately 200 words)

Project Benefit (\$) from B/C Ratio

Worksheet Attachment

Please upload attachment in PDF form.

Various CMFs were used for different parts of the project. This includes shoulder width changes, lighting, and roadway friction increases. Specific CMF details are identified in the attachment.

They matched the improvements identified for the corridor and intersections while providing the most accurate CMF.

\$5,173,514.00

1531405976656\_Complete CSAH 30 Crash

Analysis\_8x11.pdf

# Roadway projects that include railroad grade-separation elements:

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

# **Measure A: Multimodal Elements and Existing Connections**

Response:

The existing roadway has two-foot shoulders (1 foot paved, 1 foot aggregate). This modernization project will expand the shoulder width to 8 feet. In rural areas, wide shoulders on county roads are often used by residents for bicycling and walking transportation. This roadway, for example, is the primary and most direct connection between the City of Mayer and the City of Waconia.

CSAH 30 also provides a direct connection to the parallel Dakota Rail Regional Trail. The trail can be accessed from Quartz Lane and Goose Lake Drive off of CSAH 30. Residents of Waconia Township and the City of Waconia are likely to use CSAH 30 to access the Dakota Rail Regional Trail. The paved Dakota Rail Regional Trail extends 13.5 miles through Carver County from the county line (roughly two miles west of New Germany) to the east county line on the northeast side of Lake Waconia. The trail is part of the larger 44-mile, three county trail.

In addition, the existing pavement is at the end of its useful life and this reconstruction project will improve the pavement condition and pavement markings to better serve bicyclists and pedestrians.

The project is located in a rural area of the county and region and is served by SmartLink Transit. SmartLink operates dial-a-ride transit service for the general public. This transit service serves the rural residents along the project corridor and provides a transit connection for residents to connect anywhere in the seven county metro area. The modernization of CSAH 30 to include wider shoulders will allow SmartLink buses to better access rural households.

(Limit 2,800 characters; approximately 400 words)

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)Layout (30 Percent of Points)

Layout should include proposed geometrics and existing and proposed right-of-way boundaries.

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties that the project goes through or agencies that maintain the roadway(s)). A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

**Attach Layout** 

1531501232140\_CSAH 30\_Reconstruct\_Layout\_CoLetter8.5x11.pdf

Please upload attachment in PDF form.

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

50%

**Attach Layout** 

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion

2) Review of Section 106 Historic Resources (20 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%

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

3)Right-of-Way (30 Percent of Points)

Right-of-way, permanent or temporary easements either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements required, plat, legal descriptions, or official map complete

50%

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

Yes

25%

Right-of-way, permanent or temporary easements required, parcels not all identified

0%

Anticipated date or date of acquisition

4)Railroad Involvement (20 Percent of Points)

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

Yes

100%

**Signature Page** 

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

#### **Measure A: Cost Effectiveness**

Total Project Cost (entered in Project Cost Form): \$3,017,400.00

Enter Amount of the Noise Walls: \$0.00

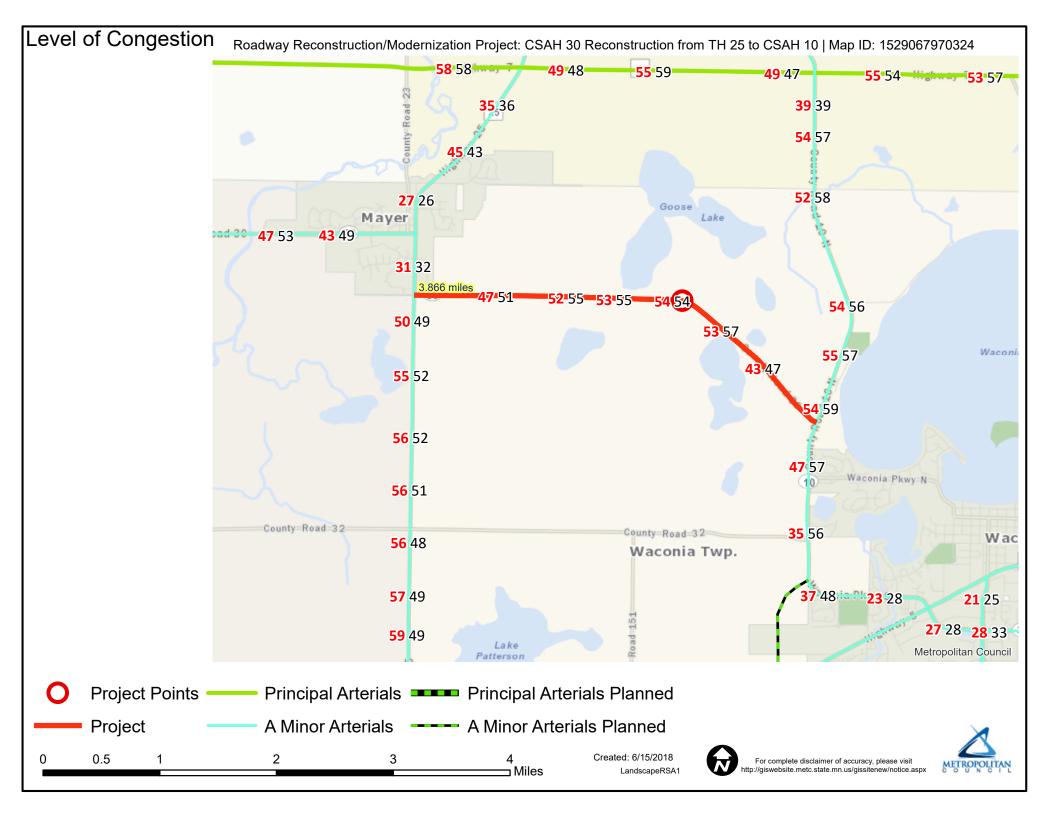
Total Project Cost subtract the amount of the noise walls: \$3,017,400.00

