Application

01968 - 2014 Roadway Reconstruction/Modernization

01986 - CSAH 10 (Waconia) Reconstruction

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Original Submitted Date:	12/01/2014 4:09 PM
Last Submitted Date:	12/16/2014 2:59 PM

Primary Contact

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

Organization Information

Name: CARVER COUNTY

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 CSAH 10 (Waconia) Reconstruction

Primary County where the Project is Located Carver

Jurisdictional Agency (If Different than the Applicant):

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

The proposed project is a reconstruction of the CSAH 10 A Minor Expander roadway corridor, located in Carver County within Waconia Township and the City of Waconia. The project extends south from the CSAH 10/CSAH 30 (Waconia Parkway North) intersection for approximately 2.02 miles and terminates at the TH 5 intersection in the City of Waconia near the Waconia Senior High School and Clearwater Middle School campus (see attached Figure 1).

The project includes the full reconstruction of an existing two-lane undivided roadway to a two-lane divided urban corridor between CSAH 30 and Oak Avenue. The Oak Avenue intersection will be reconstructed as a roundabout and will transition the roadway into a three-lane urban corridor with a dedicated center left-turn lane through the TH 5 intersection. Both the two-lane and three-lane sections will include paved shoulders, curb, gutter, and stormwater treatment ponds. The project will also construct a paved, multiuse trail adjacent to the east and north sides of the corridor.

The reconstruction and reconfiguration of the CSAH 10 corridor through the City of Waconia will improve congestion and fill a critical capacity gap. It will improve safety in this important corridor in Carver County as the community of Waconia and the Waconia School District continues to grow. Increased capacity on the CSAH 10 corridor is identified as a significant mobility need in the 2030 Carver County Transportation Plan, and the reconstruction of this corridor is crucial to meet the needs of the rapidly growing school district enrollment, 2016 high school and middle school expansions (passed in a November 2014 referendum), and the 2030 forecasted traffic volumes, which are more than double the current

daily volumes on the corridor. The projects improvements will also provide appropriate continuity from a 2015 reconstruction project stretching from the projects northern termini at CSAH 30 north to TH 7 (additional information can be found here: http://goo.gl/J3T4Kf), as well as important connections to Ridgeview Medical Center and commercial development.

Furthermore, 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 Waconia and future regional trails. An extension of the CSAH 10 Trail corridor to the north of the project area is programmed for construction in 2015 and will connect directly to the paved Dakota Rail Regional Trail, which extends along a scenic route east and west to the communities of Wayzata and Lester Prairie, respectively. This connection also opens up several additional regional trail connections, including the Luce Line State Trail, which extends westward to Hutchinson and east through Plymouth to Minneapolis.

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

Project Length (Miles) 2.02

Connection to Local Planning:

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 MnDOT 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.

Connection to Local Planning Carver County 2030 Transportation Plan (page 7, Financial Plan) and Carver County 2030 Trail System Plan (page 14, Figure 4.5)

Project Funding

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

If yes, please identify the source(s)

Federal Amount $7,000,000.00

Match Amount	$3,110,000.00
Minimum of 20% of project total	
Project Total	$10,110,000.00
Match Percentage	30.76%
Minimum of 20% *Compute the match percentage by dividing the match amount by the project total*	
Source of Match Funds	Carver County, City of Waconia

Preferred Program Year

Select one:	2019

MnDOT State Aid 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	
Name of Road	CSAH 10
Example; 1st ST., MAIN AVE	
Zip Code where Majority of Work is Being Performed	55387
(Approximate) Begin Construction Date	04/01/2019
(Approximate) End Construction Date	06/01/2020

LOCATION

From: **(Intersection or Address)**	CSAH 10/CSAH 30 Intersection
Do not include legal description; *Include name of roadway if majority of facility runs adjacent to a single corridor.*	
To: **(Intersection or Address)**	Up to CSAH 10/TH 5 Intersection
Type of Work	Grading, storm sewer, ponding, traffic control, striping, bituminous bicycle path, ped ramps
Examples: grading, aggregate base, bituminous base, bituminous surface, sidewalk, signals, lighting, guardrail, bicycle path, ped ramps, bridge, Park & Ride, etc.)	
Old Bridge/Culvert?	No
New Bridge/Culvert?	No
Structure is Over/Under **(Bridge or culvert name):**	

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$600,000.00
Removals (approx. 5% of total cost)	$600,000.00
Roadway (grading, borrow, etc.)	$1,500,000.00
Roadway (aggregates and paving)	$2,300,000.00
Subgrade Correction (muck)	$525,000.00
Storm Sewer	$2,500,000.00
Ponds	$100,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$885,000.00
Traffic Control	$120,000.00
Striping	$60,000.00
Signing	$60,000.00
Lighting	$0.00
Turf - Erosion & Landscaping	$100,000.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall	$0.00
Traffic Signals	$0.00
Wetland Mitigation	$50,000.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$0.00
Other Roadway Elements	$0.00
Totals	**$9,400,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$635,000.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$75,000.00

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
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$710,000.00**

Specific Transit and TDM Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	$0.00
Stations, Stops, and Terminals	$0.00
Support Facilities	$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	$0.00
Vehicles	$0.00
Transit and TDM Contingencies	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

OPERATING COSTS	Cost
Transit Operating Costs	$0.00
Totals	**$0.00**

Totals

Total Cost	$10,110,000.00
Construction Cost Total	$10,110,000.00
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 2030 Transportation Policy Plan (amended 2013), the 2030 Regional Parks Policy Plan (amended 2013), and the 2030 Water Resources Management Policy Plan (2005).

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

2.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

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

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

4.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. Expansion, reconstruction/modernization, and bridges must be between $1,000,000 and $7,000,000. Roadway system management must be between $250,000 and $7,000,000.

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

5.The project must comply with the Americans with Disabilities Act.

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

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

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

7.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

8.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

9.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

10.The project applicant must send written notification regarding the proposed projected to all affected communities and other levels and units of government prior to submitting the application.

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

Requirements - Roadways Including Multimodal Elements

Expansion and Reconstruction/Modernization Projects Only

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

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

2.Federal funds are available for roadway construction and reconstruction on new alignments or within existing right-of-way, including associated construction and excavation, bridges, or installation of traffic signals, signs, utilities, bikeway or walkway components and transit components.
The project must exclude costs for right-of-way, studies, preliminary engineering, design, or construction engineering. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding unless included as part of a larger project, which is otherwise eligible.

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

Bridge Projects Only

3.The bridge project 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.

4.Bridges selected in previous Bridge Improvement and Replacement solicitations (1994 2011) are not eligible. A previously selected project is not eligible unless it has been withdrawn or sunset prior to the deadline for proposals in this solicitation.

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

5.Projects requiring a grade-separated crossing of a Principal Arterial of freeway design 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.

6.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 sub-categories. Rail-only bridges are ineligible for funding.

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

7.The length of the bridge must equal or exceed 20 feet.

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

8.Project limits for bridge projects are limited from abutment to abutment.

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

9.The project must exclude costs for studies, preliminary engineering, design, construction engineering, and right-of-way.

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

Bridge Replacement Projects Only

10.The bridge must have a sufficienty rating less than 50. Additionally, it must also be classified as structurally deficient or functionally obsolete.

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

Bridge Rehabilitiation Projects Only

11.The bridge must have a sufficienty rating less than 80. Additionally, it must also be classified as structurally deficient or functionally obsolete.

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

Other Attachments

File Name	Description	File Size
1986 Carver HSIP.pdf	Crash B/C	271 KB
Figure1_CSAH10_Recon_Waconia.pdf	Figure 1	695 KB
Waconia letter of support.pdf	Letter of Support City of Waconia	28 KB

Reliever: Freeway Facility or

Facility being relieved

Number of hours per day volume exceeds capacity (based on the Congestion Report) 0

Reliever: Non-Freeway Facility or

Facility being relieved

Number of hours per day volume exceeds capacity (based on the table below) 0

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am				
1:00am - 2:00am				
2:00am - 3:00am				
3:00am - 4:00am				
4:00am - 5:00am				
5:00am - 6:00am				
6:00am - 7:00am				
7:00am - 8:00am				
8:00am - 9:00am				
9:00am - 10:00am				
10:00am - 11:00am				
11:00am - 12:00pm				
12:00pm - 1:00pm				
1:00pm - 2:00pm				
2:00pm - 3:00pm				
3:00pm - 4:00pm				
4:00pm - 5:00pm				
5:00pm - 6:00pm				
6:00pm - 7:00pm				
7:00pm - 8:00pm				

8:00pm - 9:00pm

9:00pm - 10:00pm

10:00pm - 11:00pm

11:00pm - 12:00am

Expander/Connector/Augmentor/Non-Freeway Principal Arterial

Select one:	Expander
Area	7.12
Project Length	2.02
Average Distance	3.5248
Upload Map	RoadwayAreaDefinition.pdf

Measure B: Current Heavy Commercial Traffic

Location	CSAH 10 south of CSAH 32
Current daily heavy commercial traffic volume	1822.0

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

Select all that apply

Direct connection to or within a mile of a Job Concentration	
Direct connection to or within a mile of a Manufacturing/Distribution Location	
Direct connection to or within a mile of an Educational Institution	
Project provides a direct connection to or within a mile of an existing local activity center identified in an adopted county or city plan	Yes

County or City Plan Reference (Limit 700 characters; approximately 100 words)	The project provides a gateway connection into the City of Waconia, a growing and thriving community of over 11,000, and is located within one mile of downtown Waconia, as identified in the City of Waconia 2030 Comp Plan. This area includes commercial office, residential, and mixed land uses. The proposed project also provides an enhanced connection to the Ridgeview Medical Center campus, the citys largest employer (1,700+ jobs) and the heart of the regional healthcare network. The Waconia Public Schools campuses which passed a 2014 referendum to support rapidly increasing growth are located less than a mile from the project and benefit from the travel time savings and trail connection.
Upload Map	RegionalEconomy.pdf

Measure A: Current Daily Person Throughput

Location	CSAH 10 south of CSAH 32 intersection
Current AADT Volume	7700.0
Existing Transit Routes on the Project	N/A

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	10010.0

Measure B: 2030 Forecast ADT

Use Metropolitan Council model to determine forecast (2030) ADT volume	
METC Staff - Forecast (2030) ADT volume	0
OR	
Approved county or city travel demand model to determine forecast (2030) ADT volume	Yes
Forecast (2030) ADT volume	15000.0

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Racially Concentrated Area of Poverty

Project located in Concentrated Area of 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.

Yes

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

The CSAH 10 expansion will improve travel times and economic efficiencies for commuter, freight, and student travel on the corridor, which support the health and growth of Waconias local economy and provide opportunities for job growth and stability for low-income households (7%) and minority populations (6%) living near the project. The corridors enhanced direct connections to TH 5 and TH 7 will enable efficient connections to job concentrations and manufacturing centers in and near Minneapolis and St. Paul for these disadvantaged population groups.

The multiuse trail facility included in the proposed project will increase livability, access, connectivity, transportation choice, and recreational opportunities for all populations living in proximity to the project, including the elderly (11%) and children (32%), which are above county and regional averages. The project also integrates ADA intersection improvements at Oak Avenue, enabling safe travel for students and others traveling to the Waconia High School/Clearwater Middle School campus, nearby parks, and downtown Waconia.

Right-of-way acquisition will not result in displacement or 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.

Upload Map	SocioEcon.pdf

Measure B: Affordable Housing

City/Township	Segment Length (Miles)
Waconia Township	1.05
City of Waconia	0.97
	2

Total Project Length

Total Project Length	2.02

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
City of Waconia	2.02	2.02	62.0	1.0	62.0
		2	**62**	**1**	**62**

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	2.02
Total Housing Score	62.0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Roadway Segment Length (Miles)	Calculation	Calculation 2
1979.0	2.02	3997.58	1979.0
	2	**3998**	**1979**

Average Construction Year

Weighted Year	1979.0

Total Segment Length (Miles)

Total Segment Length 2.02

Measure B: Geometric, Structural, or Infrastructure Improvements

The project includes the full reconstruction of an existing two-lane, undivided 1.45 mile roadway nearing the end of its useful life to a divided two-lane urban roadway between the CSAH 10/ CSAH 30 and CSAH 10/Oak Avenue intersections. The Oak Avenue intersection will be reconstructed as a one-lane roundabout. The roundabout configuration will provide an appropriate transition from the two-lane corridor to the second segment of the reconstruction project, a 0.56 mile divided three-lane urban corridor with a dedicated left-turn lane from Oak Avenue to TH 5. The reconstructed corridor will also include paved shoulders to enhance safety for passenger and freight vehicles.

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

The east-west segment of the CSAH 10 corridor also has one of the highest crash frequency and severity rates of all Carver County roadway facilities (2030 Transportation Plan), and the dedicated turn lanes and roundabout construction at the CSAH 10/Oak Avenue intersection will improve safety by reducing the risk for and severity of rear-end and other types of crashes.

Stormwater management will be increased significantly along the corridor with the addition of curb, gutter, and stormwater treatment ponds along the length of the project. Overhead electric utilities will be relocated to accommodate for increased right-of-way near Oak Avenue.