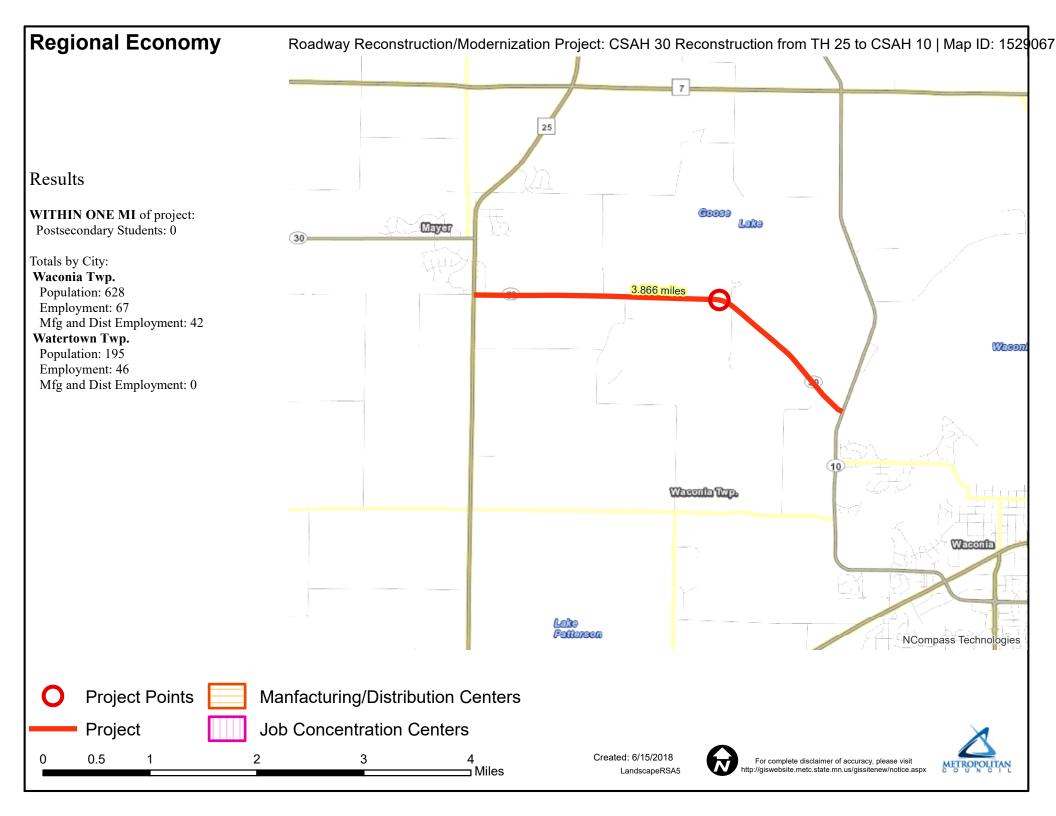
Points Awarded in Previous Criteria

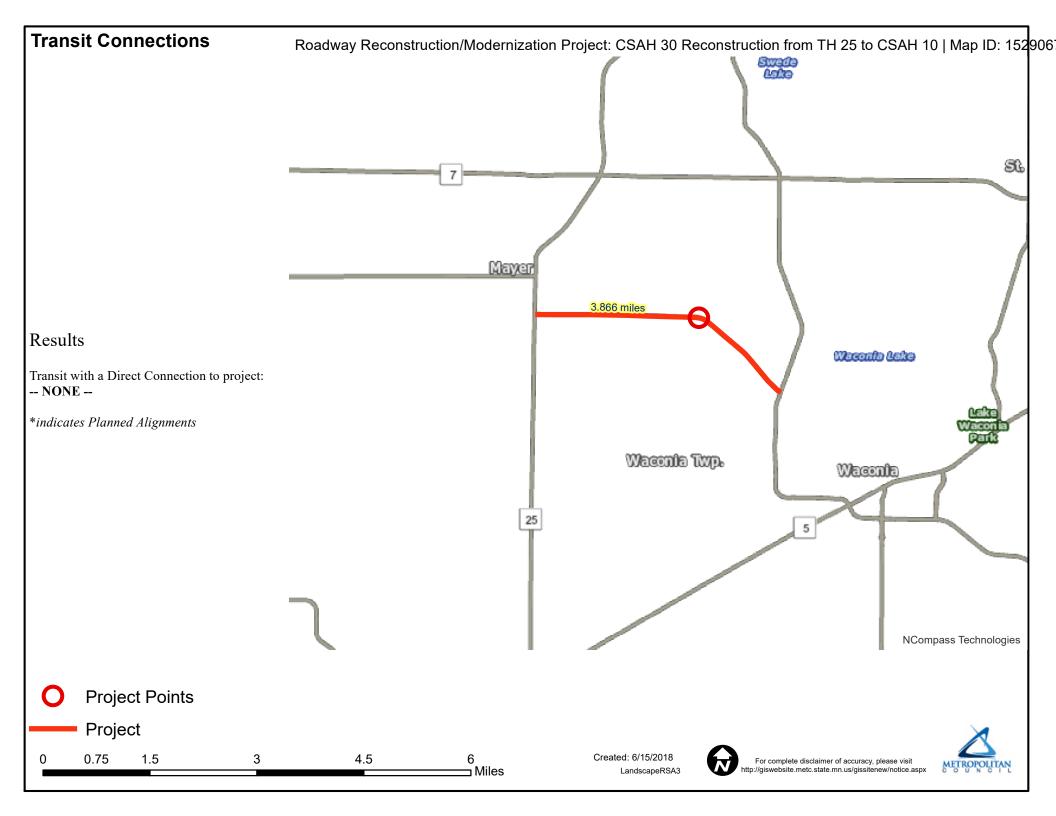
Cost Effectiveness \$0.00

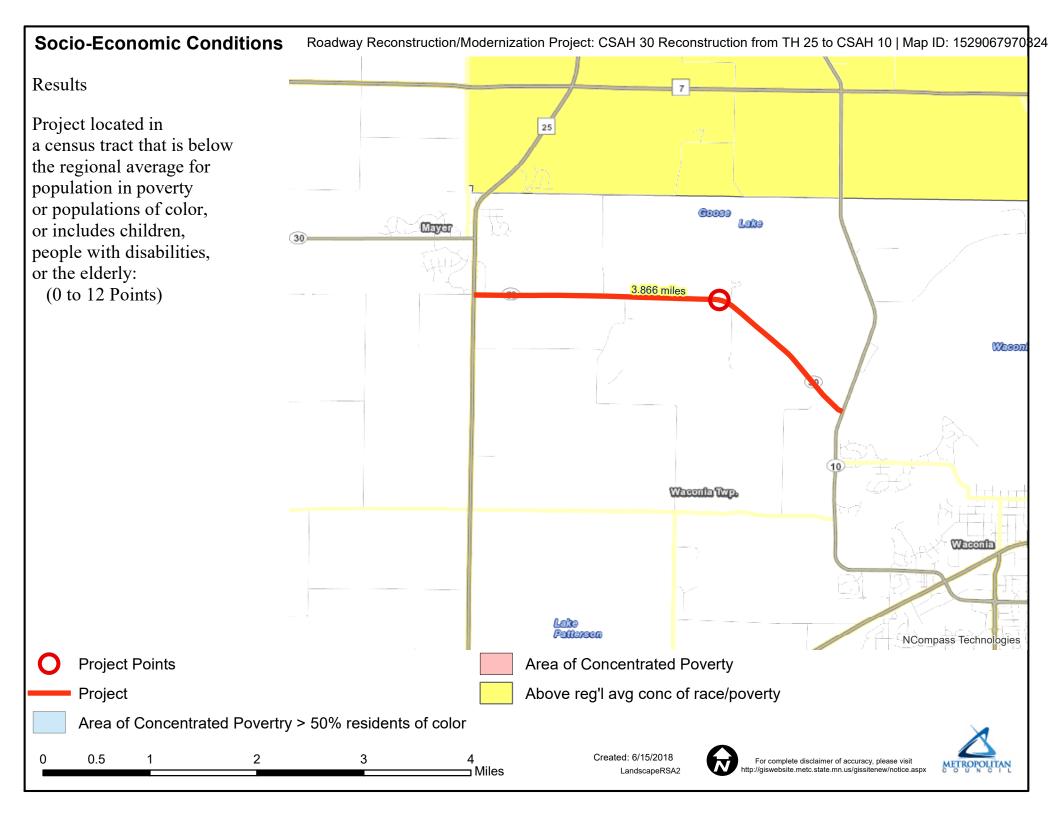
#### Other Attachments

File Name	Description	File Size
CarverCo_CSAH 30Reconstruct_Summary.pdf	1 Page Project Summary	570 KB
CarverCo_CSAH 30_Reconstruct_Photo.pdf	Existing Conditions Photo	171 KB
CSAH 30 Reconstruction Project Support - Waconia.pdf	City of Waconia Letter of Support	34 KB
CSAH 30_Layout-Concept 8.5x11.pdf	Map of Proposed Improvement	289 KB
Mayer_LOS_CSAH30.pdf	City of Mayer Letter of Support	40 KB









Direction	All	
Future Volume (vph)	923	
Total Delay / Veh (s/v)	3	
CO Emissions (kg)	0.59	
NOx Emissions (kg)	0.11	
VOC Emissions (kg)	0.14	

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

Direction	All
Future Volume (vph)	923
Total Delay / Veh (s/v)	3
CO Emissions (kg)	0.59
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.14

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

Direction	All	
Future Volume (vph)	923	
Total Delay / Veh (s/v)	3	
CO Emissions (kg)	0.59	
NOx Emissions (kg)	0.11	
VOC Emissions (kg)	0.14	

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

Direction	All
Future Volume (vph)	923
Total Delay / Veh (s/v)	3
CO Emissions (kg)	0.59
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.14

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

Direction	All	
Future Volume (vph)	923	
Total Delay / Veh (s/v)	3	
CO Emissions (kg)	0.59	
NOx Emissions (kg)	0.11	
VOC Emissions (kg)	0.14	

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

# 2: CSAH 10 & CSAH 30

Direction	All
Future Volume (vph)	923
Total Delay / Veh (s/v)	3
CO Emissions (kg)	0.59
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.14

# 7: TH 25 & CSAH 30

Direction	All	
Future Volume (vph)	593	
Total Delay / Veh (s/v)	5	
CO Emissions (kg)	0.37	
NOx Emissions (kg)	0.07	
VOC Emissions (kg)	0.09	

HS works			Control Section	T.H. / Roadway		Location				Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
WUIKS	псс			CSAH 30	TH 25 Intersection	1						Carver	1/1/2013	12/31/2015
			Descripti Proposed		Construct Right T	urn Lane	and Install Int	ersection Lig	htin	Q				
Accid	ent Dia	gram Codes	1 Rear End					5 Right Angle		Ran off Road	8, 9 Head On/ Sideswipe -		6, 90, 99	
	\	/	-	<b>&gt;-&gt;</b>	<b>→</b>	9	<b>←</b>				Opposite Direction	Pedestrian	Other	Total
	Fatal	F		,										
	ry (PI)	A												
Study Period:	Personal Injury (PI)	В								1				1
Number of Crashes		C												
	Property Damage	PD									1			1
% Change	Fatal	F												
in Crashes		A												
*Use Crash	PI	В								-66%				
Modification Factors	<i>y</i> e	C												
Clearinghouse	Property Damage	PD									-60%			
	Fatal	F												
CI.		A												
Change in Crashes	PI	В								-0.66				-0.66
= No. of crashes <b>X</b>	5- B	C												
% change in crashes	Property Damage	PD									-0.60			-0.60
<b>Year</b> (Safety I	mprov	emen	t Construct	ion)	2020							Ī		
Project Cost	(exclu	de Riş	ght of Way	)	\$ 3,017,400	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes		Cost per Crash	Annual Benefit		B/C=	0.30
Right of Way	Cost	s (opt	ional)			F			\$	1,180,000		Using present		
Traffic Grow	th Fa	ctor			3%	A			\$	590,000		B=		917,715
Capital Reco	very					В	-0.66	-0.22	\$	170,000	\$ 37,434	C=		3,017,400
1. Discoun					1.3%	С			\$	87,000		See "Calculat	ions" sheet f	or amortization.
2. Project	Servic	e Lif	e (n)		20	PD Total	-0.60	-0.20	\$	7,800		Office of Tra Technology		and mber 2014

HS works			Control Section	T.H. / Roadway		Location				Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
WOIKS	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		D		CSAH 10 Intersec	etion						Carver	1/1/2013	12/31/2015
			Descripti Proposed	l Work	Install Intersection	n Lighting								
Accid	lent Di	agram Codes	1 Rear End		2 Sideswipe Same Direction	3 Left Tur	n Main Line	5 Right Angle	4,7 I	Ran off Road	8, 9 Head On/ Sideswipe -		6, 90, 99	
	\			<b></b>	<b>→</b>	9	<b>←</b>				Opposite Direction	Pedestrian	Other	Total
	Fatal	F												
		A												
Study	Injury	В												
Period: Number of Crashes	Personal Injury (PI)	С												
	Property Damage	PD		1								1		2
0/ Channa	Fatal	F												
% Change in Crashes	F													
	PI	A												
*Use Crash Modification	11	В												
Factors Clearinghouse	ty.	C												
	Property Damage	PD		-84%								-69%		
	Fatal	F												
		A												
Change in Crashes	PI	В												
= No. of		C												
crashes <b>X</b> % change in	operty	)												
crashes		PD		-0.84								-0.69		-1.53
Year (Safety l	mpro	vemen	t Construct	non)	2020		Study					1		
Project Cost	(exclı	ıde Ri	ght of Way	·)	\$ 3,017,400	Type of Crash	Period: Change in Crashes	Annual Change in Crashes	,	Cost per Crash	Annual Benefit		B/C=	0.03
Right of Way	y Cos	ts (op	tional)			F			\$	1,180,000		Using present	worth value	es,
Traffic Grov	vth F	actor			3%	A			\$	590,000		<b>B</b> =		93,703
Capital Reco	very					В			\$	170,000		C=	\$	3,017,400
1. Discoun	t Rat	e			1.3%	C			\$	87,000		See "Calculat	ions" sheet f	or amortization.
2. Project	Servi	ce Lif	če (n)		20	PD	-1.53	-0.51	\$	7,800	\$ 3,982			
						Total					\$ 3,982	Office of Tra Technology		and nber 2014
•											- ,- ,-		1	

HS works			Control Section	T.H. / Roadway		Location				Beginning Ref. Pt.		ding 7. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
WOIKS	iicc				CSAH 10 to TH 2	.5							Carver	1/1/2013	12/31/2015
			Descripti Proposed		Reconsruct roadw	ay and ad	d paved shoul	lders							
Accide		igram Codes	1 Rear End		2 Sideswipe Same Direction	3 Left Tur	n Main Line	5 Right Angle	4,71	Ran off Road	8, 9 Head Sideswipe Opposite I	e - Direction		6, 90, 99	
	<u> </u>			<b>&gt;-&gt;</b>		و			=	<b>T</b>		<u> </u>	Pedestrian	Other	Total
	Fatal	F													
	y (PI)	A													
Study Period:	Personal Injury (PI)	В								2					2
Number of Crashes		C								3					3
	Property Damage	PD		3	1			1		5		1		2	13
% Change	Fatal	F													
in Crashes		A													
	ΡI	В								-77%					
*Use Crash Modification Factors		С								-77%					
Clearinghouse	Property Damage	PD		-74%	-49%			-32%		-77%		-77%		-49%	
	Fatal	F													
		A													
Change in Crashes	PI	В								-1.54					-1.54
= No. of		C								-2.31					-2.31
crashes <b>X</b> % change in	operty														
	Pro Dai			-2,22				-0.32		-3.85		-0.77		-0.98	-8.63
Year (Safety I	nprov	emen	t Construct	10n)	2020		Study						]		
Project Cost (	exclu	de Ri	ght of Way	)	\$ 3,017,400	Type of Crash	Period: Change in Crashes	Annual Change in Crashes		Cost per Crash		nual nefit		B/C=	1.38
Right of Way	Cost	s (opt	tional)			F			\$	1,180,000			Using present	t worth value	S,
Traffic Grow	th Fa	ctor			3%	A			\$	590,000			1		4,162,096
Capital Reco	very					В	-1.54	-0.51	\$	170,000	\$	87,346	C=		3,017,400
1. Discount	Rate	;			1.3%	С	-2.31	-0.77	\$	87,000	\$	67,051	See "Calcular	ions" sheet f	or amortization.
2. Project S	Servic	e Lif	če (n)		20	PD	-8.63	-2.88	\$	7,800	\$	22,459			إ
						Total					<b>\$</b> 1		Office of Tra Technology		and nber 2014

• •
_
_
≶
<
>
⇗
1
-
ഗ
_
⊳
-
÷
$\circ$
$\bar{\infty}$
$\infty$
0
$\overline{}$
_

September 2008

Desktop Reference for Crash Reduction Factors	ence for Cr	ash Reduct	ion Factors								ln:	terse	ction (	Intersection Crashes
	Crash	Crash	·	1		Major	Minor		$\neg$	Effectiveness	eness	]		
Countermeasure(s)	Type	Severity	Area Type	Config	Control	Daily Traffic Volume (veh/day)	raffic /eh/day)	Ref (	Obs	Crash Reduction Factor / Function	Std Error	Range Low Hig	nge High	Study Type
Prohibit right-turn-on-	All	All	Urban/ Suburban		Signal			62	< S ¬	100(1-(0.984)^n); n=number of signalized intersection appraoches where RTOR is prohibited	ı=numb tion app hibited	er of oraoch	ıes	Expert Panel
red (cont'd)	Right- angle	All			Signal			15		30				Cross-section
	Sideswipe	≧			Signal			15		20				Cross-section
Prohibit turns	All turns	All	All					_		45		40	90	
Restrict parking near	All	All						28		49		8	90	
street)	Ped	All						15		30				
	All	A	Rural					o	<u> </u>	100(1-EXP(0.019(V-55))); V=major-road speed limit (or design speed) (mph)	/-55))); <sup>-</sup> desigr	V=ma	ajor-	
valy opera	All	All	Urban					6	<u> </u>	100(1-EXP(0.005(V-40))); V=major-road speed limit (or design speed) (mph)	/-40))); <sup>-</sup> desigr	V=ma า spee	ajor- ed)	
					LIGH	LIGHTING								
Improve lighting at	Ped	Fatal						5		78	87			
intersection	Ped	Injury						2		42	18			
	All	A			Signal			51		30				
		Fatal/Injury			Signal			51		17				
	Night	≧			Signal			51		50				
	A	A			No Signal			28		(47)				Meta
	All	All						62		4				Analysis/ Expert Panel
Install lighting	All	Injury						62		თ				Meta Analysis/ Expert Panel
	Night	A						62		21				Meta Analysis/ Expert Panel
	Night	Injury						62		29				Meta Analysis/ Expert Panel