Measure A: Cost Effectiveness of Vehicle Delay Reduction

Total Project Cost from Cost Sheet	$10,110,000.00
Total Peak Hour Vehicle Delay Without The Project	31200.0
Total Peak Hour Vehicle Delay With The Project	9776.0
Total Peak Hour Vehicle Delay Reduced by Project	21424.0
Cost Effectiveness	$471.90
Synchro or HCM Reports	CSAH 10 Reconstruction Synchro Analysis Files.pdf

Measure B: Cost Effectiveness of Emissions Reduction

Total Project Cost from Cost Sheet	$10,110,000.00
Total Peak Hour Kilograms Reduced by Project	0.65
Cost Effectiveness	$15,553,846.15
Synchro or HCM Reports	CSAH 10 Reconstruction Synchro Analysis Files.pdf

Measure A: Benefit/Cost of Crash Reduction

Project Benefit/Cost Ratio	0.26
Worksheet Attachment	CSAH 10 Waconia Safety Analysis Files.zip

Measure A: Transit Connections

Existing Routes Directly Connected to the Project	N/A
Planned Transitways directly connected to the project (alignment and mode determined and identified in the 2030 TPP)	N/A
Upload Map	TransitConnectivity.pdf

Response

Met Council Staff Data Entry Only

Route Ridership	0
Transitway Ridership	0

Measure B: Bicycle and Pedestrian Connections

Multiple planned and existing multiuse trails will directly connect to the proposed CSAH 10 Trail (see attached Figure 1). First, an extension of the CSAH 10 Trail corridor to the north of the project area is programmed for construction in 2015 and identified in the 2030 Carver County Trails System Plan. The northern extension of the CSAH 10 Trail will connect directly to the paved Dakota Rail Regional Trail, which extends along a scenic route east and west to the communities of Wayzata and Lester Prairie, respectively. This connection also opens up several additional regional trail, including the Luce Line State Trail, which extends westward to Winsted and Hutchinson and east through Plymouth to Minneapolis.

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

Secondly, the proposed project will connect to an existing multiuse trail at Oak Avenue and a robust network of other existing trails and sidewalks that provide safe connections for bicyclists and pedestrians traveling throughout Waconia. Access to destinations such as Waconia High School, which enrolls nearly 1,000 students and connections to Waconias residential neighborhoods, commercial nodes, major employers such as Ridgeview Medical Center, and pedestrian-friendly destinations such as Lake Waconia Regional Park via the planned Lake Waconia Trail (identified in the Carver County Trails System Plan), and the Crown College campus will also be enhanced by the project.

Measure C: Multimodal Facilities

The proposed CSAH 10 expansion project includes the construction of a paved multiuse trail, located in the right-of-way immediately east/north of the roadway. The trail will be available to bicyclists, pedestrians, and other non-motorized recreational users. 2030 forecasted volumes on the CSAH 10 corridor (15,000 ADT), which will serve as a critical thoroughfare for travel into and out of the growing city of Waconia and the TH 5 freight corridor 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 non-motorized travelers and drivers. This separated multiuse trail corridor is also supported by the Carver County Trails System Plan.

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

Pedestrians will benefit from increased ease of crossing and safety at the one-lane roundabout to be constructed at the CSAH 10/Oak Avenue intersection. This intersection is currently configured as a four-way stop with marked crosswalks, but peak AM queues of four to seven vehicles on each leg of the intersection prevent efficient and easy crossing opportunities for pedestrians. The low vehicular speeds through a roundabout will also allow more time for drivers and pedestrians to react to one another and to reduce the consequences of error.

Finally, there is no transit service in the project area.

Transit Projects Not Requiring Construction

If the applicant is completing a transit or TDM application, only Park-and-Ride and other construction projects require completion of the Risk Assessment below. Check the box below if the project does not require the Risk Assessment fields, and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

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 11/01/2014

3)Environmental Documentation (10 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

75%

Document in progress; environmental impacts identified

50%

Document not started Yes

0%

Anticipated date or date of completion/approval 10/01/2018

4)Review of Section 106 Historic Resources (15 Percent of Points)

No known potential for archaeological resources, no historic resources known to be eligible for/listed on the National Register of Historic Places located in the project area, and 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%

Unknown impacts to historic/archaeological resources Yes

0%

Anticipated date or date of completion of historic/archeological review: 02/01/2018

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (15 Percent of Points)

(4f is publicly owned parks, recreation areas, historic sites, wildlife or waterfowl refuges; 6f is outdoor recreation lands where Land and Water Conservation Funds were used for planning, acquisition, or development of the property)

No Section 4f/6f resources located in the project area

100%

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 Yes

80%

Adverse effects (land conversion) to Section 4f/6f resources likely

30%

Unknown impacts to Section 4f/6f resources in the project area

0%

6)Right-of-Way (15 Percent of Points)

Right-of-way or easements not required

100%

Right-of-way or easements has/have been acquired

100%

Right-of-way or easements required, offers made

75%

Right-of-way or easements required, appraisals made

50%

Right-of-way or easements required, parcels identified Yes

25%

Right-of-way or easements required, parcels not identified

0%

Right-of-way or easements identification has not been completed

0%

Anticipated date or date of acquisition 01/01/2017

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project Yes

100%

Railroad Right-of-Way Agreement is executed (include signature page) 100%

Railroad Right-of-Way Agreement required; Agreement has been initiated

60%

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

40%

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

0%

Anticipated date or date of executed Agreement

8)Construction Documents/Plan (10 Percent of Points)

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion

50%

Construction plans have not been started Yes

0%

Anticipated date or date of completion 10/01/2017

9)Letting

Anticipated Letting Date 02/01/2019

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 10	From Hwy 5 to CSAH 32			Waconia	1/1/2011	12/31/2013

Description of Proposed Work: Convert from 2 to 3 Lane

		Accident Diagram Codes	1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B				1		1			**2**
		C	2		1		3			1	**7**
	Property Damage	**PD**	4			1	4	1			**10**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	**F**									
	PI	**A**									
		B				-36%		-36%			
		C	-47%		-36%		-36%			-36%	
	Property Damage	**PD**	-47%			-36%	-36%	-36%			
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	**F**									
	PI	**A**									
		B				**-0.36**		**-0.36**			**-0.72**
		C	**-0.94**		**-0.36**		**-1.08**			**-0.36**	**-2.74**
	Property Damage	**PD**	**-1.88**			**-0.36**	**-1.44**	**-0.36**			**-4.04**

Year (Safety Improvement Construction): **2019**

Project Cost (exclude Right of Way): **$ 10,110,000**

Right of Way Costs (optional):

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate:** **4.5%**
2. **Project Service Life (n):** **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,100,000	
A			$ 550,000	
B	-0.72	-0.24	$ 160,000	$ 38,400
C	-2.74	-0.91	$ 81,000	$ 73,980
PD	-4.04	-1.35	$ 7,400	$ 9,965
Total				$ 122,345

B/C= 0.21

Using present worth values,

B= $ 2,140,299

C= $ 10,110,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 10	Oak Ave			Waconia	1/1/2011	12/31/2013

Description of Proposed Work: Install a single lane roundabout

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C									
	Property Damage	PD	2			2					4
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD	-58%			-58%					
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD	**-1.16**			**-1.16**					**-2.32**

Year (Safety Improvement Construction): **2019**

Project Cost (exclude Right of Way): **$ 10,110,000**

Right of Way Costs (optional):

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate:** **4.5%**
2. **Project Service Life (n):** **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,100,000	
A			$ 550,000	
B			$ 160,000	
C			$ 81,000	
PD	-2.32	-0.77	$ 7,400	$ 5,723
Total				$ 5,723

B/C= 0.01

Using present worth values,

B= $ 100,112

C= $ 10,110,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 10	TH 5			Waconia	1/1/2011	12/31/2013
Description of Proposed Work	Roadway Reconstruction						

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B						1			**1**
		C									
	Property Damage	**PD**			2						**2**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	**F**									
	PI	**A**									
		B						-41%			
		C									
	Property Damage	**PD**			-41%						
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	**F**									
	PI	**A**									
		B						**-0.41**			**-0.41**
		C									
	Property Damage	**PD**			**-0.82**						**-0.82**

Year (Safety Improvement Construction) **2019**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 10,110,000**					
Right of Way Costs (optional)		**F**			**$ 1,100,000**	
Traffic Growth Factor	**3%**	**A**			**$ 550,000**	
Capital Recovery		**B**	**-0.41**	**-0.14**	**$ 160,000**	**$ 21,867**
1. Discount Rate	**4.5%**	**C**			**$ 81,000**	
2. Project Service Life (n)	**20**	**PD**	**-0.82**	**-0.27**	**$ 7,400**	**$ 2,023**
		Total				**$ 23,889**

B/C= 0.04

Using present worth values,

B= $ 417,918

C= $ 10,110,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

csah 10 2 - created on 10-31-2014 by imsd1jac

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	Location	Type	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
04	10000010	009+00.860	CSAH 32	RE	0410000010	9.860	Z		1	2	R
04	10000010	009+00.892		ROR	0410000010	9.892	Z		1	2	R
04	10000010	010+00.269		ROR	0410000010	10.269	Z		1	2	R
04	10000010	010+00.272		ROR	0410000010	10.272	Z		2	2	R
04	10000010	010+00.318		ROR	0410000010	10.318	Z		2	2	R
04	10000010	010+00.320		ROR	0410000010	10.320	Z		1	2	R
04	10000010	010+00.519	Pond Ln	Left Turn	0410000010	10.519	Z		1	2	R
04	10000010	010+00.519	Pond Ln	ROR	0410000010	10.519	Z		2	2	R
04	10000010	010+00.524		RE	0410000010	10.524	Z		1	2	R
04	10000010	010+00.740		ROR	0410000010	10.740	Z		2	2	R
04	10000010	010+00.840	Oak Ave	RA	0410000010	10.840	Z		1	2	U
04	10000010	010+00.840	Oak Ave	RE	0410000010	10.840	Z		1	2	U
04	10000010	010+00.840	Oak Ave	RE	0410000010	10.840	Z		1	2	U
04	10000010	010+00.840	Oak Ave	RA	0410000010	10.840	Z		1	2	U
04	10000010	011+00.032		RE	0410000010	11.032	Z		1	2	U
04	10000010	011+00.068		RE	0410000010	11.068	Z		1	2	U
04	10000010	011+00.070	Farm Line Rd	HO	0410000010	11.070	Z		1	2	U
04	10000010	011+00.070	Farm Line Rd	RA	0410000010	11.070	Z		1	2	U
04	10000010	011+00.070	Farm Line Rd	RE	0410000010	11.070	Z		1	2	U
04	10000010	011+00.155	Heather Ln	Other	0410000010	11.155	Z		1	2	U
04	10000010	011+00.270	Countryside Rd	RE	0410000010	11.270	Z		1	2	U
04	10000010	011+00.270	Countryside Rd	RA	0410000010	11.270	Z		1	2	U
04	10000010	011+00.270	Countryside Rd	HO	0410000010	11.270	E		1	2	U
04	10000010	011+00.370	MN 5	Left Turn	0410000010	11.370	Z		A	2	U
~~04~~	~~10000010~~	~~011+00.370~~	~~MN 5~~	~~Left Turn~~	~~0410000010~~	~~11.370~~	~~Z~~		~~A~~	~~2~~	~~U~~
~~04~~	~~10000010~~	~~011+00.370~~	~~MN 5~~	~~Left Turn~~	~~0410000010~~	~~11.370~~	~~Z~~		~~A~~	~~2~~	~~U~~
~~04~~	~~10000010~~	~~011+00.370~~	~~MN 5~~	~~Left Turn~~	~~0410000010~~	~~11.370~~	~~Z~~		~~A~~	~~2~~	~~U~~
~~04~~	~~10000010~~	~~011+00.370~~	~~MN 5~~	~~RE~~	~~0410000010~~	~~11.370~~	~~Z~~		~~1~~	~~2~~	~~U~~
04	10000010	011+00.370	MN 5	Left Turn	0410000010	11.370	Z		1	2	U
04	10000010	011+00.370	MN 5	HO	0410000010	11.370	Z		1	2	U

ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV
VEH #2 WAS NB ON CO RD 10, TURNING WB ONTO CO RD 32. DRIVER #2 STATED SHE HAD TURN SIGNAL ON. VEH #	10	0000	4-Wed	4	6	2011	2020	C
I WAS DISPATCHED TO A HIT AND RUN ACCIDENT IN WACONIA TWP. I WAS ADVISED THAT THE VEHICLE LEFT THE	10	0000	4-Wed	7	25	2012	2100	N
DRIVER 1 STATED ANOTHER VEHICLE DRIFTED INTO HIS LANE. DRIVER 1 STATED HE SWERVED TO AVOID OTHER VE	10	0000	6-Fri	1	20	2012	1547	N
DRIVER OF #1 WAS SOUTHBOUND ON CSAH 10. AS SHE WAS GOING THROUGH THE CURVE SHE LOST CONTROL SPUN AR	10	0000	6-Fri	3	15	2013	0445	C
UNIT 1 WAS SOUTHBOUND ON COUNTY ROAD 10 AND WAS PART WAY AROUND THE CURVE ABOUT 0.2 MILES WEST OF P	10	0000	1-Sun	1	27	2013	1218	C
UNIT 1 WAS WESTBOUND ON CR 10/WACONIA PARKWAY SOUTH, AND ROUNDING THE CURVE ABOUT 0.2 MILES WEST OF	10	0000	3-Tue	12	31	2013	0200	N
DRIVER OF UNIT #1 WAS PULLING OUT FROM STOP SIGN ON POND CURVE. DRIVER OF UNIT #1 DID NOT SEE UNIT	10	0000	2-Mon	10	1	2012	0742	C
UNIT 1 WAS EASTBOUND IN CENTER OF CURVE ON CO RD 10/WACONIA PARKWAY S., ABOUT 0.2 MILES WEST OF PON	10	0000	7-Sat	1	19	2013	0813	N
DRIVER#2 STATED HE WAS HEADED WB ON CO RD 10 WHEN HE STOPPED FOR UNIT#3, WHICH WAS ATTEMPTING TO TU	10	0000	1-Sun	5	1	2011	1925	N
UNIT ONE WAS TRAVELING WESTBOUND ON CO RD 10 FROM OAK AVE. DRIVER STATED HE REMEMBERS STOPPING FOR	10	0000	4-Wed	8	1	2012	0100	C
#1 DRIVER STATED SHE WAS AT A FOUR WAY STOP. #1 DRIVER STATED IT WAS HER TURN AND SHE PROCEEDED EA	10	3930	4-Wed	9	14	2011	0730	N
AWAY WHILE FOLLOING UNIT 1. NO INJURIES. PASSENGER IN UNIT 1 ALSO STATED THAT UNIT 2 WAS FOLLOWI	10	3930	3-Tue	1	3	2012	1801	N
UNIT #1 AND UNIT #2 WERE BOTH WESTBOUND ON COUNTY ROAD 10. UNIT #2 WAS DIRECTLY IN FRONT OF UNIT #	10	3930	6-Fri	4	20	2012	1455	N
BOTH UNITS WERE CAME TO A STOP AT THE SAME TIME AT THE 4 WAY INTERSECTION OF OAK AVE AND WACONIA PK	10	3930	5-Thu	8	16	2012	2115	N
VEHICLE 1 WAS TRAVELLING WESTBOUND ON WACONIA PKWY S. V1 WAS FOLLOWING VEHICLE 2. DUE TO AN APPROAC	10	3930	5-Thu	9	5	2013	1715	N
UNITS 1, 2, AND 3 WERE ALL EASTBOUND ON CR 10/WACONIA PARKWAY SOUTH BY FARMLINE RD IN RESPECTIVE OR	10	3930	2-Mon	9	30	2013	0750	C
UNIT #1 WAS E/B ON CR 10 AND WAS SLOWING TO MAKE A LEFT HAND TURN ONTO FARM LINE ROAD. UNIT #2 WAS	10	3930	6-Fri	5	11	2012	0746	B
UNIT #1 WAS SOUTHBOUND ON FARM LINE ROAD AND WAS STOPPED AT THE STOP SIGN AND WAITING TO MAKE A LEF	10	3930	4-Wed	6	20	2012	0829	N
UNIT#3 AND UNIT#2 WERE STOPPED FACING EASTBOUND AND WERE WAITING TO TURN LEFT (N) ONTO FARM LINE RO	10	3930	2-Mon	8	6	2012	1730	N
DRIVER SAID SHE MADE WRONG TURN AND DROVE THROUGH FENCE AND OFF RETAINING WALL. DRIVER WAS ARRESTED	10	3930	1-Sun	6	9	2013	0250	C
VEH #2 WAS WB ON CO RD 10 NEAR STRONG DR. RACHEL (A PEDESTRIAN) WAS CROSSING CO RD 10 IN A CROSSWAL	10	3930	6-Fri	12	2	2011	2038	N
UNIT #1 WAS WESTBOUND ON COUNTY ROAD 10 FROM HIGHWAY 5. UNIT #1 PULLED INTO THE LEFT TURN LANE TO	10	3930	6-Fri	3	2	2012	1324	B
V1 WAS TRAVELING EAST ON WACONIA PKWY S. D1 SAID SHE THOUGHT SHE SAW SOME FRIENDS AND BECAME DISTR	10	3930	6-Fri	11	9	2012	2206	N
VEHICLE #1 WAS SOUTHBOUND ON CSAH 10 TO GO EAST ON	10	3930	4-Wed	1	19	2011	0739	N
~~#1 DRIVER STATED SHE HAD A GREEN LIGHT AND WAS TUR~~	~~10~~	~~3930~~	~~4-Wed~~	~~3~~	~~2~~	~~2011~~	~~1732~~	~~C~~
~~#1 DRIVER STATED SHE WAS DRIVING AT POSTED SPEED O~~	~~10~~	~~3930~~	~~4-Wed~~	~~4~~	~~13~~	~~2011~~	~~0800~~	~~N~~
~~DRIVER OF #1 WAS NORTHBOUND ON CSAH 10 CROSSING MN~~	~~10~~	~~3930~~	~~5-Thu~~	~~5~~	~~19~~	~~2011~~	~~1526~~	~~N~~
~~VEHICLE #1 AND #2 WERE BOTH EASTBOUND ON HIGHWAY 5. BOTH VEHICLES WERE STOPPED IN A LONG LINE OF T~~	~~10~~	~~3930~~	~~3-Tue~~	~~10~~	~~11~~	~~2011~~	~~1508~~	~~N~~
V-1 WAS S/B CO RD 10 TURNING LEFT TO GO E/B HWY 5 WITH GREEN YEILD LIGHT. V-2 WAS N/B CO RD 10 IN	10	3930	6-Fri	7	13	2012	1818	N
D#2 STATED SHE WAS SB CO RD 10, APPROACHING HWY 5. D#2 STATED SHE BELIEVED SHE HAD GREEN LIGHT AT H	10	3930	7-Sat	7	14	2012	1847	B

															PERSON1		
NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT
0	2	2	55	1	1	1	4	4	2	0	1	1	8	110980016	1	1	10
0	1	1	55	25	7	90	98	3	1	0	1	1	8	122080007	1	3	1
0	1	1	50	30	7	1	98	1	1	1	3	5	8	120250028	1	5	1
0	1	1	55	30	7	2	98	6	3	0	2	5	8	130740045	1	5	1
0	1	1	50	30	7	8	98	1	5	3	5	6	8	130270062	3	5	1
0	1	1	50	35	7	4	98	6	1	0	5	6	8	133650171	1	7	1
0	2	2	55	1	3	1	4	1	1	0	1	2	8	122750134	11	8	6
0	1	1	50	26	7	4	98	1	2	0	2	6	8	130190040	1	3	1
0	3	2	50	1	1	1	4	3	2	0	1	1	8	111210114	1	7	1
0	1	1	50	26	4	2	98	6	1	0	1	1	8	122140017	1	7	1
0	2	4	50	1	5	1	3	1	2	2	1	1	8	112580116	4	3	1
0	2	1	50	1	1	1	98	6	1	0	1	1	8	120030211	2	3	1
0	2	4	45	1	1	1	3	1	1	1	1	1	8	121120055	1	7	10
0	2	4	40	1	5	1	3	4	1	0	1	1	90	122290170	1	7	1
0	2	1	45	1	1	1	3	1	1	0	1	1	8	132490054	1	7	1
0	3	2	45	1	1	1	4	1	1	0	1	1	8	132730069	3	3	1
0	2	2	45	1	8	1	98	1	1	1	1	1	8	121320073	2	2	6
0	2	2	45	1	5	1	4	1	2	0	1	1	8	121730085	1	5	6
0	3	4	45	1	1	1	98	1	1	0	1	1	8	122200017	2	5	1
0	1	1	25	35	90	1	98	4	3	2	2	1	10	131600017	1	5	1
0	2	4	35	1	1	1	3	4	1	0	1	5	8	113360213	1	7	1
0	2	4	35	1	5	1	98	1	1	1	1	5	8	120620128	4	5	6
0	1	1	30	26	8	3	98	4	1	0	1	5	8	123140167	1	3	1
0	2	4	30	1	3	1	1	1	1	1	1	1	8	110200238	1	5	6
~~0~~	~~2~~	~~4~~	~~35~~	~~1~~	~~3~~	~~1~~	~~1~~	~~1~~	~~2~~	~~2~~	~~1~~	~~1~~	~~3~~	~~110620037~~	~~1~~	~~1~~	~~6~~
~~0~~	~~2~~	~~4~~	~~35~~	~~1~~	~~3~~	~~1~~	~~1~~	~~1~~	~~2~~	~~2~~	~~1~~	~~1~~	~~5~~	~~111040078~~	~~4~~	~~1~~	~~6~~
~~0~~	~~2~~	~~4~~	~~50~~	~~1~~	~~3~~	~~1~~	~~1~~	~~1~~	~~2~~	~~2~~	~~1~~	~~1~~	~~8~~	~~111410065~~	~~1~~	~~1~~	~~54~~
~~0~~	~~2~~	~~4~~	~~50~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~3~~	~~112840175~~	~~1~~	~~3~~	~~1~~
0	2	7	35	1	3	1	1	1	3	0	2	1	3	121950156	1	4	6
0	2	4	35	1	8	1	1	1	1	1	1	1	3	121960116	1	1	6