FHWA-SA-08-011

September 2008

All All 4-Leg Signal 4,200- 100- 22  All All 4-Leg Stop 1,100- 25- 22  All All All 4-Leg Stop 40,600 11,800 22  All All All (2 app) Stop 40,600 11,800 22  All All All A-Leg Signal 55,100 26,000 22  All All All A-Leg Signal 55,100 26,000 22  All All All All A-Leg No signal 4,200- 100- 25- 22  All Rural (1 app) No signal 28  All Rural (1 app) No signal 28  All No signal 35,100 26,000 25  All A-Leg No signal 35,100 26,000 25  All A-Leg No signal 35,100 26,000 25  Fatal/Injury All 4-Leg Signal 55,100 26,000 25  Fatal/Injury All All No signal 4,200- 100- 25- 22  Fatal/Injury All All No signal 58,100 26,000 58  Fatal/Injury All All No signal 58, 100- 58  Fatal/Injury All All Signal 58, 100- 58  Fatal/Injury All All Signal 58, 100- 58  Fatal/Injury All All Signal 58, 100- 58	Simple Before-After				65	15						<u>A</u>	Rear-end	
All         All         4-leg (1 app)         Signal         4-200- 25.000         22         4         4         4					30	58			All	All	Urban	Fatal/Injury	All	•
Alli         Alli         Al-eg (1 app)         Signal Signal         4200- 25,100         22         4         2         4           Alli         Alli         (1 app)         Signal         45,100         26,000         22         4         2         4           Alli         Alli         4-leg (2 app)         Signal         4,200- 25,000         100- 26,000         22         8         3         5         1           Alli         Alli         Al-leg (2 app)         Signal         4,200- 26,000         100- 25- 22         22         26         7         3         5           Alli         Alli         Al-leg (1 app)         No signal         3         1         25         2         26         7         2         2           Alli         Rural         41-leg (1 app)         No signal         3         28         14         27         14         27           Alli         Rural         41-leg (1 app)         No signal         3         28         21         4         27         24         30           Alli         Alli         No signal         3         4         25         25         4         27         4         27 <t< td=""><td></td><td></td><td></td><td></td><td>35</td><td>58</td><td></td><td></td><td>All</td><td>A</td><td>Rural</td><td>Fatal/Injury</td><td>All</td><td></td></t<>					35	58			All	A	Rural	Fatal/Injury	All	
All       All       4-Leg (1 app)       Signal       4,200- (5,100)       20       22       4       2       2         All       All       4-Leg (1 app)       Sitop       1,100- (1 app)       25- (1,000)       22       14       5       3       4         All       All       4-Leg (2 app)       Sitop (2 app)       4,200- (5,100)       100- (26,000)       22       8       3       4         All       All       Al-Leg (1 app)       Signal       4,200- (2 app)       1,100- (25- (2 app)       22       26       7       2         All					40	51				All	All	Fatal/Injury	A	•
All     All (1 app)     Signal (1 app)     4,200-100-26,000     22     4     2     1       All     All (1 app)     Signal (1 app)     55,100 26,000     22     14     5     2       All     All (1 app)     Signal (2 app)     4,200-100-100-100-100-100-100-100-100-100-					35	58			Signal	All	All	Fatal/Injury	A	•
All     All (1 app)     4-Leg (1 app)     Signal (1 app)     4,200-100-25,000     22     4     2     4       All     All     (1 app)     Siop     4,200-100-25,000     22     14     5     4       All     All     (1 app)     Siop     4,000-100-25,000     22     8     3     4       All     All     (2 app)     Siop     1,100-25,000     22     28     3     4       All     All     All     Al-Leg     No signal     5,100-25,000     22     28     3     4       All     All     Al-Leg     No signal     5,100-25,000     22     28     7     4       All     Rural     4-Leg     No signal     5     28     21     14     27       All     Rural     1,100-25,000     28     21     14     27       All     No signal     28     21     14     27       All     No signal     28     21     14     27       All     15     25     25     24     30       All     15     25     25     24     30       Fatal/Injury     All     (1 app)     Signal     5,100-25,000     22     23     <					35	58			No signal	A	A	Fatal/Injury	A	•
All All 4-Leg Signal 55,100 26,000 22 4 4 2 1	EB Before- After			7	23	22	25- 11,800	1,100- 40,600	Stop	4-Leg (1 app)	All	Fatal/Injury	All	
All       All       4-Leg (1 app)       Signal (1 app)       4-200- 55,100       100- 26,000       22       4       2       4         All       All       4-Leg (1 app)       Stop (1 app)       1,100- 40,600       25- 11,800       22       14       5       5         All       All       4-Leg (2 app)       Stop (2 app)       1,100- 40,600       25- 11,800       22       26       7       2         All       All       A-Leg (2 app)       No signal       3       3       3       3         All       All       A-Leg (2 app)       No signal       3       3       3       3         All       All       A-Leg (1 app)       No signal       3       3       3       3         All       Rural       4-Leg (1 app)       No signal       28       3       3       4         All       Rural       4-Leg (1 app)       No signal       28       21       14       27         All       No signal       28       27       24       30         All       No signal       15       25       3       4         All       No signal       15       25       4       3	EB Before- After			ω	9	22	100- 26,000		Signal	4-Leg (1 app)	All	Fatal/Injury	All	
All       All       4-Leg (1 app)       Signal       4,200- 55,100 26,000       100- 26,000       22       4       2       4         All       All       (1 app)       Stop       1,100- 40,600       25- 1,800       22       14       5       5         All       All       (2 app)       Stop       40,600       11,800       22       8       3       5         All       All       Alleg (2 app)       Stop       1,100- 40,600       25- 11,800       22       26       7       3       5         All       All       Alleg (1 app)       No signal       Alleg (1 app)       Alleg (1 app)       No signal       Alleg (1 app)       No signal       Alleg (1 app)       Alleg (1 app)       No signal       Alleg (1 app)	Simple Before-Afte				25	15						All	All	
All       All (1 app)       4-Leg (1 app)       Signal (1 app)       4,200- 26,000 22       22       4       2       4       2       4         All       All       (1 app)       Stop       1,100- 25,000 11,800 25       22       14       5       4       5       4         All       All       A-Leg (2 app)       Signal 55,100 26,000 26,000 22       22       8       3       3       5       4         All       All       A-Leg (2 app)       Stop       1,100- 25- 22       22       26       7       4       5       4         All	Simple Before-Afte				25	15						All	A	
All       All       4-Leg (1 app)       Signal (1 app)       4-200- 26,000 22       22       4       2       EB         All       All       (1 app)       Stop       1,100- 26,000 26,000 22       22       14       5       EB         All       All       4-Leg (1 app)       Stop       4,200- 11,800 26,000 22       22       14       5       EB         All       All       A-Leg (2 app)       Stop       1,100- 25- 22       26       7       EB         All       All </td <td>Cross-sectio</td> <td></td> <td></td> <td></td> <td>25</td> <td>15</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>All</td> <td>A</td> <td>Install right-turn lane</td>	Cross-sectio				25	15						All	A	Install right-turn lane
All All (1 app) Signal 4,200- 100- 22					25	15						₽	₽	•
All       All       4-Leg (1 app)       Signal       4,200- 100- 26,000 22       22       4       2       EB         All       All       (1 app)       Stop       1,100- 25- 40,600 11,800 26,000 22       22       14       5       EB         All       All       A-Leg (2 app)       Signal       4,200- 100- 26,000 26,000 22       22       8       3       EB         All		30	24		27	28			No signal	All		≧	All	•
All       All       Al-Leg (1 app)       Signal (1 app)       4,200- 26,000 22       22       4       2       EB         All       All       All (1 app)       Signal (1,100- 25- 22)       22       14       5       EB         All       All       A-Leg (2 app)       Signal (2 app)       55,100 26,000 26,000       22       8       3       EB         All       All       A-Leg (2 app)       Stop 40,600 11,800 25- 22       22       26       7       EB         All       All </td <td></td> <td>27</td> <td>14</td> <td></td> <td>21</td> <td>28</td> <td></td> <td></td> <td>No signal</td> <td>4-Leg (1 app)</td> <td>Rural</td> <td>All</td> <td>A</td> <td></td>		27	14		21	28			No signal	4-Leg (1 app)	Rural	All	A	
All       All       4-Leg (1 app)       Signal (1 app)       4,200- 100- 26,000       22       4       2       EB         All       All       4-Leg (1 app)       Stop       1,100- 25- 40,600       22       14       5       EB         All       All       4-Leg (2 app)       Signal 55,100       26,000       22       8       3       EB         All       All       4-Leg (2 app)       Stop       1,100- 25- 22       22       8       3       EB         All       All       4-Leg (2 app)       Stop       1,100- 25- 22       22       26       7       EB         All       All <t< td=""><td></td><td></td><td></td><td></td><td>14</td><td>28</td><td></td><td></td><td>No signal</td><td>4-Leg (1 app)</td><td>Rural</td><td>A</td><td>A</td><td></td></t<>					14	28			No signal	4-Leg (1 app)	Rural	A	A	
All       All       4-Leg (1 app)       Signal       4,200- 26,000 22       22       4       2       EB         All       All       (1 app)       Stop       1,100- 25- 40,600 11,800 26       22       14       5       EB         All       All       (1 app)       Stop       4,200- 100- 26,000 26       22       8       3       EB         All       All       (2 app)       Stop       1,100- 25- 26,000 26,000 26       22       8       3       EB         All       All       4-Leg (2 app)       Stop       1,100- 25- 26,000 26,000 26       7       EB         All       All <td< td=""><td></td><td></td><td></td><td></td><td>25</td><td></td><td></td><td></td><td></td><td></td><td>All</td><td>All</td><td>All</td><td>•</td></td<>					25						All	All	All	•
All All 4-Leg Signal 4,200- 100- 22 4 2 2 EB  All All 4-Leg Stop 55,100 26,000 22 14 2 EB  All All 4-Leg Stop 4,200- 11,800 25- 22 14 5 EB  All All 4-Leg Signal 4,200- 100- 25- 55,100 26,000 22 8 3 EB  All All (2 app) Stop 40,600 11,800 25- 22 8 3 EB  EB  EB  EB  EB  EB  EB					35	58			All	All	All	All	All	<u> </u>
All All 4-Leg Signal 4,200- 100- 22 <b>4</b> 2 EB  All All (1 app) Stop 1,100- 25- 40,600 11,800 26,000 22 <b>14</b> 5 EB  All All (2 app) Signal 55,100 26,000 22 <b>14</b> 5 EB  EB  EB  EB	EB Before After			7	26	22	25- 11,800	1,100- 40,600	Stop	4-Leg (2 app)	All	All	All	
All All 4-Leg Signal 4,200- 100- 22 <b>4</b> 2 EB  All All (1 app) Stop 1,100- 25- 22 <b>14</b> 5 EB	EB Before After			ω	&	22	100- 26,000		Signal	4-Leg (2 app)	All	All	All	
All All 4-Leg Signal 4,200- 100- 22 <b>4</b> 2 EB	EB Before After			5	14	22	25- 11,800		Stop	4-Leg (1 app)	All	All	All	
	EB Before After			2	4	22	100- 26,000		Signal	4-Leg (1 app)	All	All	A	
Fatal/Iniury All All All S8 58					15	58			All	All	All	Fatal/Injury	All	Increase length of right-turn lane
RIGHT-TURN COUNTERMEASURES							ASURES	UNTERME	T-TURN COL	RIGH				
Crash Severity  Area Type Config Control Severity  Control Control Volume (veh/day)  Ref Obs Crash Redu Factor / Fur				Std Error	Crash Redu Factor / Fur		)	Daily T Volume (v	Control	Config	Area Type	Crash Severity	Crash Type	Countermeasure(s)
			SS	ivenes	Effect		Minor	Major						