Countermeasure: Introduce TWLTL (two-way left turn lanes) on rural two lane roads

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.64	36	★★★★★	All	All	Rural	Persaud et al., 2008	
0.53	47	★★★★★	Rear end	All	Rural	Persaud et al., 2008	
0.65	35	★★★★☆	All	Serious injury,Minor injury	Rural	Persaud et al., 2008	

- Countermeasure: Install TWLTL (two-way left turn lane) on two lane road

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.797	20.3	★★★★★	All	All	All	Lyon et al., 2008	
0.739	26.1	★★★★★	All	Fatal,Serious injury,Minor injury	All	Lyon et al., 2008	
0.613	38.7	★★★★★	Rear end	All	All	Lyon et al., 2008	
0.775	22.5	★★★★☆	All	All	All	Lyon et al., 2008	
0.686	31.4	★★★★☆	All	All	All	Lyon et al., 2008	

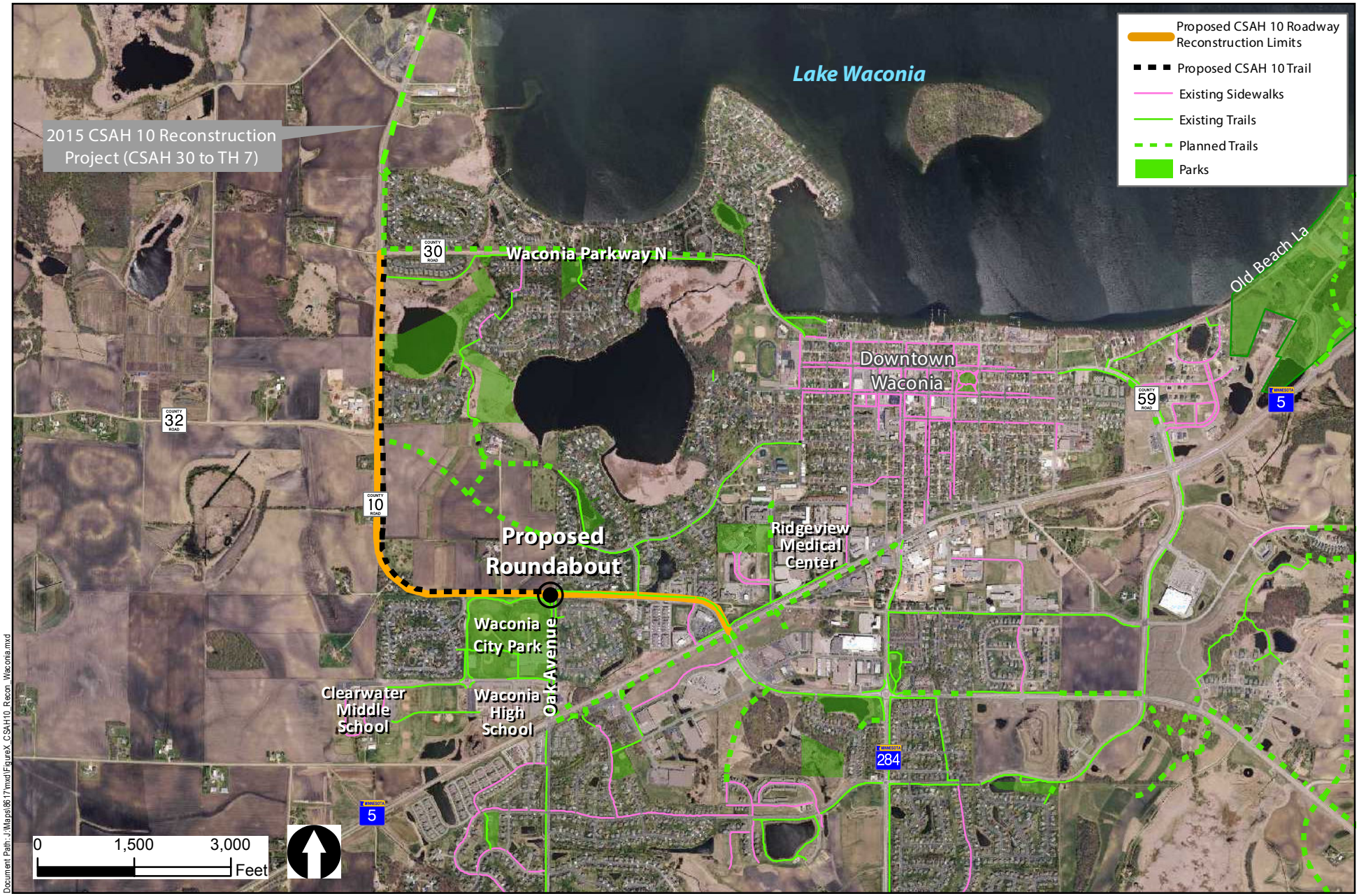
Countermeasure(s)	Crash Type	Crash Severity	Area Type	Config	Control	Major Daily Traffic Volume (veh/day)	Minor Daily Traffic Volume (veh/day)	Ref	Obs	Effectiveness: Crash Reduction Factor / Function	Effectiveness: Std Error	Effectiveness: Range Low	Effectiveness: Range High	Study Type
OTHER GEOMETRIC COUNTERMEASURES														
Convert four-leg to two T-intersections	All	All		4-Leg	No signal			28		57				
	All	Fatal/Injury	Urban	4-Leg		<70%*	>30%*	13		**33**	6			Meta-analysis
	All	Fatal/Injury	Urban	4-Leg		>85%*	<15%*	13		**-35**	15			Meta-analysis
	All	Fatal/Injury	Urban	4-Leg		70-85%*	15-30%*	13		**25**	5			Meta-analysis
	All	PDO	Urban	4-Leg		<70%*	>30%*	13		**10**	5			Meta-analysis
	All	PDO	Urban	4-Leg		>85%*	<15%*	13		**-15**	6			Meta-analysis
	All	PDO	Urban	4-Leg		70-85%*	15-30%*	13		0	5			Meta-analysis
	All	All		4-Leg				51		57				Meta-analysis
Convert intersection to roundabout	All	All	All		All			50	55	**35**	3			EB Before-After
	All	All	All		Signal			50	9	**48**	5			EB Before-After
	All	All	All		Signal			21	23	40				EB Before-After
	All	All	All		Stop (2-way)			50	36	**44**	4			EB Before-After
	All	All	All		Stop (4-way)			50	10	-3	15			EB Before-After
	All	All	Rural	1-lane	Stop (2-way)			50	9	**72**	4			EB Before-After
	All	All	Rural		Stop	7,185-17,220		44		**58**	7			EB Before-After
	All	All		3-Leg				15		50				Simple Before-After
	All	All		4-Leg				15		75				Simple Before-After

* Percentage of Total Daily Traffic Volume

- Countermeasure: Improve pavement friction (increase 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	★★★★☆	All	All	All	Lyon and Persaud, 2008	
0.819	18.1	★★★★☆	All	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	All	All	Lyon and Persaud, 2008	
0.372	62.8	★★★★☆	Wet road	All	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	★★★☆☆	All	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



Project Limits

CSAH 10 Reconstruction

Carver County Regional Solicitation Roadway Reconstruction/Modernization Application

Figure 1

City of Waconia

December 1, 2014

Ms. Elaine Koutsoukos, TAB Coordinator
Metropolitan Council
390 North Robert Street
Saint Paul, MN 55101

SUBJECT: APPLICATION FOR REGIONAL SOLICITATION FUNDS FOR CSAH 10 RECONSTRUCTION

Dear Ms. Koutsoukos,

The City of Waconia has been notified that Carver County is submitting an application for regional solicitation funding for the proposed CSAH 10 reconstruction between TH 5 and CSAH 30, which travels through the City of Waconia. The proposed project will reconstruct the existing roadway and include a multiuse trail to improve bicycle and pedestrian safety, provide additional capacity through the use of a roundabout at Oak Avenue, and correct existing safety issues.

The project is supported in local and Carver County planning documents and is significant to the Minneapolis/St. Paul Metropolitan region. Therefore, we support funding to help this project move forward.

If you should have any questions, feel free to contact me at 952-442-3100.

Sincerely,

Susan MH Arntz
City Administrator

City Hall	Public Services	Fire Station	Safari Island Community Center	Ice Arena
201 South Vine Street	310 10th Street East	26 Maple Street South	1600 Community Drive	1250 Oak Avenue
Waconia, MN 55387	Waconia, MN 55387	Waconia, MN 55387	Waconia, MN 55387	Waconia, MN 55387
952-442-2184	952-442-2615	952-442-2316	952-442-0695	952-442-RINK (7465)

www.waconia.org

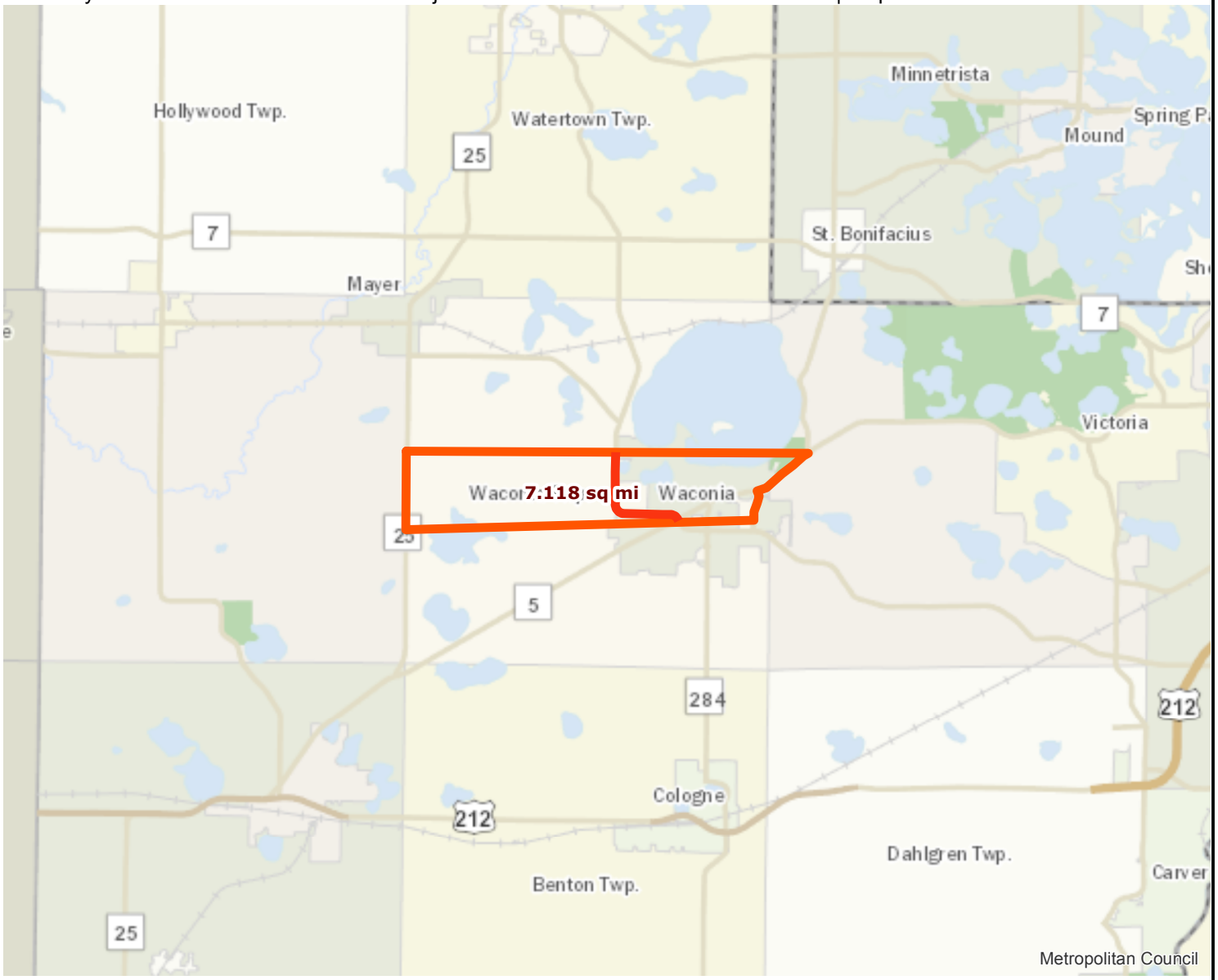
Roadway Area Definition

Roadway Reconstruction/Modernization Project: CSAH 10 Reconstruction - Waconia | Map ID: 1414698353891

Results

Project Length: 2.019 miles

Project Area: 7.118 sq mi



Project

Project Area

0 1.5 3 6 9 12 Miles

Created: 10/30/2014
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: CSAH 10 Reconstruction - Waconia | Map ID: 1414698353891

Results

Project **NOT IN** area of Job Concentration.