FHWA-SA-08-011

Desktop Reference for Crash Reduction Factors	ence for C	rash Reduc	ion Factors								ln	tersec	tion C	Intersection Crashes
	)	-				Major N	Minor			Effectiveness	eness/			
Countermeasure(s)	Crash	Crash	Area Type	Config	Control	Daily Traffic		Ref C	bs C	Obs Crash Reduction	Std	Range	ge	Study Ty
	Туре	Severity				Volume (veh/day)	ı/day)		F	Factor / Function Error	Error	Low High	High	
	Right- angle	All						15		50				Simple Before-Af
	Right-turn	¥						15		53				
Install right-turn lane (cont'd)	Right-turn	All						15		56				Simple Before-Af
	Right-turn	All						15		50				Cross-sec
	Sideswipe	All						15		20				Simple Before-Af
Install right-turn lane (painted separation)	All	Fatal/Injury	All	All	All			58		30				
Install right-turn lane (physical channelization)	All	Fatal/Injury	All	<u>A</u>	A			58		35				

Simple Before-After

Cross-section

Simple Before-After

Study Type

Simple Before-After

	Count	ermeasure	e: Improve	pavement fr	iction (incre	ase skid	resistance)	
	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
	0.799	20.1	***	All	All	All	Lyon and Persaud, 2008	
•								
	0.667	33.3 🌪	***	AII	All	All	Lyon and Persaud, 2008	
•								
	0.819	18.1 🌟	***	AII	All	All	Lyon and Persaud, 2008	
•								
	0.797	20.3 🌟	***	All	All	All	Lyon and Persaud, 2008	
•								
	1.271	27.1	***	All	All	All	Lyon and Persaud, 2008	
•								
	0.426	57.4 🌟	***	Wet road	AII	All	Lyon and Persaud, 2008	
•								
	0.372	62.8 🌟	<b>全全全</b> 全	Wet road	AII	All	Lyon and Persaud,	

	0.575	42.5	***	Rear end,Wet road	All		Lyon and Persaud, 2008	
	0.59	41	***	All	All	All	Lyon and Persaud, 2008	
	0.589	41.1	***	AII	All	All	Lyon and Persaud, 2008	
	0.361	63.9	****	Wet road	All	All	Lyon and Persaud, 2008	
	0.304	69.6	***	Rear end	All	All	Lyon and Persaud, 2008	
	0.943	5.7	***	Rear end	All	All	Lyon and Persaud, 2008	
	0.504	49.6	***	Rear end	All	All	Lyon and Persaud, 2008	
-								

	0.221	77.9	含含含含含	Rear end,Wet road	All	All	Lyon and Persaud, 2008	
-								
	0.787	21.3	食食食食食	Angle	All	AII	Lyon and Persaud, 2008	
-								
	0.828	17.2	***	Angle	All	AII	Lyon and Persaud, 2008	
-								
	0.898	10.2	***	Angle	All	AII	Lyon and Persaud, 2008	
-								
	0.799	20.1	****	Angle,Wet road	All	All	Lyon and Persaud, 2008	
-								
	0.47	53	****	Angle,Wet road	All	All	Lyon and Persaud, 2008	
	0.828	17.2	常常常常常	Angle,Wet road	All	All	Lyon and Persaud, 2008	

# ▼ Countermeasure: Upgrade unpaved or non-existent shoulders to composite shoulders

☐ 1.114 -11.4 REFER All All Rural	Zeng, H. and S.D. Schrock, 2012	
FI 0.961 12.0 All All Pural	Zeng, H. and S.D. Schrock, 2012	This CMF is also contained [read more]
□ 1.42 -42 **** All All Rural	Zeng, H. and S.D. Schrock, 2012	
D 0.044 5.6 White All KARC Burd	Zeng, H. and S.D. Schrock, 2012	In this study, the treatment [read more]
O.674 32.6 Head on,Run off All Rural road,Sideswipe	Zeng, H. and S.D. Schrock, 2012	In this study, the treatment [read more]
D 0.602 20.9 All KARC Pural	Zeng, H. and S.D. Schrock, 2012	In this study, the treatment [read more]
0.389 61.1 Head on,Run off All Rural road,Sideswipe	Zeng, H. and S.D. Schrock, 2012	In this study, the treatment [read move]

# Dual CRF for CSAH 30/TH 25 Intersection

Improvements include Constructing a right-turn lane and adding lighting

CR1=install right-turn lane CR2=Install lighting

ROR (Injury): 1 - (1-.35)\*(1-.47) = .66Sideswipe (PDO): 1 - (1-.25)\*(1-.47) = .60

# Dual CRF for CSAH 30/CSAH 10 Intersection

Improvements include reconstructing the roadway and adding lighting

CR1=Increase pavement friction CR2=Install lighting

Other (PDO): 1 - (1-.41)\*(1-.47) = .69Rear End (PDO): 1 - (1-.70)\*(1-.47) = .84

# Dual CRF for CSAH 30 from CSAH 10 to TH 25

Improvements include reconstructing the roadway and adding a paved shoulder

CR1=Increase pavement friction CR2=Install a paved shoulder

CR=1-(1-CR1)\*(1-CR2)

Angle Crashes (PDO): 1 - (1-.21)\*(1-.14) = 0.32

Head On, ROR, Sideswipe (PDO): 1 - (1-.41)\*(1-.61) = 0.77

ROR (Injury): 1 - (1-.41)\*(1-.61) = 0.77Other (PDO): 1 - (1-.41)\*(1-.14) = 0.49Other (Injury): 1 - (1-.41)\*(1-.31) = 0.59Rear End (PDO): 1 - (1-.70)\*(1-.14) = 0.74

10-M	10-M	Sys	TH 25 at
24800020 000+00.51	24800020 000+00.51	Route Ref_Point Co	H 25 at CSAH 30 - Created 6/27/2
10	10	City	018 by Tsachi
2480	2480	/ Dist	
0	0	Trib	
151220132	143240162	Crash_Num Mont	
5	11	th Day	
2	20	Year	
2015 SAT	2014 THU	ar DyWk Ti	
173	160	Time	
30 Z	1604 N	Rd_Dir	
Z	Z	Elem	
		Rely	
1	₽	Investi	
2 B	2 N	Investigat Sev	
0	0	NumKilled Diag	
7	9	NumVeh	
1	2	าVeh	

		Junc
4	4	SL
	55	Туре
64	Ъ	Loc1
1	_	TCD
4	ω	듸
₽	ω	Wthr1
1	Н	Wthr2
0	0	Surf
1	Н	Char
1	⊣	Desgn
∞	∞	VΖ
98	98	V1Type
11	Н	v1Dir
ъ	Н	V1Act
15	Ц	V1Fac1
1	1	V1Fac2
0	0	V1Phys
1	1	V1Age
19 M	49 M	V1Sex
	ם	V2Type

V2Dir
V2Act 7
V2Fac1
V2Fac2 2
V2Fac2 V2Phys V2Age 2 0 1
V2Age 1
VZSex 32 M
VЗТуре
V3Dir
V3Act
V3Fac1
V3Fac2
V3Phys
V3Age
V3Sex
V4Туре
V4Dir
V4Act
V4Fac1
V4Fac2
V4Phys

V4Age V4Sex True\_Miles Route\_Cod POINT\_X POINT\_Y
0.515 1.02E+09 429850.6 4969706
0.515 1.02E+09 429850.6 4969706

# TH 10 from 50' North and South of CSAH 30 (2013 - 2015) - created on 06-17-2016 by r Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

04	04	SYS	crasn da
10000030	10000010	NON	rasn data is manage
011+00.119	008+00.860	REF_POINT	a by the Min/DOT Office of I
	0410000010		I Office of Iran
11.119	8.860	GIS_TM	ic, sarety, a
Z	Z	RD_DIR	nd Operatio
		ELEM	ns.
₽	₽	RELY	
2	2	N	
R	R	.R_C	

ATP	8	CITY	DOW	MONTH	DAY	YEAR	TIME		NUM_KILLED
VEHICLE 1 WAS TRAVELLING EASTBOUND ON CORD 30 AND CAME TO A STOP AT THE INTERSECTION OF CORD 30 A	10	0000	6-Fri	10	30	2015	0744	z	0
DRIVER OF UNIT #1 PULLED OUT IN FRONT OF UNIT #2 AS IT WAS HEADING EAST ON CO. RD. 30. UNIT #1 HAD	10	0000	6-Fri	6	19	2015	1108		0

2	2	NUM_VEH		
7	2	JUNC		
55	55	ST		
Ь	1	TYPE		
90	1	DIAG		
Ц	_	L0C1		
4	4	TCD		
Ь	1	=		
1	2	WTHR1		
0	0	WTHR2		
1	1	SURF		
6	<u> </u>	CHAR		
<b>∞</b>	∞	DESGN		
151730029	153030045	ACC_NUM		
ω	₽	VTYPE	PERSON1	
ω	ω	PR		
0	9	ACT		
ш	90	FAC1		
0	0	FAC2		
ם	Ъ	POSN		

z	z	Ξ	
4	4	ę	
1	ь	PHYS	
30	40	AGE	
≤	T	SEX	
1	ω	VTYPE2	PERSON2
90	ω	DIR3	
37	₽	ACT4	
2	⊢	FAC15	
0	0	FAC26	
Ь	₽	POSN7	
z	z	8UN	
4	4	EQP9	
98	₽	PHYS10	
83	44	AGE11	
≤	Τη	SEX12	
		VTYPE13	PERSON3
		DIR14	
		ACT15	
		FAC116	
		FAC217	

POSN18
INJ19
EQP20
РНҮЅ21
AGE22
SEX23
PERSON4 VTYPE24
DIR25
ACT26
FAC127
7 FAC228
8 POSN29
29 INJ30
0 EQP31
11 PHYS32
32 AGE33
SEX34 Column35
Column36
Column37

Column38 Column39 Column40 Column41 Column42 Column43 Column44 Column45 Column46 Column47 Column48 Column49 Column50 Column51 Column52 Column53

Column54
Column55
Column56
Column57
Column58
Column59
Column60
Column61
Column62
Column63
Column64
Column65
Column66
Column67
Column68
Column69

Column70
Column71
Column72
Column73
Column74
Column75
Column76
Column77
Column78
Column79
Column80
Column81
Column82
Column83
Column84
Column85

Column86	
Column87	
Column88	
Column89	
Column90	
Column91	
Column92	
Column93	
Column94	
Column95	
Column96	
Column96 Column97	
Column98	
Column98 Column99	
Column100	
Column101	

Column102
Column103
Column104
Column105
Column106
Column107
Column108
Column109
Column110
Column111
Column112
Column113
Column114
Column115
Column116

Column117
Column118
Column119
Column120
Column121
Column122
Column123
Column124
Column125
Column126
Column127
Column128
Column129
Column130
Column131

Coldination	Column132
	Column133
	Column134
	Column135
0000	Column136
	Column137
000	Column138
	Column139
•	Column140
000	Column141
0000	Column143
	Column143
	Column144
000000000000000000000000000000000000000	Column145
0000	Column146

Column147
Column148
Column149
Column150
Column151
Column152
Column153
Column154
Column155
Column156
Column157
Column158
Column159
Column160
Column161

Column162
Column163
Column164
Column165
Column166
Column167
Column168
Column169
Column170
Column171
Column172
Column173
Column174
Column175
Column176

Column177
Column178
Column179
Column180
Column181
Column182
Column183
Column184
Column185
Column186
Column187
Column188
Column189
Column190
Column191

Column192
Column193
Column194
Column195
Column196
Column197
Column198
Column199
Column200
Column201
Column202
Column203
Column204
Column205
Column206

Column207 Column208 Column209 Column210 Column211 Column212

# CSAH 30 From TH 25 to CSAH 10 (2013 - 2015) - created on 06-17-2016 by rile1che Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

old lieb lo	ra is illaliayed	THE WILLIAM	Office of Hallic, or	alety, allu Ope	allolls.	!	!	;	:
213	NON	REF_POINT	GIS_ROUTE	2 200 7 1 VI	ZO_DIX	ELEM	KELY	. <b>V</b>	, IZ
2 2	10000030	007+00.299	0410000030	7.299	7 7		⊣ د	۸ د	, כ
04	10000030	007+00.690	0410000030	7.690	Z		2	2	R
04	10000030	007+00.700	0410000030	7.700	Z		ω	0	R
04	10000030	008+00.111	0410000030	8.111	Z		ω	2	R
04	10000030	008+00.160	0410000030	8.160	ш		2	2	R
04	10000030	008+00.229	0410000030	8.229	Z		2	2	R
04	10000030	008+00.410	0410000030	8.410	8		1	2	R
04	10000030	008+00.714	0410000030	8.714	Z		2	ω	R
04	10000030	009+00.150	0410000030	9.150	Z		⊣	2	R
04	10000030	009+00.572	0410000030	9.572	Z		2	2	R
04	10000030	009+00.650	0410000030	9.650	Е		1	2	R
04	10000030	009+00.650	0410000030	9.650	\$		₽	2	R
04	10000030	009+00.650	0410000030	9.650	Z		2	2	R
2	10000030-	009+00.744	0410000030-	9.744	Z	I	ψ	12	₽
04	10000030	009+00.773	0410000030	9.773	Z		ω	2	R
2	10000030-	009+00.830	0410000030-	9.830	1Z	I	r)	2 L	₽
04	10000030	009+00.900	0410000030	9.900	Z		2	2	R
04	10000030	010+00.150	0410000030	10.150	8		2	2	R
04	10000030	010+00.950	0410000030	10.950	Z		2	2	R
80	10000100	000+00.460	0810000100	0.460	Z		1	2	æ