Project **NOT IN** to area of Manufacturing and Distribution.

Project **NOT CONNECTED** to area of Education Institutions.

Project

Project Area

0 1.5 3 6 9 12 Miles

Created: 10/30/2014
LandscapeRSA5

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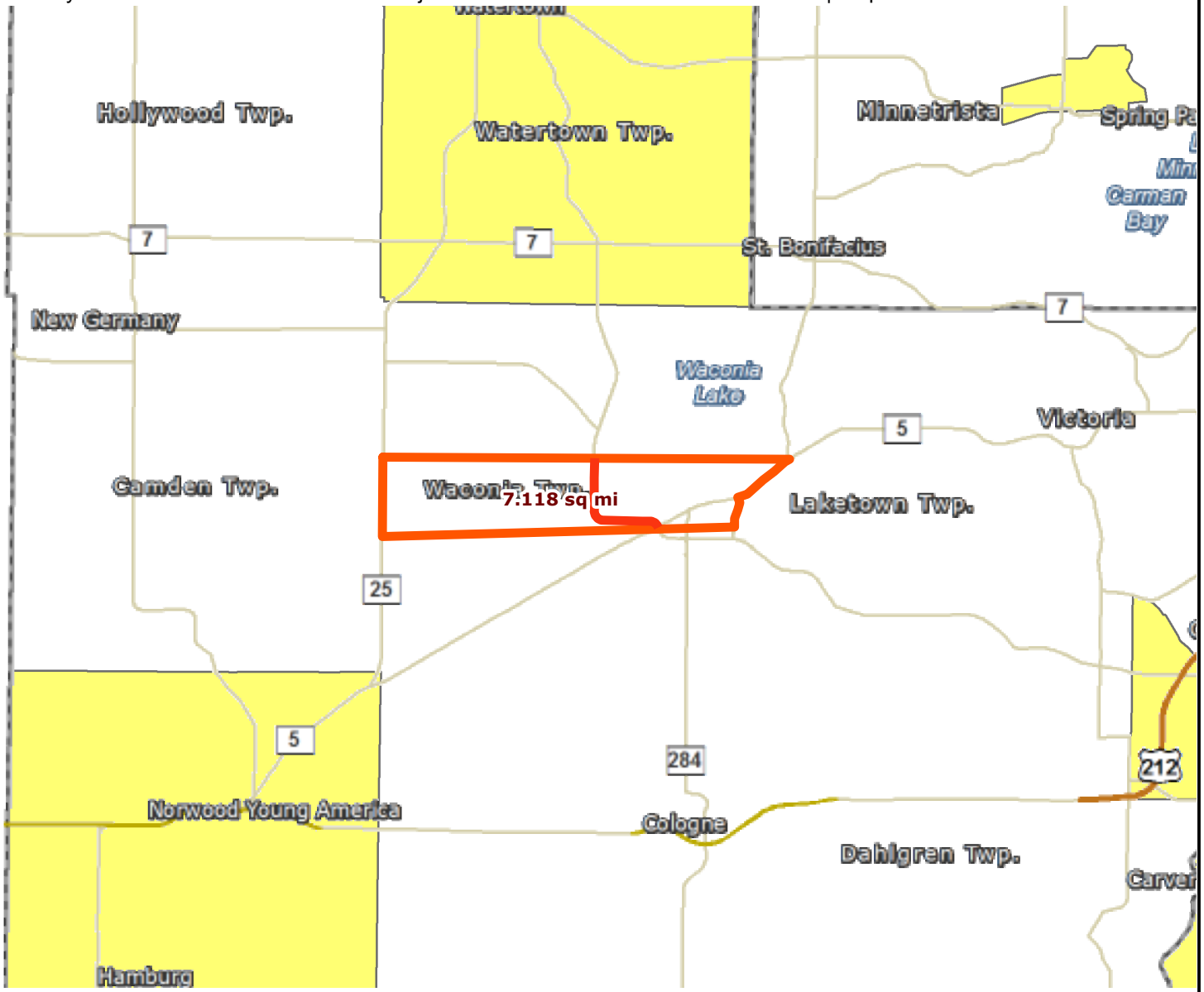
Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: CSAH 10 Reconstruction - Waconia | Map ID: 1414698353891

Results

Project **NOT IN** any area of concentrated poverty.



Project
Project Area
Racially concentrated area of poverty
Concentrated area of poverty
Above reg'l avg conc of race/poverty

0 1.5 3 6 9 12 Miles

Created: 10/30/2014
LandscapeRSA2

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3: Oak Ave & CSAH 10

Direction	All
Volume (vph)	1040
Total Delay / Veh (s/v)	30
CO Emissions (kg)	1.24
NOx Emissions (kg)	0.24
VOC Emissions (kg)	0.29

3: Oak Ave & CSAH 10

Direction	All
Volume (vph)	1041
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.79
NOx Emissions (kg)	0.15
VOC Emissions (kg)	0.18

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	323	598	168	42
Demand Flow Rate, veh/h	329	609	170	43
Vehicles Circulating, veh/h	98	106	280	674
Vehicles Exiting, veh/h	619	344	147	41
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.9	6.3	7.2
Approach LOS	A	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	329	609	170	43
Cap Entry Lane, veh/h	1024	1016	854	576
Entry HV Adj Factor	0.981	0.981	0.986	0.988
Flow Entry, veh/h	323	598	168	42
Cap Entry, veh/h	1005	997	842	569
V/C Ratio	0.321	0.599	0.199	0.075
Control Delay, s/veh	6.9	11.9	6.3	7.2
LOS	A	B	A	A
95th %tile Queue, veh	1	4	1	0

3: Oak Ave & CSAH 10

Direction	All
Volume (vph)	1040
Total Delay / Veh (s/v)	30
CO Emissions (kg)	1.24
NOx Emissions (kg)	0.24
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Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.9	6.3	7.2
Approach LOS	A	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
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Cap Entry, veh/h	1005	997	842	569
V/C Ratio	0.321	0.599	0.199	0.075
Control Delay, s/veh	6.9	11.9	6.3	7.2
LOS	A	B	A	A
95th %tile Queue, veh	1	4	1	0

Transit Connections

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Results

Transit with a Direct Connection to project:
-- NONE --

**indicates Planned Alignments*

Project

Project Area

0 1.5 3 6 9 12 Miles

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LandscapeRSA3

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