DRIVER #1 WAS LOCATED AT RIDGEVIEW ER. SHE WAS INVOLVED IN AN PI ACCIDENT. VEH #1 WAS LOCATED I	VEH 1 WAS EB ON CO RD 30 NEAR 78TH ST. ROAD WAS DRY WITH SOME ICY AND SNOW PACKED AREAS. VEH 1 DROV	UNIT ONE WAS TRAVELING WEST ON CORD 30 WHEN IT FAILED TO SLOW DOWN TO ALLOW UNIT TWO TO MAKE A LEF	DRIVER #1 STATED HE WAS DRIVING SE ON CO RD 30. DRIVER #1 STATED A DEER WALKED INTO THE ROADWAY.	VEH 1 HIT DEER, MOVED VEH TO SAFE LOCATION IN DRIVEWAY OF 12325 CO RD 30. DEER GOA. DRIVER DROVE	UNIT 1 WAS TRAVELING WESTBOUND ON CO RD 30 WHEN IT RAN OFF THE ROAD TO THE RIGHT. THE VEHICLE ENTER	VEH 1 STRUCK DEER THAT WAS STANDING IN ROADWAY, DEER RAN OFF, UNABLE TO LOCATE DEER. WHITE COPY IS	DRIVER OF UNIT #1 WAS HEADING WESTBOUND ON CO. RD. 30 AND RAN OFF ROAD RIGHT SIDE. MODERATE DAMAGE	DRIVER WAS TRAVELING WESTBOUND ON CORD 30. DRIVER STATED VEHICLE HIT ICY SPOT ON ROADWAY AND BEGAN	DRIVER WAS TRAVELING EASTBOUND ON CORD 30. DRIVER STATED VEHICLE HIT ICY SPOT ON ROADWAY AND BEGA	UNIT 1 DRIVER INDICATED HE BLACKED OUT AND RAN OFF THE ROADWAY. THE VEHICLE LEFT THE ROADWAY ON TH	DRIVER VEH 1 SAID HE FELL ASLEEP AND WOKE UP AFTER CRASH, HE CROSSED CENTER LINE, DROVE INTO ONCOMI		UNIT ONE WAS TRAVELING WEST ON CO RD 30 WHEN IT ATTEMPTED TO PASS UNIT TWO ON ITS LEFT. UNIT ONE HI	VEHICLE 1 WAS TRAVELLING EASTBOUND ON CO RD 30 APPROXIMATELY ONE MILE EAST OF HWY 25. THE DRIVER OF	UNIT ONE WAS TRAVELING EAST ON CO RD 30 WHEN IT LOST CONTROL AND LEFT THE ROADWAY TO THE RIGHT. UNI	DRIVER OF #1 WAS EASTBOUND ON CSAH 30. ROAD WAS ICE COVERED, SHE SAID SHE STARTED TO FISHTAIL. SLID		UNIT 1 TRAVELING EAST ON CR30. UNIT 1 STRUCK DEER.	DRIVER OF UNIT #1 REAR ENDED DRIVER OF UNIT #2. DRIVERS STATED SUN WAS VERY BRIGHT IN EYES AND HA'	ATP
10	10	10	10	#	10	#5	10	10	10	10	10	10	10	10	10	10	10	10	10	8
0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	CITY
3-Tue	1-Sun	2-Mon	7-Sat	5-Thu	7-Sat	4-Wed	5-Thu	7-Sat	7-Sat	3-Tue	4-Wed	1-Sun	7-Sat	6-Fri	1-Sun	5-Thu	1-Sun	6-Fri	6-Fri	DOW
ъ	12	∞	10	#	12	4	10	12	12	10	∞	11	Ľ	7	₽	2	12	10	9	MONTH
19	28	19	24	30	21	<b>#</b> 3	15	20	20	27	6	∞	4	31	5	14	28	23	18	DAY
2015	2014	2013	2015	2014	2013	2013	2015	2014	2014	2015	2014	2015	2014	2015	2014	2013	2014	2015	2015	YEAR
		_	ᆸ	4	0	<b>+</b>	i.	0	00	13	21	17	1(	16	1:	1011	0	21	0	_

0	0	0	0	Đ	0	Þ	0	0	0	0	0	0	0	0	0	0	0	0	0	NUM_KILLED		
ר	Ľ	2	Ľ	₽	ם	₽	₽	₽	Ľ	1	1	₽	2	2	Ľ	₽	1	ь	2	NUM_VEH		
4	1	_	1	₽	ъ	#	_	₽	4	1	1	₽	1	1	<u> </u>	₽	0	₽	_	JUNC		
55	55	55	55	#	55	#	55	55	55	55	55	55	55	55	55	55	55	55	55	SL		
37	37	1	∞	фо	51	₩	37	35	35	51	30	∞	ь	ъ	37	51	51	∞	┙	TYPE		
7	7	ш	5	<b>8</b>	7	<b>8</b>	7	7	4	7	4	90	2	Ь	7	7	0	∞	<b>-</b>	DIAG		
2	4	Ь	Ľ	₽	4	4	4	4	4	4	∞	↦	┙	1	4	4	0	1	↦	LOC1		
98	98	98	98	<del>32</del>	98	<b>82</b>	98	98	98	98	98	98	98	98	98	98	98	98	98	TCD		
6	ь	_	6	Ф	6	Ф	<u> </u>	ь	ь	ь	6	6	ь	ᆸ	1	ь	┙	6	2	5		
1	2	Ь	ω	먑	Ь	4	Ь	6	6	ь	₽	2	5	₽	7	2	Ь	ω	Ь	WTHR1		
0	0	0	0	Ф	0	Þ	0	0	0	1	0	0	7	0	0	0	0	0	0	WTHR2		
1	5	ב	2	₽	₽	₽	1	2	2	1	1	P	5	1	5	5	5	2	1	SURF		
5	↦	ω	↦	4	6	7	6	5	5	↦	ᆫ	↦	↦	↦	₽	↦	0	₽	↦	CHAR		
∞	8	8	8	фо	8	фо	8	00	8	<b>∞</b>	<b>∞</b>	00	<b>∞</b>	œ	8	00	0	8	8	DESGN		
151400022	143620040	132310063	152990016	<u>143030166</u>	133590131	130240014	152880114	143540077	143540084	153000169	142180200	153280051	140050028	152130035	140050061	130450122	150330031	152970028	152640024	ACC_NUM		
1	₽	ㅂ	2	₽	2	2	₽	₽	₽	1	₽	2	₽	ω	₽	4	Ľ	4	₽	VTYPE	PERSON1	
7	З	7	4	7	7	7	7	7	З	ω	ω	7	7	ω	ω	З	3	З	ω	DIR		
1	₽	L	₽	₽	₽	₽	₽	₽	Ъ	1	1	Ъ	15	ı	L	Ь	₽	₽	1	ACT		

FACE         FACE         POSN         INJ         EEQP         PHYS         AGE         SEX         VYPE           4         0         1         N         4         1         16         F         YPE         AGE         SEX         VYPE         AGE
PRISON   INJ   EQD   PHYS   AGE   SEX   MTYPE   DIR   ACT   FAC2   POSN   INJ   EQD   PHYS   AGE   SEX   SEX   MTYPE   DIR   ACT   FAC2   POSN   INJ   EQD   PHYS   AGE   SEX   MTYPE   DIR   ACT   FAC2   POSN   INJ   EQD   PHYS   AGE   SEX   MTYPE   DIR   ACT   FAC2   POSN   INJ   EQD   PHYS   AGE   SEX   ACT   FAC2   POSN   INJ   EQD   PHYS   ACT   FAC2   POSN
IN   EQP   PHYS   AGE   SEX   CTT   FAC1   FAC2   POSN   IN   EQP   PHYS   AGE   SEX   EX   TYPE   DIR   ACT   FAC1   FAC2   POSN   IN   EQP   PHYS   AGE   SEX   CTT   FAC1   FAC2   POSN   IN   EQP   PHYS   AGE   SEX   CTT   FAC1   FAC2   POSN   IN   EQP   PHYS   AGE   SEX   AGE
FROM PHYS AGE SEX UTYPE DIR ACT FACI FACZ POSN INJ EQP PHYS AGE SEX AG
PHYS AGE SEX VITVE DIR ACT FAC1 FAC2 POSN INJ EQP PHYS AGE SEX 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
AGE   SEX   VITYE   DIR   ACT   FAC1   FAC2   POSN   INJ   EQP   PHYS   AGE   SEX
FRESONZ  FOR VITYPE DIR ACT FAC1 FAC2 POSN INJ EQP PHYS AGE SEX  F 1 3 57 1 0 1 N 4 1 17 F  M  M  M  M  M  M  M  M  M  M  M  M  M
VITYPE         DIR         ACT         FAC1         FAC2         POSN         INJ         EQP         PHYS         AGE         SEX           1         3         57         1         0         1         N         4         1         17         F           1         3         11         1         1         0         1         N         4         1         1         26         M           38         7         1         1         0         1         N         4         1         52         M           1         7         6         1         0         1         N         4         1         52         M
DIR         ACT         FAC1         FAC2         POSN         INJ         EQP         PHYS         AGE         SEX           3         57         1         0         1         N         4         1         17         F           3         11         1         1         0         1         N         4         1         26         M           7         1         1         1         0         1         N         4         1         52         M           7         6         1         0         1         N         4         1         66         M
ACT         FAC1         FAC2         POSN         INJ         EQP         PHYS         AGE         SEX           57         1         0         1         N         4         1         17         F           11         1         1         0         1         N         4         1         26         M           1         1         1         0         1         N         4         1         52         M           6         1         0         1         N         4         1         66         M
FAC1 FAC2 POSN INJ EQP PHYS AGE SEX 1 0 1 N 4 1 17 F 1 0 1 N 4 1 26 M 1 0 1 N 4 1 52 M 1 0 1 N 4 1 66 M
PAC2 POSN INJ EQP PHYS AGE SEX O 1 N 4 1 17 F O 1 N 4 1 26 M O 1 N 4 1 52 M O 1 N 4 1 66 M
POSN INJ EQP PHYS AGE SEX 1 N 4 1 17 F 1 N 4 1 26 M 1 N 4 1 52 M 1 N 4 1 66 M
INJ EQP PHYS AGE SEX N 4 1 17 F  N 4 1 1 26 M N 4 1 1 52 M N 4 1 1 66 M
EQP PHYS AGE SEX 4 1 17 F 4 1 26 M 4 1 52 M 4 1 66 M
PHYS AGE SEX 1 17 F 1 26 M 1 52 M 1 66 M
AGE SEX 17 F 26 M 52 M
S S F X
VTYPE

밁	
ACT	
FAC1	
FAC2	
POSN	
Z	
ĘQ	
PHYS	
AGE	
SEX	
VTYPE	PEKSON4
DIR	
ACT	
FAC1	
FAC2	
POSN	
Ξ	
ę	
PHYS	
AGE	
SEX	





July 12, 2018

Elaine Koutsoukos TAB Coordinator METROPOLITAN COUNCIL 390 Robert St. N St. Paul, MN 55101

SUBJECT: CSAH 30 Reconstruction Project Risk Assessment Layout Approval Letter

Dear Ms. Koutsoukos:

the CSAH 30 Reconstruction and Modernization Project between TH 25 and CSAH 10. The attachment, which upgrades the roadway cross section to state aid standards. County led development of the layout and is aware of the details specified in the application This letter is to confirm the County's agreement and approval to date with the attached layout for

respectively, provided letters of support for the project. Mayer and the City of Waconia, located on the western and eastern ends of the project corridor, residents along the proposed project and a presentation to the Township Board. The City of Although not required, the County consulted with Waconia Township via a direct mailing to

standards. reconstruction project in order to modernize CSAH 30 from TH 25 to CSAH 10 to state aid As demonstrated in the proposed project layout, the County is committed to this rural

Sincerely,

Lyndon Robjent, P.E.

Public Works Director/County Engineer



# **Carver County**

# CSAH 30 Reconstruction from TH 25 to CSAH 10

# **Project Information**

# **Project Location:**

Waconia Township, Carver County; connecting the City of Mayer & the City of Waconia

Federal Funding Request:

\$2,413,920

**Total Project Cost:** 

\$3,017,400

# **Project Description**

The proposed project includes the reconstruction and modernization of CSAH 30 (70th Street) from TH 25 (Ash Avenue South) to CSAH 10 in Carver County. CSAH 30 is currently a two-lane A-Minor Connector rural highway with 12-foot lanes and two-foot gravel shoulders. The improvements will upgrade CSAH 30 to state aid standards, which includes a full depth reclamation of the 12-foot travel lanes and shoulder widening to eight-foot shoulders. Lighting will also be upgraded at key intersections. The extra shoulder width and flattened in-slopes will improve safety for motorists, bicyclists, heavy commercial vehicles, farming equipment and provide a safe emergency stopping area for vehicles.

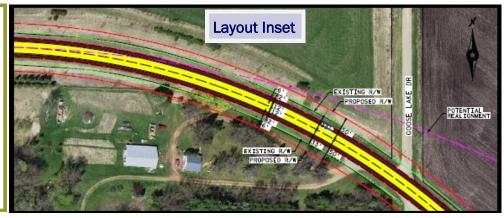
# **Project Benefits**

Modernization and Safety

- Upgrade to State Aid standards
- Widen shoulders from 2 ft. to 8 ft.
- Upgrade lighting
- Add right turn lane

## Multimodal

- Connect to Regional Trail
- Widen shoulders for multimodal uses









# **Regional Significance**

CSAH 30 is a major east west connector in Carver County that links two the standalone communities of Mayer and Waconia. The City of Waconia is located on the eastern edge of the project area and is growing rapidly. CSAH 30's rural significance is related to its access to major north-south A Minor Connectors (TH 25 and CSAH 10), which link to the regional transportation network. TH 25 and CSAH 10 serve as one of the few continuous north-south routes in rural Carver County that provide access to TH 5 (A Minor Connector), US 212 (Principal Arterial), and TH 7 (Principal Arterial).

# **Contact Information**

Lyndon Robjent, P.E.
Public Works Director/County Engineer

Carver County Public Works 11360 Highway 212, Suite 1 Cologne, MN 55322 Phone: 952-466-5200





# City of Waconia

June 18, 2018

Lyndon Robjent, P.E.
Public Works Director, County Engineer
Carver County Public Works
11360 Highway 212, Suite 1
Cologne, MN 55322

Dear Mr. Robjent,

The City of Waconia is pleased to support the 2018 Federal Regional solicitation application for CSAH 30 Reconstruction from TH 25 to CSAH 10 under the Roadway Reconstruction and Modernization category.

CSAH 30 is an important link to the regional transportation network from a rural perspective. CSAH 30 is a two-lane rural highway with 12-foot lanes and two-foot gravel shoulders. The improvements include upgrading CSAH 30 to state standards, which includes 12-foot travel lanes and eight-foot shoulders. The extra shoulder width will improve safety for motorists, bicyclists, heavy commercial vehicles, farming equipment and provide a safe emergency stopping area for vehicles.

On behalf of the City Council, I thank you for your consideration.

Sincerely,

James P Sanborn

Mayor



CSAH 30 Improvements



June 11, 2018

Lyndon Robjent, P.E.
Public Works Director, County Engineer
Carver County Public Works
11360 Highway 212, Suite 1, Cologne, MN 55322

Dear Mr. Robjent,

The City of Mayer is pleased to support the 2018 Federal Regional solicitation application for CSAH 30 Reconstruction from TH 25 to CSAH 10 under the Roadway Reconstruction and Modernization category.

CSAH 30 is a crucial link to the regional transportation network from a rural perspective. CSAH 30 is a two-lane rural highway with 12-foot lanes and two-foot gravel shoulders. The improvements include upgrading CSAH 30 to state standards, which includes 12-foot travel lanes and eight-foot shoulders. The extra shoulder width will improve safety for motorists, bicyclists, heavy commercial vehicles, farming equipment and provide a safe emergency stopping area for vehicles.

The proposed project is endorsed by the City of Mayer and we are supportive of the Regional Solicitation Application.

Sincerely,

Margaret McCallum City Administrator

City of Mayer